

APPENDIX K
TOPOGRAPHIC SURVEY REPORT

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TOPOGRAPHIC SURVEY SERVICES

For

**ERIE BURNING GROUNDS
PHASE II REMEDIAL INVESTIGATIONS**

At

**RAVENNA ARMY AMMUNITION PLANT
RAVENNA, OHIO**

Prepared For:

SCIENCE APPLICATIONS INTERNATIONAL COMPANY

December 2003

Prepared By:

DLZ OHIO, INC.

Cuyahoga Falls, OH



DLZ

ENGINEERS • ARCHITECTS • SCIENTISTS
PLANNERS • SURVEYORS

DLZ #0321-6020.00

NARRATIVE

The following work was performed by DLZ OHIO, Inc. (DLZ) to provide Topographical Survey Services for Science Applications International Corporation (SAIC) for Phase II Remedial Investigations of the Erie Burning Grounds at the Ravenna Army Ammunition Plant in Ravenna, Ohio. This work took place in November and December 2003.

Existing control points RAV-9 and RAV-13 were used as the basis of all GPS reduction and network adjustments. Others originally established these control points. The horizontal and vertical coordinates were provided by SAIC. The horizontal coordinates supplied are based on the North American Datum of 1983 (NAD83), Ohio North Zone State Plane Coordinate System. The elevations supplied are based the National Geodetic Vertical Datum of 1929 (NGVD1929).

DLZ utilized static GPS methods to determine the positions of on-site control points that were set throughout the project. Four Trimble 4000 series receivers were used in this observation work. Data was processed on a daily basis and analyzed. The resultant baselines were then processed into a network adjustment using STAR*NET to determine the final coordinates and elevations.

Then by conventional methods, DLZ located the 8 monitoring wells and 28 soil and sediment sample locations. A Topcon 331 Total Station was used in this operation.

Included are a coordinate listing, the GPS adjustment, the field collector raw-data files and 2 drawing sheets labeled EBG-1 and EBG-2.

Adam D. Treat

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No. 8058



Note:

Coordinates are NAD 83 Ohio North Zone and elevations are NGVD29.

Pl. #	North (Ground)	East (Ground)	Elev.	Desc.
1000	570970.32	2379892.79	945.13	EBG-128 MW
1001	570970.43	2379892.87	945.57	EBG-128 RIM
1002	570970.24	2379893.59	942.47	EBG-128 PLATE
1003	571083.61	2380172.16	943.07	EBG-127 MW
1004	571083.73	2380172.23	943.21	EBG-127 RIM
1005	571083.39	2380172.87	940.21	EBG-127 PLATE
1006	571739.55	2380344.24	937.42	EBG-147 SW/SED
1007	571738.77	2380344.11	937.31	EBG-155 SW/SED
1008	572348.81	2380307.31	940.61	EBG-126 MW
1009	572349.04	2380307.16	941.36	EBG-126 RIM
1010	572348.42	2380306.78	938.20	EBG-126 PLATE
1011	572357.93	2379918.93	937.58	EBG-146/154 SW/SED
1012	572311.53	2379422.70	942.31	EBG-141 SAMPLE AREA
1013	572300.57	2379209.93	943.63	EBG-141 SAMPLE AREA
1014	572081.72	2379223.04	942.84	EBG-141 SAMPLE AREA
1015	572093.82	2379405.04	939.05	EBG-141 SAMPLE AREA
1016	572168.12	2379349.05	938.74	EBG-140 BOR
1017	572035.68	2379240.52	944.36	EBG-129 MW
1018	572035.58	2379240.66	944.65	EBG-129 RIM
1019	572035.74	2379239.69	941.97	EBG-129 PLATE
1020	571960.56	2379224.96	938.41	EBG-139 BOR
1021	570695.61	2379220.69	944.00	EBG-130 MW
1022	570695.86	2379220.62	944.17	EBG-130 RIM
1023	570695.62	2379221.47	941.18	EBG-130 PLATE
1024	571686.02	2379444.10	939.92	EBG-142 SAMPLE AREA
1025	571705.23	2379260.43	939.84	EBG-142 SAMPLE AREA
1026	571933.50	2379262.57	938.81	EBG-142 SAMPLE AREA
1027	571932.44	2379462.18	940.40	EBG-142 SAMPLE AREA
1028	571655.63	2379679.20	949.89	EBG-125 MW
1029	571655.78	2379679.01	950.09	EBG-125 RIM
1030	571655.61	2379679.89	947.55	EBG-125 PLATE
1031	571664.33	2379685.76	947.08	EBG-132 BOR
1032	571705.35	2379700.32	939.98	EBG-133 BOR
1033	571683.23	2379597.02	938.30	EBG-131 BOR
1034	571620.04	2379645.54	939.36	EBG-135 BOR
1035	571654.03	2379785.41	938.67	EBG-136 BOR
1036	571722.21	2379801.31	938.57	EBG-134 BOR
1037	571395.28	2379959.25	937.44	EBG-160 SW/SED
1038	571384.30	2379947.43	938.71	EBG-138 BOR
1039	571390.40	2379784.86	938.56	EBG-137 BOR
1040	571710.39	2379960.61	946.07	EBG-144 SAMPLE AREA
1041	571642.88	2379644.66	944.87	EBG-144 SAMPLE AREA
1042	571676.85	2379690.11	946.61	EBG-143 SAMPLE AREA
1043	571769.89	2380130.70	938.26	EBG-143 SAMPLE AREA
1044	571751.55	2380156.51	938.29	EBG-145 SAMPLE AREA

ERIE BURNING GROUNDS
PHASE II REMEDIAL INVESTIGATION

1045	571514.60	2380250.51	937.82	EBG-145 SAMPLE AREA
1046	571618.07	2380030.24	941.39	EBG-124 MW
1047	571618.21	2380030.33	941.66	EBG-124 RIM
1048	571618.69	2380030.56	939.02	EBG-124 PLATE
1049	571747.04	2380049.21	947.82	EBG-123 MW
1050	571747.21	2380049.19	948.47	EBG-123 RIM
1051	571747.09	2380049.90	945.59	EBG-123 PLATE