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HISTORICAL AERIAL PHOTOGRAPHY INVESTIGATION OF THE FORT McCLELLAN EAST BY-PASS STUDY AREA

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HISTORICAL AERIAL PHOTOGRAPHY INVESTIGATION OF THE FORT McCLELLAN EAST BY-PASS STUDY AREA

PURPOSE AND SCOPE

This report documents the historical aerial photograph interpretation of the East By-Pass Study Area at Fort McClellan, Alabama. It includes a description of the study area location and boundary derivation, the photo-interpretation methods used, and the findings of the investigation.

LOCATION OF STUDY AREA

The East By-Pass Study Area comprises approximately 691 acres on the western edge of the Fort McClellan, Alabama Army Installation. The study area boundary was devised by the adding a 450-ft buffer along the proposed East By-Pass Highway Corridor coverage (BWSC 1992). The study area encompasses only land owned by Fort McClellan and does not include the northern- and southern-most portions of the proposed East By-Pass Highway Corridor.

METHODS USED

Historical aerial photography was analyzed to detect possible contamination-related activities using two different methods: a date-by-date analysis and a temporal analysis of landscape trends. The collection and analysis of historical aerial photography were conducted in the following steps:

1. Good quality copies of aerial photographs provided by the U. S. Army Engineering and Support Center, Huntsville (USAESCH) were reviewed and selected based on completeness of coverage, quality, scale, and date. Complete photographic coverage of the study area was available for 8 years of photographic coverage from 1937 to 1994 (see Appendix A for the meta data record of available and interpreted photography).
2. A modified version of the United States Geological Survey (USGS) land use/cover classification system was developed to classify land use/cover (see Table 1 for the Fort McClellan classification system) (Anderson et al., 1976).
3. Selected aerial photographs were scanned at 600 dots per inch (dpi) and converted to Erdas Imagine (.img) format. Photographs were subset for the study area prior to rectification. Second or third order transformations were applied to rectify the photography to available USGS digital line graph (DLG) coverages. Rectified images were exported to Erdas .lan format for photo-interpretation.
4. Land use/cover features were digitized and attributed for each successive year of historical aerial photography.

Table 1. Fort McClellan Land Use/ Cover Classification System

Fort McClellan Aerial Photographic Interpretation Land Use/Cover Classification System		
Level I	Level II	Level III
Developed Land	(Dc) Commercial	
	(De) Excavation	
	(Di) Industrial	(Dia) Airport (including runways, towers, buildings, etc.)
		(Dib) Building
		(Dih) Hazardous Waste Operations
	(Dn) Institutional	(Dna) Ammunition Range
		(Dnc) Cemetery
		(Dnj) Correctional
		(Dne) Educational
		(Dng) Governmental Building
		(Dnl) Landscaped Area
	(Do) Open Land	
	(Dp) Pile	
	(Dr) Recreational	
	(Drg) Golf Course	
	(Drp) Park	
	(Drn) Marina or Boat Dock	
	(Drs) Stadium, Fairgrounds, Race Track	
	(Dss) Single House	
	(Dsm) Subdivision	
	(Dtr) Railroad	
	(Dth) Road (major roads and highways)	
	(Dtp) Parking Lot	
	(Du) Utility	
Agricultural	(Ab) Building	
	(Ac) Cropland/Pastureland	
	(Ao) Orchard	
Undeveloped	(Ub) Bare Land	
	(Ue) Erosion	
	(Uf) Forest	
	(Ug) Grassland	
	(Us) Scrub/Shrub	
Water	(Wl) Lake/Pond	
	(Wr) Reservoir	
	(Ws) River/Stream	
(Lw) Wetland		

5. Anomalies were computed from the digital databases by analyzing the changes in land use/cover over time relative to the expected land use/cover progression.
6. The anomalies were mapped and a quality assurance review was conducted.
7. Anomalies were reviewed to determine the cause of each anomaly. Available sources of information, including Fort McClellan aerial photographs and historic maps, were used to conduct the review.

8. Historical aerial photographs and vector coverages were converted from Environmental Systems Research Institute, Inc. (ESRI)-based software formats to Intergraph-based formats. Scanned historical aerial photographs were imported as .tif files into Intergraph Microstation 95 software and linked to a .dgn file (fmcplan.dgn) to create first order rectified images in .cot format. Vector coverages (land use/cover and anomaly coverages) were converted from ESRI ArcInfo files to Intergraph Microstation 95 files.
9. All hard copy deliverables were transmitted to the USAESCH via Federal Express and digital data were transmitted via file transfer protocol (FTP).

FINDINGS

One hundred sixty-one anomalies were identified by the historical aerial photography investigation and are shown on the figure titled "Anomalies from Interpretation of Historical Aerial Photography: 1937-1994." Table 2 contains information for each anomaly; including the anomaly tracking number, the center point coordinate (in Alabama State Plane East, North American Datum [NAD] 83 coordinates), the reason (or cause) of the anomaly, and comments. During the final quality assurance review of the land use/cover anomalies, four anomalies were determined to be photographic interpretation errors. These anomalies are identified as "QA" in Table 2 and will not be discussed further. The remaining 157 anomalies were caused by or associated with the following:

- the creation/widening/destruction of roads and trails (97 anomalies),
- the construction or existence of buildings (6 anomalies),
- firing range/ammunition areas (3 anomalies), and
- cleared or disturbed areas of unknown cause (51 anomalies).

In the northern part of the Fort McClellan East By-Pass Study Area, the greatest change in landcover and the cause for most anomalous areas of concern occurred during the years of World War II. Between 1937 and 1944 the terrain was deforested and criss-crossed with numerous roads, trails and vehicle paths. The figure, "1944 Disturbed Area" depicts these activities in a 1944 photograph of the northwest portion of the study area. Located approximately .25 miles south of this area, along the eastern boundary of the study area, is a firing range or ammunition area. First evident after the end of the war, gradual increase in activity can be observed in photographs acquired in 1954 through 1994. The figure "Firing/Ammunition Range" shows photographs of this area for the five time periods of concern.

While all roads are considered human disturbance to landcover and are identified as anomalies, those of concern are the many roads that appear for only a brief period of time. This phenomenon occurred predominately during the 1960's. It is possible that these roads were built in association with disposal or training activities.

Other common anomalies include small areas that were cleared or partially cleared of vegetation. While the reason for some of these clearings (e.g., construction of a building complex) is evident in the photographs, the cause for many others is unknown.

Anomalies from Interpretation of Historical Aerial Photography: 1937-1994

Fort McClellan East By-Pass Study Area

- Historical Photography Anomalies**
- Base Data:**
- Roads, Parking, and Bridges
 - Study Area Boundary

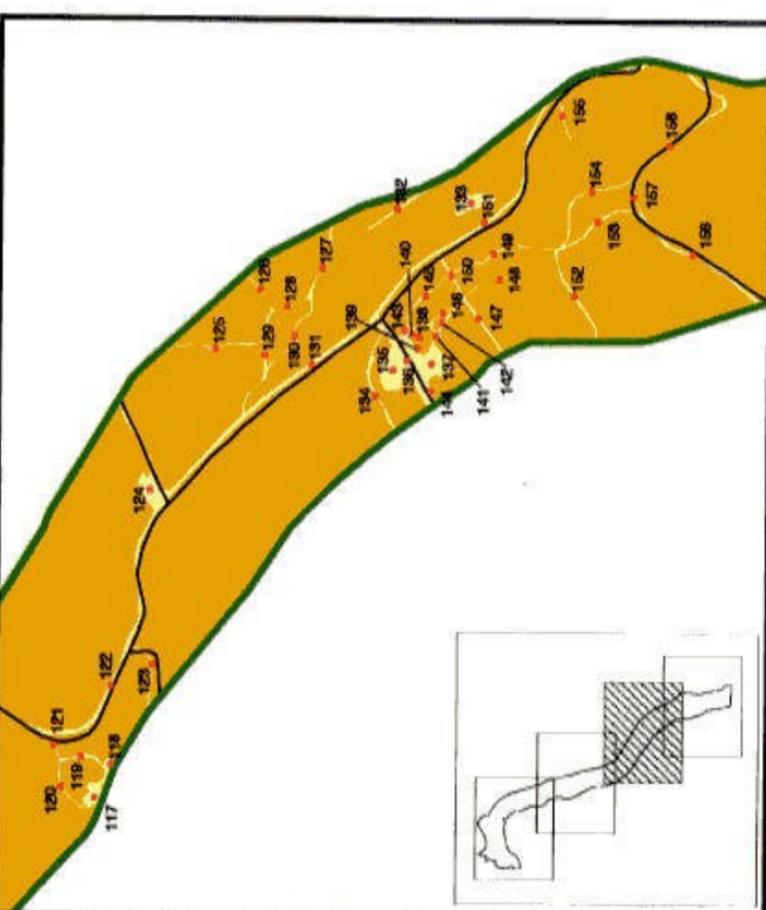
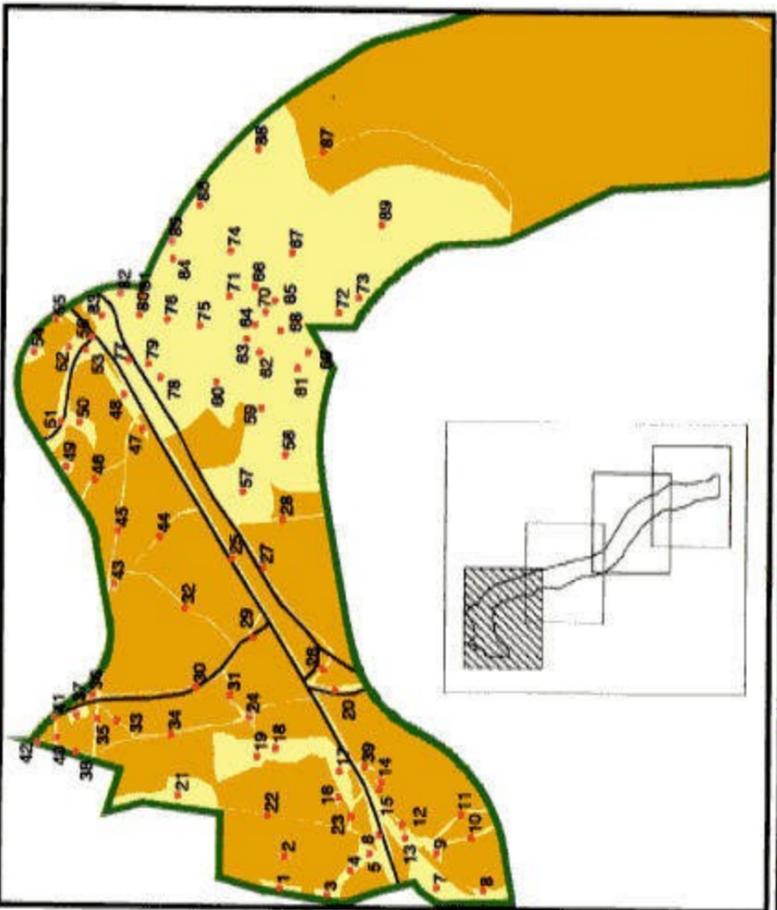
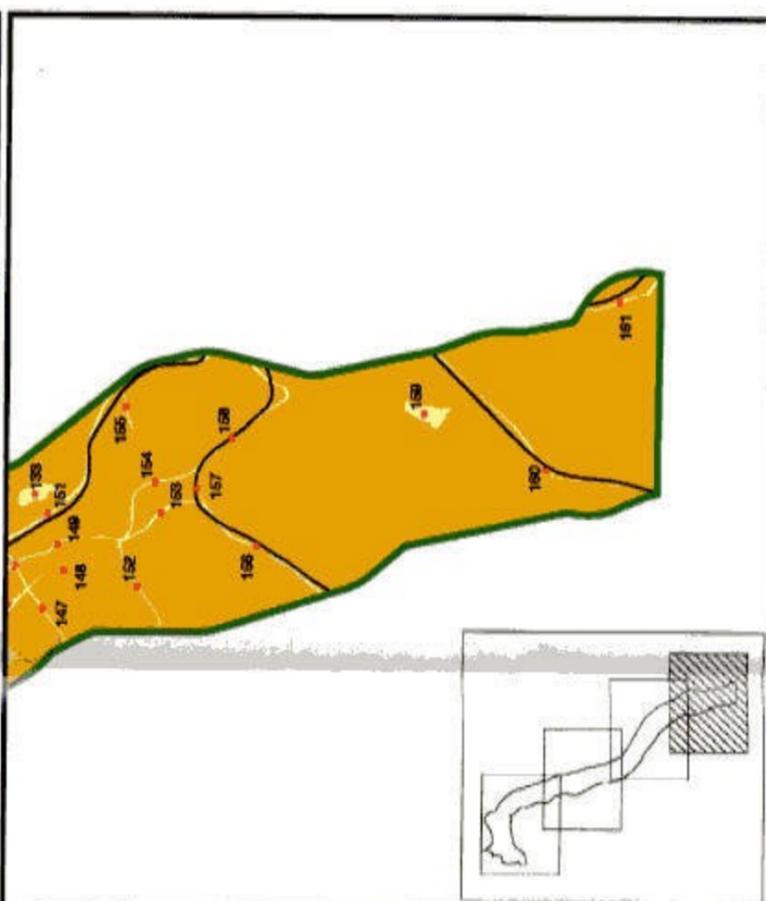
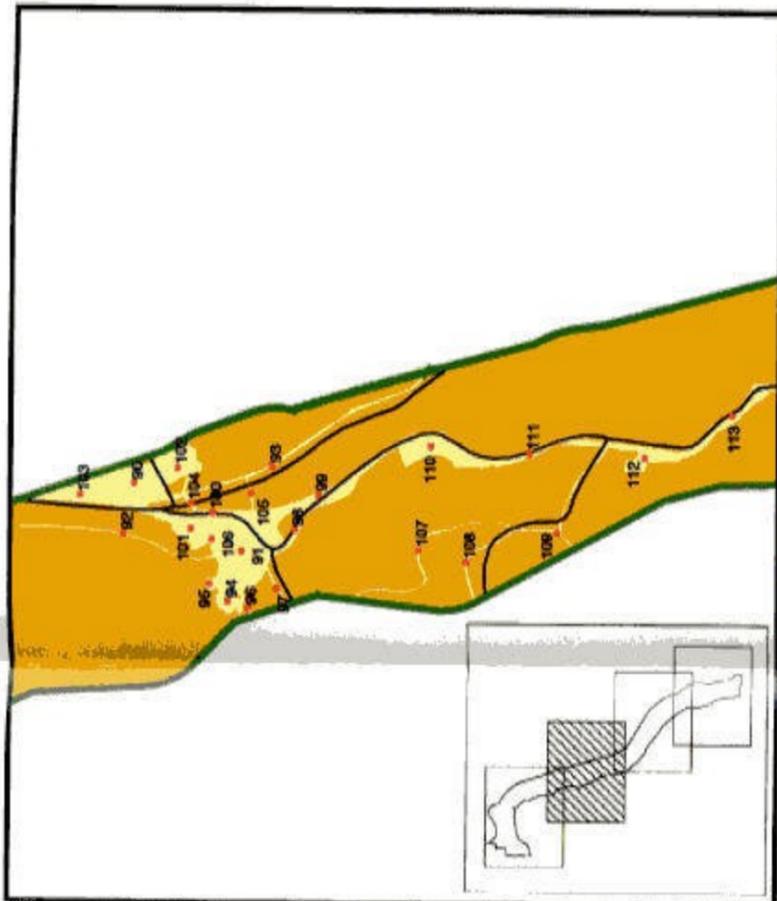
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Oak Ridge, Tennessee



Alabama State Plane, NAD83



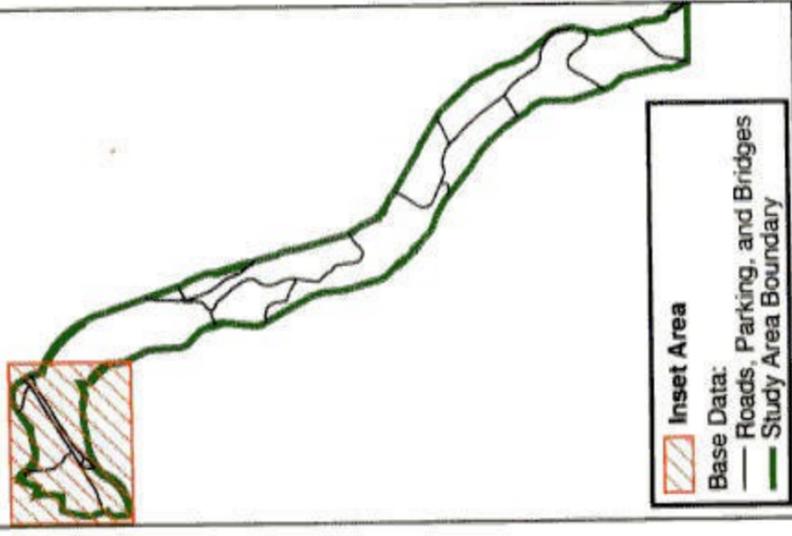
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Prepared by: Geographic Information Science and Technology, ORNL
Date prepared: August 10, 1998



1944 Disturbed Area

Fort McClellan East By-Pass
Study Area

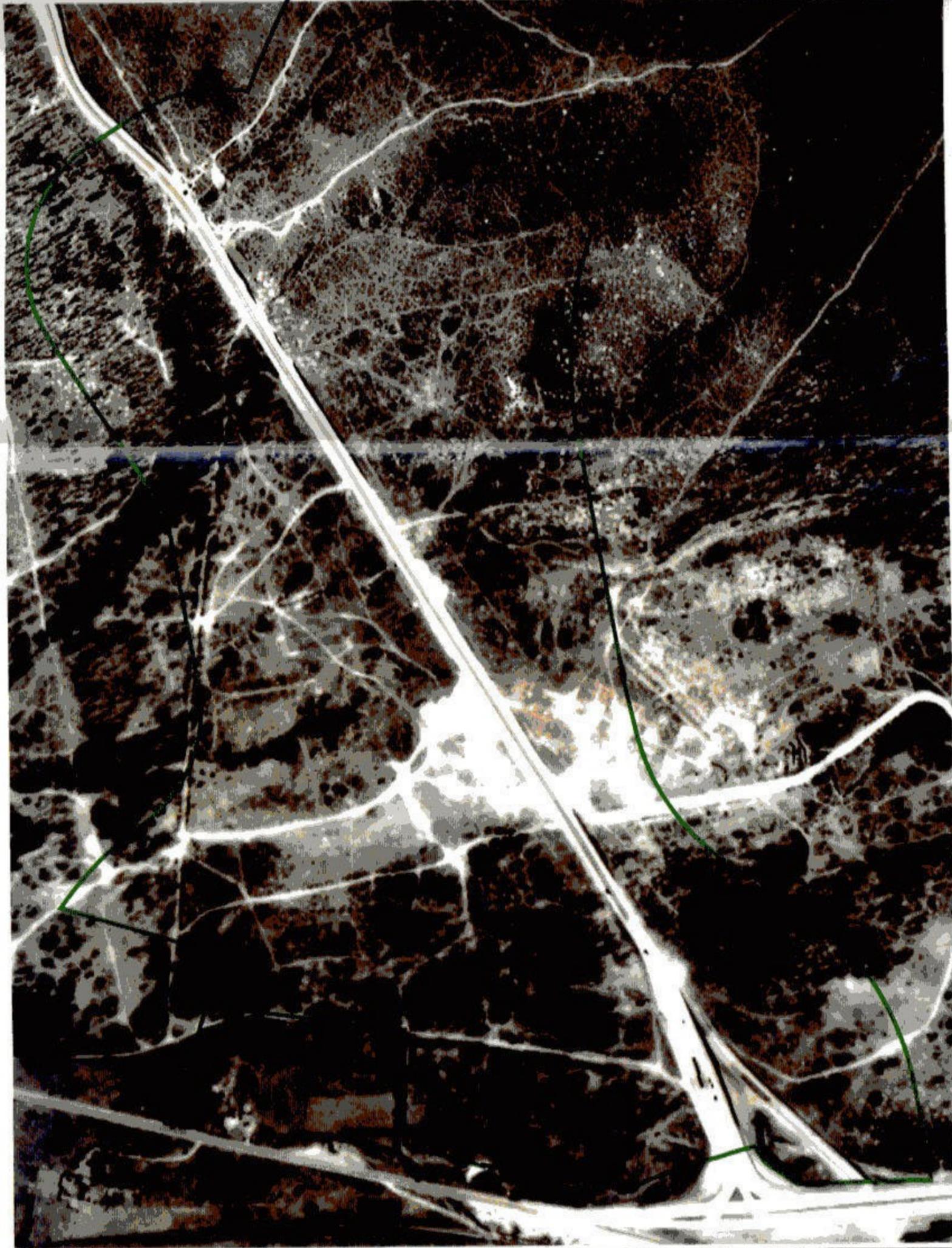
Index Map



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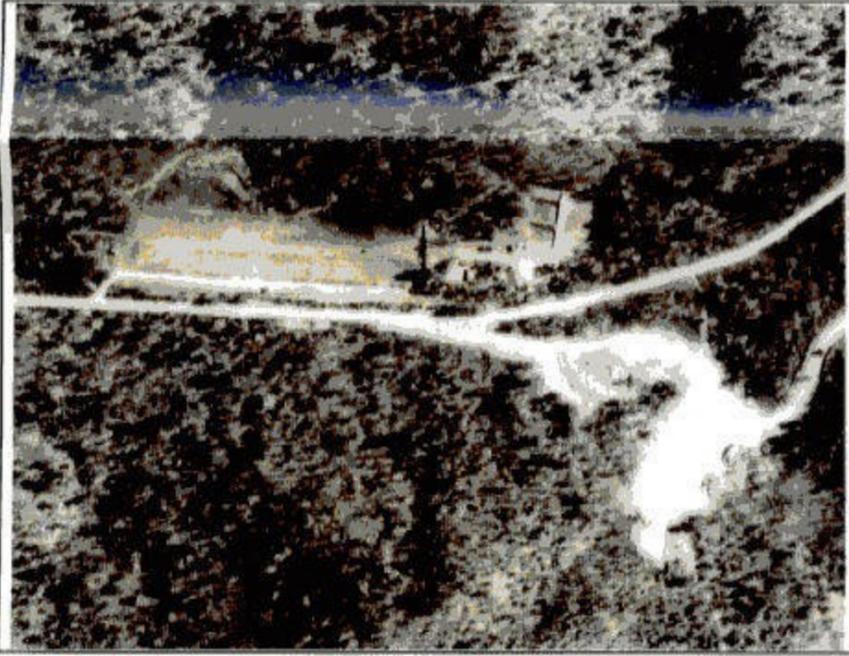
Firing/Ammunition Range

Fort McClellan East By-Pass Study Area

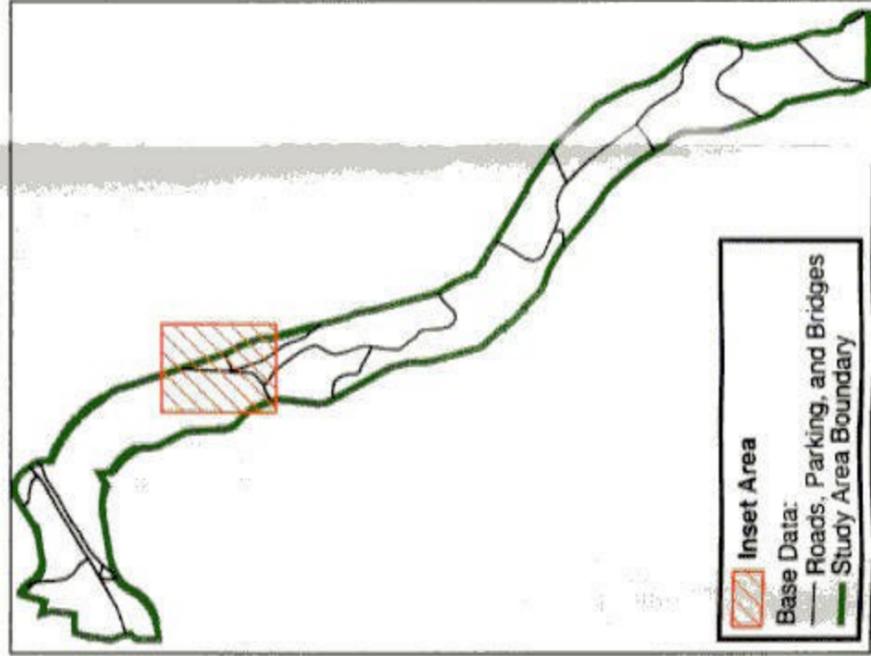
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Data Source: Aerial Photography from U.S. Army COE
Prepared by: Geographic Information Science and Technology, ORNL
Date prepared: August 10, 1998

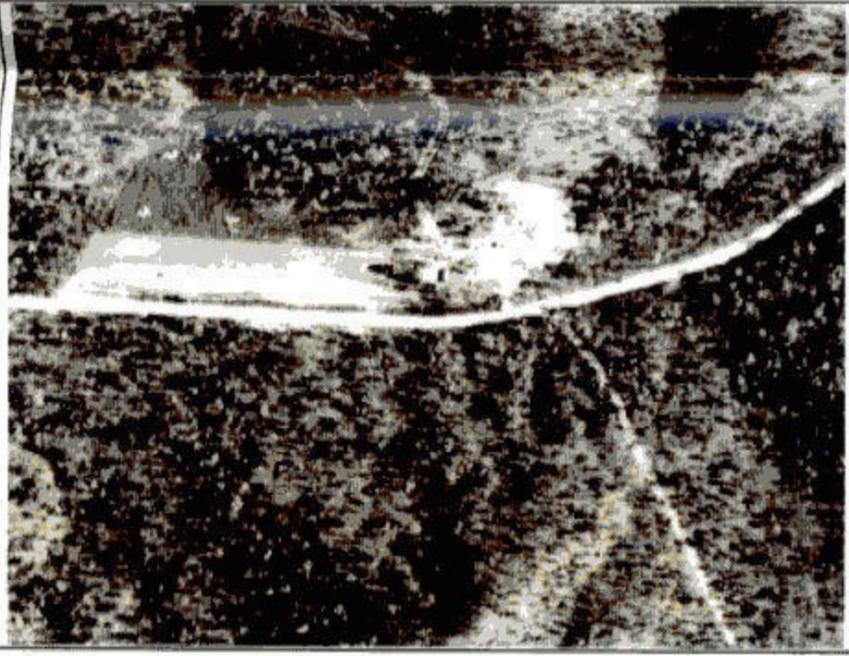


1969

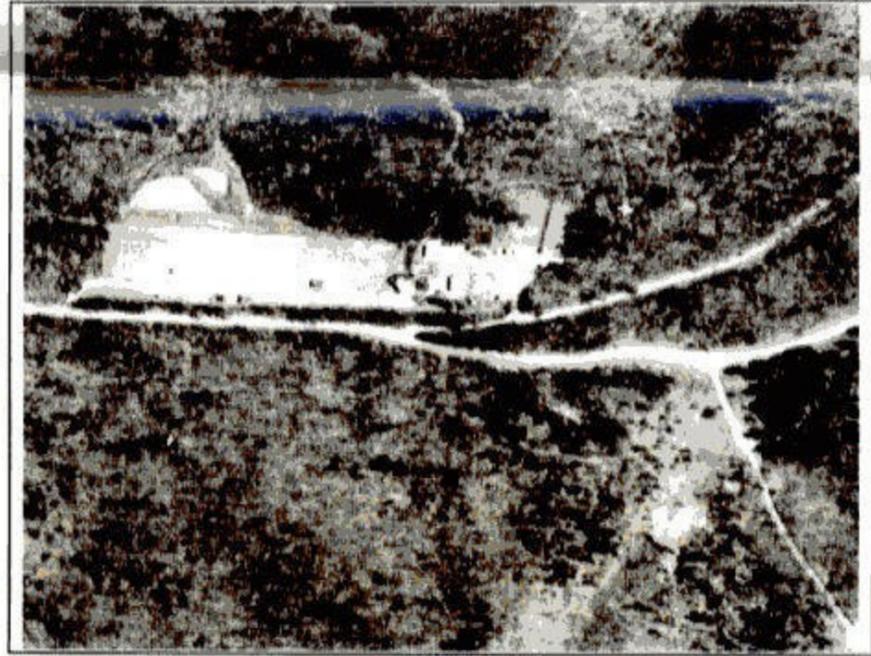


Inset Area
Base Data:
Roads, Parking, and Bridges
Study Area Boundary

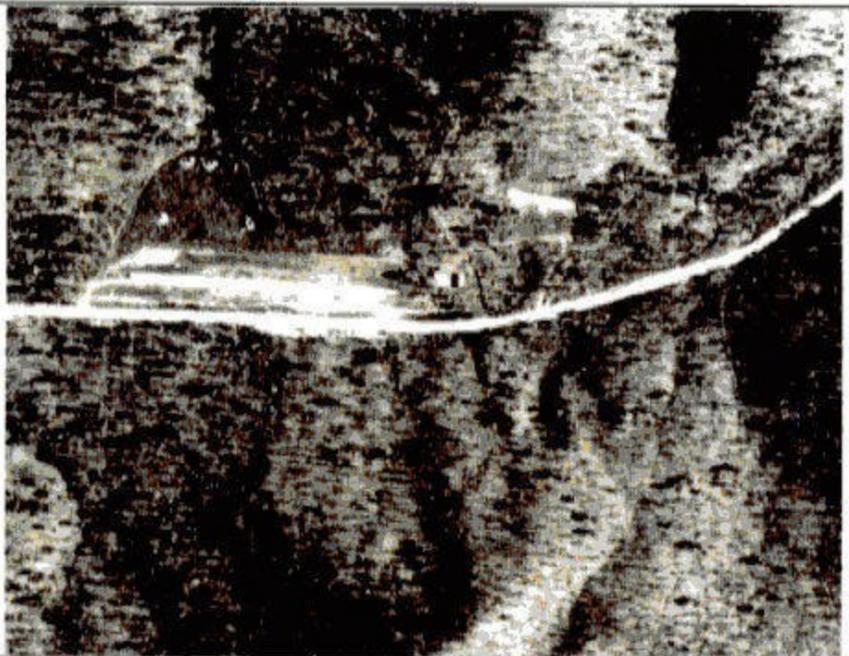
Index Map



1961



1994



1954



1982

Table 2. Historical Photography Anomaly Identification

Historical Photography Anomaly Identification				
Anomaly #	Alabama State Plane East, NAD 83		Reason for anomaly	Comment
	X-Coordinate	Y-Coordinate		
1	659306.46224	1164557.02835	Road widening	Area cleared between 1954 and 1961
2	659489.02836	1164527.30828	QA	None
3	659268.25073	1164281.05631	Road widening	Area cleared between 1954 and 1961
4	659412.60533	1164149.43888	Road construction	Area cleared between 1944 and 1954
5	659506.01126	1164039.05006	Road construction	Area cleared between 1940 and 1944
6	659612.15435	1163983.85565	Road	Evident 1944 through 1994
7	659314.95369	1163652.68920	Road	Evident 1937 through 1954
8	659302.21652	1163380.96289	Road construction/ widening	Work between 1982 and 1994
9	659514.50270	1163652.68920	Road	Road/shoulder widened between 1969 and 1994
10	659603.66290	1163453.14019	Road	Evident 1937 through 1944
11	659735.28033	1163516.82605	Road	Evident 1954 and 1961 (partially overgrown in 1969)
12	659680.08593	1163852.23822	Road	Evident 1940 and 1944
13	659599.41718	1163835.25532	Road	Evident 1937 through 1944
14	659922.09218	1163975.36420	Building construction	Forest cleared between 1982 and 1994; construction adjacent to road
15	659875.38922	1163988.10138	Building/trailer	Evident 1982 and 1994
16	659832.93198	1164221.61618	Unknown	Area cleared in 1944 photograph, adjacent to road
17	659981.53231	1164217.37045	Unknown	Area cleared in 1944 photograph, adjacent to road
18	660108.90402	1164586.74842	Unknown	Area badly scarred with many trails and roads (1944)
19	660062.20106	1164692.89151	Unknown	Area badly scarred with many trails and roads (1944)
20	660448.56191	1164247.09052	Road	Evident 1937 through 1944
21	659832.93198	1165147.18394	Unknown	Area completely cleared in 1969 photograph
22	659718.29744	1164629.20565	Road	Evident 1937 through 1969
23	659718.29744	1164149.43888	Road	Evident in 1954
24	660287.22441	1164739.59447	Road	Evident 1937 through 1944
25	661208.54645	1164845.73756	Road	Evident 1937 through 1944

Historical Photography Anomaly Identification

Anomaly #	Alabama State Plane East, NAD 83		Reason for anomaly	Comment
	X-Coordinate	Y-Coordinate		
26	660567.44218	1164315.02210	Road	Evident 1954 through 1961
27	661157.59777	1164667.41717	Road	Area disturbed in 1944 photograph; road 1954, 1961, 1982, 1994 (road not visible 1969 photograph)
28	661437.81553	1164557.02835	Road	Area disturbed in 1944 photograph; road 1954 through 1994
29	660754.25402	1164722.61157	Building	Evident in 1994 photograph
30	660461.29909	1165049.53230	Road	Evident 1937 through 1969
31	660414.59612	1164849.98328	Road	Evident 1937 through 1944
32	660919.83724	1165117.46388	Road	Evident in 1944 photograph
33	660265.99580	1165508.07046	Road	Evident in 1944 photograph
34	660185.32705	1165193.88690	Road	Evident 1937 through 1944
35	660270.24152	1165622.70500	Road	Evident 1937 through 1944
36	660410.35040	1165648.17934	Unknown	Trees cleared between 1969 and 1982
37	660291.47014	1165737.33954	Unknown	Tress cleared between 1940 and 1944
38	660079.18395	1165741.58526	Road	Evident in 1994 photograph
39	660007.00665	1164073.01585	Unknown	Road construction/cleared area in 1944 photograph
40	660159.85270	1165856.21980	Road	Evident 1944 through 1954
41	660278.73297	1165864.71125	Road	Evident 1944 through 1954
42	660134.37836	1165966.60861	Building construction	Area cleared between 1969 and 1982; building constructed adjacent to area
43	661051.45468	1165525.05335	Road	Evident in 1944
44	661331.67244	1165266.06421	Road	Evident in 1944
45	661365.63823	1165508.07046	Road	Evident in 1944
46	661662.83889	1165643.93361	Road	Evident in 1944
47	661951.54810	1165372.20730	Road shoulder	Trees cleared in 1944 through 1961 photographs
48	662146.85139	1165478.35039	Road shoulder	Trees cleared in 1944 through 1961 photographs
49	661735.01619	1165809.51684	QA	None
50	661985.51389	1165733.09381	Unknown	Cleared cut-off from road in 1961 photograph

Historical Photography Anomaly Identification

Anomaly #	Alabama State Plane East, NAD 83		Reason for anomaly	Comment
	X-Coordinate	Y-Coordinate		
51	661989.75961	1165839.23690	Road shoulder	Widened in 1961
52	662418.57771	1165801.02539	Road shoulder	Widened in 1961
53	662405.84054	1165703.37375	Road shoulder	Widened in 1961
54	662388.85764	1166000.57440	QA	None
55	662575.66948	1165877.44842	Road shoulder	Cleared in 1961 photograph
56	662482.26356	1165665.16223	Road	Evident 1937 through 1994
57	661594.90731	1164790.54315	Unknown	Area disturbed with many trails in 1944 photograph
58	661811.43922	1164544.29118	Unknown	Area disturbed with many trails in 1944 photograph
59	662074.67409	1164684.40006	Road	Evident in 1954 and 1961 photographs
60	662227.52014	1164947.63493	Unknown	Area disturbed with many trails in 1944 photograph
61	662308.18889	1164476.35960	Unknown	Area disturbed with many trails in 1944 photograph; road in 1982 and 1994
62	662397.34909	1164697.13723	Road	Evident 1961 through 1994
63	662473.77211	1164773.56026	Unknown	Area disturbed with many trails in 1944 photograph
64	662558.68659	1164722.61157	Unknown	Area disturbed with many trails in 1944 photograph; road in 1982
65	662694.54975	1164612.22276	Road	Evident 1944 and 1954
66	662779.46422	1164726.85730	Road	Evident 1944
67	662974.76751	1164514.57111	Road	Evident 1944
68	662524.72080	1164578.25697	Unknown	Area disturbed with many trails in 1944 photograph
69	662401.59481	1164416.91947	Unknown	Area disturbed with many trails in 1944 photograph
70	662630.86389	1164667.41717	Unknown	Area disturbed with many trails in 1944 photograph
71	662720.02409	1164875.45763	Unknown	Area disturbed with many trails in 1944 photograph
72	662630.86389	1164242.84480	Unknown	Disturbed in 1944 photograph
73	662715.77836	1164128.21026	Unknown	Disturbed in 1944 photograph
74	662983.25896	1164871.21190	Unknown	Area disturbed with many trails in 1944 photograph
75	662550.19514	1165041.04085	Unknown	Area disturbed with many trails in 1944 photograph; cleared in 1954 and 1961 photographs

Historical Photography Anomaly Identification				
Anomaly #	Alabama State Plane East, NAD 83		Reason for anomaly	Comment
	X-Coordinate	Y-Coordinate		
76	662584.16093	1165232.09842	Unknown	Area disturbed with many trails in 1944 photograph; cleared in 1961 photograph
77	662350.64613	1165452.87605	Unknown	Area disturbed with many trails in 1944 photograph; road in 1954, 1961, 1982, 1994 (road not visible in 1969 photograph)
78	662248.74876	1165270.30993	Unknown	Area disturbed with many trails in 1944 photograph; road in 1954
79	662325.17179	1165338.24151	Unknown	Area disturbed with many trails in 1944 photograph; road in 1961 and 1969 photographs
80	662605.38955	1165393.43592	Road	Evident in 1944 photograph
81	662724.26981	1165384.94447	Unknown	Area disturbed with many trails in 1944 photograph; road 1961, 1982, 1994 (road not visible in 1969 photograph)
82	662728.51554	1165503.82473	Unknown	Area disturbed with many trails in 1944 photograph
83	662601.14383	1165609.96782	Unknown	Area disturbed with many trails in 1944 photograph
84	662932.31027	1165202.37835	Unknown	Area disturbed with many trails in 1944 photograph
85	663034.20764	1165210.86980	Unknown	Area disturbed with many trails in 1944 photograph
86	663242.24810	1165053.77802	Unknown	Area disturbed with many trails in 1944 photograph
87	663556.43166	1164344.74217	Road	Evident in 1982 and 1994 photographs
88	663564.92310	1164718.36585	Unknown	Slightly disturbed area with trails in 1944 photograph
89	663140.35073	1164000.83855	Unknown	Slightly disturbed area with trails in 1994 photograph
90	664735.97552	1162010.06884	Firing Range/ Ammunition Area	Evident 1954 through 1994
91	664300.83316	1161312.19901	Unknown	Cleared area in 1969 and 1982 photographs
92	664407.56619	1162075.75071	Road	Evident in 1982 photograph
93	664850.91879	1161115.15342	Road	Evident 1937 through 1994
94	663973.79220	1161397.38412	Unknown	Cleared area in 1969 and 1982 photographs
95	664084.12704	1161517.31329	Unknown	Cleared area in 1969 and 1982 photographs
96	663930.61770	1161267.86061	Road	Evident in 1961 and 1969 photographs
97	664060.14120	1161085.56826	Road	Evident 1969 through 1994
98	664443.91456	1160970.43626	Road	Evident in 1969 and 1982 photographs
99	664669.38141	1160816.92691	Road	Evident in 1982 and 1994 photographs

Historical Photography Anomaly Identification

Anomaly #	Alabama State Plane East, NAD 83		Reason for anomaly	Comment
	X-Coordinate	Y-Coordinate		
100	664549.45223	1161498.12462	Road	Evident 1969 through 1994
101	664443.91456	1161642.03963	Unknown	Cleared area in 1969 and 1982 photographs
102	664837.28225	1161728.38864	Firing Range/ Ammunition Area	Evident 1954 through 1994; road in 1944 photograph
103	664654.98991	1162356.81751	Firing Range/ Ammunition Area	Evident 1954 through 1994
104	664607.01824	1161642.03963	Road	Evident in 1961 photograph
105	664674.17857	1161253.46911	Road	Evident in 1969 photograph
106	664376.75422	1161502.92179	Road	Evident in 1961 photograph
107	664314.39105	1160169.30937	Road	Evident 1969 through 1994
108	664237.63638	1159857.49352	Road	Evident in 1982 and 1994 photographs
109	664434.32023	1159277.03632	Road	Evident 1969 through 1994
110	664990.79159	1160092.55470	Unknown	Cleared area along road in 1969 and 1982 photographs
111	664947.61709	1159454.53150	Road	Evident 1969 through 1994
112	664923.63126	1158710.97062	Unknown	Cleared area along road in 1969 photograph
113	665206.66411	1158149.70209	Road	Evident 1969 through 1994
114	665513.68279	1157310.19787	Road	Evident in 1969 photograph
115	665897.45615	1157492.49021	Road	Evident 1969 through 1994
116	665595.23463	1156816.08967	Road	Evident 1969 through 1994
117	666425.14451	1155564.02909	Unknown	Cleared area at end of road in 1969 photograph
118	666641.01703	1155458.49142	Unknown	Cleared area at end of road in 1969 photograph
119	666688.98870	1155655.17527	Road	Evident in 1969 photograph
120	666497.10202	1155779.90161	Road	Evident in 1969 photograph
121	666765.74337	1155827.87328	Road	Evident in 1969 photograph
122	667154.31389	1155458.49142	Road	Evident 1932 through 1994
123	667293.43173	1155194.64724	Road	Evident 1944 through 1994
124	668420.76597	1155218.63307	Unknown	Area cleared 1937 through 1994; adjacent to road intersection

Historical Photography Anomaly Identification

Anomaly #	Alabama State Plane East, NAD 83		Reason for anomaly	Comment
	X-Coordinate	Y-Coordinate		
125	669332.22769	1154801.27955	Road	Evident in 1969 photograph
126	669716.00105	1154518.24670	Road	Evident in 1969 photograph
127	669855.11889	1154120.08184	Road	Evident in 1969 photograph
128	669605.66621	1154345.54869	Road	Evident in 1969 photograph
129	669293.85036	1154484.66653	Road	Evident in 1969 photograph
130	669418.57670	1154292.77985	Road	Evident in 1969 photograph
131	669236.28435	1154182.44501	Road	Evident 1937 through 1994
132	670238.89225	1153640.36514	Road	Evident in 1982 photograph
133	670282.06675	1153165.44561	Unknown	Area completely cleared in 1982
134	669034.80334	1153774.68582	Road	Evident in 1969 photograph
135	669202.70418	1153659.55381	Unknown	Cleared in photographs available from 1969 through 1994; building construction in 1982 and 1994 photographs
136	669265.06735	1153573.20481	Road	Evident 1954 through 1994
137	669241.08152	1153410.10113	Unknown	Area completely cleared in 1969 and 1982 photographs
138	669413.77953	1153491.65297	Unknown	Clearing near building construction in 1982 and 1994 photographs
139	669341.82203	1153501.24730	Building	Evident in 1994 photograph
140	669428.17103	1153539.62464	Unknown	Clearing near building construction in 1982 and 1994 photographs
141	669423.37386	1153386.11529	Unknown	Clearing at end of road in 1961 photograph
142	669504.92570	1153347.73796	Road	Evident in 1961 photograph
143	669456.95403	1153587.59631	Building	Evident in 1994 photograph
144	669068.38351	1153414.89830	Unknown	Area cleared with trails around it in 1982 photograph
145	669682.42088	1153453.27563	Road	Evident 1969 through 1994
146	669567.28887	1153338.14363	Road	Evident in 1961 photograph
147	669538.50587	1153112.67678	Road	Evident 1961 through 1994
148	669787.95855	1152978.35610	Road	Evident 1961 through 1994
149	669955.85940	1153016.73344	Road	Evident 1969 through 1994

Historical Photography Anomaly Identification				
Anomaly #	Alabama State Plane East, NAD 83		Reason for anomaly	Comment
	X-Coordinate	Y-Coordinate		
150	669816.74155	1153290.17196	Road	Evident 1961 through 1994
151	670152.54324	1153079.09661	Road	Evident 1937 through 1994
152	669687.21805	1152498.63941	Road	Evident in 1982 and 1994 photographs
153	670166.93474	1152349.92723	Road	Evident in 1961 photograph
154	670363.61859	1152388.30457	Road	Evident 1969 through 1994
155	670848.13245	1152580.19125	Road	Evident in 1982 photograph
156	669960.65656	1151735.88986	Road	Evident 1961 through 1994
157	670325.24125	1152119.66322	Road	Evident 1969 through 1994
158	670656.24577	1151894.19637	Road	Evident 1969 through 1994
159	670819.34945	1150656.52730	QA	None
160	670464.35909	1149869.79191	Road	Evident 1954 through 1994
161	671548.51883	1149399.66955	Road	Evident 1954 through 1994

Two "Landuse/Cover" figures depict the study landuse/cover features for each year of photography interpreted. The figures include the following years of coverage: 1937, 1940, 1944, 1955, 1961, 1969, 1982, and 1994.

REFERENCES

Barge, Waggoner, Sumner, and Cannon (BWSC). 1992. Map titled "Anniston East Bypass Calhoun County." Project Number DPI-0192 (001). Digital coverage.

Anderson et al. 1976. *A Land Use and Land Cover Classification System for Use with Remote Sensor Data*, U. S. Geological Survey Professional Paper 964.

Landuse/Cover

Fort McClellan East By-Pass Study Area

Landuse/Cover Class:

- Ammunition Range
- Industrial Buildings
- Paved Road
- Shrubland
- Grassland
- Upland Forest
- Excavated Land
- Barren Land
- Not Interpreted

Geographic Information Science and Technology
Oak Ridge National Laboratory
Oak Ridge, Tennessee



Alabama State Plane East, NAD 83



Data Source: Aerial Photography from U.S. Army COE

Prepared by: Geographic Information Science and Technology, ORNL

Date prepared: August 10, 1988

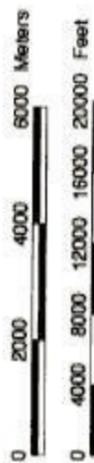


Landuse/Cover

Fort McClellan East By-Pass Study Area

Landuse/Cover Class:	
	Ammunition Range
	Industrial Buildings
	Paved Road
	Shrubland
	Grassland
	Upland Forest
	Excavated Land
	Barren Land
	Not interpreted

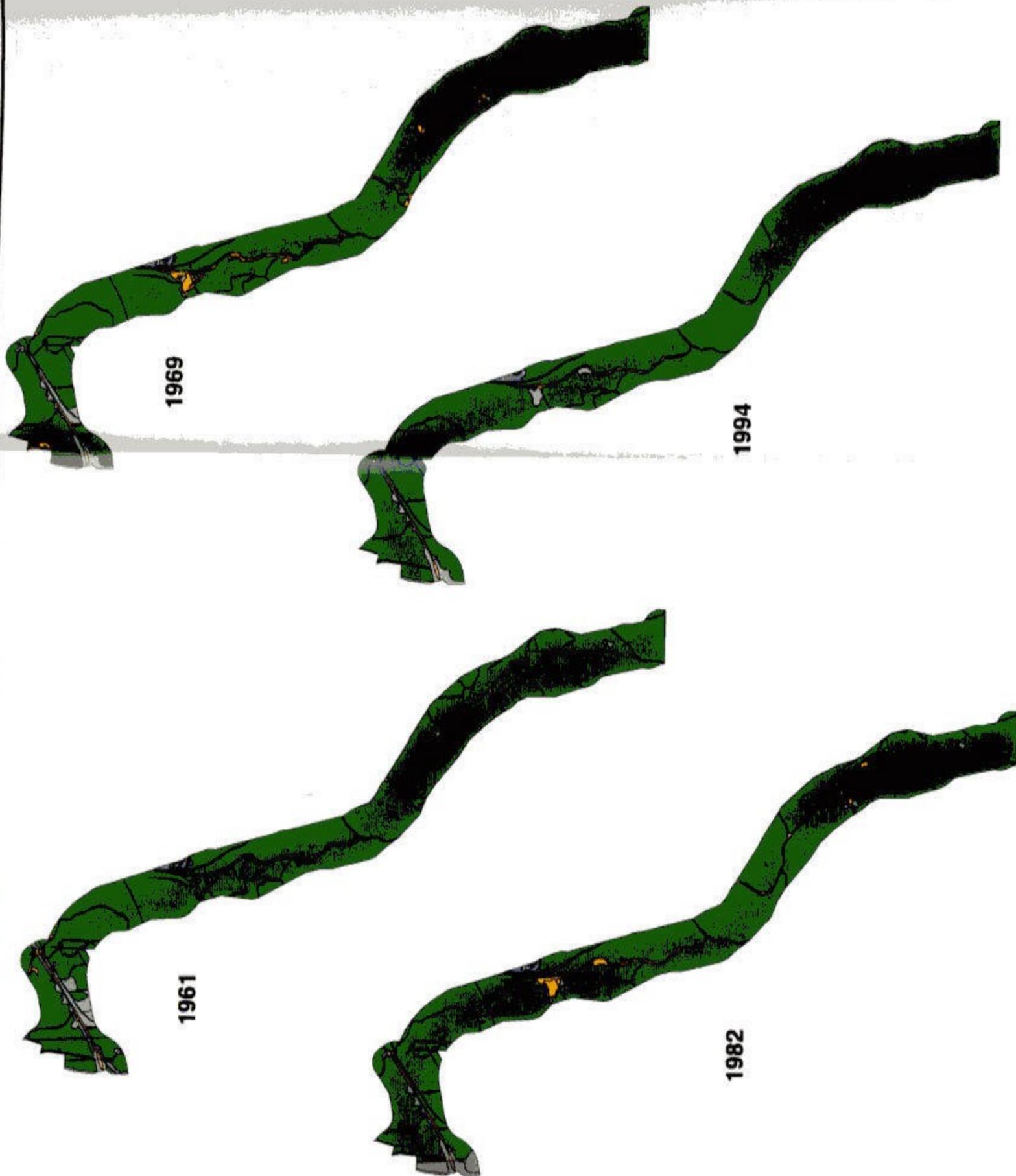
Geographic Information Science and Technology
Oak Ridge National Laboratory
Oak Ridge, Tennessee



Alabama State Plane East, NAD 83



Data Source: Aerial Photography from U.S. Army COE
Prepared by: Geographic Information Science and Technology, ORNL
Date prepared: August 10, 1994



APPENDIX

META DATA RECORD

**PHOTOGRAPHS AVAILABLE FOR THE EAST BY-PASS STUDY AREA
AT FORT McCLELLAN, ALABAMA**

YEAR	PHOTO NUMBER	COLLECTION DATE	SCALE	AGENCY	USED IN INTERPRETATION?
1937	GR-4-13	13809	Unknown	ASCS	No
1937	GR-4-15	13809	Unknown	ASCS	Yes
1937	GR-4-17	13809	Unknown	ASCS	Yes
1937	GR-4-19	13809	Unknown	ASCS	No
1937	GR-8A-1	13834	1:20,000	ASCS	No
1937	GR-8A-3	13834	1:20,000	ASCS	Yes
1937	GR-8A-5	13834	1:20,000	ASCS	No
1937	GR-8A-7	13834	1:20,000	ASCS	No
1937	GR-8A-9	13834	1:20,000	ASCS	No
1940	GR-1A-193	14881	1:20,000	National Archives, MD	No
1940	GR-1A-195	14881	1:20,000	National Archives, MD	Yes
1940	GR-1A-197	14881	1:20,000	National Archives, MD	No
1940	GR-1A-199	14881	1:20,000	National Archives, MD	No
1940	GR-1A-213	14881	1:20,000	National Archives, MD	Yes
1940	GR-1A-214	14881	1:20,000	National Archives, MD	Yes
1940	GR-2A-?	14881	1:20,000	National Archives, MD	No
1944	16PS4MA655-2:7	?/?/44	Unknown	Unknown	Yes
1944	16PS4MA655-2:9	?/?/44	Unknown	Unknown	Yes
1944	16PS4MA655-2:11	?/?/44	Unknown	Unknown	Yes
1944	16PS4MA655-2:13	?/?/44	Unknown	Unknown	No
1944	16PS4MA655-2:21	?/?/44	Unknown	Unknown	Yes
1944	16PS4MA655-2:22	?/?/44	Unknown	Unknown	Yes
1944	16PS4MA655-2:23	?/?/44	Unknown	Unknown	Yes
1944	16PS4MA655-2:25	?/?/44	Unknown	Unknown	Yes
1954	GR-10M-54	20067	1:20,000	Horizons, Inc., ASCS	No
1954	GR-10M-56	20067	1:20,000	Horizons, Inc., ASCS	Yes
1954	GR-10M-58	20067	1:20,000	Horizons, Inc., ASCS	Yes
1954	GR-10M-60	20067	1:20,000	Horizons, Inc., ASCS	No
1954	GR-10M-90	20067	1:20,000	Horizons, Inc., ASCS	No
1954	GR-10M-92	20067	1:20,000	Horizons, Inc., ASCS	Yes

YEAR	PHOTO NUMBER	COLLECTION DATE	SCALE	AGENCY	USED IN INTERPRETATION?
1961	GR-2CC-138	22614	1:20,000	Horizons, Inc., ASCS	No
1961	GR-2CC-140	22614	1:20,000	Horizons, Inc., ASCS	Yes
1961	GR-2CC-160	22614	1:20,000	Horizons, Inc., ASCS	Yes
1961	GR-2CC-162	22614	1:20,000	Horizons, Inc., ASCS	Yes
1961	GR-2CC-164	22614	1:20,000	Horizons, Inc., ASCS	Yes
1961	GR-2CC-166	22614	1:20,000	Horizons, Inc., ASCS	No
1969	GR-2LL-194	25527	1:20,000	Horizons, Inc., ASCS	Yes
1969	GR-2LL-196	25527	1:20,000	Horizons, Inc., ASCS	Yes
1969	GR-2LL-198	25527	1:20,000	Horizons, Inc., ASCS	Yes
1969	GR-2LL-217	25527	1:20,000	Horizons, Inc., ASCS	No
1969	GR-2LL-219	25527	1:20,000	Horizons, Inc., ASCS	Yes
1982	SAH-A7-92-2-001	30298	1:24,000	Horizon's Inc., Corps of Engineers, Mobile	Yes
1982	SAH-A7-92-2-005	30298	1:24,000	Horizon's Inc., Corps of Engineers, Mobile	Yes
1994	SAM-A7-923-5-7	34391	1:24,000	Horizon's Inc., Corps of Engineers, Mobile	Yes
1994	SAM-A7-923-5-11	34391	1:24,000	Horizon's Inc., Corps of Engineers, Mobile	Yes
1994	SAM-A7-923-6-7	34391	1:24,000	Horizon's Inc., Corps of Engineers, Mobile	Yes
1994	SAM-A7-923-6-9	34391	1:24,000	Horizon's Inc., Corps of Engineers, Mobile	Yes