

ATTACHMENT 1

LIST OF ABBREVIATIONS AND ACRONYMS

List of Abbreviations and Acronyms

2,4-D	2,4-dichlorophenoxyacetic acid	BOD	biological oxygen demand	CWA	chemical warfare agent
2,4,5-T	2,4,5-trichlorophenoxyacetic acid	BRAC	Base Realignment and Closure	CWM	chemical warfare material; clear, wide mouth
2,4,5-TP	silvex	Braun	Braun Intertec Corporation	CX	dichloroformoxime
3D	3D International Environmental Group	BSC	background screening criterion	'D'	duplicate; dilution
AbD3	Anniston and Allen gravelly clay loams, 10 to 15 percent slopes, eroded	BTAG	Biological Technical Assistance Group	DAF	dilution-attenuation factor
Abs	skin absorption	BTEX	benzene, toluene, ethyl benzene, and xylenes	DANC	decontamination agent, non-corrosive
AC	hydrogen cyanide	BTOC	below top of casing	°C	degrees Celsius
AcB2	Anniston and Allen gravelly loams, 2 to 6 percent slopes, eroded	BTV	background threshold value	°F	degrees Fahrenheit
AcC2	Anniston and Allen gravelly loams, 6 to 10 percent slopes, eroded	BW	biological warfare	DCE	dichloroethene
AcD2	Anniston and Allen gravelly loams, 10 to 15 percent slopes, eroded	BZ	breathing zone; 3-quinuclidinyl benzilate	DDD	dichlorodiphenyldichloroethane
AcE2	Anniston and Allen gravelly loams, 15 to 25 percent slopes, eroded	C	ceiling limit value	DDE	dichlorodiphenyldichloroethene
ACGIH	American Conference of Governmental Industrial Hygienists	Ca	carcinogen	DDT	dichlorodiphenyltrichloroethane
ADEM	Alabama Department of Environmental Management	CAB	chemical warfare agent breakdown products	DEH	Directorate of Engineering and Housing
ADPH	Alabama Department of Public Health	CAMU	corrective action management unit	DEP	depositional soil
AEC	U.S. Army Environmental Center	CCAL	continuing calibration	DI	deionized
AEL	airborne exposure limit	CCB	continuing calibration blank	DID	data item description
AET	adverse effect threshold	CD	compact disc	DIMP	di-isopropylmethylphosphonate
AHA	ammunition holding area	CDTF	Chemical Defense Training Facility	DMBA	dimethylbenz(a)anthracene
AL	Alabama	CEHNC	U.S. Army Engineering and Support Center, Huntsville	DMMP	dimethylmethylphosphonate
ALAD	-aminolevulinic acid dehydratase	CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act	DOD	U.S. Department of Defense
amb.	Amber	CERFA	Community Environmental Response Facilitation Act	DOJ	U.S. Department of Justice
amsl	above mean sea level	CESAS	Corps of Engineers South Atlantic Savannah	DOT	U.S. Department of Transportation
ANAD	Anniston Army Depot	CG	carbonyl chloride (phosgene)	DP	direct-push
AOC	area of concern	CFC	chlorofluorocarbon	DPDO	Defense Property Disposal Office
APT	armor-piercing tracer	CFDP	Center for Domestic Preparedness	DPT	direct-push technology
ARAR	applicable or relevant and appropriate requirement	ch	inorganic clays of high plasticity	DQO	data quality objective
AREE	area requiring environmental evaluation	CHPPM	U.S. Army Center for Health Promotion and Preventive Medicine	DRMO	Defense Reutilization and Marketing Office
ASP	Ammunition Supply Point	CK	cyanogen chloride	DRO	diesel range organics
ASR	Archives Search Report	cl	inorganic clays of low to medium plasticity	DS	deep (subsurface) soil
AST	aboveground storage tank	Cl.	chlorinated	DS2	Decontamination Solution Number 2
ASTM	American Society for Testing and Materials	CLP	Contract Laboratory Program	DWEL	drinking water equivalent level
ATSDR	Agency for Toxic Substances and Disease Registry	CN	chloroacetophenone	E&E	Ecology and Environment, Inc.
ATV	all-terrain vehicle	CNB	chloroacetophenone, benzene, and carbon tetrachloride	EBS	environmental baseline survey
AWARE	Associated Water and Air Resources Engineers, Inc.	CNS	chloroacetophenone, chloropicrin, and chloroform	EC ₅₀	effects concentration for 50 percent of a population
AWWSB	Anniston Water Works and Sewer Board	Co-60	cobalt-60	ECBC	Edgewood Chemical/Biological Command
'B'	Analyte detected in laboratory or field blank at concentration greater than the reporting limit (and greater than zero)	CoA	Code of Alabama	EDQL	ecological data quality level
BCF	blank correction factor	COC	chain of custody; contaminant of concern	EE/CA	engineering evaluation and cost analysis
BCT	BRAC Cleanup Team	COE	Corps of Engineers	Elev.	elevation
BERA	baseline ecological risk assessment	Con	skin or eye contact	EM	electromagnetic
BEHP	bis(2-ethylhexyl)phthalate	COPC	chemical(s) of potential concern	EMI	Environmental Management Inc.
BFB	bromofluorobenzene	COPEC	chemical(s) of potential environmental concern	EM31	Geonics Limited EM31 Terrain Conductivity Meter
BFE	base flood elevation	CQCSM	Contract Quality Control System Manager	EM61	Geonics Limited EM61 High-Resolution Metal Detector
BG	Bacillus globigii	CRL	certified reporting limit	EOD	explosive ordnance disposal
bgs	below ground surface	CRZ	contamination reduction zone	EODT	explosive ordnance disposal team
BHC	betahexachlorocyclohexane	Cs-137	cesium-137	EPA	U.S. Environmental Protection Agency
bkg	background	CS	ortho-chlorobenzylidene-malononitrile	EPC	exposure point concentration
bls	below land surface	CSEM	conceptual site exposure model	EPIC	Environmental Photographic Interpretation Center
		ctr.	container	ER	equipment rinsate

List of Abbreviations and Acronyms (Continued)

ER-L	effects range-low	GPS	global positioning system	ITEMS	IT Environmental Management System™
ER-M	effects range-medium	GS	ground scar	'J'	estimated concentration
ESE	Environmental Science and Engineering, Inc.	GSA	General Services Administration; Geologic Survey of Alabama	JeB2	Jefferson gravelly fine sandy loam, 2 to 6 percent slopes, eroded
ESN	Environmental Services Network, Inc.	GSBP	Ground Scar Boiler Plant	JeC2	Jefferson gravelly fine sandy loam, 6 to 10 percent slopes, eroded
ESV	ecological screening value	GSSI	Geophysical Survey Systems, Inc.	JfB	Jefferson stony fine sandy loam, 0 to 10 percent slopes have strong slopes
Exp.	explosives	GST	ground stain	JPA	Joint Powers Authority
E-W	east to west	GW	groundwater	K	conductivity
EZ	exclusion zone	gw	well-graded gravels; gravel-sand mixtures	K _{ow}	octonal-water partition coefficient
FAR	Federal Acquisition Regulations	HA	hand auger	L	lewisite; liter
FB	field blank	HCl	hydrochloric acid	LC ₅₀	lethal concentration for 50 percent of population tested
FD	field duplicate	HD	distilled mustard	LD ₅₀	lethal dose for 50 percent of population tested
FDA	U.S. Food and Drug Administration	HDPE	high-density polyethylene	l	liter
FedEx	Federal Express, Inc.	HEAST	Health Effects Assessment Summary Tables	LBP	lead-based paint
FEMA	Federal Emergency Management Agency	Herb.	herbicides	LCS	laboratory control sample
FFE	field flame expedient	HHRA	human health risk assessment	LC ₅₀	lethal concentration for 50 percent population tested
Fil	filtered	HI	hazard index	LD ₅₀	lethal dose for 50 percent population tested
Flt	filtered	HNO ₃	nitric acid	LEL	lower explosive limit
FMDC	Fort McClellan Development Commission	HQ	hazard quotient	LOAEL	lowest-observed-adverse-effects-level
FML	flexible membrane liner	HQ _{screen}	screening-level hazard quotient	LT	less than the certified reporting limit
FMP 1300	Former Motor Pool 1300	hr	hour	LUC	land-use control
FOMRA	Former Ordnance Motor Repair Area	H&S	health and safety	LUCAP	land-use control assurance plan
Foster Wheeler	Foster Wheeler Environmental Corporation	HSA	hollow-stem auger	LUCIP	land-use control implementation plan
Frtn	fraction	HTRW	hazardous, toxic, and radioactive waste	max	maximum
FS	field split; feasibility study	'I'	out of control, data rejected due to low recovery	MCL	maximum contaminant level
FSP	field sampling plan	ICAL	initial calibration	MCPA	4-chloro-2-methylphenoxyacetic acid
ft	feet	ICB	initial calibration blank	MDC	maximum detected concentration
ft/ft	feet per foot	ICP	inductively-coupled plasma	MDCC	maximum detected constituent concentration
FTA	Fire Training Area	ICRP	International Commission on Radiological Protection	MDL	method detection limit
FTMC	Fort McClellan	ICS	interference check sample	mg	milligrams
FTRRA	FTMC Reuse & Redevelopment Authority	ID	inside diameter	mg/kg	milligrams per kilogram
g	gram	IDL	instrument detection limit	mg/kg/day	milligram per kilogram per day
g/m ³	gram per cubic meter	IDLH	immediately dangerous to life or health	mg/kgbw/day	milligrams per kilogram of body weight per day
G-856	Geometrics, Inc. G-856 magnetometer	IDM	investigative-derived media	mg/L	milligrams per liter
G-858G	Geometrics, Inc. G-858G magnetic gradiometer	IDW	investigation-derived waste	mg/m ³	milligrams per cubic meter
gal	gallon	IEUBK	Integrated Exposure Uptake Biokinetic	mh	inorganic silts, micaceous or diatomaceous fine, sandy or silt soils
gal/min	gallons per minute	ILCR	incremental lifetime cancer risk	MHz	megahertz
GB	sarin	IMPA	isopropylmethyl phosphonic acid	µg/g	micrograms per gram
gc	clay gravels; gravel-sand-clay mixtures	IMR	Iron Mountain Road	µg/kg	micrograms per kilogram
GC	gas chromatograph	in.	inch	µg/L	micrograms per liter
GCL	geosynthetic clay liner	Ing	ingestion	µmhos/cm	micromhos per centimeter
GC/MS	gas chromatograph/mass spectrometer	Inh	inhalation	min	minimum
GCR	geosynthetic clay liner	IP	ionization potential	MINICAMS	miniature continuous air monitoring system
GFAA	graphite furnace atomic absorption	IPS	International Pipe Standard	ml	inorganic silts and very fine sands
GIS	Geographic Information System	IRDMIS	Installation Restoration Data Management Information System	mL	milliliter
gm	silty gravels; gravel-sand-silt mixtures	IRIS	Integrated Risk Information Service	mm	millimeter
gp	poorly graded gravels; gravel-sand mixtures	IRP	Installation Restoration Program	MM	mounded material
gpm	gallons per minute	ISCP	Installation Spill Contingency Plan	MMBtu/hr	million Btu per hour
GPR	ground-penetrating radar	IT	IT Corporation	MOGAS	motor vehicle gasoline

List of Abbreviations and Acronyms (Continued)

MPA	methyl phosphonic acid	oh	organic clays of medium to high plasticity	RCRA	Resource Conservation and Recovery Act
MPM	most probable munition	ol	organic silts and organic silty clays of low plasticity	RD	remedial design
MR	molasses residue	OP	organophosphorus	RDX	cyclonite
MS	matrix spike	ORP	oxidation-reduction potential	RfD	reference dose
mS/cm	millisiemens per centimeter	OSHA	Occupational Safety and Health Administration	ReB3	Rarden silty clay loams
MSD	matrix spike duplicate	OSWER	Office of Solid Waste and Emergency Response	REG	regular field sample
MTBE	methyl tertiary butyl ether	OWS	oil/water separator	REL	recommended exposure limit
msl	mean sea level	oz	ounce	RFA	request for analysis
MtD3	Montevallo shaly, silty clay loam, 10 to 40 percent slopes , severely eroded	PA	preliminary assessment	RGO	remedial goal option
mV	millivolts	PAH	polynuclear aromatic hydrocarbon	RI	remedial investigation
MW	monitoring well	Parsons	Parsons Engineering Science, Inc.	RL	reporting limit
Na	sodium	Pb	lead	RPD	relative percent difference
NA	not applicable; not available	PCB	polychlorinated biphenyl	RRF	relative response factor
NAD	North American Datum	PCE	perchloroethene	RSD	relative standard deviation
NAD83	North American Datum of 1983	PCP	pentachlorophenol	RTECS	Registry of Toxic Effects of Chemical Substances
NAVD88	North American Vertical Datum of 1988	PDS	Personnel Decontamination Station	RTK	real-time kinematic
NAS	National Academy of Sciences	PEL	permissible exposure limit	SAD	South Atlantic Division
NCP	National Contingency Plan	PES	potential explosive site	SAE	Society of Automotive Engineers
ND	not detected	Pest.	pesticides	SAIC	Science Applications International Corporation
NE	no evidence; northeast	PETN	pentarey thritol tetranitrate	SAP	installation-wide sampling and analysis plan
ne	not evaluated	PFT	portable flamethrower	sc	clayey sands; sand-clay mixtures
NEW	net explosive weight	PG	professional geologist	Sch.	Schedule
NFA	No Further Action	PID	photoionization detector	SCM	site conceptual model
ng/L	nanograms per liter	PkA	Philo and Stendal soils local alluvium, 0 to 2 percent slopes	SD	sediment
NGVD	National Geodetic Vertical Datum	POL	petroleum, oils, and lubricants	SDG	sample delivery group
Ni	nickel	POW	prisoner of war	SDZ	safe distance zone; surface danger zone
NIC	notice of intended change	PP	peristaltic pump	SEMS	Southern Environmental Management & Specialties, Inc.
NIOSH	National Institute for Occupational Safety and Health	ppb	parts per billion	SFSP	site-specific field sampling plan
NLM	National Library of Medicine	PPE	personal protective equipment	SGF	standard grade fuels
NPDES	National Pollutant Discharge Elimination System	ppm	parts per million	SHP	installation-wide safety and health plan
NPW	net present worth	PPMP	Print Plant Motor Pool	SI	site investigation
No.	number	ppt	parts per thousand	SL	standing liquid
NOAA	National Oceanic and Atmospheric Administration	PR	potential risk	SLERA	screening-level ecological risk assessment
NOAEL	no-observed-adverse-effects-level	PRG	preliminary remediation goal	sm	silty sands; sand-silt mixtures
NR	not requested; not recorded; no risk	PSSC	potential site-specific chemical	SM	Serratia marcescens
NRC	National Research Council	pt	peat or other highly organic silts	SOP	standard operating procedure
NRCC	National Research Council of Canada	PVC	polyvinyl chloride	sp	poorly graded sands; gravelly sands
ns	nanosecond	QA	quality assurance	SP	submersible pump
N-S	north to south	QA/QC	quality assurance/quality control	SQRT	screening quick reference tables
NS	not surveyed	QAP	installation-wide quality assurance plan	Sr-90	strontium-90
nT	nanotesla	QC	quality control	SRA	streamlined human health risk assessment
NTU	nephelometric turbidity unit	QST	QST Environmental, Inc.	Ss	stony rough land, sandstone series
nv	not validated	qty	quantity	SS	surface soil
O&G	oil and grease	Qual	qualifier	SSC	site-specific chemical
O&M	operation and maintenance	'R'	rejected data; resample	SSHO	site safety and health officer
OB/OD	open burning/open detonation	R&A	relevant and appropriate	SSHP	site-specific safety and health plan
OD	outside diameter	RAO	removal action objective	SSL	soil screening level
OE	ordnance and explosives	RBC	risk-based concentration	SSSL	site-specific screening level

List of Abbreviations and Acronyms (Continued)

SSSSL	site-specific soil screening level
STB	supertropical bleach
STC	source term concentration
STEL	short-term exposure limit
STOLS	Surface Towed Ordnance Locator System®
Std. units	standard units
SU	standard unit
SUXOS	senior UXO supervisor
SVOC	semivolatile organic compound
SW	surface water
SW-846	U.S. EPA's <i>Test Methods for Evaluating Solid Waste: Physical/Chemical Methods</i>
SWPP	storm water pollution prevention plan
SZ	support zone
TAL	target analyte list
TAT	turn around time
TB	trip blank
TBC	to be considered
TCA	trichloroethane
TCDD	2,3,7,8-tetrachlorodibenzo-p-dioxin
TCDF	tetrachlorodibenzofurans
TCE	trichloroethene
TCL	target compound list
TCLP	toxicity characteristic leaching procedure
TDGCL	thiodiglycol
TDGCLA	thiodiglycol chloroacetic acid
TERC	Total Environmental Restoration Contract
TIC	tentatively identified compound
TLV	threshold limit value
TN	Tennessee
TNT	trinitrotoluene
TOC	top of casing; total organic carbon
TPH	total petroleum hydrocarbons
TRADOC	U.S. Army Training and Doctrine Command
TRPH	total recoverable petroleum hydrocarbons
TSCA	Toxic Substances Control Act
TSDF	treatment, storage, and disposal facility
TWA	time-weighted average
UCL	upper confidence limit
UCR	upper certified range
'U'	not detected above reporting limit
USACE	U.S. Army Corps of Engineers
USACHPPM	U.S. Army Center for Health Promotion and Preventive Medicine
USAEC	U.S. Army Environmental Center
USAEHA	U.S. Army Environmental Hygiene Agency
USACMLS	U.S. Army Chemical School
USAMPS	U.S. Army Military Police School
USATCES	U.S. Army Technical Center for Explosive Safety
USATEU	U.S. Army Technical Escort Unit

USATHAMA	U.S. Army Toxic and Hazardous Material Agency
USC	United States Code
USCS	Unified Soil Classification System
USDA	U.S. Department of Agriculture
USEPA	U.S. Environmental Protection Agency
USGS	U.S. Geological Survey
UST	underground storage tank
UTL	upper tolerance level
UXO	unexploded ordnance
UXOQCS	UXO Quality Control Supervisor
UXOSO	UXO safety officer
V	vanadium
VOA	volatile organic analyte
VOC	volatile organic compound
VOH	volatile organic hydrocarbon
VQlfr	validation qualifier
VQual	validation qualifier
VX	nerve agent (O-ethyl-S-[diisopropylaminoethyl]-methylphosphonothiolate)
Weston	Roy F. Weston, Inc.
WP	installation-wide work plan
WS	watershed
WSA	Watershed Screening Assessment
WWI	World War I
WWII	World War II
XRF	x-ray fluorescence
yd ³	cubic yards

N – The high-spike recovery is low
R – Data is rejected

SAIC – Data Qualifiers, Codes and Footnotes, 1995 Remedial Investigation

N/A – Not analyzed

ND – Not detected

Boolean Codes

LT – Less than the certified reporting limit

Flagging Codes

9 – Non-demonstrated/validated method performed for USAEC

B – Analyte found in the method blank or QC blank

C – Analysis was confirmed

D – Duplicate analysis

I – Interfaces in sample make quantitation and/or identification to be suspicious

J – Value is estimated

K – Reported results are affected by interfaces or high background

N – Tentatively identified compound (match greater than 70%)

Q – Sample interference obscured peak of interest

R – Non-target compound analyzed for but not detected (GC/MS methods)

S – Non-target compound analyzed for and detected (GC/MS methods)

T – Non-target compound analyzed for but not detected (non GC/MS methods)

U – Analysis in unconfirmed

Z – Non-target compound analyzed for and detected (non-GC/MS methods)

Qualifiers

J – The low-spike recovery is low