

Appendix Table 1-6. Methods used for chemical analysis in the Deepwater Horizon oil spill, Gulf of Mexico, 2010, study.

[Method codes are from the National Water Information System (NWIS) database. Method identifiers are from the publication by the originating agency. Full citations are listed in Appendix 1, part 7. **Abbreviations:** ASE, accelerated solvent extraction; ASF, automated-segmented flow; CVAA, cold vapor atomic absorption spectrometry; DODEC, Department of Defense Environmental Conservation; FNU, formazin nephelometric unit; GC/MS, gas chromatography with mass spectrometric detection; GRO, Gasoline range organics; H₂SO₄, sulfuric acid; HEM, *n*-hexane extractable material; HgSO₄, mercury(II) sulfate; ICP-AES, Inductively Coupled Plasma-Atomic Emission Spectrometry; ICP-MS, Inductively Coupled Plasma-Mass Spectrometry; ICP-OES, Inductively Coupled Plasma Optical Emission Spectrometry; K₂SO₄, potassium sulfate; NWQL, National Water Quality Laboratory; PAH, polycyclic aromatic hydrocarbon; VOC, volatile organic compound; WRI, Water-Resources Investigation report; WSC, Water Science Center; –, not available]

Method code	Method identifier	Method description	Citation
00138	9071B	USEPA method 9071B, but analyte not listed in method	U.S. Environmental Protection Agency (1998).
AA095	–	Elements in bed sediment by Atomic Absorption Spectrophotometry, Georgia WSC Sediment Chemistry Lab	Horowitz and others (2001).
AA095	–	Elements in bed sediment by Atomic Absorption Spectrophotometry, Georgia WSC Sediment Chemistry Lab	Fishman and Friedman (1989a).
AKP01	I-4650-03	Nutrients, unfiltered water, acidified, alkaline-persulfate digestion, continuous flow colorimetry	Patton and Kryskalla (2003).
ALGOR	–	Computation by NWIS algorithm	Algorithms for calculated parameters, in U.S. Geological Survey (2006).
CL016	350.1	Ammonia in unfiltered water by automated phenate colorimetry	–
CL017	350.1	Nutrients, unfiltered water, colorimetric	–
CL021	365.1	Phosphorus, unfiltered water, acidified, acid-persulfate digestion, continuous flow colorimetry	–
CL159	365.4	Phosphorus, unfiltered water, automated, block digester, digestion with H ₂ SO ₄ , K ₂ SO ₄ and HgSO ₄ , colorimetry (USEPA 365.4; DODEC program)	–
CMB01	–	Elements in bed sediment by Combustion, Georgia WSC Sediment Chemistry Lab	Horowitz and others (2001).
CMB01	–	Elements in bed sediment by Combustion, Georgia WSC Sediment Chemistry Lab	Fishman and Friedman (1989a).
CMB07	–	Determination of Total Organic Carbon in Sediment (Lloyd Kahn Method)	Kahn (1988).
COMB4	5310B	Combustion-Infrared Method	Standard Methods for the Examination of Water and Wastewater (2006).
CV021	7470A	Mercury recoverable from unfiltered water by CVAA (DODEC, USEPA 7470A)	U.S. Environmental Protection Agency [variously dated].
CV025	–	Elements in bed sediment by CVAA, Georgia WSC Sediment Chemistry Lab	Horowitz and others (2001).
CV025	–	Elements in bed sediment by CVAA, Georgia WSC Sediment Chemistry Lab	Fishman and Friedman (1989a).
GC155	8015B	GRO compounds in unfiltered water by gas chromatography with flame-ionization detection	–
GC158	8015C	Petroleum hydrocarbons in unfiltered water by gas chromatography with flame-ionization detection (USEPA method 8015C; DODEC program)	–
GC101	8015B	Nonhalogenated organics in unfiltered water by gas chromatography with flame ionization detection	U.S. Environmental Protection Agency (1996b).
GC102	8015B	GROs, water, unfiltered, by gas chromatography with flame ionization detection (USEPA Method 8015B)	U.S. Environmental Protection Agency (1996b).
GCM13	O-5506-06	New Method for PAH compounds and their homologs in solids by ASE extraction and GC/MS analysis; WRI being written	Zaugg and others (2006).
GCM25	8260B	VOCs by GC/MS Capillary Column Technique	U.S. Environmental Protection Agency (1996c).
GCM55	O-3116-87	Base/neutral and acid extractable compounds, unfiltered water, methylene chloride extractable, methylene chloride extractable, GC/MS	Fishman (1993).
GCM56	O-3117-83	Base/neutral and acid extractable compounds, unfiltered water, methylene chloride extractable, methylene chloride extractable, GC/MS	Wershaw and others (1987a).

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GCM57	O-3118-83	Base/neutral and acid extractable compounds, unfiltered water, methylene chloride extractable, methylene chloride extractable, GC/MS (NWQL Schedule 1494)	Wershaw and others (1987b).
GCM66	O-4127-96	VOCs, unfiltered water, acidified, purge and trap gas chromatography/mass spectrometry	Connor and others (1998).
GCM75	8260B	VOCs, water, unfiltered, by GC/MS	U.S. Environmental Protection Agency [variously dated].
GCM76	8270C	Semi-volatile organic compounds, water, unfiltered, by GC/MS (USEPA method 8270C; DODEC program)	U.S. Environmental Protection Agency [variously dated].
GCM94	8260B	VOCs, water, unfiltered, GC/MS (DODEC, USEPA Method 8260B)	U.S. Environmental Protection Agency (1996c).
GM025	8270D	Semi-volatile organic compounds, water, unfiltered, by GC/MS (USEPA method 8270D; DODEC program)	–
GM026	8270C SIM	Semi-volatile organic compounds, water, unfiltered, by GC/MS in selected ion monitoring mode	–
GM027	8270D	Semi-volatile organic compounds, solids, recoverable by GC/MS (USEPA 8270D; DODEC program)	–
GRV29	9071B	HEM	U.S. Environmental Protection Agency (1998).
GRV30	1664A	HEM by extraction and gravimetry (see attachment 1 in the reference)	U.S. Environmental Protection Agency (1999).
GRV33	–	Moisture content, by weight	–
HY017	–	Elements in bed sediment by Hydride Generation ICP-AES, Georgia WSC Sediment Chemistry Lab	Horowitz and others (2001).
HY017	–	Elements in bed sediment by Hydride Generation ICP-AES, Georgia WSC Sediment Chemistry Lab	Fishman and Friedman (1989a).
KJ001	351.2	Ammonia plus organic nitrogen in unfiltered water by Kjeldahl analysis	–
KJ008	I-4515-91	Ammonia plus organic nitrogen, unfiltered water, acidified, Kjeldahl digestion, continuous flow colorimetry	Patton and Truitt (2000).
KJ009	I-4610-91	Total phosphorus in unfiltered water by Microkjeldahl Digestion, and ASF Dialysis and Colorimetry (unfiltered sample, preserved by chilling only prior to 1/1/1999, preserved with sulfuric acid 1/1/1999 to present; see Office of Water Quality Tech Memo 99.04)	Patton and Truitt (1992).
PCL01	–	Total nitrogen in filtered water by pyrochemiluminescence (California WSC)	Merriam and others (1996).
PLA15	I-4471-97	Metals, unfiltered water, ICP-AES	Garbarino and Struzeski (1998).
PLA17	6010B	Trace elements in unfiltered water by ICP-AES (USEPA method 6010B; DODEC program)	U.S. Environmental Protection Agency (1996a).
PLA20	–	Elements in bed sediment by ICP-AES, Georgia WSC Sediment Chemistry Lab	Horowitz and others (2001)
PLA20	–	Elements in bed sediment by ICP-AES, Georgia WSC Sediment Chemistry Lab	Fishman and Friedman (1989a).
PLM11	I-4020-05	Elements in unfiltered water using collision/reaction cell ICP-MS	Garbarino and others (2006).
PLM47	I-4471-97	Metals, unfiltered water, ICP-MS	Garbarino and Struzeski (1998).
PLM48	I-4471-97	Metals, unfiltered water, ICP-MS	Garbarino and Struzeski (1998).
PLO01	–	Potassium recoverable from unfiltered water by ICP-OES	–
TS087	7027	YSI Environmental, sensor model 6136, several multiparameter instruments, FNU	–
WHT03	I-2781-85	Specific conductance, lab, automated, by Wheatstone bridge	Fishman, M.J., and Friedman, L.C. (1989b).