

Table 2-1
Interim Action Ranges MRA Historical MEC Items Recovered

MEC Item	Hazard Classification	UXO	DMM	ISD
Ash, Pyrotechnic	NS	26		
Cap, blasting, electric, M6	1		1	
Cartridge case, 40mm (projectile removed/case intact)	1	1	1	
Cartridge, 20mm, TP-T, M220	NS		2	
Cartridge, 40mm, practice, M382	1		1	
Cartridge, 40mm, practice, M781	1		18	
Cartridge, 75mm, blank, M337	2		1	
Cartridge, ignition, M2 series	1	6		
Charge, 0.25lbs, demolition, TNT	2	1		
Explosive, bulk, HE	NS	5	1	
Firing device, pressure, M1A1	1	1		
Firing device, release, M1	1	1		
Flare, parachute, trip, M48	2	1		
Flare, surface, trip, M49 series	1	41		
Fuze, bomb, nose, M103	2	2		
Fuze, grenade, hand, M10 series	1	91	2	
Fuze, grenade, hand, M204 series	1		2	
Fuze, grenade, hand, practice, M205 series	1	1	25	
Fuze, grenade, hand, practice, M228	1		1	
Fuze, mine, antitank, practice, M604	1	1		
Fuze, projectile, combination, M1907	1	2		
Fuze, projectile, mechanical time super quick, M772	1	1		
Fuze, projectile, point detonating, M46	2	1		
Fuze, projectile, point detonating, M47	2	1		
Fuze, projectile, point detonating, M48 series	2	11		
Fuze, projectile, point detonating, M503 series	2	3		
Fuze, projectile, point detonating, M52 series	2	1		
Fuze, projectile, point detonating, M524 series	2	1		
Fuze, projectile, point detonating, M53 series	2	2		
Fuze, projectile, powder train time fuze, M84 series	2	1		
Fuze, projectile, time (fixed), M65	2	1		
Fuze, projectile, time super quick, M548	2	1		
Fuze, projectile, time super quick, M55	2	14		
Fuze, trench mortar, point detonating, MK VI	2	2		
Grenade, hand, fragmentation, M67	3	3		1
Grenade, hand, fragmentation, MK II	3	3		
Grenade, hand, Illumination, MK I	1	25		
Grenade, hand, practice, M69	1	1		
Grenade, hand, practice, MK II	1	2		
Grenade, hand, smoke, commercial (model unknown) (civilian)	1	1		
Grenade, hand, smoke, HC, AN-M8	1	3		
Grenade, hand, smoke, M18 series	1	4		

Table 2-1
Interim Action Ranges MRA Historical MEC Items Recovered

MEC Item	Hazard Classification	UXO	DMM	ISD
Grenade, hand, smoke, white phosphorous, M15	3	3		
Grenade, rifle, antitank, M9 series	3	1		
Grenade, rifle, smoke, white phosphorous, M19A1	3	5		
Missile, guided, high explosive antitank, M222 (Dragon)	3	1		
Missile, guided, practice, M231 (Dragon)	1	12		
Ordnance Components	NS	365	1	
Primer, igniter tube, M5	1	1		
Primer, igniter tube, M57	1	2		
Projectile, 105mm, high explosive, M1	3	1		
Projectile, 105mm, illumination, M314 series	2	2		
Projectile, 105mm, smoke, M84 series	2	1		
Projectile, 14.5mm, subcaliber, practice, M181 series	1	78		
Projectile, 155mm, high explosive, MK 1	3	1		
Projectile, 155mm, Smoke, BE, M116 series	2	3		
Projectile, 20mm, high explosive incendiary, M56A3	3	2		
Projectile, 20mm, target practice, M204	0	2		
Projectile, 22mm, subcaliber, practice, M744	1	1,467		
Projectile, 25mm, subcaliber, M379	1	1		
Projectile, 37mm, high explosive, M54	3	2		
Projectile, 37mm, low explosive, MK I	3	3		
Projectile, 37mm, low explosive, MK II	3	2		
Projectile, 37mm, target practice, M63 MOD1	2	1		
Projectile, 4.2inch, mortar, high explosive, M3 series	3	2		
Projectile, 4.2inch, mortar, high explosive, M329 series	3	1		
Projectile, 4.2inch, mortar, smoke, white phosphorous, M328 series	3	2		
Projectile, 40mm, cluster, white star, M585	1	2		4
Projectile, 40mm, CS, M651	1	6		
Projectile, 40mm, high explosive dual-purpose, M430	3	11		1
Projectile, 40mm, high explosive dual-purpose, M433	3	7		
Projectile, 40mm, high explosive, M381	3	137		18
Projectile, 40mm, high explosive, M383	3	27		
Projectile, 40mm, high explosive, M384	3	12		
Projectile, 40mm, high explosive, M386	3	9		
Projectile, 40mm, high explosive, M397	3	11		
Projectile, 40mm, high explosive, M406	3	35		
Projectile, 40mm, high explosive, M441	3	1		
Projectile, 40mm, parachute, illumination, M583 series	1	6		
Projectile, 40mm, parachute, star, M662	1	3		
Projectile, 40mm, Practice, (model unknown)	2	6		
Projectile, 40mm, practice, M382	1	6		
Projectile, 40mm, practice, M407A1	1	47		

Table 2-1
Interim Action Ranges MRA Historical MEC Items Recovered

MEC Item	Hazard Classification	UXO	DMM	ISD
Projectile, 40mm, smoke, M680 series	1	5		
Projectile, 40mm, smoke, M713 series	1	32		7
Projectile, 50mm, Mortar, Type89, Japanese NI	3	4		
Projectile, 57mm, high explosive antitank, M307	3	2		
Projectile, 57mm, high explosive, M306 series	3	92		1
Projectile, 57mm, target practice, M306 series	1	1		
Projectile, 60mm, mortar, high explosive, M49 series	3	48		
Projectile, 60mm, mortar, high explosive, M720	3	4		
Projectile, 60mm, mortar, illumination, M721	2	3		
Projectile, 60mm, mortar, illumination, M83 series	2	25		
Projectile, 60mm, mortar, practice, M50 series	2	3		
Projectile, 75mm, high explosive, M309	3	5		
Projectile, 75mm, high explosive, M41A1	3	1		
Projectile, 75mm, high explosive, M48	3	10		
Projectile, 75mm, Shrapnel, MK I	3	4		
Projectile, 76mm, high explosive, M352	3	5		
Projectile, 81mm, mortar, Flare Shell, T-23	1	2		
Projectile, 81mm, mortar, high explosive, M362	3	2		
Projectile, 81mm, mortar, high explosive, M374 series	3	3		
Projectile, 81mm, mortar, high explosive, M43 series	3	16		
Projectile, 81mm, mortar, high explosive, M56	3	1		
Projectile, 81mm, mortar, illumination, M301 series	2	10		
Projectile, 81mm, mortar, illumination, M853A1	2	1		
Projectile, 81mm, mortar, practice, M43 series	2	1		
Projectile, 81mm, mortar, smoke, white phosphorous, M375 series	3	1		
Projectile, 81mm, mortar, smoke, white phosphorous, M57 series	3	1		
Projectile, 84mm, high explosive antitank, M136 series (AT-4)	3	111		12
Projectile, 90mm, high explosive antitank, M348	3	8		1
Projectile, 90mm, high explosive antitank, M371A1	3	12		
Propellant, 60mm, wafers, mortar	1		1	
Rocket motors, M222/M223 (DRAGON)	1	88		
Rocket, 3.5inch, practice, M29 series	0			1
Rocket, 35mm, subcaliber, practice, M73	1	6,436	25	30
Rocket, 66mm, high explosive antitank, M72 series	3	261		27
Rocket, 66mm, incendiary, TPA, M74	3	92		6
Signal, ground, rifle, parachute, M17 series	1	2		
Signal, illumination, AN-M43 series	1	1		
Signal, illumination, ground, M125 series	2	8		
Signal, illumination, ground, M126 series	2	5		
Signal, illumination, ground, parachute, rifle, M19 series	1	1		
Signal, illumination, M187	1	2		

Table 2-1
Interim Action Ranges MRA Historical MEC Items Recovered

MEC Item	Hazard Classification	UXO	DMM	ISD
Signal, illumination, M51A1	1	1		
Signal, smoke, ground, M166 series	1	1		
Simulator, flash artillery, M110	1	1		
Simulator, launching, antitank guided missile and rocket, M22	1	1		
Simulator, projectile, airburst, M74 series	1	17		
40mm (Model Unknown)	NS			1
75mm (Model Unknown)	NS			1
Box Of Fuzes (Model Unknown)	NS			1
Cartridge, 20mm, target practice tracer, M206A1	NS	1		
Explosive, bulk, HE	NS	1		
Fuze Component	NS	1		
Fuze, projectile, point detonating, M52 series	NS	1		
Grenades, HE, 40mm, M550 (model unknown)	NS			3
HE, 40mm, M550 (model unknown)	NS			2
HE-T, 20mm (model unknown)	NS			1
Parachute, green star (model unknown)	NS			1
Projectile, HE, 40mm, M550 (model unknown)	NS			1
Rifle, grenade, HE, 40mm, M550 (model unknown)	NS			1
Rocket motors, M222/M223 (Dragon)	NS	4		
Rocket, 35mm, subcaliber, practice, M73	NS	225		
Rocket, 66mm, high explosive antitank, M72 series	NS	2		
Star, 40mm (model unknown)	NS			1
Trip Flare Mixture	NS	1		
MRA Total	--	10,115	82	122

Notes:

MRA = Munitions Response Area

MEC = munitions and explosives of concern

UXO = unexploded ordnance

DMM = discarded military munitions

ISD = insufficient data (could not be definitively classified as UXO, DMM, or Munitions Debris)

TNT = trinitrotoluene

HC = hexachloroethane

BE = base-ejection

CS = o-chlorobenzylidene malonitrile

NS = not specified

mm = millimeter

HE = high explosive

lbs = pounds

Hazard Classification:

0 = Inert, will cause no injury

1 = Will cause an injury or, in extreme cases, could cause major injury or death to an individual if functioned by an individual's activities.

2 = Will cause major injury or, in extreme cases, could cause death to an individual if functioned by an individual's activities.

3 = Will kill an individual if detonated by an individual's activities.

Reference: Ford Ord Military Munitions Response Program (MMRP) Database

Table 4-1
Interim Action Ranges MRA Phase II DGM Blind Quality Control Seeds

Range	Seed ID	Grid ID	Seed Size (Inches)	Depth (Inches)	Orientation	Target ID	Offset from Control (feet)	Response Amplitude (millivolts)
DGM Operations								
Range 44 SCA (North)	QC Seed 187	B2J8G6	1 x 4	6	Horizontal	4529	1.26	184.50
	QC Seed 188	B2J8H4	1 x 4	6	Horizontal	2307	1.55	277.80
	QC Seed 189	B2J8I5	1 x 4	6	Horizontal	12042	2.32 ^a	184.30
	QC Seed 226	C2A8C6	1 x 4	10	Horizontal	NA ²	NA	NA
	QC Seed 227	B2J8I4	1 x 4	10	Horizontal	NA ²	NA	NA
	QC Seed 228	B2J8H5	2 x 8	12	Horizontal	12370	1.46	703.10
	QC Seed 229	B2J8F3	2 x 8	12	Vertical	7139	0.89	1893.26
	QC Seed 238	B2J8J4	1 x 4	8	Horizontal	18463	1.54	429.80
	QC Seed 239	B2J8J7	1 x 4	8	Horizontal	NA ²	NA	NA
	QC Seed 240	C2A8B7	1 x 4	8	Horizontal	NA ²	NA	NA
	QC Seed 241	C2A8D6	1 x 4	8	Horizontal	NA ²	NA	NA
	QC Seed 242	C2A8D4	1 x 4	8	Horizontal	NA ²	NA	NA
	QC Seed 294	C2A8C7	2 x 8	12	Horizontal	40356	1.42	906.80
	QC Seed 295	C2A8C5	2 x 8	8	Vertical	40336	0.39	3884.10
	QC Seed 296	B2J8I4	2 x 8	8	Horizontal	40140	0.82	1031.70
QC Seed 297	B2J8H5	2 x 8	8	Vertical	40033	0.37	2535.10	
Range 44 SCA (South) and Central Area NCAs	QC Seed 190	B2J8E9	1 x 4	6	Horizontal	NA ¹	NA	NA
Range 47 SCA	QC Seed 223	C2A6D9	1 x 4	8	Horizontal	7334	1.07	112.86
	QC Seed 224	B2J6I7	1 x 4	8	Horizontal	NA ¹	NA	NA
	QC Seed 225	B2J6J5	1 x 4	8	Horizontal	3857	1.06	140.85
	QC Seed 230	C2A6B5	1 x 4	12	Horizontal	5923	1.04	62.96
	QC Seed 231	C2A6B7	1 x 4	12	Horizontal	6406	1.12	232.02
	QC Seed 232	B2J6J9	1 x 4	12	Horizontal	4522	0.79	88.34
	QC Seed 233	B2J7J1	1 x 4	12	Horizontal	4124	1.99	179.61
	QC Seed 234	B2J7I3	1 x 4	12	Horizontal	3400	3.41 ^a	341.51
QC seed 235	B2J7H1	1 x 4	12	Horizontal	2790	1.50	119.59	
Minimum Offset							0.37	
Maximum Offset							3.41	
Average Offset							1.33	

Table 4-1
Interim Action Ranges MRA Phase II DGM Blind Quality Control Seeds

Range	Seed ID	Grid ID	Seed Size (Inches)	Depth (Inches)	Orientation	Target ID	Offset from Control (feet)	Response Amplitude (millivolts)
Analog Operations								
Range 47 SCA	QC Seed 72	C2G7A9	1 x 4	6	Horizontal	NA	NA	NA

Notes:

MRA = Munitions Response Area

DGM = digital geophysical mapping.

SCA = Special Case Area

NCA = Non-Completed Area

NA = Not applicable

a. Multiple targets with overlapping dig radii; offset calculated from nearest selected target

1. Seed was buried outside the DGM survey area; retrieved by the Unexploded Ordnance Quality Control Specialist (UXOQCS)

2. Seed was not selected as a target due to an elevated target threshold of 300mV and was not recovered

Table 4-2
Interim Action Ranges MRA Phase II Known Quality Control Seeds

Spike ID	Date	Location/ Grid ID	Target ID	Offset from Burial Location (feet)	Offset from Burial Location (cm)
Geospike 1 AM	6/7/2011	IVS	NA	0.7	20.05
Geospike 2 AM	6/7/2011	IVS	NA	1.1	32.90
Geospike 1 PM	6/7/2011	IVS	NA	0.9	27.60
Geospike 2 PM	6/7/2011	IVS	NA	1.0	32.00
Geospike 1 AM	6/8/2011	IVS	NA	0.7	20.05
Geospike 2 AM	6/8/2011	IVS	NA	0.5	15.32
Geospike 1 PM	6/8/2011	IVS	NA	0.4	11.10
Geospike 2 PM	6/8/2011	IVS	NA	0.4	11.90
Geospike 1 AM	6/30/2011	IVS	NA	0.4	12.57
Geospike 2 AM	6/30/2011	IVS	NA	0.6	18.41
Geospike 1 PM	6/30/2011	IVS	NA	0.4	12.57
Geospike 2 PM	6/30/2011	IVS	NA	0.6	18.41
Geospike 1 AM	7/7/2011	IVS	NA	0.4	11.61
Geospike 2 AM	7/7/2011	IVS	NA	0.5	15.32
Geospike 1 PM	7/7/2011	IVS	NA	0.4	12.57
Geospike 2 PM	7/7/2011	IVS	NA	0.5	16.76
Geospike 1 AM	7/14/2011	IVS	NA	1.2	35.18
Geospike 2 AM	7/14/2011	IVS	NA	0.2	6.10
Geospike 1 PM	7/14/2011	IVS	NA	0.9	27.60
Geospike 2 PM	7/14/2011	IVS	NA	0.2	6.10
Geospike 1 AM	10/26/2011	IVS	NA	0.9	27.60
Geospike 2 AM	10/26/2011	IVS	NA	0.8	24.38
Geospike 1 PM	10/26/2011	IVS	NA	1.0	29.43
Geospike 2 PM	10/26/2011	IVS	NA	0.2	6.10
Geospike 1 AM	10/28/2011	IVS	NA	0.2	5.49
Geospike 2 AM	10/28/2011	IVS	NA	0.3	7.77
Geospike 1 PM	10/28/2011	IVS	NA	0.2	5.49
Geospike 2 PM	10/28/2011	IVS	NA	0.0	1.52
Geospike 1 AM	11/1/2011	IVS	NA	0.9	27.60
Geospike 2 AM	11/1/2011	IVS	NA	0.8	25.55
Geospike 1 AM	11/2/2011	IVS	NA	0.9	27.60
Geospike 2 AM	11/2/2011	IVS	NA	0.3	9.76
Geospike 1 PM	11/2/2011	IVS	NA	0.2	5.49
Geospike 2 PM	11/2/2011	IVS	NA	0.0	1.52
Geospike 1 AM	11/3/2011	IVS	NA	0.4	12.57
Geospike 2 AM	11/3/2011	IVS	NA	0.2	6.10
Geospike 1 PM	11/3/2011	IVS	NA	0.7	20.05
Geospike 2 PM	11/3/2011	IVS	NA	0.0	1.52

Table 4-2
Interim Action Ranges MRA Phase II Known Quality Control Seeds

Spike ID	Date	Location/ Grid ID	Target ID	Offset from Burial Location (feet)	Offset from Burial Location (cm)
Geospike 1 AM	11/15/2011	IVS	NA	0.9	27.60
Geospike 2 AM	11/15/2011	IVS	NA	0.2	6.10
Geospike 1 AM	11/16/2011	IVS	NA	0.2	5.49
Geospike 2 AM	11/16/2011	IVS	NA	0.0	1.52
Geospike 1 PM	11/16/2011	IVS	NA	0.2	5.49
Geospike 2 PM	11/16/2011	IVS	NA	0.2	6.28
Geospike 1 AM	11/17/2011	IVS	NA	0.9	27.60
Geospike 2 AM	11/17/2011	IVS	NA	0.5	13.72
Geospike 1 PM	11/17/2011	IVS	NA	0.7	20.05
Geospike 2 PM	11/17/2011	IVS	NA	0.0	1.52
Geospike 1 AM	11/23/2011	IVS	NA	1.0	29.43
Geospike 2 AM	11/23/2011	IVS	NA	0.5	13.72
Geospike 1 PM	11/23/2011	IVS	NA	0.9	27.60
Geospike 2 PM	11/23/2011	IVS	NA	0.5	13.72
Geospike 1 AM	12/9/2011	IVS	NA	0.7	22.50
Geospike 2 AM	12/9/2011	IVS	NA	0.5	13.72
Geospike 1 PM	12/9/2011	IVS	NA	0.9	27.60
Geospike 2 PM	12/9/2011	IVS	NA	0.5	13.72
Geospike 1 AM	12/20/2011	IVS	NA	1.0	29.43
Geospike 2 AM	12/20/2011	IVS	NA	0.2	6.10
Geospike 1 PM	12/20/2011	IVS	NA	1.0	29.43
Geospike 2 PM	12/20/2011	IVS	NA	0.2	6.10
Geospike 1 AM	12/28/2011	IVS	NA	0.9	27.60
Geospike 2 AM	12/28/2011	IVS	NA	0.8	25.55
Geospike 1 PM	12/28/2011	IVS	NA	0.9	27.60
Geospike 2 PM	12/28/2011	IVS	NA	0.2	6.10
Geospike 1 AM	1/17/2012	IVS	NA	0.4	13.02
Geospike 2 AM	1/17/2012	IVS	NA	0.8	24.38
Geospike 1 PM	1/17/2012	IVS	NA	0.7	20.33
Geospike 2 PM	1/17/2012	IVS	NA	1.3	40.35
Geospike 1 AM	1/18/2012	IVS	NA	0.7	22.50
Geospike 2 AM	1/18/2012	IVS	NA	1.1	32.90
Geospike 1 PM	1/18/2012	IVS	NA	0.7	20.05
Geospike 2 PM	1/18/2012	IVS	NA	0.8	25.55
Geospike 1 AM	1/19/2012	IVS	NA	0.7	22.50
Geospike 2 AM	1/19/2012	IVS	NA	1.1	32.90
Geospike 1 PM	1/19/2012	IVS	NA	0.7	20.05
Geospike 2 PM	1/19/2012	IVS	NA	1.1	32.90

Table 4-2
Interim Action Ranges MRA Phase II Known Quality Control Seeds

Spike ID	Date	Location/ Grid ID	Target ID	Offset from Burial Location (feet)	Offset from Burial Location (cm)
Geospike 1 AM	1/26/2012	IVS	NA	0.7	20.05
Geospike 2 AM	1/26/2012	IVS	NA	1.0	32.00
Geospike 1 PM	1/26/2012	IVS	NA	0.4	12.57
Geospike 2 PM	1/26/2012	IVS	NA	0.8	24.38
Geospike 1 AM	1/27/2012	IVS	NA	0.7	20.05
Geospike 2 AM	1/27/2012	IVS	NA	0.8	25.55
Geospike 1 PM	1/27/2012	IVS	NA	0.4	13.02
Geospike 2 PM	1/27/2012	IVS	NA	0.8	24.38
Geospike 1 AM	1/30/2012	IVS	NA	0.7	20.05
Geospike 2 AM	1/30/2012	IVS	NA	0.8	25.55
Geospike 1 PM	1/30/2012	IVS	NA	0.4	12.57
Geospike 2 PM	1/30/2012	IVS	NA	0.8	25.55
Geospike 1 AM	2/1/2012	IVS	NA	0.4	13.02
Geospike 2 AM	2/1/2012	IVS	NA	0.8	25.55
Geospike 1 PM	2/1/2012	IVS	NA	0.4	13.02
Geospike 2 PM	2/1/2012	IVS	NA	0.8	24.38
Geospike 1 AM	2/2/2012	IVS	NA	0.7	20.05
Geospike 2 AM	2/2/2012	IVS	NA	0.8	25.55
Geospike 1 PM	2/2/2012	IVS	NA	0.4	12.57
Geospike 2 PM	2/2/2012	IVS	NA	0.8	25.55
Geospike 1 AM	2/3/2012	IVS	NA	0.4	12.57
Geospike 2 AM	2/3/2012	IVS	NA	0.8	25.55
Geospike 1 AM	2/16/2012	IVS	NA	0.7	20.33
Geospike 2 AM	2/16/2012	IVS	NA	0.8	25.55
Geospike 1 PM	2/16/2012	IVS	NA	0.4	12.57
Geospike 2 PM	2/16/2012	IVS	NA	0.8	25.55
Geospike 1 AM	3/27/2012	IVS	NA	0.7	20.05
Geospike 2 AM	3/27/2012	IVS	NA	0.8	25.55
Geospike 1 PM	3/27/2012	IVS	NA	0.4	13.02
Geospike 2 PM	3/27/2012	IVS	NA	0.8	24.38
Geospike 1 AM	3/28/2012	IVS	NA	0.4	12.57
Geospike 2 AM	3/28/2012	IVS	NA	0.8	25.55
Geospike 1 PM	3/28/2012	IVS	NA	0.7	20.33
Geospike 2 PM	3/28/2012	IVS	NA	0.8	24.38
Geospike 1 AM	3/29/2012	IVS	NA	0.7	20.33
Geospike 2 AM	3/29/2012	IVS	NA	0.8	24.38
Geospike 1 PM	3/29/2012	IVS	NA	0.2	6.47
Geospike 2 PM	3/29/2012	IVS	NA	0.5	16.76

Table 4-2
Interim Action Ranges MRA Phase II Known Quality Control Seeds

Spike ID	Date	Location/ Grid ID	Target ID	Offset from Burial Location (feet)	Offset from Burial Location (cm)
Geospike 1 AM	4/3/2012	IVS	NA	0.8	23.26
Geospike 2 AM	4/3/2012	IVS	NA	0.8	24.38
Geospike 1 PM	4/3/2012	IVS	NA	0.2	5.49
Geospike 2 PM	4/3/2012	IVS	NA	0.5	16.76
Geospike 1 AM	4/4/2012	IVS	NA	0.2	5.49
Geospike 2 AM	4/4/2012	IVS	NA	0.6	18.41
Geospike 1 PM	4/4/2012	IVS	NA	0.4	13.02
Geospike 2 PM	4/4/2012	IVS	NA	0.8	24.38
Geospike 1 AM	4/5/2012	IVS	NA	0.2	5.49
Geospike 2 AM	4/5/2012	IVS	NA	0.8	25.55
Geospike 1 PM	4/5/2012	IVS	NA	0.4	12.57
Geospike 2 PM	4/5/2012	IVS	NA	0.8	24.38
Corner Spike 180648	4/24/2012	C2A8D5	18815	0.94	28.76
Corner Spike 179865	4/26/2012	C2A8A6	20218	1.73	52.64
Corner Spike 179875	4/26/2012	C2A8A6	20186	0.91	27.74
Corner Spike 180650	4/26/2012	C2A8D5	18815	0.94	28.77
Geospike 1 AM	4/27/2012	IVS	NA	0.3	10.63
Geospike 2 AM	4/27/2012	IVS	NA	1.0	31.15
Geospike 1 PM	4/27/2012	IVS	NA	0.3	9.53
Geospike 2 PM	4/27/2012	IVS	NA	0.6	18.60
Geospike 1 AM	4/30/2012	IVS	NA	0.0	1.26
Geospike 2 AM	4/30/2012	IVS	NA	0.6	18.60
Geospike 1 PM	4/30/2012	IVS	NA	0.3	10.63
Geospike 2 PM	4/30/2012	IVS	NA	0.6	18.60
Geospike 1 AM	5/1/2012	IVS	NA	0.3	10.63
Geospike 2 AM	5/1/2012	IVS	NA	0.7	20.18
Geospike 1 PM	5/1/2012	IVS	NA	0.3	10.63
Geospike 2 PM	5/1/2012	IVS	NA	0.2	6.43
Geospike 1 AM	5/4/2012	IVS	NA	0.3	10.63
Geospike 2 AM	5/4/2012	IVS	NA	0.4	13.65
Geospike 1 PM	5/4/2012	IVS	NA	0.3	10.63
Geospike 2 PM	5/4/2012	IVS	NA	0.2	6.43
Corner Spike 179899	5/16/2012	C2A8A7	22615	NA ¹	NA
Corner Spike 179901	5/16/2012	C2A8A7	22620	NA ¹	NA
Corner Spike 179907	5/23/2012	C2A8C7	22617	NA ¹	NA
Corner Spike 180682	5/24/2012	C2A8F6	20211	1.32	40.23
Corner Spike 180662	5/24/2012	C2A8E5	18800	0.51	15.56
Corner Spike 179122	6/22/2012	B2J8I4	18799	1.02	31.09

Table 4-2
Interim Action Ranges MRA Phase II Known Quality Control Seeds

Spike ID	Date	Location/ Grid ID	Target ID	Offset from Burial Location (feet)	Offset from Burial Location (cm)
Geospike 1 AM	6/25/2012	IVS	NA	0.3	10.63
Geospike 1 PM	6/25/2012	IVS	NA	0.3	9.53
Geospike 2 PM	6/25/2012	IVS	NA	0.1	3.41
Corner Spike 179118	6/27/2012	B2J8H5	18810	0.58	17.77
Corner Spike 179116	7/27/2012	B2J7H2	30033	0.00	0.00
Corner Spike 179114	7/30/2012	B2J7G3	30004	1.00	30.48
Geospike 2 AM	8/20/2012	IVS	NA	0.9	28.27
Geospike 1 PM	8/20/2012	IVS	NA	1.0	30.20
Geospike 2 PM	8/20/2012	IVS	NA	0.2	6.43
Geospike 1 AM	8/28/2012	IVS	NA	0.8	23.45
Geospike 1 PM	8/28/2012	IVS	NA	0.3	10.37
Geospike 2 PM	8/28/2012	IVS	NA	0.1	2.81
Geospike 1 AM	8/29/2012	IVS	NA	0.6	18.18
Geospike 2 AM	8/29/2012	IVS	NA	0.9	27.94
Geospike 1 PM	8/29/2012	IVS	NA	0.4	12.63
Geospike 2 PM	8/29/2012	IVS	NA	0.6	19.19
Geospike 1 AM	9/4/2012	IVS	NA	1.1	34.37
Geospike 2 AM	9/4/2012	IVS	NA	0.1	3.41
Geospike 1 PM	9/4/2012	IVS	NA	0.6	18.18
Geospike 2 PM	9/4/2012	IVS	NA	0.5	16.09
Geospike 1 AM	9/5/2012	IVS	NA	0.6	18.18
Geospike 2 AM	9/5/2012	IVS	NA	0.1	2.81
Geospike 1 PM	9/5/2012	IVS	NA	0.3	9.53
Geospike 2 PM	9/5/2012	IVS	NA	0.1	3.41
Geospike 1 AM	9/12/2012	IVS	NA	1.1	34.37
Geospike 2 AM	9/12/2012	IVS	NA	0.4	12.51
Geospike 1 AM	9/13/2012	IVS	NA	0.8	23.45
Geospike 2 AM	9/13/2012	IVS	NA	0.2	6.13
Geospike 1 PM	9/13/2012	IVS	NA	0.3	10.37
Geospike 2 PM	9/13/2012	IVS	NA	0.7	20.46
Geospike 1 AM	9/20/2012	IVS	NA	0.8	23.45
Geospike 2 AM	9/20/2012	IVS	NA	0.1	3.41
Geospike 1 PM	9/20/2012	IVS	NA	0.8	23.45
Geospike 2 PM	9/20/2012	IVS	NA	0.2	6.13
Corner Spike 179897	9/27/2012	C2A8A6	30373	1.22	37.23
Geospike 1 AM	10/8/2012	IVS	NA	0.3	9.53
Geospike 2 AM	10/8/2012	IVS	NA	0.2	6.13
Geospike 1 PM	10/8/2012	IVS	NA	0.3	9.53

Table 4-2
Interim Action Ranges MRA Phase II Known Quality Control Seeds

Spike ID	Date	Location/ Grid ID	Target ID	Offset from Burial Location (feet)	Offset from Burial Location (cm)
Geospike 2 PM	10/8/2012	IVS	NA	0.8	23.97
Geospike 1 AM	10/9/2012	IVS	NA	0.3	9.53
Geospike 2 AM	10/9/2012	IVS	NA	0.2	6.13
Geospike 1 PM	10/9/2012	IVS	NA	0.3	9.53
Geospike 2 PM	10/9/2012	IVS	NA	0.4	11.90
Geospike 1 AM	10/10/2012	IVS	NA	0.3	9.53
Geospike 2 AM	10/10/2012	IVS	NA	0.2	6.43
Geospike 1 PM	10/10/2012	IVS	NA	0.8	23.45
Geospike 1 AM	10/11/2012	IVS	NA	1.0	30.57
Geospike 2 AM	10/11/2012	IVS	NA	0.4	13.65
Geospike 1 PM	10/11/2012	IVS	NA	1.0	30.57
Geospike 2 PM	10/11/2012	IVS	NA	0.4	13.65
Geospike 1 AM	10/12/2012	IVS	NA	0.8	23.45
Geospike 2 AM	10/12/2012	IVS	NA	0.2	6.13
Geospike 1 PM	10/12/2012	IVS	NA	0.6	18.18
Geospike 2 PM	10/12/2012	IVS	NA	0.2	6.43
Geospike 1 AM	10/16/2012	IVS	NA	0.6	18.18
Geospike 2 AM	10/16/2012	IVS	NA	0.4	12.51
Geospike 1 PM	10/16/2012	IVS	NA	0.8	23.45
Geospike 2 PM	10/16/2012	IVS	NA	0.7	21.00
Geospike 1 AM	10/29/2012	IVS	NA	0.7	21.07
Geospike 2 AM	10/29/2012	IVS	NA	0.2	6.43
Geospike 1 PM	10/29/2012	IVS	NA	0.4	11.87
Geospike 2 PM	10/29/2012	IVS	NA	0.3	10.13
Geospike 1 AM	10/30/2012	IVS	NA	0.7	21.07
Geospike 1 PM	10/30/2012	IVS	NA	0.7	21.07
Corner Spike 179905	10/31/2012	C2A8B6	30398	0.92	28.10
Corner Spike 178331	11/7/2012	B2J6H8	37008	0.71	21.55
Corner Spike 179863	11/7/2012	C2A6A4	37167	1.37	41.76
Corner Spike 178337	11/8/2012	B2J6I6	37051	1.56	47.55
Corner Spike 179112	11/8/2012	B2J6J5	37117	0.46	14.02
Geospike 1 AM	12/17/2012	IVS	NA	1.2	36.29
Geospike 2 AM	12/17/2012	IVS	NA	0.4	13.65
Geospike 1 PM	12/17/2012	IVS	NA	1.3	38.89
Geospike 2 PM	12/17/2012	IVS	NA	1.0	30.06
Geospike 1 AM	12/18/2012	IVS	NA	1.5	45.43
Geospike 2 AM	12/18/2012	IVS	NA	0.2	6.43
Geospike 2 PM	12/18/2012	IVS	NA	0.4	12.51

Table 4-2
Interim Action Ranges MRA Phase II Known Quality Control Seeds

Spike ID	Date	Location/ Grid ID	Target ID	Offset from Burial Location (feet)	Offset from Burial Location (cm)	
Known QC Seed	10/15/2012	C2A8E5	30533	NA ²	NA ²	
Known QC Seed	10/16/2012	B2J6I6	34016	NA ²	NA ²	
Known QC Seed	10/16/2012	B2J6I6	34006	NA ²	NA ²	
Known QC Seed	10/17/2012	C2A6A4	34023	NA ²	NA ²	
Known QC Seed	10/17/2012	B2J6I5	34019	NA ²	NA ²	
Known QC Seed	10/17/2012	B2J6I5	34021	NA ²	NA ²	
Known QC Seed	10/30/2012	C2A8D8	30524	NA ²	NA ²	
Known QC Seed	10/31/2012	C2A8G7	30595	NA ²	NA ²	
Known QC Seed	11/7/2012	C2A6A4	34023	NA ²	NA ²	
Known QC Seed	11/9/2012	B2J6I7	37073	NA ²	NA ²	
				Average	0.60	18.16
				Minimum	0.0	0.00
				Maximum	1.7	52.64

Notes:

1. Location of Known Seed not recorded. Spike placed off of grid corner due to field error.
2. Ten Known QC Seeds were placed during IAR QC2 actions. GIS coordinates were not obtained for the seeds before they were removed during investigation activities.

DGM = digital geophysical mapping.

NA = Not applicable

IVS = Instrument Verification Strip

[this page was intentionally left blank]

Table 5-1
Interim Action Ranges MRA Phase II Design Study MEC and MD Recovered

Removal Action Type	Item Description	Quantity MEC		MD Weight	SAA Quantity	SAA Weight
		UXO	DMM	lbs		lbs
Range 44 SCA (North)						
DGM ¹	Small Arms Ammunition				5	4.1
	Bomb, 25 lb, Practice, BDU-33 Series			0.5		
	Cap, Blasting, Non-electric, M7	3				
	Cap, Blasting, Model Unknown			0.1		
	Cartridge Case, 40mm			3.0		
	Clip, .30 Cal, M1			20.0		
	Firing device, M1			30.0		
	Firing device, pressure, M1A1			1.5		
	Fuze, Bomb, Nose, M103	1				
	Fuze, Projectile, Point Detonating, M48 Series	1		414.5		
	Fuze, M557, Point Detonating, Model Unknown			1.0		
	Fuze, Point-initiating, base detonating, M412*	6				
	Fuze, Projectile, Combination, M1907			3.0		
	Fuze, Projectile, Point Detonating, M46			0.5		
	Fuze, Projectile, Point Detonating, M557			66.0		
	Fuze, Projectile, Point Detonating, MK III			0.5		
	Fuze, Projectile, powder train time fuze, M84 Series			3.0		
	Fuze, Projectile, time super quick, M54	1				
	Fuze, Model Unknown			12.6		
	Grenade, hand, fragmentation, MK II	1				
	Grenade, Hand, Practice, MK II			1.0		
	Grenade, Hand, Model Unknown			5.0		
	Grenade, Rifle, Anti-Tank, Practice, M11			1.0		
	Grenade, Rifle, Smoke, M23 Series			0.5		
	Grenade, Rifle, Smoke, Model Unknown			3.0		
	Grenade, Rifle, Model Unknown			0.5		
	Igniter, Time Fuze, Blasting, M60			0.6		
	Missile, M222, High Explosive Anti-Tank			0.5		
	Projectile, 105mm Illumination			820.5		
	Projectile, 105mm, M314, Smoke			1.5		
	Projectile, 105mm, Smoke, Model Unknown			79.0		
	Projectile, 105mm, Smoke, M84 Series	1		405.0		
	Projectile, 105mm, Model Unknown			11.5		
	Projectile, 14.5mm, Subcaliber, Practice, M181	1		1.2		
	Projectile, 155mm, Illumination, Model Unknown			96.0		
	Projectile, 155mm, Smoke, BE, M116 Series			676.0		
	Projectile, 155mm, Smoke, Model Unknown			46.5		
	Projectile, 155mm, Model Unknown			15.1		
	Projectile, 20mm, Practice, Model Unknown			3.0		
	Projectile, 20mm, target practice, M204			2.0		

Table 5-1
Interim Action Ranges MRA Phase II Design Study MEC and MD Recovered

Removal Action Type	Item Description	Quantity MEC		MD Weight	SAA Quantity	SAA Weight
		UXO	DMM	lbs		lbs
	Projectile, 20mm, Model Unknown			0.5		
	Projectile, 22mm, Subcaliber, Practice, M744	7		6.0		
	Projectile, 37mm, armor piercing tracer, M51 Series			2.0		
	Projectile, 37mm, Practice, Model Unknown			2.0		
	Projectile, 37mm, Model Unknown			2.5		
	Projectile, 40mm, High Explosive, M406*	2				
	Projectile, 40mm, High Explosive, Model Unknown *	2		0.5		
	Projectile, 40mm, Illumination, Model Unknown			0.5		
	Projectile, 40mm, M385, Practice			2.5		
	Projectile, 40mm, Practice, M407A1 *			1.0		
	Projectile, 40mm, M781, Practice			4.0		
	Projectile, 40mm, Practice, Model Unknown			7.9		
	Projectile, 40mm, Smoke, Model Unknown			1.0		
	Projectile, 40mm, Smoke, M680			0.5		
	Projectile, 40mm, Model Unknown			6.2		
	Projectile, 57mm, High Explosive, M306	1				
	Projectile, 57mm, Model Unknown			1.5		
	Projectile, 60mm, Mortar, Illumination, Model Unknown			22.5		
	Projectile, 60mm, Mortar, High Explosive, M49	9		1.0		
	Projectile, 60mm, Mortar, M50, Practice			1.0		
	Projectile, 60mm, Mortar, Model Unknown			8.5		
	Projectile, 75mm, Shrapnel, MK I			97.0		
	Projectile, 81mm, Mortar, Illumination, Model Unknown			7.0		
	Projectile, 81mm, Mortar, High Explosive, M43 Series	1				
	Projectile, 81mm, Mortar, Illumination, M301 Series			8.0		
	Projectile, 81mm, Mortar, Practice, Model Unknown			5.0		
	Projectile, 81mm, Mortar, Model Unknown			4.5		
	Projectile, 84mm, Model Unknown			1.1		
	Projectile, 90mm, High Explosive Anti-Tank, Model Unknown*			20.6		
	Projectile, 90mm, Model Unknown*			5.0		
	Projectile, Unknown, Illumination, Model Unknown			20.5		
	Projectile, Smoke, Model Unknown			259.0		
	Projectile, Model Unknown			7,587.6		
	Projector, Model Unknown			1.0		
	Rocket, M6A6, 2.36 inch, High Explosive Anti-Tank			0.5		
	Rocket Motors, M222/M223 (Dragon)	11		0.2		
	Rocket, 3.5 inch, Practice, M29			42.0		
	Rocket, 3.5 inch, M29 Series, Model Unknown			1.5		
	Rocket, 35mm, Subcaliber, Practice, M73	2,336		3,364.0		
	Rocket, 37mm, Model Unknown			0.5		

Table 5-1
Interim Action Ranges MRA Phase II Design Study MEC and MD Recovered

Removal Action Type	Item Description	Quantity MEC		MD Weight	SAA Quantity	SAA Weight
		UXO	DMM	lbs		lbs
	Rocket, 66mm, High Explosive Anti-Tank, M72 Series*	13		724.2		
	Rocket, 66mm, Model Unknown			1,336.0		
	Rocket, 66mm, Incendiary, TPA, M74	2		620.9		
	Rocket, Model Unknown, High Explosive Anti-Tank			0.5		
	Rocket, Model Unknown			264.3		
	Signal, Illumination, Ground, M125			1.0		
	Signal, Illumination, Ground, Rifle, M19			0.5		
Range 44 SCA (North) DGM Total		2,399	0	17,169.6	5	4.1
Analog ²	Small Arms Ammunition				0	0
	Projectile, 40mm, Practice, M781			0.1		
	Fuze, Projectile, Combination, M1907			1.0		
	Fuze, Projectile, Point Detonating, M557			14.0		
	Fuze, Trench Mortar, Point Detonating, MK VI			1.0		
	Fuze, Model Unknown			1.0		
	Grenade, Rifle, Smoke, M22 Series			0.1		
	Projectile, 90mm, Model Unknown*			1.5		
	Projectile, 155mm, Practice, Model Unknown			70.0		
	Projectile, 155mm, Smoke, Base Ejecting, M116			10.0		
	Projectile, 40mm, Practice, Model Unknown			0.5		
	Projectile, 40mm, Model Unknown			2.3		
	Projectile, Shrapnel, 75mm MK I			5.0		
	Projectile, Model Unknown			66.5		
	Rocket, 66mm, High Explosive Anti-Tank, M72 Series*			42.5		
	Rocket, 3.5 inch, M29 Series, Model Unknown			2.0		
	Rocket, 66mm, Incendiary, Model Unknown			8.0		
	Rocket, 66mm, Model Unknown			192.8		
	Rocket motors, M222/M223 (Dragon)	2				
	Rocket, 35mm, Subcaliber, Practice, M73	231		497.5		
Range 44 SCA (North) Analog Total		233	0	915.7	0	0
Sift ³	Small Arms Ammunition				0	0
	Fuze, Projectile, Combination, M1907			1.0		
	Fuze, Point-initiating, Base Detonating, M412*	3				
	Fuze, Model Unknown			30.0		
	Grenade, Rifle, Smoke, M22 Series			134.0		
	Rocket, 35mm, Subcaliber, Practice, M73	457		413.5		
	Bomb, 25 lb, Practice, BDU-33 Series			25.0		
	Projectile, 40mm, Model Unknown			7.0		
	Projectile, 60mm, Mortar, Illumination, Model Unknown			3.0		
	Projectile, Model Unknown			210.0		
	Rocket, 3.5 inch, M29 Series, Practice			5.0		
	Rocket, 66mm, Incendiary, Model Unknown			98.0		

Table 5-1
Interim Action Ranges MRA Phase II Design Study MEC and MD Recovered

Removal Action Type	Item Description	Quantity MEC		MD Weight	SAA Quantity	SAA Weight
		UXO	DMM	lbs		lbs
	Rocket, 66mm, High Explosive Anti-Tank, M72 Series*	9		508.0		
	Projectile, 22mm Subcaliber, Practice, M744	1				
	Rocket Motors, M222/M223 (Dragon)	25				
	Projectile, 40mm, Practice, M407A1 *	1				
Range 44 SCA (North) Sift Total		496	0	1,434.5	0	0
RANGE 44 SCA (NORTH) GRAND TOTAL		3,128	0	19,519.8	5	4.1
Range 44 SCA (South) and Central Area NCAs						
DGM ⁴	Small Arms Ammunition				0	0
	Blasting Cap, Model Unknown			0.1		
	Fuze, Projectile, Point Detonating, M557			21.7		
	Fuze, Model Unknown			11.7		
	Projectile, 105mm, Smoke, Model Unknown			1.0		
	Projectile, 105mm, Model Unknown			7.0		
	Projectile, 155mm, Smoke, Model Unknown			0.3		
	Projectile, 57mm, Model Unknown			2.5		
	Projectile, 60mm, Mortar, High Explosive, Model Unknown			1.0		
	Projectile, 60mm, Mortar, Model Unknown			0.5		
	Projectile, 75mm, Shrapnel, MK I			8.0		
	Projectile, 81mm Mortar, High Explosive, Model Unknown			1.0		
	Projectile, 40mm, Practice, M407A1 *	1				
	Projectile, Model Unknown			440.1		
	Rocket Motors, M222/M223 (Dragon)			0.1		
	Rocket, 3.5 inch, M29 Series, Practice			0.1		
	Rocket, 35mm, Subcaliber, Practice, M73	2				
	Rocket, 66mm, High Explosive Anti-Tank, M72 Series*			0.3		
	Rocket, 66mm, Incendiary, Model Unknown			1.0		
	Signal, Illumination, Ground: Green Star, Parachute, M19 series	1		0.5		
Range 44 SCA (South) and Central Area NCAs DGM Total		4	0	496.8	0	0
Analog ⁵	Small Arms Ammunition				1	0.1
	Fuze, Projectile, Point Detonating, M557			7.0		
	Projectile, 105mm, Illumination, M314 Series			39.0		
	Projectile, 81mm, Mortar, Illumination, M301 Series			40.0		
	Projectile, 90mm High Explosive Anti-Tank, Model Unknown*			1.0		
	Projectile, Model Unknown			109.0		
Range 44 SCA (South) and Central Area NCAs Analog Total		0	0	196.0	1	0.1
Sift ⁶	Small Arms Ammunition				0	0
	Projectile, 40mm, Practice, M781			0.5		
	Cartridge Case, 40mm, Model Unknown			0.5		
	Fuze, Projectile, Point Detonating, M557			28.0		

Table 5-1
Interim Action Ranges MRA Phase II Design Study MEC and MD Recovered

Removal Action Type	Item Description	Quantity MEC		MD Weight	SAA Quantity	SAA Weight
		UXO	DMM	lbs		lbs
	Fuze, Trench Mortar, Point Detonating, MK VI			6.0		
	Fuze, Model Unknown			16.8		
	Projectile, 105mm, Illumination, M314 Series			54.0		
	Projectile, 20mm, Training, Model Unknown			1.0		
	Projectile, 22mm, Subcaliber, Practice, M744	1				
	Projectile, 40mm, Model Unknown			13.8		
	Projectile, 57mm, Model Unknown			0.5		
	Projectile, 60mm, Model Unknown			0.5		
	Projectile, 75mm MK I, Model Unknown			4.5		
	Projectile, 90mm, Model Unknown*			7.0		
	Projectile, Model Unknown			235.5		
	Rocket Motors, M222/M223 (Dragon)	1		0.3		
	Rocket, 35mm, Subcaliber, Practice, M73	21		6.6		
	Rocket, 66mm, Incendiary, TPA, M74			3.0		
	Signal, Illumination, Model Unknown			5.5		
Range 44 SCA (South) and Central NCAs Sift Total		23	0	384.0	0	0
RANGE 44 SCA (SOUTH) AND CENTRAL AREA NCAS GRAND TOTAL		27	0	1,076.8	1	0.1
Range 47 SCA						
DGM ⁷	SAA				0	0
	Projectile, 40mm, Practice, M407A1*			8.5		
	Projectile, 81mm, Mortar, Illumination, Model Unknown			2.0		
	Projectile, Model Unknown			13.5		
	Rocket, 3.5 inch, M29 Series, Practice			1.5		
Range 47 SCA DGM Total		0	0	25.5	0	0
Sift ⁸	SAA				14	84.5
	Fuze, Grenade, Hand, Practice, M205	1				
	Fuze, Projectile, Point Detonating, M551	6				
	Fuze, Projectile, Powder Train Time Fuze, M84 Series			5.5		
	Igniter, Time Fuze, Blasting, M60			0.5		
	Projectile, 105mm, Model Unknown			20.0		
	Projectile, 14.5mm, Subcaliber, Practice, M181	1		5.1		
	Projectile, 20mm, Practice, Model Unknown			1.0		
	Projectile, 22mm, Subcaliber, Practice, M744			0.5		
	Projectile, 37mm, Low Explosive, MK1			1.0		
	Projectile, 40mm, High Explosive, M406*	85		498.0		
	Projectile, 40mm, Practice, M407A1*	35		128.0		
	Projectile, 40mm, Model Unknown**	1		6764.0		
	Projectile, 60mm, Mortar, Illumination, Model Unknown			12.0		
	Projectile, 75mm MKI, Shrapnel			17.0		
	Projectile, 81mm, Mortar, Illumination, Model Unknown			41.0		
	Projectile, 81mm, Mortar, High Explosive, M43 series			6.0		
	Projectile, 81mm, Mortar, Illumination, M301 series			72.0		
	Projectile, 81mm, Mortar, Model Unknown			39.0		

Table 5-1
Interim Action Ranges MRA Phase II Design Study MEC and MD Recovered

Removal Action Type	Item Description	Quantity MEC		MD Weight	SAA Quantity	SAA Weight
		UXO	DMM	lbs		lbs
	Projectile, Model Unknown			223.0		
	Rocket, 3.5 inch, Practice, M29 Series	1		1047.0		
	Rocket, 35mm, Subcaliber, Practice, M73	1		5.0		
	Rocket, 66mm, M72, High Explosive Anti-Tank*			62.0		
Range 47 SCA Sift Total		131	0	8,947.6	14	84.5
RANGE 47 SCA GRAND TOTAL		131	0	8,973.1	14	84.5
DESIGN STUDY TOTAL		3,286	0	29,569.7	20	88.7

Notes:

MRA = Munitions Response Area

DGM = Digital Geophysical Mapping

SCA = Special Case Area

NCA = Non-Completed Area

MEC = Munitions and Explosives of Concern

MD = Munitions Debris

UXO = Unexploded Ordnance

DMM = Discarded Military Munitions

SAA = Small Arms Ammunition

BE = base-ejection

lbs = pounds

mm = millimeter

TPA = Thickened Triethylaluminum

* = Sensitively-fuzed Munition

** = Conservatively identified as potentially sensitively-fuzed due to the amount of sensitively-fuzed

40mm projectile MEC and MD recovered in Range 47 SCA.

1 = Results reported in Sections 5.1.2, 5.2.2, 5.2.4, and 5.2.5.

2 = Results reported in Sections 5.1.1 and 5.2.1.

3 = Results reported in Sections 5.1.3 and 5.2.3.

4 = Results reported in Section 5.1.2.

5 = Results reported in Section 5.1.1.

6 = Results reported in Section 5.1.3.

7 = Results reported in Section 5.3.2.

8 = Results reported in Sections 5.3.1 and 5.3.3.

Table 6-1
Interim Action Ranges MRA Phase II Interim Remedial Action MEC and MD Recovered

Removal Action Type	Item Description	Quantity MEC		MD Weight	SAA Quantity	SAA Weight
		UXO	DMM	lbs		lbs
Range 47 SCA						
DGM	Small Arms Ammunition				448	72.4
	Bomb, BLU-26/B, Training			1		
	Bomb, BLU-36/B, Training			1		
	Cap, Blasting, Electric, M6	14				
	Firing Device, Pressure, M1A1			0.1		
	Fuze, M84 Series			0.1		
	Fuze, Mine, Combination, M605	1				
	Fuze, Projectile, Combination, M1907			2.5		
	Fuze, Projectile, Point Detonating, M48 Series			6.5		
	Fuze, projectile, Powder Train Time Fuze, M84 Series			13.5		
	Fuze, Model Unknown			66		
	Grenade, Hand, Practice, MK II			6		
	Igniter, Time Fuze, Blasting, M60			0.3		
	Projectile, 105mm, Illumination, M314 Series			39		
	Projectile, 105mm, Illumination, Model Unknown			5		
	Projectile, 105mm, Smoke, Model Unknown			10		
	Projectile, 105mm, Smoke, M84 Series			47.5		
	Projectile, 105mm, Model Unknown			15		
	Projectile, 14.5mm, Subcaliber, Practice, M181	1		7.6		
	Projectile, 155mm, Illumination, Model Unknown			60		
	Projectile, 22mm, Subcaliber, Practice, M744	14		51.1		
	Projectile, 37mm, Armor Piercing Tracer, M51 Series			3		
	Projectile, 37mm, Low Explosive, MK1	1		1		
	Projectile, 37mm, Model Unknown			0.85		
	Projectile, 40mm, Practice, M407A1 *	2		4.7		
	Projectile, 40mm, High Explosive, M406*	19		6		
	Projectile, 40mm, Practice, Model Unknown			1.7		
	Projectile, 40mm, Model Unknown**			786.8		
	Projectile, 57mm, Model Unknown			2.5		
	Projectile, 60mm, Mortar, Illumination, Model Unknown			31		
	Projectile, 60mm, Mortar, High Explosive, M49	1				
	Projectile, 60mm, Mortar, Model Unknown			5.2		
	Projectile, 75mm, High Explosive, Model Unknown			10		
Projectile, 75mm, Shrapnel, MK I	1		29.5			

Table 6-1
Interim Action Ranges MRA Phase II Interim Remedial Action MEC and MD Recovered

Removal Action Type	Item Description	Quantity MEC		MD Weight	SAA Quantity	SAA Weight
		UXO	DMM	lbs		lbs
	Projectile, 75mm, Model Unknown			7		
	Projectile, 81mm, Mortar, Illumination, Model Unknown			195.2		
	Projectile, 81mm, Mortar, High Explosive, M43 Series			6		
	Projectile, 81mm, Mortar, Illumination, M301 Series	4		496		
	Projectile, 81mm, Mortar, Training, M68			23		
	Projectile, 81mm, Mortar, Practice, Model Unknown			15		
	Projectile, 81mm, Mortar, Model Unknown			27		
	Projectile, Model Unknown			641.2		
	Projectile, Illumination, Model Unknown			0.1		
	Projectile, Livens, Model Unknown			60		
	Rocket, 3.5 inch, Practice, M29			517.6		
	Rocket, 3.5 inch, M29 Series, Model Unknown			5		
	Rocket, 66mm, High Explosive Anti-Tank, M72 Series*			4		
	Rocket, M7A3, 2.36 inch, Practice			4		
	Rocket, Model Unknown			52.8		
	Signal, Model Unknown			0.1		
	Signal, Illumination, Ground, M125	1				
DGM Total		59	0	3,268.5	448	72.4
Analog	Small Arms Ammunition				0	0
	Projectile, 40mm, Model Unknown**			6		
	Projectile, 57mm, Model Unknown			2		
	Projectile, Model Unknown			2.1		
	Rocket, Practice, 3.5 inch, M29			1		
Analog Total		0	0	11.1	0	0
Sift	Small Arms Ammunition					
	Fuze, Projectile, Combination, M1907			4		
	Fuze, Projectile, Point Detonating, M48 Series			1		
	Fuze, Projectile, Point Detonating, M551	6				
	Fuze, Projectile, Powder Train Time Fuze, M84 Series			35		
	Fuze, Model Unknown			3		
	Grenade, Hand, Fragmentation, MK II	1				
	Primer, Model Unknown			1		
	Projectile, 105mm, Illumination, M314 Series			35		
Projectile, 105mm, Illumination, Model Unknown			50			

Table 6-1
Interim Action Ranges MRA Phase II Interim Remedial Action MEC and MD Recovered

Removal Action Type	Item Description	Quantity MEC		MD Weight	SAA Quantity	SAA Weight
		UXO	DMM	lbs		lbs
	Projectile, 105mm, Smoke, Model Unknown			69		
	Projectile, 14.5mm, Subcaliber, Practice, M181			8		
	Projectile, 155mm, Illumination, Model Unknown			60		
	Projectile, 22mm, Subcaliber, Practice, M744	26		18		
	Projectile, 37mm, Amor Piercing, Model Unknown			2		
	Projectile, 40mm, High Explosive, M406*	78				
	Projectile, 40mm, Practice, M407A1*	48		1		
	Projectile, 40mm, Model Unknown**			246		
	Projectile, 57mm, Model Unknown			18		
	Projectile, 60mm, Mortar, Illumination, Model Unknown			62		
	Projectile, 60mm, Mortar, Model Unknown			14		
	Projectile, 75mm, Shrapnel, MK I			42		
	Projectile, 81mm, Mortar, Illumination, Model Unknown	1		845		
	Projectile, 81mm, Mortar, High Explosive, M43 Series	3		6		
	Projectile, 81mm, Mortar, Illumination, M301 Series			170		
	Projectile, 81mm, Mortar, Model Unknown			183		
	Projectile, Model Unknown			13		
	Projectile, Illumination, Model Unknown,			4		
	Rocket, 3.5 inch, Practice, M29 Series			912		
	Rocket, 35mm, Subcaliber, Practice, M73 Series	12		32		
	Rocket, 66mm, High Explosive Anti-Tank, M72 series*			9		
	Sift Total	175	0	2,841.3	0	0
	RANGE 47 SCA INTERIM REMEDIAL ACTION GRAND TOTAL	234	0	6,121	448	72

Notes:

MRA = Munitions Response Area

DGM = Digital Geophysical Mapping

SCA = Special Case Area

MEC = Munitions and Explosives of Concern

MD = Munitions Debris

UXO = Unexploded Ordnance

DMM = Discarded Military Munitions

SAA = Small Arms Ammunition

lbs = pounds

mm = millimeter

* = Sensitively-fuzed Munition

** = Conservatively identified as potentially sensitively-fuzed due to the amount of sensitively-fuzed 40mm projectile MEC and MD recovered in Range 47 SCA.

[this page was intentionally left blank]

Table 6-2
Interim Action Ranges MRA Phase II Material Size Reduction MEC and MD Recovered

Removal Action Type	MEC Item	Quantity MEC		MD Weight	SAA Quantity	SAA Weight
		UXO	DMM	lbs		lbs
Sift	Small Arms Ammunition					
	Fuze, Projectile, Combination, M1907					
	Fuze, Projectile, Point Detonating, M48 Series			3		
	Fuze, Projectile, Point Detonating, M551	6				
	Fuze, Projectile, Powder Train Time Fuze, M84 Series					
	Fuze, Model Unknown	1				
	Grenade, Hand, Fragmentation, MK II					
	Grenade, Hand, Practice, MK II			2		
	Grenade, Hand, Smoke, White Phosphorus, M15	1				
	Grenade, Rifle, Model Unknown			3		
	Projectile, 14.5mm, Subcaliber, Practice, M181	1		1		
	Projectile, 22mm, Subcaliber, Practice, M744	14		10		
	Projectile, 37mm, Amor Piercing, Model Unknown			1		
	Projectile, 40mm, High Explosive, M406*	92				
	Projectile, 40mm, Practice, M407A1*	10				
	Projectile, 40mm, Model Unknown **			2		
	Projectile, 57mm, Model Unknown			1		
	Projectile, 81mm, Mortar, Illumination, M301 Series			0		
	Projectile, 81mm, Mortar, Model Unknown			58		
	Projectile, Model Unknown			8,435		
	Projectile, Illumination, Model Unknown					
	Rocket, 3.5 inch, Practice, M29 Series			44		
	Rocket, 35mm, Subcaliber, Practice, M73 Series	10		4		
Rocket, Model Unknown			15			
	TOTAL	135	0	8,578	0	0

Notes:

MRA = Munitions Response Area

MEC = Munitions and Explosives of Concern

MD = Munitions Debris

UXO = Unexploded Ordnance

DMM = Discarded Military Munitions

SAA = Small Arms Ammunition

lbs = pounds

mm = millimeter

* = Sensitively-fuzed Munition

** = Conservatively identified as potentially sensitively-fuzed due to the amount of sensitively-fuzed 40mm projectile MEC and MD recovered in Range 47 SCA.

[this page was intentionally left blank]