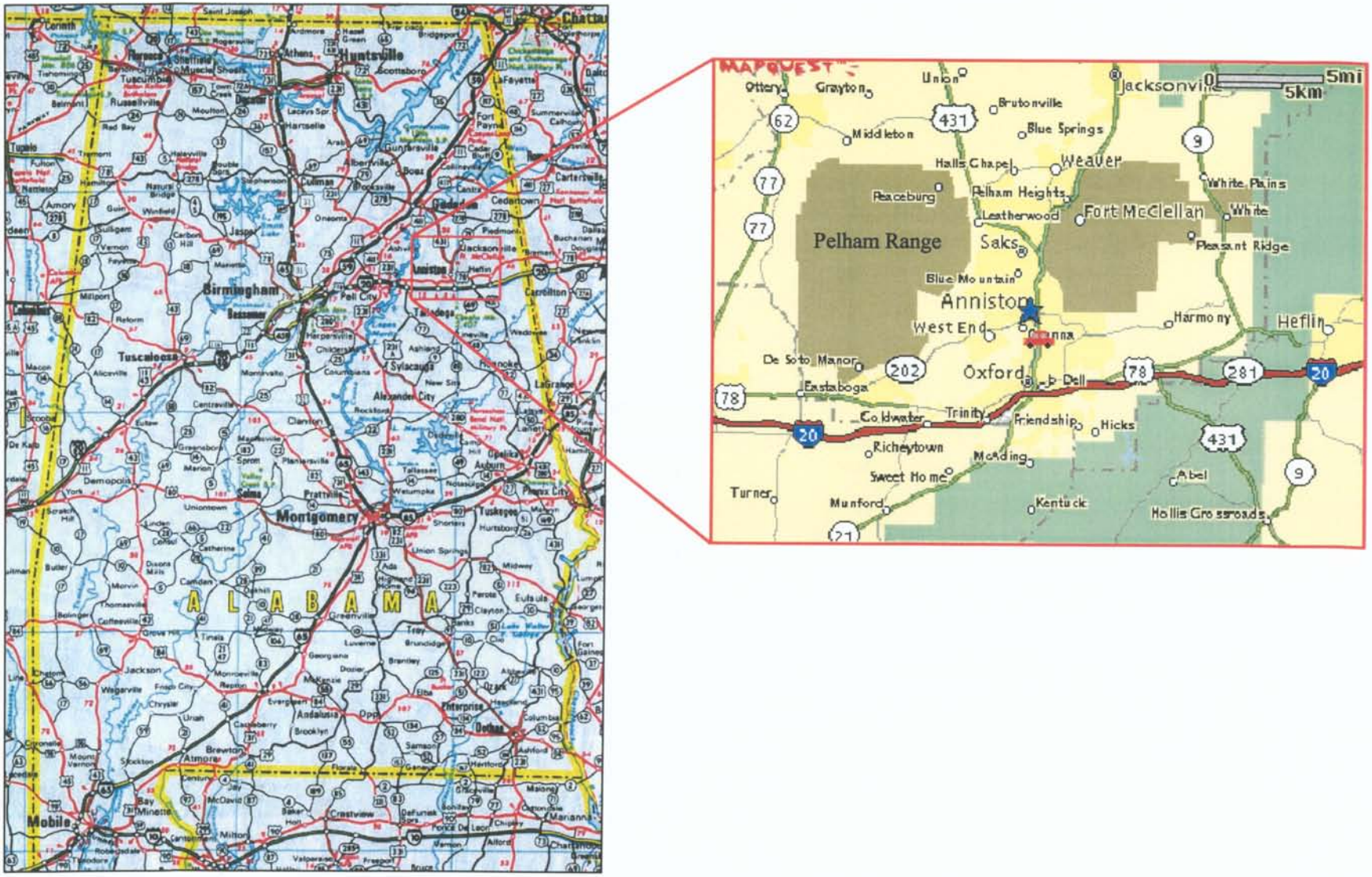
Appendix A

FIGURES

This page intentionally left blank.

N:\655xx\655730\7001\Fig_A-1.dwg



URS
1093 COMMERCE PARK DRIVE, OAK RIDGE, TN

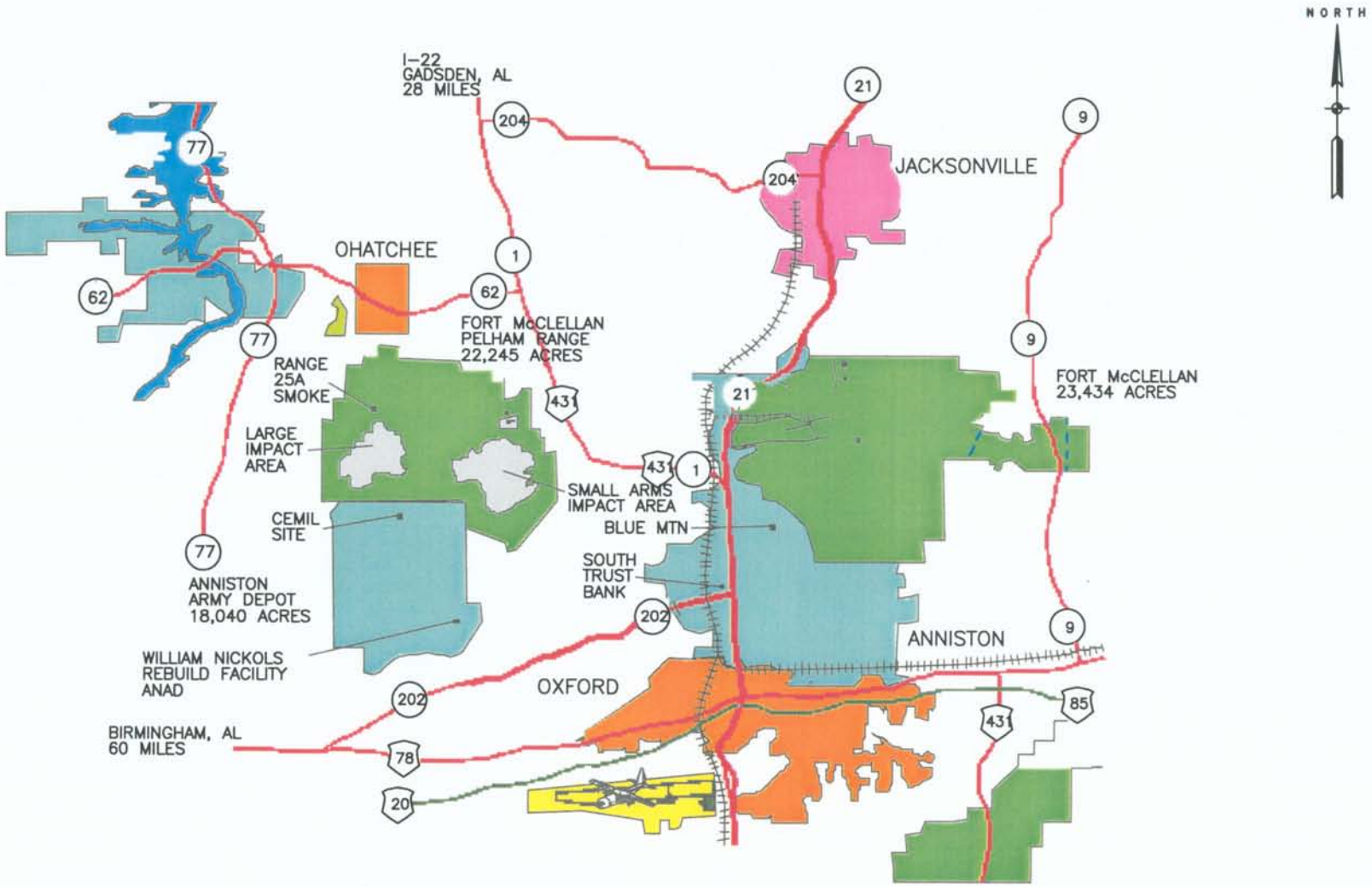
Figure A-1. Regional Vicinity Map For Fort McClellan Main Post and Pelham Range

Revision: 0
Date: 17-Mar-1999

Drawn By: G.Bird
Checked BY: B.McCarter

N:\655730\7001\Fig_A-1.Dwg

N:\655xxx\655730\7001\Fig_A-2.dwg



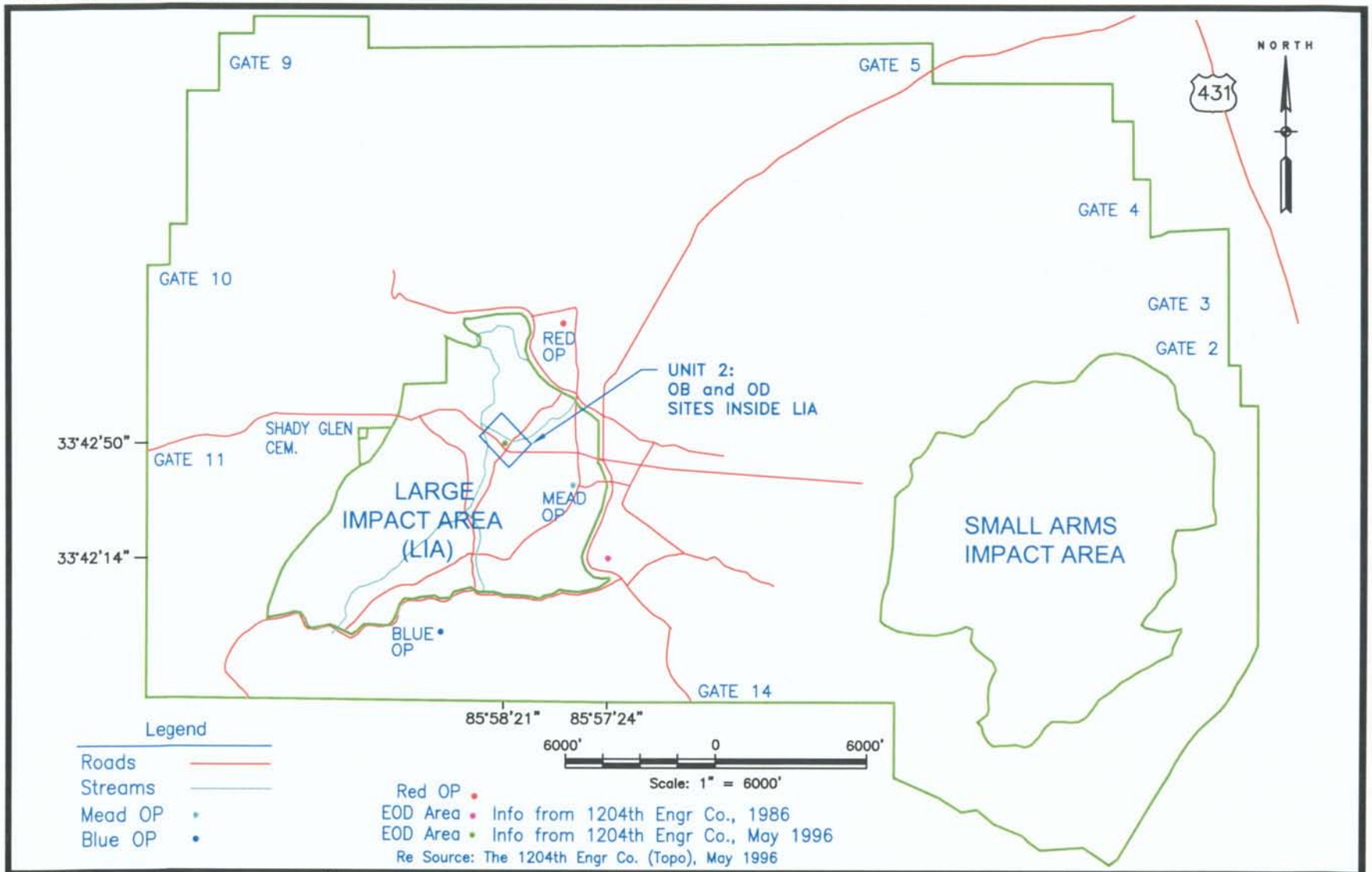
URS
1093 COMMERCE PARK DRIVE, OAK RIDGE, TN

Figure A-2. General Vicinity Map for
Fort McClellan Main Post and Pelham Range

REVISION: 0
DATE: 12/9/96

DRAWN BY: K. Lett
CHECKED BY: R. Carlson

N:\655xxx\655730\7001\Fig_a3.dwg



URS
1093 COMMERCE PARK DRIVE, OAK RIDGE, TN

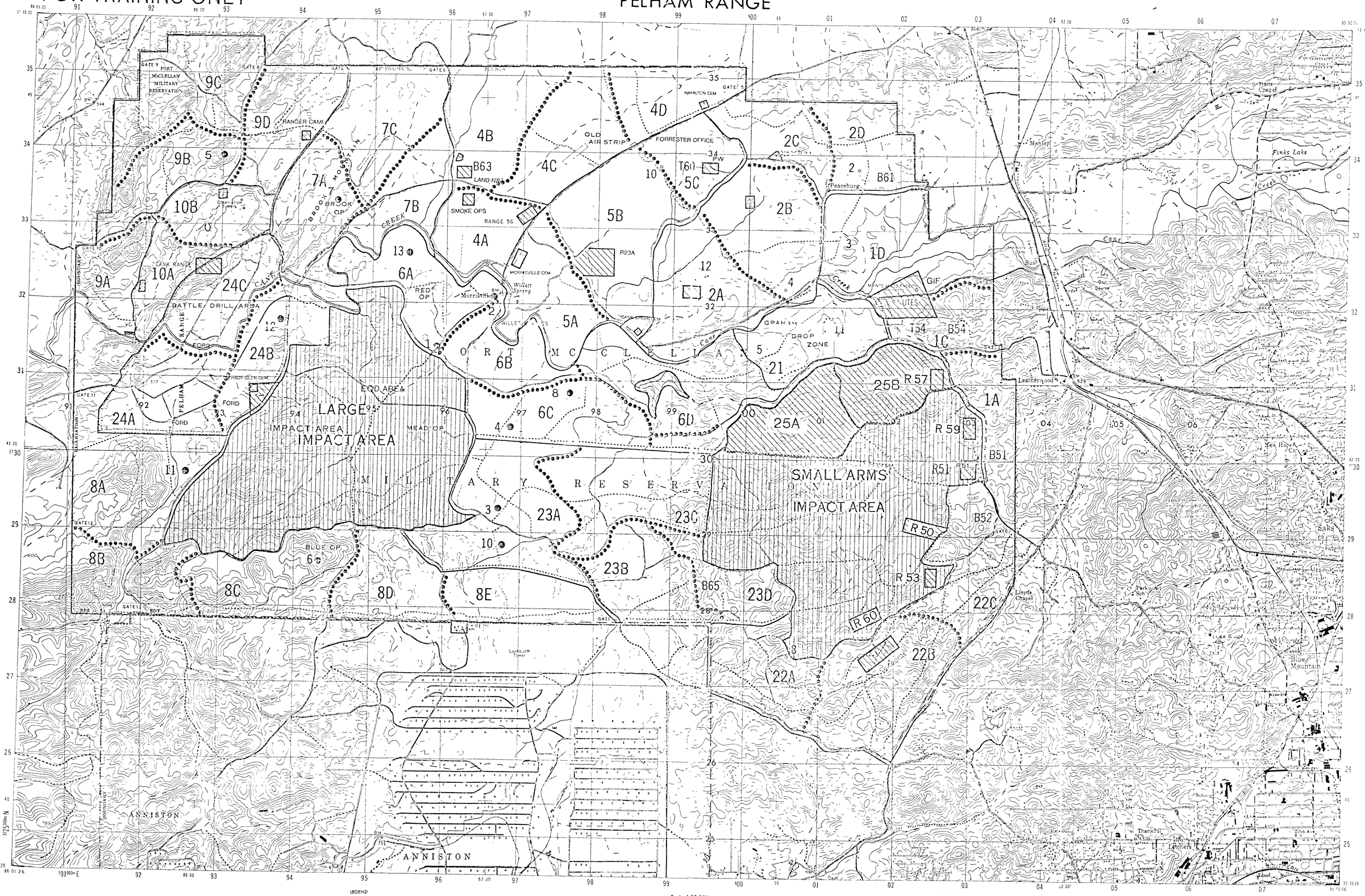
Figure A-3. RCRA Interim Status Treatment Unit on Pelham Range

REVISION: 0
DATE: 8/04/97

DRAWN BY: Z. WOMAC
CHECKED BY: C. WESH

FOR TRAINING ONLY

PELHAM RANGE



LEGEND
ROAD DATA 1965

LEGEND

- IMPACT AREA
- RANGE/REC AREA/CEM AREA
- MORTAR FIRING POSITIONS
- BOUNDARY AREAS
- SUB AREAS
- TANK TRAIL

Hard surface heavy duty road four or more lanes wide — 4 LANES INCLUDING DIVIDERS
Hard surface heavy duty road two lanes wide — 2 LANES
Hard surface medium duty road four or more lanes wide — 4 LANES & DIVIDERS
Hard surface medium duty road two lanes wide — 2 LANES
Improved light duty road 1 lane
Unimproved dirt road
Trail
Route marker Interstate Fed. & State — 64 US 76 AL
RAILROADS
Standard gauge
Narrow gauge
BOUNDARIES
National
State (or equivalent)
County
Corporation
Military reservation
Other reservation
Power transmission line
Buildings or structures
Church school
Windmill and pump Water well
Mines Horizontal adit Vertical shaft
Open pit mine or quarry
Horizontal control station
Bench mark monument
Bench mark monument
Spot elevation or elevation Checked Unchecked
Woodland
Vineyard Orchard
Intermittent lake
Intermittent stream Dam
Marsh or swamp
Rapids Falls
Larger rapids Larger falls
MILLRES
Rapids

Scale 1:25,000

1000 500 0 1000 2000 Meters
1000 500 0 1000 2000 Yards
1 0 1 Statute Mile
1 0 1 Nautical Mile

CONTOUR INTERVAL 20 METERS

RANGE DATA

R50 RANGES
CONCRETE PADS
ROAD BLOCKS
*8 ARTILLERY FIRING POSITIONS
BRIDGES
WATER TOWERS
RESTRICTED AREA
LATRINES OR RANGE BUILDINGS

SAMPLE 1,000 METER GRID SQUARE
Sample square
12 13
100,000 m SQ. REF. DESIGNATION
EN
GRID ZONE DESIGNATION
6S

100 METER REFERENCE
1. Read to the nearest 100 meters along the VERTICAL grid line left of point and estimate 0-9 (100 meters) from grid line to point.
2. Read to the nearest 100 meters along the HORIZONTAL grid line below point and estimate 0-9 (100 meters) from grid line to point.
Example 1234,6
WITHIN THE 100,000 METER SQUARE DESIGNATED EN THE REFERENCE FOR THE POINT IS 1234 METERS EAST AND 6 METERS NORTH OF THE SW CORNER OF THE SQUARE.
Example EN 2346
WITHIN THE GRID ZONE DESIGNATED 6S THE REFERENCE FOR THE POINT IS 6 METERS EAST AND 8 METERS NORTH OF THE SW CORNER OF THE GRID ZONE.
Example 6S 6 8

GRID CONVERGENCE
0 39 (12 MILS)
FOR CENTER OF SHEET

MN GN
1972 G M ANGLE
1 (18 MILS)
TO CONVERT A MAGNETIC AZIMUTH TO A GRID AZIMUTH ADD G M ANGLE
TO CONVERT A GRID AZIMUTH TO A MAGNETIC AZIMUTH SUBTRACT G M ANGLE

ADJOINING SHEET

PELHAM RANGE	FORT McCLELLAN

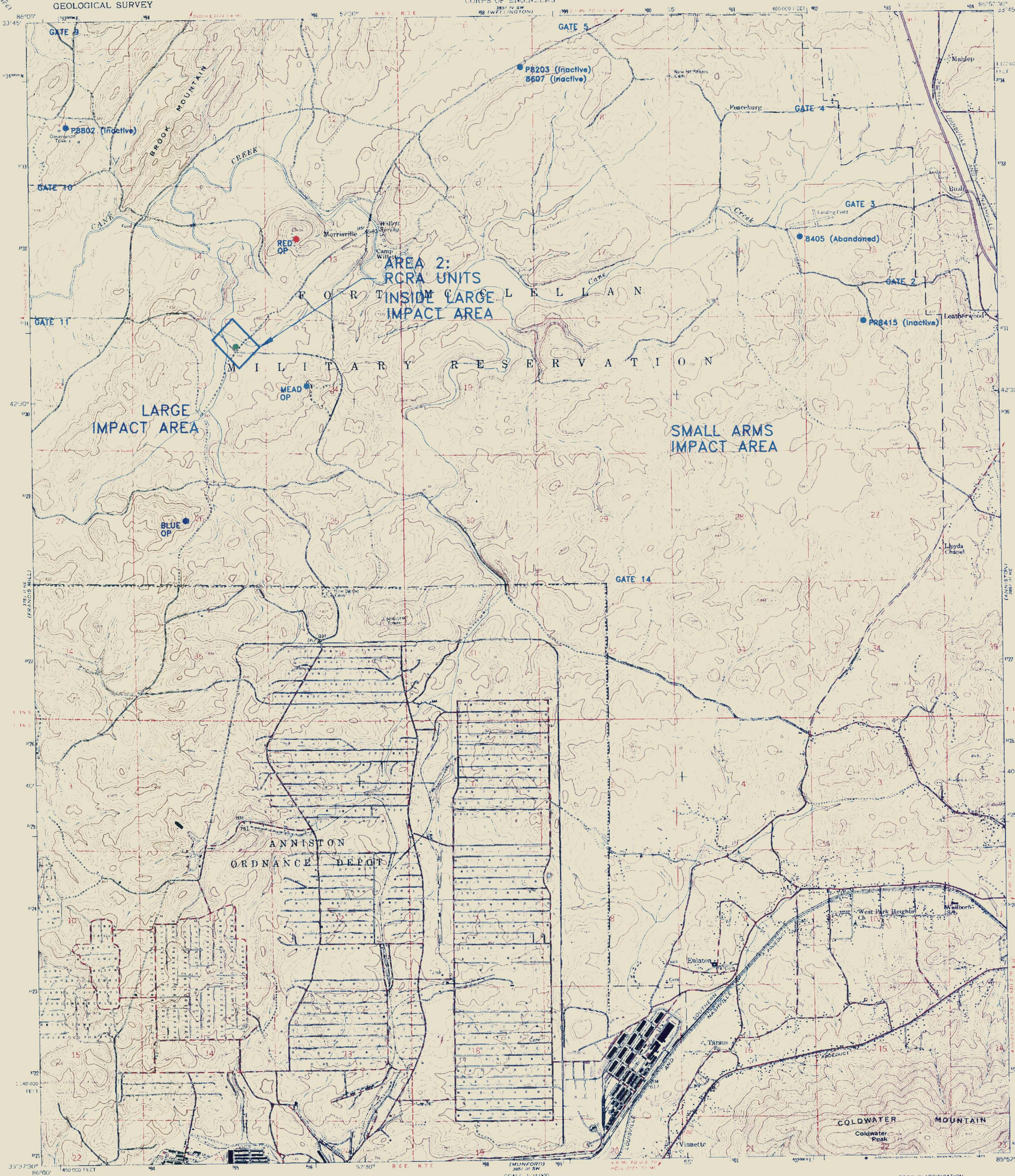
Deletions on this map were requested by Ft. McClellan Range Control

Prepared and printed by the 1204th Engr Co (Topo), May 1996
12039 Engr Bn (Topo) (TA) (ALARNG) Birmingham, AL 35202-1170

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

UNITED STATES
DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS

EULATON QUADRANGLE
ALABAMA-CALHOUN CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)



Mapped by the Army Map Service
Published for civil use by the Geological Survey

Control by USGS, USC&GS, and USCE

Topography by photogrammetric methods from aerial photographs taken 1946. Field checked 1947. Planimetry revised from aerial photographs taken 1956. Field checked 1956

Polyconic projection. 1927 North American datum
10,000 foot grid based on Alabama coordinate system, east zone
1000-meter Universal Transverse Mercator grid ticks, zone 16, shown in blue

UTM GRID AND 1972 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

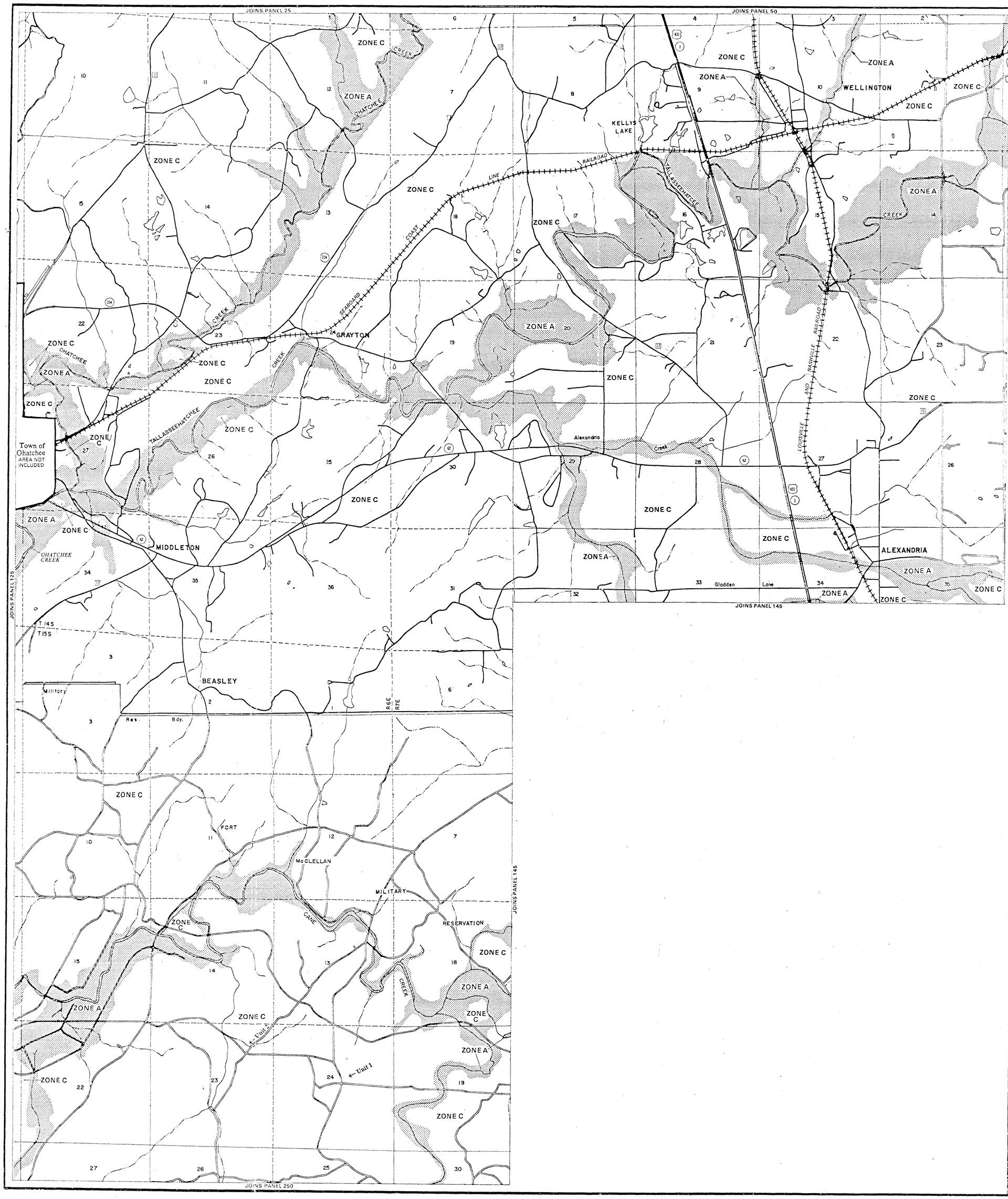
THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS
FOR SALE BY U.S. GEOLOGICAL SURVEY
DENVER, COLORADO 80225, OR RESTON, VIRGINIA 22092
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST

EULATON, ALA.
NW/4 ANNISTON 15' QUADRANGLE
N3337.5—W8552.5/7.5

1956

AMS 3851 III NW SERIES V844

N:\655730\7001\Fig_4-6B.dwg



KEY TO MAP

SPECIAL FLOOD HAZARD AREA — ZONE A

EXPLANATION OF ZONE DESIGNATIONS

ZONE	EXPLANATION
A	Areas of 100-year flood; base flood elevations and flood hazard factors not determined.
C	Areas of minimal flooding. (No shading)
D	Areas of undetermined, but possible, flood hazards.
V	Areas of 100-year coastal flood with velocity (wave action); base flood elevations and flood hazard factors not determined.

NOTES TO USER

Certain areas not in the special flood hazard areas (zones A and V) may be protected by flood control structures.

This map is for flood insurance purposes only; it does not necessarily show all areas subject to flooding in the community or all planimetric features outside special flood hazard areas.

For adjoining map panels, see separately printed Index To Map Panels.

INITIAL IDENTIFICATION:
NOVEMBER 29, 1974

FLOOD HAZARD BOUNDARY MAP REVISIONS:
MARCH 24, 1978

FLOOD INSURANCE RATE MAP EFFECTIVE:
SEPTEMBER 15, 1983

Refer to the FLOOD INSURANCE RATE MAP EFFECTIVE date shown on this map to determine when actuarial rates apply to structures in the zones where elevations or depths have been established.

To determine if flood insurance is available in this community, contact your insurance agent, or call the National Flood Insurance Program at (800) 638-6620.

APPROXIMATE SCALE
2000 0 2000 FEET

NATIONAL FLOOD INSURANCE PROGRAM

B-16

FIRM
FLOOD INSURANCE RATE MAP

CALHOUN COUNTY, ALABAMA
(UNINCORPORATED AREAS)

PANEL 150 OF 300
(SEE MAP INDEX FOR PANELS NOT PRINTED)

COMMUNITY-PANEL NUMBER
010013 0150 B

EFFECTIVE DATE:
SEPTEMBER 15, 1983

Federal Emergency Management Agency

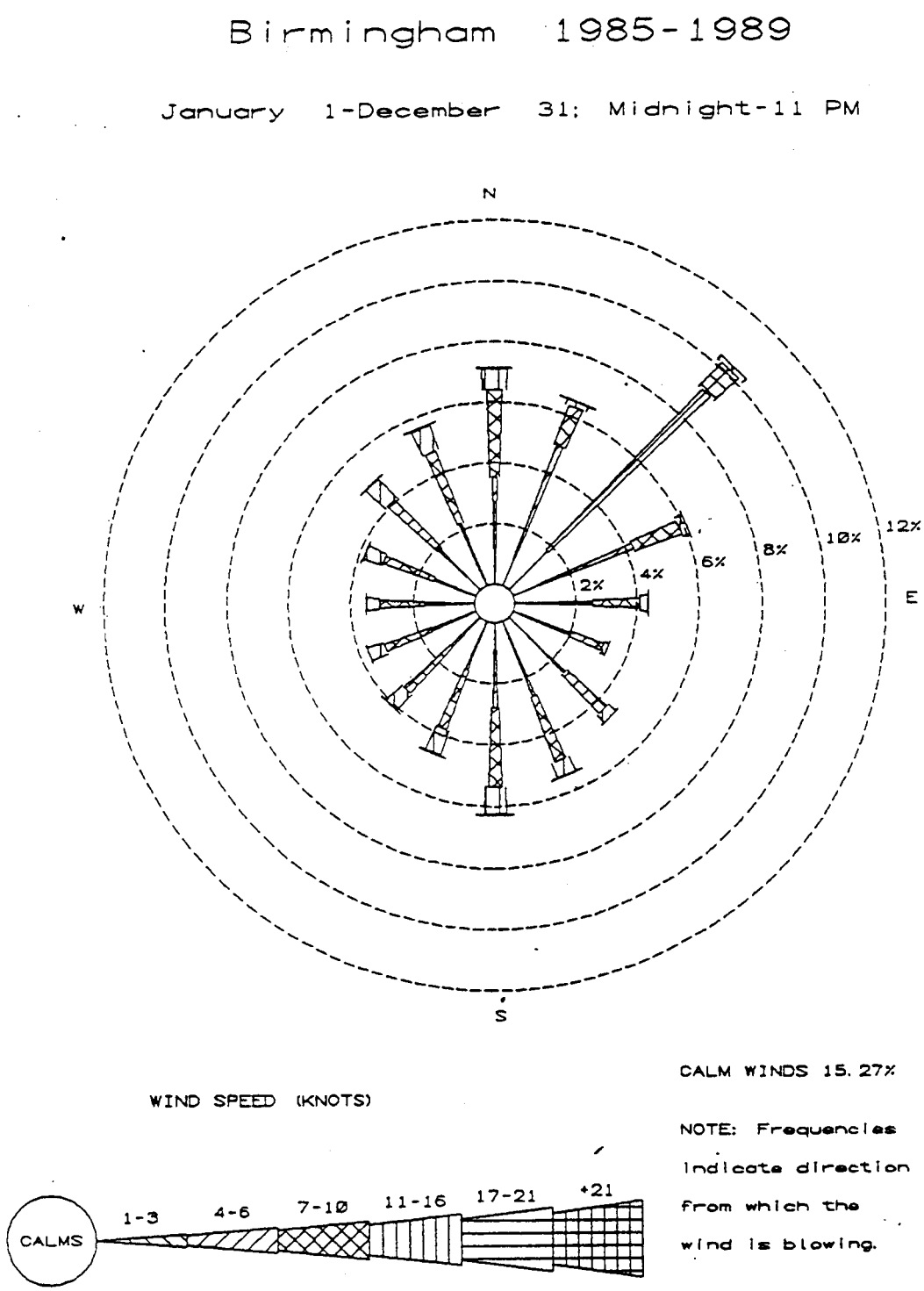


Figure A-7. Wind Rose for Birmingham, Alabama

Source: SAIC 1993b.

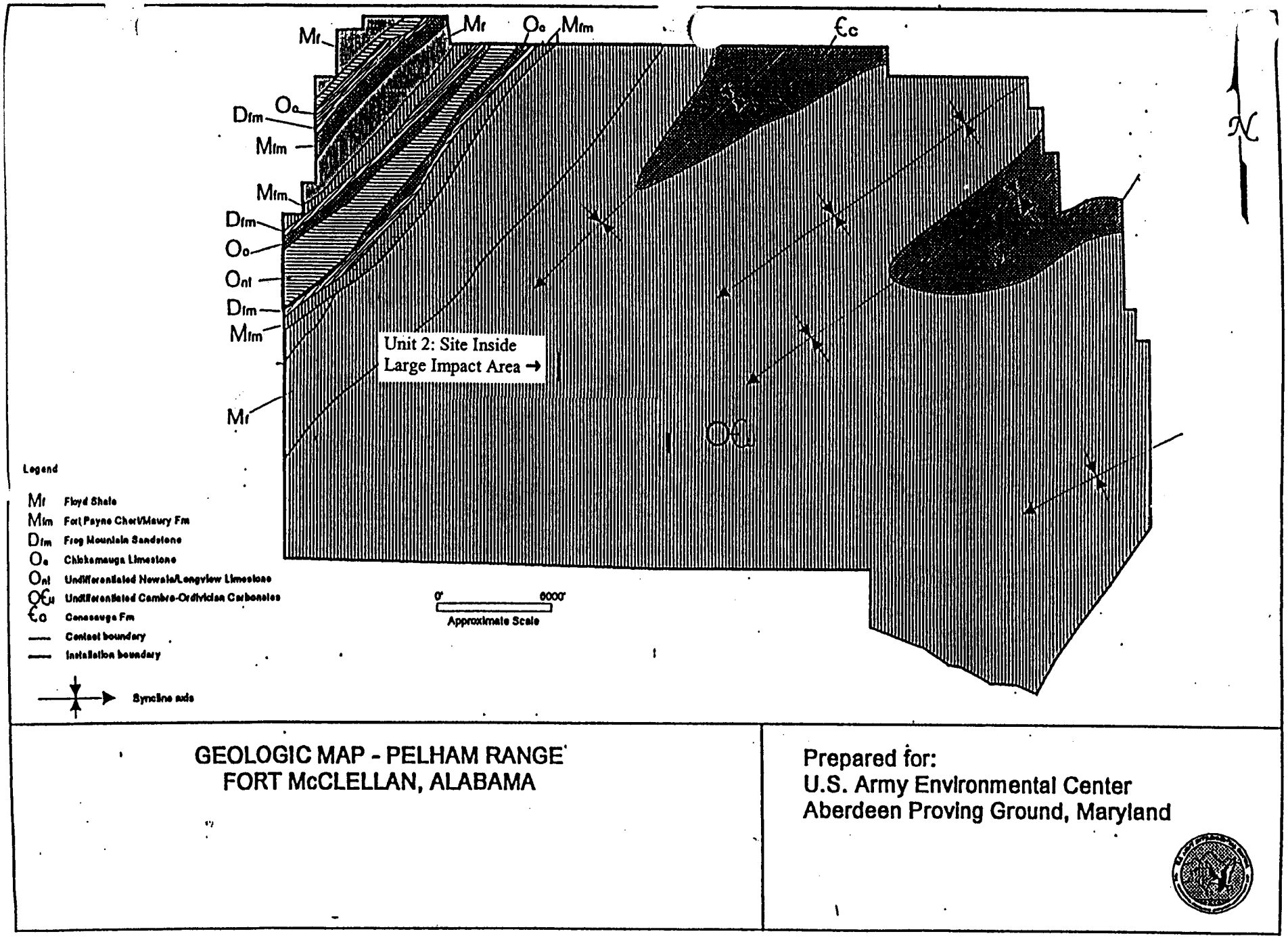
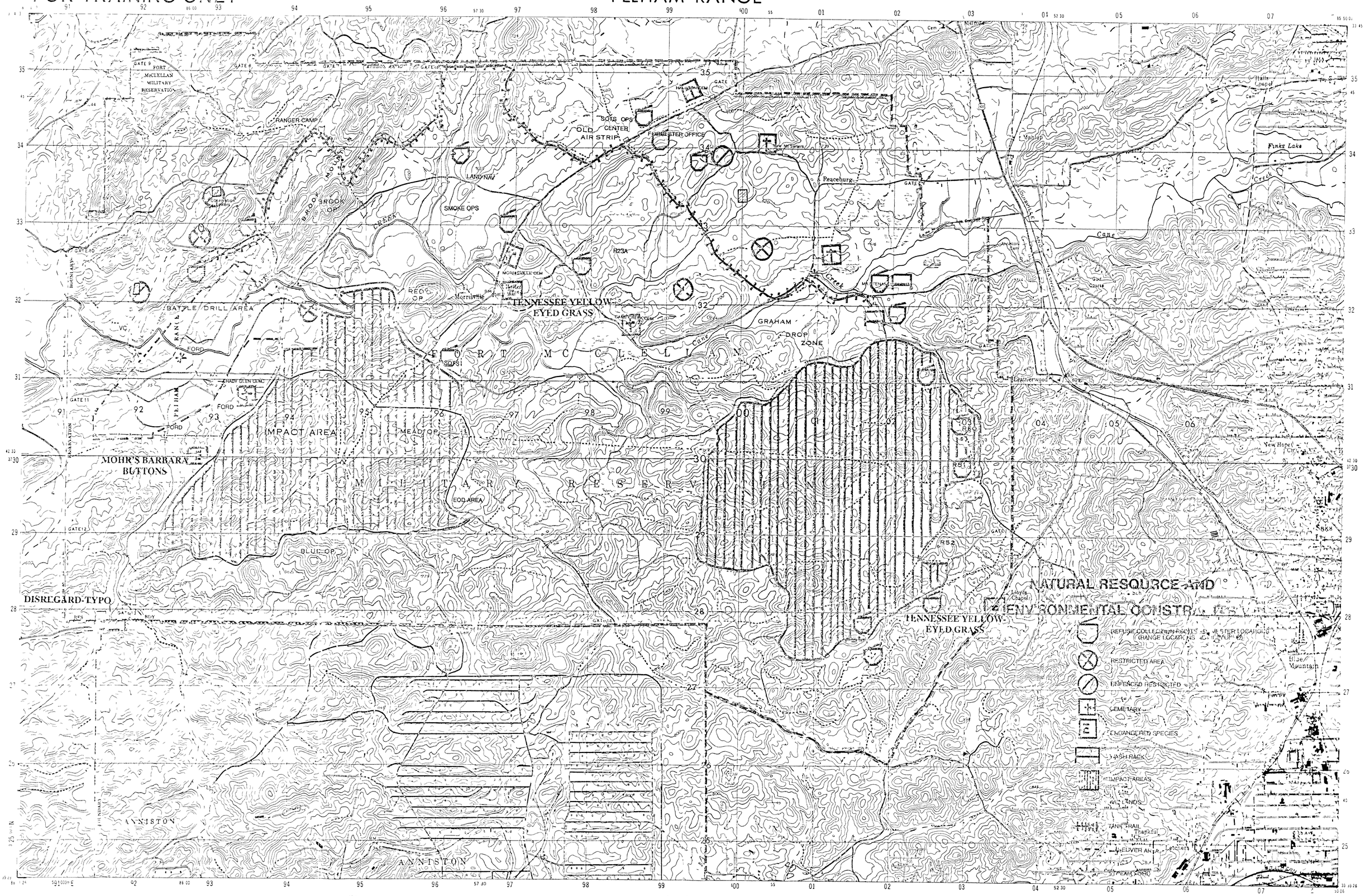


Figure A-8. Regional Geological Map of Pelham Range

FOR TRAINING ONLY

PELHAM RANGE



LEGEND
IMPACT AREA
RANGE/REC AREA CEM AREA
MORTAR FIRING POSITIONS
BOUNDARY AREAS
SUB AREAS
TANK TRAIL

LEGEND
ROAD DATA 1965

RAILROADS

BOUNDARIES

RANGE DATA
R50 RANGES
CONCRETE PADS
ROAD BLOCKS
8 ARTILLERY FIRING POSITIONS
BRIDGES
WATER TOWERS
RESTRICTED AREAS
LATRINES OR RANGE BUILDINGS

Scale 1:25 000

1000 500 0 1000 2000 Meters
1000 500 0 1000 2000 Yards
1 ½ 0 1 Statute Mile
1 ½ 0 1 Nautical Mile

CONTOUR INTERVAL 20 METERS

Spheroid
Grid
Projection
Vertical Datum
Horizontal Datum
Compiled by
Prepared by

Clarke 1866
1000 meter UTM
Polyconic
Sea level Datum 1929
1927 North American Datum
USGS USC & GS CE
Company (Photomapping) (6-74)
Company (Reproduction) (5-7)

SAMPLE 1,000 METER GRID SQUARE
Sample
45
12 13
100,000 m. SQUARE IDENTIFICATION
FN
GRID ZONE DESIGNATION
16S

100 METER REFERENCE
1 R d g m n t b g p n VERTICAL and l left f p n d ation l l ma (100 m)
2 R d g m s t b l g h HORIZONTAL g w b w po d m ns (100 m n g l g d s p)
Example 123456
WHEN REPORTING ACROSS A 100,000 METER LINE PREFIX THE 100,000 METER SQUARE IDENTIFICATION IN WHICH THE POINT LIES
Example FN123 56
WHEN REPORTING OUTSIDE THE GRID ZONE DESIGNATION AREA PREFIX THE GRID ZONE DESIGNATION
Example 16SFN23456

GRID CONVERSION
0 39 (12 MILS)
FOR CENTER OF SHEET

MN
GN

1972 G M ANGLE
1 (18 MILS)

TO CONVERT A MAGNETIC AZIMUTH TO A GRID AZIMUTH
ADD G M ANGLE

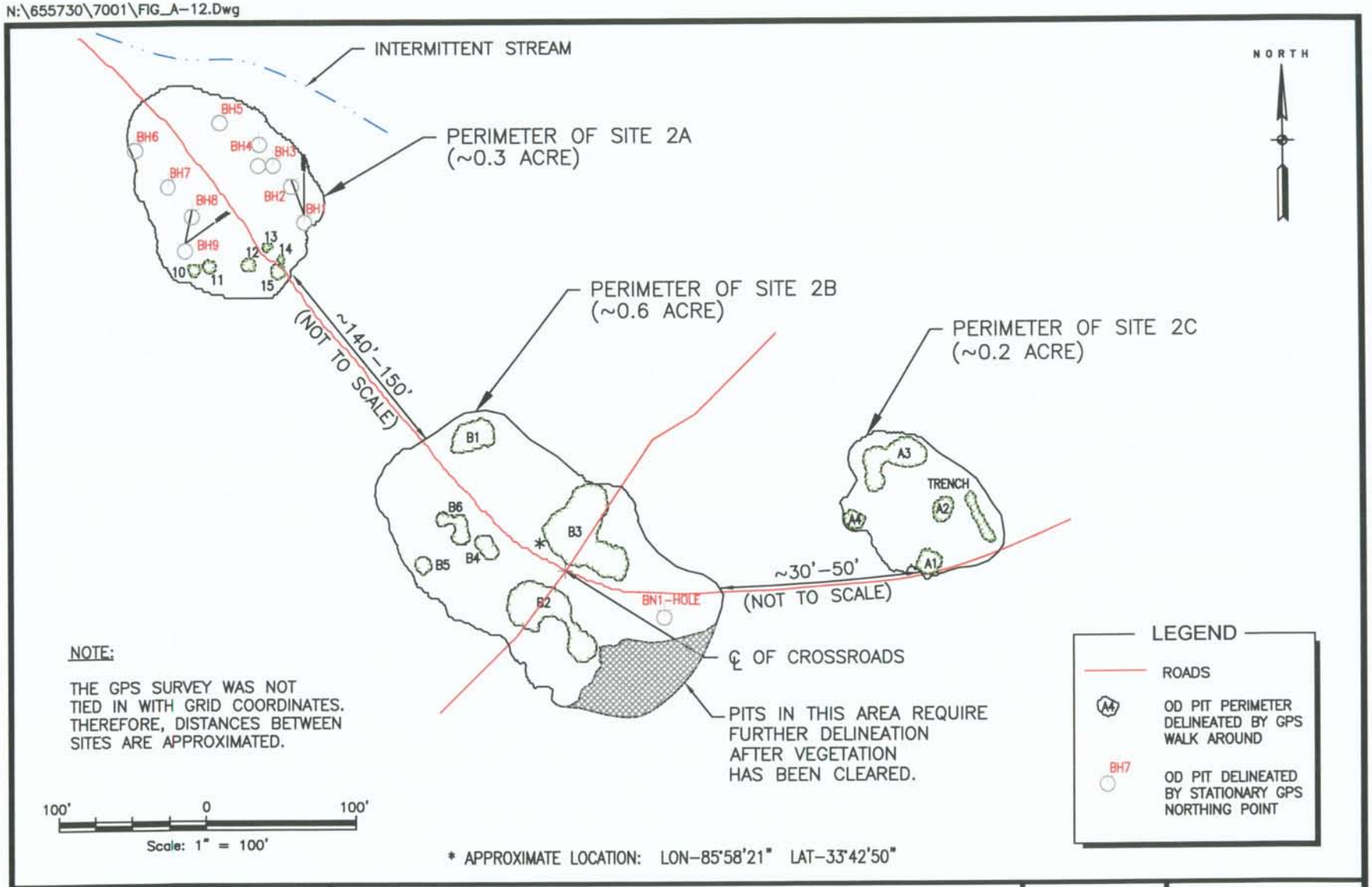
TO CONVERT A GRID AZIMUTH TO A MAGNETIC AZIMUTH
SUBTRACT G M ANGLE

ADJOINING SHEET

PELHAM RANGE | FORT McCLELLAN

OVERPRINT PREPARED AND PRINTED BY 1204th ENGR CO (TOPO) AFING SLOCOMB AL 4-91

N:\655730\7001\FIG_A-12.Dwg



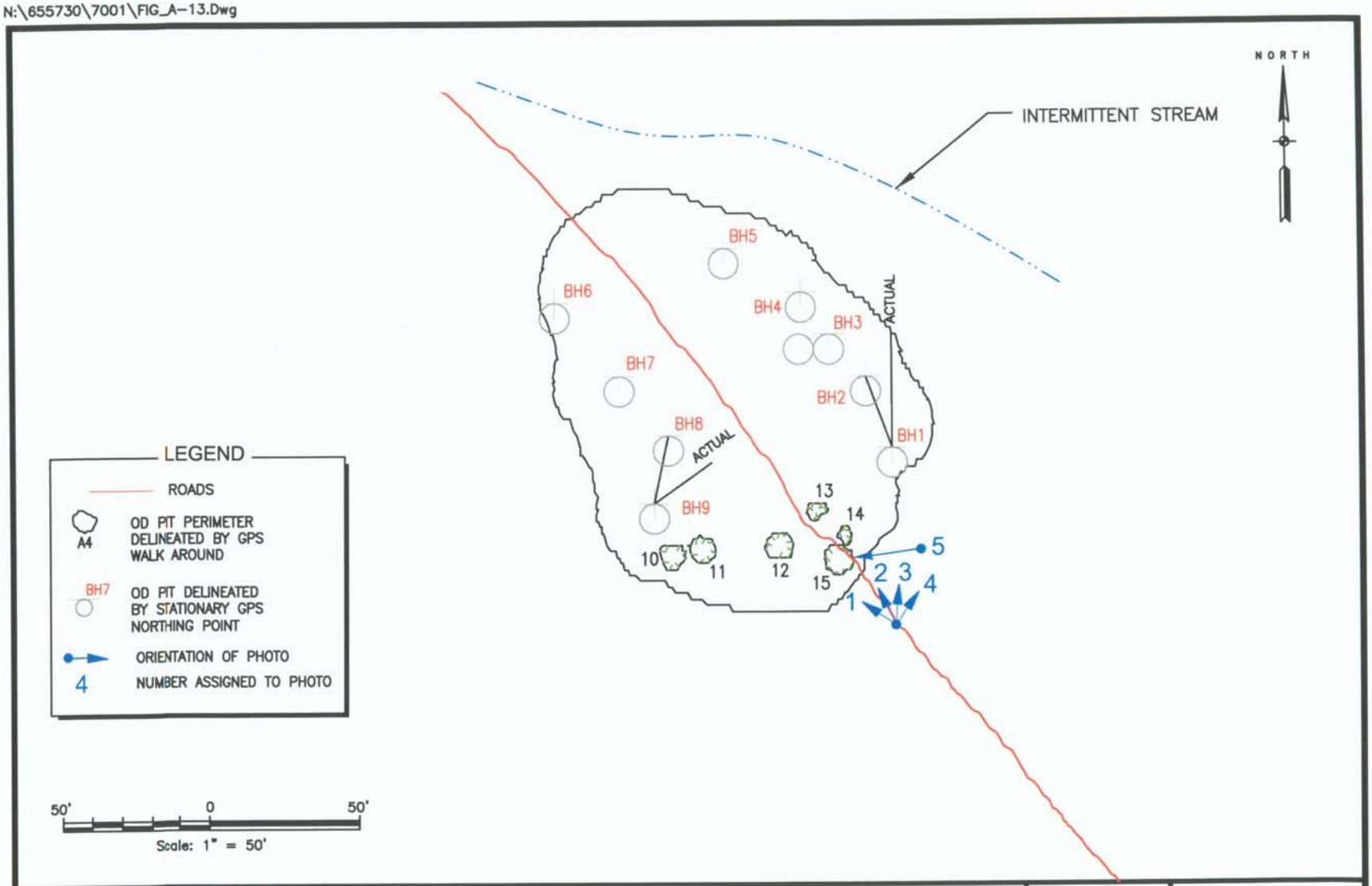
URS
1093 COMMERCE PARK DRIVE, OAK RIDGE, TN

Figure A-10. RCRA Interim Status Treatment Unit 2 (Sites 2A, 2B, 2C) Inside Large Impact Area

REVISION: 0
DATE: 07/28/97

DRAWN BY: Z. WOMAC
CHECKED BY: C. WEBB

N:\655730\7001\FIG_A-13.Dwg



URS
1093 COMMERCE PARK DRIVE, OAK RIDGE, TN

Figure A-11. Unit 2 - Site 2A

REVISION: 0
DATE: 07/28/97

DRAWN BY: Z. WOMAC
CHECKED BY: C. WEBB

Figure A-12. Unit 2A, Photograph 1. EOD personnel setting a charge in active EOD unit.

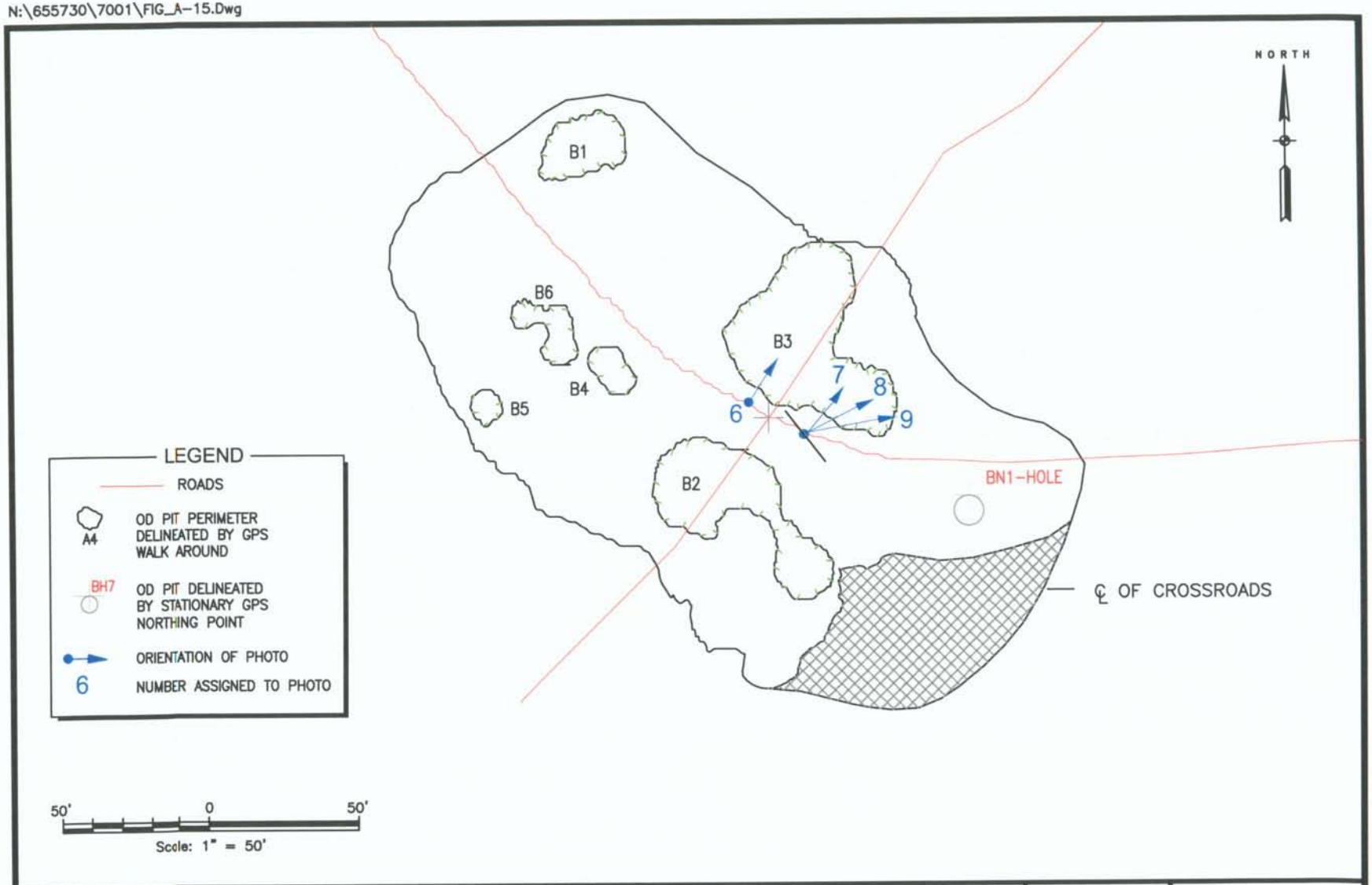
Figure A-12. Unit 2A, Photograph 2. Main road through active EOD unit.

Figure A-12. Unit 2A, Photograph 3. EOD personnel in active EOD unit.

Figure A-12. Unit 2A, Photograph 4. Metal fragments in active EOD unit.

Figure A-12. Unit 2A, Photograph 5. Typical OD pit after repeated use in active EOD unit.

N:\655730\7001\FIG_A-15.Dwg



URS
1093 COMMERCE PARK DRIVE, OAK RIDGE, TN

Figure A-13. Unit 2 - Site 2B

REVISION: 0
DATE: 07/28/97

DRAWN BY: Z. WOMAC
CHECKED BY: C. WEBB

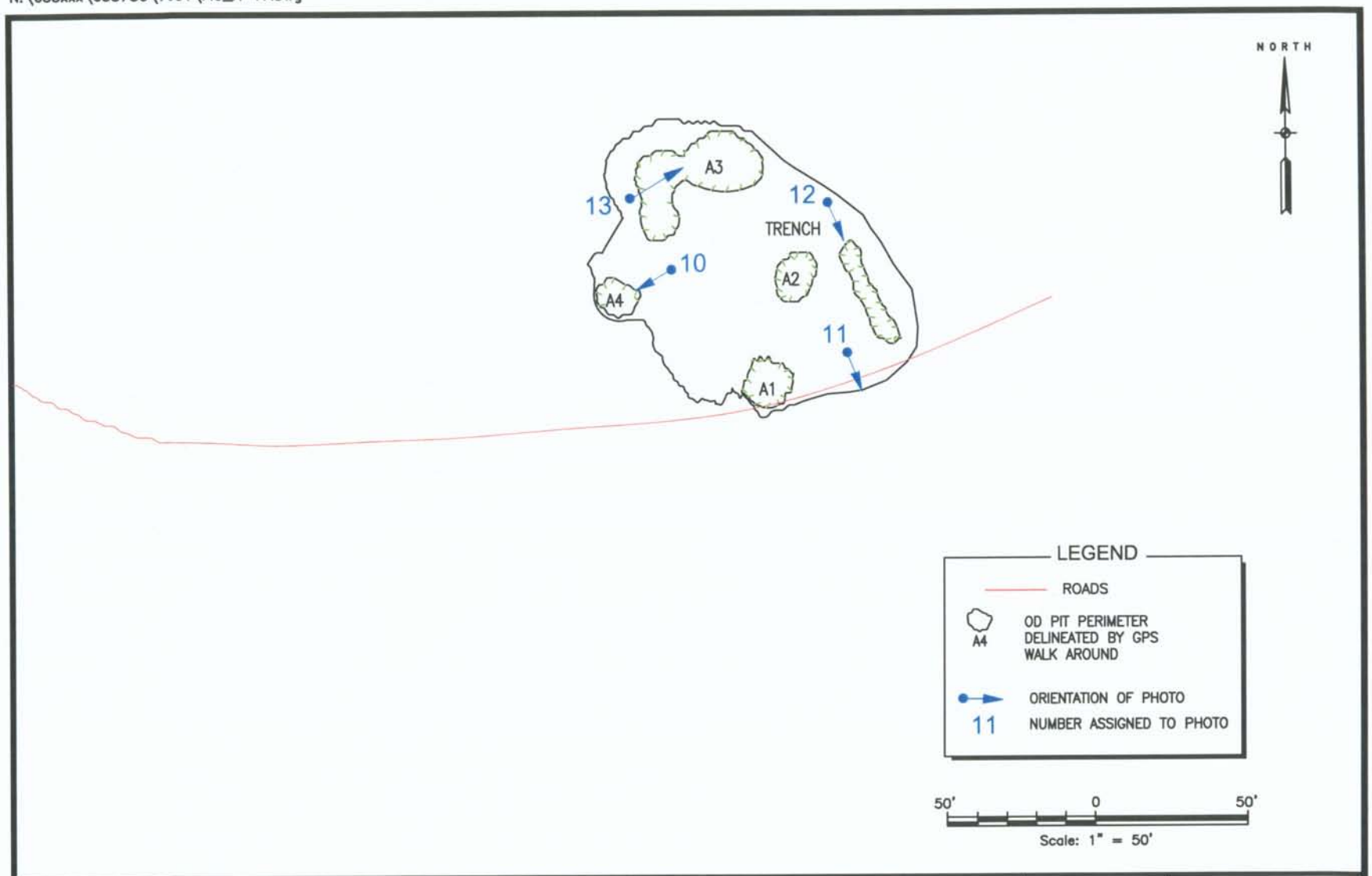
Figure A-14. Unit 2B, Photograph 6. Metal debris, surface water in large OD pit in inactive EOD unit.

Figure A-14. Unit 2B, Photograph 7. Inactive EOD unit.

Figure A-14. Unit 2B, Photograph 8. Detonation pits in inactive EOD unit.

Figure A-14. Unit 2B, Photograph 9. Detonation pits in inactive EOD unit.

N:\655xxx\655730\7001\FIG_A-17.Dwg



URS
1093 COMMERCE PARK DRIVE, OAK RIDGE, TN

Figure A-15. Unit 2 - Site 2C

REVISION: 0
DATE: 07/28/97

DRAWN BY: Z. WOMAC
CHECKED BY: C. WEBB

Figure A-16. Unit 2C, Photograph 10. Surface water in OD pit in inactive EOD unit.

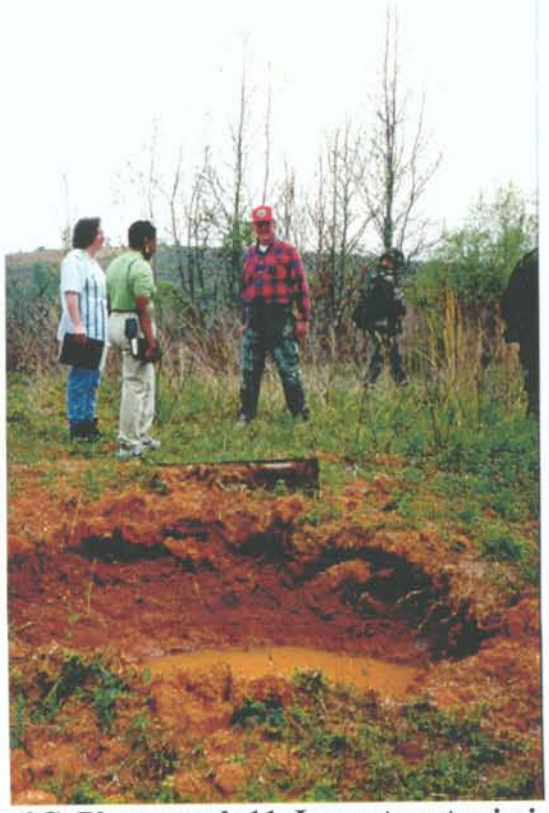


Figure A-16. Unit 2C, Photograph 11. Impact crater in inactive EOD unit.

Figure A-16. Unit 2C, Photograph 12. Open trench in inactive EOD unit.

Figure A-16. Unit 2C, Photograph 13. OD pits in inactive EOD unit.

Appendix B

FIELD DATA

This page intentionally left blank.

HTRW DRILLING LOG

DISTRICT: Mobile.		HOLE NUMBER: MW-1
1. COMPANY NAME: URS	2. DRILL SUBCONTRACTOR: Geotek Drilling Co.	SHEET 1 OF 2 SHEETS
3. PROJECT: FT McClellan	4. LOCATION: OD Unit Area 2C	
5. NAME OF DRILLER: Jim Horsefolder.	6. MANUFACTURER'S DESIGNATION OF DRILL: Mobile B57 All Terrain.	
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 8" ø OD - 3" ø SS, 2" ø SS	8. HOLE LOCATION: P2-2 converted to MW-1	
	9. SURFACE ELEVATION: 557.33. TOC EL - 559.02	
	10. DATE STARTED: 8/17/01	11. DATE COMPLETED: 9/5/01
12. OVERBURDEN THICKNESS: 30'	15. DEPTH GROUNDWATER ENCOUNTERED	
13. DEPTH DRILLED INTO ROCK: -0-	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED	
14. TOTAL DEPTH OF HOLE: 30'	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY)	

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
—	—	—	—

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY %
—						

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
—	—			[signature]

LOCATION SKETCH/COMMENTS SCALE:

See MW Location Plan.

PROJECT: FT McClellan OD Units	HOLE NO. MW-1

ENG FORM 5056-R, AUG 94 (Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-1

PROJECT: FT McClellan OD Units

INSPECTOR: Chris Wesh

SHEET 2 OF 2 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO. (f)	BLOW COUNT (g)	REMARKS (h)
	2						
	4	Piezometer (PZ-2)					
	6	was converted into					
	8	MW-1. No lithology					
	10	collected during					
	12	PZ-2 installation.					
	14	See MW-3 Asbuilt					
	16	for construction					
	18	details.					
	20						
	22						
	24						
	26						
	28						
	30						
	32						
	34						
	36						
	38						
	40						

PROJECT: FT McClellan OD Units 2A, 2B & 2C

HOLE NO. MW-1

ENG FORM 5056A-R, AUG 94

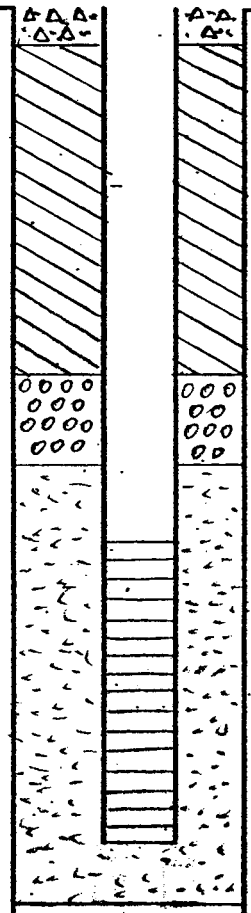
(Proponent: CECW-EG)

URS

MONITORING WELL / PIEZOMETER CONSTRUCTION SUMMARY

Installation ID: MW-1 Project: Ft McClellan
Site ID: SWMU DD Unit 1 2C Area
Monitoring Well or Piezometer (circle one) ID:
Drilling Company: Geotex Drilling Method: HSA
Radian Drilling Supervisor's Name or Initials: Chris Weeth
Construction Start Date: 8/17/01 Construction Finish Date: 8/5/01
Final Groundwater Depth: 20.06 Feet Below Measuring Point

DEPTH FT.



LOCATION
North Coordinate:
East Coordinate:
Coordinate System:
Surface Elevation: 557.33 Feet MSL

MEASURING POINT
Location: TOC
Elevation: 559.02 Feet MSL
Height AGL: 1.69' Feet

SURFACE PROTECTION
Protective Casing Description: 4" x 4" x 5' Steel
Pad Description (if used): 3' x 3' x 5.5" Concrete

SURFACE SEAL and CASING
Type: Concrete
Amount: ≈ 5 gal
Bottom Depth BGL: 1.5'
Emplacement Method: Poured
Surface Casing Diameter: –
Surface Casing Bottom Depth BGL: –

RISER PIPE and SCREEN
Riser Type: Sch 40 PVC
Riser/Screen Diameter: 2"
Riser Length: 18'
Riser Height AGL: 2'
Screen Type: Sch 40 PVC
Screen Top Depth BGL: 18'
Screen Bottom Depth BGL: 28'
Screen Slot Size: 10 Slot

ANNULAR SEAL
Top Depth BGL: 1.5-2'
Type: Type I Portland and Bentonite
Amount:
Emplacement Method: Tremie

FILTER PACK
Top Depth BGL: 15.5'
Grain Type and Size: 20/40
Grain Mineralogy: Quartz
Amount: 9 50 lb bags
Emplacement Method: Tremie

BOREHOLE
Borehole Diameter: 8" ϕ
Total Depth of Borehole BGL: 30

(See opposite side for code explanation)

HTRW DRILLING LOG

DISTRICT: Mobile.		HOLE NUMBER: MW-2
1. COMPANY NAME: URS	2. DRILL SUBCONTRACTOR: Geotek Drilling Co.	SHEET 1 OF 2 SHEETS
3. PROJECT: FT McClellan	4. LOCATION: OD Unit Area 2C	
5. NAME OF DRILLER: Jim Horsefalter.	6. MANUFACTURER'S DESIGNATION OF DRILL: Mobile B57 All Terrain.	
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 8" ø OD - 3" ø SSI; 2" ø SS	8. HOLE LOCATION: PZ-3 Converted to MW-2	
	9. SURFACE ELEVATION: 562.28 TOC - 565.00	
	10. DATE STARTED: 8/18/01	11. DATE COMPLETED: 9/6/01
12. OVERBURDEN THICKNESS: 37'	15. DEPTH GROUNDWATER ENCOUNTERED	
13. DEPTH DRILLED INTO ROCK: -0-	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED	
14. TOTAL DEPTH OF HOLE: 37'	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY)	

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY %

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
				[signature]

LOCATION SKETCH/COMMENTS SCALE:

See MW location Plan

PROJECT: FT McClellan OD units	HOLE NO. MW-2

ENG FORM 5056-R, AUG 94 (Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-2

PROJECT: FT McClellan OD Units

INSPECTOR: Chris Wesh

SHEET 2 OF 2 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO. (f)	BLOW COUNT (g)	REMARKS (h)
	2						
	4	Piezometer (PZ-3)					
	6	was converted into					
	8	MW-2. No lithology					
	10	collected during					
	12	PZ-3 installation,					
	14	See MW-2 Asbuilt					
	16	for construction					
	18	details.					
	20						
	22						
	24						
	26						
	28						
	30						
	32						
	34						
	36						
	38						
	40						

PROJECT: FT McClellan OD Units 2A, 2B & 2C

HOLE NO. MW-2

ENG FORM 5056A-R, AUG 94

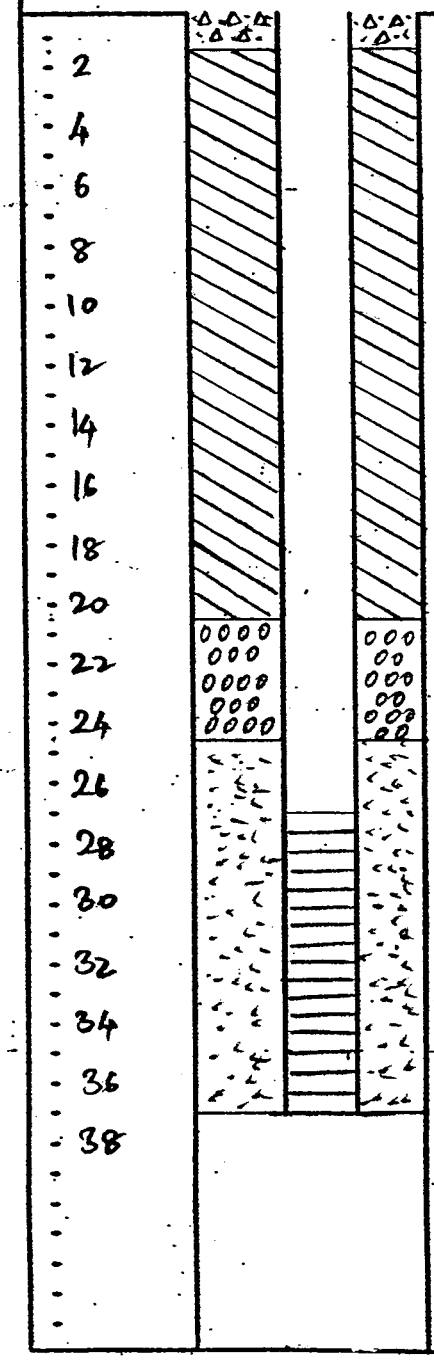
(Proponent: CECW-EG)

URS

MONITORING WELL / PIEZOMETER CONSTRUCTION SUMMARY

Installation ID: MW-2 Project: Ft McClellan
Site ID: SWMU DD Unit 1 2C Area
Monitoring Well or Piezometer (circle one) ID:
Drilling Company: Geotex Drilling Method: HSA
Radian Drilling Supervisor's Name or Initials: Chris Wesh
Construction Start Date: 8/15/01 Construction Finish Date: 9/6/01
Final Groundwater Depth: 25.25 Feet Below Measuring Point

DEPTH FT.



LOCATION
North Coordinate:
East Coordinate:
Coordinate System:
Surface Elevation: 562.28 Feet MSL

MEASURING POINT
Location: TOC
Elevation: 565.00 Feet MSL
Height AGL: 2.72' Feet

SURFACE PROTECTION
Protective Casing Description: 4"x4"x5' Steel
Pad Description (if used): 3'x3'x5.5" Concrete

SURFACE SEAL and CASING
Type: Concrete
Amount: ≈ 5 gal
Bottom Depth BGL: 1.5'
Emplacement Method: Poured
Surface Casing Diameter: –
Surface Casing Bottom Depth BGL: –

RISER PIPE and SCREEN
Riser Type: Sch 40 PVC
Riser/Screen Diameter: 2"
Riser Length: 27'
Riser Height AGL: 2'
Screen Type: Sch 40 PVC
Screen Top Depth BGL: 27'
Screen Bottom Depth BGL: 37'
Screen Slot Size: 10 Slot

ANNULAR SEAL
Top Depth BGL: 1.5-2'
Type: Type I Portland and Bentonite
Amount:
Emplacement Method: Tremie

FILTER PACK
Top Depth BGL: 24.5'
Grain Type and Size: 20/40
Grain Mineralogy: Quartz
Amount: 9 50 lb bags
Emplacement Method: Tremie

BOREHOLE
Borehole Diameter: 8" Ø
Total Depth of Borehole BGL: 37

(See opposite side for code explanation)

HTRW DRILLING LOG

DISTRICT	Mobile.
HOLE NUMBER	MW-3
1. COMPANY NAME	URS
2. DRILL SUBCONTRACTOR	Geotek Drilling Co.
SHEET / OF SHEETS	1 of 2
3. PROJECT	FT McClellan
4. LOCATION	OD Unit Area 2C
5. NAME OF DRILLER	Jim Horsefelder.
6. MANUFACTURER'S DESIGNATION OF DRILL	Mobile B57 All Terrain.
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT	8" ø OD - 3" ø SS; 2" ø SS
8. HOLE LOCATION	MW-3
9. SURFACE ELEVATION	557.42 TOC EL - 560.13
10. DATE STARTED	8/20/01
11. DATE COMPLETED	9/15/01
12. OVERBURDEN THICKNESS	30'
15. DEPTH GROUNDWATER ENCOUNTERED	24.8'
13. DEPTH DRILLED INTO ROCK	-0-
16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED	9/16/01 10.1 3 wks.
14. TOTAL DEPTH OF HOLE	30'
17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY)	

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY %

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
				[signature]

LOCATION SKETCH/COMMENTS SCALE:

See MW location Plan

PROJECT	HOLE NO.
Ft McClellan OD Unit	MW-3

ENG FORM 5056-R, AUG 94 (Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-3

PROJECT: FT McClellan OD Units

INSPECTOR: Chris Wesh

SHEET 2 OF 2 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO. (f)	BLOW COUNT (g)	REMARKS (h)
		6" Topsoil	HNU-0	SS-1 1-2			Passing 3" ϕ SS @ 1' intervals w/ VOA survey
	2	LT Br SC, <10% F-S, moist mod, low plas, <10% F-S		SS-2 2-3			
				SS-3 3-4			
	4	SAA w/ <10% F-G, roots		SS-4 4-5			
		4' - SAA LT Br & Gray mottled		SS-5 5-6			
				SS-6 6-7			
	6			SS-7 7-8			
				SS-8 8-9			
	8	Gray CS, moist-dry, mod low plas, <20% C-FS & m-FG		SS-9 9-10			
	10	SAA <40% C-FS, moist. G-in Tip of SS.		SS-10 10-12		32, 38, 50/6"	@ 10' driving 2" ϕ SS.
	12	Grayish-white C-FS, moist mod, <10% CS, 25% m-F G.		SS-11 12-14		18-15-22-18	heavy rig vibration @ 13' & 15'
	14	13.6' - SAA Br color		SS-12 14-16		15-23-15-4	possible cobble
	16	15' SAA Grayish white color <20% CS, <20% m-F G		SS-13 16-18		12-17-18-13	
	18			SS-14 18-20		11-12-14-22	
	20	20' SAA. Orange Br streaks throughout, Tip of SS wet		SS-15 20-22		19-22-27-33	Tip of SS @ 22' wet.
	22			SS-16 22-24		18-22-32-30	
	24	Br SC, moist, st. F-S, mod. plas, <10% F-S, mottled gray.		SS-17 24-26		4-4-6-6	
	26			SS-18 26-28		4-4-6-6	8/20 @ 30', returned augers. No H_2O.
		27-27.5 grading to C-FS (Br.)					
	28	27.5-30. Br. SC, moist, st. F-S mod plas, <10% F-S.		SS-19 28-30		4-4-4-3	8/21 - DTW 24.8'
	30	TD-30'					
	32						
	34						
	36						
	38						
	40						

PROJECT: FT McClellan OD Units 2A, 2B & 2C

HOLE NO. MW-3

ENG FORM 5056A-R, AUG 94

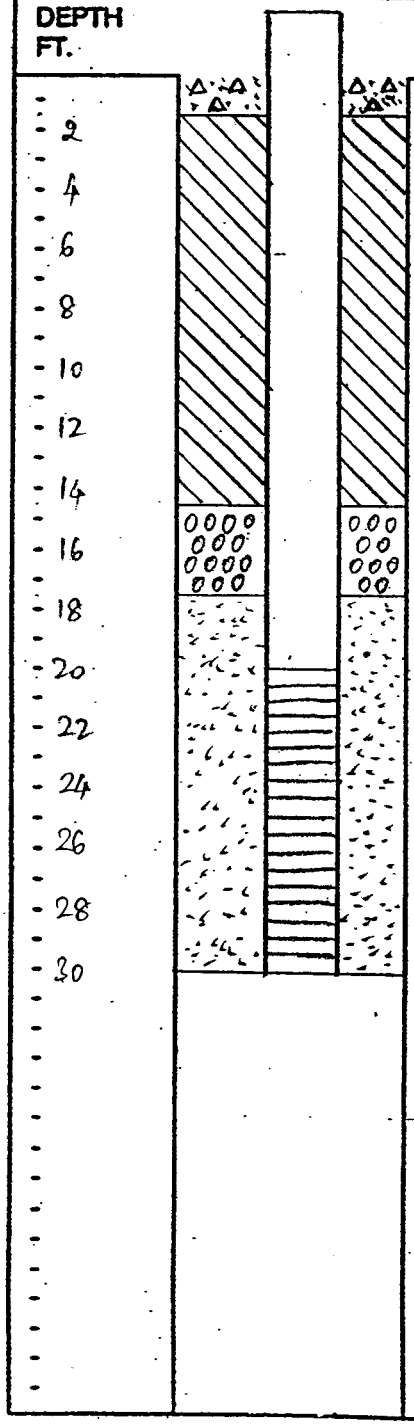
(Proponent: CECW-EG)

URS

MONITORING WELL / PIEZOMETER CONSTRUCTION SUMMARY

Installation ID: MW-3 Project: FT McClellan
Site ID: SWMU 00 Unit 2C Area
Monitoring Well or Piezometer (circle one) ID:
Drilling Company: Geotek Drilling Method: HSA
Radian Drilling Supervisor's Name or Initials: Chris Wesh
Construction Start Date: 8/20/01 Construction Finish Date: 9/15/01
Final Groundwater Depth: 10.10 Feet Below Measuring Point

DEPTH FT.



LOCATION
North Coordinate:
East Coordinate:
Coordinate System:
Surface Elevation: 557.42 Feet MSL

MEASURING POINT
Location: TOC
Elevation: 560.13 Feet MSL
Height AGL: 2.71 Feet

SURFACE PROTECTION
Protective Casing Description: 4" x 4" x 5' Steel
Pad Description (if used): 3' x 3' x 5.5" Concrete

SURFACE SEAL and CASING
Type: Concrete
Amount: ≈ 5 gal
Bottom Depth BGL: 1.5'
Emplacement Method: Poured
Surface Casing Diameter: –
Surface Casing Bottom Depth BGL: –

RISER PIPE and SCREEN
Riser Type: Sch 40 PVC
Riser/Screen Diameter: 2"
Riser Length: 20'
Riser Height AGL: 2'
Screen Type: Sch 40 PVC
Screen Top Depth BGL: 20
Screen Bottom Depth BGL: 30
Screen Slot Size: 10 Slot

ANNULAR SEAL
Top Depth BGL: 1.5' - 2'
Type: Type I Portland and Bentonite
Amount:
Emplacement Method: Tremie

FILTER PACK
Top Depth BGL: 17.5'
Grain Type and Size: 30/40
Grain Mineralogy: Quartz
Amount: 7 50 lb bags
Emplacement Method: Tremie

BOREHOLE
Borehole Diameter: 8" Ø
Total Depth of Borehole BGL: 30 ft

(See opposite side for code explanation)

HTRW DRILLING LOG

DISTRICT	Mobile.
HOLE NUMBER	MW-4
1. COMPANY NAME	URS
2. DRILL SUBCONTRACTOR	Geotek Drilling Co.
SHEET / SHEETS	1 OF 3
3. PROJECT	FT McClellan
4. LOCATION	OD Unit Area 2B
5. NAME OF DRILLER	Jim Horsefelder.
6. MANUFACTURER'S DESIGNATION OF DRILL	Mobile B57 All Terrain.
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT	8" ø OD - 3" ø SSI 2" ø SS
8. HOLE LOCATION	P2-1 Converted to MW-4
9. SURFACE ELEVATION	559.77 TOC EL. 562.50
10. DATE STARTED	8/14/01
11. DATE COMPLETED	9/14/01
12. OVERBURDEN THICKNESS	30'
15. DEPTH GROUNDWATER ENCOUNTERED	
13. DEPTH DRILLED INTO ROCK	-0-
16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED	25.8' 9/16/01.
14. TOTAL DEPTH OF HOLE	30'
17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY)	

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY %

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
				[signature]

LOCATION SKETCH/COMMENTS

SCALE:

See MW Location Plan.

PROJECT	HOLE NO.
FT McClellan OD Unit.	MW-4

ENG FORM 5056-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-4

PROJECT: FT McClellan OD Units

INSPECTOR: Chris Wesh

SHEET 2 OF 2 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO. (f)	BLOW COUNT (g)	REMARKS (h)
	2						
	4						
	6	Piezometer (PZ1) was converted into MW-4. No lithology was collected during PZ-1 installation					
	8						
	10						
	12						
	14	See MW-4 Asbuilt for Construction details.					
	16						
	18						
	20						
	22						
	24						
	26						
	28						
	30						
	32						
	34						
	36						
	38						
	40						

PROJECT: FT McClellan OD Units 2A, 2B & 2C

HOLE NO. MW-4

ENG FORM 5056A-R, AUG 94

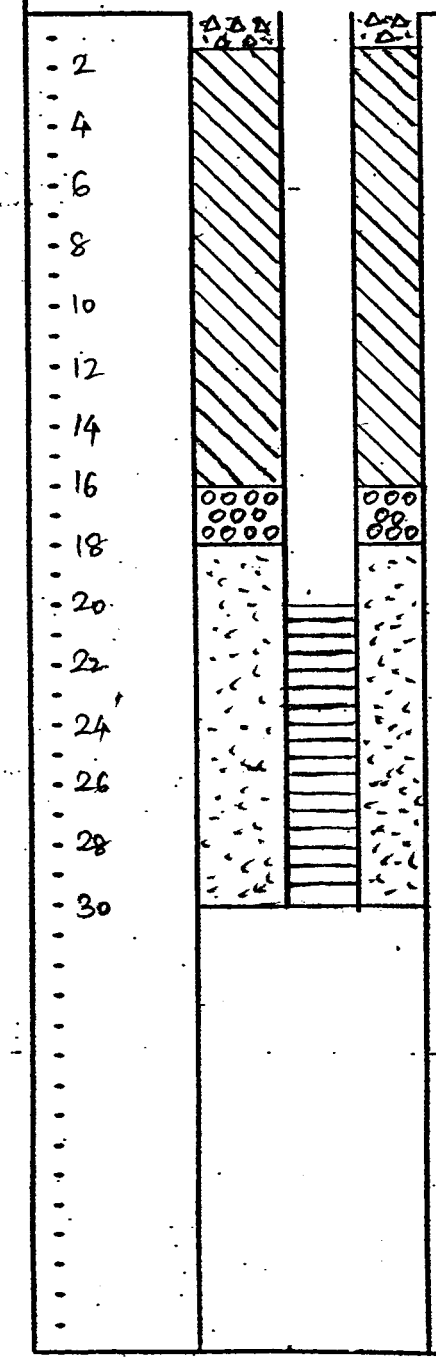
(Proponent: CECW-EG)

URS

MONITORING WELL / PIEZOMETER CONSTRUCTION SUMMARY

Installation ID: MW-4 Project: Ft. McClellan
Site ID: SWMU OD Unit 1 2B Area
(Monitoring Well or Piezometer (circle one) ID:
Drilling Company: Geotex Drilling Method: HSA
Radian Drilling Supervisor's Name or Initials: Chris Weph
Construction Start Date: 8/14/01 Construction Finish Date: 9/14/01
Final Groundwater Depth: 25.8 Feet Below Measuring Point

DEPTH FT.



LOCATION
North Coordinate:
East Coordinate:
Coordinate System:
Surface Elevation: 559.77 Feet MSL

MEASURING POINT
Location: TOC
Elevation: 562.50 Feet MSL
Height AGL: 2.73' Feet

SURFACE PROTECTION
Protective Casing Description: 4"x4"x5' Steel
Pad Description (if used): 3'x3'x5.5" Concrete

SURFACE SEAL and CASING
Type: Concrete
Amount: ≈ 5 gal
Bottom Depth BGL: 1.5'
Emplacement Method: Poured
Surface Casing Diameter: –
Surface Casing Bottom Depth BGL: –

RISER PIPE and SCREEN
Riser Type: Sch 40 PVC
Riser/Screen Diameter: 2"
Riser Length: 20'
Riser Height AGL: 2'
Screen Type: Sch 40 PVC
Screen Top Depth BGL: 20'
Screen Bottom Depth BGL: 30'
Screen Slot Size: 10 Slot

ANNULAR SEAL
Top Depth BGL: 1.5-2'
Type: Type I Portland and Bentonite
Amount:
Emplacement Method: Tremie

FILTER PACK
Top Depth BGL: 18'
Grain Type and Size: 20/40
Grain Mineralogy: Quartz
Amount:
Emplacement Method: Tremie

BOREHOLE
Borehole Diameter: 8" ϕ
Total Depth of Borehole BGL: 30 ft

(See opposite side for code explanation)

HTRW DRILLING LOG

DISTRICT: Mobile.		HOLE NUMBER: MW-5
1. COMPANY NAME: URS	2. DRILL SUBCONTRACTOR: Geotek Drilling Co.	SHEET 1 OF 2 SHEETS
3. PROJECT: FT McClellan	4. LOCATION: OD Unit Area 2B	
5. NAME OF DRILLER: Jim Horsebolder.	6. MANUFACTURER'S DESIGNATION OF DRILL: Mobile B57 All Terrain.	
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 8" ϕ OD - 3" ϕ SSI 2" ϕ SS	8. HOLE LOCATION: MW-5	
	9. SURFACE ELEVATION: 558.76 TOC EL - 561.64	
	10. DATE STARTED: 8/22/01	11. DATE COMPLETED: 9/14/01
12. OVERBURDEN THICKNESS: 26'	15. DEPTH GROUNDWATER ENCOUNTERED: ≈ 18.5'	
13. DEPTH DRILLED INTO ROCK: -0-	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: 18.67 on 9/16/01	
14. TOTAL DEPTH OF HOLE: 26'	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY):	

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY %

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
				[signature]

LOCATION SKETCH/COMMENTS

SCALE:

See MW Location Plan.

PROJECT	HOLE NO.
FT McClellan OD Unit	MW-5

ENG FORM 5056-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-5

PROJECT: FT McClellan OD Units

INSPECTOR: Chris Wesh

SHEET 2 OF 2 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO. (f)	BLOW COUNT (g)	REMARKS (h)
		1' Topsoil	HNV-0	SS-1 1-2'			Pressing 3"ϕ SS @ 1' intervals w/ VXO Survey
	2	Br C$ <20% m-FS, <20% m-FG, moist, med-dense. 3.5' SAA 30% c-FG.		SS-2 2-3'			
				SS-3 3-4'			
	4	Grading to LT Br C$, moist med-dense orange mottling throughout. <10% m-FS NoG.		SS-4 4-5'			
				SS-5 5-6'			
	6			SS-6 6-7'			
				SS-7 7-8'			
	8	@8.5' SAA <10% c-FG		SS-8 8-9'			
				SS-10 9-10'			@10' switched to 2"ϕ SS & driving
	10	10' Orange Br & grayish white $C, moist, med, med plas <10% FS		SS-11 10-12'		7-13-11-11	
	12			SS-12 12-14'		5-7-9-12	
	14	13.8' m-FG & c-FS white		SS-13 14-16'		4-4-4-6	
		14' - Orange Br & white $, moist, soft-med, <10% FS					
	16	15' All white $, <10% FS, moist, soft		SS-14 16-18'		3-3-3-5	
		16.7'-18 Orange mottled					
	18	18-20 SAA wet @ 18.5'		SS-15 18-20		3-3-4-7	
	20			SS-16 20-22		4-7-10-9	Auger refusal @ 26', drilled 5 min without advancement. Chert & gravel to surface, probably cobble or boulder.
	22			SS-17 22-24		4-6-4-7	
	24	23' LT Br $C, moist, med-high plas, <10% FS		SS-20 24-26			Augers pulled bore hole dry. 8/22 - No water will wait until 8/27 for DTW.
	26	@25' SAA 20-30% m-FS, <10% m-FG					
	28	TD - 26' (Auger Refusal)					DTW on 8/27 - 19.6'
	30						
	32						
	34						
	36						
	38						
	40						

PROJECT: FT McClellan OD Units 2A, 2B & 2C

HOLE NO. MW-5

ENG FORM 5056A-R, AUG 94

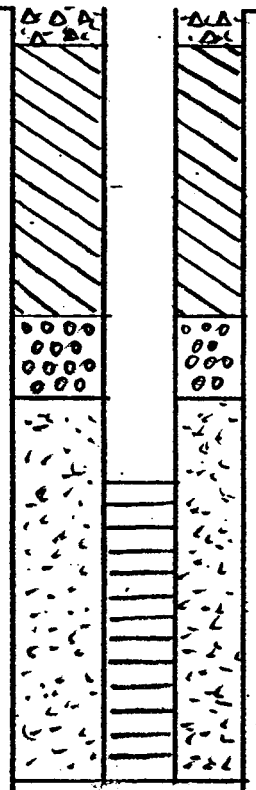
(Proponent: CECW-EG)

URS

MONITORING WELL / PIEZOMETER CONSTRUCTION SUMMARY

Installation ID: MW-5 Project: Ft McClellan
Site ID: SWMU OD Unit 1 2B Area
Monitoring Well or Piezometer (circle one) ID:
Drilling Company: Geotek Drilling Method: HSA
Radian Drilling Supervisor's Name or Initials: Chris Wesh
Construction Start Date: 8/22/01 Construction Finish Date: 8/24/01
Final Groundwater Depth: 18.67 Feet Below Measuring Point

DEPTH FT.



LOCATION
North Coordinate:
East Coordinate:
Coordinate System:
Surface Elevation: 558.76 Feet MSL

MEASURING POINT
Location: TOC
Elevation: 561.64 Feet MSL
Height AGL: 2.88' Feet

SURFACE PROTECTION
Protective Casing Description: 4" x 4" x 5' Steel
Pad Description (if used): 3' x 3' x 5.5" Concrete

SURFACE SEAL and CASING
Type: Concrete
Amount: ≈ 5 gal
Bottom Depth BGL: 1.5'
Emplacement Method: Poured
Surface Casing Diameter: –
Surface Casing Bottom Depth BGL: –

RISER PIPE and SCREEN
Riser Type: Sch 40 PVC
Riser/Screen Diameter: 2"
Riser Length: 16
Riser Height AGL: 2'
Screen Type: Sch 40 PVC
Screen Top Depth BGL: 16'
Screen Bottom Depth BGL: 26'
Screen Slot Size: 10 Slot

ANNULAR SEAL
Top Depth BGL: 1.5'-2'
Type: Type I Portland and Bentonite
Amount:
Emplacement Method: Tremie

FILTER PACK
Top Depth BGL: 13.2'
Grain Type and Size: 20/40
Grain Mineralogy: Quartz
Amount: 8.5 50 lb. bags
Emplacement Method: Tremie

BOREHOLE
Borehole Diameter: 8" ϕ
Total Depth of Borehole BGL: 26 ft

(See opposite side for code explanation)

HTRW DRILLING LOG

DISTRICT: Mobile.		HOLE NUMBER: MW-6
1. COMPANY NAME: URS	2. DRILL SUBCONTRACTOR: Geotek Drilling Co.	SHEET 1 OF SHEETS 2
3. PROJECT: FT McClellan	4. LOCATION: ODUnit Area. 2B	
5. NAME OF DRILLER: Jim Horsfalder.	6. MANUFACTURER'S DESIGNATION OF DRILL: Mobile B57 All Terrain.	
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 8" ø OD - 3" ø SSI; 2" ø SS	8. HOLE LOCATION: MW-6	
	9. SURFACE ELEVATION: 560.71 TOC EL - 563.41	
	10. DATE STARTED: 8/28/01	11. DATE COMPLETED: 9/14/01
12. OVERBURDEN THICKNESS: 29'	15. DEPTH GROUNDWATER ENCOUNTERED: ≈18	
13. DEPTH DRILLED INTO ROCK: -0-	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: 19.26 on 9/16/01	
14. TOTAL DEPTH OF HOLE: 29'	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY)	

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY %

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
				[signature]

LOCATION SKETCH/COMMENTS SCALE:

See MW Location Plan.

PROJECT	HOLE NO.
FT McClellan OD Unit.	MW-6

ENG FORM 5056-R, AUG 94 (Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-6

PROJECT: FT McClellan OD Units

INSPECTOR: Chris Wesh

SHEET 2 OF 2 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO. (f)	BLOW COUNT (g)	REMARKS (h)
		16" Topsoil	HNU-0	SS-1 1-2'			Pressing 3"ϕ SS
	2	Br SC, moist, med, low-med plas, <15% c-fS, <15% m-fG		SS-2 -2-3			@ 1' intervals w/ UXO survey
	4	4' - stiff		SS-3 3-4			
	5'	4.5 - Grading to Br-Tan SC SAA		SS4 4-5			
	6	Tan & white mottled CS, moist v-low plas, med, <15-20% c-fS, <15% m-fG	6-7'-HNU-2	SS5 -5-6			@ 5' start driving 3"ϕ SS
	8	6-7' mostly S very little C	7-10' NNU-0	SS6-6-7			
		9-10' SAA - med-dense		SS7-7-8			
	10	10-12' SAA <25% m-fG		SS8-8-9			@ 10' started driving 2"ϕ SS
				SS9-9-10			
	12			SS-10-10-12		18-19-14-16	
				SS-11 12-14		10-11-15-20	
	14			SS12-14-16		15-16-13-14	
	16'						
	16	16-18 Lt Br SC, moist, med low plas, <15% c-fS, <25% m-fG, chert in tip of spoon.		SS13 16-18		7-5-5-16	
	18			SS14 18-20		6-6-8-20	
	20	18-20 Tan-Br CS, med, very moist, <10% m-fS.		SS15 20-22		8-6-6-12	
	22	21.6 - Grading to Lt Br CS, med very moist <15% c-fS, and m-fG.		SS16 22-24		10-7-6-7	
				SS17-24-26		8-10-13-12	
	24	Lt Br, Tan & Bk very thinly bedded CS, (Bk may be Mn) appears varbed.		SS18 26-28		7-10-7-6	Sample wt @ 24-26'
	26						
	28						
	30	TD - 29'					
	32						
	34						
	36						
	38						
	40						

PROJECT: FT McClellan OD Units 2A, 2B & 2C

HOLE NO. MW-6

ENG FORM 5056A-R, AUG 94

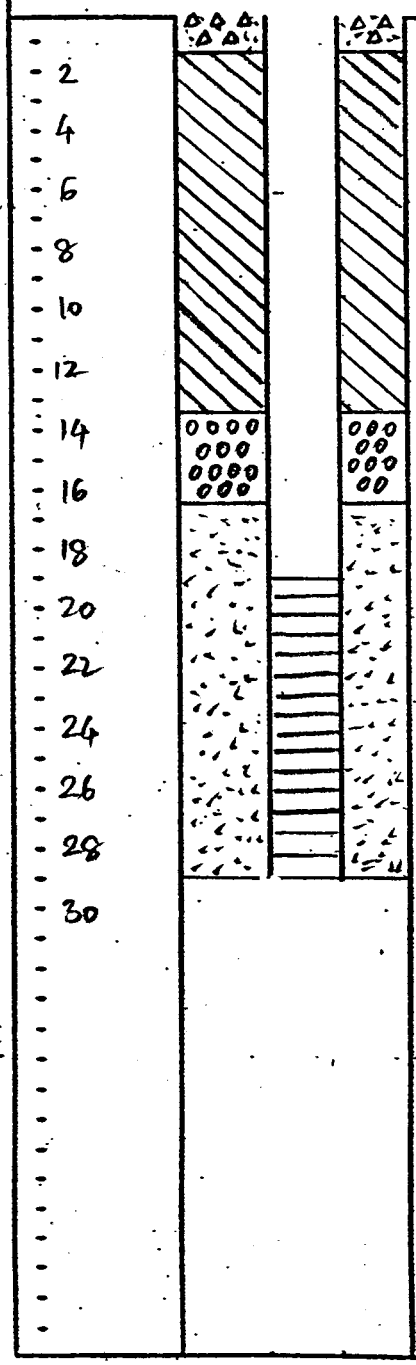
(Proponent: CECW-EG)

URS

MONITORING WELL / PIEZOMETER CONSTRUCTION SUMMARY

Installation ID: MW-8 Project: Ft. McClellan
Site ID: SWMU OD Unit 2B Area
Monitoring Well or Piezometer (circle one) ID:
Drilling Company: Geotek Drilling Method: HSA
Radian Drilling Supervisor's Name or Initials: Chris Wesh
Construction Start Date: 8/28/01 Construction Finish Date: 9/14/01
Final Groundwater Depth: 19.26 Feet Below Measuring Point

DEPTH FT.



LOCATION
North Coordinate:
East Coordinate:
Coordinate System:
Surface Elevation: 562.71 Feet MSL

MEASURING POINT
Location: TOC
Elevation: 563.41 Feet MSL
Height AGL: 2.7 Feet

SURFACE PROTECTION
Protective Casing Description: 4"x4"x5' Steel
Pad Description (if used): 3'x3'x5.5" Concrete

SURFACE SEAL and CASING
Type: Concrete
Amount: ≈ 5 gal
Bottom Depth BGL: 1.5'
Emplacement Method: Poured
Surface Casing Diameter: –
Surface Casing Bottom Depth BGL: –

RISER PIPE and SCREEN
Riser Type: Sch 40 PVC
Riser/Screen Diameter: 2"
Riser Length: 19'
Riser Height AGL: 2'
Screen Type: Sch 40 PVC
Screen Top Depth BGL: 19
Screen Bottom Depth BGL: 29
Screen Slot Size: 10 Slot

ANNULAR SEAL
Top Depth BGL: 1.5-2'
Type: Type I Portland and Bentonite
Amount:
Emplacement Method: Tremie

FILTER PACK
Top Depth BGL: 16.5'
Grain Type and Size: 20/40
Grain Mineralogy: Quartz
Amount: 8 50 lb bags
Emplacement Method: Tremie

BOREHOLE
Borehole Diameter: 8" ϕ
Total Depth of Borehole BGL: 29

(See opposite side for code explanation)

HTRW DRILLING LOG

DISTRICT: Mobile.		HOLE NUMBER: MW-7
1. COMPANY NAME: URS	2. DRILL SUBCONTRACTOR: Geotek Drilling Co.	SHEET 1 OF 2 SHEETS
3. PROJECT: FT McClellan	4. LOCATION: OD Unit Area 2A	
5. NAME OF DRILLER: Jim Horsterfelder.	6. MANUFACTURER'S DESIGNATION OF DRILL: Mobile B57 All Terrain.	
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 8"ø OD - 3"ø SS; 2"ø SS	8. HOLE LOCATION: MW-7	
	9. SURFACE ELEVATION: 556.72 TOC El. - 559.22	
	10. DATE STARTED: 8/28/01	11. DATE COMPLETED: 9/14/01
12. OVERBURDEN THICKNESS: 34'	15. DEPTH GROUNDWATER ENCOUNTERED: ≈ 28'	
13. DEPTH DRILLED INTO ROCK: -0-	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: 19.38' on 9/16/01	
14. TOTAL DEPTH OF HOLE: 34'	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY)	

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY %

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
				[illegible]

LOCATION SKETCH/COMMENTS

SCALE:

See MW Location Plan.

PROJECT: FT McClellan OD Unit	HOLE NO. MW-7

ENG FORM 5056-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-7

PROJECT: FT McClellan OD Units

INSPECTOR: Chris Wesh

SHEET 2 OF 2 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO. (f)	BLOW COUNT (g)	REMARKS (h)
		14" TopSoil		SS-1 · 1-2			Pressing 3"ϕSS @ 1' intervals w/ UXO Survey
	2	BR - Red BR SC, moist, med low plas, <15% C-FS, <10% m-FG Root system to 3.5'		SS-2 · 2-3			
				SS-3 · 3-4			
	4	5' SAA, <30% C-FS		SS-4 · 4-5			
				SS-5 · 5-6			@5' started to drive 3"ϕSS
	6	LT Br to Tan SC, <35% C-FS, <15% m-FG, moist, med-dense low plas		SS-6 · 6-7			
				SS-7 · 7-8			
	8	7.5-9' Tan - LT Br C-FS, moist dense, <40% SC, <15% m-FG.		SS-8 · 8-9			
				SS-9 · 9-10			
	10	SAA Grading to Red BR.		SS-10 · 10-12		14-17-25-33	@10' started driving 2"ϕSS
	12	12' Br CS, moist, med, <20% m-FS, <10% FG, Chert in SS @ 13', Bk Mn staining starting @ 13.3'		SS-11 · 12-14'		35-12-15-17	Stopped @ 10' 8/28 Started @ 10' 8/29
				SS-12 14-16'		13-18-20-13	
	14						
	16	Tan & Rd Br, C-FS, med-dense, moist, <30% SC <25% m-FG. Bk Mn staining throughout		SS-13 · 16-18		7-12-12-14	
	18			SS-14 18-20		4-6-10-11	
	20			SS-15 20-22		6-6-7-9	
				SS-16 22-24		6-8-9-11	
	22	LT Br - Tan & white, SC, <10% F-S, moist, med, low plas,		SS-17 · 24-26		5-6-6-7	
	24	25' grading to LT Br.		SS-18 26-28		4-4-6-7	
	26	LT Br, Tan, Rd Br & white SC, moist, med, <20% m-FS, <10% FG, SS wet @ 28'		SS-19 28-30		4-4-5-6	Tip of SS wet @ 28'
	28						
	30	SAA <10% FS		SS-20 30-32		5-7-7-6	
	32	32-34' - LT Br, Tan & Bk very thinly bedded CS (Bk maybe Mn) appears varved moist.		SS-21 32-34		4-3-3-4	
	34	TD-34'					
	36						
	38						
	40						

PROJECT: FT McClellan OD Units 2A, 2B & 2C

HOLE NO. MW-7

ENG FORM 5056A-R, AUG 94

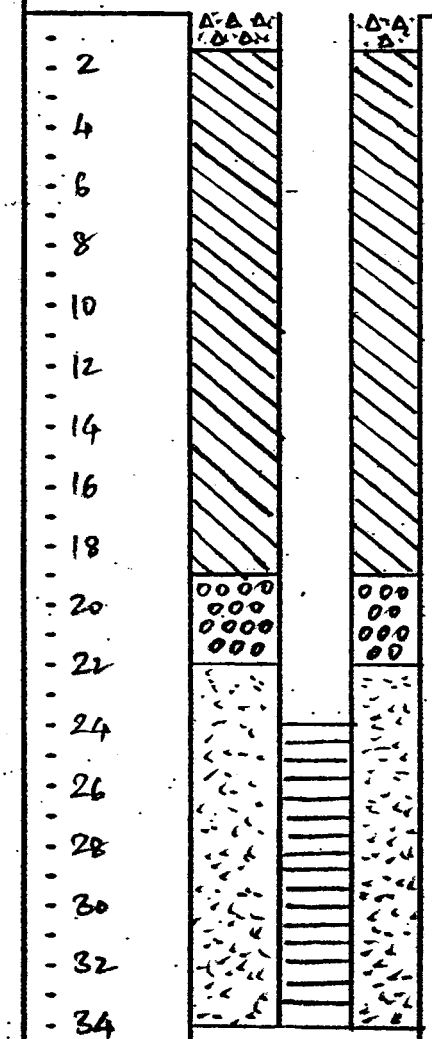
(Proponent: CECW-EG)

URS

MONITORING WELL / PIEZOMETER CONSTRUCTION SUMMARY

Installation ID: MW-7 Project: Ft. McClellan
Site ID: SWMU OD Unit 1 2A Area
Monitoring Well or Piezometer (circle one) ID:
Drilling Company: Geotek Drilling Method: HSA
Radian Drilling Supervisor's Name or Initials: Chris Wesh
Construction Start Date: 8/25/01 Construction Finish Date: 9/14/01
Final Groundwater Depth: 19.38 Feet Below Measuring Point

DEPTH FT.



LOCATION
North Coordinate:
East Coordinate:
Coordinate System:
Surface Elevation: 556.72 Feet MSL

MEASURING POINT
Location: TOC
Elevation: 559.22 Feet MSL
Height AGL: 2.5' Feet

SURFACE PROTECTION
Protective Casing Description: 4" x 4" x 5' Steel
Pad Description (if used): 3' x 3' x 5.5" Concrete

SURFACE SEAL and CASING
Type: Concrete
Amount: ≥ 5 gal
Bottom Depth BGL: 1.5'
Emplacement Method: Poured
Surface Casing Diameter: –
Surface Casing Bottom Depth BGL: –

RISER PIPE and SCREEN
Riser Type: Sch 40 PVC
Riser/Screen Diameter: 2"
Riser Length: 24'
Riser Height AGL: 2'
Screen Type: Sch 40 PVC
Screen Top Depth BGL: 24'
Screen Bottom Depth BGL: 34'
Screen Slot Size: 10 Slot

ANNULAR SEAL
Top Depth BGL: 1.5-2'
Type: Type I Portland and Bentonite
Amount:
Emplacement Method: Tremie

FILTER PACK
Top Depth BGL: 22'
Grain Type and Size: 20/40
Grain Mineralogy: Quartz
Amount: 8 50 lb bags
Emplacement Method: Tremie

BOREHOLE
Borehole Diameter: 8" Ø
Total Depth of Borehole BGL: 34'

(See opposite side for code explanation)

HTRW DRILLING LOG

DISTRICT: Mobile.		HOLE NUMBER: MW-8
1. COMPANY NAME: URS	2. DRILL SUBCONTRACTOR: Geotek Drilling Co.	SHEET 1 OF 2 SHEETS
3. PROJECT: FT McClellan	4. LOCATION: OD Unit Area 2A	
5. NAME OF DRILLER: Jim Horsefielder.	6. MANUFACTURER'S DESIGNATION OF DRILL: Mobile B57 All Terrain.	
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 8"ø OD - 3"ø SS; 2"ø SS	8. HOLE LOCATION: MW-8	
	9. SURFACE ELEVATION: 549.63 TOCEL - 551.95	
	10. DATE STARTED: 8/30/01	11. DATE COMPLETED: 9/13/01
12. OVERBURDEN THICKNESS: 27'	15. DEPTH GROUNDWATER ENCOUNTERED: ≈ 18.3'	
13. DEPTH DRILLED INTO ROCK: -0-	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: 9.65 on 9/16/01	
14. TOTAL DEPTH OF HOLE: 27'	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY):	

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY %

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
				[illegible]

LOCATION SKETCH/COMMENTS

SCALE:

See MW location Plan.

PROJECT	HOLE NO.
FT McClellan OD Unit	MW-8

ENG FORM 5056-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-8

PROJECT: FT McClellan OD Units

INSPECTOR: Chris Wesh

SHEET 2 OF 2 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO. (f)	BLOW COUNT (g)	REMARKS (h)
		6" Topsoil	HNO-0	SS-1 - 1-2			Pressing 3"ø SS
		Tan C$, dry, med, low plas,		SS-2 - 2-3			@1' intervals
	2	<20% c-f S, <10% m-f G		SS-3 - 3-4			w/ UXO survey
				SS-4 - 4-5			
	4	3.5' Grading to Tan, Gray,		SS-5 5-6			
		Red Br. C$, mottled moist					@5' started driving
		med, <30% c-f S, <15-20%		SS-6 6-7			3"ø SS
	6	m-f G.		SS-7 7-8			
				SS-8 - 8-9			
	8	8' SAA. <10% f S, <10%		SS-9 - 9-10			
		f G.					
	10	10-12 SAA Tan & white mottled		SS-10 10-12		6-5-7-9	@10' started
							driving 2"ø SS
	12			SS-11 12-14		4-5-5-7	
		13.6-13.8' m-f S; <20% C$					
		No G					
	14	LT Br - Tan & grayish white		SS-12 14-16		5-5-7-10	
		C$ mottled, <10% f S					
				SS-13 16-18		12-11-5-11	
	16						
		17.5-18' LT Br $C, med plas, med, moist		SS-14 18-20		7-9-8-11	Sample wet @
	18	18.3-19' LT Br c-f S, and m-f		SS-15 20-22		13-7-7-6	18.3'
		G, v-moist to wet, 25% C$					
	20	19-20.5' - LT Br - Tan C$, <10% f S		SS-16 22-24		3-3-3-4	
		20.5-21' - Tan f S, <15% $, No G		SS-17 24-26		2-3-3-7	
	22	LT Br & Tan C$, <10-20%					
		f S, No G, soft wet					
	24						
	26						
	28	TD - 27'					
	30						
	32						
	34						
	36						
	38						
	40						

PROJECT: FT McClellan OD Units 2A, 2B & 2C

HOLE NO. MW-8

ENG FORM 5056A-R, AUG 94

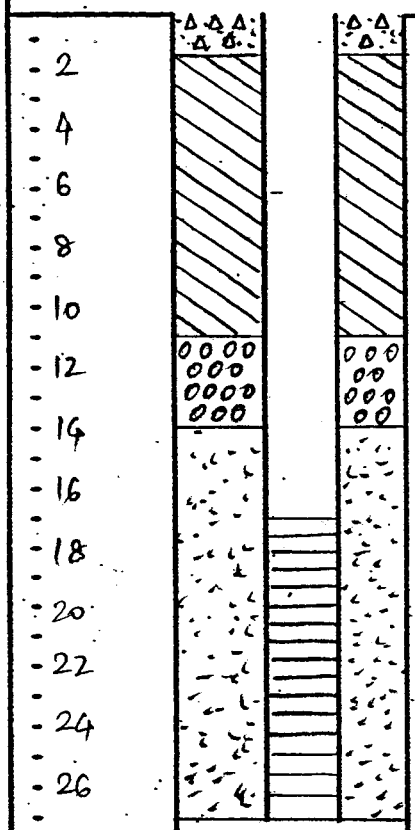
(Proponent: CECW-EG)

URS

MONITORING WELL / PIEZOMETER CONSTRUCTION SUMMARY

Installation ID: MW-8 Project: Ft McClellan
Site ID: SWMU OD Unit 1 2A Area
Monitoring Well or Piezometer (circle one) ID: 2"
Drilling Company: Geotek Drilling Method: HSA
Radian Drilling Supervisor's Name or Initials: Chris Weeth
Construction Start Date: 8/30/01 Construction Finish Date: 9/13/01
Final Groundwater Depth: 9.65 Feet Below Measuring Point

DEPTH FT.



LOCATION
North Coordinate:
East Coordinate:
Coordinate System:
Surface Elevation: 549.63 Feet MSL

MEASURING POINT
Location: TOC
Elevation: 551.95 Feet MSL
Height AGL: 2.32 Feet

SURFACE PROTECTION
Protective Casing Description: 4" x 4" x 5' Steel
Pad Description (if used): 3' x 3' x 5.5" Concrete

SURFACE SEAL and CASING
Type: Concrete
Amount: ≈ 5 gal
Bottom Depth BGL: 1.5'
Emplacement Method: Poured
Surface Casing Diameter: –
Surface Casing Bottom Depth BGL: –

RISER PIPE and SCREEN
Riser Type: Sch 40 PVC
Riser/Screen Diameter: 2"
Riser Length: 17'
Riser Height AGL: 2'
Screen Type: Sch 40 PVC
Screen Top Depth BGL: 17'
Screen Bottom Depth BGL: 27'
Screen Slot Size: 10 Slot

ANNULAR SEAL
Top Depth BGL: 1.5-2'
Type: Type I Portland and Bentonite
Amount:
Emplacement Method: Tremie

FILTER PACK
Top Depth BGL: 14'
Grain Type and Size: 20/40
Grain Mineralogy: Quartz
Amount: 7.5 50 lb bags
Emplacement Method: Tremie

BOREHOLE
Borehole Diameter: 8" Ø
Total Depth of Borehole BGL: 27'

(See opposite side for code explanation)

HTRW DRILLING LOG

DISTRICT	Mobile.
HOLE NUMBER	MW-9
1. COMPANY NAME	URS
2. DRILL SUBCONTRACTOR	Geotek Drilling Co.
SHEET / SHEETS	1 OF 2
3. PROJECT	FT McClellan
4. LOCATION	OD Unit Area 2A
5. NAME OF DRILLER	Jim Horsfalder.
6. MANUFACTURER'S DESIGNATION OF DRILL	Mobile B57 All Terrain.
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT	8"ø OD - 3"ø SS1 2"ø SS
8. HOLE LOCATION	MW-9
9. SURFACE ELEVATION	550.63 TOC EL 553.19
10. DATE STARTED	8/31/01
11. DATE COMPLETED	9/14/01
12. OVERBURDEN THICKNESS	30'
13. DEPTH DRILLED INTO ROCK	-0-
14. TOTAL DEPTH OF HOLE	30'
15. DEPTH GROUNDWATER ENCOUNTERED	20.9' after 12 hr.
16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED	13.4 on 9/16/01
17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY)	

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY %

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
				[signature]

LOCATION SKETCH/COMMENTS

SCALE:

See MW location Plan

PROJECT	HOLE NO.
FT McClellan OD Unit	MW-9

ENG FORM 5056-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: MW-9

PROJECT: FT McClellan OD Units

INSPECTOR: Chris Wesh

SHEET 2 OF 2 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO. (f)	BLOW COUNT (g)	REMARKS (h)
		6" Topsoil	HNU-0	SS-1 1-2'			SS samples w/ 3"ϕ SS @ 1' intervals with UXO survey passed to 4' driven 4-10'
	2	Br CS, moist, med. <25% C-FS, <20% m-FG,		SS-2 2-3'			
				SS-3 3-4'			
	4	4' Tan C-FS, moist, med <25% CS, <15% m-FG		SS-4 4-5'			
	6			SS5-5-6'			
		7' grading to Tan & white CS, mottled, moist, low plas, <20% m-FS,		SS-6 6-7'			
	8			SS-7 7-8'			
				SS-8 8-9'			
	10	<15% m-FG.		SS-9 9-10'			@ 10' using 2"ϕ SS
		SAA - <10% m-FS		SS-10 10-12		11-13-18-15	
	12	SAA - no G, with Black streaks throughout (Mn stainings), soft		SS-11 12-14		12-9-11-11	
	14			SS-12 14-16		3-3-4-5	
	16			SS-13 16-18		2-3-3-3	
	18			SS-14 18-20		2-2-2-4	
	20	21' Lt Br (mottled Tan & white) CS, <15% m-FS, moist, low plas, soft		SS-15 20-22		4-3-3-5	
	22			SS-16 22-24		2-2-6-4	
	24	23'. start observing very thinly bedded Blk & Lt Br CS (Blk may be Mn), appears valid,		SS-17 24-26		4-3-3-5	
	26	24-26' Grading to a SC		SS-18 26-28			At 30' remove plug & wait overnight for GW level measurement. No SS was wet.
	28	28-30' Grading to a CS					
	30	TD @ 30'					
	32						
	34						
	36						
	38						
	40						

PROJECT: FT McClellan OD Units 2A, 2B & 2C

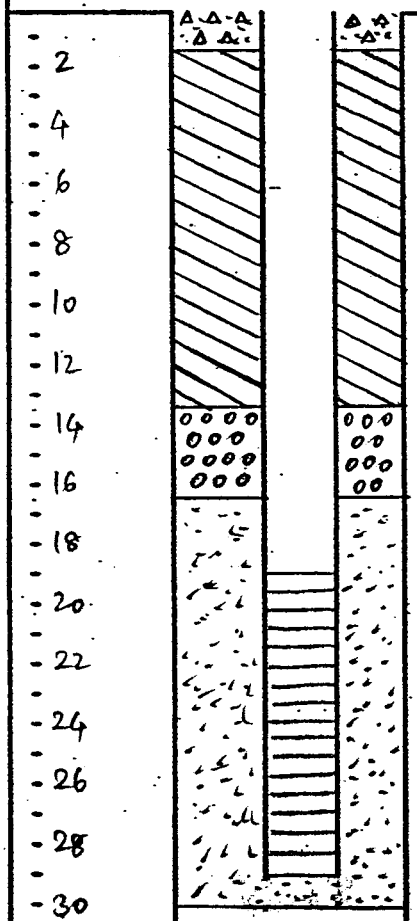
HOLE NO. MW-9

URS

MONITORING WELL / PIEZOMETER CONSTRUCTION SUMMARY

Installation ID: MW-9 Project: Ft McClellan
Site ID: SWMU OD Unit 2A Area
Monitoring Well or Piezometer (circle one) ID:
Drilling Company: Geotek Drilling Method: HSA
Radian Drilling Supervisor's Name or Initials: Chris Weeh
Construction Start Date: 8/31/01 Construction Finish Date: 9/14/01
Final Groundwater Depth: 13.4 Feet Below Measuring Point

DEPTH FT.



LOCATION
North Coordinate:
East Coordinate:
Coordinate System:
Surface Elevation: 550.63 Feet MSL

MEASURING POINT
Location: TOC
Elevation: 553.19 Feet MSL
Height AGL: 2.56' Feet

SURFACE PROTECTION
Protective Casing Description: 4" x 4" x 5' Steel
Pad Description (if used): 3' x 3' x 5.5" Concrete

SURFACE SEAL and CASING
Type: Concrete
Amount: ≈ 5 gal
Bottom Depth BGL: 1.5'
Emplacement Method: Poured
Surface Casing Diameter: –
Surface Casing Bottom Depth BGL: –

RISER PIPE and SCREEN
Riser Type: Sch 40 PVC
Riser/Screen Diameter: 2"
Riser Length: 19'
Riser Height AGL: 2'
Screen Type: Sch 40 PVC
Screen Top Depth BGL: 19'
Screen Bottom Depth BGL: 29'
Screen Slot Size: 10 Slot

ANNULAR SEAL
Top Depth BGL: 1.5-2'
Type: Type I Portland and Bentonite
Amount:
Emplacement Method: Tremie

FILTER PACK
Top Depth BGL: 16.5'
Grain Type and Size: 20/40
Grain Mineralogy: Quartz
Amount: 9 50 lb bags
Emplacement Method: Tremie

BOREHOLE
Borehole Diameter: 8" Ø
Total Depth of Borehole BGL: 30 ft

(See opposite side for code explanation)

This page intentionally left blank.