

**LIST OF ABBREVIATIONS, ACRONYMS,
FORMULAS, SYMBOLS, NUMBERS, AND TERMS**

The following list defines the abbreviations, acronyms, formulas, symbols, numbers, and terms used in this manual. Some of these entries are common throughout the environmental industry and government offices; many are unique to the U.S. Army Corps of Engineers. They are listed here as an aid to the reader of this manual.

<u>Term</u>	<u>Definition</u>
AA	Atomic absorption spectrophotometer
AAR	Asbestos Analyst Registry
ACC	Air Combat Command
ACS	American Chemical Society
AF	Air Force
Ag	Silver
Al	Aluminum
ALKAL	Alkalinity (Methods 310s)
ANION	Common anions (Methods 300.0/300s)
APHA	American Public Health Association
API	American Petroleum Institute
ARCS	Alternative Remedial Contracts Strategy
As	Arsenic
AST	Aboveground storage tank
ASTM	American Society for Testing and Materials
AVO	Aromatic volatile organic compounds (Method 8020)
AWWA	American Water Works Association
Ba	Barium
BD	Blank duplicate
BFB	4-Bromofluorobenzene
Be	Beryllium
BNA	Base neutral, and acid extractable organic compound
BRAC	Base Realignment and Closure
BS	Blank spike
BSD	Blank spike duplicate
Ca	Calcium
CCC	Calibration check compound
CCS	Continual calibration standard
CCV	Continual calibration verification
Cd	Cadmium
CDAP	Chemical Data Acquisition Plan
CEMRD	Corps of Engineers, Missouri River Division

Term	Definition
CFR	Code of Federal Regulations
CLP	Contract Laboratory Program
CMS	Corrective measures study
CN	Total and amenable cyanide (Methods 9010A/9012)
Co	Cobalt
COC	Chain-of-custody
COD	Chemical oxygen demand (Methods 410s)
COR	Contracting officer representative
CQAR	Chemical Quality Assurance Report
Cr	Chromium
Cr (VI)	Hexavalent chromium
Cu	Copper
CVAA	Cold vapor atomic absorption
Dalapon	A trade name for a herbicide
DCBP	Decachlorobiphenyl
DDD	Dichlorodiphenyl-dichloroethane
DDT	Dichlorodiphenyl-trichloroethane
DERP	Defense Environmental Restoration Program
DFTPP	Decafluorotriphenylphosphine
DOE	Department of Energy
DOT	Department of Transportation
DQO	Data quality objective
DRO	Diesel range organics
ECD	Electron capture detector
ELCD	Electrolytic conductivity detector
EM	Engineering manual
EMSL	Environmental Monitoring Systems Laboratory
Endrin	A trade name for an insecticide
ENG	Engineering
EP	Extraction procedure
EQL	Estimated quantitation limit
ER	Engineering regulation
ERDEC	Edgewood Research, Development and Engineering Center
EXPLO	Nitroaromatics and nitramines explosives (draft Method 8330)
FAX	Facsimile
Fe	Iron
FID	Flame ionization detector
FLAA	Flame atomic absorption
FOA	Field operating activities
FPD	Flame photometric detector
FR	Federal Register
FUDS	Formerly Used Defense Site
FS	Feasibility study
GC	Gas chromatography

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Term	Definition
GC/MS	Gas chromatograph/mass spectrometer
GFAA	Graphite furnace atomic absorption
GHAA	Gaseous hydride atomic absorption
GPC	Gel permeation chromatography
GRO	Gasoline range organics
HARD	Total hardness (Methods 130s)
HAZWRAP	Hazardous waste remedial action program
HCl	Hydrochloric acid
HERB	Chlorinated herbicides (Method 8150A)
Hg	Mercury
HNO ₃	Nitric acid
HPLC	High performance liquid chromatography
H ₃ P O ₄	ortho-Phosphoric acid
HRGC/LRMS	High resolution gas chromatograph/low resolution mass spectrometer
HRGC/HRMS	High resolution gas chromatograph/high resolution mass spectrometer
HQUSACE/OCE	Headquarters, U.S. Army Corps of Engineers/ Office of the Chief of Engineers
H ₂ SO ₄	Sulfuric acid
HTRW	Hazardous, toxic, and radioactive waste
HTRW MCX	HTRW Mandatory Center of Expertise
HVO	Halogenated volatile organic compound
IC	Ion chromatography
ICP	Inductively coupled plasma-atomic emission spectrometer
ICP/MS	Inductively coupled plasma/mass spectrometer
ICS	Interference check standard
ICV	Initial calibration verification
ID	Inside diameter; or identification
IDL	Instrument detection limit
IR	Infrared
IRP	Installation Restoration Program
JP-4	An engine fuel for jet-propelled aircraft
K	Potassium
KCN	Potassium cyanide
LC/MS	Liquid chromatograph/mass spectrometer
LCS	Laboratory control samples
LCS D	Laboratory control sample duplicate
LIMS	Laboratory information management system
LVC	Laboratory validation coordinator
LQMM	Laboratory quality management manual
MB	Method blank
MCX	Mandatory Center of Expertise
MD	Matrix duplicate
MDL	Method detection limit

<u>Term</u>	<u>Definition</u>
METAL	Trace metals (Methods 6010A/7000s)
Mg	Magnesium
Mn	Manganese
Mo	Molybdenum
MRD	Missouri River Division
MRDL	Missouri River Division Laboratory
MS	Matrix spike; or mass spectrometer
MSA	Method of standard additions
MSD	Matrix spike duplicate
Na	Sodium
NaOH	Sodium hydroxide
Na ₂ S ₂ O ₃	Sodium thiosulfate
NACIP	Naval Assessment and Control of Installation Pollutants
NEESA	U.S. Navy Energy and Environmental Support Activity
Ni	Nickel
NIOSH	National Institute for occupational Safety and Health
NIST	National Institute of Standards and Technology
NPDES	National Pollution Discharge Elimination System
NRC	Nuclear Regulatory Commission
NVLAP	National Voluntary Laboratory Accreditation Program
O&G	Oil and grease
OSHA	Occupational Safety and Health Administration
OSW	Office of Solid Waste
PA	Preliminary assessment
PAH	Polynuclear aromatic hydrocarbons (Methods 8100/8310)
PARCCS	Precision, accuracy, representativeness, comparability, completeness, and sensitivity
PAT	Proficiency Analytical Testing Program
Pb	Lead
PCB	Polychlorinated biphenyls (Method 8080)
PCDD	Polychlorinated dibenzo-p-dioxins
PCDF	Polychlorinated dibenzofurans
PE	Performance evaluation
PES	PE sample supplier
PEST	Organochlorine pesticides (Method 8080)
PFB	Pentafluorobenzylbromide
pH	Potential of hydrogen
PHENO	Phenols (Method 8040A)
PHENL	Phenolics (Methods 9065/9066/9067)
PID	Photoionization detector
POC	Point of contact

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<u>Term</u>	<u>Definition</u>
POL	Petroleum, oils, or lubricant
PP	Priority pollutant
ppb	Part per billion
ppm	Part per million
PQL	Practical quantitation limit
QA	Quality assurance
QC	Quality control
%R	Percent recovery
RCRA	Resource Conservation and Recovery Act
RFA	RCRA facility assessment
RFI	RCRA facility investigation
RA	Remedial action
RADCHEM	Radiochemistry
RAS	Routine Analytical Service
RD	Remedial design
REM	Remedial Engineering Management
RF	Response factor
RI	Remedial investigation
RPD	Relative percent difference
RRT	Relative retention time
SAE	Society of Automotive Engineers
SAS	Special Analytical Service
Sb	Antimony
SBA	Small Business Administration
SDWA	Safe Drinking Water Act
Se	Selenium
SEM	Scanning electron microscope
SF	Superfund
SI	Site investigation
SIM	Selected ion monitoring
SOP	Standard operating procedure
SOW	Scope of work
SPCC	System performance check compound; or spill prevention control and countermeasure
SQG	Small quality generator
SS	Stainless steel
SW-846	The USEPA document, "Test Method for Evaluating Solid Waste"
TAL	Target Analyte List
TBA	Tetrabutylammonium
TCL	Target Compound List
TCD	Thermal conductivity detector
TCDD	Tetrachlorodibenzo-p-dioxins
TCLP	Toxicity characteristic leaching procedure
TCMX	2,4,5,6-Tetrachloro-m-xylene
TDS	Total dissolved solids (Method 160.1)

<u>Term</u>	<u>Definition</u>
TIC	Tentatively identified compound
Tl	Thallium
TO	Toxic organics
TOC	Total organic carbon (Method 9060)
TOX	Total organic halides (Methods 9020A/9022)
TM	Technical manager
TM/COR	Technical manager/contracting officer representative
TPH	Total petroleum hydrocarbons (modified Method 8015)
TRPH	Total recoverable petroleum hydrocarbons (Method 418.1)
TSS	Total suspended solids (Method 160.2)
USACE	U.S. Army Corps of Engineers
USAEC	U.S. Army Environmental Center
USAFOEHL	U.S. Army Force Occupational and Environmental Health Laboratory
USDA	U.S. Department of Agriculture
USEPA	U.S. Environmental Protection Agency
USGS	United States Geological Survey
UST	Underground storage tank
UV/VIS	Ultraviolet/Visible
V	Vanadium
VOA	Volatile organic analyte (Method 8240A)
VOC	Volatile organic compound
v/v	Volume to volume
WES	Waterways Experiment Station
WP	Water pollution
WPCF	Water Pollution Control Federation
WS	Water supply
ZHE	Zero-headspace extractor
Zn	Zinc
130s	USEPA methods for total hardness
300s	USEPA methods for common anions
300.0	USEPA method for common anions by ion chromatography
310s	USEPA methods for alkalinity
410s	USEPA methods for chemical oxygen demand
413.1	USEPA method for oil and grease by gravimetric method
413.2	USEPA method for oil and grease by IR
418.1	USEPA method for total recoverable petroleum hydrocarbons by IR
601	USEPA method for purgeable halocarbons by GC
602	USEPA method for purgeable aromatics by GC

<u>Term</u>	<u>Definition</u>
603	USEPA method for acrolein and acrylonitrile by GC
604	USEPA method for phenols by GC
606	USEPA method for phthalate esters by GC
607	USEPA method for nitrosamines by GC
608	USEPA method for organochlorine pesticides and PCBS by GC
609	USEPA method for nitroaromatics and isophorone by GC
610	USEPA method for polynuclear aromatic hydrocarbons by GC
611	USEPA method for haloethers by GC
612	USEPA method for chlorinated hydrocarbons by GC
624	USEPA method for purgeables by GC/MS
625	USEPA method for base/neutrals and acids by GC/MS
1010	USEPA method for ignitability by Pensky-Martens closed-cup method
1020A	USEPA method for ignitability by Setaflash closed-cup method
1110	USEPA method for corrosivity toward steel
1310A	USEPA method for extraction procedure toxicity test method and structural integrity test
1311	USEPA method for toxicity characteristic leaching procedure
3005A	USEPA method for acid digestion of water for total recoverable or dissolved metals for analysis by FLAA or ICP
3010A	USEPA method for acid digestion of aqueous samples and extracts for total metals for analysis by FLAA or ICP
3020A	USEPA method for acid digestion of aqueous samples and extracts for total metals for analysis by GFAA
3040	USEPA method of dissolution products for oils, greases, or waxes
3050A	USEPA method for acid digestion of sediments, sludges, and soils
3060	USEPA method for alkaline digestion of hexavalent chromium in solid waste
3510A	USEPA method for separator funnel liquid-liquid extraction
3520A	USEPA method for continuous liquid-liquid extraction
3540A	USEPA method for Soxhlet extraction
3550	USEPA method for sonication extraction

Term	Definition
3580A	USEPA method for waste dilution
3610A	USEPA method for alumina column cleanup
3620A	USEPA method for Florisil column cleanup
3630A	USEPA method for silica gel cleanup
3640	USEPA method for gel-permeation cleanup
3650A	USEPA method for acid-base partition cleanup
3660A	USEPA method for sulfur cleanup
3810	USEPA method for headspace extraction and screening of purgeable organics
5030A	USEPA method for purge-and-trap
6010A	USEPA method for metal analysis by ICP
7000s	USEPA methods for metal analysis by FLAA, GFAA, or CVAA
7060	USEPA method for analysis of aqueous arsenic samples by GFAA
7061A	USEPA method for analysis of aqueous arsenic samples by GHAA
7470	USEPA method for analysis of mercury in liquid waste by CVAA
7471	USEPA method for analysis of mercury in solid or semisolid waste by CVAA
7740	USEPA method for analysis of aqueous selenium samples by GFAA
7741	USEPA method for analysis of aqueous selenium samples by GHAA
8010A	USEPA method for halogenated volatile organics by GC
8015A	USEPA method for nonhalogenated volatile organics by GC
8015M	Modified USEPA Method 8015 for total petroleum hydrocarbons by GC
8020	USEPA method for aromatic volatile organics by GC
8040A	USEPA method for phenols by GC
8080	USEPA method for organochlorine pesticides and PCBs by GC
8100	USEPA method for polynuclear aromatic hydrocarbons by GC
8140	USEPA method for organophosphorus pesticides by GC
8150A	USEPA method for chlorinated herbicides by GC
8240A	USEPA method for volatile organics by GC/MS
8250	USEPA method for semivolatile organics by packed column GC/MS
8270A	USEPA method for semivolatile organics by capillary GC/MS

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<u>Term</u>	<u>Definition</u>
8280	USEPA method for PCDD and PCDF by GC/MS
8310	USEPA method for polynuclear aromatic hydrocarbons by HPLC
8330	Draft USEPA method for nitroaromatics and nitramines by HPLC
9010A	USEPA method for total and amenable cyanide by manual calorimetric method
9012	USEPA method for total and amenable cyanide by automated calorimetric method
9060	USEPA method for total organic carbon
9065	USEPA method for phenolics by manual spectrophotometric method
9066	USEPA method for phenolics by automated calorimetric method
9067	USEPA method for phenolics by spectrophotometric method
9071	USEPA method for oil and grease extraction of sludge samples