TABLES

Table 1. Training Range Data - Site 39
Volume II - Remedial Investigation, Basewide RI/FS
Fort Ord, California

Range Number	Range Name	Ordnance Utilized/Found	Range Type and Date(s) of Use*
18	Record Firing Range	9mm, .45 cal, 5.56mm, 7.62mm, and .30 cal MG rounds	SA (-1950 to 1993)
19	Record Firing Range	9mm, .45 cal, 5.56mm, 7.62mm, and .30 cal MG rounds, shot gun	SA (-1950 to 1993)
21	10m Machine Gun/25m Rifle Range	5.56mm, 7.62mm, and .30 cal MG rounds, shotgun	SA (-1969 to 1993)
22	.50 cal Machine Gun Range	5.56mm, 7.62mm, .30 cal, and .50 cal MG rounds, 106mm RR rounds, 40mm practice grenades	SA (-1987 to 1993)
23	Squad Attack Range	5.56mm, 7.62mm MG, 40mm HE, claymore mines, subcal LAW, slap flares, rifle-launched flare and smoke grenades, hand grenade fuzes, smoke and practice hand grenades	SA (Late 1950s to 1993)
23M	Dragon Tracking Range	Dragons (mostly practice, some HE) and 4.2" mortar fragments found	NF (-1978 to 1988)
24	Sniper Range	7.62mm, 5.56mm, and .50 cal MG rounds, 40mm practice grenades, 35mm subcal LAW	SA (-1965 to 1992)
25	Offensive Overhead Firing Course	.45 cal, 5.56mm, and 7.62mm, 37mm rounds	SA (Late 1950s to 1975, 1981 to 1989)
26	Machine Gun Transition	5.56mm, 7.62mm MG, 2.36", and 3.5" rockets, and 37mm rounds, possible mortars and grenades	SA (Late 1950s to 1993)
27	Fire Movement Course	5.56mm, 7.62mm, .45 cal, 9mm, 37mm, 75mm RR, slap flares, rifle-launched smoke and flare grenades, and hand grenade fuzes	SA (1967 to 1975, 1985 to 1989, and 1990 to 1993)

Table 1. Training Range Data - Site 39
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Fort Ord, California

Range Number	Range Name	Ordnance Utilized/Found	Range Type and Date(s) of Use*
27A	10m Machine Gun/25m Rifle Range	5.56mm, 7.62mm MG and rifle rounds, .45 cal, 9 mm, and 37mm and 20mm rounds	SA (Early 1970s to 1988)
28	Technique of Fire Range	5.56mm, 7.62mm, 50mm, subcal antitank, slap flares, 40mm practice rounds, 60mm and 81mm smoke mortars	SA (Late 1950s to 1991)
29	Machine Gun Assault Range	5.56mm, 7.62mm MG, .45 cal, 9mm, possible 20mm rounds	SA (1961 to 1975, 1984 to 1993)
30	Technique of Fire Range	Small arms up to .50 cal MG, demolition materials (C-4, blasting caps, shaped charges) 40mm practice grenades	SA (1965 to 1975, 1983 to 1989)
30A	Mark 19 Machine Gun Range	40mm MG (HE, DP, flash, and smoke rounds), demolition materials (C-4, blasting caps, shaped charges)	HE (1990 to 1993)
31	Platoon Attack Course	5.56mm, 7.62mm MG, LAW, 84mm AT4, grenades, claymores, Dragon, shrapnel (75, 105, and 155mm howitzer) 40mm grenades, 60mm & 81mm mortars, 7" & 8" Navy rounds, 500lb. concrete-filled bombs	SA (1950 to -1960), HE (1961 to 1993)
32	Wildcat Ridge	57, 75 & 106mm HE RR (possible 37mm), 60 and 81mm mortars, 40mm HE aircraft rounds	HE (1950s and 1960s, 1980 to 1987)
33	Demolitions Range	TNT, field expedient explosives, Bangalore Torpedo remnants, 3.5" rockets, and 81mm mortars	ST (-1985 to 1989)
34	Machine Gun Assault Range	5.56mm, 7.62mm MG, mortars, rifle grenades, smoke grenades	SA (1950s), HE (1979)
35	Mout Complex	No live fire at Impossible City, 40mm HE & bazooka rounds in Wildcat Canyon, 14.5mm subcal, small arms and HE fragmentation grenades at Tire House	ST (mid 1960s to 1993)

Table 1. Training Range Data - Site 39
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Fort Ord, California

Range Number	Range Name	Ordnance Utilized/Found	Range Type and Date(s) of Use*
35A	Combat Pistol Range	Small arms, TNT & 3.5" practice rockets, 7.62mm, 5.56mm, .45 cal, 9mm, black powder rifle balls	SA (late 1960s to 1993)
36	Fragmentation Hand Grenade	Fragmentation grenades, Claymore mines	HE (1950s to 1993)
36A	EOD	Disposal of wide variety of ordnance	HE (1989? to 1993)
37	25m Night Record Fire	2.36" & 3.5" rockets, rifle grenades, 57 and 75mm RR, some 2.36" items containing unknown ballistic material	HE (late 1960s to 1993)
38	Zero Range	5.56mm, 7.62mm MG and rifle rounds, possible rifle grenades, shotgun, 40mm, practice grenades, flare and smoke grenades, practice hand grenades, slap flares	SA (md 1960s to 1993)
39	Bench Rest Rifle Range	5.56mm, 7.62mm MG, 9mm, .22 cal, 45 cal rounds, shotgun, black powder rifle balls	SA (pre 1970s to 1993)
40	Infiltration Course - 10m & 25m Machine gun & rifle	small arms, 3.5" rockets, 60mm mortar, Claymore mines	HE, SA (unknown)
40A	FFE Training	Flame field expediency training, 3.5" rockets, 60mm mortars, Claymore mines	ST (unknown)
41	Antitank Subcaliber Range	84mm subcal AT4, 30 cal., 7.62mm MG, 60mm mortar, 90 and 106mm subcal RR	HE (early 1940s to 1993)
42	Mortar Range (Long Range)	60mm, 81mm, and 4.2" mortar, 106mm RR, 9mm sighting rounds, possible 250lb GP bombs	HE (mid 1960s to 1993)

Table 1. Training Range Data - Site 39
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Range Number	Range Name	Ordnance Utilized/Found	Range Type and Date(s) of Use*
43	Platoon Battle Course	60 and 81mm mortar, 40mm HE grenades, 5.56mm, 7.62mm MG, fragmentation hand grenades, Bangalore Torpedo, LAW, Dragon, 4.2" mortar, Gustov Mortar, 250lb GP bomb down range	HE, SA (pre 1988 to 1993)
44	Antitank Weapons Range	35mm subcal and 66mm LAW (HE), 90mm RR, 84mm incendiary rockets, Dragon	HE, SA (mid 1960s to 1990)
44A	90mm, RR, M72, 106mm RR Subcal	106mm subcal and 90mm HE RR rounds expected, 66mm LAW (HE)	HE (unknown)
45	Grenade Launcher Range	40mm grenades, 66mm incendiary rockets from Range 44, 60mm mortars found 7.5' deep during range reconstruction	HE (-1970 to 1993)
46	Pistol Range	9mm, .22 cal, .38 cal, .45 cal, 357 cal, and shotgun, and 40mm (down range)	SA (-1965 to 1993)
47	M79 Grenade Launcher	40mm grenade	HE (? to 1970)
48	Light Antitank Weapons Range	40mm HE, 66mm incendiary rockets, mortars (60mm, 81mm, and 4.2"), 66mm LAW, 84mm AT4, SMAW, buried 3.5" rockets, Stokes Mortars (duds found 10' deep during range reconstruction), pyrotechnic devices from other countries, Claymore mines, 90mm & 106mm subcal RR	HE (mid 1960s to 1976), SA (-1982 to 1990) and HE (1990 to 1993)
NA	2.36-inch Rocket Range	21.36-inch HE, HEAT and practice rockets	HE (WWII and shortly after)

* Listed in order of predominant use, dates of use in parentheses.
HE High explosive/anti armor ranges (HE ranges).
SA Small arms ranges.
ST Specialty training ranges.
NF Non-firing ranges.

Table 2. Study Areas Outside the Inland Ranges - Site 39
Volume II - Remedial Investigation, Basewide RI/FS
Fort Ord, California

Study Area Name	Ordnance Utilized/Found
ASP Grenade Area	Fragmentary grenade remnants only
Picnic Canyon Training Area (Range N-1/N-1)	40mm rounds, tracers, Claymore mines, 37mm rounds, hand grenades
2.36-Inch Rocket Range*	2.36-inch (Bazooka) antitank rockets (WWII) HE, HEAT, and practice
Range 50 (EOD)	Practice demolition materials (detonation cord, possible blasting caps), no evidence of ordnance disposal
Naval Round Impact Area	Numerous craters, 7 & 8" Naval rounds suspected
Range P-5	14.5mm sub caliber (flash) artillery and mortar parts
1930s Training Area	No evidence of ordnance use
Firing Points 1,2, and 3	Various artillery, no ordnance found
Artillery positions (2)**	Unknown
Officers Club Foxhole	One rifle smoke grenade, .30 cal ball and tracer rounds
100lb Bomb Site	100lb bomb (inert concrete filled trainer), inert practice mines, parachute flare
Leary Hill Mortar Area	Illumination mortars, HE mortars reported
Flame Thrower Ranges 1 and 2	No evidence of ordnance or flame thrower use

Table 2. Study Areas Outside the Inland Ranges - Site 39
Volume II - Remedial Investigation, Basewide RI/FS
Fort Ord, California

Study Area Name	Ordnance Utilized/Found
Molotov Cocktail Range (Range 49)	Molotov Cocktails, 1/4lb TNT charges, reported demolition area
East Garrison 3.5-inch Rocket Site	Expended 3.5-inch rocket motor found in tree
Fritzsche 3.5-inch Rocket Site	One rocket found approximately 1975-1978, disposed by EOD
Rifle Grenade Area	Drum shrapnel, practice (?) rifle grenade
Sinkhole Practice Mortar Range	Probably training mortars
Imjin Road Practice Mortar Range	Probably training mortars
Parker Flats Practice Mortar Range	Probably training mortars
Antitank Practice Mine Area	One inert practice mine
Storage Yard Landmine	Inert trainer; left in Main Garrison storage yard
CBR Training Areas (4)**	Possible chemical warfare training kits used, none found
Mine and Booby Trap Areas (6)**	Probably inert practice mines and booby traps
Pete's Pond	2.36-inch (Bazooka) rockets, empty drum with HD mustand markings

Table 2. Study Areas Outside the Inland Ranges - Site 39
Volume II - Remedial Investigation, Basewide RI/FS
Fort Ord, California

Study Area Name	Ordnance Utilized/Found
75mm Pack Howitzer Firing Area	No ordnance found
Machine Gun Squares (7)*	Most likely nonfiring practice
Machine Gun Proficiency Training Area	Probable dry fire training area
Mortar Squares (5)	Most likely nonfiring practice
Mortar Position	Most likely practice mortars
Recoilless Rifle Training Area	Most likely nonfiring practice
Tank Gunnery Range	No evidence of ordnance use
Crescent Bluff Field Expedient Area	No evidence of ordnance use

* The 2.36-inch Rocket Range contained numerous rockets and rocket debris and was therefore incorporated into the investigation of explosive ordnance target areas at Site 39.
** Number in parentheses indicates the number of locations where this type of training activity occurred.

Table 3. Summary of Ordnance Types and Functions - Site 39
Volume II - Remedial Investigation, Basewide RI/FS
Fort Ord, California

Ordnance Type	Function
Shotgun rounds	Ball
9 mm rounds	Ball, tracer
20 mm rounds	Ball, tracer, armor piercing
5.56 mm rounds (MG)	Ball, tracer, armor piercing
7.62 mm rounds (MG)	Ball, tracer, armor piercing
.30 cal rounds	Ball, tracer, armor piercing
.357 cal rounds	Ball
.38 cal rounds	Ball
.45 cal rounds	Ball, tracer
.50 cal rounds	Ball, tracer, armor piercing
60 mm Mortar	High explosive, white phosphorous, smoke, illumination
81 mm Mortar	High explosive, white phosphorous, smoke, illumination
Stokes Mortar	High explosive, smoke
4.2" Mortar	High explosive, white phosphorous, smoke, illumination
66 mm Rocket (M74 flash)	Incendiary

Table 3. Summary of Ordnance Types and Functions - Site 39
Volume II - Remedial Investigation, Basewide RI/FS
Fort Ord, California

Ordnance Type	Function
35 mm LAW	Photo flash
66 mm LAW	HEAT
SMAW	HEAT, inert
37 mm Cannon	High explosive, armor piercing, inert
57 mm Recoilless Rifle	HEAT
75 mm Recoilless Rifle	HEAT
90 mm Recoilless Rifle	HEAT
106 mm Recoilless Rifle	HEAT
40 mm Aircraft Rounds	High explosive
40 mm Grenade	High explosive
40 mm Airburst	High explosive
Fragmentation Hand Grenade	High explosive
40 mm Round (M203)	High explosive, photo flash, inert
Rifle Grenade	High explosive, white phosphorous

Table 3. Summary of Ordnance Types and Functions - Site 39
Volume II - Remedial Investigation, Basewide RI/FS
Fort Ord, California

Ordnance Type	Function
14.5 mm Subcaliber Artillery	Photo flash
75 mm Howitzer	High explosive, white phosphorous, smoke, illumination
105 mm Howitzer	High explosive, white phosphorous, smoke, illumination
155 mm Howitzer	High explosive, white phosphorous, smoke, illumination
Claymore Mine (M18A1)	High explosive
Anti-Tank Mine	High explosive
Dragon M47	HEAT, inert
2.36" Anti Tank Rocket (Bazooka)	HEAT
3.5" Anti Tank Rocket	HEAT
84 mm Round (M136)	HEAT
Gustov Mortar	HEAT
100 lb. GP Bomb	Inert
250 lb. GP Bomb (M57A1)	High explosive
500 lb. Bomb	Inert

Table 3. Summary of Ordnance Types and Functions - Site 39
Volume II - Remedial Investigation, Basewide RI/FS
Fort Ord, California

Ordnance Type	Function
7" Naval Rounds	High explosive, illumination
8" Naval Rounds	High explosive, illumination
Bangalore Torpedo	High explosive
Blasting Caps	High explosive
C-4	High explosive
TNT	High explosive
Military Dynamite	High explosive
Shaped Charges	High explosive
Riot Gas Projectile (M79)	Tear gas

Table 4. Summary of Previous Analyses for Explosive Compounds In Soil and Groundwater - Site 39, Range 36A*
Volume II - Remedial Investigation, Basewide RI/FS
Fort Ord, California

JMM Sample ID (0)=Sample Depth	HMX	RDX	TNB	DNB	Tetryl	TNT	DNT
Soil Samples (mg/kg)							
SB-5(0)	1.35	5.04	ND	ND	ND	ND	ND
SB-5(0)S	0.71	11.88	ND	ND	ND	ND	ND
SB-5(5)	ND	ND	ND	ND	ND	ND	ND
SB-5(20)	ND	ND	ND	ND	ND	ND	ND
SB-5D	ND	5.4	ND	ND	ND	ND	ND
SB-6(0)	ND	0.94	ND	ND	ND	ND	ND
SB-6(5)	ND	ND	ND	ND	ND	ND	ND
SB-6(20)	ND	ND	ND	ND	ND	ND	
MW-3(0)	ND	ND	ND	ND	ND	ND	ND
MW-3(5)	ND	ND	ND	ND	ND	ND	ND
MW-3(10)	ND	ND	ND	ND	ND	ND	ND
MW-3(20)	ND	ND	ND	ND	ND	ND	ND
MW-3(80)	ND	ND	ND	ND	ND	ND	ND
MW-3(230)	ND	ND	ND	ND	ND	ND	ND
MW-4(0)	ND	1.02	ND	ND	ND	ND	ND
MW-4(5)	ND	ND	ND	ND	ND	ND	ND
MW-4(10)	ND	ND	ND	ND	ND	ND	ND
MW-4(15)	ND	0.34	ND	ND	ND	ND	ND
MW-4(20)	ND	ND	ND	ND	ND	ND	ND
MW-4(80)	ND	ND	ND	ND	ND	ND	ND
MW-5(0)	ND	ND	ND	ND	ND	ND	ND
MW-5(5)	ND	ND	ND	ND	ND	ND	ND
MW-5(10)	ND	ND	ND	ND	ND	ND	ND
MW-5(15)	ND	ND	ND	ND	ND	ND	ND
MW-5(20)	ND	ND	ND	ND	ND	ND	ND
MW-5(80)	ND	ND	ND	ND	ND	ND	ND
Water Samples (µg/l)							
MW-4	ND	ND	ND	ND	ND	ND	ND

ND	Not Detected	TNB	Trinitrobenzene	HMX	Cyclotetramethylenetetranitramine
		TNT	Trinitrotoluene	RDX	Cyclotrimethylenetrinitramine
D	Duplicate Sample	DNB	Dinitrobenzene	Tetryl	Trinitrophenylmethylnitramine
S	Split Sample	DNT	Dinitrotoluene		

Soil Reporting Limits (mg/kg)
TNB - 0.15 TNT - 0.15 HMX - 0.3
DNB - 0.15 DNT - 0.15 RDX - 0.3
Tetryl - 0.3

Water Reporting Limits (µg/l)
TNB - 1 TNT - 1 HMX - 2
DNB - 1 DNT - 1 RDX - 2
Tetryl - 2

*Source: JMM, 1991a, as presented in EA, 1991b

Table 5. Summary of Previous Analytical Results for Groundwater Samples - Site 39, Range 36A[a,b]
Volume II - Remedial Investigation, Basewide RI/FS
Fort Ord, California

		VOC											BNA			
JMM Sample ID	HBPHC	Acetone	Bromo-form	2-butanone	Carbon disulfide	cis-1,2-DCE	Ethyl-Benzene	PCE	TCE	TFH	o-Xylene	m,p-Xylene	Total TICs	BEP	DNB	Nap	Coliforms (MPN/100m)
MW-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Detection Limits	50	10	0.5	1.0	0.5	0.5	0.5	0.5	0.5	50	0.5	0.5		20	10	5	
CA MCL	--	--	100	--	--	--	680	2	5	--	1,750	1,750		--	--	--	
EPA MCL	--	--	100	--	--	--	680	2	5	--	1,750	1,750		--	--	--	

Site	Sample ID	Arsenic	Barium	Cadmium	Copper	Chromium	Lead	Molybdenum	Nickel	Zinc	EC	pH
CA MCL		50	1000	10	1000	50	50	--	--	5000		
EPA MCL		50	1000	10	1000	50	50	--	100[c]	5000		
	MW-4	ND	ND	ND	ND	ND	ND	92	ND	ND	1358	7.66
Detection Limits ($\mu g/l$)		10	100	5	10	10	2	50	40	20		

a *Source: JMM, 1991a, as presented in EA, 1991b.*
b Concentrations expressed in micrograms per liter ($\mu g/l$).
c Proposed Maximum Contamination Limit (MCL).

Table 6. Summary of Previous Analytical Results for Soil Samples - Site 39, Range 36A*
Volume II - Remedial Investigation, Basewide RI/FS
Fort Ord, California

Sample ID**	Ag	As	Ba	Be	Cd	Co	Cr	Cu	Hg	Mo	Ni	Pb	Sb	Se	Tl	V	Zn
MW-3 (0)	ND	ND	30	ND	ND	ND	7.8	6.6	ND	ND	5.6	19	ND	ND	ND	7.5	9.2
MW-3 (5)	ND	ND	23	ND	ND	ND	7	ND	ND	ND	5.2	1.5	ND	ND	ND	7.1	7.4
MW-3 (10)	ND	ND	19	ND	ND	ND	6.9	ND	ND	ND	4.5	2.4	ND	ND	ND	6.9	7.4
MW-3 (20)	ND	2.5	23	ND	ND	ND	11	1.4	0.02	ND	8.2	4.3	ND	ND	ND	11	9.8
MW-3 (80)	ND	ND	35	ND	ND	ND	12	3.2	0.03	ND	13	3	ND	ND	ND	11	22
MW-3 (230)	ND	ND	82	ND	ND	7	25	4.3	0.04	ND	36	3	ND	ND	ND	25	36
MW-4 (0)	ND	3	81	5.9	ND	5.2	30	6.2	0.04	ND	18	22	ND	ND	ND	33	29
MW-4 (5)	ND	ND	100	ND	ND	ND	17	3.8	ND	ND	11	5.5	ND	ND	ND	19	15
MW-4 (10)	ND	ND	85	ND	ND	5	22	3.4	ND	ND	13	4.5	ND	ND	ND	25	16
MW-4 (15)	ND	2.5	60	0.5	ND	5	25	2.6	0.02	ND	15	7.0	ND	ND	ND	26	17
MW-4 (20)	ND	ND	28	ND	ND	ND	14	ND	0.02	ND	7.8	3.5	ND	ND	ND	14	9.4
MW-4 (80)	ND	ND	28	ND	ND	ND	12	1.2	ND	ND	14	3.0	ND	ND	ND	11	14
MW-5 (0)	ND	ND	20	ND	ND	ND	6.5	ND	ND	ND	ND	8.0	ND	ND	ND	6.9	7.3
MW-5 (5)	ND	ND	17	ND	ND	ND	7.7	ND	ND	ND	4	4.0	ND	ND	ND	9.2	8.6
MW-5 (10)	ND	ND	36	ND	ND	ND	16	3.7	ND	ND	12	2.5	ND	ND	ND	17	14
MW-5 (15)	ND	ND	23	ND	ND	ND	11	1.7	ND	ND	7	2.0	ND	ND	ND	12	8.5
MW-5 (20)	ND	ND	29	ND	ND	ND	11	1.5	ND	ND	8	4.0	ND	ND	ND	13	9.5

Table 6. Summary of Previous Analytical Results for Soil Samples - Site 39, Range 36A*
Volume II - Remedial Investigation, Basewide RI/FS
Fort Ord, California

Sample ID**	Ag	As	Ba	Be	Cd	Co	Cr	Cu	Hg	Mo	Ni	Pb	Sb	Se	TI	V	Zn
MW-5 (80)	ND	ND	21	ND	ND	ND	10	ND	ND	ND	ND	2.5	ND	ND	ND	11	6.7
SB-5 (0)	ND	ND	52	ND	ND	ND	6.8	6.8	ND	ND	4.3	5.8	ND	ND	ND	8.1	4.8
SB-5 (0) D	ND	ND	52	ND	ND	ND	7.9	7.9	ND	ND	5	3	ND	ND	ND	8.4	4.9
SB-5 (5)	ND	ND	33	ND	ND	ND	11	11	ND	ND	7.2	2.3	ND	ND	ND	13	7.6
SB-5 (20)	ND	ND	23	ND	ND	ND	8.6	13	ND	ND	4.8	1.6	ND	ND	ND	8.7	4.9
SB-6 (0)	ND	ND	26	ND	ND	ND	5.7	18	ND	ND	ND	8.3	ND	ND	ND	6	7.2
SB-6 (5)	ND	ND	60	ND	ND	ND	12	ND	ND	ND	6.9	2.5	ND	ND	ND	14	8.9
SB-6 (20)	ND	ND	33	ND	ND	ND	11	ND	ND	ND	6.3	2.5	ND	ND	ND	12	8.2
Detection Limits	1	2.5	10	0.5	0.05	5.0	1.0	1.0	0.02	5	4.0	1.0	5.0	2.5	5.0	5.0	2.0
TTLC	100	500	10,000	75	100	800	500	2,500	20	3,500	2,000	1,000	500	100	700	2,400	5,000

Concentrations in milligrams per kilogram (mg/kg)

ND Not detected.
D Duplicate sample.
* Source: JMM, 1991a, as presented in EA, 1991b
** Well or boring number, depth shown in parentheses; wells have been renumbered as follows: MW-3 = MW-05-01-A; MW-4 = MW-05-02-A; MW-5 = MW-05-03-A.

Table 7. RI/FS Analytical Program - Site 39, Range 36A
Volume II - Remedial Investigation Basewide RI/FS
Fort Ord, California

Sample Location	Soil Chemical Analyses Performed	Physical Analyses Performed
All borings (SB-05-01 through SB-05-23)	Metals, Explosive compounds	One sieve analysis per boring at various selected intervals

Analytical Methods:

Metals	Priority Pollutant Metals, EPA Test Method Series 6000 and 7000.
Explosive compounds	U.S. Army Toxic and Hazardous Materials Agency (USATHAMA), Test Method LW23.

Table 8. Summary of Inorganic Constituents Detected in Soil Samples - Site 39, Range 36A
Volume II - Remedial Investigation, Basewide RI/FS
Fort Ord, California

Test Method (Number of Analyses)/ Analyte Name	Number of Samples Tested for Chemical	Number of Samples With Chemical Detects	Number of Samples With Chemical Non-Detects	Number of Samples With Chemical Rejects	Totals	Units	Minimum Detected Value	Maximum Detected Value
COLD VAPOR AA (70)								
Mercury	70	2	59	9	70	mg/kg	0.11	0.11
FUAA-EPA7060 (70)								
Arsenic	70	69	1	0	70	mg/kg	0.40	3.90
FUAA-EPA7421 (70)								
Lead	70	68	2	0	70	mg/kg	1.00	176.00
FUAA-EPA7740 (70)								
Selenium	70	2	68	0	70	mg/kg	0.55	0.66
FUAA-EPA7841 (70)								
Thallium	70	0	70	0	70			
METALS BY ICP (70)								
Antimony	70	0	61	9	70			
Beryllium	70	40	30	0	70	mg/kg	0.19	0.81
Cadmium	70	1	69	0	70	mg/kg	0.65	0.65
Chromium	70	63	7	0	70	mg/kg	5.40	38.90
Copper	70	41	29	0	70	mg/kg	1.60	15.10
Nickel	70	36	34	0	70	mg/kg	6.10	25.60
Silver	70	4	66	0	70	mg/kg	0.38	0.73
Zinc	70	53	17	0	70	mg/kg	2.80	53.10

Table 9. Comparison of Inorganic Constituents Detected in Soil with Maximum Background Concentrations - Site 39, Range 36A
Volume II - Remedial Investigation, Basewide RI/FS
Fort Ord, California

Metals	Maximum Background Concentration in Shallow NQTP Soil[1] (mg/kg)	Maximum Detected Concentration in Shallow Soil (mg/kg)	Samples with Concentrations Above Maximum Shallow Background/Total Number of Samples	Maximum Background Concentration in Deep NQTP Soil[2] (mg/kg)	Maximum Detected Concentration in Deep Soil (mg/kg)	Samples with Concentrations Above Maximum Deep Background/Total Number of Samples
Antimony	ND	ND	0/24*	8.2	ND	0/46
Arsenic	3.4	3.1	0/24	4.5	3.9	0/46
Beryllium	0.35	0.81	2/24	0.48	0.76	7/46
Cadmium	ND	ND	0/24*	1.9	0.65	0/46
Chromium (Total)	46.1	36.8	0/24	22.7	38.90	10/46
Copper	18.2	15.1	0/24	8.2	11.20	3/46
Lead	51.8	176.00	1/24	3.7	8.20	9/46
Mercury	0.12	ND	0/24	ND	0.11	2/46*
Nickel	58	25.6	0/24	19.5	24.60	5/46
Selenium	ND	0.55	1/24*	ND	0.66	1/46*
Silver	0.36	0.38	1/24	0.49	0.73	2/46
Thallium	0.45	ND	0/24	0.39	ND	0/46
Zinc	75.8	53.1	0/24	13.9	25.40	11/46

ND Not detected
NQTP Qal, Qoal, Qar, Qod, Od, Tsm
mg/kg Milligrams per kilogram

1 Soil sample collected from less than 2 feet bgs and derived from the following geologic units: Qal, Qoal, Qar, Qod, Tsm.
2 Soil sample collected from greater than 2 feet bgs and derived from the following geologic units: Qal, Qoal, Qar, Qod, Tsm.
* Samples with concentrations above detection limit/Total number of samples.

Table 10. Summary of Explosive Compounds Detected in Soil Samples - Site 39, Range 36A
Volume II - Remedial Investigation, Basewide RI/FS
Fort Ord, California

Test Method (Number of Analyses)/ Analyte Name	Number of Samples Tested for Chemical	Number of Samples With Chemical Detects	Number of Samples With Chemical Non-Detects	Number of Samples With Chemical Rejects	Totals	Units	Minimum Detected Value	Maximum Detected Value
LW23 (69)								
HMX	69	5	64	0	69	ug/g	0.41	1.84
RDX	69	9	60	0	69	ug/g	0.31	16.50
1,3,5-Trinitrobenzene	69	0	69	0	69			
1,3-Dinitrobenzene	69	0	69	0	69			
Tetryl	69	0	69	0	69			
Nitrobenzene	69	0	69	0	69			
2,4,6-Trinitrotoluene	69	0	69	0	69			
2,4-Dinitrotoluene	69	0	69	0	69			
2,6-Dinitrotoluene	69	0	69	0	69			
Moisture Content	47	47	0	0	47	%	0.80	18.40

Table 11. RI/FS Analytical Program - Site 39, Range 40A, Phases 1 and 2
Volume II - Remedial Investigation Basewide RI/FS
Fort Ord, California

Sample Location	Soil Chemical Analyses Performed	Physical Analyses Performed
All Borings	BTEX, TPHd, TPHg	-
SB-09-01 through SB-09-07	pH, Lead, SOCs	Sieve analysis on 2-foot samples
SB-09-08 through SB-09-23	Metals	-
SB-09-08	Explosive compounds	-
SB-09-09	SOCs, Explosive compounds, Tetracene	Moisture content, dry density, sieve analysis, pH, permeability
SB-09-10	Explosive compounds	-
SB-09-11	SOCs	-
SB-09-12	SOCs	Moisture content, dry density, sieve analysis, pH, permeability
SB-09-14	SOCs	-
SB-09-15	SOCs	-
SB-09-17	SOCs	-

Table 11. RI/FS Analytical Program - Site 39, Range 40A, Phases 1 and 2
Volume II - Remedial Investigation, Basewide RI/FS
Fort Ord, California

Sample Location	Soil Chemical Analyses Performed	Physical Analyses Performed
SB-09-18	SOCs	Moisture content, dry density, sieve analysis, pH, permeability
SB-09-20	Explosive compounds	_
SB-09-21	SOCs, Explosive compounds	_
SB-09-22	SOCs	Moisture content, dry density, sieve analysis, pH, permeability

Analytical Methods:

BTEX	Benzene, toluene, ethylbenzene, xylenes, EPA Test Method 8020.
Explosive compounds	EPA Test Methods 8330 and 8330M.
Lead	Lead, EPA Test Method 7421.
Metals	Priority pollutants metals, EPA Test Method Series 6000 and 7000.
pH	pH, EPA Test Method 9045.
SOCs	Semivolatile organic compounds, EPA Test Method 8270.
Tetracene	EPA Test Method 8331.
TPHd	Total petroleum hydrocarbons as diesel, EPA Test Method 8015D (modified).
TPHg	Total petroleum hydrocarbons as gasoline, EPA Test Method 8015G (modified).

Table 12. Summary of Organic Compounds Detected in Soil Samples
Site 39, Range 40A, Phases 1 and 2
Volume II - Remedial Investigation, Basewide RI/FS
Fort Ord, California

Test Method (Number of Analyses)/ Analyte Name	Number of Samples Tested for Chemical	Number of Samples With Chemical Detects	Number of Samples With Chemical Non-Detects	Number of Samples With Chemical Rejects	Totals	Units	Minimum Detected Value	Maximum Detected Value
EPA-8270 (24)								
Phenol	24	0	24	0	24			
Bis(2-chloroethyl)ether	24	0	24	0	24			
2-Chlorophenol	24	0	24	0	24			
1,3-Dichlorobenzene	24	0	24	0	24			
1,4-Dichlorobenzene	24	0	24	0	24			
Benzyl alcohol	24	0	24	0	24			
1,2-Dichlorobenzene	24	0	24	0	24			
2-Methylphenol	24	0	24	0	24			
4-Methylphenol	24	0	24	0	24			
n-Nitrosodipropylamine	24	0	24	0	24			
Hexachloroethane	24	0	24	0	24			
Nitrobenzene	24	0	24	0	24			
Isophorone	24	0	24	0	24			
2-Nitrophenol	24	0	24	0	24			
2,4-Dimethylphenol	24	0	24	0	24			
Benzoic acid	24	0	24	0	24			
Bis(2-chloroethoxy)methane	24	0	24	0	24			
2,4-Dichlorophenol	24	0	24	0	24			
1,2,4-Trichlorobenzene	24	0	24	0	24			
Naphthalene	24	0	24	0	24			
4-Chloroaniline	24	0	24	0	24			
Hexachlorobutadiene	24	0	24	0	24			
4-Chloro-3-methylphenol	24	0	24	0	24			
2-Methylnaphthalene	24	1	23	0	24	ug/kg	2600.00	2600.00
Hexachlorocyclopentadiene	24	0	24	0	24			
2,4,6-Trichlorophenol	24	0	24	0	24			
2,4,5-Trichlorophenol	24	0	24	0	24			
2-Chloronaphthalene	24	0	24	0	24			
2-Nitroaniline	24	0	24	0	24			
Dimethyl phthalate	24	0	24	0	24			
Acenaphthylene	24	0	24	0	24			
2,6-Dinitrotoluene	24	0	24	0	24			
3-Nitroaniline	24	0	24	0	24			
Acenaphthene	24	0	24	0	24			
2,4-Dinitrophenol	24	0	24	0	24			
4-Nitrophenol	24	0	24	0	24			
Dibenzofuran	24	0	24	0	24			
2,4-Dinitrotoluene	24	0	24	0	24			
Diethyl phthalate	24	0	24	0	24			
4-Chlorophenyl phenylether	24	0	24	0	24			

Table 12. Summary of Organic Compounds Detected in Soil Samples
Site 39, Range 40A, Phases 1 and 2
Volume II - Remedial Investigation, Basewide RI/FS
Fort Ord, California

Test Method (Number of Analyses)/ Analyte Name	Number of Samples Tested for Chemical	Number of Samples With Chemical Detects	Number of Samples With Chemical Non-Detects	Number of Samples With Chemical Rejects	Totals	Units	Minimum Detected Value	Maximum Detected Value
Fluorene	24	0	24	0	24			
4-Nitroaniline	24	0	24	0	24			
4,6-Dinitro-2-methylphenol	24	0	24	0	24			
n-Nitrosodiphenylamine	24	0	24	0	24			
4-Bromophenylphenylether	24	0	24	0	24			
Hexachlorobenzene	24	0	24	0	24			
Pentachlorophenol	24	2	22	0	24	ug/kg	58.00	75.00
Phenanthrene	24	1	23	0	24	ug/kg	210.00	210.00
Anthracene	24	0	24	0	24			
Di-n-butylphthalate	24	0	24	0	24			
Fluoranthene	24	0	24	0	24			
Pyrene	24	1	23	0	24	ug/kg	190.00	190.00
Butylbenzylphthalate	24	0	24	0	24			
3,3-Dichlorobenzidine	24	0	24	0	24			
Benzo(a)anthracene	24	0	24	0	24			
Chrysene	24	0	24	0	24			
Bis(2-ethylhexyl)phthalate	24	7	17	0	24	ug/kg	62.00	420.00
Di-n-octylphthalate	24	0	24	0	24			
Benzo(b)fluoranthene	24	0	24	0	24			
Benzo(k)fluoranthene	24	0	24	0	24			
Benzo(a)pyrene	24	0	24	0	24			
Indeno(1,2,3-cd)pyrene	24	0	24	0	24			
Dibenzo(a,h)anthracene	24	0	24	0	24			
Benzo(ghi)perylene	24	0	24	0	24			
Bis(2-chloroisopropyl)ether	24	0	24	0	24			
TPH DIESEL (74)								
TPH-Diesel	74	0	74	0	74			
TPH-Extractable Unknown Hydrocarbon	74	9	65	0	74	mg/kg	11.00	1400.00
EPA8015G/8020 (74)								
TPH-Gasoline	74	0	74	0	74			
TPH-Purgeable Unknown Hydrocarbon	74	1	73	0	74	ug/kg	10000.00	10000.00
Benzene	74	0	74	0	74			
Ethylbenzene	74	0	74	0	74			
Toluene	74	0	74	0	74			
Xylenes	74	0	74	0	74			
EPA-8330 (14)								
HMX	14	0	14	0	14			
RDX	14	0	14	0	14			
1,3,5-Trinitrobenzene	14	0	14	0	14			
1,3-Dinitrobenzene	14	0	14	0	14			

Table 12. Summary of Organic Compounds Detected in Soil Samples
Site 39, Range 40A, Phases 1 and 2
Volume II - Remedial Investigation, Basewide RI/FS
Fort Ord, California

Test Method (Number of Analyses)/ Analyte Name	Number of Samples Tested for Chemical	Number of Samples With Chemical Detects	Number of Samples With Chemical Non-Detects	Number of Samples With Chemical Rejects	Totals	Units	Minimum Detected Value	Maximum Detected Value
Tetryl	14	0	14	0	14			
Nitrobenzene	14	0	14	0	14			
2,4,6-Trinitrotoluene	14	0	14	0	14			
2,4-Dinitrotoluene	14	0	14	0	14			
2,6-Dinitrotoluene	14	0	14	0	14			
o-Nitrotoluene	14	0	14	0	14			
m-Nitrotoluene	14	0	14	0	14			
p-Nitrotoluene	14	0	14	0	14			
2-Amino-dinitrotoluene	14	0	14	0	14			
4-Amino-dinitrotoluene	14	0	14	0	14			
EPA-8330M (14)								
Nitroglycerin	14	0	14	0	14			
Picric Acid	14	0	14	0	14			
Nitroguanidine	14	0	14	0	14			
PETN	14	0	14	0	14			

Table 13. Summary of Inorganic Constituents Detected in Soil Samples
Site 39, Range 40A, Phases 1 and 2
Volume II - Remedial Investigation, Basewide RI/FS
Fort Ord, California

Test Method (Number of Analyses)/ Analyte Name	Number of Samples Tested for Chemical	Number of Samples With Chemical Detects	Number of Samples With Chemical Non-Detects	Number of Samples With Chemical Rejects	Totals	Units	Minimum Detected Value	Maximum Detected Value
COLD VAPOR AA (60)								
Mercury	60	12	48	0	60	mg/kg	0.07	0.19
FUAA-EPA7060 (60)								
Arsenic	60	23	37	0	60	mg/kg	0.67	4.80
FUAA-EPA7421 (74)								
Lead	74	74	0	0	74	mg/kg	1.00	168.00
FUAA-EPA7740 (60)								
Selenium	60	1	59	0	60	mg/kg	1.10	1.10
FUAA-EPA7841 (60)								
Thallium	60	0	60	0	60			
METALS BY ICP (60)								
Beryllium	60	50	10	0	60	mg/kg	0.13	1.30
Cadmium	60	6	54	0	60	mg/kg	0.99	5.40
Chromium	60	52	8	0	60	mg/kg	6.60	51.60
Copper	60	52	8	0	60	mg/kg	1.80	28.90
Nickel	60	47	13	0	60	mg/kg	5.20	43.10
Silver	60	2	58	0	60	mg/kg	0.68	0.91
Zinc	60	44	16	0	60	mg/kg	7.30	130.00
EPA-9045 (14)								
pH	14	14	0	0	14	ph	4.70	7.70
EPA-7041 (60)								
Antimony	60	1	59	0	60	mg/kg	0.56	0.56

Table 14. Comparison of Inorganic Constituents Detected in Soil with Maximum Background Concentrations - Site 39, Range 40A
Volume II - Remedial Investigation, Basewide RI/FS
Fort Ord, California

Metals	Maximum Background Concentration in Shallow NQTP Soil[1] (mg/kg)	Maximum Detected Concentration in Shallow Soil (mg/kg)	Samples with Concentrations Above Maximum Shallow Background/Total Number of Samples	Maximum Background Concentration in Deep NQTP Soil[2] (mg/kg)	Maximum Detected Concentration in Deep Soil (mg/kg)	Samples with Concentrations Above Maximum Deep Background/Total Number of Samples
Antimony	ND	ND	0/16*	8.2	0.56	0/44
Arsenic	3.4	2.1	0/16	4.5	4.80	1/44
Beryllium	0.35	0.62	4/16	0.48	1.30	27/44
Cadmium	ND	5.40	6/16*	1.9	ND	0/44
Chromium (Total)	46.1	29.8	0/16	22.7	51.60	21/44
Copper	18.2	28.90	4/16	8.2	20.70	20/44
Lead	51.8	168.00	3/23**	3.7	23.80	29/51**
Mercury	0.12	0.08	0/16	ND	0.19	11/44*
Nickel	58	15.2	0/16	19.5	43.10	13/44
Selenium	ND	ND	0/16*	ND	1.10	1/44*
Silver	0.36	0.68	1/16	0.49	0.91	1/44
Thallium	0.45	ND	0/16	0.39	ND	0/44
Zinc	75.8	130.0	1/16	13.9	32.40	21/44

ND Not detected
NA Not applicable
NQTP Qal, Qoal, Qar, Qod, Od, Tsm
mg/kg Milligrams per kilogram

1 Soil sample collected from less than 2 feet bgs and derived from the following geologic units: Qal, Qoal, Qar, Qod, Tsm.
2 Soil sample collected from greater than 2 feet bgs and derived from the following geologic units: Qal, Qoal, Qar, Qod, Tsm.
* Samples with concentrations above detection limit/Total number of samples.
** During the Phase I investigation, soil metals analysis was performed for lead only; therefore, the total number of samples is greater for this analyte.

Table 15. RI/FS Analytical Program - Site 39, Range 33
Volume II - Remedial Investigation, Basewide RI/FS
Fort Ord, California

Sample Location	Chemical Analyses Performed	Physical Analyses Performed
All borings	TPHd, TPHg, Metals, BTEX	-
SB-R33-01	SOCs	Moisture content, dry density, sieve analysis, pH, permeability
SB-R33-03	SOCs	-
SB-R33-05	Explosive compounds	Moisture content, dry density, sieve analysis, pH, permeability
SB-R33-06	SOCs, Explosive compounds, Tetracene	-
SB-R33-10	SOCs, Explosive compounds, Tetracene	
SB-R33-12	Explosive compounds	Moisture content, dry density, sieve analysis, pH, permeability
SB-R33-13	SOCs	-

Analytical Methods:

BTEX	Benzene, toluene, ethylbenzene, xylenes, EPA Test Method 8020.
Explosive compounds	EPA Test Methods 8330 and 8330M.
Tetracene	EPA Test Method 8331.
Metals	Priority pollutant metals, EPA Test Method Series 6000 and 7000.
TPHd	Total petroleum hydrocarbons as diesel, EPA Test Method 8015D (modified).
TPHg	Total petroleum hydrocarbons as gasoline, EPA Test Method 8015G (modified).

Table 16. Summary of Organic Compounds Detected in Soil Samples - Site 39, Range 33
Volume II - Remedial Investigation, Basewide RI/FS
Fort Ord, California

Test Method (Number of Analyses)/ Analyte Name	Number of Samples Tested for Chemical	Number of Samples With Chemical Detects	Number of Samples With Chemical Non-Detects	Number of Samples With Chemical Rejects	Totals	Units	Minimum Detected Value	Maximum Detected Value
EPA-8270 (6)								
Phenol	6	0	6	0	6			
Bis(2-chloroethyl)ether	6	0	6	0	6			
2-Chlorophenol	6	0	6	0	6			
1,3-Dichlorobenzene	6	0	6	0	6			
1,4-Dichlorobenzene	6	0	6	0	6			
Benzyl alcohol	6	0	6	0	6			
1,2-Dichlorobenzene	6	0	6	0	6			
2-Methylphenol	6	0	6	0	6			
4-Methylphenol	6	0	6	0	6			
n-Nitrosodipropylamine	6	0	6	0	6			
Hexachloroethane	6	0	6	0	6			
Nitrobenzene	6	0	6	0	6			
Isophorone	6	0	6	0	6			
2-Nitrophenol	6	0	6	0	6			
2,4-Dimethylphenol	6	0	6	0	6			
Benzoic acid	6	0	6	0	6			
Bis(2-chloroethoxy)methane	6	0	6	0	6			
2,4-Dichlorophenol	6	0	6	0	6			
1,2,4-Trichlorobenzene	6	0	6	0	6			
Naphthalene	6	0	6	0	6			
4-Chloroaniline	6	0	6	0	6			
Hexachlorobutadiene	6	0	6	0	6			
4-Chloro-3-methylphenol	6	0	6	0	6			
2-Methylnaphthalene	6	0	6	0	6			
Hexachlorocyclopentadiene	6	0	6	0	6			
2,4,6-Trichlorophenol	6	0	6	0	6			
2,4,5-Trichlorophenol	6	0	6	0	6			
2-Chloronaphthalene	6	0	6	0	6			
2-Nitroaniline	6	0	6	0	6			
Dimethyl phthalate	6	0	6	0	6			
Acenaphthylene	6	0	6	0	6			
2,6-Dinitrotoluene	6	0	6	0	6			
3-Nitroaniline	6	0	6	0	6			
Acenaphthene	6	0	6	0	6			
2,4-Dinitrophenol	6	0	6	0	6			
4-Nitrophenol	6	2	4	0	6	ug/kg	68.00	98.00
Dibenzofuran	6	0	6	0	6			
2,4-Dinitrotoluene	6	0	6	0	6			
Diethyl phthalate	6	0	6	0	6			
4-Chlorophenyl phenylether	6	0	6	0	6			
Fluorene	6	0	6	0	6			
4-Nitroaniline	6	0	6	0	6			
4,6-Dinitro-2-methylphenol	6	0	6	0	6			

Table 16. Summary of Organic Compounds Detected in Soil Samples - Site 39, Range 33
Volume II - Remedial Investigation, Basewide RI/FS
Fort Ord, California

Test Method (Number of Analyses)/ Analyte Name	Number of Samples Tested for Chemical	Number of Samples With Chemical Detects	Number of Samples With Chemical Non-Detects	Number of Samples With Chemical Rejects	Totals	Units	Minimum Detected Value	Maximum Detected Value
n-Nitrosodiphenylamine	6	0	6	0	6			
4-Bromophenylphenylether	6	0	6	0	6			
Hexachlorobenzene	6	0	6	0	6			
Pentachlorophenol	6	2	4	0	6	ug/kg	49.00	67.00
Phenanthrene	6	0	6	0	6			
Anthracene	6	0	6	0	6			
Di-n-butylphthalate	6	0	6	0	6			
Fluoranthene	6	0	6	0	6			
Pyrene	6	0	6	0	6			
Butylbenzylphthalate	6	0	6	0	6			
3,3-Dichlorobenzidine	6	0	6	0	6			
Benzo(a)anthracene	6	0	6	0	6			
Chrysene	6	0	6	0	6			
Bis(2-ethylhexyl)phthalate	6	4	2	0	6	ug/kg	50.00	250.00
Di-n-octylphthalate	6	1	5	0	6	ug/kg	55.00	55.00
Benzo(b)fluoranthene	6	0	6	0	6			
Benzo(k)fluoranthene	6	0	6	0	6			
Benzo(a)pyrene	6	0	6	0	6			
Indeno(1,2,3-cd)pyrene	6	0	6	0	6			
Dibenzo(a,h)anthracene	6	0	6	0	6			
Benzo(ghi)perylene	6	0	6	0	6			
Bis(2-chloroisopropyl)ether	6	0	6	0	6			
TPH DIESEL (64)								
TPH-Diesel	64	0	64	0	64			
TPH-Extractable Unknown Hydrocarbon	64	1	63	0	64	mg/kg	230.00	230.00
EPA8015G/8020 (64)								
TPH-Gasoline	64	0	64	0	64			
TPH-Purgeable Unknown Hydrocarbon	64	0	64	0	64			
Benzene	64	0	64	0	64			
Ethylbenzene	64	0	64	0	64			
Toluene	64	0	64	0	64			
Xylenes	64	0	64	0	64			
EPA-8330 (7)								
HMX	7	3	4	0	7	mg/kg	0.14	5.30
RDX	7	5	2	0	7	mg/kg	0.12	12.00
1,3,5-Trinitrobenzene	7	0	7	0	7			
1,3-Dinitrobenzene	7	0	7	0	7			
Tetryl	7	0	7	0	7			
Nitrobenzene	7	0	7	0	7			
2,4,6-Trinitrotoluene	7	0	7	0	7			
2,4-Dinitrotoluene	7	0	7	0	7			
2,6-Dinitrotoluene	7	0	7	0	7			

Table 16. Summary of Organic Compounds Detected in Soil Samples - Site 39, Range 33
Volume II - Remedial Investigation, Basewide RI/FS
Fort Ord, California

Test Method (Number of Analyses)/ Analyte Name	Number of Samples Tested for Chemical	Number of Samples With Chemical Detects	Number of Samples With Chemical Non-Detects	Number of Samples With Chemical Rejects	Totals	Units	Minimum Detected Value	Maximum Detected Value
o-Nitrotoluene	7	0	7	0	7			
m-Nitrotoluene	7	0	7	0	7			
p-Nitrotoluene	7	0	7	0	7			
2-Amino-dinitrotoluene	7	1	6	0	7	mg/kg	0.13	0.13
4-Amino-dinitrotoluene	7	1	6	0	7	mg/kg	0.13	0.13
EPA-8330M (7)								
Nitroglycerin	7	0	7	0	7			
Picric Acid	7	0	7	0	7			
Nitroguanidine	7	0	7	0	7			
PETN	7	0	7	0	7			

Table 17. Summary of Inorganic Constituents Detected in Soil Samples - Site 39, Range 33
Volume II - Remedial Investigation, Basewide RI/FS
Fort Ord, California

Test Method (Number of Analyses)/ Analyte Name	Number of Samples Tested for Chemical	Number of Samples With Chemical Detects	Number of Samples With Chemical Non-Detects	Number of Samples With Chemical Rejects	Totals	Units	Minimum Detected Value	Maximum Detected Value
COLD VAPOR AA (64)								
Mercury	64	0	64	0	64			
FUAA-EPA7060 (64)								
Arsenic	64	50	14	0	64	mg/kg	0.53	3.90
FUAA-EPA7421 (64)								
Lead	64	64	0	0	64	mg/kg	0.62	17.70
FUAA-EPA7740 (64)								
Selenium	64	0	64	0	64			
FUAA-EPA7841 (64)								
Thallium	64	0	64	0	64			
METALS BY ICP (64)								
Beryllium	64	20	44	0	64	mg/kg	0.20	0.60
Cadmium	64	1	63	0	64	mg/kg	17.50	17.50
Chromium	64	63	1	0	64	mg/kg	6.80	31.40
Copper	64	13	51	0	64	mg/kg	3.70	38.80
Nickel	64	56	8	0	64	mg/kg	5.10	18.70
Silver	64	0	64	0	64			
Zinc	64	36	28	0	64	mg/kg	7.30	105.00
EPA-7041 (64)								
Antimony	64	4	60	0	64	mg/kg	0.52	0.64

Table 18. Comparison of Inorganic Constituents Detected in Soil with Maximum Background Concentrations - Site 39, Range 33
Volume II - Remedial Investigation, Basewide RI/FS
Fort Ord, California

Metals	Maximum Background Concentration in Shallow NQTP Soil[1] (mg/kg)	Maximum Detected Concentration in Shallow Soil (mg/kg)	Samples with Concentrations Above Maximum Shallow Background/Total Number of Samples	Maximum Background Concentration in Deep NQTP Soil[2] (mg/kg)	Maximum Detected Concentration in Deep Soil (mg/kg)	Samples with Concentrations Above Maximum Deep Background/Total Number of Samples
Antimony	ND	ND	0/16*	8.2	0.64	0/48
Arsenic	3.4	1.8	0/16	4.5	3.9	0/48
Beryllium	0.35	ND	0/16	0.48	0.60	6/48
Cadmium	ND	17.5	1/16*	1.9	ND	0/48
Chromium (Total)	46.1	16.7	0/16	22.7	31.40	15/48
Copper	18.2	38.8	2/16	8.2	4.8	0/48
Lead	51.8	17.7	0/16	3.7	5.90	4/48
Mercury	0.12	ND	0/16	ND	ND	0/48*
Nickel	58	12.3	0/16	19.5	18.7	0/48
Selenium	ND	ND	0/16*	ND	ND	0/48*
Silver	0.36	ND	0/16	0.49	ND	0/48
Thallium	0.45	ND	0/16	0.39	ND	0/48
Zinc	75.8	105.0	1/16	13.9	37.40	20/48

ND Not detected
NA Not applicable
NQTP Qal, Qoal, Qar, Qod, Od, Tsm
mg/kg Milligrams per kilogram

1 Soil sample collected from less than 2 feet bgs and derived from the following geologic units: Qal, Qoal, Qar, Qod, Tsm.
2 Soil sample collected from greater than 2 feet bgs and derived from the following geologic units: Qal, Qoal, Qar, Qod, Tsm.
* Samples with concentrations above detection limit/Total number of samples.

Table 19. RI/FS Analytical Program - Site 39, Explosive Ordnance Target Areas
Volume II - Remedial Investigation, Basewide RI/FS
Fort Ord, California

Sample Location	Chemical Analyses Performed	Physical Analyses Performed
Borings SB-39-001 through SB-39-139 (excluding SB-39-019, 031, 032, and 055)	Explosive compounds, Metals	-
SB-39-004	TOC	Moisture content, dry density, sieve analysis, pH, permeability
SB-39-005	Tetracene	-
SB-39-007	-	Moisture content, dry density, sieve analysis, pH
SB-39-010	Tetracene	-
SB-39-016	Tetracene	-
SB-39-018	-	Moisture content, dry density, sieve analysis, pH, permeability
SB-39-026	TOC	Moisture content, dry density, sieve analysis, pH, permeability
SB-39-027	Tetracene	-
SB-39-029	Tetracene	-
SB-39-041	TOC	Moisture content, dry density, sieve analysis, pH, permeability

Table 19. RI/FS Analytical Program - Site 39, Explosive Ordnance Target Areas
Volume II - Remedial Investigation, Basewide RI/FS
Fort Ord, California

Sample Location	Chemical Analyses Performed	Physical Analyses Performed
SB-39-051	Tetrazene	-
SB-39-054	Tetracene	-
SB-39-060	-	Moisture content, dry density, sieve analysis, pH, permeability
SB-39-065	TOC	-
SB-39-066	Tetracene	-
SB-39-069	Tetracene	-
SB-39-079	TOC	Moisture content, dry density, sieve analysis, pH, permeability
SB-39-085	Tetracene	-
SB-39-091	Tetracene	-
SB-39-112	TOC	Moisture content, dry density, sieve analysis, pH, permeability
SB-39-115	TOC	Moisture content, dry density, sieve analysis, pH, permeability

Table 19. RI/FS Analytical Program - Site 39, Explosive Ordnance Target Areas
Volume II - Remedial Investigation, Basewide RI/FS
Fort Ord, California

Sample Location	Chemical Analyses Performed	Physical Analyses Performed
SB-39-130	Tetracene	-
SB-39-137	Tetracene	-

Analytical Methods:

Explosive compounds	EPA Test Methods 8330 and 8330M.
Tetracene	EPA Test Method 8331.
Metals	Priority pollutants metals, EPA Test Method Series 6000 and 7000.
TOC	Total organic carbon, EPA Test Method 9060

Table 20. Summary of Organic Compounds Detected in Soil Samples - Site 39, Explosive Ordnance Target Areas
Volume II - Remedial Investigation, Basewide RI/FS
Fort Ord, California

Test Method (Number of Analyses)/ Analyte Name	Number of Samples Tested for Chemical	Number of Samples With Chemical Detects	Number of Samples With Chemical Non-Detects	Number of Samples With Chemical Rejects	Totals	Units	Minimum Detected Value	Maximum Detected Value
EPA-9060 (20)								
Total Organic Carbon	20	20	0	0	20	mg/kg	375.00	16200.00
EPA-8330 (285)								
HMX	285	38	247	0	285	mg/kg	0.10	1100.00
RDX	285	21	264	0	285	mg/kg	0.11	11.00
1,3,5-Trinitrobenzene	285	1	284	0	285	mg/kg	0.14	0.14
1,3-Dinitrobenzene	285	0	285	0	285			
Tetryl	285	1	284	0	285	mg/kg	0.39	0.39
Nitrobenzene	285	0	285	0	285			
2,4,6-Trinitrotoluene	285	2	283	0	285	mg/kg	0.16	4.00
2,4-Dinitrotoluene	285	0	285	0	285			
2,6-Dinitrotoluene	285	0	285	0	285			
o-Nitrotoluene	285	0	285	0	285			
m-Nitrotoluene	285	0	285	0	285			
p-Nitrotoluene	285	0	285	0	285			
2-Amino-dinitrotoluene	285	11	274	0	285	mg/kg	0.10	1.20
4-Amino-dinitrotoluene	285	11	274	0	285	mg/kg	0.10	1.50
EPA-8330M (285)								
Nitroglycerin	285	3	282	0	285	mg/kg	0.28	8.10
Picric Acid	285	0	285	0	285			
Nitroguanidine	285	0	285	0	285			
PETN	285	1	284	0	285	mg/kg	1.50	1.50

Table 21. Summary of Inorganic Constituents Detected in Soil Samples - Site 39, Explosive Ordnance Target Areas
Volume II - Remedial Investigation, Basewide RI/FS
Fort Ord, California

Test Method (Number of Analyses)/ Analyte Name	Number of Samples Tested for Chemical	Number of Samples With Chemical Detects	Number of Samples With Chemical Non-Detects	Number of Samples With Chemical Rejects	Totals	Units	Minimum Detected Value	Maximum Detected Value
COLD VAPOR AA (285)								
Mercury	285	9	276	0	285	mg/kg	0.05	0.17
FUAA-EPA7060 (285)								
Arsenic	285	216	69	0	285	mg/kg	0.53	10.50
FUAA-EPA7421 (275)								
Lead	275	274	1	0	275	mg/kg	0.69	1680.00
FUAA-EPA7740 (285)								
Selenium	285	13	272	0	285	mg/kg	0.85	1.80
FUAA-EPA7841 (285)								
Thallium	285	0	285	0	285			
METALS BY ICP (285)								
Beryllium	285	58	227	0	285	mg/kg	0.12	66.90
Cadmium	285	37	248	0	285	mg/kg	0.93	104.00
Chromium	285	284	1	0	285	mg/kg	3.70	380.00
Copper	285	85	200	0	285	mg/kg	0.49	12900.00
Lead	10	10	0	0	10	mg/kg	52.70	4060.00
Nickel	285	192	93	0	285	mg/kg	4.90	344.00
Silver	285	7	278	0	285	mg/kg	0.49	12.30
Zinc	285	155	130	0	285	mg/kg	5.70	8910.00
EPA-7041 (285)								
Antimony	285	55	230	0	285	mg/kg	0.46	100.00

Table 22. Comparison of Inorganic Constituents Detected in Soil with Maximum Background Concentrations
Site 39, Explosive Ordnance Target Areas
Volume II - Remedial Investigation, Basewide RI/FS
Fort Ord, California

Metals	Maximum Background Concentration in Shallow NQTP Soil[1] (mg/kg)	Maximum Detected Concentration in Shallow Soil (mg/kg)	Samples with Concentrations Above Maximum Shallow Background/Total Number of Samples	Maximum Background Concentration in Deep NQTP Soil[2] (mg/kg)	Maximum Detected Concentration in Deep Soil (mg/kg)	Samples with Concentrations Above Maximum Deep Background/Total Number of Samples
Antimony	ND	100.00	47/158*	8.2	0.84	0/127
Arsenic	3.4	10.50	7/158	4.5	7.90	2/127
Beryllium	0.35	66.90	5/158	0.48	0.82	1/127
Cadmium	ND	104.00	33/158*	1.9	3.30	3/127
Chromium (Total)	46.1	380.00	8/158	22.7	69.20	7/127
Copper	18.2	12,900.00	47/158	8.2	1,220.00	191/27
Lead	51.8	4,060.00	35/158	3.7	362.00	37/127
Mercury	0.12	0.07	0/158	ND	0.17	7/127*
Nickel	58	344.00	4/158	19.5	28.10	4/127
Selenium	ND	1.00	5/158*	ND	1.80	8/127*
Silver	0.36	12.30	7/158	0.49	ND	0/127
Thallium	0.45	ND	0/158	0.39	ND	0/127
Zinc	75.8	8,910.00	19/158	13.9	542.00	38/127

ND Not detected
NA Not applicable
NQTP Qal, Qoal, Qar, Qod, Od, Tsm
mg/kg Milligrams per kilogram

1 Soil sample collected from less than 2 feet bgs and derived from the following geologic units: Qal, Qoal, Qar, Qod, Tsm.
2 Soil sample collected from greater than 2 feet bgs and derived from the following geologic units: Qal, Qoal, Qar, Qod, Tsm.
* Samples with concentrations above detection limit/Total number of samples.

Table 23. Summary of Bullet Distribution Evaluation - Site 39, Small Arms Ranges
Volume II - Remedial Investigation, Basewide RI/FS
Fort Ord, California

Small Arms Range No.	Range Name	Observed Ordnance	Distribution
18	Record Firing Range	7.62mm, 5.56mm, .45 cal, 9mm	<1% bullet coverage overall; 1-8% within 1 meter of targets; greatest concentrations directly in front of targets and in backstop areas and behind targets
19	Record Firing Range	7.62mm, 5.56mm, .45 cal, 9mm, shot gun	<1% bullet coverage overall; >10% in some approximate 15x15 foot areas of sand backstop and in some areas along road near the middle of the range; 1-10% up to 100 feet behind backstop
21*	10m Machine Gun/ 25m Rifle Range	7.62mm, 5.56mm, .45 cal, 9mm, shot gun	<1% bullet coverage overall; >10% on sand backstop; 1-10% up to 100 feet behind backstop.
22	.50 cal. Machine Gun Range 40mm practice grenades	7.62mm, 5.56mm, 9mm, .50 cal,	<1% bullet coverage overall; >10% in 10 foot diameter area of one target; 1-10% within 1 meter of some targets; <1% at other targets
23	Squad Attack Range	7.62mm, 5.56mm, 40mm practice grenades, subcal LAW, slap flares, rifle-launched flare and smoke grenades, hand grenades fuses, smoke and practice hand grenades	<1% bullet coverage overall; range has three "bunker" target areas with concentrations up to 15% in front (west) of the target areas and 1-3% at the targets; 1-10% within 1 meter of some targets
24	Sniper Range	7.62mm, 5.56mm, 40mm practice grenades, subcal LAW	<1% bullet coverage overall; 1-5% within 2 meters of some targets; < 1% at other targets
25	Offensive Overhead Firing	7.62mm, 5.56mm	<1% bullet coverage overall; >10% on backstop Course
26	Machine Gun Transition	7.62mm, 5.56mm, 3.5-inch rockets	<1% bullet coverage overall; 1-8% within 1 meter of some targets; 10-15% in backstop areas behind some targets; greatest concentrations directly in front of targets and in backstop areas

Table 23. Summary of Bullet Distribution Evaluation - Site 39, Small Arms Ranges
Volume II - Remedial Investigation, Basewide RI/FS
Fort Ord, California

Small Arms Range No.	Range Name	Observed Ordnance	Distribution
27	Fire Movement Course	7.62mm, 5.56mm, .45 cal, 9mm, 37mm, 75mm RR, slap flares, rifle-launched smoke and flare grenades, hand grenade fuses	<1% bullet coverage overall
27A*	10m Machine Gun/ 25m Rifle Range	7.62mm, 5.56mm, .45 cal, 9mm	<1% bullet coverage overall; 1-3% near 50-meter target line; 5-8% on backstop
28	Technique of Fire Range	7.62mm, 5.56mm, 50mm, subcal LAW, slap flares	<1% bullet coverage overall
29*	Machine Gun Assault Range	7.62mm, 5.56mm, .45 cal, 9mm	<1% bullet coverage overall; greatest concentrations near targets (still <1%)
30	Technique of Fire Range	7.62mm, 5.56mm, 40mm practice grenades	<1% bullet coverage overall
35A*	Combat Pistol Range	7.62mm, 5.56mm, .45 cal, 9mm, black powder rifle balls	1-3% bullet coverage overall; 3-8% within 1 meter of targets; greatest concentrations directly in front and behind targets
38	Zero Range	7.62mm, 5.56mm, shot gun, 40 mm practice grenades, flare and smoke grenades, practice hand grenades, slap flares	1% bullet coverage overall; up to 2% on east side of range
39*	Bench Rest Rifle Range	7.62mm, 5.56mm, .22 cal, .45 cal, black powder rifle balls, shotgun	<1% bullet coverage overall; 1% within 1 meter of some targets; at some targets 10-15% on hill that forms backstop, 950 feet from firing line

Table 23. Summary of Bullet Distribution Evaluation - Site 39, Small Arms Ranges
Volume II - Remedial Investigation, Basewide RI/FS
Fort Ord, California

Small Arms Range No.	Range Name	Observed Ordnance	Distribution
46*	Pistol Range	7.62mm, 5.56mm, .22 cal, .45 cal, 9mm, shotgun	<1% bullet coverage overall; 1-5% on backstop

* Short distance firing range; targets are usually located approximately up to 100 meters from the firing line. The remainder of the small arms ranges are long distance ranges which, in addition to short range targets, contain targets at distances greater than 100 meters from the firing line.

Table 24. RI/FS Analytical Program - Site 39, Groundwater Sampling
Volume II - Remedial Investigation Basewide RI/FS
Fort Ord, California

Sample Location	Groundwater Chemical Analyses Performed (April 1994)
MW-05-02-A	Metals, Nitrate, Explosive Compounds*
MW-BW-04-A	Explosive compounds, Metals, Nitrate
MW-BW-05-180	Explosive compounds, Nitrate**
MW-BW-05-180 (duplicate)	Explosive compounds, Nitrate**
MW-BW-06-A	Explosive compounds, Metals, Nitrate
MW-BW-07-180	Explosive compounds, Metals, Nitrate
MW-BW-08-A	Explosive compounds, Metals, Nitrate
MW-BW-09-180	Explosive compounds, Nitrate**

Analytical Methods:

Explosive compounds	EPA Test Methods 8330 and 8330M
Priority Pollutant Metals	EPA Test Method Series 6000 and 7000
Nitrate as N	EPA Test Method 300.0

* Sample was to be analyzed for explosive compounds but was not because of field error. Well was resampled on August 1, 1994 and the sample was analyzed for explosive compounds.

** Samples were to be analyzed for metals but were not because of field error.

Table 25. Summary of Inorganic Constituents Detected in April 1994 Groundwater Samples - Site 39
Volume II - Remedial Investigation, Basewide RI/FS
Fort Ord, California

Test Method (Number of Analyses)/ Analyte Name	Number of Samples Tested for Chemical	Number of Samples With Chemical Detects	Number of Samples With Chemical Non-Detects	Number of Samples With Chemical Rejects	Totals	Units	Minimum Detected Value	Maximum Detected Value
COLD VAPOR AA (5)								
Mercury	5	4	1	0	5	ug/l	0.23	0.31
FUAA-EPA7060 (5)								
Arsenic	5	0	5	0	5			
FUAA-EPA7421 (5)								
Lead	5	0	5	0	5			
FUAA-EPA7740 (5)								
Selenium	5	0	5	0	5			
FUAA-EPA7841 (5)								
Thallium	5	0	5	0	5			
METALS BY ICP (5)								
Beryllium	5	0	5	0	5			
Cadmium	5	0	5	0	5			
Chromium	5	1	4	0	5	ug/l	5.40	5.40
Copper	5	0	5	0	5			
Nickel	5	0	5	0	5			
Silver	5	0	5	0	5			
Zinc	5	2	3	0	5	ug/l	14.10	18.10
EPA-300.0 (7)								
Nitrate as N	7	6	1	0	7	mg/l	0.77	22.00
EPA-7041 (5)								
Antimony	5	5	0	0	5	ug/l	8.80	13.60

Table 26a. Project-Assigned Data Qualifiers - Site 39
Volume II - Remedial Investigation, Basewide RI/FS
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"J" Qualifiers Analytical results that receive a "J" are qualified as estimated due to non-compliance with the following criteria:	"U" Qualifers Analytical results that receive a "U" are qualified as nondetected for the following reasons:	"R" Qualifers Analytical results that receive an "R" are qualified as rejected due to non-compliance with the following criteria:	Other Qualifiers
J0 - Internal standard response or retention time	U1 - Analyte detected in laboratory blanks	R0 - Internal standard response or retention time	A - Sample has undergone routine data validation
J1 - Instrument performance	U2 - Analyte detected in field blanks	R1 - Holding time	V - Sample has undergone detailed data validation
J2 - Laboratory precision (duplicate or spike duplicate)	U5 - Incorrect identification	R2 - Laboratory spike recovery	N1 - Compound is a TIC and therefore is presumptively present at an estimated concentration
J3 - Laboratory spike recovery		R3 - Instrument performance	N2 - Data not qualified due to applicable or relevant criteria. Please refer to text for a discussion of data usability.
J4 - ICP serial dilution		R5 - Incorrect identification	
J5 - Holding time		R6 - Full CLP validation	
J6 - Field duplicate precision		R7 - Initial and/or continuing calibration	
J7 - Initial and/or continuing calibration		R9 - ICP interference check sample	
J8 - Result above the calibration range			
J9 - ICP interference check sample			
J* - Miscellaneous laboratory errors (defined in laboratory report)			

ICP Inductively Coupled Plasma.
CLP Contract Laboratory Program (EPA).

Table 26b. Laboratory-Assigned Data Qualifiers - Site 39
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Fort Ord, California

Inorganic Analyses

B-Reported value is less than the CRDL and greater than the IDL.
E-Serial dilution analysis was not within the control limits.
G-Reporting limit raised due to matrix interference.
N-Spiked sample recovery was not within control limits.
R-Reporting limit raised due to high level of analyte present in the sample.
S-Reported value was determined by the Method of Standard Additions.
U-Analyte was not detected.
W-Post-digestion spike for furnace AA was not within the control limits.
*-Duplicate sample analysis was not within the control limits.

+-Correlation coefficient for the Method of Standard Additions was below 0.995.
M-Duplicate injection precision not met.
#-Recovery outside QC limits.

Organic Analyses

B-Compound was also detected in the laboratory method blank.
b-Compound is a common laboratory contaminant; results are not reliable.
D-Compound was quantified from a secondary dilution.
E-Sample concentration is above the calibration range of the GC/MS.
G-Compound reporting limit raised due to matrix interference.
J-Result is below the reporting limit or is estimated.
j-Sample reporting limit raised due to matrix interference.
R-Compound reporting limit raised due to high level of analyte present.
1-Unknown and unquantifiable petroleum hydrocarbons present; quantification based on diesel reference.
2-Quantification based on gasoline reference curve.
a-Or structurally similar compound.
e-Contains free liquid.
r-Reporting limit changed due to sample volume limitations.
u-All reporting limits raised due to high level of analyte present.
M-Duplicate precision not met.
Q-Reporting limit raised due to high level of another analyte in the sample.
U-Compound not detected.
X,Y,1,d,g- Specific Qualifier defined on lab report.

@-Result is an estimated value that is below the lower calibration limit but above the target detection limit.

CRDL Contract requirement detection limit.
IDL Instrument detection limit.
GC/MS Gas chromatograph/mass spectrometer.
AA Atomic absorption.
QC Quality control.