

# Summary of Scribe Database Phase III Effort in Support of Deepwater Horizon Oil Spill Response – Porting Data to NOAA’s Query Manager (QM)

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Prepared by:

B. Shorr

NOAA / ORR / Spatial Data Branch

J. Brinkman

Industrial Economics Inc.

M. Dorsey

NOAA / ORR / Spatial Data Branch

P. Myre

Exa Data

J. Bosch

NOAA / NODC / National Coastal Data Development Center

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## Background

The Scribe software was developed by and is managed and maintained by the United States Environmental Protection Agency (EPA). During the Response phase of the Deepwater Horizon (DWH) Oil Spill Event, the Scribe software was offered for housing and sharing the environmental data being collected. A variety of federal agencies, state environmental management agencies and BP and its contractors used the software to enter data on the locations, descriptions, and analysis of water, sediment, oil, tar, dispersant, air and other environmental samples. Scribe was also used for air and water monitoring data descriptions and includes results and observational information.

The variety of data, DWH Scribe users and contracted laboratories, as well as the dynamics of this large-scale emergency response, resulted in inconsistencies in the initial data formats and entries. In order for the data in the DWH Scribe databases to be comparable, and for reliable evaluation and reporting to occur, harmonization across databases was necessary and three phases of data “cleanup” were identified. The first two cleanup phases were led by the National Oceanic and Atmospheric Administration’s (NOAA) National Oceanographic Data Center (NODC) and supported by all the data providers (DWH Scribe database contributors). The third phase was led by NOAA’s Office of Response and Restoration (OR&R). A description of these three cleanup phases follows:

**Phase I.** Focused specifically on the data required by the Operational Science Advisory Team (OSAT) evaluations. As stated in the OSAT report (OSAT, 2010) “The purpose of this report is to provide the Federal On-Scene Coordinator for the Deepwater Horizon MC252 Spill of National Significance with sufficient information to determine the presence or absence of subsurface oil and dispersants amenable to removal actions under the provisions of the Clean Water Act, the Oil Pollution Act of 1990, and the National Oil and Hazardous Substances Pollution Contingency Plan.” This phase of Scribe cleanup concentrated on analytical data for near shore, offshore and deep sea water and sediment samples. The analyte names, Chemical Abstract Service (CAS) Numbers (registry numbers), detection limits, units of measurement, sample locations, and matrix were

compared to lists of valid values and/or validation rules. The data were made sufficiently consistent for the OSAT to complete its evaluations with the aid of a cross-reference table for analyte name synonyms. This phase also identified additional cleanup and completion issues that needed to be applied across the DWH Scribe databases.

**Phase II.** Focused on completion of required content in the databases, further evaluation and reconciliation of CAS Numbers, analyte names, and sample identifiers. A second OSAT team formed, which had greater emphasis on toxicity data and onshore samples, which these databases needed to support. Additionally, this cleanup effort provided data in support of the Joint Analysis Group's (JAG) reporting of analytical chemistry results related to the subsurface monitoring of a deep oil plume. The goals of Phase II included (1) ensuring that the data needed for the second OSAT and JAG was reliable and useable; (2) completing the process of providing unique analyte names and registry numbers; (3) providing consistent identifiers for each sample; (4) verifying values for sample locations and depths; and (5) and evaluating the databases for completeness and consistency against the rules set for the Deepwater Horizon Response.

**Phase III.** Phase III focused on any outstanding formatting or cleanup necessary for data being transitioned from Scribe databases into NOAA's QM for data dissemination and archival. This document describes the **Phase III** effort to transfer the data from multiple Scribe databases into the single QM database. It describes the mapping process of the database content from Scribe tables and fields to QM fields.

Water, Sediment, Tar/Oil, Bioassay/Tissue sample data from the Scribe databases were formatted for entry into the QM platform. Consistent mapping of Scribe fields into QM fields were documented and performed. The data is made available in QM Web and Desktop products and has been archived at NOAA National Oceanographic Data Center (NODC) and is publically available.

The air data, monitoring data, and anecdotal data (for example, information on odor complaints) from Scribe are not available in QM. These data are available from the original

Scribe databases archived at NODC under the Scribe Phase II effort. This document does, however, provide further details on what data were segregated.

## **1 Database Resources**

### **1.1 Scribe Databases**

Scribe is a software tool developed by the USEPA's Environmental Response Team (ERT) to assist in the process of managing environmental data. Scribe captures sampling, observational, and monitoring field data. The Scribe software consists of a graphical user interface (GUI) that connects to a database with a standardized schema and structure for all data providers to use as a template when managing their environmental sampling data. During the DWH Response, the databases that were used were MS Access format. The Scribe software allowed data providers and users the ability to upload or download database updates into a centralized location via an internet connection.

The compilation of the data and results collected and managed in the Scribe system for the DWH Response involved a number of organizations and their supporting contractors (Appendix A). Scribe databases were created by federal organizations including the EPA, NOAA, United States Geological Survey (USGS), and the National Park Service (NPS); state organizations including Louisiana Department of Environmental Quality (LDEQ), Mississippi Department of Environmental Quality (MDEQ), Alabama Department of Environmental Management (ADEM), and Florida Department of Environmental Protection (FLDEP); and three companies contracted by BP, Environmental Standards Inc. (ESI), the Center for Toxicology and Environmental Health, L.L.C. (CTEH) and Total Safety Inc. (TSI). Support in managing some of the databases was provided by Weston Solutions Inc. (WSI) for EPA, Industrial Economics Inc. (IEc) for NOAA and AECOM for BP and CTEH.

Appendix B provides a listing of the 14 Scribe database projects along with the responsible organizations and a summary of the database content. Of the 14 original Scribe databases, 11 included content applicable to import into the NOAA QM database.

## 1.2 QM Database

NOAA's QM is a database and query tool that can be used to access sediment, tissue, water, and tar/oil chemistry sample analysis results, along with sediment and water toxicity data. QM organizes data sets from multiple studies into a consistent and standardized structure, which facilitates data delivery and aids in interpretation, mapping, and analysis. QM's framework is based on the FoxPro™ relational database engine and includes related tables (.dbf) as well as a GUI that serves as the query tool. The query tool includes pre-programmed queries that allow users to evaluate individual contaminants and contaminant groups, make comparisons to common toxicological benchmarks, calculate totals, and apply toxicity models.

### 1.2.1 Web QM

Currently QM has a web based version and a desktop version. The web based version for DWH Response chemistry data can be found at <http://querymanager.orr.noaa.gov/dr/>.

### 1.2.2 Desktop QM

The desktop version of QM can be downloaded at <http://response.restoration.noaa.gov/environmental-restoration/environmental-assessment-tools/query-manager-marplot-data-maps.html>. Detailed instructions and a step-by step tutorial are available on this site along with the required data tables and dictionaries.

## 2 Transfer of Data

### 2.1 Overview

Several meetings were held to carefully plan the transfer of the Response chemistry data from the Scribe databases and their schemas to the NOAA QM tables and their schemas. A review of the databases was also done in order to determine which data were appropriate to port into QM and which would be segregated out. A process was developed that would allow the data to be transferred but also allowed for further QA/QC, standardization, and

back checking. This process is explained in the following sections and their associated appendices.

## **2.2 Segregated Data**

Several types of data in the Response Scribe databases were identified as data that would be segregated from transfer to the QM data tables. As QM was established to primarily handle sediment, tissue, tar/oil/ and water sample analysis results, the types of data that were segregated are based generally on 5 main categories.

1. Air samples and results.
2. Monitoring and anecdotal data.
3. Samples without chemistry results.
4. Non-environmental samples and results that were primarily waste characterization samples.
5. Case by case identification of data that were incomplete or duplicative.

The first three categories were segregated prior to creation of the files for import to QM. The last two categories were segregated by the QM Team while creating the QM tables. For more details on data segregation refer to Appendix C. Please contact NOAA Office of Response and Restoration (OR&R) by email at [dwh.respondedata@noaa.gov](mailto:dwh.respondedata@noaa.gov) for inquiries regarding segregated data.

## **2.3 Scribe Databases (MS Access) to Import Databases (MS Access)**

The process for transferring the data from the Scribe schema to the QM schema required the development of intermediary databases and associated tables referred to as import databases. These import databases were created to provide a staging area for data to be correctly mapped from Scribe to QM. For each Scribe database, a new import database was created, and within each database, seven import tables were created. The import database files names are:

1. ADEM.accddb
2. ALECI.accdb
3. CTEH.accdb
4. EPA.accdb
5. ESI.accdb
6. FLDEP.accdb
7. MSDEC.accdb



8. NOAA.accdb
9. NPS.accdb
10. OB.accdb
11. USGS.accdb

Within each of the databases the following import tables were created:

1. Stations – mandatory table.
2. Samples – mandatory table.
3. Chem – mandatory table.
4. ChemQC – mandatory table.
5. EDD – mandatory table.
6. SampleTags – produced only if Scribe SampleTags table was populated. EPA, ESI and CTEH were the only providers that used this table.
7. COC – produced only if Scribe COC table was populated. EPA was the only provider that used this table.

The seven import tables described above were created using queries that included links to the Scribe tables from the most recent version of each provider's Scribe database. The five linked Scribe tables were:

1. Location
2. Samples
3. LabResults
4. COC, and
5. SampleTags

In addition, five tables and two modules were created to map Scribe types and names to QM types and names, convert units, handle null values, and format dates and times. These five tables were:

1. Map\_Analyte\_Chemical
2. Map\_Matrices
3. Map\_QCTypes
4. Map\_SampleTypes
5. Conversions

and two modules were:

1. All\_Export\_Functions
2. LabRep.

The provider information was appended to copies of templates which included:

1. Template\_Location\_to\_Station

2. Template\_Samples\_to\_Samples
3. Template\_LabResults\_to\_Chem
4. Template\_LabResults\_to\_ChemQC
5. Template\_LabResults\_to\_EDD
6. Template\_SamplesTags
7. Template\_COC

Once the five tables have been linked and the seven copies of the templates have been produced, queries were run to make the two interim tables and append to the seven final tables.

The queries were run in the following order:

1. qry1\_Samples\_Plus: makes a version of the samples table with COCs appended.
2. qry2\_All\_Export: makes a table with all the fields needed to populate the mandatory five final tables.
3. qry3\_Station: appends data to the Stations table.
4. qry4\_Samples: appends data to Sample table
5. qry5\_EDD: appends data to EDD table
6. qry6\_Chem: appends data to Chem table
7. qry7\_ChemQC: appends data to ChemQC table
8. qry8\_SampleTags: makes a table with information from the Scribe SampleTags table.

The template, mapping and conversion tables, queries and modules are stored in the NOAA Deepwater Horizon sftp site at:

Deepwater\_Horizon\_Ext/Scribe\_to\_QM\_Mapping/FinalReport/Scribe\_to\_QM\_Import\_Template.accdb. For inquiries regarding the import databases, tables and queries please contact NOAA Office of Response and Restoration (OR&R) by email [dwh.respondedata@noaa.gov](mailto:dwh.respondedata@noaa.gov) Additional detail on processing notes for individual databases is provided in Appendix D. A listing of the Scribe source files and their associated Import database files with record counts is listed in TABLE 1.

**TABLE 1. Scribe Source Files to Import Files**

Scribe Source File(s)	Version(s)	Import File	Record Cnt
ADEM_DW_Sampling_Analytical_Monitoring.mdb	14	ADEM_to_QM.accdb	4295
ALECI_DW_Sampling_Analytical.mdb	22	ALECI_to_QM-Revised.accdb	24941
CTEH_DW_Sampling_Analytical.mdb	34	CTEH_to_QM_Update.accdb	594172
DW_Reporting.mdb	219	EPA_to_QM-Revised.accdb	308041
Envstd_Sampling_Analytical_2.mdb	69	ESI_to_QM_Revised_w_Append_6-26-12.accdb	606904
FLDEP_DW_Sampling_Analytical.mdb	76	FLDEP_to_QM.accdb	31759
MSDEQ_DW_Sampling_Analytical.mdb	24	MSDEQ_to_QM.accdb	12449
NOAADW.mdb/Envstd_Sampling_Analytical_2.mdb	81/69	NOAA_to_QM-Update.accdb	613384
NOAADW.mdb	81	NOAADW_OnBoard_Update_with_RyanChouest.accdb	86155
NPS_DW_Sampling_Analytical.mdb	4	NPS_to_QM.accdb	46
USGSDW.mdb	18	USGS_to_QM-Update.accdb	35592
BP_DW_Sampling_Analytical.mdb	6	NA	0
CTEH_DW_Monitoring.mdb	15	NA	0
TS_DW_Monitoring.mdb	6	NA	0
LDEQ_DW_Sampling_Analytical.mdb	55	NA	0

*\*Note: The original "NOAADW" database was split into two import files. Also note, the four Scribe databases not transferred to QM are shown as import file "NA" with "0" record counts in Table 1.*

The databases NOAADW.mdb and EnvStds\_DW\_Sampling\_Analytical.mdb contain location and sample information for the same cruise samples. The data in NOAADW.mdb are more complete and accurate than the data in EnvStds\_DW\_Sampling\_Analytical.mdb but NOAADW.mdb does not contain laboratory chemistry data. To create the optimal dataset, the field data in the Samples and Location tables in NOAADW.mdb was combined with the chemistry in the LabResults table in EnvStds\_DW\_Sampling\_Analytical.mdb. Please refer to section 3.5 "Qm Study Names" for a reference of study naming conventions to identify those study names that used the NOAADW locations and ESI locations. NOAADW.mdb does contain onboard chemistry data that is not housed in the ESI database. The second NOAADW.mdb import file contains the onboard chemistry data along with the associated location and sample information. The onboard data were generated by portable labs including GC/MC, GCFID, and chemical titration kits or benches for example Winkler titrations for dissolved oxygen.

Not all Scribe source files have an associated import file because these source databases completely consisted of data that fell under the previously described segregated categories. Specifically, no data were imported from CTEH\_DW\_Monitoring.mdb, TS\_DW\_Monitoring.mdb, and LDEQ\_DW\_Sampling\_Analytical.mdb because all the data

were monitoring and/or air quality data, likewise no data were imported from BP\_DW\_Sampling\_Analytical.mdb because the collection dates and times or matrices did not match supposed split samples reported in EnvStds\_DW\_Sampling\_Analytical.mdb. Other data were not imported because they were records for tentatively identified compounds, sieve-grain analyses that were converted to percent soil types, waste samples, bioassay results, calculated values, repeated data, non-environmental samples, or had problems with the units or matrices. Detailed descriptions of the reasons data were omitted from porting to QM are also described in Appendix C.

## 2.4 Import databases (MS Access) to QM Tables (FoxPro DBF)

After the original source Scribe data were transferred to the import database schema, the data were now available for transfer into the QM schema. From the Import tables, the final QM Foxpro dbf tables are formed. The seven import tables are related and queried to create the primary QM tables, which include study, station, sample and chemistry. The main QM Foxpro tables are listed below:

<b>Study/Station Tables</b>	<b>Sample Tables</b>	<b>Chemistry Tables</b>
study.dbf	sample.dbf	chem.dbf
site.dbf	smpsedsb.dbf	chemsb.dbf
station.dbf	smpwat.dbf	chemwat.dbf
studynot.dbf	smptar.dbf	chemtar.dbf
studyref.dbf	smptiss.dbf	chemtiss.dbf

The QM Team reconfigured the data in the import files and created FoxPro files in QM format. The general steps were as follows:

1. Group the data by matrix and study. The matrices were surface sediment, subsurface sediment, water, tar-oil, and tissue. Surface, for the purposes of QM, is defined as the upper 30.48 cm (1 foot) of sediment. For all the data providers

- except Environmental Standards, Inc. (ESI) and NOAA, one study was defined. For these two providers, one study was defined for each cruise and for each ESI project as listed in the Scribe EventID and/or PropertyID field.
2. Use a combination of StudyID, StationID, and SampleID to define a unique sample. SampleIDs may be repeated with a different StationID and StudyID. QM samples were assigned based on matrix and sequential order of the sample (if more than one sample was collected at a station). Appendix E provides a description of the QM definition of sample and standardized conventions.
  3. A master sample table (smpmstr) was generated that provides the direct relationship between the SCRIBE primary sample key and the QM primary sample key (StudyID+StationID+SampleID). If discrepancies were found in the sample information (coordinates, sample depth, total water depth, field matrix as compared to the lab matrix, etc.), this information was stored in a field called Scribe2QM in this table.
  4. LabReps are used to differentiate and rank replicate chemical analyses on a given sample. The LabReps in the import files were reviewed and revised if needed according to the following rules:
    - 4.1. Records associated with methods that have lower method detection limits were assigned numerically lower labreps;
    - 4.2. Records with lower reported detection limits were assigned numerically lower labreps;
    - 4.3. Records with non-standard units, i.e., mass only rather than concentration units, were given numerically higher labreps
    - 4.4. Records with an R or X (rejected or undetermined) qualifier were given numerically higher labreps
    - 4.5. Samples with "RE" in the Scribe Sample ID (re-analysis) were assigned a labrep of "1R"
  5. Develop the QUALCODE field based on the laboratory and final qualifier fields in the import files, using the following rules:
    - 5.1. The final qualifier field was blank for non-validated results; generally, the lab qualifier was used for QUALCODE
    - 5.2. For validated data, the final qualifier was used for QUALCODE
    - 5.3. Data reported in mass units only, e.g., ug, mg, were qualified with NSR (non-standard reporting unit).
  6. Populate the primary QM tables, which include study, station, sample, and chemistry tables. Updates to the chemistry data were as follows:
    - 6.1. Analyte names were assigned to the standard QM Chemcode as defined in the QM chemdict dictionary.
    - 6.2. Concentrations were normalized to the standard QM units as defined in the QM chemdict dictionary.

- 6.3. If sediment/soil data were reported in wet weight and solids or moisture data were available, these data were converted to dry weight (QM standard). If tissue data were reported in dry weight, these data were converted to wet weight in the same way.
- 6.4. If grain size was reported in sieve sizes, these were normalized to grain size fractions using the Wentworth (1922) grain size scale. If percent fines were not reported, then it was calculated for each sample.
7. Populate the EDDChem and EDDChemQC tables, which include fields that are not visible in the QM interface but represent fields in the Scribe and the import files. The EDDChem table contains all of the source data and the associated QM standardized results, and the EDDChemQC table includes all laboratory-reported QC data as well as field, equipment, and trip blanks. Additional data stored in the EDDChem table include the following:
  - 7.1. Original grain size data (e.g., sieve sizes) as well as the final QM grain size records.
  - 7.2. Data with matrices incompatible with QM (waste, total maximum daily load, etc.) with descriptions of why these data were not included in the main QM tables.
  - 7.3. Data with uncertain provenance, including field matrix and lab matrix that were incompatible, or units not compatible with the matrix suggesting further (unknown) processing occurred.
  - 7.4. A Scribe2QM comment field describing any updates or exclusions as described above.
8. Standard programs to check for table relationships, duplicate records, dictionary and valid values were run on the entire database.
9. Study-specific documentation on assumptions, updates, sample conventions and other information was included in the studynot.dbf table.

Additional documentation describing data transfer from Scribe to QM is presented in the following supplemental documents and files:

- Evaluation and Comparison of Tables from Scribe Import Files and QM DBF Files (Evaluation and Comparison of Tables from Scribe Import Files and QM DBF files.docx). This document, including its appendices and attachments, details the process of converting the source Scribe databases to files for import to QM. Also, the data in the import files are compared to the data in QM. All differences are noted and explained. All Scribe records not imported to QM also are listed in attached CSV files and the reasons for them not being included in QM are explained. CSV files for each study-media combination are also attached for archiving by NODC.

- All QM Study Notes for Response Data (ResponseAllStudyNotes.docx). These notes include study-specific details grouped by data source, data collection purpose, study, station, samples, duplicates, replicates, qualifiers, miscellaneous and bioassay methods, and bioassay notes, where appropriate.
- List of fields by media, definitions for all fields, and valid values for the following fields (QM\_Fields\_in\_Scribe\_Imports.xlsx):
  - Table: STATION, Field: EST\_STN
  - Tables: SAMPLE, SMPSEDSB, SMPWAT, and SMPTAR, Field: Matrix
  - Tables: SAMPLE, SMPSEDSB, SMPWAT, SMPTAR, and SMPTISS, Field: Sample type Code
  - Tables: CHEM, CHEMTISS, CHEMSB, CHEMWAT, and CHEMTAR, Field: QUALCODE
  - Tables: CHEM, CHEMTISS, CHEMSB, CHEMWAT, and CHEMTAR, Field: DVLevel.

## 2.5 Field Mapping

A reference of the field mapping between Scribe tables and fields, the Import database file tables and fields and QM tables and fields is provided in Appendix F.

## 3 Quality Assurance/Quality Control (QA/QC) and Validation

### 3.1 Valid Values

The process of mapping and in some cases converting or translating content from Scribe to QM used a listing of valid values for pertinent QM fields. These valid values are the acceptable content within certain fields. Appendix G provides a list of these valid values and where applicable descriptions of codes or acronyms.

### 3.2 Content Conversion

QM uses different sample type and matrix designations than Scribe. Table 2 lists the conversions used from Scribe to QM for these two fields.

**Table 2. Scribe to QM Conversions for Matrix and Sample Type**

<b>Field</b>	<b>Scribe</b>	<b>QM</b>
Matrix	Biota	TS
Matrix	Blank	WH
Matrix	Dispersant	DS
Matrix	Liquid Waste	LW
Matrix	NET	MD
Matrix	Oil	OL
Matrix	Sediment	SE
Matrix	Snare	MD
Matrix	Soil	SO
Matrix	Solid	SL
Matrix	Solid Waste	SW
Matrix	Supernatant Water	FLOC
Matrix	Surface Water	WH
Matrix	Tar	TB
Matrix	Tissue	TS
Matrix	Vegetation	TS
Matrix	Waste	WS
Matrix	Water	WH
Matrix	Weathered Oil	OL
Sample Type	Equipment Blank	FBLK
Sample Type	Equipment Rinsate	FBLK
Sample Type	Field Blank	FBLK
Sample Type	Field Duplicate	FDUP
Sample Type	Field Sample	SMP
Sample Type	Matrix Spike	MS
Sample Type	Matrix Spike Duplicate	MSD
Sample Type	Method Blank	MB
Sample Type	Trip Blank	FBLK

Additionally, units of measure varied between Scribe and QM, and with QM using normalized reporting units some conversions were necessary when the data were ported. Some of the changes were used to standardize unit names without changing the concentration absolute value. For example, some sediment result units were changed from mg/kg to PPM without having to factor the result values. Other units resulted in value conversions. The Scribe data providers and their laboratories determined the reporting units for the chemical results. The units could vary for the same matrix and chemical. For



example, some providers reported iron in a water sample in mg/l and other providers reported in ug/l.

In QM, the reporting units are normalized for a given matrix and chemical. Most results for chemicals in water are reported in ug/l. Major ions, calcium, and aggregate analyses, total organic carbon, are reported in mg/l. For sediment samples, most results are reported in ppb. Major ions and some aggregate analyses are reported in ppm. Other aggregate analyses and moisture and grain size measurements are reported in percent. The exceptions are those results with an NSR qualifier. NSR stands for non-standard reporting unit. In most cases, the Scribe units were mass rather than mass per mass or mass per volume. The QM units for these results are the original Scribe units. Table 3 summarizes conversions for concentration units used in Scribe and QM.

### **3.3 Depth Instances**

Generally, the primary sources of the depth values reported in QM were the Scribe database depth fields. However, for sediment and pore water samples, the depth interpretation differed in Scribe and QM. In Scribe, the upper depth was often the depth below the water surface. In QM, the upper depth was interpreted as the depth below the top of the sample container. For example, a sediment sample collected at a depth of 1,000 meters below the water surface where the top three centimeters were used as the sample would have an upper depth of 1000 meters and a bottom depth of 1000.03 meters in Scribe. In QM, the upper depth would be 0.0 centimeters and the bottom depth would be 3.0 centimeters and the water depth would be 1,000 meters.

For water samples other than pore water samples, the upper depth for both Scribe and QM was the depth below the water surface. Whole water depths are reported in meters and pore water depths are in centimeters. Generally, for water samples the upper depth and lower depth are equal.

In some situations, the interpretation of the depths recorded in Scribe was not clear or missing totally. In these cases the QM team looked to secondary sources of information for interpretation of sample depths. These sources included daily status reports, field notes, bioassay templates, defined sampling protocols and sampling plans associated with a given

data provider and study. Additional detail on the depth information reported in QM is contained in the study notes and the depthdescr and sample notes fields. If no conclusive depth information could be gathered from the primary or secondary sources, a value of “-9” was entered, meaning unknown depth.

Table 3. Conversions in Concentration Units

Units		Count
Scribe	QM	
%	PCT	7015
%	PPM	1374
% Saturation	PCT	129
% Volume	PCT	10
APHA	PCU	3
cst	cst	15
deg c	C	251
deg f	F	34
FNU	NTU	13
g/ml	g/ml	626
L/mgDOC*m	L/mgDm	101
mbars	mm/Hg	38
mg	mg	7
mg/kg	PPB	223327
mg/kg	PPM	32870
mg/kg	PCT	1748
mg/kg	ng/kg	45
mg/kg	C	1
mg/L	ug/L	113985
mg/L	mg/ml	6
mg/L	umh/cm	6
mg/l	mg/L	43323
mm/Hg	mm/Hg	139
NA	SI	12
NA	PCT	5
ng	ng	7299

Units		Count
Scribe	QM	
ng/g	PPB	15041
ng/g	PPM	792
ng/l	ug/L	80884
nmol/l	ug/L	3489
none	F	29
None	SI	3
PPM	mg/L	34
PPM	PPM	144
ppth	mg/ml	7
ppth	mg/g	6
Standard U	PH	205
Standard U	cst	11
ug	ug	3113
ug/g	PPB	1107
ug/g	PPM	28
ug/kg	PPB	240830
ug/kg	ng/kg	776
ug/kg	PPM	506
ug/l	mg/L	13608
ug/l	ug/L	1244000
ug/ml	mg/L	631
umhos/cm	umh/cm	4
uS/cm	umh/cm	200
	PCT	3880
	PH	13

### 3.4 Analytical Methods

Valid values for the analytical methods reported in the Scribe databases and in the Scribe import to QM are listed in Appendix G. Due to the variety of data collectors and laboratories, the methods are listed but not fully described. Most of the methods are referenced in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", also known as SW-846. The method numbering system is explained in Attachment B of this referenced online document:

<http://www.epa.gov/epawaste/hazard/testmethods/pdfs/style05.pdf>.

The USGS provided a table of specific analytical methods used in the Deepwater Horizon Response for organic contaminants, trace and major elements, and nutrients in water and sediment sampled. These were documented in a table provided in Contaminants in Water and Sediment Sampled in Response to the Deepwater Horizon Oil Spill, 2012, Nowell, Lisa H.; Ludtke, Amy S.; Mueller, David K.; Scott, Jonathon C., USGS Scientific Investigations Report: 2012-5228. The table can be accessed as:

[http://pubs.usgs.gov/sir/2012/5228/pdf/sir20125228\\_app1\\_6.pdf](http://pubs.usgs.gov/sir/2012/5228/pdf/sir20125228_app1_6.pdf).

Other methods reference onboard instruments. For example, Winkler references the Winkler Method for Dissolved Oxygen Titration. Other methods that were used are documented only in publications or laboratory procedures. For example, the Lloyd Kahn method is documented only in Determination of Total Organic Carbon in Sediment, July 27, 1988, Prepared by: Lloyd Kahn, Quality Assurance Specialist, Affiliation: U.S. Environmental Protection Agency, Region II Environmental Services Division, Monitoring Management Branch, Edison, New Jersey 08837.

### 3.5 QM Study Names

Generally QM study names were derived from the data contained in the Scribe Site\_No field in the Location table. For example, Site\_No contains ADEM for the database provided by Alabama Department of Environmental Management. However, the Scribe ESI database

contained more descriptive information regarding the study or cruise in the Scribe PropertyID field than information contained in the Scribe Location table. Therefore, the ESI PropertyID was used to define the QM study name.

Bracketed initials are contained in all the study names associated with the ESI and NOAAADW databases. The reason for the separation between the 2 datasets is explained above in section 2.3 “Scribe Databases (MS Access) to Import Databases (MS Access).”

These bracketed initials found in some study names are defined as follows:

(ES) – Field data was taken from Environmental Studies

(DW) – Field data was taken from NOAA DW

(OB) – On board data.

### **3.6 Study Notes and Exceptions**

Records associated with each study went through a vigorous QC process as it was moved from Scribe to QM. Study notes have been created so the user can find the assumptions and changes made to the data for each study. Appendix H provides a listing of the Response Study Notes and a cross-reference between the Study Names and Notes is provided in Appendix I.

### **3.7 Field Data Quality Assurance (NOAADW)**

The latitude, longitude and depth information contained in the NOAAADW Scribe database was quality checked by performing a comparison of the values supplied by field data managers and associated CTD data. Generally, the CTD data were preferred because they are more accurate and precise than the field data. The better data was selected for incorporation into NOAAADW using the following rules:

1. The field data were used if CTD data were not available
2. The CTD data were used if field data were not available
3. If both sets of data were available, field and CTD data were compared
  - 3.1. If coordinates were within .005 Decimal Degrees (.5 KM), the CTD data were used for latitude and longitude.

- 3.2. If the comparison exceeded the tolerance, other information including maps, sample logs and daily status reports were used to determine the best coordinates.
- 3.3. If sample depths were within 5 meters, the CTD data were used for sample depth.
- 3.4. If the comparison exceeded the tolerance, other information including sample logs, daily status reports and chain of custody documents were used to determine the best depth.

The field and CTD values for latitude, longitude and sample depth as well as comments documenting this selection process are contained in fields added to the NOAA DW Scribe database.

## **4 Exported Data from QM for Archive**

### **4.1 File Types**

To archive and provide public access to the resulting QM DWH Response data, the data were configured and exported to comma separated value (.csv) files. The csv files were exported as two different result sets; one is by Matrix and the other by Cruise (Study). All the Response chemistry results data available through QM are contained in one of the four Matrix .csv export files: sediment, water, tar/oil, or tissue. The chemistry results are also provided for each Response Cruise (Studies) as a second set of export csv files. These cruise level study exports serve as the revised authoritative results which replace provisional analytical chemistry data files made available from early versions of Scribe databases. The files are being archived and made available from NOAA's National Oceanographic Data Center under NODC Accession Number 0108924. A summary of the materials being archived in a Special Collection for the QM Matrix output files is provided in Appendix J. This summary includes a listing of the data files and associated metadata, along with supplemental documents and files referenced in this summary report.

### **4.2 Matrix Exports**

Samples of four matrices are reported in the Response QM dataset:

- Water (includes 29 non-cruise and 126 cruise studies).

- Tar-Oil (includes 18 non-cruise and 11 cruise studies)
- Sediment (includes 27 non-cruise and 12 cruise studies)
- Tissue (includes five non-cruise and no cruise studies)

The archived files contain from 53 to 56 fields depending on the matrix, Appendix K. Generally, these fields describe the sample location and depth, time and date collected, sample type and matrix and chemical name, code, results, qualifiers, detection limits and units. Also, the laboratory name, lab IDs and validation information is presented. Several fields cross-reference some of the original Scribe identifiers including location (station) and sample ID. The field definitions along with formats and reference to associated valid values are shown in the Appendix L: Data Dictionary.

#### **4.2.1 Water Matrix**

The water matrix has 1,511,543 associated records. Approximately one-third of the results are related to samples collected on cruises. About 16 percent of the samples were collected at the water surface, 18 percent at 100 meters or less and 65 percent at depths greater than 100 meters. Only 0.3 percent had unrecorded sample depths.

Approximately two-thirds of the water matrix results were related to non-cruise studies. The depth of these samples were about one-third at the water surface, another third the depths were not recorded but were probably at the water surface<sup>1</sup>, another third were at depths less than 30 meters and about 0.8 percent were at depths greater than 30 meters.

#### **4.2.2 Tar-Oil Matrix**

The tar-oil matrix has 193,442 associated records of which over 99 percent were in non-cruise studies. The 26 cruise-related samples were all characterized as oil, which included weathered oil and samples originally characterized as surface water. Approximately 30 percent of the non-cruise samples were characterized as tar, two-thirds as oil, which included weathered oil, and 4 percent as quality assurance samples. Most of the samples were collected at the water surface or shallow depths to 5 meters. Based on the original records, 14 samples characterized as tar appear to have been collected at depths of 350 to 450 meters.

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<sup>1</sup> About 94 percent of the unrecorded sample depths were in the CTEH database. Offshore data were not entered in this database.

### 4.2.3 Sediment Matrix

The sediment matrix has 289,115 associated records. Approximately 18 percent of the results are related to samples collected on cruises. All the cruise related samples were collected from September 16 to October 23, 2010 and were collected from the ocean bottom at depths to 2,767 meters. Most of the samples were collected in cores and a portion, usually 3 centimeters, was taken as the sample.

Approximately 82 percent of the sediment samples were not related to cruises. These samples were collected from April 30, 2010 through March 16, 2011. The water depth is only reported for approximately one-third of the records. The reported range is from 1 centimeter to 63 meters. Of the 70 percent of the sediment samples with both upper and lower depth reported, 27 percent had sample length equal or less than 10 centimeters, 73 percent had sample lengths between 10 centimeters and a meter, and 0.1 percent had sample lengths greater than a meter.

### 4.2.4 Tissue Matrix

The QM Response data includes 37,086 records from five non-cruise and zero cruise tissue studies. All these studies were imported from the Environmental Standards Inc. Scribe database. Although a field was used for water depths, all values were unrecorded (“-9”). No upper sample depth or lower sample depth fields are included for tissue samples. For the 317 samples, the original Scribe matrix was vegetation for 312 samples, biota for three samples and tissue for two samples. The Note field was uniformly populated with, “No species information available.”, with the misspelling. The Species and SPP fields were populated with only one value, VEG (vegetation) and the Tissue and TISSCODE fields were only populated with WHPL (whole plant). All analyses were for volatile and semi-volatile organic compounds except nine measurements for percent moisture.

## 4.3 Cruise Level Study Exports

The file naming convention for the cruise level csv files start with QM\_Response, then list the matrix and finally the study ID. For example, the csv for the tar-oil matrix and study B1 is named QM\_Response\_Tar-Oil\_Study\_B1.csv. Some cruises have data from both the NOAAADW/ESI combined dataset and the ESI stand-alone dataset. The resulting csv file name includes the Study ID for both the datasets. For example, the water matrix csv file

that includes data from the studies with IDs, 2B and EO, is named QM\_Response\_Water\_Water\_Studies\_2B-EO.csv.

## **5. Supporting Information**

As mentioned in this document additional supplemental files are being archived with the data files in order to provide additional detail on the process of porting the data from Scribe database to QM and to better assist users of these data files. Some of the files are being provided as both PDF documents and as MS Excel spreadsheets to aid in searching and sorting information.

In addition to these, the previously referenced Appendix E documents the definition of a Data Management Sample used by the QM data management team. This appendix also contrasts the Data Management Sample with other types of samples, including Field Sample, Chain-of-Custody Sample, and an Analytical (or Laboratory) Sample.



## APPENDIX A: Organizations and Supporting Contractors Associated with Scribe Database Development

<b>Organization</b>	<b>Supporting Contractor</b>
National Oceanic and Atmospheric Administration (NOAA)	Dynamac Corp. Industrial Economics Inc. (IEc)
Environmental Protection Agency (EPA)	Environmental Response Team (ERT)
Environmental Protection Agency (EPA)	Region 4 (R04) Oneida Total Integrated Enterprises (OTIE) Tetra Tech, Inc.
Environmental Protection Agency (EPA)	Region 6 (R06) Weston Solutions, Inc. (WSI)
US Geological Survey (USGS)	
National Park Service (NPS)	
BP	AECOM Battelle Center for Toxicology & Environmental Health LLC (CTEH) Environmental Standards, Inc. (ESI) Exponent, Inc. Total Safety Inc. (TSI)
Florida Department of Environmental Protection (FLDEP)	
Mississippi Department of Environmental Quality (MSDEQ)	
Alabama Department of Environmental Management (ADEM)	Alabama EnviroChem Inc. (ALECI)
Louisiana Department of Environmental Quality (LDEQ)	

## APPENDIX B: Summary of Content for Scribe Databases

Project ID	Project Name	Responsible Organization(s) (Project Publisher*)	Contents
1082	DW_Reporting	EPA R04, R06, ERT (EPA / WSI / OTIE)	Data collected by EPA Region 4, Region 6 and ERT. Contains locations, descriptions, and analytical results for 3,625 air, 3 dispersant, 57 liquid waste, 490 sediment, 112 solid waste, 2 tar, 1 waste, 1,476 water, and 51 weathered oil samples. Also contains air and water monitoring data and documentation of odor complaints.
1112	BP_DW_Sampling_Analytical	EPA R06 (EPA / WSI)	Contains sample and analytical information on four source samples split between BP and EPA. Contains EPA analytical results.
1113	LDEQ_DW_Sampling_Analytical	LDEQ (EPA / WSI)	Contain air sample descriptions and analytical results from summa canisters collected in two locations.
1119	ADEM_DW_Sampling_Analytical_Monitoring	ADEM	Contains locations, descriptions, analytical results and field monitoring for 103 water samples.
1120	CTEH_DW_Monitoring	BP / CTEH / AECOM (BP / CTEH)	Contains 805,237 monitoring results for air and 3,065 monitoring results for water. The air results included: 13,889 benzene, 469 carbon monoxide, 198,198 hydrogen sulfide, 44 lower explosive limit, 41 oxygen, 54 odor, 57 pm10, 143,735 pm2.5, 181,174 sulfur dioxide, 1 toluene and 267,575 volatile organic constituents. The water monitoring included: 526 turbidity, 613 dissolved oxygen, 646 pH, 642 specific conductance, and 638 temperature measurements.
1121	TS_DW_Monitoring	BP / TSI / CTEH (BP / CTEH)	Contains AreaRAE health and safety measurements on 20 vessels collected by Total Safety Inc. (TSI).
1122	MSDEQ_DW_Sampling_Analytical	MDEQ	Contains locations, descriptions and analytical information for 473 water, 42 sediment, and 143 solid samples.
1133	NPS_DW_Sampling_Analytical	NPS (EPA / Tetra Tech)	Contains the location, description and analytical information for one groundwater sample.
1134	ALECI_DW_Sampling_Analytical	ADEM (ALECI)	Contains locations, descriptions and analytical information for 17 sediment and 197 water samples.

1219	NOAADW	NOAA / IEC	Contains locations, and descriptions for 92 oil, 3,375 sediment, 3 tissue, 12 vegetation, and 23,954 water samples. Also contains results from 2,284 toxicity tests on rotifers. Onboard measurements on water samples included: 3,329 dissolved oxygen, 7,915 various dissolved organic constituents using GC , GCFID, and GC/MS.
1130	FLDEP_DW_Sampling_Analytical	FLDEP	Contains location, sample and analytical information for 337 sediment, 1793 water, seven liquid waste and one tar samples.
1260	USGSDW	USGS (EPA / WSI)	Contains locations, descriptions and analytical information for 194 water and 230 sediment/soil samples.
1300	CTEH_DW_Sampling_Analytical	BP / CTEH / AECOM (BP / CTEH)	Contains location, descriptions and analytical information for 12,470 air, 12 liquid waste, 58 oil, 1,466 sediment, 19 solid, 680 tar, 101 waste, 6,049 water samples. Also contains 26,580 visual observations at sampling sites.
1302	EnvStds_DW_Sampling_Analytical_2	BP / ESI	Contains locations, descriptions and analytical data for 8 air, 25 biota, 155 liquid waste, 788 oil, 1 plant tissue, 3346 sediment, 75 snare, 12 solid, 816 tar, 329 vegetation, 329 waste, 7,826 water, 1,071 weathered oil samples.

\*Project Publishers are listed where these differ from Responsible Organization.

## APPENDIX C: Segregated Data

Not all data in Scribe databases were included in QM. Response data meeting the following criteria were segregated from QM and were not entered into the import files:

- The matrix in the Samples table was “air”
- The data did not have chemistry results, including:
  - monitoring data
  - samples with no associated results
  - property information not associated with specific samples
  - locations without associated samples or monitoring results
  - rototoxicity samples and results

In addition, data were excluded by the QM Team from the primary QM tables because they had the following characteristics:

- records for tentatively identified compounds (TICs)
- sieve-grain analyses that were converted to percent soil types
- waste samples
- bioassay results
- calculated values
- repeated data
- had negative results
- non-environmental samples
- results of toxicity characteristic leaching procedure (TCLP)
- had problems with the units or matrices

Summary counts for data excluded by QM Team

Reason for Segregation	Count
Waste	76939
TIC	18219
Sieve converted to Grain size	11506
Unit Issue	2440
Bioassay	686
Duplicate	497
Non-environmental Samples	354
TCLP	118
Negative Result	98
Calculated value	17
No data	1
Total	110875

Four ancillary tables were created to capture information in Scribe fields but not in QM fields. These tables were also used to cross-reference Scribe to QM studies, stations and samples. Although not displayed in the main QM tables, the data excluded by the QM team were captured in the ancillary tables:

- eddchem.dbf - This table consists of records for all samples and monitoring including all chemical analysis data. There are 2,152,954 records in this file. If using this file it is important to use a database that can accommodate this many records as all versions of excel cannot accommodate this many records.
- eddchemqc.dbf - This table consists of quality control data including method blanks, field blanks, trip blanks, equipment blanks, matrix spike (MS), matrix spike duplicate (MSD), surrogates etc.
- eddchmsp.dbf – This table is an extension of eddchem.dbf, containing additional fields. This table was created so that eddchem.dbf would not exceed the MS Access™ 2 gigabyte file limit.
- smpmstr.dbf - This table is used to cross-reference Scribe and QM identifiers.

A summary of the excluded data listed according to the Scribe database provider is shown in the table below:

Provider	Record Count	Type	CSV File	Comments
ADEM	570	monitoring results	ADEM_Monitoring_Data	All non-null fields from the Location and Monitoring tables
ADEM	1	sample without associated result	ALECI_Sample_No_Data	All non-null fields from the Location and Samples tables are included in CSV file. Note: SampleTime was null.
CTEH	808,302	monitoring results	CTEH_Monitoring_Data	All non-null fields from the Location and Monitoring tables are included in CSV file.
CTEH	26,580	monitoring results	CTEH_S&A_Monitoring_Data	All non-null fields from the Location and Monitoring tables
CTEH	300,426	air sample/ results	CTEH_Air_Data	Samples with a matrix of air were selected. All non-null fields from the Location, Samples LabResults, SamplesAir, SampleTags and COC tables are included in CSV file.
CTEH	2,307	samples without results	CTEH_Samples_without_LabResults	All non-null fields from the Location and Samples tables are included in CSV file.
EPA	102,828	monitoring results	EPA_Monitoring_Data	All non-null fields from the Location and Monitoring tables are included in CSV file.
EPA	1,091	property information	EPA_PropertyInfo	All non-null fields from the PropertyInfo table are included in the CSV
EPA	164,306	air sample/ results	EPA_Air_Data	Samples with a matrix of air were selected. Non-null fields from Location, Samples, LabResults, SamplesAir, SampleTags and COC tables

EPA	34	samples without results	EPA_Samples_without_LabResults	Non-null fields from Location and Samples tables
EPA	7	locations without samples or monitoring	EPA_Locations_without_Samples	Non-null fields from Location table
EPA	242	toxicity sample/results	EPA_Tox_Data	Non-null fields from Location, Samples, LabResults, SampleTags and COC tables
LDEQ	17,570	air sample/results	LDEQ_Air_Data	Samples with air matrix. Non-null fields from Location, Samples, LabResults, and SamplesAir tables
MSDEQ	5	locations without samples or monitoring	MSDEQ_Locations_without_Samples	Non-null fields from Location table
Total Safety	296,686	monitoring results	TSDW_Monitoring_Data	Non-null fields from Location and Monitoring tables
USGS	1	sample without results	USGS_Sample_without_LabResults	Non-null fields from Location and Samples tables
ESI	618	air sample/results	ESI_Air_Data	Samples with air matrix. Non-null fields from Location, Samples, and LabResults tables
ESI	110	samples without results	ESI_Samples_without_LabResults	Non-null fields from Location and Samples tables
ESI	4,300	toxicity sample/results	ESI_Tox_Data	Non-null fields from Location, Samples, and LabResults tables and COC and description fields from the SampleTags table
NOAA	2,284	samples containing Rototox data	NOAADW_RotoTox_Data	Non-null fields from Location, Samples and SamplesRototox tables
NOAA	18,693	samples without results	NOAA_Samples_without_LabResults	Non-null fields from Location and Samples tables. Samples without LabResults in the ESI database or onboard lab results.
NOAA	821	locations without samples	NOAA_Locations_without_Samples	Non-null fields from Location table
Multiple	110,875	mixed	Excluded_by_QM_Team	See detail in above table

## APPENDIX D: Creating Import Files from Scribe Source Files - Provider Notes

The template, mapping and conversion tables, queries and modules are documented in the NOAA Deepwater Horizon sftp site at [Deepwater\\_Horizon\\_Ext/Scribe\\_to\\_QM\\_Mapping/FinalReport/Scribe\\_to\\_QM\\_Import\\_Template.accdb](https://deepwater_horizon_ext.scribe_to_qm_mapping/finalreport/scribe_to_qm_import_template.accdb). To obtain copies of these files please contact NOAA's Office of Response and Restoration at [dwh.respondedata@noaa.gov](mailto:dwh.respondedata@noaa.gov). Notes on conversions from specific Scribe sources to import database files are listed as follows:

**Provider:** *Alabama Department of Environmental Management (ADEM)*

No QC, Sample Tag or CoC information was entered in this database.

**Provider:** *Alabama EnviroChem Inc. (ALECI)*

This database was created under the direction of ADEM. No QC, Sample Tag or CoC information was entered in this database. The field length of the Sample field was increased from 30 to 41 to accommodate 14 Sample IDs with field length greater than 30.

**Provider:** *Center for Toxicology and Environmental Health, L.L.C. (CTEH)*

LabReps were set as follows:

1. "R" and "X" qualifiers are set to be the last Lab Rep.
2. Sort by units so that mass per mass units, e.g., mg/kg, precedes similar mass per volume units, e.g., mg/l.
3. The Lab Reps were sorted by least to greatest MDLs after accounting for units. Records with no MDL were set to greatest Lab Reps. Note: accounting for units is important because 5,162 of the 41,650 duplicates have different units.
4. The Lab Reps were sorted by least to greatest reporting limits after accounting for units. Records with no reporting limit were set to greatest Lab Reps
5. If all the other conditions were the same, then the lower Lab Rep had the first Lab Sample ID sorted alphabetically.
6. If units, reporting limits and the Lab Sample ID were all the same, the Lab Reps were determined randomly.
7. "-9" was inserted for null MDLs and reporting limits.

**Provider:** *United States Environmental Protection Agency (EPA)*

For the Location table:

1. For LocationDescription, use LocationDescription + LocationZone
2. For LocationComment, use LocationComment + Location\_Image\_Path

For the Samples Table:

1. For Notes use, Remarks + Activity + "SubLocation: " & SubLocation
2. Do not list Activity by itself because it's only used for 14 samples
3. Use EventID for Project Name

For the LabResults table:

1. DVLevel is "VALX" because QAFlag and changes between lab qualifiers and final qualifiers indicate validation; however the level of validation is not known.
2. Bioassay results were removed by excluding all LabResults with the following analytes:  
Neanthes arenaceodentata, Leptocheirus plumulosus, Americamysis bahia, Menidia beryllina, and Mysidopsis

Additional Notes:

1. SamplesWater table contains field measurements and observation for some water samples.
2. Because some samples have multiple CoCs and the analytes cannot be related directly to CoCs, COC numbers were removed from the Samples and EDD tables but can be linked to samples in the SampleTags and COC tables.

**Provider:** *United States Geological Survey (USGS)*

For Location table:

1. Used LocationDescription for LocationDescription
2. For LocationComment combined GPS\_Comment, LocationComment and Type
3. For Project Name, used Type

For Samples table:

1. For Notes combine Remarks and SampleDepthComment
2. Use Activity but not EventID (all EventIDs are "sampling")



For LabResults table:

1. DVLevel – The QA\_Flag indicates that the analyses were not QAed. A value of UNK or NV may be accurate. UNK was selected.
2. Total or Dissolved was derived from an added field called Fraction, which reported values of Dissolved, Total, Recoverable, and Bed Sediment with some blank entries. In the exported field Total is entered as “tot”, Dissolved is entered as “dis”; all other entries are reported as blank.

Other Notes:

1. USGS created a separate table called QC. This table has 483 QC samples with 15,802 results. None of samples match samples in the Samples table. The data would require considerable reconfiguring to fit into the ChemQC table format including parsing the Analyte names, transforming qualifiers and results based on the qualifiers. This table if reconfigured would not affect the Chem table because all the QC data are in this table, not in the Samples or LabResults tables. If included it would affect the EDD and ChemQC tables.
2. USGS added a table called QualifierDesc as shown below:

Site_No	AutoNumber	Qualifier	Qualifier_Desc	Analysis
ALL	1	J	Estimated	All
ALL	2	U	Not detected	All
ALL	3	UJ	Not detected above the quantitation limit	All
ALL	4	R	Rejected	All
ALL	5	N	Tentatively identified	Organics
ALL	6	NJ	Tentatively identified; concentration is estimated	Organics
ALL	7	J+	Estimated quantity; result may be biased high	Inorganics
ALL	8	J-	Estimated quantity; result may be biased low	Inorganics

However, only U and J qualifiers are listed in the Result\_Qualifiers field and the Lab\_Result\_Qualifiers field is blank.

3. The Lab Reps were set as followed:

- ug/kg is set before ug/l for same sample and chemical.
- The Lab Reps were sorted by least to greatest MDLs. Records with no MDL were set to greatest Lab Reps

- The Lab Reps were sorted by least to greatest reporting limits. Records with no reporting limit were set to greatest Lab Reps
  - If all the other conditions were the same, then the lower Lab Rep had the first Lab Sample ID sorted alphabetically.
  - If units, reporting limits and the Lab Sample ID were all the same, the Lab Reps were determined randomly.
4. Oxygen Chemical/analyte name was changed to DO when units were mg/l and changed to DOSAT when units were % saturation.

**Provider:** *Environmental Standards Inc (ESI)*

The Sample field length was increased from 30 to 40 to accommodate 267 long Sample IDs.

1. Provider: National Oceanic and Atmospheric Administration (NOAA) - The NOAADW database has 5215 unique sample IDs. Some match to more than one ESI sample ID because ESI split their samples among labs and sometime names them differently depending on the analyses performed. Therefore, the 5215 NOAA IDs matched to 5,758 ESI IDs.
2. The Sample and ESI sample field lengths were increased from 30 to 40 to accommodate the 914 ESI Sample IDs and 42 NOAA Sample IDs with length greater than 30 characters.

**Provider:** *ESI/NOAA*

Steps to combine the Location and Samples tables from NOAADW with the LabResults table in Env\_Std2 were as follows:

1. Import Extend\_Ref with 3702 matched samples from JAG report analysis
2. Import ESI Location, Samples and LabResults tables and rename E\_Loc, E\_Sam and E\_LR.
3. Import NOAADW Location and Samples tables and rename N\_Loc, N\_Sam.
4. Import "Within\_Specs" that lists matching Samp\_Nos for water samples at depth less than 200m deep
5. Add fields that are in Extend\_Ref to Within\_Specs and save as table Shallow\_Water\_Samples
6. Combine Shallow\_Water\_Samples and Extend\_Ref with Matrix field added and call All\_Water\_Samples.

7. Remove 37 duplicate NOAA Samp\_No and name resulting table, All\_Water\_Samples\_37Dup\_NOAAIDs\_Removed.
8. Create table of possibly matching ESI 1,120 sediment samples by filtering with matrix of sediment, date range of 9/19 to 10/27/10 and EventIDs of DSS, OPANEX, and GYRE. Call resulting table E\_Sed\_Sam
9. Create table of possibly matching NOAA 3,187 sediment samples by filtering with matrix of sediment, ProjectIDs of Ocean Veritas, Ryan Chouest and Gyre, and Samp\_No starting with "SE" Call resulting table N\_Sed\_Sam
10. Add core information from PastSedData table to N\_Sed\_Sam table
11. Link E\_Sed\_Sam Samp\_Nos to N\_Sed\_Sam ESI\_Samp\_Nos to match 943 of 964 ESI\_Samp\_Nos and 943 of 1152 E\_Sed\_Sam Samp\_Nos. Name the resulting table Sed\_First\_Match
12. Link the remaining 177 unmatched ESI sediment samples with the NOAA sediment samples with the vessel, sample date and latitude and longitude to three decimal places. Select the best Samp\_No matches for the 72 ESI sediment samples that met these match criteria. The remaining 105 ESI sediment samples will not be matched.
13. Combine ESI Samp\_No list from tables All\_Water\_Samples\_37Dup\_NOAAIDs\_Removed and Sed\_Final\_Match to create the list of the 5,758 ESI samples matched to NOAAADW data. This table is called Matched\_ESI\_Samples.
14. Create the table of unmatched ESI Samp\_NOs called Unmatched\_ESI\_Samples with 9,049 Samples of which the Location of 233 samples is "Not\_Provided" and 8 samples have an air matrix. These samples will not be carried forward.
15. Create new database called NOAAADW\_ESI\_Matched Use NOAAADW Location and Samples tables and Sample ID cross reference table to create a table called Location with 782 distinct locations. The table includes fields for Vessel and CruiseID.
16. Use ESI and NOAAADW Samples table, table with additional sediment data (PastSedData) and and Sample ID cross reference table to create a Samples\_Input and Samples\_Input table table. The Sam\_Depth and SampleTime defaulted to the NOAAADW values. If NOAAADW did not have a value the ESI value was used. Use ESI LabResults and cross reference table to create the LabResults table with 460651 records.
17. Create new database called NOAAADW\_ESI\_UnMatched.

18. Use ESI Location and Samples tables and Sample ID cross reference table to create a table called Location with 3,738 distinct locations with the following locations without coordinates not listed: "Not\_Provided", "Not\_Recorded", "Equip\_Blank", "Storage\_Blank", and "Test Sample".

**Provider:** *The Commonwealth Scientific and Industrial Research Organisation (CSIRO)*

For the NOAAADW database which includes the CSIRO data:

Notes on formatting the Ryan Chouest onboard data into Scribe format follows:

Onboard GCMS and monitoring information was found in OsbLogs\_Data.mdb.

Method detection limits and reporting limits for some analytes were found in

BP\_Data\_Validation\_Project\_Report\_08\_07\_2011\_final\_27\_Jul\_2011.pdf, APPENDIX E:

Method Limit of Reporting (LOR) Calculation.

The qualifiers used:

- U - Compound Not Detected
- V - Overloaded and possibly not a water extract
- Z - Detected but not Quantified (too small)

The CSIRO tables have no clear equivalent for Scribe Location field. The CSIRO values were mapped to the Location fields as follows:

- For those samples collected at a cast, the Location is the Cast\_ID
- For those samples not collected at a cast, the Location is the SampleBottleID.

The query and table are qry\_LocationMaker and LocationMaker, respectively.

## APPENDIX E: QM Sample Definition

### What is a Sample?

#### or: Definition of a Sample for the Purposes of Consistent Data Management Protocols in NOAA Watershed/Spill Response Projects

Draft: 1/7/13

#### Overview

The intent of this appendix is to document the definition of a Data Management Sample used by the QM (QM) data management team. We also contrast the Data Management Sample with other types of samples, including Field Sample, Chain-of-Custody Sample, and an Analytical (or Laboratory) Sample.

#### Data Management Sample Definition

**Definition:** A Data Management (DM) Sample consists of a single laboratory matrix collected at the same *location* and *time period*. For sediment, soil, and water, the DM Sample represents a uniform depth or depth range. For tissue, the DM Sample represents a uniform species and tissue type.

DM Samples may represent more than one type of result from more than one laboratory. For toxicity test samples, the DM sample typically represents the matrix tested and may be associated with multiple test replicates and/or multiple test endpoints. Note that for paired chemistry and toxicity samples, the DM Sample should have the same QM SampleID.

**Location** - Defined by a StationID, this represents a single point (coordinate pair) that represents either a point location of collection (e.g., core) or the central representative point in an area (e.g., fish trawl, composite grabs).

**Time Period** - Generally a single DM Sample is collected on one day and time, but there are exceptions as discussed below.

#### Replicate Samples

**Field duplicate/replicate** is a generic term for two (or more) field samples taken at the same time in the same location. These are considered separate, but related, Database Management Samples. There are two categories of field duplicate samples defined by the collection method (UFP-QAPP 2005): co-located field duplicates and subsample field duplicates (replicates). Regardless of intent, all field duplicates are given a unique DM Sample identifier, using nomenclature that ties the duplicate/replicate samples together (see Data Management Sample Nomenclature).

The following definitions are adapted from the UFP-QAPP and associated EPA guidance:

**Co-located field duplicates:** Two or more independent field samples collected from side-by-side locations at the same location and time period using the same sampling equipment so as to be considered identical. These separate field samples are said to represent the same population and are carried through all steps of the sampling and analytical procedures in an identical manner.

Results from duplicate field samples are used to assess precision of the total method, including sampling, analysis, and site heterogeneity.

*Subsample field duplicate:* One independent field sample is split into two or more containers and intentionally assigned different field SampleIDs (sometimes referred to as a *split* sample). Each duplicate (replicate) sample is an exact copy of the original field sample (e.g., two or more portions of the originally collected material are split into separate containers for submission to the laboratory), resulting in multiple field samples collected at one location and one time, and carried through all the same sampling and analytical procedures.

**Laboratory replicates** of specific target analytes for a single DM Sample may be analyzed to evaluate reproducibility of laboratory analyses. Other laboratory replication for a DM Sample may include measuring the same chemical using different methods; a single sample analyzed by several different labs (for purposes of laboratory inter-comparison); re-analyses of a sample (e.g., at a different dilution), or other laboratory procedures. All of these examples would be classified as laboratory replicates of the same original Data Management Sample.

### Composite Samples

Composite samples are formed by combining material from more than one sample. The samples used in the composite may be referred to as subsamples. For example, sediment from multiple grabs may be composited into one sediment field sample sent to the lab; despite being collected at different locations, this will be associated with one DM Sample. Similarly, multiple organisms may be composited to generate sufficient tissue analyses for a single DM Sample. Data collection information for the individual components (subsamples) of the composite (coordinates, date/time, size of each organism for tissue) are stored in a separate (but related) table in the database.

### Database Management Sample Examples

- Two aliquots from a grab are placed in separate containers; one aliquot is submitted to a lab for grain size analyses, and one aliquot is submitted to a laboratory for chemical analyses. The grain size and chemical results are associated with a single DM Sample, representing the sediment in the grab.
- Two aliquots from a grab are collected in the same manner as above and submitted to the lab for a complete set of metal, organic, grain size, and TOC analyses. These are two distinct and related field duplicate DM Samples.
- Several crabs are collected in the field and sent to a tissue processing laboratory. Processing consists of separating the hepatopancreas from each of the crabs, and compositing the tissue together into one composite sample. One aliquot of the composite hepatopancreas sample is sent to a chemistry laboratory for organic analyses; and one aliquot to a chemistry laboratory for metals analyses. Both sets of results are associated with a single DM Sample, representing the composite hepatopancreas tissue.
- The water from the top of a core is siphoned off of the top of a core (flocculent) and sent to a chemistry laboratory. The laboratory filters the water and analyzes both the filtered

water, and the solid material remaining on the filter. These are two different distinct matrices (dissolved water, particulate), and thus two different DM Samples.

- A ship is collecting grabs on a 24-hour, round-the-clock schedule. Two co-located grabs are collected with the intent of being field duplicates. One grab is collected on 6/12/10 at 11:50 p.m., and the second is collected on 6/13/10 at 12:15 a.m. Both grabs are sent to the laboratory for a complete suite of analyses. These are two distinct DM Samples but should be related as field duplicates as they were collected in the same 'time period.'

#### Caveats/Further Consideration:

Although the database strives to represent the intent of the sampler, often the nuances of field collection and laboratory processing are not available to the Data Managers. The database should reflect the intent of the sampler (and include the method in the notes if available), but it is up to the data user to decide if the sample design is acceptable for their own analyses. The data user, therefore, should be aware of the nuances of the sample collection prior to analyses. They may choose to define a Sample in a different way depending on the analysis and/or the sample collection method. Examples of this include:

- Incomplete compositing - As in the example of aliquots being sent for different analyses (i.e., grain size versus chemical analyses), the data user may decide that the grab aliquots are incompletely composited and therefore not representative of a single sample (that is, the grain size should not be used in relation to the chemical results).
- Phase analyses - As in the example of water sample being filtered by the laboratory, a data user may want to directly compare the dissolved and particulate fractions from the original collected water sample, and thus may find it convenient to group the results from both samples for analysis purposes.
- Field duplicates - Depending on how the field duplicate was collected, the data user should decide whether the data are useful for estimating small-scale spatial variability.

#### Other Types of Samples

By necessity, the term Sample is also applied in other instances that may be different in both name and count than represented by the Data Management Sample. A brief description is provided below for other types of Samples, with some examples of how the different types are related.

**Field Sample:** A field sample is the unique identifier given to the sample(s) in the field. A field sample is collected at the same location and time period, but may consist of multiple matrices.

**Chain-of-Custody Sample:** A COC sample represents the identification of the field sample sent to the laboratory. Usually the COC sample should be identical to the field sample, although sometimes mistakes are made in transcription.

***Analytical or Laboratory Sample*** : An analytical sample is the unique identifier assigned to the sample in the laboratory ("LabID"), and is always a single matrix.

Here are some examples of how the multiple Samples are related:

- Mud-covered vegetation is collected in the field (Field Sample), and documented on a chain-of-custody form (COC Sample). Later, the laboratory scrapes the mud off of the vegetation and analyzes the vegetation and the sediment as two separate Laboratory Samples. In this case, each unique Laboratory Sample constitutes a unique DM Sample.
- A bag of mussels is collected and sent to a tissue processing lab (one Field Sample). The tissue processing laboratory logs in the original Field Sample as recorded on the COC. Then the mussels are measured for size and only those that are greater than a certain size limit are shucked and composited. The tissue processing lab then sends one aliquot (as documented on a new or revised COC) for lipids analysis and another aliquot (as documented on a second COC) is sent for hydrocarbon analyses. The final lipid results and hydrocarbon results are associated with two different Laboratory Samples, but represent one DM Sample.
- Four bottles are filled from a single CTD bottle on a rosette. Each bottle is labeled and given a unique Field Sample. Two bottles are sent for hydrocarbon analyses, and two are sent for conventional analyses, resulting in four distinct Laboratory Samples. The first set of hydrocarbon and conventional analyses are associated with one DM Sample, and the second set associated with a separate DM Sample, classified as a field duplicate.

#### Data Management Sample Nomenclature

NOAA Watershed and Spill Response databases used with the QM application have three codes to uniquely identify Data Management samples. These are defined below.

***QM Key Fields:*** The multiple primary key for a QM Data Management Sample is StudyID+StationID+SampleID:

- StudyID – A two character identifier associated with a study name where a study represents a sampling event with a specified purpose completed over a defined period of time (e.g., StudyID "A0" is associated with Study Name "M/V Merriweather Cruise Sept 11 – 15 2012").
- StationID – A character string representing a location of sample collection (e.g., StationID "ST003" [Station 003]) and associated with one latitude and longitude.
- SampleID – A character string representing the collection of a sample on a specific date for a single matrix (e.g., SampleID "T001H" [first composited hepatopancreas red crab sample]).
- Labrep – A single DMS can have multiple laboratory replicates as coded with the labrep field, which is a character string used to differentiate the primary analyses from laboratory duplicates generated from multiple runs that generates additional analytes in



the set of results for the sample (e.g., Labrep "01" = primary lab replicate; "02" = second analysis for the same analyte).

**SampleID Conventions:** Data management practices for recording samples in NOAA databases used with the QM application have specific techniques for identifying DM Samples, Field Duplicates, Composites, and other associated sample identifiers. Two methods used for associating samples are SampleID coding methods that use suffixes, and the Sample Type field (named Samptype). Below is a brief overview of the types of coding that can be used to relate different types of associated Samples.

*Suffixes* - Suffixes added to the standard SampleID code are used to create an association of 2 or more DM Samples from one or more collected field samples.

- Field duplicates - A "D" suffix on the DM Sample is used to link a sample with its associated field duplicate (e.g., SampleID "S001" and "S001D").
- Split phases from one field sample - Samples from the same source water but of different phases (total, filtered, particulate) are also linked with a suffix (e.g., SampleID "W001" for whole water, "W001F" for filtered portion, and "W001P" for particulate portion).
- Dissected organisms - Tissue samples dissected from the same source organism are linked by a suffix which indicates a tissue type, such as H for hepatopancreas, and M for muscle (e.g., T001H and T001M).

*Sample Type Code* - The sample type code is assigned to distinguish a regular field sample (SMP) from a field duplicate/replicate (FDUP).

Some examples of the QM Primary Key fields (StudyID, StationID, SampleID, Labrep):

- A0/ST003/T001/01 – Primary lab results for a whole body red crab sample collected at Station 003 for the MV/Merriweather Cruise Sept 11 – 15 2012 sampling event.
- A0/ST003/T001/02 – Lab replicate of one analytical method (e.g., metals) for the whole body red crab sample collected at Station 003 for the MV/Merriweather Cruise Sept 11 – 15 2012 sampling event.
- A0/ST003/S001/01 – Primary lab results for a sediment sample collected at Station 003 (same location as red crab) for the MV/Merriweather Cruise Sept 11 – 15 2012 sampling event.
- A0/ST003/S001D/01 – Primary lab results for a sediment sample collected at Station 003 at the same time and using the same sample collection method as sample S001 for the MV/Merriweather Cruise Sept 11 – 15 2012 sampling event.

## References

UFP-QAPP 2005. Intergovernmental Data Quality Task Force, Uniform Federal Policy for Quality Assurance Project Plans. Part 2B: Quality Assurance/Quality Control Compendium: Minimum QA/QC Activities. Final, Version 1, March 2005. US EPA, US Department of Defense, US Dept of Energy. Publication Numbers: EPA: EPA-505-B-04-900B; DoD: DTIC ADA 426957. [http://www.epa.gov/fedfac/pdf/qaqc\\_v1\\_0305.pdf](http://www.epa.gov/fedfac/pdf/qaqc_v1_0305.pdf)

## APPENDIX F: Table and Field Mapping Between Scribe, Import Database and QM Fields

Source Scribe - Access			Import from Scribe -Access			QM -- FoxPro		
Table	Field	Description	Table	Field	Description	Table	Field	Description
Events	Site_No and Event ID	Used in conjunction to describe study	Stations	StudyName	Modified for simplicity; see list	smpmstr	SCR_STUDYN	See SCR_STUDYN List
Location	Location		Stations	Station		smpmstr	SCR_STATIO	
Location	LocationDescription		Stations	Station description		station	LOCDESC	
Location	Latitude	number format	Stations	Latitude	text format	station	LATITUDE	number format
Location	Longitude	number format	Stations	Longitude	text format	station	LONGITUDE	number format
Location	Datum		Stations	HDatum		station	DATUM	
Location	LocationComment		Stations	Comments		NA		may have been combined into LOCDESC
Samples	Samp_No		Samples	Sample		eddchem	EXSAMPID	
Samples	Matrix	Original matrix	Samples	Matrix	Matrix code; see list	sample tables except smptiss/ eddchem	MATRIX	matrix in sample tables is code modified from import; matrix in eddchem is original see list of sample dbf tables
Samples	SampleType		Samples	Sample Type Code	see list for codes	Sample Tables	SAMPTYPE	
Samples	SampleDate	mm/dd/yyyy format	Samples	Sample Collection Date	yyyymmdd format	Sample Tables	SAMPDATE	yyyymmdd format
Samples	SampleTime	hh:mm format	Samples	Sample Collection Time	hh:mm format	Sample Tables	SAMPTIME	hh:mm format
Samples	Samp_Depth		Samples	Upper Collection Depth		Sample Tables	UDEPTH	
Samples	Samp_Depth_To		Samples	Lower Collection Depth		Sample Tables	LDEPTH	
Samples	Samp_Depth_Units		Samples	Collection Depth Units		Sample Tables	DEPTHUNIT	
Location	Altitude	Only applied for data in NOAAADW	Samples	Water Depth (m)		Sample Tables	WTRDEPTH	
Samples	Remarks		Samples	Notes		Sample Tables	NOTES	
NA			Chem	Lab Rep	Used to differentiate among samples taken from the same container or depth and time	Chemistry Tables	LABREP	see list of chemistry dbf tables
LabResults	Analytical Method		Chem	Method		Chemistry Tables	METHOD	
LabResults	CAS_NO		Chem	CAS Number		eddchemsp	CASNUM	Some non-regular values removed or replaced.
LabResults	Analyte		Chem	Chemical		eddchem	ANALYTE	Equivalent to QM's CHEMNAME
LabResults	Result		Chem	Result		Chemistry Tables	CONC	
LabResults	Result_Qualifier		Chem	Qualifier(s)		Chemistry Tables	QUALCODE	
LabResults	Result_Units		Chem	Units		Chemistry Tables	UNITS	Many units changed and the CONC recalculated
LabResults	Basis		Chem	Basis		Chemistry Tables	MEASBASIS	
LabResults	NA		Chem	DVLevel		Chemistry Tables	DVLEVEL	
LabResults	Lab_Batch_No		Chem	QCBatch		Chemistry Tables	QCBATCH	
LabResults	Total_Or_Dissolved	either T or D	Chem	Total or Dissolved		eddchem	TOTALDISS	either dis or tot
LabResults	Lab_Name		Chem	Lab Name		Chemistry Tables	LABNAME	
LabResults	Comments		Chem	Notes		NA		
LabResults	MDL		Chem	Detection Limit		Chemistry Tables	DL	
LabResults	Reporting_Limit		Chem	Reporting Limit		Chemistry Tables	RL	
LabResults	Lab_Samp_No		Chem	Laboratory sample ID		Chemistry Tables	LABID	

## Appendix G. Valid Values

Field	Value	Description
ANALYTTYPE	SC	Spike
ANALYTTYPE	SUR	Surrogate
ANALYTTYPE	TIC	Tentatively Identified Compound
ANALYTTYPE	TRG	Target Compound
CASNUM	% Gravel	CHEMCODE=PCT GRAVEL
CASNUM	% Moisture	CHEMCODE=PCT MOIS
CASNUM	% Sand	CHEMCODE=PCT SAND
CASNUM	% SILT CLAY	CHEMCODE=PCT FINES
CASNUM	% Solids	CHEMCODE=SOLIDS T
CASNUM	100-01-6	CHEMCODE=NANILINE 4
CASNUM	100-02-7	CHEMCODE=NPHN 4
CASNUM	1002-84-2	
CASNUM	100-41-4	CHEMCODE=ETHYLBENZ
CASNUM	100-42-5	CHEMCODE=STYRENE
CASNUM	100-51-6	CHEMCODE=BENZYL OH
CASNUM	100-52-7	CHEMCODE=BENZALDEHY
CASNUM	10061-01-5	CHEMCODE=C13 2CLPRE
CASNUM	10061-02-6	CHEMCODE=T13 2CLPRE
CASNUM	101-55-3	CHEMCODE=BDE003
CASNUM	1024-57-3	CHEMCODE=HEPCL EPOX
CASNUM	1031-07-8	CHEMCODE=ENDOSLFN S
CASNUM	103-33-3	CHEMCODE=AZOBENZENE
CASNUM	103-65-1	CHEMCODE=N PRYLBENZ
CASNUM	104-51-8	CHEMCODE=N BUTLBENZ
CASNUM	104-76-7	CHEMCODE=ETH6NOL2
CASNUM	105-60-2	CHEMCODE=CAPRO
CASNUM	105-67-9	CHEMCODE=MPHN24 2
CASNUM	106-39-8	
CASNUM	106-42-3	CHEMCODE=P XYLENE
CASNUM	106-43-4	CHEMCODE=CHLR TOL4
CASNUM	106-44-5	CHEMCODE=METPHNOL 4
CASNUM	106-46-7	CHEMCODE=CLBNZ14 2
CASNUM	106-47-8	CHEMCODE=CLANILIN 4
CASNUM	106631-38-3	
CASNUM	106-93-4	CHEMCODE=BRMETA12 2
CASNUM	106-97-8	
CASNUM	107-02-8	
CASNUM	107-05-1	CHEMCODE=CLPRPE 3
CASNUM	107-06-2	CHEMCODE=CLETH12 2
CASNUM	107-13-1	CHEMCODE=ACRYLNTRLE
CASNUM	107-49-3	CHEMCODE=TEPP
CASNUM	107-83-5	
CASNUM	108-05-4	CHEMCODE=VINYL ACET
CASNUM	108-10-1	CHEMCODE=MIBK
CASNUM	108-20-3	CHEMCODE=DIPRPYLETH
CASNUM	108-38-3	CHEMCODE=M XYLENE
CASNUM	108-67-8	CHEMCODE=B135 TRIME
CASNUM	108-86-1	CHEMCODE=BROMOBENZ
CASNUM	108-87-2	CHEMCODE=MCHEX
CASNUM	108-88-3	CHEMCODE=TOLUENE
CASNUM	108-90-7	CHEMCODE=CLBNZ
CASNUM	108-95-2	CHEMCODE=PHENOL
CASNUM	109-66-0	
CASNUM	109-99-9	CHEMCODE=HYFURN4
CASNUM	110-54-3	
CASNUM	110-57-6	CHEMCODE=T14 2CL2BT
CASNUM	110-75-8	CHEMCODE=CLEVE 2
CASNUM	110-82-7	CHEMCODE=CYCHEXANE
CASNUM	110-86-1	CHEMCODE=PYRIDINE
CASNUM	11096-82-5	CHEMCODE=AR 1260
CASNUM	11097-69-1	CHEMCODE=AR 1254
CASNUM	11100-14-4	CHEMCODE=AR 1268
CASNUM	11104-28-2	CHEMCODE=AR 1221
CASNUM	11141-16-5	CHEMCODE=AR 1232
CASNUM	111-44-4	CHEMCODE=B2CEE
CASNUM	111-76-2	
CASNUM	111-84-2	CHEMCODE=AHCN C09
CASNUM	111-91-1	CHEMCODE=BCEOM
CASNUM	1120-21-4	CHEMCODE=AHCN C11

## Appendix G. Valid Values

Field	Value	Description
CASNUM	112-39-0	
CASNUM	112-40-3	CHEMCODE=AHCN C12
CASNUM	112-80-1	
CASNUM	112-95-8	CHEMCODE=AHCN C20
CASNUM	1146-65-2	
CASNUM	115-11-7	
CASNUM	115-90-2	CHEMCODE=FENSLTHION
CASNUM	117-81-7	CHEMCODE=B2ETHXPHTH
CASNUM	117-84-0	CHEMCODE=NOCTP2
CASNUM	118-74-1	CHEMCODE=CLBNZ6
CASNUM	118-79-6	
CASNUM	120-12-7	CHEMCODE=ANTHRACENE
CASNUM	120-36-5	CHEMCODE=DICHLORPRP
CASNUM	120-82-1	CHEMCODE=CLBNZ124 3
CASNUM	120-83-2	CHEMCODE=CLPHN24 2
CASNUM	121-14-2	CHEMCODE=NTOL24 2
CASNUM	121-75-5	CHEMCODE=MALATHION
CASNUM	122-39-4	CHEMCODE=DPA
CASNUM	122-66-7	CHEMCODE=PHHYZ12 2
CASNUM	123-91-1	CHEMCODE=DIOXANE 14
CASNUM	124-18-5	CHEMCODE=AHCN C10
CASNUM	124-48-1	CHEMCODE=BRCLMETHA2
CASNUM	12672-29-6	CHEMCODE=AR 1248
CASNUM	12674-11-2	CHEMCODE=AR 1016
CASNUM	126-98-7	CHEMCODE=METCRYNITR
CASNUM	127-18-4	CHEMCODE=CLETHENE4
CASNUM	127-63-9	
CASNUM	129-00-0	CHEMCODE=PYRENE
CASNUM	131-11-3	CHEMCODE=DMP
CASNUM	13194-48-4	CHEMCODE=ETHOPROP
CASNUM	1321-94-4	CHEMCODE=METHNAP
CASNUM	132-64-9	CHEMCODE=DIBNZFURAN
CASNUM	132-65-0	CHEMCODE=DIBNZTHIO
CASNUM	1330-20-7	CHEMCODE=XYLENE
CASNUM	1333-74-0	CHEMCODE=HYDROGEN
CASNUM	1336-36-3	CHEMCODE=PCB SUMR
CASNUM	135-98-8	CHEMCODE=SEC BUTBEN
CASNUM	14167-59-0	CHEMCODE=AHCN C34
CASNUM	142-28-9	CHEMCODE=CLPRP13 2
CASNUM	14265-45-3	
CASNUM	14808-79-8	
CASNUM	150-50-5	CHEMCODE=MERPHOS
CASNUM	1517-22-2	
CASNUM	156-59-2	CHEMCODE=C12 CL2ETH
CASNUM	156-60-5	CHEMCODE=T12 2CLETH
CASNUM	15831-10-4	CHEMCODE=METPHN3 4
CASNUM	16327-22-3	
CASNUM	1634-04-4	CHEMCODE=MET3BUTETH
CASNUM	1685	CHEMCODE=URANIUM
CASNUM	16984-48-8	
CASNUM	17060-07-0	
CASNUM	1718-51-0	
CASNUM	1730-37-6	CHEMCODE=METFLUOR 1
CASNUM	179601-23-1	CHEMCODE=MP XYLENE
CASNUM	1825-21-4	CHEMCODE=PENCAS
CASNUM	1868-53-7	
CASNUM	1912-24-9	CHEMCODE=ATRAZINE
CASNUM	191-24-2	CHEMCODE=BGHIP
CASNUM	1918-00-9	CHEMCODE=DICAMBA
CASNUM	1921-70-6	CHEMCODE=PRISTANE
CASNUM	192-97-2	CHEMCODE=BEP
CASNUM	193-39-5	CHEMCODE=ICDP
CASNUM	198-55-0	CHEMCODE=PERYLENE
CASNUM	203-64-5	CHEMCODE=METPHENA45
CASNUM	2037-26-5	
CASNUM	2051-24-3	
CASNUM	205-99-2	CHEMCODE=BBF
CASNUM	206-44-0	CHEMCODE=FLUORANTHN
CASNUM	207-08-9	CHEMCODE=BKF

## Appendix G. Valid Values

Field	Value	Description
CASNUM	208-96-8	CHEMCODE=ACENAPTYLE
CASNUM	2104-64-5	CHEMCODE=EPN
CASNUM	218-01-9	CHEMCODE=CHRYSENE
CASNUM	22248-79-9	CHEMCODE=STIROFOS
CASNUM	224-10-2	CHEMCODE=NTHPHNE
CASNUM	2245-38-7	CHEMCODE=MTNAP235 3
CASNUM	229-87-8	CHEMCODE=PHENDINE
CASNUM	2381-21-7	CHEMCODE=METPYR 1
CASNUM	24909-91-9	CHEMCODE=PREGANS1
CASNUM	24959-67-9	
CASNUM	25447-95-4	
CASNUM	26914-17-0	CHEMCODE=MET9HFLRNE
CASNUM	287-92-3	
CASNUM	2921-88-2	CHEMCODE=CHLORPYRIF
CASNUM	298-00-0	CHEMCODE=METH PARA
CASNUM	298-02-2	CHEMCODE=PHORATE
CASNUM	298-04-4	CHEMCODE=DISULFOTON
CASNUM	29911-28-2	CHEMCODE=DPROPGLYBE
CASNUM	29911-28-2-PK1	CHEMCODE=DPNB PK1
CASNUM	29911-28-2-PK2	CHEMCODE=DPNB PK2
CASNUM	299-84-3	CHEMCODE=RONNEL
CASNUM	300-76-5	CHEMCODE=NALED
CASNUM	308075-07-2	
CASNUM	309-00-2	CHEMCODE=ALDRIN
CASNUM	30995-64-3	CHEMCODE=C1DBZTHIOP
CASNUM	31711-53-2	CHEMCODE=C1PHENANS
CASNUM	319-84-6	CHEMCODE=CL CHX A6
CASNUM	319-85-7	CHEMCODE=CL CHX B6
CASNUM	319-86-8	CHEMCODE=CL CHX D6
CASNUM	321-60-8	
CASNUM	327-98-0	CHEMCODE=TRICLNATE
CASNUM	33213-65-9	CHEMCODE=ENDOSLFN B
CASNUM	333-41-5	CHEMCODE=DIAZINON
CASNUM	34643-46-4	CHEMCODE=PROTHIOPHS
CASNUM	35400-43-2	CHEMCODE=SULPROFOS
CASNUM	3622-84-2	
CASNUM	36653-82-4	
CASNUM	367-12-4	
CASNUM	3689-24-5	CHEMCODE=SULFOTEPP
CASNUM	37324-23-5	CHEMCODE=AR 1262
CASNUM	3892-00-0	CHEMCODE=NORPRISTAN
CASNUM	39638-32-9	CHEMCODE=B2CIE
CASNUM	41637-90-5	CHEMCODE=METCHRYS
CASNUM	4165-60-0	
CASNUM	4165-62-2	
CASNUM	4170-30-3	CHEMCODE=BUTOXETH 2
CASNUM	4181-95-7	CHEMCODE=AHCN C40
CASNUM	445	CHEMCODE=PCT SILT
CASNUM	4544-26-7	
CASNUM	460-00-4	
CASNUM	471-62-5	CHEMCODE=T23HHOP
CASNUM	481-21-0	CHEMCODE=CHOLESTANE
CASNUM	488-23-3	CHEMCODE=M4BNZ1234
CASNUM	4901-51-3	CHEMCODE=CLPHN2345
CASNUM	50-29-3	CHEMCODE=PP DDT
CASNUM	50-32-8	CHEMCODE=BAP
CASNUM	5103-71-9	
CASNUM	5103-74-2	CHEMCODE=CHLORDAN A
CASNUM	51-28-5	CHEMCODE=DNPL24
CASNUM	526-73-8	CHEMCODE=B123 TRIME
CASNUM	527-53-7	CHEMCODE=M4BNZ1245
CASNUM	534-52-1	CHEMCODE=DINOCRESOL
CASNUM	53469-21-9	CHEMCODE=AR 1242
CASNUM	53494-70-5	CHEMCODE=ENDRIN KET
CASNUM	53-70-3	CHEMCODE=BANTH2
CASNUM	540-59-0	CHEMCODE=CLETHE12 2
CASNUM	541-73-1	CHEMCODE=CLBNZ13 2
CASNUM	544-63-8	
CASNUM	544-76-3	CHEMCODE=AHCN C16

## Appendix G. Valid Values

Field	Value	Description
CASNUM	544-85-4	CHEMCODE=AHCN C32
CASNUM	55-38-9	CHEMCODE=FENTHION
CASNUM	5566-34-7	CHEMCODE=CHLORDAN G
CASNUM	559-65-9	CHEMCODE=T22AGCERAN
CASNUM	56-23-5	CHEMCODE=CARBON TET
CASNUM	563-58-6	CHEMCODE=CLPRP11 2
CASNUM	56-38-2	CHEMCODE=PARATHION
CASNUM	56-55-3	CHEMCODE=BAA
CASNUM	56-72-4	CHEMCODE=COUMAPHOS
CASNUM	57-10-3	
CASNUM	57-11-4	
CASNUM	57-12-5	CHEMCODE=CYANIDE
CASNUM	573-98-8	CHEMCODE=METH2NAP12
CASNUM	575-43-9	CHEMCODE=METH2NAP16
CASNUM	57-55-6	CHEMCODE=PROPGLY
CASNUM	577-11-7	CHEMCODE=DISSULFNA
CASNUM	57-74-9	CHEMCODE=CHLORDANE
CASNUM	581-42-0	CHEMCODE=METNAP26 2
CASNUM	58-89-9	CHEMCODE=CL CHX G6
CASNUM	58-90-2	CHEMCODE=CLPHN2346
CASNUM	591-78-6	CHEMCODE=MBK
CASNUM	593-45-3	CHEMCODE=AHCN C18
CASNUM	593-49-7	CHEMCODE=AHCN C27
CASNUM	593-60-2	CHEMCODE=VINYL BR
CASNUM	594-20-7	CHEMCODE=CLPRP22 2
CASNUM	59-50-7	CHEMCODE=CL3 MPHN 4
CASNUM	60-29-7	CHEMCODE=DIETHLETH
CASNUM	60-51-5	CHEMCODE=DIMEHOATE
CASNUM	60-57-1	CHEMCODE=DIELDRIN
CASNUM	606-20-2	CHEMCODE=NTOL26 2
CASNUM	611-14-3	CHEMCODE=METHEBN22
CASNUM	613-12-7	CHEMCODE=METANTH 2
CASNUM	620-14-4	
CASNUM	621-64-7	CHEMCODE=NNDNPR
CASNUM	624-64-6	
CASNUM	62-53-3	CHEMCODE=ANILINE
CASNUM	62-73-7	CHEMCODE=DICHLORVOS
CASNUM	62-75-9	CHEMCODE=NNDMA
CASNUM	629-50-5	CHEMCODE=AHCN C13
CASNUM	629-59-4	CHEMCODE=AHCN C14
CASNUM	629-62-9	CHEMCODE=AHCN C15
CASNUM	629-76-5	
CASNUM	629-78-7	CHEMCODE=AHCN C17
CASNUM	629-92-5	CHEMCODE=AHCN C19
CASNUM	629-94-7	CHEMCODE=AHCN C21
CASNUM	629-97-0	CHEMCODE=AHCN C22
CASNUM	629-99-2	CHEMCODE=AHCN C25
CASNUM	630-01-3	CHEMCODE=AHCN C26
CASNUM	630-02-4	CHEMCODE=AHCN C28
CASNUM	630-03-5	CHEMCODE=AHCN C29
CASNUM	630-04-6	CHEMCODE=AHCN C31
CASNUM	630-05-7	CHEMCODE=AHCN C33
CASNUM	630-06-8	CHEMCODE=AHCN C36
CASNUM	630-07-9	CHEMCODE=AHCN C35
CASNUM	630-20-6	CHEMCODE=CLET1112 4
CASNUM	637-92-3	CHEMCODE=ETH3BUTETH
CASNUM	638-04-0	
CASNUM	638-36-8	CHEMCODE=PHYTANE
CASNUM	638-67-5	CHEMCODE=AHCN C23
CASNUM	638-68-6	CHEMCODE=AHCN C30
CASNUM	64-17-5	
CASNUM	646-31-1	CHEMCODE=AHCN C24
CASNUM	64743-03-9	
CASNUM	65-85-0	CHEMCODE=BENZOIC AC
CASNUM	67-56-1	
CASNUM	67-63-0	
CASNUM	67-64-1	CHEMCODE=ACETONE
CASNUM	67-66-3	CHEMCODE=CHLOROFORM
CASNUM	67-72-1	CHEMCODE=CLETH6

## Appendix G. Valid Values

Field	Value	Description
CASNUM	68334-30-5	
CASNUM	6923-22-4	CHEMCODE=MONOCROT
CASNUM	7005-72-3	CHEMCODE=CPPE 4
CASNUM	7132-64-1	
CASNUM	71-36-3	
CASNUM	71-43-2	CHEMCODE=BENZENE
CASNUM	71-55-6	CHEMCODE=CLETH111 3
CASNUM	7194-84-5	CHEMCODE=AHCN C37
CASNUM	7194-85-6	CHEMCODE=AHCN C38
CASNUM	7194-86-7	CHEMCODE=AHCN C39
CASNUM	72-20-8	CHEMCODE=ENDRIN
CASNUM	72-43-5	CHEMCODE=METHOXYCL
CASNUM	72-54-8	CHEMCODE=PP DDD
CASNUM	72-55-9	CHEMCODE=PP DDE
CASNUM	7297-45-2	CHEMCODE=METHNP2D10
CASNUM	7421-93-4	CHEMCODE=ENDRIN ALD
CASNUM	7429-90-5	CHEMCODE=ALUMINUM
CASNUM	7439-89-6	CHEMCODE=IRON
CASNUM	7439-92-1	CHEMCODE=LEAD
CASNUM	7439-93-2	CHEMCODE=LITHIUM
CASNUM	7439-95-4	CHEMCODE=MAGNESIUM
CASNUM	7439-96-5	CHEMCODE=MANGANESE
CASNUM	7439-97-6	CHEMCODE=MERCURY
CASNUM	7439-98-7	CHEMCODE=MOLYBDENUM
CASNUM	7440-02-0	CHEMCODE=NICKEL
CASNUM	7440-09-7	CHEMCODE=POTASSIUM
CASNUM	7440-22-4	CHEMCODE=SILVER
CASNUM	7440-23-5	CHEMCODE=SODIUM
CASNUM	7440-24-6	CHEMCODE=STRONTIUM
CASNUM	7440-28-0	CHEMCODE=THALLIUM
CASNUM	7440-31-5	CHEMCODE=TIN
CASNUM	7440-32-6	CHEMCODE=TITANIUM
CASNUM	7440-36-0	CHEMCODE=ANTIMONY
CASNUM	7440-38-2	CHEMCODE=ARSENIC
CASNUM	7440-39-3	CHEMCODE=BARIUM
CASNUM	7440-41-7	CHEMCODE=BERYLLIUM
CASNUM	7440-42-8	CHEMCODE=BORON
CASNUM	7440-43-9	CHEMCODE=CADMIUM
CASNUM	7440-44-0	CHEMCODE=CARBON
CASNUM	7440-47-3	CHEMCODE=CHROMIUM
CASNUM	7440-48-4	CHEMCODE=COBALT
CASNUM	7440-50-8	CHEMCODE=COPPER
CASNUM	7440-62-2	CHEMCODE=VANADIUM
CASNUM	7440-65-5	CHEMCODE=YTTRIUM
CASNUM	7440-70-2	CHEMCODE=CALCIUM
CASNUM	74-83-9	CHEMCODE=BRMETH
CASNUM	74-87-3	CHEMCODE=CLMETH
CASNUM	74-88-4	CHEMCODE=METHYL 1
CASNUM	74-95-3	CHEMCODE=BRMETH2
CASNUM	74-97-5	CHEMCODE=BRCHLRMETH
CASNUM	74-98-6	
CASNUM	75-00-3	CHEMCODE=CLETH
CASNUM	75-01-4	CHEMCODE=VINYL CL
CASNUM	75-09-2	CHEMCODE=METHYLE CL
CASNUM	75-15-0	CHEMCODE=CS2
CASNUM	75-18-3	
CASNUM	75-25-2	CHEMCODE=BROMOFORM
CASNUM	75-27-4	CHEMCODE=CLBRMETHA2
CASNUM	75-28-5	
CASNUM	75-34-3	CHEMCODE=CLETH11 2
CASNUM	75-35-4	CHEMCODE=CLETHE11 2
CASNUM	7541-49-3	
CASNUM	75-69-4	CHEMCODE=CLFLMETH3
CASNUM	75-71-8	CHEMCODE=CL2FLMETH2
CASNUM	75-99-0	CHEMCODE=DALAPON
CASNUM	76-13-1	CHEMCODE=CL3FLETH3
CASNUM	763-29-1	
CASNUM	76-44-8	CHEMCODE=HEPTACHLOR
CASNUM	7664-41-7	CHEMCODE=AMMONIA N

## Appendix G. Valid Values

Field	Value	Description
CASNUM	7704-34-9	CHEMCODE=SULFUR
CASNUM	7723-14-0	CHEMCODE=PHOSPHORUS
CASNUM	7727-37-9	CHEMCODE=NITROGEN
CASNUM	7732-18-5	CHEMCODE=WATER
CASNUM	77-47-4	CHEMCODE=CLCYPEN6
CASNUM	7782-44-7	CHEMCODE=DO
CASNUM	7782-49-2	CHEMCODE=SELENIUM
CASNUM	7782-50-5	
CASNUM	7782-50-5 (TOTAL)	CHEMCODE=CHLORINE
CASNUM	7786-34-7	CHEMCODE=PHOSDRIN
CASNUM	78-27-3	
CASNUM	78-59-1	CHEMCODE=ISOPHORONE
CASNUM	78-78-4	
CASNUM	78-83-1	CHEMCODE=METHPROP 2
CASNUM	78-87-5	CHEMCODE=CLPRP12 2
CASNUM	78-93-3	CHEMCODE=BUTANONE 2
CASNUM	79-00-5	CHEMCODE=CLETH112 3
CASNUM	79-01-6	CHEMCODE=CLETHENE3
CASNUM	791-28-6	
CASNUM	79-20-9	CHEMCODE=METH ACET
CASNUM	79-29-8	
CASNUM	79-34-5	CHEMCODE=CLET1122 4
CASNUM	8001-35-2	CHEMCODE=TOXAPHENE
CASNUM	8002-05-9	
CASNUM	8006-61-9	CHEMCODE=NATGASLNE
CASNUM	80-62-6	CHEMCODE=METMETCRYL
CASNUM	8065-48-3	CHEMCODE=DEMETON
CASNUM	822-50-4	
CASNUM	82-68-8	CHEMCODE=CLNBNZ5
CASNUM	829-26-5	CHEMCODE=MENAP3 236
CASNUM	832-69-9	CHEMCODE=METPHENAN1
CASNUM	83-32-9	CHEMCODE=ACENAPTHEN
CASNUM	84-15-1	
CASNUM	84-65-1	CHEMCODE=ANTHRQUINO
CASNUM	84-66-2	CHEMCODE=DEP
CASNUM	84-74-2	CHEMCODE=DINBP
CASNUM	84-75-3	
CASNUM	85-01-8	CHEMCODE=PHENANTHRN
CASNUM	85-68-7	CHEMCODE=BUTBNZ PHT
CASNUM	86-30-6	CHEMCODE=NNP
CASNUM	86-50-0	CHEMCODE=GUTHION
CASNUM	86-73-7	CHEMCODE=FLUORENE
CASNUM	86-74-8	CHEMCODE=CARBAZOLE
CASNUM	87-61-6	CHEMCODE=CLBNZ123 3
CASNUM	87-68-3	CHEMCODE=CLBUTAD6
CASNUM	877-09-8	
CASNUM	87-86-5	CHEMCODE=CLPHN5
CASNUM	88-06-2	CHEMCODE=CLPHN246 3
CASNUM	88-74-4	CHEMCODE=NANILINE 2
CASNUM	88-75-5	CHEMCODE=NPHN 2
CASNUM	88-85-7	CHEMCODE=DINOSEB
CASNUM	90-12-0	CHEMCODE=METHNAP 1
CASNUM	91-20-3	CHEMCODE=NAPTHALENE
CASNUM	91-57-6	CHEMCODE=METHNAP 2
CASNUM	91-58-7	CHEMCODE=CLNAP 2
CASNUM	91-59-8	CHEMCODE=NAPAMINE 2
CASNUM	91-94-1	CHEMCODE=CLBZID33 2
CASNUM	92-52-4	CHEMCODE=BIPHENYL
CASNUM	92-87-5	CHEMCODE=BZID
CASNUM	935-95-5	CHEMCODE=CLPHN2356
CASNUM	93-65-2	CHEMCODE=MCPP
CASNUM	93-72-1	CHEMCODE=SILVEX
CASNUM	93-76-5	CHEMCODE=T 245
CASNUM	939-27-5	CHEMCODE=ETHNAPH 2
CASNUM	94-74-6	CHEMCODE=MCPA
CASNUM	94-75-7	CHEMCODE=D 24
CASNUM	94-82-6	CHEMCODE=DB2 24
CASNUM	95-47-6	CHEMCODE=O XYLENE
CASNUM	95-48-7	CHEMCODE=METPHNOL 2



## Appendix G. Valid Values

Field	Value	Description
CASNUM	95-49-8	CHEMCODE=CHLR TOL2
CASNUM	95-50-1	CHEMCODE=CLBNZ12 2
CASNUM	95-57-8	CHEMCODE=CLPHN 2
CASNUM	95-63-6	CHEMCODE=B124 TRIME
CASNUM	95-94-3	CHEMCODE=CLBZ1245 4
CASNUM	95-95-4	CHEMCODE=CLPHN245 3
CASNUM	959-98-8	CHEMCODE=ENDOSLFN A
CASNUM	96-12-8	CHEMCODE=BR3CPA12 2
CASNUM	96-14-0	
CASNUM	96-18-4	CHEMCODE=CLPRP123 3
CASNUM	96-33-3	CHEMCODE=METACRYL
CASNUM	96-37-7	
CASNUM	97-63-2	CHEMCODE=ETHMETCRYL
CASNUM	98-06-6	CHEMCODE=TERT BUTBZ
CASNUM	98-08-8	
CASNUM	98-82-8	CHEMCODE=CUMENE
CASNUM	98-86-2	CHEMCODE=ACETOPHENO
CASNUM	98-95-3	CHEMCODE=NBNZ
CASNUM	99-09-2	CHEMCODE=NANILINE 3
CASNUM	994-05-8	CHEMCODE=AM3METHER
CASNUM	99-87-6	CHEMCODE=CYMENE4
CASNUM	ALK	CHEMCODE=ALKLNTY
CASNUM	ALKANETOT	CHEMCODE=ALKANES T
CASNUM	APIGRAV	CHEMCODE=API GRAV
CASNUM	AROMATICOT	CHEMCODE=TOT AH
CASNUM	BAROP	CHEMCODE=BAROMETER
CASNUM	BDO-1474	CHEMCODE=C21STERANE
CASNUM	BDO-1475	CHEMCODE=C22STERANE
CASNUM	BDO-476	CHEMCODE=C23DITERP
CASNUM	BDO-477	CHEMCODE=C24TTERP
CASNUM	BDO-478	CHEMCODE=C25TERP
CASNUM	BDO-479	CHEMCODE=C24TETERP
CASNUM	BDO-480	CHEMCODE=C26TRICYCS
CASNUM	BDO-481	CHEMCODE=C26TRICYCR
CASNUM	BDO-482	CHEMCODE=C28TERP2S
CASNUM	BDO-483	CHEMCODE=C28TERP2R
CASNUM	BDO-484	CHEMCODE=C29TERP2S
CASNUM	BDO-485	CHEMCODE=C29TERP2R
CASNUM	BDO-486	CHEMCODE=TNHOP8290
CASNUM	BDO-487	CHEMCODE=THOP7290
CASNUM	BDO-488	CHEMCODE=T14AC28HOP
CASNUM	BDO-489	CHEMCODE=T14B29NHOP
CASNUM	BDO-490	CHEMCODE=C29NHOP15
CASNUM	BDO-491	CHEMCODE=TINNHOP
CASNUM	BDO-492	CHEMCODE=NHOP2715A
CASNUM	BDO-493	CHEMCODE=C30NMORT17
CASNUM	BDO-494	CHEMCODE=C30OLEAT18
CASNUM	BDO-495	CHEMCODE=C30HOPT19
CASNUM	BDO-496	CHEMCODE=NMORETANE
CASNUM	BDO-497	CHEMCODE=C31HHOPT21
CASNUM	BDO-498	CHEMCODE=C31HHOPT22
CASNUM	BDO-499	CHEMCODE=BHHOP2S01
CASNUM	BDO-500	CHEMCODE=BHHOP2R01
CASNUM	BDO-501	CHEMCODE=C33TRIHOPS
CASNUM	BDO-502	CHEMCODE=C33TRIHOPR
CASNUM	BDO-503	CHEMCODE=TKHHOP2S
CASNUM	BDO-504	CHEMCODE=TKHHOP2R
CASNUM	BDO-505	CHEMCODE=PKHHOPT34
CASNUM	BDO-506	CHEMCODE=PKHHOPT35
CASNUM	BDO-507	CHEMCODE=DCHOL370S
CASNUM	BDO-508	CHEMCODE=DCHOL370R
CASNUM	BDO-509	CHEMCODE=MDCHOLS8
CASNUM	BDO-510	CHEMCODE=CHOLS12
CASNUM	BDO-512	CHEMCODE=EDCHOL370R
CASNUM	BDO-513	CHEMCODE=EDCHOL370S
CASNUM	BDO-514	CHEMCODE=MCHOL4A70S
CASNUM	BDO-515	CHEMCODE=MCHOL4A70R
CASNUM	BDO-516	CHEMCODE=ECHOLS25
CASNUM	BDO-517	CHEMCODE=ECHOL4A70R

## Appendix G. Valid Values

Field	Value	Description
CASNUM	BDO-518	CHEMCODE=CHOL4B70R
CASNUM	BDO-519	CHEMCODE=CHOL4B70S
CASNUM	BDO-520	CHEMCODE=MCHOL4B70R
CASNUM	BDO-521	CHEMCODE=MCHOL4B70S
CASNUM	BDO-522	CHEMCODE=ECHOLS26
CASNUM	BDO-523	CHEMCODE=ECHOL4B70S
CASNUM	BDO-524	CHEMCODE=C19DITERP
CASNUM	BDO-525	CHEMCODE=T1DITERP
CASNUM	BDO-526	CHEMCODE=C21DITERP
CASNUM	BDO-527	CHEMCODE=C22DITERP
CASNUM	BDO-528	CHEMCODE=T13THOP
CASNUM	BDO-529	CHEMCODE=T13A29BHOP
CASNUM	BDO-530	CHEMCODE=T14BHOP
CASNUM	BDO-533	CHEMCODE=T24HMMT
CASNUM	BDO-534	CHEMCODE=T25DPT
CASNUM	BDO-535	CHEMCODE=BMMT28
CASNUM	BDO-536	CHEMCODE=HHOPT29
CASNUM	BDO-537	CHEMCODE=C21DIASTER
CASNUM	BDO-539	CHEMCODE=C22DIASTER
CASNUM	BDO-540	CHEMCODE=PREGNANS2
CASNUM	BDO-541	CHEMCODE=DCHOLS6
CASNUM	BDO-542	CHEMCODE=DCHOLS7
CASNUM	BDO-543	CHEMCODE=MDCHOLS10
CASNUM	BDO-544	CHEMCODE=MDCHOL
CASNUM	BDO-545	CHEMCODE=S29C30CHOL
CASNUM	BDO-546	CHEMCODE=S30C30CHOL
CASNUM	BDO-547	CHEMCODE=D1DIASTER
CASNUM	BDO-548	CHEMCODE=D2DIASTER
CASNUM	BDO-549	CHEMCODE=D3ADIASTER
CASNUM	BDO-550	CHEMCODE=D3DIASTER
CASNUM	BDO-551	CHEMCODE=D4ADIASTER
CASNUM	BDO-552	CHEMCODE=D4DIASTER
CASNUM	BDO-553	CHEMCODE=D5DIASTER
CASNUM	BDO-554	CHEMCODE=D6DIASTER
CASNUM	BDO-565	CHEMCODE=TASC20
CASNUM	BDO-566	CHEMCODE=TASC21
CASNUM	BDO-567	CHEMCODE=TARSTER60S
CASNUM	BDO-568	CHEMCODE=TARSTER670
CASNUM	BDO-569	CHEMCODE=TARSTER70R
CASNUM	BDO-570	CHEMCODE=TARSTER80S
CASNUM	BDO-571	CHEMCODE=TARSTER80R
CASNUM	BENZ/CRYSC1	CHEMCODE=C1BENZCHRY
CASNUM	BENZ/CRYSC2	CHEMCODE=C2BENZCHRY
CASNUM	BENZ/CRYSC3	CHEMCODE=C3BENZCHRY
CASNUM	BENZ/CRYSC4	CHEMCODE=C4BENZCHRY
CASNUM	BOD	CHEMCODE=BOD
CASNUM	BOD5	
CASNUM	C10H22	
CASNUM	C11H24	
CASNUM	Clay	CHEMCODE=PCT CLAY
CASNUM	Clay_Control	
CASNUM	COLOR	CHEMCODE=COLOR
CASNUM	CRYSC2	CHEMCODE=C2CHRYSENS
CASNUM	CRYSC3	CHEMCODE=C3CHRYSENS
CASNUM	CRYSC4	CHEMCODE=C4CHRYSENS
CASNUM	DBTC2	CHEMCODE=C2DBZTHIOP
CASNUM	DBTC3	CHEMCODE=C3DBZTHIOP
CASNUM	DBTC4	CHEMCODE=C4DBZTHIOP
CASNUM	DENSITY	CHEMCODE=DENSITY
CASNUM	DH30	CHEMCODE=DHOP7
CASNUM	DISMRK1	CHEMCODE=DISMRK1
CASNUM	DISMRK2	CHEMCODE=DISMRK2
CASNUM	DISMRKTOT	CHEMCODE=DISMRKTOT
CASNUM	DISP	CHEMCODE=DISPERSIBL
CASNUM	DISS_OXYGEN	
CASNUM	DROC10C28	
CASNUM	DROC28C40	
CASNUM	DROC6C10	CHEMCODE=ORO_C6C10
CASNUM	E1640549	CHEMCODE=UVA254

## Appendix G. Valid Values

Field	Value	Description
CASNUM	E1641638	CHEMCODE=COD
CASNUM	E17075045-1380	CHEMCODE=ISORRT1380
CASNUM	E17075045-1470	CHEMCODE=ISORRT140
CASNUM	E17148362	CHEMCODE=C1FLUORPYR
CASNUM	E1852623 (Control)	
CASNUM	E1852623 (Sample)	
CASNUM	E1853597	
CASNUM	E1892462	
CASNUM	E1896422 (Control)	
CASNUM	E1896422 (Sample)	
CASNUM	E1903954	
CASNUM	E1944156	
CASNUM	E1972785 (Control)	
CASNUM	E1972785 (Sample)	
CASNUM	E52450939	CHEMCODE=SURF
CASNUM	E701045	CHEMCODE=H METHANE3
CASNUM	ECOLIFORM	
CASNUM	FECCOLIFORM	
CASNUM	FLASHPT	CHEMCODE=FLASH
CASNUM	FLC2	CHEMCODE=C2FLUORENS
CASNUM	FLC3	CHEMCODE=C3FLUORENS
CASNUM	FLIQUIDS	
CASNUM	FLUOR/PYRC2	CHEMCODE=C2FLUORPYR
CASNUM	FLUOR/PYRC3	CHEMCODE=C3FLUORPYR
CASNUM	GIS-210-011	CHEMCODE=CONDUCT
CASNUM	GS.0015mm	
CASNUM	GS.001mm	
CASNUM	GS.002mm	
CASNUM	GS.005mm	
CASNUM	GS.015mm	
CASNUM	GS.02mm	
CASNUM	GS.03mm	
CASNUM	GS.05mm	
CASNUM	GS.064mm	
CASNUM	GS.075mm	
CASNUM	GS.375in	
CASNUM	GS.3mm	
CASNUM	GS.6mm	
CASNUM	GS.75in	
CASNUM	GS1.18mm	
CASNUM	GS1.5in	
CASNUM	GS19mm	
CASNUM	GS2.36mm	
CASNUM	GS2mm	
CASNUM	GS3.35mm	
CASNUM	GS37.5mm	
CASNUM	GS3in	
CASNUM	GS4.75mm	
CASNUM	GS75mm	
CASNUM	H2O Control	
CASNUM	HARD	CHEMCODE=HARDNESS
CASNUM	KN	CHEMCODE=NITROGEN K
CASNUM	MORT	
CASNUM	NAPHC1	CHEMCODE=C1NTHPHNE
CASNUM	NAPHC2	CHEMCODE=C2NTHPHNE
CASNUM	NAPHC3	CHEMCODE=C3NTHPHNE
CASNUM	NPHC2	CHEMCODE=C2NAPHTHS
CASNUM	NPHC3	CHEMCODE=C3NAPHTHS
CASNUM	NPHC4	CHEMCODE=C4NAPHTHS
CASNUM	OILGREASE	CHEMCODE=OIL GREASE
CASNUM	OILGREASEHEM	CHEMCODE=OILGR HEM
CASNUM	ORO	
CASNUM	OROC19C36	CHEMCODE=ORO C19C36
CASNUM	OROC28C35	CHEMCODE=ORO C28C35
CASNUM	OROC28C40	CHEMCODE=ORO C28C40
CASNUM	PFT	
CASNUM	PH	CHEMCODE=PH
CASNUM	PHC2840	
CASNUM	PHC940	CHEMCODE=PET HC

## Appendix G. Valid Values

Field	Value	Description
CASNUM	PHCC10C12AL	CHEMCODE=ALIPH10 12
CASNUM	PHCC10C12AR	CHEMCODE=AROMA10 12
CASNUM	PHCC12C16AL	CHEMCODE=ALIPH12 16
CASNUM	PHCC12C16AR	CHEMCODE=AROMA12 16
CASNUM	PHCC16C21AR	CHEMCODE=AROMA16 21
CASNUM	PHCC16C35AL	CHEMCODE=ALIPH16 35
CASNUM	PHCC21C35AR	CHEMCODE=AROMA21 35
CASNUM	PHCC5C6AL	
CASNUM	PHCC5C7AR	
CASNUM	PHCC6C8AL	CHEMCODE=ALIPH06 08
CASNUM	PHCC7C8AR	
CASNUM	PHCC8C10AL	CHEMCODE=ALIPH08 10
CASNUM	PHCC8C10AR	CHEMCODE=AROMA08 10
CASNUM	PHEN/ANTHC1	CHEMCODE=C1PHENANCS
CASNUM	PHEN/ANTHC2	CHEMCODE=C2PHENANCS
CASNUM	PHEN/ANTHC3	CHEMCODE=C3PHENANCS
CASNUM	PHEN/ANTHC4	CHEMCODE=C4PHENANCS
CASNUM	PHENC2	CHEMCODE=C2PHENANS
CASNUM	PHENC3	CHEMCODE=C3PHENANS
CASNUM	PHENC4	CHEMCODE=C4PHENANS
CASNUM	Pink Shrimp_C	
CASNUM	Pink Shrimp_S	
CASNUM	POURPOINT	CHEMCODE=POURPT
CASNUM	PYRC1	CHEMCODE=C1PYRENE
CASNUM	PYRC2	CHEMCODE=C2PYRENE
CASNUM	PYRC3	CHEMCODE=C3PYRENE
CASNUM	PYRC4	CHEMCODE=C4PYRENE
CASNUM	R4-6501	
CASNUM	R4-8000781	
CASNUM	RFLUID	CHEMCODE=RISER
CASNUM	SAL	CHEMCODE=SALINITY
CASNUM	Sand_Control	
CASNUM	SG	CHEMCODE=SPEC GRAV
CASNUM	Silt_Control	
CASNUM	SREAC	CHEMCODE=SULFIDE SO
CASNUM	STORET 006	CHEMCODE=NITRATE
CASNUM	TEMP	CHEMCODE=TEMP
CASNUM	TIC	
CASNUM	TIC-1	
CASNUM	TIC-10	
CASNUM	TIC-11	
CASNUM	TIC-12	
CASNUM	TIC-13	
CASNUM	TIC-14	
CASNUM	TIC-15	
CASNUM	TIC-16	
CASNUM	TIC-17	
CASNUM	TIC-18	
CASNUM	TIC-19	
CASNUM	TIC-2	
CASNUM	TIC-20	
CASNUM	TIC-21	
CASNUM	TIC-22	
CASNUM	TIC-23	
CASNUM	TIC-24	
CASNUM	TIC-25	
CASNUM	TIC-26	
CASNUM	TIC-27	
CASNUM	TIC-3	
CASNUM	TIC-4	
CASNUM	TIC-5	
CASNUM	TIC-6	
CASNUM	TIC-7	
CASNUM	TIC-8	
CASNUM	TIC-9	
CASNUM	TOC	CHEMCODE=TOC
CASNUM	TOC_Control	
CASNUM	TOTALSED	CHEMCODE=TOSEDH2O
CASNUM	TOTBTEX	CHEMCODE=BTEX

## Appendix G. Valid Values

Field	Value	Description
CASNUM	TOTCOLIFORM	
CASNUM	TOTNH3	CHEMCODE=AMMONIA
CASNUM	TOTRSHCC9C40	CHEMCODE=SHC C09C40
CASNUM	TOTSHC	CHEMCODE=SATR HCBN
CASNUM	TPAH	CHEMCODE=PAH SUMR
CASNUM	TPH(Diesel)	CHEMCODE=DIESEL
CASNUM	TPH(Oil)	CHEMCODE=OIL
CASNUM	TPHPRO	CHEMCODE=PET C09C40
CASNUM	TRPH	CHEMCODE=PET T RCVR
CASNUM	TSS	
CASNUM	TURB	CHEMCODE=TURBIDITY
CASNUM	UBH	
CASNUM	UBH-2	
CASNUM	UBH-3	
CASNUM	UBH-4	
CASNUM	UNK-1	
CASNUM	UNK-2	
CASNUM	UNKHOPANE1	
CASNUM	UNKHOPANE2	
CASNUM	VISC 122F	
CASNUM	VISCKIN50C	CHEMCODE=VISCOSITY
CASNUM	VS	CHEMCODE=TVS
CASNUM	VS_Control	
CHEMCODE	ACENAPTHEN	CHEMNAME=Acenaphthene
CHEMCODE	ACENAPTYLE	CHEMNAME=Acenaphthylene
CHEMCODE	ACETONE	CHEMNAME=Acetone
CHEMCODE	ACETOPHENO	CHEMNAME=Acetophenone
CHEMCODE	ACRYLNTRLE	CHEMNAME=Acrylonitrile
CHEMCODE	AHCN_C07N	
CHEMCODE	AHCN_C08	
CHEMCODE	AHCN_C09	CHEMNAME=Nonane (C9)
CHEMCODE	AHCN_C10	CHEMNAME=Decane (C10)
CHEMCODE	AHCN_C11	CHEMNAME=Undecane (C11)
CHEMCODE	AHCN_C12	CHEMNAME=Dodecane (C12)
CHEMCODE	AHCN_C13	CHEMNAME=Tridecane (C13)
CHEMCODE	AHCN_C14	CHEMNAME=Tetradecane (C14)
CHEMCODE	AHCN_C15	CHEMNAME=Pentadecane (C15)
CHEMCODE	AHCN_C16	CHEMNAME=Hexadecane (C16)
CHEMCODE	AHCN_C17	CHEMNAME=Heptadecane (C17)
CHEMCODE	AHCN_C18	CHEMNAME=Octadecane (C18)
CHEMCODE	AHCN_C19	CHEMNAME=Nonadecane (C19)
CHEMCODE	AHCN_C20	CHEMNAME=Eicosane (C20)
CHEMCODE	AHCN_C21	CHEMNAME=Heneicosane (C21)
CHEMCODE	AHCN_C22	CHEMNAME=Docosane (C22)
CHEMCODE	AHCN_C23	CHEMNAME=Tricosane (C23)
CHEMCODE	AHCN_C24	CHEMNAME=Tetracosane (C24)
CHEMCODE	AHCN_C25	CHEMNAME=Pentacosane (C25)
CHEMCODE	AHCN_C26	CHEMNAME=Hexacosane (C26)
CHEMCODE	AHCN_C27	CHEMNAME=Heptacosane (C27)
CHEMCODE	AHCN_C28	CHEMNAME=Octacosane (C28)
CHEMCODE	AHCN_C29	CHEMNAME=Nonacosane (C29)
CHEMCODE	AHCN_C30	CHEMNAME=triacontane (C30)
CHEMCODE	AHCN_C31	CHEMNAME=Hentriacontane (C31)
CHEMCODE	AHCN_C32	CHEMNAME=Dotriacontane (C32)
CHEMCODE	AHCN_C33	CHEMNAME=Tritriacontane (C33)
CHEMCODE	AHCN_C34	CHEMNAME=Tetratriacontane (C34)
CHEMCODE	AHCN_C35	CHEMNAME=Pentatriacontane (C35)
CHEMCODE	AHCN_C36	CHEMNAME=Hexatriacontane (C36)
CHEMCODE	AHCN_C37	CHEMNAME=Heptatriacontane (C37)
CHEMCODE	AHCN_C38	CHEMNAME=Octatriacontane (C38)
CHEMCODE	AHCN_C39	CHEMNAME=Nonatriacontane (C39)
CHEMCODE	AHCN_C40	CHEMNAME=Tetracontane (C40)
CHEMCODE	ALDRIN	CHEMNAME=Aldrin
CHEMCODE	ALIPH06_08	CHEMNAME=C6-C8 Aliphatics
CHEMCODE	ALIPH08_10	CHEMNAME=C8-C10 Aliphatics
CHEMCODE	ALIPH10_12	CHEMNAME=C10-C12 Aliphatics
CHEMCODE	ALIPH12_16	CHEMNAME=C12-C16 Aliphatics
CHEMCODE	ALIPH16_35	CHEMNAME=Aliphatic Hydrocarbons (>C16-C35)
CHEMCODE	ALKANES T	CHEMNAME=Alkanes, total

## Appendix G. Valid Values

Field	Value	Description
CHEMCODE	ALKLNTY	CHEMNAME=Alkalinity
CHEMCODE	ALUMINUM	CHEMNAME=Aluminum
CHEMCODE	AM3METHER	CHEMNAME=TAME
CHEMCODE	AMMONIA	CHEMNAME=Ammonia
CHEMCODE	AMMONIA N	CHEMNAME=Ammonia-nitrogen
CHEMCODE	ANILINE	CHEMNAME=Aniline
CHEMCODE	ANTHRACENE	CHEMNAME=Anthracene
CHEMCODE	ANTHRQUINO	CHEMNAME=Anthraquinone
CHEMCODE	ANTIMONY	CHEMNAME=Antimony
CHEMCODE	API_GRAV	CHEMNAME=API Gravity @ 60 F
CHEMCODE	AR_1016	CHEMNAME=Aroclor 1016
CHEMCODE	AR_1221	CHEMNAME=Aroclor 1221
CHEMCODE	AR_1232	CHEMNAME=Aroclor 1232
CHEMCODE	AR_1242	CHEMNAME=Aroclor 1242
CHEMCODE	AR_1248	CHEMNAME=Aroclor 1248
CHEMCODE	AR_1254	CHEMNAME=Aroclor 1254
CHEMCODE	AR_1260	CHEMNAME=Aroclor 1260
CHEMCODE	AR_1262	CHEMNAME=Aroclor1262
CHEMCODE	AR_1268	CHEMNAME=Aroclor1268
CHEMCODE	AROMA08_10	CHEMNAME=C8-C10 Aromatics
CHEMCODE	AROMA10_12	CHEMNAME=C10-C12 Aromatics
CHEMCODE	AROMA12_16	CHEMNAME=C12-C16 Aromatics
CHEMCODE	AROMA16_21	CHEMNAME=C16-C21 Aromatics
CHEMCODE	AROMA21_35	CHEMNAME=Aromatic Hydrocarbons (>C21-C35)
CHEMCODE	ARSENIC	CHEMNAME=Arsenic
CHEMCODE	ATRAZINE	CHEMNAME=Atrazine
CHEMCODE	AZOBENZENE	CHEMNAME=Azobenzene
CHEMCODE	B123_TRIME	CHEMNAME=1,2,3-Trimethylbenzene
CHEMCODE	B124_TRIME	CHEMNAME=1,2,4-Trimethylbenzene
CHEMCODE	B135_TRIME	CHEMNAME=1,3,5-Trimethylbenzene
CHEMCODE	B2CEE	CHEMNAME=Bis(2-chloroethyl)ether
CHEMCODE	B2CIE	CHEMNAME=Bis(2-chloroisopropyl) ether
CHEMCODE	B2ETHXPHTH	CHEMNAME=Bis(2-ethylhexyl) phthalate
CHEMCODE	BAA	CHEMNAME=Benzo(a)anthracene
CHEMCODE	BANTH2	CHEMNAME=Dibenzo(a,h)anthracene
CHEMCODE	BAP	CHEMNAME=Benzo(a)pyrene
CHEMCODE	BARIUM	CHEMNAME=Barium
CHEMCODE	BAROMETER	CHEMNAME=Barometric pressure
CHEMCODE	BBF	CHEMNAME=Benzo(b)fluoranthene
CHEMCODE	BCEOM	CHEMNAME=Bis(2-chloroethoxy)methane
CHEMCODE	BDE003	CHEMNAME=Bromodiphenyl ether 3
CHEMCODE	BENZALDEHY	CHEMNAME=Benzaldehyde
CHEMCODE	BENZENE	CHEMNAME=Benzene
CHEMCODE	BENZOIC AC	CHEMNAME=Benzoic acid
CHEMCODE	BENZYL OH	CHEMNAME=Benzyl alcohol
CHEMCODE	BEP	CHEMNAME=Benzo(e)pyrene
CHEMCODE	BERYLLIUM	CHEMNAME=Beryllium
CHEMCODE	BGHIP	CHEMNAME=Benzo(g,h,i)perylene
CHEMCODE	BHHOP2R01	CHEMNAME=30,31-Bishomohopane-22R
CHEMCODE	BHHOP2S01	CHEMNAME=30,31-Bishomohopane-22S
CHEMCODE	BIPHENYL	CHEMNAME=Biphenyl
CHEMCODE	BKF	CHEMNAME=Benzo(k)fluoranthene
CHEMCODE	BMMT28	CHEMNAME=T28-Bishomomoretane
CHEMCODE	BOD	CHEMNAME=Biochemical oxygen demand
CHEMCODE	BORON	CHEMNAME=Boron
CHEMCODE	BR3CPA12_2	CHEMNAME=1,2-Dibromo-3-chloropropane
CHEMCODE	BRCHLRMETH	CHEMNAME=Bromochloromethane
CHEMCODE	BRCLMETHA2	CHEMNAME=Dibromochloromethane
CHEMCODE	BRMETA12_2	CHEMNAME=1,2-Dibromoethane
CHEMCODE	BRMETH	CHEMNAME=Bromomethane
CHEMCODE	BRMETH2	CHEMNAME=Dibromomethane
CHEMCODE	BROMOBENZ	CHEMNAME=Bromobenzene
CHEMCODE	BROMOFORM	CHEMNAME=Bromoform
CHEMCODE	BTEX	CHEMNAME=BTEX, total
CHEMCODE	BUTANE	CHEMNAME=Butane
CHEMCODE	BUTANONE_2	CHEMNAME=2-Butanone
CHEMCODE	BUTBNZ_PHT	CHEMNAME=Butylbenzyl phthalate
CHEMCODE	BUTOXETH_2	CHEMNAME=2-Butoxyethanol
CHEMCODE	BUTYL_ISO	CHEMNAME=iPB

## Appendix G. Valid Values

Field	Value	Description
CHEMCODE	BUTYL_PR	CHEMNAME=nPB
CHEMCODE	BZID	CHEMNAME=Benzidine
CHEMCODE	C12_CL2ETH	CHEMNAME=cis-1,2-Dichlorethene
CHEMCODE	C13_2CLPRE	CHEMNAME=1,3-Dichloropropene, cis-
CHEMCODE	C19DITERP	CHEMNAME=T0-C19Diterpane
CHEMCODE	C1BENZCHRY	CHEMNAME=C1-Benz(a)anthracenes/Chrysenes
CHEMCODE	C1DBZTHIOP	CHEMNAME=C1-Dibenzothiophenes
CHEMCODE	C1FLUORPYR	CHEMNAME=C1-Fluoranthenes/pyrenes
CHEMCODE	C1NTHPHNE	CHEMNAME=C1-Naphthobenzothiophenes
CHEMCODE	C1PHENANCS	CHEMNAME=C1-Phenanthrenes/anthracenes
CHEMCODE	C1PHENANS	CHEMNAME=C1-Phenanthrenes
CHEMCODE	C1PYRENE	CHEMNAME=C1-Pyrene
CHEMCODE	C21DIASTER	CHEMNAME=Sa-C21Diasterane
CHEMCODE	C21DITERP	CHEMNAME=T2-C21Diterpane
CHEMCODE	C21STERANE	CHEMNAME=Sb-C21Sterane
CHEMCODE	C22DIASTER	CHEMNAME=Sc-C22Diasterane
CHEMCODE	C22DITERP	CHEMNAME=T3-C22Diterpane
CHEMCODE	C22STERANE	CHEMNAME=Sd-C22Sterane
CHEMCODE	C23DITERP	CHEMNAME=T4-C23Diterpane
CHEMCODE	C24TETERP	CHEMNAME=C24 Tetracyclic Terpene
CHEMCODE	C24TTERP	CHEMNAME=C24 Tricyclic Terpene
CHEMCODE	C25TERP	CHEMNAME=C25 Tricyclic Terpene
CHEMCODE	C26TRICYCR	CHEMNAME=T6C-C26TRICYCLIC(R)
CHEMCODE	C26TRICYCS	CHEMNAME=T6B-C26TRICYCLIC(S)
CHEMCODE	C28TERP2R	CHEMNAME=C28 Tricyclic Terpene-22R
CHEMCODE	C28TERP2S	CHEMNAME=C28 Tricyclic Terpene-22S
CHEMCODE	C29NHOP15	CHEMNAME=T15-C29-Norhopane
CHEMCODE	C29TERP2R	CHEMNAME=C29 Tricyclic Terpene-22R
CHEMCODE	C29TERP2S	CHEMNAME=C29 Tricyclic Terpene-22S
CHEMCODE	C2BENZCHRY	CHEMNAME=C2-Benz(a)anthracenes/Chrysenes
CHEMCODE	C2CHRYSENS	CHEMNAME=C2-Chrysenes
CHEMCODE	C2DBZTHIOP	CHEMNAME=C2-Dibenzothiophenes
CHEMCODE	C2FLUORENS	CHEMNAME=C2-Fluorenes
CHEMCODE	C2FLUORPYR	CHEMNAME=C2-Fluoranthenes/pyrenes
CHEMCODE	C2NAPHTHS	CHEMNAME=C2-Naphthalenes
CHEMCODE	C2NTHPHNE	CHEMNAME=C2-Naphthobenzothiophenes
CHEMCODE	C2PHENANCS	CHEMNAME=C2-Phenanthrenes/anthracenes
CHEMCODE	C2PHENANS	CHEMNAME=C2-Phenanthrenes
CHEMCODE	C2PYRENE	CHEMNAME=C2-Pyrene
CHEMCODE	C30HOPT19	CHEMNAME=T19-C30 Hopane
CHEMCODE	C30NMORT17	CHEMNAME=T17-C30-Normoretane
CHEMCODE	C30OLEAT18	CHEMNAME=T18-C30-Oleanane
CHEMCODE	C31HHOPT21	CHEMNAME=T21-C31-Homohopane(S)
CHEMCODE	C31HHOPT22	CHEMNAME=T22-C31-Homopane (R)
CHEMCODE	C33TRIHOPR	CHEMNAME=T31-C33-Trishomohopane(R)
CHEMCODE	C33TRIHOPS	CHEMNAME=T30-C33-Trishomohopane(S)
CHEMCODE	C3BENZCHRY	CHEMNAME=C3-Benz(a)anthracenes/Chrysenes
CHEMCODE	C3CHRYSENS	CHEMNAME=C3-Chrysenes
CHEMCODE	C3DBZTHIOP	CHEMNAME=C3-Dibenzothiophenes
CHEMCODE	C3FLUORENS	CHEMNAME=C3-Fluorenes
CHEMCODE	C3FLUORPYR	CHEMNAME=C3-Fluoranthenes/pyrenes
CHEMCODE	C3NAPHTHS	CHEMNAME=C3-Naphthalenes
CHEMCODE	C3NTHPHNE	CHEMNAME=C3-Naphthobenzothiophenes
CHEMCODE	C3PHENANCS	CHEMNAME=C3-Phenanthrenes/anthracenes
CHEMCODE	C3PHENANS	CHEMNAME=C3-Phenanthrenes
CHEMCODE	C3PYRENE	CHEMNAME=C3-Pyrene
CHEMCODE	C4BENZCHRY	CHEMNAME=C4-Benz(a)anthracenes/Chrysenes
CHEMCODE	C4CHRYSENS	CHEMNAME=C4-Chrysenes
CHEMCODE	C4DBZTHIOP	CHEMNAME=C4-Dibenzothiophenes
CHEMCODE	C4NAPHTHS	CHEMNAME=C4-Naphthalenes
CHEMCODE	C4PHENANCS	CHEMNAME=C4-Phenanthrenes/anthracenes
CHEMCODE	C4PHENANS	CHEMNAME=C4-Phenanthrenes
CHEMCODE	C4PYRENE	CHEMNAME=C4-Pyrene
CHEMCODE	CADMIUM	CHEMNAME=Cadmium
CHEMCODE	CALCIUM	CHEMNAME=Calcium
CHEMCODE	CAPRO	CHEMNAME=Caprolactem
CHEMCODE	CARBAZOLE	CHEMNAME=Carbazole
CHEMCODE	CARBON	CHEMNAME=Carbon, total
CHEMCODE	CARBON_TET	CHEMNAME=Carbon tetrachloride

## Appendix G. Valid Values

Field	Value	Description
CHEMCODE	CHLORDAN_A	CHEMNAME=Chlordane, alpha-
CHEMCODE	CHLORDAN_B	CHEMNAME=Chlordane, beta-
CHEMCODE	CHLORDAN_G	CHEMNAME=Chlordane, gamma-
CHEMCODE	CHLORDANE	CHEMNAME=Chlordane
CHEMCODE	CHLORINE	CHEMNAME=Chlorine
CHEMCODE	CHLOROFORM	CHEMNAME=Chloroform
CHEMCODE	CHLORPYRIF	CHEMNAME=Chlorpyrifos
CHEMCODE	CHLR_TOL2	CHEMNAME=2-Chlorotoluene
CHEMCODE	CHLR_TOL4	CHEMNAME=4-Chlorotoluene
CHEMCODE	CHOL4B70R	CHEMNAME=14B(H),17B(H)-20R-Cholestane
CHEMCODE	CHOL4B70S	CHEMNAME=14B(H),17B(H)-20S-Cholestane
CHEMCODE	CHOLESTANE	CHEMNAME=Cholestane
CHEMCODE	CHOLS12	CHEMNAME=S12-Cholestane
CHEMCODE	CHROMIUM	CHEMNAME=Chromium, total
CHEMCODE	CHRYSENE	CHEMNAME=Chrysene
CHEMCODE	CL_CHX_A6	CHEMNAME=Hexachlorocyclohexane-alpha
CHEMCODE	CL_CHX_B6	CHEMNAME=Hexachlorocyclohexane-beta
CHEMCODE	CL_CHX_D6	CHEMNAME=Hexachlorocyclohexane-delta
CHEMCODE	CL_CHX_G6	CHEMNAME=Hexachlorocyclohexane-gamma
CHEMCODE	CL2FLMETH2	CHEMNAME=Dichlorodifluoromethane
CHEMCODE	CL3_MPHN_4	CHEMNAME=4-Chloro-3-methylphenol
CHEMCODE	CL3FLETH3	CHEMNAME=1,1,2-Trichlorotrifluoroethane
CHEMCODE	CLANILIN_4	CHEMNAME=4-Chloroaniline
CHEMCODE	CLBNZ	CHEMNAME=Chlorobenzene
CHEMCODE	CLBNZ12_2	CHEMNAME=1,2-Dichlorobenzene
CHEMCODE	CLBNZ123_3	CHEMNAME=1,2,3-Trichlorobenzene
CHEMCODE	CLBNZ124_3	CHEMNAME=1,2,4-Trichlorobenzene
CHEMCODE	CLBNZ13_2	CHEMNAME=1,3-Dichlorobenzene
CHEMCODE	CLBNZ14_2	CHEMNAME=1,4-Dichlorobenzene
CHEMCODE	CLBNZ6	CHEMNAME=Hexachlorobenzene
CHEMCODE	CLBRMETHA2	CHEMNAME=Bromodichloromethane
CHEMCODE	CLBUTAD6	CHEMNAME=Hexachlorobutadiene
CHEMCODE	CLBZ1245_4	CHEMNAME=1,2,4,5-Tetrachlorobenzene
CHEMCODE	CLBZID33_2	CHEMNAME=3,3'-Dichlorobenzidine
CHEMCODE	CLCYPEN6	CHEMNAME=Hexachlorocyclopentadiene
CHEMCODE	CLET1112_4	CHEMNAME=1,1,1,2-Tetrachloroethane
CHEMCODE	CLET1122_4	CHEMNAME=1,1,2,2-Tetrachloroethane
CHEMCODE	CLETH	CHEMNAME=Chloroethane
CHEMCODE	CLETH11_2	CHEMNAME=1,1'-Dichloroethane
CHEMCODE	CLETH111_3	CHEMNAME=1,1,1-Trichloroethane
CHEMCODE	CLETH112_3	CHEMNAME=1,1,2-Trichloroethane
CHEMCODE	CLETH12_2	CHEMNAME=1,2-Dichloroethane
CHEMCODE	CLETH6	CHEMNAME=Hexachloroethane
CHEMCODE	CLETHE11_2	CHEMNAME=1,1'-Dichloroethene
CHEMCODE	CLETHE12_2	CHEMNAME=1,2-Dichloroethene
CHEMCODE	CLETHENE3	CHEMNAME=Trichloroethene
CHEMCODE	CLETHENE4	CHEMNAME=Tetrachloroethene
CHEMCODE	CLEVE_2	CHEMNAME=2-Chloroethylvinyl ether
CHEMCODE	CLFLMETH3	CHEMNAME=Fluorotrchloromethane
CHEMCODE	CLMETH	CHEMNAME=Chloromethane
CHEMCODE	CLNAP_2	CHEMNAME=2-Chloronaphthalene
CHEMCODE	CLNBNZ5	CHEMNAME=Pentachloronitrobenzene
CHEMCODE	CLPHN_2	CHEMNAME=2-Chlorophenol
CHEMCODE	CLPHN2345	CHEMNAME=2,3,4,5-Tetrachlorophenol
CHEMCODE	CLPHN2346	CHEMNAME=2,3,4,6-Tetrachlorophenol
CHEMCODE	CLPHN2356	CHEMNAME=2,3,5,6-Tetrachlorophenol
CHEMCODE	CLPHN24_2	CHEMNAME=2,4-Dichlorophenol
CHEMCODE	CLPHN245_3	CHEMNAME=2,4,5-Trichlorophenol
CHEMCODE	CLPHN246_3	CHEMNAME=2,4,6-Trichlorophenol
CHEMCODE	CLPHN5	CHEMNAME=Pentachlorophenol
CHEMCODE	CLPRP11_2	CHEMNAME=1,1-Dichloropropene
CHEMCODE	CLPRP12_2	CHEMNAME=1,2-Dichloropropane
CHEMCODE	CLPRP123_3	CHEMNAME=1,2,3-Trichloropropane
CHEMCODE	CLPRP13_2	CHEMNAME=1,3-Dichloropropane
CHEMCODE	CLPRP22_2	CHEMNAME=2,2-Dichloropropane
CHEMCODE	CLPRPE_3	CHEMNAME=Allyl chloride
CHEMCODE	COBALT	CHEMNAME=Cobalt
CHEMCODE	COD	CHEMNAME=Chemical oxygen demand
CHEMCODE	COLOR	CHEMNAME=Color (PCU)



## Appendix G. Valid Values

Field	Value	Description
CHEMCODE	CONDUCT	CHEMNAME=Conductivity
CHEMCODE	COPPER	CHEMNAME=Copper
CHEMCODE	COUMAPHOS	CHEMNAME=Coumaphos
CHEMCODE	CPPE_4	CHEMNAME=4-Chlorophenyl phenyl ether
CHEMCODE	CS2	CHEMNAME=Carbon disulfide
CHEMCODE	CUMENE	CHEMNAME=Cumene
CHEMCODE	CYANIDE	CHEMNAME=Cyanide
CHEMCODE	CYCHEXANE	CHEMNAME=Cyclohexane
CHEMCODE	CYMENE4	CHEMNAME=4-Cymene
CHEMCODE	D_24	CHEMNAME=2,4-Dichlorophenoxyacetic acid
CHEMCODE	D1DIASTER	CHEMNAME=D1-Diasterane-27(S)
CHEMCODE	D2DIASTER	CHEMNAME=D2-Diasterane-27(R)
CHEMCODE	D3ADIASTER	CHEMNAME=D3a-Diasterane-28(S)
CHEMCODE	D3DIASTER	CHEMNAME=D3-Diasterane-28(S)
CHEMCODE	D4ADIASTER	CHEMNAME=D4a-Diasterane-28(R)
CHEMCODE	D4DIASTER	CHEMNAME=D4-Diasterane-28(R)
CHEMCODE	D5DIASTER	CHEMNAME=D5-Diasterane-29(S)
CHEMCODE	D6DIASTER	CHEMNAME=D6-Diasterane-29(R)
CHEMCODE	DALAPON	CHEMNAME=Dalapon
CHEMCODE	DB2_24	CHEMNAME=2,4-DB (2,4-D derivative)
CHEMCODE	DCHOL370R	CHEMNAME=13B(H),17A(H)-20R-Diacholestane
CHEMCODE	DCHOL370S	CHEMNAME=13B(H),17A(H)-20S-Diacholestane
CHEMCODE	DCHOLS6	CHEMNAME=S6-Diacholestane
CHEMCODE	DCHOLS7	CHEMNAME=S7-Diacholestane
CHEMCODE	DEMETON	CHEMNAME=Demeton
CHEMCODE	DENSITY	CHEMNAME=Density
CHEMCODE	DEP	CHEMNAME=Diethyl phthalate
CHEMCODE	DHOP7	CHEMNAME=17A(H)-Diahopane
CHEMCODE	DIAZINON	CHEMNAME=Diazinon
CHEMCODE	DIBNZFURAN	CHEMNAME=Dibenzofuran
CHEMCODE	DIBNZTHIO	CHEMNAME=Dibenzothiophene
CHEMCODE	DICAMBA	CHEMNAME=Dicamba
CHEMCODE	DICHLORPRP	CHEMNAME=Dichlorprop
CHEMCODE	DICHLORVOS	CHEMNAME=Dichlorvos
CHEMCODE	DIELDRIN	CHEMNAME=Dieldrin
CHEMCODE	DIESEL	CHEMNAME=Diesel fuel
CHEMCODE	DIESELHYD	CHEMNAME=Diesel Range Hydrocarbons
CHEMCODE	DIETHLETH	CHEMNAME=Diethyl ether
CHEMCODE	DIMEHOATE	CHEMNAME=Dimethoate
CHEMCODE	DINBP	CHEMNAME=Di-n-butyl phthalate
CHEMCODE	DINOCRESOL	CHEMNAME=Dinitro-o-cresol
CHEMCODE	DINOSEB	CHEMNAME=Dinoseb
CHEMCODE	DIOXANE_14	CHEMNAME=1,4-Dioxane
CHEMCODE	DIPRPLYETH	CHEMNAME=Diisopropyl ether
CHEMCODE	DISMRK1	CHEMNAME=Dispersant Marker 1
CHEMCODE	DISMRK2	CHEMNAME=Dispersant Marker 2
CHEMCODE	DISMRKTOT	CHEMNAME=Disperant Marker Total
CHEMCODE	DISSULFNA	CHEMNAME=Di(2-ethylhexyl) sodium sulfosuccinate
CHEMCODE	DISULFOTON	CHEMNAME=Disulfoton
CHEMCODE	DMP	CHEMNAME=Dimethyl phthalate
CHEMCODE	DNPL24	CHEMNAME=2,4-Dinitrophenol
CHEMCODE	DO	CHEMNAME=Oxygen, dissolved
CHEMCODE	DOSAT	CHEMNAME=Oxygen, dissolved - % saturation
CHEMCODE	DPA	CHEMNAME=Diphenylamine
CHEMCODE	DPNB_PK1	CHEMNAME=DPnB-Peak1
CHEMCODE	DPNB_PK2	CHEMNAME=DPnB-Peak2
CHEMCODE	DPROPGLYBE	CHEMNAME=Di(Propylene Glycol)ButylEther
CHEMCODE	ECHOL4A70R	CHEMNAME=14A(H),17A(H)-20R-Ethylcholestane
CHEMCODE	ECHOL4B70S	CHEMNAME=14B(H),17B(H)-20S-Ethylcholestane
CHEMCODE	ECHOLS25	CHEMNAME=S25-Ethylcholestane
CHEMCODE	ECHOLS26	CHEMNAME=S26-Ethylcholestane(20R)
CHEMCODE	EDBZTHIOP4	CHEMNAME=4-ETDBT
CHEMCODE	EDCHOL370R	CHEMNAME=13B,17A-20R-Ethylcholestane
CHEMCODE	EDCHOL370S	CHEMNAME=13A,17B-20S-Ethylcholestane
CHEMCODE	ENDOSLFN_A	CHEMNAME=Endosulfan-alpha
CHEMCODE	ENDOSLFN_B	CHEMNAME=Endosulfan-beta
CHEMCODE	ENDOSLFN_S	CHEMNAME=Endosulfan sulfate
CHEMCODE	ENDRIN	CHEMNAME=Endrin
CHEMCODE	ENDRIN_ALD	CHEMNAME=Endrin aldehyde

## Appendix G. Valid Values

Field	Value	Description
CHEMCODE	ENDRIN_KET	CHEMNAME=Endrin ketone
CHEMCODE	EPN	CHEMNAME=Ethyl O-(p-nitrophenyl) phenylphosphonothiona
CHEMCODE	ETH3BUTETH	CHEMNAME=Ethyl Tertiary Butyl Ether (ETBE)
CHEMCODE	ETH6NOL2	CHEMNAME=2-Ethylhexanol
CHEMCODE	ETHANE	CHEMNAME=ethane
CHEMCODE	ETHMETCRYL	CHEMNAME=Ethyl Methacrylate
CHEMCODE	ETHNAPH_2	CHEMNAME=2-Ethyl-naphthalene
CHEMCODE	ETHOPROP	CHEMNAME=Ethoprop
CHEMCODE	ETHYLBENZ	CHEMNAME=Ethylbenzene
CHEMCODE	ETMT2_921	CHEMNAME=9- + 2- +1-Ethylphenanthrene + 3,6-DMP
CHEMCODE	ETPHEN_1_2	CHEMNAME=2+1-Ethyl-naphthalene
CHEMCODE	ETPHEN_3	CHEMNAME=3-Ethylphenanthrene
CHEMCODE	FENSLTHION	CHEMNAME=Fensulfothion
CHEMCODE	FENTHION	CHEMNAME=Fenthion
CHEMCODE	FLASH	CHEMNAME=Flash point for liquids
CHEMCODE	FLUORANTHN	CHEMNAME=Fluoranthene
CHEMCODE	FLUORENE	CHEMNAME=Fluorene
CHEMCODE	GUTHION	CHEMNAME=Guthion
CHEMCODE	H_METHANE3	CHEMNAME=Trihalomethanes (four), total
CHEMCODE	HARDNESS	CHEMNAME=Hardness
CHEMCODE	HEPCL_EPOX	CHEMNAME=Heptachlor epoxide
CHEMCODE	HEPTACHLOR	CHEMNAME=Heptachlor
CHEMCODE	HHOPT29	CHEMNAME=T29-Homohopane
CHEMCODE	HYDROGEN	CHEMNAME=Hydrogen
CHEMCODE	HYFURN4	CHEMNAME=Tetrahydrofuran
CHEMCODE	ICDP	CHEMNAME=Indeno(1,2,3-c,d)pyrene
CHEMCODE	IRON	CHEMNAME=Iron
CHEMCODE	ISOPHORONE	CHEMNAME=Isophorone
CHEMCODE	ISOPRN_C13	CHEMNAME=iC13
CHEMCODE	ISOPRN_C14	CHEMNAME=iC14
CHEMCODE	ISOPRN_C15	CHEMNAME=iC15
CHEMCODE	ISOPRN_C16	CHEMNAME=iC16
CHEMCODE	ISOPRN_C18	CHEMNAME=iC18
CHEMCODE	ISORRT1380	CHEMNAME=Isoprenoid RRT 1380
CHEMCODE	ISORRT140	CHEMNAME=Isoprenoid RRT 1470
CHEMCODE	LEAD	CHEMNAME=Lead
CHEMCODE	LITHIUM	CHEMNAME=Lithium
CHEMCODE	M_XYLENE	CHEMNAME=Xylene, meta-
CHEMCODE	M4BNZ1234	CHEMNAME=1,2,3,4-Tetramethylbenzene
CHEMCODE	M4BNZ1245	CHEMNAME=1,2,4,5-Tetramethylbenzene
CHEMCODE	M4N1235_56	CHEMNAME=1,2,5,6- + 1,2,3,5-TeMN
CHEMCODE	M4N12467_	CHEMNAME=1,2,4,6- + 1,2,4,7- + 1,4,6,7-TeMN
CHEMCODE	MAGNESIUM	CHEMNAME=Magnesium
CHEMCODE	MALATHION	CHEMNAME=Malathion
CHEMCODE	MANGANESE	CHEMNAME=Manganese
CHEMCODE	MBK	CHEMNAME=Methyl butyl ketone
CHEMCODE	MBZ2TP1618	CHEMNAME=1,6- + 1,8-Dimethyldibenzothiophene
CHEMCODE	MBZ2TP1912	CHEMNAME=1,9- + 1,2-Dimethyldibenzothiophene
CHEMCODE	MBZ2TP2636	CHEMNAME=2,6- + 3,6-Dimethyldibenzothiophene
CHEMCODE	MBZ2TP3714	CHEMNAME=3,7- + 1,4-Dimethyldibenzothiophene
CHEMCODE	MBZ2TPH13	CHEMNAME=1,3-Dimethyldibenzothiophene
CHEMCODE	MBZ2TPH24	CHEMNAME=2,4-Dimethyldibenzothiophene
CHEMCODE	MBZ2TPH46	CHEMNAME=4,6-Dimethyldibenzothiophene
CHEMCODE	MCHEX	CHEMNAME=Methylcyclohexane
CHEMCODE	MCHOL4A70R	CHEMNAME=14A,17A-20R-Methylcholestane
CHEMCODE	MCHOL4A70S	CHEMNAME=14A,17A-20S-Methylcholestane
CHEMCODE	MCHOL4B70R	CHEMNAME=14B,17B-20R-Methylcholestane
CHEMCODE	MCHOL4B70S	CHEMNAME=14B,17B-20S-Methylcholestane
CHEMCODE	MCPA	CHEMNAME=MCPA
CHEMCODE	MCPP	CHEMNAME=MCPP
CHEMCODE	MDBZTHIOP1	CHEMNAME=1-Methyldibenzothiophene
CHEMCODE	MDBZTHIOP2	CHEMNAME=2/3-Methyldibenzothiophene
CHEMCODE	MDBZTHIOP4	CHEMNAME=4-Methyldibenzothiophene
CHEMCODE	MDCHOL	CHEMNAME=S11-Methyldiacholestane
CHEMCODE	MDCHOLS10	CHEMNAME=S10-Methyldiacholestane
CHEMCODE	MDCHOLS8	CHEMNAME=S8-Methyldiacholestane
CHEMCODE	MENAP3_124	CHEMNAME=1,2,4-TMN
CHEMCODE	MENAP3_125	CHEMNAME=1,2,5-TMN
CHEMCODE	MENAP3_126	CHEMNAME=1,2,6-TMN

## Appendix G. Valid Values

Field	Value	Description
CHEMCODE	MENAP3_136	CHEMNAME=1,3,6-TMN
CHEMCODE	MENAP3_137	CHEMNAME=1,3,7-TMN
CHEMCODE	MENAP3_236	CHEMNAME=2,3,6-Trimethylnaphthalene
CHEMCODE	MERCURY	CHEMNAME=Mercury
CHEMCODE	MERPHOS	CHEMNAME=Merphos
CHEMCODE	MET3BUTETH	CHEMNAME=Methyl-Tert-Butyl Ether
CHEMCODE	MET4NA1236	CHEMNAME=1,2,3,6-TeMN
CHEMCODE	MET4NA1237	CHEMNAME=1,2,3,7-TeMN
CHEMCODE	MET4NA1257	CHEMNAME=1,2,5,7-TeMN
CHEMCODE	MET4NA1267	CHEMNAME=1,2,6,7-TeMN
CHEMCODE	MET4NA1367	CHEMNAME=1,3,6,7-TeMN
CHEMCODE	MET4NA2367	CHEMNAME=2,3,6,7-TeMN
CHEMCODE	MET9HFLRNE	CHEMNAME=1-methyl-9H-fluorene
CHEMCODE	METACRYL	CHEMNAME=Methyl acrylate
CHEMCODE	METANTH_2	CHEMNAME=2-Methylantracene
CHEMCODE	METCHRYS	CHEMNAME=Methylchrysene
CHEMCODE	METCRYNITR	CHEMNAME=Methacrylonitrile
CHEMCODE	METFLUOR_1	CHEMNAME=1-Methylfluorene
CHEMCODE	METH_ACET	CHEMNAME=Methyl acetate
CHEMCODE	METH_PARA	CHEMNAME=Methyl parathion
CHEMCODE	METH2NAP12	CHEMNAME=1,2-Dimethylnaphthalene
CHEMCODE	METH2NAP15	CHEMNAME=1,5-Dimethylnaphthalene
CHEMCODE	METH2NAP16	CHEMNAME=1,6-Dimethylnaphthalene
CHEMCODE	METHANE	CHEMNAME=methane
CHEMCODE	METHEBNZ2	CHEMNAME=1-Ethyl-2-methylbenzene
CHEMCODE	METHNAP	CHEMNAME=Methylnaphthalene
CHEMCODE	METHNAP_1	CHEMNAME=1-Methylnaphthalene
CHEMCODE	METHNAP_2	CHEMNAME=2-Methylnaphthalene
CHEMCODE	METHNP2D10	CHEMNAME=2-Methylnaphthalene-D10
CHEMCODE	METHOXYCL	CHEMNAME=Methoxychlor
CHEMCODE	METHPROP_2	CHEMNAME=Isobutanol
CHEMCODE	METHYL_I	CHEMNAME=Methyl iodide
CHEMCODE	METHYLE_CL	CHEMNAME=Methylene chloride
CHEMCODE	METMETCRYL	CHEMNAME=Methyl Methacrylate
CHEMCODE	METNAP26_2	CHEMNAME=2,6-Dimethylnaphthalene
CHEMCODE	METNAP27_2	CHEMNAME=2,7-Dimethylnaphthalene
CHEMCODE	METPHEN_12	CHEMNAME=1,2-DMP
CHEMCODE	METPHEN_17	CHEMNAME=1,7-Dimethylphenanthrene
CHEMCODE	METPHEN_18	CHEMNAME=1,8-DMP
CHEMCODE	METPHEN_27	CHEMNAME=2,7-DMP
CHEMCODE	METPHENA45	CHEMNAME=4,5-Methylenephenanthrene
CHEMCODE	METPHENAN1	CHEMNAME=1-Methylphenanthrene
CHEMCODE	METPHENAN2	CHEMNAME=2-Methylphenanthrene
CHEMCODE	METPHENAN3	CHEMNAME=3-Methylphenanthrene
CHEMCODE	METPHENAN9	CHEMNAME=9-Methylphenanthrene
CHEMCODE	METPHN3_4	CHEMNAME=3&4 Methylphenol: Revised code.
CHEMCODE	METPHNOL_2	CHEMNAME=2-Methylphenol
CHEMCODE	METPHNOL_4	CHEMNAME=4-Methylphenol
CHEMCODE	METPYR_1	CHEMNAME=1-Methylpyrene
CHEMCODE	MIBK	CHEMNAME=Methyl isobutyl ketone
CHEMCODE	MNP127_167	CHEMNAME=1,2,7- + 1,6,7-TMN
CHEMCODE	MNP135_146	CHEMNAME=1,3,5- + 1,4,6-TMN
CHEMCODE	MOLYBDENUM	CHEMNAME=Molybdenum
CHEMCODE	MONOCROT	CHEMNAME=Monocrotophos
CHEMCODE	MP_XYLENE	CHEMNAME=Xylene, m,p-
CHEMCODE	MPHN24_2	CHEMNAME=2,4-Dimethylphenol
CHEMCODE	MT2NP13_17	CHEMNAME=1,3 +1,7-Dimethylnaphthalene
CHEMCODE	MT2NP14_23	CHEMNAME=1,4- + 2,3-Dimethylnaphthalene
CHEMCODE	MTH1ETBNZ3	CHEMNAME=1-Methyl-3-ethylbenzene
CHEMCODE	MTH1ETBNZ4	CHEMNAME=1-Methyl-4-ethylbenzene
CHEMCODE	MTNAP235_3	CHEMNAME=2,3,5-Trimethylnaphthalene
CHEMCODE	MTPHN_3526	CHEMNAME=3,5- + 2,6-DMP
CHEMCODE	MTPHN1339	CHEMNAME=1,3- + 3,9- + 3,10- + 2,10-DMP
CHEMCODE	MTPHN1629	CHEMNAME=1,6- + 2,9- + 2,5-DMP
CHEMCODE	MTPHN2319	CHEMNAME=2,3- + 1,9- + 4,9- 4,10-DMP
CHEMCODE	N_BUTLBENZ	CHEMNAME=N-Butylbenzene
CHEMCODE	N_PRYLBENZ	CHEMNAME=N-Propylbenzene
CHEMCODE	NALED	CHEMNAME=Naled
CHEMCODE	NANILINE_2	CHEMNAME=2-Nitroaniline

## Appendix G. Valid Values

Field	Value	Description
CHEMCODE	NANILINE_3	CHEMNAME=3-Nitroaniline
CHEMCODE	NANILINE_4	CHEMNAME=4-Nitroaniline
CHEMCODE	NAPAMINE_2	CHEMNAME=2-Naphthylamine
CHEMCODE	NAPHTHALENE	CHEMNAME=Naphthalene
CHEMCODE	NATGASLNE	CHEMNAME=Natural gasoline
CHEMCODE	NBNZ	CHEMNAME=Nitrobenzene
CHEMCODE	NHOP2715A	CHEMNAME=15a-methyl-17a(H)-27-Norhopane
CHEMCODE	NICKEL	CHEMNAME=Nickel
CHEMCODE	NITRATE	CHEMNAME=Nitrate, total, NO3-N
CHEMCODE	NITROGEN	CHEMNAME=Nitrogen, total (NO2+NO3+NH4)
CHEMCODE	NITROGEN_K	CHEMNAME=Nitrogen, total Kjeldahl
CHEMCODE	NMORETANE	CHEMNAME=T20-Moretane
CHEMCODE	NNDMA	CHEMNAME=N-nitrosodimethylamine
CHEMCODE	NNDNPRA	CHEMNAME=N-nitrosodi-N-propylamine
CHEMCODE	NNP	CHEMNAME=N-nitrosodiphenylamine
CHEMCODE	NOCTP2	CHEMNAME=Di-N-octyl phthalate
CHEMCODE	NORPRISTAN	CHEMNAME=Norpristane (1650)
CHEMCODE	NPHN_2	CHEMNAME=2-Nitrophenol
CHEMCODE	NPHN_4	CHEMNAME=4-Nitrophenol
CHEMCODE	NTHPHNE	CHEMNAME=Naphthobenzothiophene
CHEMCODE	NTOL24_2	CHEMNAME=2,4-Dinitrotoluene
CHEMCODE	NTOL26_2	CHEMNAME=2,6-Dinitrotoluene
CHEMCODE	O_XYLENE	CHEMNAME=Xylene, ortho-
CHEMCODE	OIL	CHEMNAME=Total Petroleum Hydrocarbons as Oil
CHEMCODE	OIL_GREASE	CHEMNAME=Oil and grease
CHEMCODE	OILGR_HEM	CHEMNAME=Oil and Grease, HEM
CHEMCODE	ORO	CHEMNAME=Oil Range Organics
CHEMCODE	ORO_C19C36	CHEMNAME=Oil Range Organics (C-19-C36)
CHEMCODE	ORO_C28C35	CHEMNAME=OIL RANGE ORGANICS (C28-C35)
CHEMCODE	ORO_C28C40	CHEMNAME=TPH ORO (>C28-C40)
CHEMCODE	ORO_C6C10	CHEMNAME=C6-C10
CHEMCODE	P_3PHEN	CHEMNAME=p-Terphenyl
CHEMCODE	P_XYLENE	CHEMNAME=Xylene, para-
CHEMCODE	PAH_SUMR	CHEMNAME=PAHs, total PAHs (reported)
CHEMCODE	PARATHION	CHEMNAME=Parathion
CHEMCODE	PCB_SUMR	CHEMNAME=PCBs, total (reported)
CHEMCODE	PCT_CLAY	CHEMNAME=Clay, percent
CHEMCODE	PCT_CLAY_C	CHEMNAME=Clay-coarse, percent
CHEMCODE	PCT_CLAY_F	
CHEMCODE	PCT_CLAY_M	CHEMNAME=Clay-medium, percent
CHEMCODE	PCT_CLAYVF	
CHEMCODE	PCT_FINES	CHEMNAME=Fines, percent (silt+clay)
CHEMCODE	PCT_GRAV_F	CHEMNAME=Gravel - fine, percent
CHEMCODE	PCT_GRAVCM	CHEMNAME=Coarse to Medium Gravel
CHEMCODE	PCT_GRAVEL	CHEMNAME=Gravel, percent
CHEMCODE	PCT_GRAVMF	CHEMNAME=Medium to Fine Gravel
CHEMCODE	PCT_MOIS	CHEMNAME=Moisture, percent
CHEMCODE	PCT_PEB_PL	CHEMNAME=Pebbles and coarser, percent
CHEMCODE	PCT_SAND	CHEMNAME=Sand, percent
CHEMCODE	PCT_SAND_C	CHEMNAME=Sand - coarse, percent
CHEMCODE	PCT_SAND_F	CHEMNAME=Sand - fine, percent
CHEMCODE	PCT_SAND_M	CHEMNAME=Sand - medium, percent
CHEMCODE	PCT_SANDVC	CHEMNAME=Sand - very coarse, percent
CHEMCODE	PCT_SANDVF	CHEMNAME=Sand - very fine, percent
CHEMCODE	PCT_SILT	CHEMNAME=Silt, percent
CHEMCODE	PCT_SILTC	CHEMNAME=Silt-coarse, percent
CHEMCODE	PCT_SILTF	CHEMNAME=Silt-fine, percent
CHEMCODE	PCT_SILTM	CHEMNAME=Silt-medium, percent
CHEMCODE	PCT_SILTVF	CHEMNAME=Silt-very fine, percent
CHEMCODE	PENCAS	CHEMNAME=Pentachloroanisole
CHEMCODE	PERYLENE	CHEMNAME=Perylene
CHEMCODE	PET_C09C40	CHEMNAME=Petroleum Range Organics (PRO)-C8-C40
CHEMCODE	PET_HC	CHEMNAME=Petroleum hydrocarbons
CHEMCODE	PET_T_RCVR	CHEMNAME=Recoverable petroleum, total
CHEMCODE	PH	CHEMNAME=pH
CHEMCODE	PHENANTHRN	CHEMNAME=Phenanthrene
CHEMCODE	PHENDINE	CHEMNAME=Phenanthridine
CHEMCODE	PHENOL	CHEMNAME=Phenol
CHEMCODE	PHHYZ12_2	CHEMNAME=1,2-Diphenylhydrazine

## Appendix G. Valid Values

Field	Value	Description
CHEMCODE	PHORATE	CHEMNAME=Phorate
CHEMCODE	PHOSDRIN	CHEMNAME=Phosdrin
CHEMCODE	PHOSPHORUS	CHEMNAME=Phosphorus
CHEMCODE	PHYTANE	CHEMNAME=Phytane
CHEMCODE	PKHHOPT34	CHEMNAME=T34-Pentakishomohopane(S)
CHEMCODE	PKHHOPT35	CHEMNAME=T35-Pentakishomohopane(R)
CHEMCODE	POTASSIUM	CHEMNAME=Potassium
CHEMCODE	POURPT	CHEMNAME=Pour Point
CHEMCODE	PP_DDD	CHEMNAME=p,p'-DDD
CHEMCODE	PP_DDE	CHEMNAME=p,p'-DDE
CHEMCODE	PP_DDT	CHEMNAME=p,p'-DDT
CHEMCODE	PREGANS1	CHEMNAME=S1-Pregnane
CHEMCODE	PREGANS2	CHEMNAME=S2-Pregnane
CHEMCODE	PRISTANE	CHEMNAME=Pristane
CHEMCODE	PROPANE	CHEMNAME=propane
CHEMCODE	PROPLY	CHEMNAME=Propylene Glycol
CHEMCODE	PROTHIOPHS	CHEMNAME=Prothiophos
CHEMCODE	PYRENE	CHEMNAME=Pyrene
CHEMCODE	PYRIDINE	CHEMNAME=Pyridine
CHEMCODE	RISER	CHEMNAME=Riser Fluid
CHEMCODE	RONNEL	CHEMNAME=Ronnel
CHEMCODE	S29C30CHOL	CHEMNAME=S29-C30Cholestane(R)
CHEMCODE	S30C30CHOL	CHEMNAME=S30-C30Cholestane(S)
CHEMCODE	SALINITY	CHEMNAME=Salinity
CHEMCODE	SATR_HCBN	CHEMNAME=Saturated hydrocarbons
CHEMCODE	SEC_BUTBEN	CHEMNAME=Sec-butylbenzene
CHEMCODE	SELENIUM	CHEMNAME=Selenium
CHEMCODE	SHC_C09C40	CHEMNAME=Total Resolved SHC (C9-C40)
CHEMCODE	SILVER	CHEMNAME=Silver
CHEMCODE	SILVEX	CHEMNAME=Silvex
CHEMCODE	SODIUM	CHEMNAME=Sodium
CHEMCODE	SOLIDS_T	CHEMNAME=Solids, percent
CHEMCODE	SPEC_GRAV	CHEMNAME=Specific gravity
CHEMCODE	STIROFOS	CHEMNAME=Stirofos
CHEMCODE	STRONTIUM	CHEMNAME=Strontium
CHEMCODE	STYRENE	CHEMNAME=Styrene
CHEMCODE	SULFIDE_SO	CHEMNAME=Sulfide (Acid Soluble)
CHEMCODE	SULFOTEPP	CHEMNAME=Sulfotepp
CHEMCODE	SULFUR	CHEMNAME=Sulfur, total
CHEMCODE	SULPROFOS	CHEMNAME=Sulprofos
CHEMCODE	SURF	CHEMNAME=Surfactants (MBAS)
CHEMCODE	T_245	CHEMNAME=2,4,5-Trichlorophenoxyacetic acid
CHEMCODE	T12_2CLETH	CHEMNAME=1,2-Dichloroethene trans
CHEMCODE	T13_2CLPRE	CHEMNAME=1,3-Dichloropropene, trans-
CHEMCODE	T13A29BHOP	CHEMNAME=T13A-29,30-BISNORHOPANE
CHEMCODE	T13THOP	CHEMNAME=T13-Trisnorhopane
CHEMCODE	T14_2CL2BT	CHEMNAME=trans-1,4-Dichloro-2-butene
CHEMCODE	T14AC28HOP	CHEMNAME=T14a-C28,C30Bisnorhopane
CHEMCODE	T14B29NHOP	CHEMNAME=T14b-C29,C25Norhopane
CHEMCODE	T14BHOP	CHEMNAME=T14-Bisnorhopane
CHEMCODE	T1DITERP	CHEMNAME=T1-C20Diterpane
CHEMCODE	T22AGCERAN	CHEMNAME=T22a-Gammacerane
CHEMCODE	T23HHOP	CHEMNAME=T23-Homohopane
CHEMCODE	T24HMMT	CHEMNAME=T24-Homomoretane
CHEMCODE	T25DPT	CHEMNAME=T25-Diploptene
CHEMCODE	TARSTER60S	CHEMNAME=A3-C26 TAS(20S)
CHEMCODE	TARSTER670	CHEMNAME=C26,20R- +C27,20S- Triaromatic Steroid
CHEMCODE	TARSTER70R	CHEMNAME=C27,20R-Triaromatic Steroid
CHEMCODE	TARSTER80R	CHEMNAME=C28,20R-Triaromatic Steroid
CHEMCODE	TARSTER80S	CHEMNAME=C28,20S-Triaromatic Steroid
CHEMCODE	TASC20	CHEMNAME=A1-C20-TAS
CHEMCODE	TASC21	CHEMNAME=A2-C21-TAS
CHEMCODE	TEMP	CHEMNAME=Temperature
CHEMCODE	TEPP	CHEMNAME=Tetraethyl pyrophosphate
CHEMCODE	TERT_BUTBZ	CHEMNAME=Tert-butylbenzene
CHEMCODE	THALLIUM	CHEMNAME=Thallium
CHEMCODE	THOP7290	CHEMNAME=17A(H)-22,29,30-TRISNorhopane-TM
CHEMCODE	TIN	CHEMNAME=Tin
CHEMCODE	TINNHOP	CHEMNAME=T16-Norneohopane

## Appendix G. Valid Values

Field	Value	Description
CHEMCODE	TITANIUM	CHEMNAME=Titanium
CHEMCODE	TKHHOP2R	CHEMNAME=Tetrakishomohopane-22R
CHEMCODE	TKHHOP2S	CHEMNAME=Tetrakishomohopane-22S
CHEMCODE	TNHOP8290	CHEMNAME=18A-22,29,30-Trisnorneohopane-TS
CHEMCODE	TOC	CHEMNAME=Organic carbon, total
CHEMCODE	TOLUENE	CHEMNAME=Toluene
CHEMCODE	TOSDH2O	CHEMNAME=Total Sediment and Water
CHEMCODE	TOT_AH	CHEMNAME=Aromatic hydrocarbons, total
CHEMCODE	TOXAPHENE	CHEMNAME=Toxaphene
CHEMCODE	TRICLNATE	CHEMNAME=Trichloronate
CHEMCODE	TURBIDITY	CHEMNAME=Turbidity
CHEMCODE	TVS	CHEMNAME=Volatile solids, total
CHEMCODE	URANIUM	CHEMNAME=Uranium
CHEMCODE	UVA254	CHEMNAME=UV 254 -- SDWA NPDWR
CHEMCODE	VANADIUM	CHEMNAME=Vanadium
CHEMCODE	VINYL_ACET	CHEMNAME=Vinyl acetate
CHEMCODE	VINYL_BR	CHEMNAME=Vinyl bromide
CHEMCODE	VINYL_CL	CHEMNAME=Vinyl chloride
CHEMCODE	VISCOSITY	CHEMNAME=VISCOSITY, KIN, @ 50 C
CHEMCODE	WATER	CHEMNAME=Water
CHEMCODE	XYLENE	CHEMNAME=Xylene
CHEMCODE	XYLENE_T	CHEMNAME=Xylenes, total
CHEMCODE	YTTRIUM	CHEMNAME=Yttrium
CHEMNAME	0.001 mm	
CHEMNAME	0.0015 mm	
CHEMNAME	0.002 mm	
CHEMNAME	0.005 mm	
CHEMNAME	0.02 mm	
CHEMNAME	0.030 mm	
CHEMNAME	0.05 mm	
CHEMNAME	0.064 mm	
CHEMNAME	0.075 mm	
CHEMNAME	0.15 mm	
CHEMNAME	0.3 mm	
CHEMNAME	0.375 Inch Sieve	
CHEMNAME	0.6 mm	
CHEMNAME	0.75 Inch Sieve	
CHEMNAME	1 Methyl Naphthalene	
CHEMNAME	1,1,1,2-Tetrachloroethane	CHEMCODE=CLET1112 4
CHEMNAME	1,1,1-Trichloroethane	CHEMCODE=CLETH111 3
CHEMNAME	1,1,2,2-Tetrachloroethane	CHEMCODE=CLET1122 4
CHEMNAME	1,1,2-Trichloroethane	CHEMCODE=CLETH112 3
CHEMNAME	1,1,2-Trichlorotrifluoroethane	CHEMCODE=CL3FLETH3
CHEMNAME	1,1'-Dichloroethane	CHEMCODE=CLETH11 2
CHEMNAME	1,1'-Dichloroethene	CHEMCODE=CLETHE11 2
CHEMNAME	1,1-Dichloropropene	CHEMCODE=CLPRP11 2
CHEMNAME	1,2,3,4-Tetramethylbenzene	CHEMCODE=M4BNZ1234
CHEMNAME	1,2,3,6-TeMN	CHEMCODE=MET4NA1236
CHEMNAME	1,2,3,7-TeMN	CHEMCODE=MET4NA1237
CHEMNAME	1,2,3-Trichlorobenzene	CHEMCODE=CLBNZ123 3
CHEMNAME	1,2,3-Trichloropropane	CHEMCODE=CLPRP123 3
CHEMNAME	1,2,3-Trimethylbenzene	CHEMCODE=B123 TRIME
CHEMNAME	1,2,4,5-Tetrachlorobenzene	CHEMCODE=CLBZ1245 4
CHEMNAME	1,2,4,5-Tetramethylbenzene	CHEMCODE=M4BNZ1245
CHEMNAME	1,2,4,6- + 1,2,4,7- + 1,4,6,7-TeMN	CHEMCODE=M4N12467
CHEMNAME	1,2,4-TMN	CHEMCODE=MENAP3 124
CHEMNAME	1,2,4-Trichlorobenzene	CHEMCODE=CLBNZ124 3
CHEMNAME	1,2,4-Trimethylbenzene	CHEMCODE=B124 TRIME
CHEMNAME	1,2,5,6- + 1,2,3,5-TeMN	CHEMCODE=M4N1235 56
CHEMNAME	1,2,5,7-TeMN	CHEMCODE=MET4NA1257
CHEMNAME	1,2,5-TMN	CHEMCODE=MENAP3 125
CHEMNAME	1,2,6,7-TeMN	CHEMCODE=MET4NA1267
CHEMNAME	1,2,6-TMN	CHEMCODE=MENAP3 126
CHEMNAME	1,2,7- + 1,6,7-TMN	CHEMCODE=MNP127 167
CHEMNAME	1,2-Dibromo-3-chloropropane	CHEMCODE=BR3CPA12 2
CHEMNAME	1,2-Dibromoethane	CHEMCODE=BRMETA12 2
CHEMNAME	1,2-Dichlorobenzene	CHEMCODE=CLBNZ12 2
CHEMNAME	1,2-Dichloroethane	CHEMCODE=CLETH12 2
CHEMNAME	1,2-Dichloroethane-D4	

## Appendix G. Valid Values

Field	Value	Description
CHEMNAME	1,2-Dichloroethene	CHEMCODE=CLETHE12 2
CHEMNAME	1,2-Dichloroethene trans	CHEMCODE=T12 2CLETH
CHEMNAME	1,2-Dichloropropane	CHEMCODE=CLPRP12 2
CHEMNAME	1,2-Dimethylnaphthalene	CHEMCODE=METH2NAP12
CHEMNAME	1,2-Diphenylhydrazine	CHEMCODE=PHHYZ12 2
CHEMNAME	1,2-DMP	CHEMCODE=METPHEN 12
CHEMNAME	1,3- + 3,9- + 3,10- + 2,10-DMP	CHEMCODE=MTPHN1339
CHEMNAME	1,3 +1,7-Dimethylnaphthalene	CHEMCODE=MT2NP13 17
CHEMNAME	1,3,5- + 1,4,6-TMN	CHEMCODE=MNP135 146
CHEMNAME	1,3,5-Trimethylbenzene	CHEMCODE=B135 TRIME
CHEMNAME	1,3,6,7-TeMN	CHEMCODE=MET4NA1367
CHEMNAME	1,3,6-TMN	CHEMCODE=MENAP3 136
CHEMNAME	1,3,7-TMN	CHEMCODE=MENAP3 137
CHEMNAME	1,3-Dichlorobenzene	CHEMCODE=CLBNZ13 2
CHEMNAME	1,3-Dichloropropane	CHEMCODE=CLPRP13 2
CHEMNAME	1,3-Dichloropropene, cis-	CHEMCODE=C13 2CLPRE
CHEMNAME	1,3-Dichloropropene, trans-	CHEMCODE=T13 2CLPRE
CHEMNAME	1,3-Dimethyldibenzothiophene	CHEMCODE=MBZ2TPH13
CHEMNAME	1,4- + 2,3-Dimethylnaphthalene	CHEMCODE=MT2NP14 23
CHEMNAME	1,4-Cyclooctadiene	
CHEMNAME	1,4-Dichlorobenzene	CHEMCODE=CLBNZ14 2
CHEMNAME	1,4-Dioxane	CHEMCODE=DIOXANE 14
CHEMNAME	1,5-Dimethylnaphthalene	CHEMCODE=METH2NAP15
CHEMNAME	1,6- + 1,8-Dimethyldibenzothiophene	CHEMCODE=MBZ2TP1618
CHEMNAME	1,6- + 2,9- + 2,5-DMP	CHEMCODE=MTPHN1629
CHEMNAME	1,6-Dimethylnaphthalene	CHEMCODE=METH2NAP16
CHEMNAME	1,7-DMP	CHEMCODE=METPHEN 17
CHEMNAME	1,8-DMP	CHEMCODE=METPHEN 18
CHEMNAME	1,9- + 1,2-Dimethyldibenzothiophene	CHEMCODE=MBZ2TP1912
CHEMNAME	1,cis-3-dimethylcyclohexane	
CHEMNAME	1,trans-2-dimethylcyclopentane	
CHEMNAME	1.18 mm	
CHEMNAME	1.5 Inch Sieve	
CHEMNAME	15a-methyl-17a(H)-27-Norhopane	CHEMCODE=NHOP2715A
CHEMNAME	17a(H)-Diahopane	CHEMCODE=DHOP7
CHEMNAME	19 mm	
CHEMNAME	1-Ethyl-2-methylbenzene	CHEMCODE=METHEBNZ2
CHEMNAME	1-Hexadecanol	
CHEMNAME	1-Methyl-2-ethylbenzene	
CHEMNAME	1-Methyl-3-ethylbenzene	CHEMCODE=MTH1ETBNZ3
CHEMNAME	1-Methyl-4-ethylbenzene	CHEMCODE=MTH1ETBNZ4
CHEMNAME	1-methyl-9H-fluorene	CHEMCODE=MET9HFLRNE
CHEMNAME	1-Methyldibenzothiophene	CHEMCODE=MDBZTHIOP1
CHEMNAME	1-Methylfluorene	CHEMCODE=METFLUOR 1
CHEMNAME	1-Methylnaphthalene	CHEMCODE=METHNAP 1
CHEMNAME	1-Methylphenanthrene	CHEMCODE=METPHENAN1
CHEMNAME	1-Methylpyrene	CHEMCODE=METPYR 1
CHEMNAME	1-Naphthalenepropanol, .alpha.-ethenyldecahydr	
CHEMNAME	1-Pentadecanol	
CHEMNAME	2 Methyl Naphthalene	
CHEMNAME	2,2-Dichloropropane	CHEMCODE=CLPRP22 2
CHEMNAME	2,3- + 1,9- + 4,9- 4,10-DMP	CHEMCODE=MTPHN2319
CHEMNAME	2,3,4,5-Tetrachlorophenol	CHEMCODE=CLPHN2345
CHEMNAME	2,3,4,6-Tetrachlorophenol	CHEMCODE=CLPHN2346
CHEMNAME	2,3,5,6-Tetrachlorophenol	CHEMCODE=CLPHN2356
CHEMNAME	2,3,5-Trimethylnaphthalene	CHEMCODE=MTNAP235 3
CHEMNAME	2,3,6,7-TeMN	CHEMCODE=MET4NA2367
CHEMNAME	2,3,6-TMN	
CHEMNAME	2,3,6-Trimethylnaphthalene	CHEMCODE=MENAP3 236
CHEMNAME	2,3-Dimethylbutane	
CHEMNAME	2,4,5-Trichlorophenol	CHEMCODE=CLPHN245 3
CHEMNAME	2,4,5-Trichlorophenoxyacetic acid	CHEMCODE=T 245
CHEMNAME	2,4,6-Tribromophenol	
CHEMNAME	2,4,6-Trichlorophenol	CHEMCODE=CLPHN246 3
CHEMNAME	2,4-DB (2,4-D derivative)	CHEMCODE=DB2 24
CHEMNAME	2,4-Dichlorophenol	CHEMCODE=CLPHN24 2
CHEMNAME	2,4-Dichlorophenoxyacetic acid	CHEMCODE=D 24
CHEMNAME	2,4-Dimethyldibenzothiophene	CHEMCODE=MBZ2TPH24
CHEMNAME	2,4-Dimethylphenol	CHEMCODE=MPHN24 2

## Appendix G. Valid Values

Field	Value	Description
CHEMNAME	2,4-Dinitrophenol	CHEMCODE=DNPL24
CHEMNAME	2,4-Dinitrotoluene	CHEMCODE=NTOL24 2
CHEMNAME	2,5-Dibromotoluene	
CHEMNAME	2,5-Dichlorophenol	
CHEMNAME	2,6- + 3,6-Dimethyldibenzothiophene	CHEMCODE=MBZ2TP2636
CHEMNAME	2,6-Dimethylnaphthalene	CHEMCODE=METNAP26 2
CHEMNAME	2,6-Dinitrotoluene	CHEMCODE=NTOL26 2
CHEMNAME	2,7-Dimethylnaphthalene	CHEMCODE=METNAP27 2
CHEMNAME	2,7-DMP	CHEMCODE=METPHEN 27
CHEMNAME	2.00 mm	
CHEMNAME	2.36 mm	
CHEMNAME	2+1-Ethyl-naphthalene	CHEMCODE=ETPHEN 1 2
CHEMNAME	2-3-Methyl-dibenzothiophene	CHEMCODE=MDBZTHIOP2
CHEMNAME	2-Butanone	CHEMCODE=BUTANONE 2
CHEMNAME	2-BUTENAL	
CHEMNAME	2-Butoxyethanol	CHEMCODE=BUTOXETH 2
CHEMNAME	2-Chloroethylvinyl ether	CHEMCODE=CLEVE 2
CHEMNAME	2-Chloronaphthalene	CHEMCODE=CLNAP 2
CHEMNAME	2-Chlorophenol	CHEMCODE=CLPHN 2
CHEMNAME	2-Chlorotoluene	CHEMCODE=CHLR TOL2
CHEMNAME	2-Ethylhexanol	CHEMCODE=ETH6NOL2
CHEMNAME	2-Ethyl-naphthalene	CHEMCODE=ETHNAPH 2
CHEMNAME	2-Fluorobiphenyl	
CHEMNAME	2-Fluorophenol	
CHEMNAME	2-Methyl-1-pentene	
CHEMNAME	2-Methylan-thracene	CHEMCODE=METANTH 2
CHEMNAME	2-Methylbutane	
CHEMNAME	2-Methylnaphthalene	CHEMCODE=METHNAP 2
CHEMNAME	2-Methylnaphthalene-D10	CHEMCODE=METHNP2D10
CHEMNAME	2-Methylpentane	
CHEMNAME	2-Methylphenanthrene	CHEMCODE=METPHENAN2
CHEMNAME	2-Methylphenol	CHEMCODE=METPHNOL 2
CHEMNAME	2-Naphthylamine	CHEMCODE=NAPAMINE 2
CHEMNAME	2-Nitroaniline	CHEMCODE=NANILINE 2
CHEMNAME	2-Nitrophenol	CHEMCODE=NPHN 2
CHEMNAME	2-palmitoleic acid	
CHEMNAME	3 and/or 4-Chlorophenol	
CHEMNAME	3 Inch Sieve	
CHEMNAME	3&4 Methylphenol: Revised code.	CHEMCODE=METPHN3 4
CHEMNAME	3,3'-Dichlorobenzidine	CHEMCODE=CLBZID33 2
CHEMNAME	3,5- + 2,6-DMP	CHEMCODE=MTPHN 3526
CHEMNAME	3,7- + 1,4-Dimethyldibenzothiophene	CHEMCODE=MBZ2TP3714
CHEMNAME	3.35 mm	
CHEMNAME	37.5 mm	
CHEMNAME	3-Ethylphenanthrene	CHEMCODE=ETPHEN 3
CHEMNAME	3-Methylpentane	
CHEMNAME	3-Methylphenanthrene	CHEMCODE=METPHENAN3
CHEMNAME	3-Nitroaniline	CHEMCODE=NANILINE 3
CHEMNAME	4,5-Methylenephenanthrene	CHEMCODE=METPHENA45
CHEMNAME	4,6-Dimethyldibenzothiophene	CHEMCODE=MBZ2TPH46
CHEMNAME	4.75 mm	
CHEMNAME	4-Bromofluorobenzene	
CHEMNAME	4-Chloro-3-methylphenol	CHEMCODE=CL3 MPHN 4
CHEMNAME	4-Chloroaniline	CHEMCODE=CLANILIN 4
CHEMNAME	4-Chlorophenyl phenyl ether	CHEMCODE=CPPE 4
CHEMNAME	4-Chlorotoluene	CHEMCODE=CHLR TOL4
CHEMNAME	4-Cymene	CHEMCODE=CYMENE4
CHEMNAME	4-ETDBT	CHEMCODE=EDBZTHIOP4
CHEMNAME	4-Methyldibenzothiophene	CHEMCODE=MDBZTHIOP4
CHEMNAME	4-Methylphenol	CHEMCODE=METPHNOL 4
CHEMNAME	4-Nitroaniline	CHEMCODE=NANILINE 4
CHEMNAME	4-Nitrophenol	CHEMCODE=NPHN 4
CHEMNAME	75 mm	
CHEMNAME	9- + 2- +1-Ethylphenanthrene + 3,6-DMP	CHEMCODE=ETMT2 921
CHEMNAME	9-Methylphenanthrene	CHEMCODE=METPHENAN9
CHEMNAME	a,a,a-Trifluorotoluene	
CHEMNAME	A1-C20-TAS	CHEMCODE=TASC20
CHEMNAME	A2-C21-TAS	CHEMCODE=TASC21
CHEMNAME	A3-C26 TAS(20S)	CHEMCODE=TARSTER60S



## Appendix G. Valid Values

Field	Value	Description
CHEMNAME	A6-TAS(20S)	CHEMCODE=TARSTER80S
CHEMNAME	A7-TAS(20R)	CHEMCODE=TARSTER80R
CHEMNAME	Acenaphthene	CHEMCODE=ACENAPHTEN
CHEMNAME	Acenaphthylene	CHEMCODE=ACENAPTYLE
CHEMNAME	Acenaphthylene-d8	
CHEMNAME	Acenaphthene	
CHEMNAME	Acetone	CHEMCODE=ACETONE
CHEMNAME	Acetophenone	CHEMCODE=ACETOPHENO
CHEMNAME	Acrolein	
CHEMNAME	Acrylonitrile	CHEMCODE=ACRYLNTRLE
CHEMNAME	Aldrin	CHEMCODE=ALDRIN
CHEMNAME	ALIPHATIC HYDROCARBONS (>C16-C35)	CHEMCODE=ALIPH16_35
CHEMNAME	Alkalinity	CHEMCODE=ALKLNTY
CHEMNAME	Alkanes, total	CHEMCODE=ALKANES T
CHEMNAME	Allyl chloride	CHEMCODE=CLPRPE 3
CHEMNAME	Aluminum	CHEMCODE=ALUMINUM
CHEMNAME	Ammonia	CHEMCODE=AMMONIA
CHEMNAME	Ammonia-nitrogen	CHEMCODE=AMMONIA N
CHEMNAME	Aniline	CHEMCODE=ANILINE
CHEMNAME	Anthracene	CHEMCODE=ANTHRACENE
CHEMNAME	Anthracene-d10	
CHEMNAME	Anthraquinone	CHEMCODE=ANTHRQUINO
CHEMNAME	Antimony	CHEMCODE=ANTIMONY
CHEMNAME	API GRAVITY @ 60 F	CHEMCODE=API GRAV
CHEMNAME	Aroclor 1016	CHEMCODE=AR 1016
CHEMNAME	Aroclor 1221	CHEMCODE=AR 1221
CHEMNAME	Aroclor 1232	CHEMCODE=AR 1232
CHEMNAME	Aroclor 1242	CHEMCODE=AR 1242
CHEMNAME	Aroclor 1248	CHEMCODE=AR 1248
CHEMNAME	Aroclor 1254	CHEMCODE=AR 1254
CHEMNAME	Aroclor 1260	CHEMCODE=AR 1260
CHEMNAME	Aroclor1262	CHEMCODE=AR 1262
CHEMNAME	Aroclor1268	CHEMCODE=AR 1268
CHEMNAME	AROMATIC HYDROCARBONS (>C21-C35)	CHEMCODE=AROMA21_35
CHEMNAME	AROMATIC HYDROCARBONS (>C5-C7)	
CHEMNAME	AROMATIC HYDROCARBONS (>C7-C8)	
CHEMNAME	Aromatic hydrocarbons, total	CHEMCODE=TOT AH
CHEMNAME	Arsenic	CHEMCODE=ARSENIC
CHEMNAME	Atrazine	CHEMCODE=ATRAZINE
CHEMNAME	Azobenzene	CHEMCODE=AZOBENZENE
CHEMNAME	Barium	CHEMCODE=BARIUM
CHEMNAME	Barometric pressure	CHEMCODE=BAROMETER
CHEMNAME	Benz(a)anthracene	
CHEMNAME	Benzaldehyde	CHEMCODE=BENZALDEHY
CHEMNAME	Benzene	CHEMCODE=BENZENE
CHEMNAME	Benzenedicarboxylic acid, dihexyl ester (TIC)	
CHEMNAME	Benzidine	CHEMCODE=BZID
CHEMNAME	Benzo (A) Anthracene	
CHEMNAME	Benzo (A) Pyrene	
CHEMNAME	Benzo (B) Flouranthene	
CHEMNAME	Benzo (G- H- I) Perylene	
CHEMNAME	Benzo (K) Flouranthene	
CHEMNAME	Benzo(a)anthracene	CHEMCODE=BAA
CHEMNAME	Benzo(a)pyrene	CHEMCODE=BAP
CHEMNAME	Benzo(a)pyrene-d12	
CHEMNAME	Benzo(b)fluoranthene	CHEMCODE=BBF
CHEMNAME	Benzo(b)fluroanthene	
CHEMNAME	Benzo(e)pyrene	CHEMCODE=BEP
CHEMNAME	Benzo(g,h,i)perylene	CHEMCODE=BGHIP
CHEMNAME	Benzo(ghi)perylene	
CHEMNAME	Benzo(k)fluoranthene	CHEMCODE=BKF
CHEMNAME	Benzo(k)fluroanthene	
CHEMNAME	Benzoic acid	CHEMCODE=BENZOIC AC
CHEMNAME	Benzyl alcohol	CHEMCODE=BENZYL OH
CHEMNAME	Beryllium	CHEMCODE=BERYLLIUM
CHEMNAME	Bicyclo(4.1.0)heptane, 7-methylene-	
CHEMNAME	Biochemical oxygen demand	CHEMCODE=BOD
CHEMNAME	Biphenyl	CHEMCODE=BIPHENYL
CHEMNAME	Bis(2-chloroethoxy)methane	CHEMCODE=BCEOM

## Appendix G. Valid Values

Field	Value	Description
CHEMNAME	Bis(2-chloroethyl)ether	CHEMCODE=B2CEE
CHEMNAME	Bis(2-chloroisopropyl) ether	CHEMCODE=B2CIE
CHEMNAME	Bis(2-ethylhexyl) phthalate	CHEMCODE=B2ETHXPHTH
CHEMNAME	Boron	CHEMCODE=BORON
CHEMNAME	Bromide	
CHEMNAME	Bromobenzene	CHEMCODE=BROMOBENZ
CHEMNAME	Bromochlorobenzene	
CHEMNAME	Bromochloromethane	CHEMCODE=BRCHLRMETH
CHEMNAME	Bromodichloromethane	CHEMCODE=CLBRMETHA2
CHEMNAME	Bromodiphenyl ether 3	CHEMCODE=BDE003
CHEMNAME	Bromoform	CHEMCODE=BROMOFORM
CHEMNAME	Bromomethane	CHEMCODE=BRMETH
CHEMNAME	BTEX, total	CHEMCODE=BTEX
CHEMNAME	butane	CHEMCODE=BUTANE
CHEMNAME	Butylbenzenesulfonamide	
CHEMNAME	Butylbenzyl phthalate	CHEMCODE=BUTBNZ_PHT
CHEMNAME	BZ#209	
CHEMNAME	C10-C12 Aliphatics	CHEMCODE=ALIPH10_12
CHEMNAME	C10-C12 Aromatics	CHEMCODE=AROMA10_12
CHEMNAME	C10H22 isomer	
CHEMNAME	C11H24 isomer	
CHEMNAME	C12-C16 Aliphatics	CHEMCODE=ALIPH12_16
CHEMNAME	C12-C16 Aromatics	CHEMCODE=AROMA12_16
CHEMNAME	C16-C21 Aromatics	CHEMCODE=AROMA16_21
CHEMNAME	C1-Benzanthrene/chrysenes	CHEMCODE=C1BENZCHRY
CHEMNAME	C1-Dibenzothiophenes	CHEMCODE=C1DBZTHIOP
CHEMNAME	C1-Fluoranthenes/pyrenes	CHEMCODE=C1FLUORPYR
CHEMNAME	C1-Naphthobenzothiophenes	CHEMCODE=C1NTHPHNE
CHEMNAME	C1-Phenanthrenes	CHEMCODE=C1PHENANS
CHEMNAME	C1-Phenanthrenes/anthracenes	CHEMCODE=C1PHENANCS
CHEMNAME	C1-PYRENES	CHEMCODE=C1PYRENE
CHEMNAME	C26,20R- +C27,20S- Triaromatic Steroid	CHEMCODE=TARSTER670
CHEMNAME	C27,20R-Triaromatic Steroid	CHEMCODE=TARSTER70R
CHEMNAME	C28-C40	
CHEMNAME	C2-Benzanthrene/chrysenes	CHEMCODE=C2BENZCHRY
CHEMNAME	C2-Chrysenes	CHEMCODE=C2CHRYSENS
CHEMNAME	C2-Dibenzothiophenes	CHEMCODE=C2DBZTHIOP
CHEMNAME	C2-Fluoranthenes/pyrenes	CHEMCODE=C2FLUORPYR
CHEMNAME	C2-Fluorenes	CHEMCODE=C2FLUORENS
CHEMNAME	C2-Naphthalenes	CHEMCODE=C2NAPHTHS
CHEMNAME	C2-Naphthobenzothiophenes	CHEMCODE=C2NTHPHNE
CHEMNAME	C2-Phenanthrenes	CHEMCODE=C2PHENANS
CHEMNAME	C2-Phenanthrenes/anthracenes	CHEMCODE=C2PHENANCS
CHEMNAME	C2-PYRENES	CHEMCODE=C2PYRENE
CHEMNAME	C3-Benzanthrene/chrysenes	CHEMCODE=C3BENZCHRY
CHEMNAME	C3-Chrysenes	CHEMCODE=C3CHRYSENS
CHEMNAME	C3-Dibenzothiophenes	CHEMCODE=C3DBZTHIOP
CHEMNAME	C3-Fluoranthenes/pyrenes	CHEMCODE=C3FLUORPYR
CHEMNAME	C3-Fluorenes	CHEMCODE=C3FLUORENS
CHEMNAME	C3-Naphthalenes	CHEMCODE=C3NAPHTHS
CHEMNAME	C3-Naphthobenzothiophenes	CHEMCODE=C3NTHPHNE
CHEMNAME	C3-Phenanthrenes	CHEMCODE=C3PHENANS
CHEMNAME	C3-Phenanthrenes/anthracenes	CHEMCODE=C3PHENANCS
CHEMNAME	C3-PYRENES	CHEMCODE=C3PYRENE
CHEMNAME	C4-Benzanthrene/chrysenes	CHEMCODE=C4BENZCHRY
CHEMNAME	C4-Chrysenes	CHEMCODE=C4CHRYSENS
CHEMNAME	C4-Dibenzothiophenes	CHEMCODE=C4DBZTHIOP
CHEMNAME	C4-Naphthalenes	CHEMCODE=C4NAPHTHS
CHEMNAME	C4-Phenanthrenes	CHEMCODE=C4PHENANS
CHEMNAME	C4-Phenanthrenes/anthracenes	CHEMCODE=C4PHENANCS
CHEMNAME	C4-PYRENES	CHEMCODE=C4PYRENE
CHEMNAME	C5-C6 Aliphatics	
CHEMNAME	C6-C10	CHEMCODE=ORO_C6C10
CHEMNAME	C6-C8 Aliphatics	CHEMCODE=ALIPH06_08
CHEMNAME	C8-C10 Aliphatics	CHEMCODE=ALIPH08_10
CHEMNAME	C8-C10 Aromatics	CHEMCODE=AROMA08_10
CHEMNAME	Cadmium	CHEMCODE=CADMIUM
CHEMNAME	Calcium	CHEMCODE=CALCIUM
CHEMNAME	Caprolactem	CHEMCODE=CAPRO

## Appendix G. Valid Values

Field	Value	Description
CHEMNAME	Carbazole	CHEMCODE=CARBAZOLE
CHEMNAME	Carbon disulfide	CHEMCODE=CS2
CHEMNAME	Carbon tetrachloride	CHEMCODE=CARBON TET
CHEMNAME	Carbon, total	CHEMCODE=CARBON
CHEMNAME	Chemical oxygen demand	CHEMCODE=COD
CHEMNAME	Chlordane	CHEMCODE=CHLORDANE
CHEMNAME	Chlordane, alpha-	CHEMCODE=CHLORDAN A
CHEMNAME	Chlordane, beta-	CHEMCODE=CHLORDAN B
CHEMNAME	Chlordane, gamma-	CHEMCODE=CHLORDAN G
CHEMNAME	Chlorine	
CHEMNAME	Chlorobenzene	CHEMCODE=CLBNZ
CHEMNAME	Chloroethane	CHEMCODE=CLETH
CHEMNAME	Chloroform	CHEMCODE=CHLOROFORM
CHEMNAME	Chloromethane	CHEMCODE=CLMETH
CHEMNAME	Chlorpyrifos	CHEMCODE=CHLORPYRIF
CHEMNAME	Cholestane	CHEMCODE=CHOLESTANE
CHEMNAME	Chromium, total	CHEMCODE=CHROMIUM
CHEMNAME	Chrysene	CHEMCODE=CHRYSENE
CHEMNAME	cis-1,2-Dichlorethene	CHEMCODE=C12 CL2ETH
CHEMNAME	Clay, percent	CHEMCODE=PCT CLAY
CHEMNAME	CLAY_Control	
CHEMNAME	Cobalt	CHEMCODE=COBALT
CHEMNAME	COLIFORM, FECAL	
CHEMNAME	Color (True)	CHEMCODE=COLOR
CHEMNAME	Conductivity	CHEMCODE=CONDUCT
CHEMNAME	Copper	CHEMCODE=COPPER
CHEMNAME	Coumaphos	CHEMCODE=COUMAPHOS
CHEMNAME	Crassostrea gigas	
CHEMNAME	Cumene	CHEMCODE=CUMENE
CHEMNAME	Cyanide	CHEMCODE=CYANIDE
CHEMNAME	Cyclohexane	CHEMCODE=CYCHEXANE
CHEMNAME	Cyclohexanol, 1-ethynyl-	
CHEMNAME	Cyclopentane	
CHEMNAME	D1-Diasterane-27(S)	CHEMCODE=D1DIASTER
CHEMNAME	D2-DIASTERANE-27(R)	CHEMCODE=D2DIASTER
CHEMNAME	D3a-Diasterane-28(S)	CHEMCODE=D3ADIASTER
CHEMNAME	D3-Diasterane-28(S)	CHEMCODE=D3DIASTER
CHEMNAME	D4a-Diasterane-28(R)	CHEMCODE=D4ADIASTER
CHEMNAME	D4-Diasterane-28(R)	CHEMCODE=D4DIASTER
CHEMNAME	D5-Diasterane-29(S)	CHEMCODE=D5DIASTER
CHEMNAME	D6-Diasterane-29(R)	CHEMCODE=D6DIASTER
CHEMNAME	Dalapon	CHEMCODE=DALAPON
CHEMNAME	Decane (C10)	CHEMCODE=AHCN C10
CHEMNAME	DEMETON	CHEMCODE=DEMETON
CHEMNAME	Density	CHEMCODE=DENSITY
CHEMNAME	Di(2-ethylhexyl) sodium sulfosuccinate	CHEMCODE=DISSULFNA
CHEMNAME	DI(Propylene Glycol)ButylEther	CHEMCODE=DPROPGLYBE
CHEMNAME	Diazinon	CHEMCODE=DIAZINON
CHEMNAME	Dibenz(a,h)anthracene	
CHEMNAME	Dibenz(ah)anthracene	
CHEMNAME	Dibenzo (A- H) Anthracene	
CHEMNAME	Dibenzo(a,h)anthracene	CHEMCODE=BANTH2
CHEMNAME	Dibenzofuran	CHEMCODE=DIBNZFURAN
CHEMNAME	Dibenzothiophene	CHEMCODE=DIBNZTHIO
CHEMNAME	Dibromochloromethane	CHEMCODE=BRCLMETHA2
CHEMNAME	Dibromofluoromethane	
CHEMNAME	Dibromomethane	CHEMCODE=BRMETH2
CHEMNAME	Dicamba	CHEMCODE=DICAMBA
CHEMNAME	Dichlorodifluoromethane	CHEMCODE=CL2FLMETH2
CHEMNAME	Dichlorprop	CHEMCODE=DICHLORPRP
CHEMNAME	Dichlorvos	CHEMCODE=DICHLORVOS
CHEMNAME	Dieldrin	CHEMCODE=DIELDRIN
CHEMNAME	Diesel fuel	CHEMCODE=DIESEL
CHEMNAME	Diesel Range Hydrocarbons	CHEMCODE=DIESELRHYD
CHEMNAME	Diethyl ether	CHEMCODE=DIETHLETH
CHEMNAME	Diethyl phthalate	CHEMCODE=DEP
CHEMNAME	Diisopropyl ether	CHEMCODE=DIPRPYLETH
CHEMNAME	Dimethoate	CHEMCODE=DIMEHOATE
CHEMNAME	Dimethyl phthalate	CHEMCODE=DMP

## Appendix G. Valid Values

Field	Value	Description
CHEMNAME	Dimethyl sulfide	
CHEMNAME	Di-n-butyl phthalate	CHEMCODE=DINBP
CHEMNAME	Dinitro-o-cresol	CHEMCODE=DINOCRESOL
CHEMNAME	Di-N-octyl phthalate	CHEMCODE=NOCTP2
CHEMNAME	Dinoseb	CHEMCODE=DINOSEB
CHEMNAME	Diphenylamine	CHEMCODE=DPA
CHEMNAME	Diphenylsulfone	
CHEMNAME	Disperant Marker Total	CHEMCODE=DISMRKTOT
CHEMNAME	Dispersant Marker 1	CHEMCODE=DISMRK1
CHEMNAME	Dispersant Marker 2	CHEMCODE=DISMRK2
CHEMNAME	Dispersibility	CHEMCODE=DISPERSIBL
CHEMNAME	Disulfoton	CHEMCODE=DISULFOTON
CHEMNAME	DO	CHEMCODE=DO
CHEMNAME	Docosane (C22)	CHEMCODE=AHCN C22
CHEMNAME	Dodecane (C12)	CHEMCODE=AHCN C12
CHEMNAME	DOSAT	
CHEMNAME	DO-Saturation	CHEMCODE=DOSAT
CHEMNAME	Dotriacontane (C32)	CHEMCODE=AHCN C32
CHEMNAME	DPnB	
CHEMNAME	DPnB-Peak1	CHEMCODE=DPNB PK1
CHEMNAME	DPnB-Peak2	CHEMCODE=DPNB PK2
CHEMNAME	E.coli	
CHEMNAME	Eicosane (C20)	CHEMCODE=AHCN C20
CHEMNAME	Endosulfan sulfate	CHEMCODE=ENDOSLFN S
CHEMNAME	Endosulfan-alpha	CHEMCODE=ENDOSLFN A
CHEMNAME	Endosulfan-beta	CHEMCODE=ENDOSLFN B
CHEMNAME	Endrin	CHEMCODE=ENDRIN
CHEMNAME	Endrin aldehyde	CHEMCODE=ENDRIN ALD
CHEMNAME	Endrin ketone	CHEMCODE=ENDRIN KET
CHEMNAME	ethane	CHEMCODE=ETHANE
CHEMNAME	Ethanol	
CHEMNAME	Ethoprop	CHEMCODE=ETHOPROP
CHEMNAME	Ethyl Benzene	
CHEMNAME	Ethyl Methacrylate	CHEMCODE=ETHMETCRYL
CHEMNAME	Ethyl O-(p-nitrophenyl) phenylphosphonothiona	CHEMCODE=EPN
CHEMNAME	Ethyl Tertiary Butyl Ether (ETBE)	CHEMCODE=ETH3BUTETH
CHEMNAME	Ethylbenzene	CHEMCODE=ETHYLBENZ
CHEMNAME	Fensulfothion	CHEMCODE=FENSLTHION
CHEMNAME	Fenthion	CHEMCODE=FENTHION
CHEMNAME	Fines, percent (silt+clay)	CHEMCODE=PCT FINES
CHEMNAME	FLASHPOINT	CHEMCODE=FLASH
CHEMNAME	Flourene	
CHEMNAME	Fluoranthene	CHEMCODE=FLUORANTHN
CHEMNAME	Fluoranthene-D10	
CHEMNAME	Fluorene	CHEMCODE=FLUORENE
CHEMNAME	Fluorene-D10	
CHEMNAME	Fluoride	
CHEMNAME	Fluorotrichloromethane	CHEMCODE=CLFLMETH3
CHEMNAME	Fraction Moisture	
CHEMNAME	Free Liquids	
CHEMNAME	Gravel, percent	CHEMCODE=PCT GRAVEL
CHEMNAME	Guthion	CHEMCODE=GUTHION
CHEMNAME	H2O_Control	
CHEMNAME	Hardness	CHEMCODE=HARDNESS
CHEMNAME	Heneicosane (C21)	CHEMCODE=AHCN C21
CHEMNAME	Hentriacontane (C31)	CHEMCODE=AHCN C31
CHEMNAME	Heptachlor	CHEMCODE=HEPTACHLOR
CHEMNAME	Heptachlor epoxide	CHEMCODE=HEPCL EPOX
CHEMNAME	Heptacosane (C27)	CHEMCODE=AHCN C27
CHEMNAME	Heptadecane (C17)	CHEMCODE=AHCN C17
CHEMNAME	Heptatriacontane (C37)	CHEMCODE=AHCN C37
CHEMNAME	Hexachlorobenzene	CHEMCODE=CLBNZ6
CHEMNAME	Hexachlorobutadiene	CHEMCODE=CLBUTAD6
CHEMNAME	Hexachlorocyclohexane-alpha	CHEMCODE=CL CHX A6
CHEMNAME	Hexachlorocyclohexane-beta	CHEMCODE=CL CHX B6
CHEMNAME	Hexachlorocyclohexane-delta	CHEMCODE=CL CHX D6
CHEMNAME	Hexachlorocyclohexane-gamma	CHEMCODE=CL CHX G6
CHEMNAME	Hexachlorocyclopentadiene	CHEMCODE=CLCYPEN6
CHEMNAME	Hexachloroethane	CHEMCODE=CLETH6

## Appendix G. Valid Values

Field	Value	Description
CHEMNAME	Hexacosane (C26)	CHEMCODE=AHCN C26
CHEMNAME	Hexadecane (C16)	CHEMCODE=AHCN C16
CHEMNAME	Hexadecanoic acid	
CHEMNAME	Hexadecenoic acid, methyl ester (TIC)	
CHEMNAME	Hexatriacontane (C36)	CHEMCODE=AHCN C36
CHEMNAME	Hydrogen ion	CHEMCODE=HYDROGEN
CHEMNAME	iC13	CHEMCODE=ISOPRN C13
CHEMNAME	iC14	CHEMCODE=ISOPRN C14
CHEMNAME	iC15	CHEMCODE=ISOPRN C15
CHEMNAME	iC16	CHEMCODE=ISOPRN C16
CHEMNAME	iC18	CHEMCODE=ISOPRN C18
CHEMNAME	Ideno (1- 2- 3-CD) Pyrene	
CHEMNAME	Indeno(1,2,3,c,d)pyrene	
CHEMNAME	Indeno(1,2,3-c,d)pyrene	CHEMCODE=ICDP
CHEMNAME	Indeno(1-2-3-cd)Pyrene	
CHEMNAME	iPB	CHEMCODE=BUTYL ISO
CHEMNAME	Iron	CHEMCODE=IRON
CHEMNAME	Isobutane	
CHEMNAME	Isobutanol	CHEMCODE=METHPROP 2
CHEMNAME	ISOBUTENE	
CHEMNAME	Isophorone	CHEMCODE=ISOPHORONE
CHEMNAME	Isoprenoid RRT 1380	CHEMCODE=ISORRT1380
CHEMNAME	Isoprenoid RRT 1470	CHEMCODE=ISORRT140
CHEMNAME	Isopropanol	
CHEMNAME	Lead	CHEMCODE=LEAD
CHEMNAME	Leptocheirus	
CHEMNAME	Lithium	CHEMCODE=LITHIUM
CHEMNAME	LP-SED Tox-Control (Leptocheirus plumulosus)	
CHEMNAME	LP-SED Tox-Sample (Leptocheirus plumulosus)	
CHEMNAME	m+p-Xylene	
CHEMNAME	Magnesium	CHEMCODE=MAGNESIUM
CHEMNAME	Malathion	CHEMCODE=MALATHION
CHEMNAME	Manganese	CHEMCODE=MANGANESE
CHEMNAME	MB-SED Tox-Control (Mysidopsis bahia)	
CHEMNAME	MB-SED Tox-Sample (Mysidopsis bahia)	
CHEMNAME	MCPA	CHEMCODE=MCPA
CHEMNAME	MCPP	CHEMCODE=MCPP
CHEMNAME	ME-Acute Tox-Control (Menidia beryllina)	
CHEMNAME	ME-Acute Tox-Sample (Menidia beryllina)	
CHEMNAME	Mercury	CHEMCODE=MERCURY
CHEMNAME	Merphos	CHEMCODE=MERPHOS
CHEMNAME	Methacrylonitrile	CHEMCODE=METCRYNITR
CHEMNAME	methane	CHEMCODE=METHANE
CHEMNAME	Methanol	
CHEMNAME	Methoxychlor	CHEMCODE=METHOXYCL
CHEMNAME	Methyl acetate	CHEMCODE=METH ACET
CHEMNAME	Methyl acrylate	CHEMCODE=METACRYL
CHEMNAME	Methyl butyl ketone	CHEMCODE=MBK
CHEMNAME	Methyl iodide	CHEMCODE=METHYL I
CHEMNAME	Methyl isobutyl ketone	CHEMCODE=MIBK
CHEMNAME	Methyl Methacrylate	CHEMCODE=METMETCRYL
CHEMNAME	Methyl parathion	CHEMCODE=METH PARA
CHEMNAME	Methylchrysene	CHEMCODE=METCHRYS
CHEMNAME	Methylcyclohexane	CHEMCODE=MCHEX
CHEMNAME	Methylcyclopentane	
CHEMNAME	Methylene chloride	CHEMCODE=METHYLE CL
CHEMNAME	Methylnaphthalene	CHEMCODE=METHNAP
CHEMNAME	Methyl-Tert-Butyl Ether	CHEMCODE=MET3BUTETH
CHEMNAME	Moisture, percent	CHEMCODE=PCT MOIS
CHEMNAME	Molybdenum	CHEMCODE=MOLYBDENUM
CHEMNAME	Monocrotophos	CHEMCODE=MONOCROT
CHEMNAME	Mortality (%)	
CHEMNAME	Motor oil	
CHEMNAME	m-p-Xylene	
CHEMNAME	Myristic acid	
CHEMNAME	Mytilus galloprovincialis	
CHEMNAME	Naled	CHEMCODE=NALED
CHEMNAME	Naphthalene	CHEMCODE=NAPHTHALENE
CHEMNAME	Naphthalene-d8	

## Appendix G. Valid Values

Field	Value	Description
CHEMNAME	Naphthobenzothiophene	CHEMCODE=NTHPHNE
CHEMNAME	Natural gasoline	CHEMCODE=NATGASLNE
CHEMNAME	nButanol	
CHEMNAME	N-Butylbenzene	CHEMCODE=N BUTLBENZ
CHEMNAME	nC10	
CHEMNAME	nC11	
CHEMNAME	nC12	
CHEMNAME	nC13	
CHEMNAME	nC14	
CHEMNAME	nC15	
CHEMNAME	nC16	
CHEMNAME	nC17	
CHEMNAME	nC18	
CHEMNAME	nC19	
CHEMNAME	nC20	
CHEMNAME	nC21	
CHEMNAME	nC22	
CHEMNAME	nC23	
CHEMNAME	nC24	
CHEMNAME	nC25	
CHEMNAME	nC26	
CHEMNAME	nC27	
CHEMNAME	nC28	
CHEMNAME	nC29	
CHEMNAME	nC30	
CHEMNAME	nC31	
CHEMNAME	nC32	
CHEMNAME	nC33	
CHEMNAME	nC34	
CHEMNAME	nC35	
CHEMNAME	nC36	
CHEMNAME	nC7	CHEMCODE=AHCN C07
CHEMNAME	nC8	CHEMCODE=AHCN 08
CHEMNAME	nC9	
CHEMNAME	n-Hexane	
CHEMNAME	Nickel	CHEMCODE=NICKEL
CHEMNAME	Nitrate, total, NO3-N	CHEMCODE=NITRATE
CHEMNAME	Nitrobenzene	CHEMCODE=NBENZ
CHEMNAME	Nitrobenzene-D5	
CHEMNAME	Nitrogen, total (NO2+NO3+NH4)	CHEMCODE=NITROGEN
CHEMNAME	Nitrogen, total Kjeldahl	CHEMCODE=NITROGEN K
CHEMNAME	N-nitrosodimethylamine	CHEMCODE=NNDMA
CHEMNAME	N-nitrosodi-N-propylamine	CHEMCODE=NNDNPPRA
CHEMNAME	N-nitrosodiphenylamine	CHEMCODE=NNP
CHEMNAME	Nonacosane (C29)	CHEMCODE=AHCN C29
CHEMNAME	Nonadecane (C19)	CHEMCODE=AHCN C19
CHEMNAME	Nonane (C9)	CHEMCODE=AHCN C09
CHEMNAME	Nonatriacontane (C39)	CHEMCODE=AHCN C39
CHEMNAME	Norpristane (1650)	CHEMCODE=NORPRISTAN
CHEMNAME	nPB	CHEMCODE=BUTYL PR
CHEMNAME	N-Propylbenzene	CHEMCODE=N PRYLBENZ
CHEMNAME	Octacosane (C28)	CHEMCODE=AHCN C28
CHEMNAME	Octadecane (C18)	CHEMCODE=AHCN C18
CHEMNAME	Octatriacontane (C38)	CHEMCODE=AHCN C38
CHEMNAME	Oil and grease	CHEMCODE=OIL GREASE
CHEMNAME	Oil and Grease, HEM	CHEMCODE=OILGR HEM
CHEMNAME	Oil Range Organics	CHEMCODE=ORO
CHEMNAME	Oil Range Organics (C-19-C36)	CHEMCODE=ORO C19C36
CHEMNAME	OIL RANGE ORGANICS (C28-C35)	CHEMCODE=ORO C28C35
CHEMNAME	OIL RANGE ORGANICS (C28-C40)	
CHEMNAME	Oleic acid	
CHEMNAME	Organic carbon, total	CHEMCODE=TOC
CHEMNAME	o-Terphenyl	
CHEMNAME	Oxygen, dissolved	
CHEMNAME	o-Xylene	
CHEMNAME	Oxypentanoic acid	
CHEMNAME	p,p'-DDD	CHEMCODE=PP DDD
CHEMNAME	p,p'-DDE	CHEMCODE=PP DDE
CHEMNAME	p,p'-DDT	CHEMCODE=PP DDT

## Appendix G. Valid Values

Field	Value	Description
CHEMNAME	PAHs, total PAHs (reported)	CHEMCODE=PAH SUMR
CHEMNAME	Paint Filter Test	
CHEMNAME	Parathion	CHEMCODE=PARATHION
CHEMNAME	PCBs, total (reported)	CHEMCODE=PCB SUMR
CHEMNAME	Pentachloroanisole	CHEMCODE=PENCAS
CHEMNAME	Pentachloronitrobenzene	CHEMCODE=CLNBNZ5
CHEMNAME	Pentachlorophenol	CHEMCODE=CLPHN5
CHEMNAME	Pentacosane (C25)	CHEMCODE=AHCN C25
CHEMNAME	Pentadecane (C15)	CHEMCODE=AHCN C15
CHEMNAME	Pentadecanoic acid	
CHEMNAME	Pentadecanoic acid, methyl ester (TIC)	
CHEMNAME	Pentane	
CHEMNAME	Pentatriacontane (C35)	CHEMCODE=AHCN C35
CHEMNAME	Perylene	CHEMCODE=PERYLENE
CHEMNAME	Petroleum hydrocarbons	
CHEMNAME	Petroleum Range Organics (PRO)-C8-C40	CHEMCODE=PET C09C40
CHEMNAME	pH	CHEMCODE=PH
CHEMNAME	Phenanthrene	CHEMCODE=PHENANTHRN
CHEMNAME	Phenanthrene-d10	
CHEMNAME	Phenanthridine	CHEMCODE=PHENDINE
CHEMNAME	Phenol	CHEMCODE=PHENOL
CHEMNAME	Phenol-D5	
CHEMNAME	Phenols	
CHEMNAME	Phorate	CHEMCODE=PHORATE
CHEMNAME	Phosdrin	CHEMCODE=PHOSDRIN
CHEMNAME	Phosphorus	CHEMCODE=PHOSPHORUS
CHEMNAME	Phytane	CHEMCODE=PHYTANE
CHEMNAME	Phytol	
CHEMNAME	Potassium	CHEMCODE=POTASSIUM
CHEMNAME	Pour Point	CHEMCODE=POURPT
CHEMNAME	Pressure	
CHEMNAME	Pristane	CHEMCODE=PRISTANE
CHEMNAME	propane	CHEMCODE=PROPANE
CHEMNAME	Propylene Glycol	CHEMCODE=PROPLY
CHEMNAME	Prothiophos	CHEMCODE=PROTHIOPHS
CHEMNAME	PS-Chronic Tox-Control(Farfantepanaeus duorarum-pi	
CHEMNAME	PS-Chronic Tox-Sample(Farfantepanaeus duorarum-pin	
CHEMNAME	p-Terphenyl	CHEMCODE=P 3PHEN
CHEMNAME	Pyrene	CHEMCODE=PYRENE
CHEMNAME	Pyrene-D10	
CHEMNAME	Pyridine	CHEMCODE=PYRIDINE
CHEMNAME	Recoverable petroleum, total	CHEMCODE=PET T RCVR
CHEMNAME	Riser Fluid	CHEMCODE=RISER
CHEMNAME	Ronnel	CHEMCODE=RONNEL
CHEMNAME	S10-Methyldiacholestane	CHEMCODE=MDCHOLS10
CHEMNAME	S11-Methyldiacholestane	CHEMCODE=MDCHOL
CHEMNAME	S12-Cholestane	CHEMCODE=CHOLS12
CHEMNAME	S14-CHOLESTANE (20R)	CHEMCODE=CHOL4B70R
CHEMNAME	S15-CHOLESTANE (20S)	CHEMCODE=CHOL4B70S
CHEMNAME	S18-Ethyldiacholestane	CHEMCODE=EDCHOL370R
CHEMNAME	S19-Ethyldiacholestane	CHEMCODE=EDCHOL370S
CHEMNAME	S1-Pregnane	CHEMCODE=PREGANS1
CHEMNAME	S20-Methylcholestane	CHEMCODE=MCHOL4A70S
CHEMNAME	S22-Methylcholestane(20R)	CHEMCODE=MCHOL4B70R
CHEMNAME	S23-Methylcholestane(20S)	CHEMCODE=MCHOL4B70S
CHEMNAME	S24-Methylcholestane	CHEMCODE=MCHOL4A70R
CHEMNAME	S25-Ethylcholestane	CHEMCODE=ECHOLS25
CHEMNAME	S26-Ethylcholestane(20R)	CHEMCODE=ECHOLS26
CHEMNAME	S27-Ethylcholestane(20S)	CHEMCODE=ECHOL4B70S
CHEMNAME	S28-Ethylcholestane	CHEMCODE=ECHOL4A70R
CHEMNAME	S29-C30cholestane(R)	CHEMCODE=S29C30CHOL
CHEMNAME	S2-Pregnane	CHEMCODE=PREGNANS2
CHEMNAME	S30-C30cholestane(S)	CHEMCODE=S30C30CHOL
CHEMNAME	S4-Diacholestane	CHEMCODE=DCHOL370S
CHEMNAME	S5-Diacholestane	CHEMCODE=DCHOL370R
CHEMNAME	S6-Diacholestane	CHEMCODE=DCHOLS6
CHEMNAME	S7-Diacholestane	CHEMCODE=DCHOLS7
CHEMNAME	S8-Methyldiacholestane	CHEMCODE=MDCHOLS8
CHEMNAME	Sa-C21Diasterane	CHEMCODE=C21DIASTER

## Appendix G. Valid Values

Field	Value	Description
CHEMNAME	Salinity	CHEMCODE=SALINITY
CHEMNAME	Sand, percent	CHEMCODE=PCT SAND
CHEMNAME	SAND_Control	
CHEMNAME	Saturated hydrocarbons	CHEMCODE=SATR HCBN
CHEMNAME	Sb-C21Sterane	CHEMCODE=C21STERANE
CHEMNAME	Sc-C22Diasterane	CHEMCODE=C22DIASTER
CHEMNAME	SC-Chronic Tox-Sample (Skeletonema costatum)	
CHEMNAME	Sd-C22Sterane	CHEMCODE=C22STERANE
CHEMNAME	Sec-butylbenzene	CHEMCODE=SEC BUTBEN
CHEMNAME	Selenium	CHEMCODE=SELENIUM
CHEMNAME	Silt, percent	CHEMCODE=PCT SILT
CHEMNAME	SILT_Control	
CHEMNAME	Silver	CHEMCODE=SILVER
CHEMNAME	Silvex	CHEMCODE=SILVEX
CHEMNAME	Sodium	CHEMCODE=SODIUM
CHEMNAME	Solids, percent	CHEMCODE=SOLIDS T
CHEMNAME	Specific gravity	CHEMCODE=SPEC GRAV
CHEMNAME	Specific Gravity Dry_Sample	
CHEMNAME	Stearic acid	
CHEMNAME	Stirofos	CHEMCODE=STIROFOS
CHEMNAME	Strontium	CHEMCODE=STRONTIUM
CHEMNAME	Styrene	CHEMCODE=STYRENE
CHEMNAME	Sulfate, total	
CHEMNAME	Sulfide (Acid Soluble)	CHEMCODE=SULFIDE SO
CHEMNAME	Sulfite (SO3)	
CHEMNAME	Sulfotepp	CHEMCODE=SULFOTEPP
CHEMNAME	Sulfur, total	CHEMCODE=SULFUR
CHEMNAME	Sulprofos	CHEMCODE=SULPROFOS
CHEMNAME	Surfactants	CHEMCODE=SURF
CHEMNAME	Suspended solids, total	
CHEMNAME	T0-C19Diterpane	CHEMCODE=C19DITERP
CHEMNAME	T10-C29Tricyclitriterpane(R)	CHEMCODE=C29TERP2R
CHEMNAME	T11-Trisnorhopane(TS)	CHEMCODE=TNHOP8290
CHEMNAME	T12-Trisnorhopane(TM)	CHEMCODE=THOP7290
CHEMNAME	T13A-29,30-BISNORHOPANE	CHEMCODE=T13A29BHOP
CHEMNAME	T13-Trisnorhopane	CHEMCODE=T13THOP
CHEMNAME	T14a-C28,C30Bisnorhopane	CHEMCODE=T14AC28HOP
CHEMNAME	T14b-C29,C25Norhopane	CHEMCODE=T14B29NHOP
CHEMNAME	T14-Bisnorhopane	CHEMCODE=T14BHOP
CHEMNAME	T15-C29-Norhopane	CHEMCODE=C29NHOP15
CHEMNAME	T16-Norneohopane	CHEMCODE=TINNHOPE
CHEMNAME	T17-C30-Normoretane	CHEMCODE=C30NMORT17
CHEMNAME	T18-C30-Oleanane	CHEMCODE=C30OLEAT18
CHEMNAME	T19-C30 Hopane	CHEMCODE=C30HOPT19
CHEMNAME	T1-C20Diterpane	CHEMCODE=T1DITERP
CHEMNAME	T20-Moretane	CHEMCODE=NMORETANE
CHEMNAME	T21-C31-Homohopane(S)	CHEMCODE=C31HHOPT21
CHEMNAME	T22a-Gammacerane	CHEMCODE=T22AGCERAN
CHEMNAME	T22-C31-HOMOHOPEANE(R)	CHEMCODE=C31HHOPT22
CHEMNAME	T23-Homohopane	CHEMCODE=T23HHOP
CHEMNAME	T24-Homomoretane	CHEMCODE=T24HMMT
CHEMNAME	T25-Diploptene	CHEMCODE=T25DPT
CHEMNAME	T26-C32-Bishomohopane(S)	CHEMCODE=BHHOP2S01
CHEMNAME	T27-C32-Bishomohopane(R)	CHEMCODE=BHHOP2R01
CHEMNAME	T28-Bishomomoretane	CHEMCODE=BMMT28
CHEMNAME	T29-Homohopane	CHEMCODE=HHOPT29
CHEMNAME	T2-C21Diterpane	CHEMCODE=C21DITERP
CHEMNAME	T30-C33-Trishomohopane(S)	CHEMCODE=C33TRIHOPS
CHEMNAME	T31-C33-Trishomohopane(R)	CHEMCODE=C33TRIHOPR
CHEMNAME	T32-Tetrakishomohopane(S)	CHEMCODE=TKHHOP2S
CHEMNAME	T33-Tetrakishomohopane(R)	CHEMCODE=TKHHOP2R
CHEMNAME	T34-Pentakishomohopane(S)	CHEMCODE=PKHHOPT34
CHEMNAME	T35-Pentakishomohopane(R)	CHEMCODE=PKHHOPT35
CHEMNAME	T3-C22Diterpane	CHEMCODE=C22DITERP
CHEMNAME	T4-C23Diterpane	CHEMCODE=C23DITERP
CHEMNAME	T5-C24Diterpane	CHEMCODE=C24TTERP
CHEMNAME	T6a-C24Tetracyclic Terpane	CHEMCODE=C24TETERP
CHEMNAME	T6B-C26TRICYCLIC(S)	CHEMCODE=C26TRICYCS
CHEMNAME	T6-C25Diterpane	CHEMCODE=C25TERP



## Appendix G. Valid Values

Field	Value	Description
CHEMNAME	T6C-C26TRICYCLIC(R)	CHEMCODE=C26TRICYCR
CHEMNAME	T7-C28Tricyclitriterpane(S)	CHEMCODE=C28TERP2S
CHEMNAME	T8-C28Tricyclitriterpane(R)	CHEMCODE=C28TERP2R
CHEMNAME	T9-C29Tricyclitriterpane(S)	CHEMCODE=C29TERP2S
CHEMNAME	TAME	CHEMCODE=AM3METHER
CHEMNAME	Temperature	
CHEMNAME	Temperature (±1°C)	CHEMCODE=TEMP
CHEMNAME	Tentatively Identified Compounds	
CHEMNAME	Tentatively Identified Compounds(1)	
CHEMNAME	Tentatively Identified Compounds(10)	
CHEMNAME	Tentatively Identified Compounds(11)	
CHEMNAME	Tentatively Identified Compounds(12)	
CHEMNAME	Tentatively Identified Compounds(13)	
CHEMNAME	Tentatively Identified Compounds(14)	
CHEMNAME	Tentatively Identified Compounds(15)	
CHEMNAME	Tentatively Identified Compounds(16)	
CHEMNAME	Tentatively Identified Compounds(17)	
CHEMNAME	Tentatively Identified Compounds(18)	
CHEMNAME	Tentatively Identified Compounds(19)	
CHEMNAME	Tentatively Identified Compounds(2)	
CHEMNAME	Tentatively Identified Compounds(20)	
CHEMNAME	Tentatively Identified Compounds(21)	
CHEMNAME	Tentatively Identified Compounds(22)	
CHEMNAME	Tentatively Identified Compounds(23)	
CHEMNAME	Tentatively Identified Compounds(24)	
CHEMNAME	Tentatively Identified Compounds(25)	
CHEMNAME	Tentatively Identified Compounds(26)	
CHEMNAME	Tentatively Identified Compounds(27)	
CHEMNAME	Tentatively Identified Compounds(3)	
CHEMNAME	Tentatively Identified Compounds(4)	
CHEMNAME	Tentatively Identified Compounds(5)	
CHEMNAME	Tentatively Identified Compounds(6)	
CHEMNAME	Tentatively Identified Compounds(7)	
CHEMNAME	Tentatively Identified Compounds(8)	
CHEMNAME	Tentatively Identified Compounds(9)	
CHEMNAME	Terphenyl-D14	
CHEMNAME	Tert-butylbenzene	CHEMCODE=TERT BUTBZ
CHEMNAME	Tetrachloroethene	CHEMCODE=CLETHENE4
CHEMNAME	Tetrachloro-M-xylene	
CHEMNAME	Tetracontane (C40)	CHEMCODE=AHCN C40
CHEMNAME	Tetracosane (C24)	CHEMCODE=AHCN C24
CHEMNAME	Tetradecane (C14)	CHEMCODE=AHCN C14
CHEMNAME	Tetraethyl pyrophosphate	CHEMCODE=TEPP
CHEMNAME	Tetrahydrofuran	CHEMCODE=HYFURN4
CHEMNAME	Tetratriacontane (C34)	CHEMCODE=AHCN C34
CHEMNAME	Thallium	CHEMCODE=THALLIUM
CHEMNAME	Tin	CHEMCODE=TIN
CHEMNAME	Titanium	CHEMCODE=TITANIUM
CHEMNAME	TOC Control	
CHEMNAME	Toluene	CHEMCODE=TOLUENE
CHEMNAME	Toluene-D8	
CHEMNAME	Total Chlorine	CHEMCODE=CHLORINE
CHEMNAME	Total Coliform	
CHEMNAME	Total Petroleum Hydrocarbons as Oil	CHEMCODE=OIL
CHEMNAME	Total Resolved SHC (C9-C40)	CHEMCODE=SHC C09C40
CHEMNAME	Total Sediment and Water	CHEMCODE=TOSEDH2O
CHEMNAME	Total_BTEX	
CHEMNAME	Toxaphene	CHEMCODE=TOXAPHENE
CHEMNAME	TPH ORO (>C28-C40)	CHEMCODE=ORO C28C40
CHEMNAME	TPH, Total (C9-C40)	CHEMCODE=PET HC
CHEMNAME	trans-1,4-Dichloro-2-butene	CHEMCODE=T14 2CL2BT
CHEMNAME	trans-2-Butene	
CHEMNAME	Triacontane (C30)	CHEMCODE=AHCN C30
CHEMNAME	Trichloroethene	CHEMCODE=CLETHENE3
CHEMNAME	Trichloronate	CHEMCODE=TRICLNATE
CHEMNAME	Tricosane (C23)	CHEMCODE=AHCN C23
CHEMNAME	Tridecane (C13)	CHEMCODE=AHCN C13
CHEMNAME	Trihalomethanes (four), total	CHEMCODE=H METHANE3
CHEMNAME	Triphenylphosphine oxide (TIC)	

## Appendix G. Valid Values

Field	Value	Description
CHEMNAME	Tritriacontane (C33)	CHEMCODE=AHCN C33
CHEMNAME	Turbidity	CHEMCODE=TURBIDITY
CHEMNAME	Undecane (C11)	CHEMCODE=AHCN C11
CHEMNAME	Unidentified Compound(s)	
CHEMNAME	Unknown (01)	
CHEMNAME	Unknown (02)	
CHEMNAME	Unknown Branched Hydrocarbon	
CHEMNAME	Unknown Branched Hydrocarbon (2)	
CHEMNAME	Unknown Branched Hydrocarbon (3)	
CHEMNAME	Unknown Branched Hydrocarbon (4)	
CHEMNAME	Unknown Hopane (01)	
CHEMNAME	Unknown Hopane (02)	
CHEMNAME	Uranium	CHEMCODE=URANIUM
CHEMNAME	UV 254 -- SDWA NPDWR	CHEMCODE=UVA254
CHEMNAME	Vanadium	CHEMCODE=VANADIUM
CHEMNAME	Vinyl acetate	CHEMCODE=VINYL ACET
CHEMNAME	Vinyl bromide	CHEMCODE=VINYL BR
CHEMNAME	Vinyl chloride	CHEMCODE=VINYL CL
CHEMNAME	Viscosity @ 122 F	
CHEMNAME	VISCOSITY, KIN, @ 50 C	CHEMCODE=VISCOSITY
CHEMNAME	VS	CHEMCODE=TVS
CHEMNAME	VS_Control	
CHEMNAME	Water	CHEMCODE=WATER
CHEMNAME	Xylene	CHEMCODE=XYLENE
CHEMNAME	Xylene, m,p-	CHEMCODE=MP_XYLENE
CHEMNAME	Xylene, meta-	CHEMCODE=M_XYLENE
CHEMNAME	Xylene, ortho-	CHEMCODE=O_XYLENE
CHEMNAME	Xylene, para-	CHEMCODE=P_XYLENE
CHEMNAME	Yttrium	CHEMCODE=YTTRIUM
CHEMTABLE	chem	Chemistry for surface sediment samples
CHEMTABLE	chemexcl	Chemistry for excluded samples
CHEMTABLE	chemsb	Chemistry for subsurface sediment samples
CHEMTABLE	chemtar	Chemistry for tar and oil samples
CHEMTABLE	chemtiss	Chemistry for tissue samples
CHEMTABLE	chemwat	Chemistry for water samples
DATUM	NAD27	
DATUM	NAD83	
DATUM	U	Unknown
DATUM	WGS84	
DETFLAG	N	not detected
DETFLAG	Y	detected
DVLEVEL	NV	Not Validated (validation not expected)
DVLEVEL	S2BVEM	Summary Validation of samples of samples, QC samples & Instrument QC , Electronic and manual review
DVLEVEL	S4VEM	Full review with analyte identification check , Electronic and manual review
DVLEVEL	UNK	Unknown if validation has been conducted
DVLEVEL	VALX	Validated but at an unknown level
DVQUAL	J	Result is less than the RL but greater than or equal to the MDL, approximate
DVQUAL	U	Indicates the analyte was analyzed for but not detected
DVQUAL	U*	Indicates the analyte was analyzed for but not detected
DVQUAL	UJ	Not detected; estimated, result is >= MDL and <Limit of Quantitation (LOQ)
DVQUAL	UR	Compound was not detected, validator rejected.
EST_STN	R	Reported
EST_STN	U	Unknown
FINALQUAL	<	
FINALQUAL	>	
FINALQUAL	>J	
FINALQUAL	A	Value reported is the mean (average) of two or more determinations.á
FINALQUAL	B	Analyte is found in the associated method blank.
FINALQUAL	BJ	Combination qualifier
FINALQUAL	BV	Analyte is found in the associated method blank; Serial Dilution exceeds the con
FINALQUAL	EB	Undefined qualifier(s)
FINALQUAL	FAIL	
FINALQUAL	H	Undefined qualifier(s)
FINALQUAL	HU	
FINALQUAL	I	Result detected between the MDL and PQL.
FINALQUAL	IJ	Value between MDL and PQL; estimated value.
FINALQUAL	IV	Detected between the MDL and PQL; detected in the associated method blank.
FINALQUAL	IY	Value between MDL and PQL; improperly preserved sample.

Appendix G. Valid Values

Field	Value	Description
FINALQUAL	J	Result is less than the RL but greater than or equal to the MDL, approximate
FINALQUAL	J-	The result is an estimated quantity, but the result may be biased low.
FINALQUAL	J+	The result is an estimated quantity, but the result may be biased high.
FINALQUAL	JB	Combination qualifier
FINALQUAL	JEB	Indicates an estimated value (unk qual E, B)
FINALQUAL	JK	Acceptable; the reported value is an estimate (unk qual K).
FINALQUAL	JL	Acceptable; the reported value is an estimate (unk qual L).
FINALQUAL	JN	Estimated, result is >= the MD and < the LOQ, presumptive evidence of a compound
FINALQUAL	JO	Positively identified, approximate concentration (unknown qual O).
FINALQUAL	JU	
FINALQUAL	K	
FINALQUAL	NJ	Estimated, result is >= the MD and < the LOQ, presumptive evidence of a compound
FINALQUAL	No Flash	
FINALQUAL	NS Effect	
FINALQUAL	PASS	
FINALQUAL	R	Rejected data
FINALQUAL	S Effect	
FINALQUAL	T	Value < MDL; reported for information purposes only.
FINALQUAL	U	Indicates the analyte was analyzed for but not detected
FINALQUAL	U*	Indicates the analyte was analyzed for but not detected
FINALQUAL	UJ	Not detected; estimated, result is >= MDL and <Limit of Quantitation (LOQ)
FINALQUAL	UJK	Combination of U and J (unk qual K)
FINALQUAL	UJL	Combination of U and J (unk qual L)
FINALQUAL	UJO	Not detected > reported sample quantitation limit; QL is an approximate (O unk).
FINALQUAL	UL	Not Detected (undefined qual L)
FINALQUAL	UO	Not detected above the reported sample quantitation limit (unknown qual O).
FINALQUAL	UQ	Not detected; sample held beyond the accepted holding time.
FINALQUAL	UR	Compound was not detected, validator rejected.
FINALQUAL	UV	
FINALQUAL	UY	Not detected; improperly preserved sample.
FINALQUAL	UZ	Detected but not Quantified (too small) (reported as non-detects, -9 conc)
FINALQUAL	V	Serial Dilution exceeds the control limits.
FINALQUAL	X	
FINALQUAL	Y	
IMPFILE	ADEM_to_QM.accdb	
IMPFILE	ALECI_to_QM-Revised.accdb	
IMPFILE	CTEH_to_QM_Update.accdb	
IMPFILE	EPA_to_QM-Revised.accb	
IMPFILE	EPA_to_QM-Revised.accdb	
IMPFILE	ESI_to_QM_Revised_w_Append_6-26-12.accdb	
IMPFILE	FLDEP_to_QM.accdb	
IMPFILE	MSDEQ_to_QM.accdb	
IMPFILE	NOAA_to_QM-Update.accdb	
IMPFILE	NOAADW_OnBoard_Update_with_RyanChouest.accdb	
IMPFILE	NPS_to_QM.accdb	
IMPFILE	USGS_to_QM-Update.accdb	
LABNAME	Accutest	ACCUTEST 10165 Harwin Drive Suite 150 Houston TX 77036
LABNAME	ADEM - CENTRAL LAB	ADEM CENTRAL LAB 1350 Coliseum Blvd Montgomery AL 36110-2412
LABNAME	ADEM - MOBILE LAB	ADEM MOBILE LAB 757 Museum Drive Mobile AL 36608
LABNAME	ALS Fort Collins	ALS Fort Collins 225 Commerce Drive Fort Collins CO 80524
LABNAME	ALS Holland MI	ALS Holland MI 3352 128th Ave. Holland MI 49424
LABNAME	ALS Houston	ALS Houston 10450 Stancliff Road Suite 210 Houston TX 77099
LABNAME	ALS Salt Lake City	ALS Salt Lake City 960 West LeVoy Drive Salt Lake City UT 84123
LABNAME	ARIS Laboratories	ARIS Laboratories 4611 South 134th Place Suite 100 Tukwila WA 98168
LABNAME	Battelle	Battelle 397 Washington Street Duxbury MA 02332
LABNAME	Columbia Analytical Svcs	Columbia Analytical Svcs 1317 South 13th Ave Kelso WA 98626
LABNAME	eLab Houston	e-Lab Analytical Inc. 10450 Stancliff Rd. Ste. 210 Houston TX 77099
LABNAME	EnviroChem Inc	EnviroChem Inc 4320 Midmost Drive Mobile AL 36609
LABNAME	Environmental Enterprises	Environmental Enterprises 58485 Pearl Acres Rd. Suite D Slidell LA 70461
LABNAME	FDEP Central Laboratory	FDEP Central Laboratory 2600 Blair Stone Rd Tallahassee FL 32300-2400
LABNAME	Gulf Coast Analytical Labs	Gulf Coast Analytical Labs 7979 GSRI Ave. Baton Rouge LA 70820
LABNAME	Lancaster Laboratories	Lancaster Laboratories 2430 New Holland Pike Lancaster PA 17601
LABNAME	Louisiana State University Laboratory	Louisiana State University Laboratory Department of Environmental Sciences 1261 Energy, Coast, & Environment Building Baton Rouge LA 70803
LABNAME	Micro Methods Laboratory Inc	Micro Methods Laboratory Inc 6500 Sunplex Drive Ocean Springs MS 39564
LABNAME	Onboard	Onboard laboratory or instruments
LABNAME	Pace Minnesota	Pace Minnesota 1700 Elm Street Minneapolis MN 55414

Appendix G. Valid Values

Field	Value	Description
LABNAME	Pace New Orleans	Pace New Orleans 1000 Riverbend Blvd Suite F St. Rose LA 70087
LABNAME	Severn-Trent Laboratory, Denver, CO	Severn-Trent Laboratory, Denver, CO 4955 Yarrow St. Arvada CO 80002
LABNAME	Sherry Laboratories	Sherry Laboratories 2417 W. Pinhook Road Lafayette LA 70508
LABNAME	Spectra Labs	Spectra Labs 2221 Ross Way Tacoma WA 98421
LABNAME	SPL Houston	SPL Houston 8880 Interchange Drive Houston TX 77054
LABNAME	SPL Lafayette	SPL Lafayette 500 Ambassador Caffery Parkway Scott LA 70583
LABNAME	TCEQ Houston Laboratory	TCEQ Houston Laboratory 5144 E. Sam Houston Parkway N. Houston TX 77015
LABNAME	Test America Burlington	Test America Burlington 30 Community Drive Suite 11 South Burlington VT 05403
LABNAME	Test America Denver, Arvada, CO	Test America Labs Denver, Arvada, CO 4955 Yarrow St. Arvada CO 80002
LABNAME	Test America Houma	Test America Houma 1597 Highway 311 Shriver LA 70395
LABNAME	Test America Mobile	Test America Mobile 900 Lakeside Drive Mobile AL 36693
LABNAME	Test America Nashville	Test America Nashville 2960 Foster Creighton Drive Nashville TN 37204-3719
LABNAME	Test America Pensacola	Test America Pensacola 3355 McLemore Dr Pensacola FL 32514
LABNAME	Test America Tallahassee	Test America Tallahassee 2846 Industrial Plaza Dr Tallahassee FL 32301
LABNAME	Test America University Park	Test America University Park 2417 Bond Street University Park IL 60484
LABNAME	USEPA Region 4 SEDS	USEPA Region 4 Science and Ecosystems Support Division 980 College Station Road Athens GA 30605-2720
LABNAME	USEPA Region 5 Chicago Laboratory	USEPA Region 5 Chicago Laboratory 536 S. Clark St. Chicago IL 60605
LABNAME	USEPA Region 6 Houston Laboratory	USEPA Region 6 Houston Laboratory 10625 Fallstone Road Houston TX 77099
LABNAME	USGS Carbon Research Lab, Boulder, CO	USGS Carbon Research Lab, Boulder, CO 80097
LABNAME	USGS National Water Quality Lab, Denver, CO	USGS, National Water Quality Lab, Denver, CO Denver Federal Center P.O. Box 25585, Bldg 95 Denver CO 80225-0585
LABNAME	USGS Sediment-partitioning Research Lab, GA	USGS Sediment-partitioning Research Lab 1770 Corporate Dr. Norcross GA 30093
LABNAME	USGS Water Resources Discipline	Fort Collins Science Center 2150 Centre Ave. Building C Fort Collins, CO 80526
LABQUAL	*B	Analyte is found in the associated method blank.
LABQUAL	^	
LABQUAL	<	
LABQUAL	>	
LABQUAL	>J	
LABQUAL	A	Value reported is the mean (average) of two or more determinations.
LABQUAL	A11	
LABQUAL	A11,B	
LABQUAL	A21	
LABQUAL	A25	
LABQUAL	B	Analyte is found in the associated method blank.
LABQUAL	B^	
LABQUAL	B2,D1	
LABQUAL	BJ	Combination qualifier
LABQUAL	BT	
LABQUAL	BV	Analyte is found in the associated method blank; Serial Dilution exceeds the con
LABQUAL	D	
LABQUAL	D1	
LABQUAL	D2	
LABQUAL	DJ	
LABQUAL	E	Estimated value
LABQUAL	E D1	
LABQUAL	E D6	
LABQUAL	FAIL	
LABQUAL	H	Undefined qualifier(s)
LABQUAL	HH	
LABQUAL	HU	
LABQUAL	I	Result detected between the MDL and PQL.
LABQUAL	IJ	Value between MDL and PQL; estimated value.
LABQUAL	IV	Detected between the MDL and PQL; detected in the associated method blank.
LABQUAL	IY	Value between MDL and PQL; improperly preserved sample.
LABQUAL	J	Result is less than the RL but greater than or equal to the MDL, approximate
LABQUAL	J-	The result is an estimated quantity, but the result may be biased low.
LABQUAL	J*	Result is less than the RL but greater than or equal to the MDL, approximate
LABQUAL	J*B	Combination qualifier
LABQUAL	J+	The result is an estimated quantity, but the result may be biased high.
LABQUAL	JB	Combination qualifier
LABQUAL	JB*	Combination qualifier
LABQUAL	JCRaQ-2	
LABQUAL	JE	
LABQUAL	JH	
LABQUAL	JH-7	
LABQUAL	JJ	
LABQUAL	JK	Acceptable; the reported value is an estimate (unk qual K).
LABQUAL	JL	Acceptable; the reported value is an estimate (unk qual L).

Appendix G. Valid Values

Field	Value	Description
LABQUAL	JME	
LABQUAL	JQ-2	
LABQUAL	JQ-2QS-5	
LABQUAL	JQ-6	
LABQUAL	JQC-4	
LABQUAL	JQC-6QI-	
LABQUAL	JQC-6QL-	
LABQUAL	JQI-1	
LABQUAL	JQL-2QR-	
LABQUAL	JQM-1	
LABQUAL	JQM-1QM-	
LABQUAL	JQM-2	
LABQUAL	JQM-2QM-	
LABQUAL	JQM-3	
LABQUAL	JQR-1	
LABQUAL	JQR-2	
LABQUAL	JT	
LABQUAL	JU	
LABQUAL	JV	
LABQUAL	JX	
LABQUAL	K	
LABQUAL	M1	
LABQUAL	M2	
LABQUAL	M5	
LABQUAL	ME	
LABQUAL	N	
LABQUAL	NJ	Estimated, result is >= the MD and < the LOQ, presumptive evidence of a compound
LABQUAL	No Flash	
LABQUAL	PASS	
LABQUAL	R	Rejected data
LABQUAL	T	Value < MDL; reported for information purposes only.
LABQUAL	TJ	
LABQUAL	TJN	
LABQUAL	U	Indicates the analyte was analyzed for but not detected
LABQUAL	U A20	
LABQUAL	U A21	
LABQUAL	U D1	
LABQUAL	U D2	
LABQUAL	U D2,M2	
LABQUAL	U D2,P1	
LABQUAL	U D2,P2	
LABQUAL	U D6	
LABQUAL	U M1	
LABQUAL	U M2	
LABQUAL	U M3	
LABQUAL	U M5	
LABQUAL	U N	
LABQUAL	U P2	
LABQUAL	U*	Indicates the analyte was analyzed for but not detected
LABQUAL	U,C4, C	
LABQUAL	U^	
LABQUAL	U^*	
LABQUAL	UB	
LABQUAL	UB-2	
LABQUAL	UD-4	
LABQUAL	UE	
LABQUAL	UH	Analyzed but not detected above the MDL; unk qual H
LABQUAL	UH*	Analyzed but not detected above the MDL; unk qual H
LABQUAL	UH^	
LABQUAL	UH-4	
LABQUAL	UJ	Not detected; estimated, result is >= MDL and <Limit of Quantitation (LOQ)
LABQUAL	UJB-2C-	
LABQUAL	UJB-2H-	
LABQUAL	UJB-2Q-	
LABQUAL	UJB-2QS	
LABQUAL	UJC-2H-	
LABQUAL	UJH-4	
LABQUAL	UJH-4QC	
LABQUAL	UJH-7	

Appendix G. Valid Values

Field	Value	Description
LABQUAL	UJH-7QM	
LABQUAL	UJQ-6	
LABQUAL	UJQC-1	
LABQUAL	UJQC-1Q	
LABQUAL	UJQC-3	
LABQUAL	UJQC-3Q	
LABQUAL	UJQC-5	
LABQUAL	UJQC-6	
LABQUAL	UJQI-1	
LABQUAL	UJQI-1Q	
LABQUAL	UJQL-1	
LABQUAL	UJQL-1Q	
LABQUAL	UJQM-1	
LABQUAL	UJQM-1Q	
LABQUAL	UJQM-3	
LABQUAL	UJQM-6	
LABQUAL	UJQR-1	
LABQUAL	UJQR-2	
LABQUAL	UJQS-3	
LABQUAL	UJQS-5	
LABQUAL	UL	Not Detected (undefined qual L)
LABQUAL	UME	
LABQUAL	UQ	Not detected; sample held beyond the accepted holding time.
LABQUAL	UQL-1	
LABQUAL	UT	
LABQUAL	UV	
LABQUAL	UY	Not detected; improperly preserved sample.
LABQUAL	V	Serial Dilution exceeds the control limits.
LABQUAL	X	
LABQUAL	Z	
LDUNITS	cm	centimeters
LDUNITS	m	meters
MATRIX	DS	Field-filtered water sample (dissolved fraction)
MATRIX	GW	Groundwater
MATRIX	LE	Leachate - Sample collected from liquid that has percolated or seeped through solid or sediment; Example is sampling near a landfill
MATRIX	MD	Membrane device (e.g., SPMD)
MATRIX	OL	Oil sample
MATRIX	ON	Oil sample
MATRIX	PW	Pore or interstitial water sample (water data associated with sediment sample)
MATRIX	SE	Sediment sample
MATRIX	TB	Tar sample
MATRIX	WH	Whole (unfiltered) water sample; may include groundwater, surface/subsurface water
MEASBASIS	DS	Field-filtered water sample (dissolved fraction)
MEASBASIS	DW	Dry weight
MEASBASIS	TO	Total
MEASBASIS	WW	Wet weight
METHOD	% Calculation	
METHOD	100% SMP	
METHOD	A2540B	
METHOD	A2540G	
METHOD	AA095	
METHOD	ALGOR	
METHOD	ASB107C	
METHOD	BAROM	
METHOD	Biology Wet Chemistry	
METHOD	CL016	
METHOD	CL017	
METHOD	CMB01	
METHOD	COMB4	
METHOD	CTD	
METHOD	CV021	
METHOD	CV025	
METHOD	D2216	
METHOD	D4007	
METHOD	D4052	
METHOD	D422	
METHOD	D445	

Appendix G. Valid Values

Field	Value	Description
METHOD	D5002	
METHOD	D97	
METHOD	DEP SOP: LC-001-2 (based on EPA 8321B)	
METHOD	Dispersants by GC-MS	
METHOD	E120.1	
METHOD	E1664	
METHOD	E1664A	
METHOD	E200.2	
METHOD	E200.7	
METHOD	E200.8	
METHOD	E203-75	
METHOD	E245.1	
METHOD	E245.5	
METHOD	E350.1	
METHOD	E350.1MOD	
METHOD	E350.3	
METHOD	E351.2	
METHOD	E353.2	
METHOD	E365.1	
METHOD	E365.4	
METHOD	E524.2	
METHOD	ENV by GC-MS Specialty	
METHOD	EPA.R5/6LC	
METHOD	EPA200.7rev4.4	
METHOD	EPA200.8Rev5.4	
METHOD	EPH LARecap Mod	
METHOD	FL-DEP FL-PRO	
METHOD	FL-PRO	
METHOD	GCFID	
METHOD	GCM13	
METHOD	GCM25	
METHOD	GCM55	
METHOD	GCM56	
METHOD	GCM57	
METHOD	GCM66	
METHOD	GCMS_SCAN	
METHOD	GCMS_SIM	
METHOD	Glycols	
METHOD	GRV29	
METHOD	H8000	
METHOD	HAPSITE	
METHOD	HY017	
METHOD	KJ008	
METHOD	KJ009	
METHOD	LaMotte	
METHOD	LC DOSS	
METHOD	LC/MS/MS	
METHOD	Lloyd Kahn	
METHOD	MADEP EPH	
METHOD	MADEP VPH MODIFIED	
METHOD	Moisture	
METHOD	NWTPHD	
METHOD	onboard GC/MS	
METHOD	onboard oven & scale	
METHOD	Optical	
METHOD	PCL01	
METHOD	PLA15	
METHOD	PLA20	
METHOD	PLM11	
METHOD	PLM47	
METHOD	PLM48	
METHOD	PLO01	
METHOD	Probe	
METHOD	RAM-DOSS	
METHOD	SM2120C	
METHOD	SM2510B	
METHOD	SM2710F	
METHOD	SM4500	
METHOD	SM4500H+B	

Appendix G. Valid Values

Field	Value	Description
METHOD	SM4500NH3E	
METHOD	SM4500SO3B	
METHOD	SM5210B	
METHOD	SM5310B	
METHOD	Solids	
METHOD	SPEC2	
METHOD	SW1010	
METHOD	SW1030	
METHOD	SW6010	
METHOD	SW6010B	
METHOD	SW6010C	
METHOD	SW6020	
METHOD	SW6020A	
METHOD	SW7470	
METHOD	SW7470A	
METHOD	SW7471	
METHOD	SW7471A	
METHOD	SW7471B	
METHOD	SW8015	
METHOD	SW8015/SW8021	
METHOD	SW8015B	
METHOD	SW8015BMOD	
METHOD	SW8015C	
METHOD	SW8015M	
METHOD	SW8021B	
METHOD	SW8081	
METHOD	SW8082	
METHOD	SW8141B	
METHOD	SW8151	
METHOD	SW8260	
METHOD	SW8260B	
METHOD	SW8260C	
METHOD	SW8270	
METHOD	SW8270C	
METHOD	SW8270CMOD	
METHOD	SW8270CSIM	
METHOD	SW8270D	
METHOD	SW8270SIM	
METHOD	SW8272MOD	
METHOD	SW9012A	
METHOD	SW9034	
METHOD	SW9040	
METHOD	SW9045	
METHOD	SW9060	
METHOD	SW9060AMOD	
METHOD	SW9060MOD	
METHOD	SW9071	
METHOD	SW9071B	
METHOD	TS087	
METHOD	TURB	
METHOD	UV_VIS	
METHOD	UV003	
METHOD	WBLACK	
METHOD	Winkler	
QCTYPE	FBLK	Field blank; Trip, equipment, or other field blank
QCTYPE	MB	Method blank or preparation blank
QCTYPE	MS	Matrix spike
QCTYPE	MSD	Matrix spike duplicate
QCTYPE	SMP	Sample submitted by field team
QUALCODE	A	Value reported is the mean (average) of two or more determinations.á
QUALCODE	B	Analyte is found in the associated method blank.
QUALCODE	BJ	Combination qualifier
QUALCODE	BV	Analyte is found in the associated method blank; Serial Dilution exceeds the con
QUALCODE	E	Estimated value
QUALCODE	EB	Undefined qualifier(s)
QUALCODE	H	Undefined qualifier(s)
QUALCODE	I	Result detected between the MDL and PQL.
QUALCODE	IJ	Value between MDL and PQL; estimated value.
QUALCODE	IV	Detected between the MDL and PQL; detected in the associated method blank.



Appendix G. Valid Values

Field	Value	Description
QUALCODE	IY	Value between MDL and PQL; improperly preserved sample.
QUALCODE	J	Result is less than the RL but greater than or equal to the MDL, approximate
QUALCODE	J-	The result is an estimated quantity, but the result may be biased low.
QUALCODE	J,NSR	Estimated value, the result is >= MDL and <LOQ, non-standard reporting unit
QUALCODE	J+	The result is an estimated quantity, but the result may be biased high.
QUALCODE	JB	Combination qualifier
QUALCODE	JEB	Indicates an estimated value (unk qual E, B)
QUALCODE	JK	Acceptable; the reported value is an estimate (unk qual K).
QUALCODE	JL	Acceptable; the reported value is an estimate (unk qual L).
QUALCODE	JO	Positively identified, approximate concentration (unknown qual O).
QUALCODE	NSR	Non-standard reporting unit
QUALCODE	T	Value < MDL; reported for information purposes only.
QUALCODE	U	Indicates the analyte was analyzed for but not detected
QUALCODE	U*	Indicates the analyte was analyzed for but not detected
QUALCODE	U*,NSR	Compound was not detected, non-standard reporting unit (undefined qual *)
QUALCODE	U,NSR	Compound was not detected, non-standard reporting unit
QUALCODE	UH	Analyzed but not detected above the MDL; unk qual H
QUALCODE	UJ	Not detected; estimated, result is >= MDL and <Limit of Quantitation (LOQ)
QUALCODE	UJ,NSR	Not detected, estimated < RL, non-standard reporting unit.
QUALCODE	UJK	Combination of U and J (unk qual K)
QUALCODE	UJL	Combination of U and J (unk qual L)
QUALCODE	UJO	Not detected > reported sample quantitation limit; QL is an approximate (O unk).
QUALCODE	UL	Not Detected (undefined qual L)
QUALCODE	UO	Not detected above the reported sample quantitation limit (unknown qual O).
QUALCODE	UQ	Not detected; sample held beyond the accepted holding time.
QUALCODE	UR	Compound was not detected, validator rejected.
QUALCODE	UR,NSR	Compound was not detected, non-standard reporting unit, rejected data.
QUALCODE	UY	Not detected; improperly preserved sample.
QUALCODE	UZ	Detected but not Quantified (too small) (reported as non-detects, -9 conc)
QUALCODE	V	Serial Dilution exceeds the control limits.
SAMPTYPE	CNG	Bioassay negative control
SAMPTYPE	FDUP	Field replicate or duplicate sample; A duplicate or replicate of a normal field sample taken at the SAME DATE, SAME PLACE, and from the same sample material, and treated same through all procedures. SampleID should be linked with the original (by adding a suffix "D" to the SampleID)
SAMPTYPE	SMP	Normal field sample; Sample or aliquot collected in the field. Not a quality control sample of any kind.
SCR_MATRIX	DS	Field-filtered water sample (dissolved fraction)
SCR_MATRIX	FLOC	Flocculent
SCR_MATRIX	LW	Liquid Waste
SCR_MATRIX	MD	Membrane device (e.g., SPMD)
SCR_MATRIX	Mousse	Mousse
SCR_MATRIX	Oil	Oil
SCR_MATRIX	OL	Oil sample
SCR_MATRIX	SE	Sediment sample
SCR_MATRIX	sediment	Sediment
SCR_MATRIX	SL	Sediment
SCR_MATRIX	SO	Soil sample
SCR_MATRIX	SW	Surface water
SCR_MATRIX	TB	Tar sample
SCR_MATRIX	TS	Tissue sample
SCR_MATRIX	Unknown	Unknown
SCR_MATRIX	Water	Water
SCR_MATRIX	WH	Whole (unfiltered) water sample; may include groundwater, surface/subsurface water
SCR_MATRIX	WS	Waste - Solid
SCR_STUDYN	ADEM DW	Alabama Department of Environmental Management (ADEM)
SCR_STUDYN	ALECIDW	ADEM/Alabama EnviroChem Inc. (ALECI)
SCR_STUDYN	CTEH DW	Center for Toxicology Environmental Health (CTEH)
SCR_STUDYN	EnvstdDW_2	Environmental Standards, Inc.
SCR_STUDYN	FLDW	Florida Department of Environmental Protection (FLDEP)
SCR_STUDYN	MS DWH	Mississippi Department of Environmental Quality (MSDEQ)
SCR_STUDYN	NOAADW-ESI	NOAA Office of Response & Restoration - Environmental Standards, Inc.
SCR_STUDYN	NOAADW-Onboard	NOAA Office of Response & Restoration
SCR_STUDYN	NPSDW	National Park Service
SCR_STUDYN	R04DW	Environmental Protection Agency Region 4
SCR_STUDYN	R06DW	Environmental Protection Agency Region 6
SCR_STUDYN	USGSDW	United States Geological Survey
SPECIES	VEG	Vegetation

Appendix G. Valid Values

Field	Value	Description
SPP	VEG	Vegetation
TISSCODE	WHPL	Whole Plant
TISSUE	WHPL	Whole Plant
TOTALDISS	dis	Dissolved
TOTALDISS	tot	Total
UDUNITS	cm	centimeters
UDUNITS	m	meters
UNITS	C	celsius
UNITS	cst	centistokes
UNITS	F	fahrenheit
UNITS	g/ml	grams per milliliter
UNITS	L/mgDm	Liters per milligram of dissolved organic carbon per meters
UNITS	mg	milligrams
UNITS	mg/g	milligrams per gram
UNITS	mg/L	milligrams per liter
UNITS	mg/ml	milligrams per milliliter
UNITS	mm/Hg	millimeters of mercury
UNITS	ng	nanograms
UNITS	ng/kg	nanograms per kilograms
UNITS	NTU	Nephelometric Turbidity Units
UNITS	PCT	percent
UNITS	PCU	Platinum Cobalt Units
UNITS	PH	decimal logarithm of the reciprocal of the hydrogen ion activity
UNITS	PPB	parts per billion
UNITS	PPM	parts per million
UNITS	SI	density relative to water (unitless)
UNITS	ug	micrograms
UNITS	ug/L	micrograms per liter
UNITS	umh/cm	micromhos per centimeter
WDUNITS	m	meters

## Appendix H: Response Study Notes

Category	SN_ID	StudyNote by Subject	Cnt
DATA_SOURCE	1	Source: USGS Original file name: Deep Water Horizon Data Template.xls (bioassay only) SCRIBE database information (chemistry): ProjectID: 1260 Project Name: USGSDW Responsible Organization: USGS Last Version: 18 Last Published: 2011Apr28 11:44	1
DATA_SOURCE	2	Source: EPA Region IV Original file name: NOAA_Template_v2.1_20110105_EPA_R4.xls (bioassay only) Original QM StudyID 03 was merged into QM StudyID 02. Source for the bioassay data for StudyID 03 (EPA Region IV (SESD)) was: NOAA_Template_v2_20100105 SESD.xls. Additional data submitted in file: NOAA_Template_V3_SESD baseline tox data.xls SCRIBE database information (chemistry): ProjectID (EPA Region 4 only): 1082 Project Name: DW_Reporting Responsible Organization: USEPA Regions 4 and 6 and ERT Last Version: 219 Last Published: 2011May02 13:19	1
DATA_SOURCE	3	Data were compiled from SCRIBE as exported to QM structure. SCRIBE database information (chemistry): ProjectID: 1134 Project Name:ALECI_DW_Sampling_Analytical Responsible Organization: AL Dept. of Env. Management (ADEM) Last Version: 22 Last Published: 2011Aug03 15:25	1
DATA_SOURCE	4	Source: EPA Region VI Original bioassay file name: EPA Region VI; NOAA_Template_v7_20110125_R6 SCRIBE database information (chemistry): ProjectID: 1112 Project Name: BP_DW_Sampling_Analytica Responsible Organization: USEPA Region 6 Last Version: 6 Last Published: 2011Jun01 1:27	1
DATA_SOURCE	5	Data exported from SCRIBE database into NOAA QM Access template. SCRIBE database information (chemistry): ProjectID: 1300 Project Name: Deepwater Horizon Response Responsible Organization: Center for Toxicology and Environmental Health LLC (CTEH) Last Version: 36 Last Published: 2011Jul13 13:35 Additional sampling information found in: Air_Water_Inter_Tidal_Sediment_Sampling_Analysis_P lans-2.pdf	1
DATA_SOURCE	6	Data populated in NOAA format from SCRIBE database source. SCRIBE database information (chemistry): ProjectID: 1119 Project Name: ADEM_DW_Sampling_Analytical_Monitoring Responsible Organization: Alabama Dept of Env Mgmt Last Version: 14 Last Published: 2011Mar31 16:37	1
DATA_SOURCE	7	Data populated in NOAA format from SCRIBE database source. SCRIBE database information (chemistry): ProjectID: 1133 Project Name: NPS_DW_Sampling_Analytical Responsible Organization: National Park Service Last Version: 4 Last Published: 2011Apr26 14:08	1
DATA_SOURCE	8	Data populated in NOAA format from SCRIBE database source. SCRIBE database information (chemistry): ProjectID: 1122 Project Name: MSDEQ_DW_Sampling_Analytical Responsible Organization: MS Dept. of Env. Qual. (MSDEQ) Last Version: 24 Last Published: 2011Nov09 9:42	1
DATA_SOURCE	9	Data were populated from the SCRIBE database as converted into QM template structure. SCRIBE database information (chemistry): ProjectID: 1219 Project Name: NOAADW Responsible Organization: NOAA_DW_Operations Last Version: 81 Last Published: 2011Nov08 9:53 Additional data were added from the NOAADW onboard data including dissolved oxygen and GC, GC/MS, and GCFID measurements. Where possible, onboard analyses were paired with the station/sample information from the lab results.	33
DATA_SOURCE	10	Data were populated from the SCRIBE database as converted into QM template structure. SCRIBE database information (chemistry): ProjectID: 1219 Project Name: NOAADW Responsible Organization: NOAA_DW_Operations Last Version: 81 Last Published: 2011Nov08 9:53	30
DATA_SOURCE	11	Data exported from SCRIBE database into NOAA QM Access template. SCRIBE database information (chemistry): ProjectID: 1130 Project Name: Deepwater Horizon Response Responsible Organization: FL Dept of Env Protection Last Version: 82 Last Published: 2011Aug29 10:28	1
DATA_SOURCE	12	Data were populated from the SCRIBE database as converted into QM template structure. Onboard GCMS and monitoring information was found in OsbLogs_Data.mdb. Method detection limits and reporting limits for some analytes were found in BP_Data_Validation_Project_Report_08_07_2011_final_27_Jul_2011.pdf, APPENDIX E: Method Limit of Reporting (LOR) Calculation. The CSIRO tables have no clear equivalent for Scribe Location field. The CSIRO values were mapped to the Location fields as follows: For those samples collected at a cast, the Location is the Cast_ID " For those samples not collected at a cast, the Location is the SampleBottleID.	12
DATA_SOURCE	13	Data were populated from the SCRIBE database as converted into QM template structure. SCRIBE database information (chemistry): ProjectID: 1219 Project Name: NOAADW Responsible Organization: NOAA_DW_Operations Last Version: 81 Last Published: 2011Nov08 9:53 Additional data were added from the NOAADW onboard data including dissolved oxygen and GC, GC/MS, and GCFID measurements. These are the only water samples for this study.	2
DATA_SOURCE	14	Data were populated from the SCRIBE database as converted into QM template structure. SCRIBE database information (chemistry): ProjectID: 1302 Project Name: Envstd_Sampling_Analytical_2 Responsible Organization: Environmental Standards Inc EnvStd_DW_Operations Last Version: 72 Last Published: 2011Aug23 14:29 Additional resource used to fill data gaps: 13_NOV_2010_SMU_Strategic_Plan.pdf frat_stranded_oil_samplig_plan.pdf Deepwater Horizon Fourchon Beach Hesco Basket Sampling Plan: Phase 1 - Louisiana (12/15/2010) NOAA_DW metadata for cruises	80
DATA_SOURCE	15	Data were populated from the SCRIBE database as converted into QM template structure. SCRIBE database information (chemistry): ProjectID: 1302 Project Name: Envstd_Sampling_Analytical_2 Responsible Organization: Environmental Standards Inc EnvStd_DW_Operations Last Version: 72 Last Published: 2011Aug23 14:29 Additional resource used to fill data gaps: 13_NOV_2010_SMU_Strategic_Plan.pdf frat_stranded_oil_samplig_plan.pdf Deepwater Horizon Fourchon Beach Hesco Basket Sampling Plan: Phase 1 - Louisiana (12/15/2010) NOAA_DW metadata for cruises Additional data were added from the NOAADW onboard data including dissolved oxygen and GC, GC/MS, and GCFID measurements. Where possible, onboard analyses were paired with the station/sample information from the lab results.	2

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Category	SN_ID	StudyNote by Subject	Cnt
DATA_SOURCE	16	Data were populated from the SCRIBE database as converted into QM template structure. SCRIBE database information (chemistry): ProjectID: 1302 Project Name: Envstd_Sampling_Analytical_2 Responsible Organization: Environmental Standards Inc EnvStd_DW_Operations Last Version: 72 Last Published: 2011Aug23 14:29 Additional resource used to fill data gaps: 13_NOV_2010_SMU_Strategic_Plan.pdf frat_stranded_oil_samplig_plan.pdf Deepwater Horizon Fourchon Beach Hesco Basket Sampling Plan: Phase 1 - Louisiana (12/15/2010) NOAA_DW metadata for cruises Bioassay data were derived from NOAA template, see BIOASSAY NOTES.	5
DATA_COLLECTION_PURPOSE	1	USGS Deepwater Response	3
DATA_COLLECTION_PURPOSE	2	EPA Region IV Deepwater Response	1
DATA_COLLECTION_PURPOSE	3	Deepwater Response	168
DATA_COLLECTION_PURPOSE	4	EPA Region VI Deepwater Response	1
STUDY	1	The data include chemistry and bioassay data for sediment and porewater samples. The matrix for the water samples was reported as whole water in the SCRIBE database. Sources from USGS confirmed that the water data should be pore water samples collected from the sediment samples.	1
STUDY	2	The data include chemistry and bioassay data for water, oil, tar, and sediment samples.	2
STUDY	3	The data include water and sediment chemistry	1
STUDY	4	The data include sediment, water, tarball, and oil chemistry.	1
STUDY	5	The data include water chemistry data.	1
STUDY	6	The data include groundwater chemistry data.	1
STUDY	7	The data include sediment and water chemistry data. The sediment data may be filtrate samples, with the use of the word 'PAD in the sampleID, but this could not be confirmed. Thus these were coded as regular sediment samples.	1
STUDY	8	Study Names were generated from the NOAA_DW Scribe database based on the Project Name, Activity, and Vessel (for cruises) fields. Cruises were named in the same way as ESI with NDW" as part of the name. The data include water, sediment, tarball and oil chemistry.	59
STUDY	9	The data include surface and subsurface sediment, water, and oil chemistry.	1
STUDY	10	Study Names were generated from the NOAA_DW Scribe database based on the Project Name, Activity, and Vessel. M/V Ryan Chouest cruises had different cruise objectives; only onboard monitoring data are included in this database.	12
STUDY	11	Study Names were generated from the ESI Scribe database based on the Project Name, Activity, and Vessel (for cruises) fields. Cruises were named in the same way as NOAA_DW with ESI as part of the name. The data include water, sediment, soil (beach sand), tarball, tissue, and oil chemistry. Bioassay data were removed from the SCRIBE database as these data are already included as StudyID 04.	86
STUDY	12	Study Names were generated from the ESI Scribe database based on the Project Name, Activity, and Vessel (for cruises) fields. Cruises were named in the same way as NOAA_DW with ESI as part of the name. The data include water, sediment, tarball and oil chemistry. Bioassay data were removed from the SCRIBE database as these data are already included as StudyID 04.	1
STUDY	13	Study Names were generated from the NOAA_DW Scribe database based on the Project Name, Activity, and Vessel. Some onboard data came from NRDA cruises and thus adopted the NRDA StudyID/StudyName. These included: StudyID Fe: Gordon Gunter Cruise 06 AUG 2-8 2010 StudyID R3: Henry Bigelow Cruise 01 JUL 28-AUG 11 2010 StudyID R5: Pisces Cruise 03 AUG 5-14 2010 StudyID R6: Pisces Cruise 04 AUG 18-SEP 2 2010 StudyID R8: Pisces Cruise 05 SEP 8-17 2010 StudyID Ra: Pisces Cruise 06 SEP 25-OCT 4 2010 Some cruises had existing data in NOAA_DW or ESI databases. These data were added to excising studies with OB" added to the study name.	6
STATION	1	Station locations provided in latitude/longitude.	2
STATION	2	Station locations provided in latitude/longitude NAD83 from SCRIBE database.	86
STATION	3	Station locations provided from SCRIBE database.	1
STATION	4	Station locations provided in latitude/longitude NAD83 from SCRIBE database. StationIDs in Query Manager were shortened (100" was removed). Stations without associated bioassay results were removed for this submission.	1
STATION	5	Station locations provided in latitude/longitude from SCRIBE database.	3
STATION	6	Station locations provided in latitude/longitude NAD83 from SCRIBE database. The source of the coordinates were evaluated through the SCRIBE Scrub process (documentation available elsewhere). The final source of the coordinates can be found in the locdesc field.	79
STATION	7	Station locations provided in latitude/longitude. Unique StationIDs were created from unique coordinates. The original Station from SCRIBE was stored in the LocDesc field (without sampling date).	1

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Category	SN_ID	StudyNote by Subject	Cnt
SAMPLES_AND_DUPLICATES	1	Sediment depth metadata from SCRIBE: Samples were collected using the defined USGS protocols. Sediment samples collected for chemical analyses prior to oil spill landfall were collected from the top 4-6 inches of the soil (sediment) and samples collected after oil spill landfall (October 2010 samples) were collected from the top 9-10 inches of the soil (sediment). The depth range for sediment samples was reported as in the SCRIBE database if available; otherwise depths were reported as in the bioassay template (generally 0-23 cm). SCRIBE reported only one depth, this depth was assumed as the lower depth. Pore water samples are stored in the smpwat table with upper/lower depth reported in m from the sediment/water interface. The original Field Sample Identifier is stored in the ExSampID field. Sediment samples were generated using an "S." Water samples were generated using an "W" prefix. Field duplicates were noted with a 'D' at the end of the second pair of the duplicates, and an 'FDUP' as the sample type.	1
SAMPLES_AND_DUPLICATES	2	The original Field Sample Identifier is stored in the ExSampID field. The field FLDSMPID is the SAMP_NO from the bioassay lookup tables. Sediment samples were generated using an "S" prefix except for those taken prior to the spill and analyzed for tox only ("Pre"). Water samples were generated using an "W" prefix. Tarball (prefix = "B") and oil (prefix = "O") were treated in the same way. Matrix code is provided in the sample tables. Field duplicates were noted with a 'D' at the end of the second pair of the duplicates, and an 'FDUP' as the sample type. Upper and lower sediment sample collection depths were adopted from SCRIBE (cm) unless no chemistry data were available, then bioassay depths were used (0-4 cm) for all samples. Sediment, elutriate, and pore water tests are related to samples in the sediment sample table (sample.dbf). Surface water tests are related to samples in the water sample table (smpwat.dbf). The 'smptable' field in the bioassay table is populated with 'S' for results associated with sediment samples, and "W" for results associated with water samples.	1
SAMPLES_AND_DUPLICATES	3	The original Field Sample Identifier is stored in the ExSampID field. Sediment samples were generated using an "S" prefix. Water samples were generated using an "W" prefix. Matrix code is provided in the sample tables. Upper and lower water sample collection depths were adopted from SCRIBE (m).	1
SAMPLES_AND_DUPLICATES	4	The original Field Sample Identifier is stored in the ExSampID field. The field FLDSMPID is the SAMP_NO from the bioassay lookup tables. Sediment samples were generated using an "S" prefix except for those taken prior to the spill and analyzed for tox only ("Pre"). Water samples were generated using an "W" prefix. Tarball (prefix = "B") and oil (prefix = "O") were treated in the same way. Matrix code is provided in the sample tables. Field duplicates were noted with a 'D' at the end of the second pair of the duplicates, and an 'FDUP' as the sample type. Upper and lower sediment sample collection depths were adopted from SCRIBE (cm) unless no chemistry data were available, then bioassay depths were used (0-4 cm) for all samples. Sediment, elutriate, and pore water tests are related to samples in the sediment sample table (sample.dbf). Surface water tests are related to samples in the water sample table (smpwat.dbf). The 'smptable' field in the bioassay table is populated with 'S' for results associated with sediment samples, and "W" for results associated with water samples.	1
SAMPLES_AND_DUPLICATES	5	The depth range for samples was reported as in the SCRIBE database if available. Some depths were assessed based on the sampling plan. The original water sampleIDs included codes of 'SW,' 'IW,' and 'DW' samples that appeared to be surface, intermediate, and deep water. Sample depths were then populated from SCRIBE (in meters) and followed this pattern. Sediment samples were all apparently surface sediment samples. The original Field Sample Identifier is stored in the ExSampID field. Sediment samples were generated using an "S." Water samples were generated using an "W" prefix. Field duplicates were noted with a 'D' at the end of the second pair of the duplicates, and an 'FDUP' as the sample type.	1
SAMPLES_AND_DUPLICATES	6	The original Field Sample Identifier is stored in the ExSampID field. Water samples were generated using an "W" prefix. Matrix code is provided in the sample tables. Field duplicates were noted with a 'D' at the end of the second pair of the duplicates, and an 'FDUP' as the sample type. Upper and lower sediment sample collection depths were adopted from SCRIBE (cm). Notes on sample depths placed in field depthdescr (surface, mid, bottom).	1
SAMPLES_AND_DUPLICATES	7	The original Field Sample Identifier is stored in the ExSampID field. Water samples were generated using an "W" prefix. Matrix code is provided in the sample tables. "	1
SAMPLES_AND_DUPLICATES	8	The original Field Sample Identifier is stored in the ExSampID field. SampleIDs were generated as short version of the original Field sampleID. Water samples are provided with assumed matrix code of whole water (WH). Sediment samples are stored with an assumed matrix of SE (although might be filter pads). Upper and lower sediment sample collection depths were adopted from SCRIBE (cm). Upper and lower water sample collection depths were adopted from SCRIBE (m).	1
SAMPLES_AND_DUPLICATES	9	The original Field Sample Identifier is stored in the ExSampID field. Sediment samples were generated using an "S" prefix. Water samples were generated using an "W" prefix. Tarball (prefix = "B") and oil (prefix = "O") were treated in the same way. Matrix code is provided in the sample tables. Field duplicates were noted with a 'D' at the end of the second pair of the duplicates, and an 'FDUP' as the sample type. Shipboard samples that were not able to be matched to a regular chemistry sample contain the prefix "SHP." Upper and lower sediment sample collection depths (cm) were interpreted from SCRIBE and supplementary reference material. Upper and lower water sample collection depths were (m) interpreted from SCRIBE (cm) and supplementary reference material. The depth values were evaluated through the SCRIBE Scrub process (documentation available elsewhere). The final source of the depth value from SCRIBE can be found in the sample Notes field. Some additional metadata on depths from the data source: The daily deliverable status reports for Ryan Chouest reports a default bottom depth is 3 cm (0.03 m) for all the Ryan Chouest sediment samples; this was applied in the database.	34

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Category	SN_ID	StudyNote by Subject	Cnt
SAMPLES_AND_DUPLICATES	10	The original Field Sample Identifier is stored in the ExSampID field. Sediment samples were generated using an "S" prefix. Water samples were generated using an "W" prefix. Tarball (prefix = "B") and oil (prefix = "O") were treated in the same way. Matrix code is provided in the sample tables. Field duplicates were noted with a 'D' at the end of the second pair of the duplicates, and an 'FDUP' as the sample type. Upper and lower sediment sample collection depths (cm) were interpreted from SCRIBE and supplementary reference material. Upper and lower water sample collection depths were (m) interpreted from SCRIBE (cm) and supplementary reference material. The depth values were evaluated through the SCRIBE Scrub process (documentation available elsewhere). The final source of the depth value from SCRIBE can be found in the sample Notes field. Some additional metadata on depths from the data source: The daily deliverable status reports for Ryan Chouest reports a default bottom depth is 3 cm (0.03 m) for all the Ryan Chouest sediment samples; this was applied in the database.	24
SAMPLES_AND_DUPLICATES	11	The original Field Sample Identifier is stored in the ExSampID field. Source samples were grouped if collected at the same place, date, time, and depth. Sediment samples were generated using an S." Water samples were generated using a "W" prefix. Field duplicates were noted with a 'D' at the end of the second pair of the duplicates and an 'FDUP' as the sample type. Some water samples had the following in the comments: "Targeted Sampling (pore water)..." These samples were classified with a sample matrix of "PW." Pore water samples have an 'F' suffix. Some water samples indicated they were taken from the bottom, middle, or surface; although no depths were available, the SampleID includes a suffix of B, M, or T.	1
SAMPLES_AND_DUPLICATES	12	The original Field Sample Identifier is stored in the ExSampID field. The depth values were evaluated through the SCRIBE Scrub process (documentation available elsewhere).	12
SAMPLES_AND_DUPLICATES	13	The original Field Sample Identifier is stored in the ExSampID field. Sediment samples were generated using an "S" prefix. Water samples were generated using an "W" prefix. Tarball (prefix = "B") and oil (prefix = "O") were treated in the same way. Matrix code is provided in the sample tables. Field duplicates were noted with a 'D' at the end of the second pair of the duplicates, and an 'FDUP' as the sample type. Shipboard samples that were not able to be matched to a regular chemistry sample contain the prefix "SHP" unless there were existing SampleIDs in the database. In this case, the shipboard samples were given a labrep of 1S. Upper and lower sediment sample collection depths (cm) were interpreted from SCRIBE and supplementary reference material. Upper and lower water sample collection depths were (m) interpreted from SCRIBE (cm) and supplementary reference material. The depth values were evaluated through the SCRIBE Scrub process (documentation available elsewhere). The final source of the depth value from SCRIBE can be found in the sample Notes field. Some additional metadata on depths from the data source: The daily deliverable status reports for Ryan Chouest reports a default bottom depth is 3 cm (0.03 m) for all the Ryan Chouest sediment samples; this was applied in the database.	1
SAMPLES_AND_DUPLICATES	14	The original Field Sample Identifier is stored in the ExSampID field. Sediment samples were generated using an S" prefix. Water samples were generated using an "W" prefix. Tarball (prefix = "B") and oil (prefix = "O") were treated in the same way. Matrix code is provided in the sample tables. Field duplicates were noted with a 'D' at the end of the second pair of the duplicates, and an 'FDUP' as the sample type. Upper and lower sediment sample collection depths (cm) were interpreted from SCRIBE and supplementary reference material. Upper and lower water sample collection depths were (m) interpreted from SCRIBE (cm) and supplementary reference material. Tissue samples were reported as 'vegetation' with no additional tissue information available.	84
SAMPLES_AND_DUPLICATES	15	The original Field Sample Identifier is stored in the ExSampID field. Sediment samples were generated using an S" prefix. Water samples were generated using an "W" prefix. Tarball (prefix = "B") and oil (prefix = "O") were treated in the same way. Matrix code is provided in the sample tables. Field duplicates were noted with a 'D' at the end of the second pair of the duplicates, and an 'FDUP' as the sample type. Shipboard samples that were not able to be matched to a regular chemistry sample contain the prefix "SHP." Upper and lower sediment sample collection depths (cm) were interpreted from SCRIBE and supplementary reference material. Upper and lower water sample collection depths were (m) interpreted from SCRIBE (cm) and supplementary reference material. Tissue samples were reported as 'vegetation' with no additional tissue information available.	2
SAMPLES_AND_DUPLICATES	16	The original Field Sample Identifier is stored in the ExSampID field. Sediment samples were generated using an S" prefix. Water samples were generated using an "W" prefix. Tarball (prefix = "B") and oil (prefix = "O") were treated in the same way. Matrix code is provided in the sample tables. Field duplicates were noted with a 'D' at the end of the second pair of the duplicates, and an 'FDUP' as the sample type. One sample was described as 'floc' so coded as F001 (assumed whole water). Upper and lower sediment sample collection depths (cm) were interpreted from SCRIBE and supplementary reference material. Upper and lower water sample collection depths were (m) interpreted from SCRIBE (cm) and supplementary reference material. Tissue samples were reported as 'vegetation' with no additional tissue information available.	1
SAMPLES_AND_DUPLICATES	17	The original Field Sample Identifier is stored in the ExSampID field. If on-board samples could be matched with excising samples, they were assigned the same SampleID, otherwise the samples were assigned with the prefix 'SHP.'" The depth values were evaluated through the SCRIBE Scrub process (documentation available elsewhere).	6
REPLICATES	1	Some analytes were measured by two different methods; these were identified as labreps in the database. Generally methods with better detection limits were assigned labrep 1 as follows: GCM13 labrep = 1 SW8270C labrep = 2	1
REPLICATES	2	Results reported as dissolved have a labrep ending with "F" with a lab basis of "DS." Other replicates were sorted so that non-rejected data get the first labrep; generally methods with lower MDLs were assigned the first labrep.	2
REPLICATES	3	Some analytes were measured by two different methods or otherwise duplicated. These were identified as labreps in the database. Generally methods with better detection limits were assigned labrep 1. Rejected data (and records with undefined qualifier 'X') were given the last labrep. Analytes reported with concentration units were assigned labrep 1, with mass-only units a higher labrep. "	1

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Category	SN_ID	StudyNote by Subject	Cnt
REPLICATES	4	Some analytes were measured using two methods: Analyte name 1, 2, 4-Trichlorobenzene 1, 2-Dichlorobenzene 1, 3-Dichlorobenzene 1, 4-Dichlorobenzene Hexachlorobutadiene Hexachloroethane Naphthalene These were coded as labreps as follows: Lab rep 1 - SW82760B Lab rep 2 = SW8270C "	1
REPLICATES	5	For samples with "RE" in the original SampleID, these records were coded with a labrep of 1R.	1
REPLICATES	6	Some analytes were reported twice for the same sample because of different methods or other reasons. These were treated as labreps in the database. In general, values with lower DLs were coded as labrep 1 (preferred value). Rejected data or data with non-standard reporting units were given lower priority.	59
REPLICATES	7	Some analytes were reported twice for the same sample because of different methods or other reasons. These were treated as labreps in the database. In general, values with lower DLs were coded as labrep 1 (preferred value). Rejected data or data reported in non-standard units (qualified as NSR) were given lower priority. Specific methods selected for labrep assignments: For FRAT, RAT, and Special Request Analytical method SW8270 (labrep 1) SW8270SIM (labrep 2) FRAT, method 8015 had two prep methods: Preparation method BDO 5-192 BDO 5-334 In some cases the DLs were different by several orders of magnitude. Generally BDO5-192 was selected as the first labrep.	87
BIOASSAY_METHODS	1	Sea Urchin Fertilization Toxicity Test as per CERC SOP P.647 and the Sea Urchin Embryological Development Toxicity Test as per CERC SOP P.648. Toxic response in the fertilization test was measured by counting 100 eggs/rep and determining what percentage were fertilized using the presence or absence of a fertilization membrane. Toxic response in the embryological development test was measured by counting 100 embryos/rep and determining what percentage had reached the normal echinopluteus stage of development. Significance was established by comparison of means to a negative pore water reference site from an uncontaminated Texas bay using a minimum significance criteria developed at this lab. Sample means falling below a cut off value of 15.5% reduction in the reference mean for the fertilization test (Series 1 and 2) and 16.4% reduction in the embryological development test (Series 3) were considered significant. The cut off values for the 3 series were as follows: Series 1 PWA = 81.9, P2=82.7, P4=82.9. Series 2 PWA=81.2, P2=82.7, P4=82.6. Series 3 PWA=78.3, P2=78.8, P4=80.1. Salinity-adjusted pore water was reported with TestIDs of PAARPL21048H and PAARPY20001H (salinity-adjusted pore water). As above, pore water was adjusted to 30% salinity. Data provider submitted pore water quality data - only sulfide and ammonia information was included in this data submission. Pore water 'Sulfide (as S-2)' and 'Total Ammonia as Nitrogen' concentrations (in mg/L) were stored in the H2S_PW and UAN_PW fields, respectively, in the sediment sample table (sample.dbf). Bioassay series were given a 2-digit series number used to group each set of samples with the associated negative controls. The negative controls are reported with a SampleID of "Ctrl" followed by the 2-digit series. Bioassay data normality endpoint reported as % normal pluteus, while the replicate endpoint reported as % normal development. These were both coded as % normal development in the QM TestID. "	1
BIOASSAY_METHODS	2	NOTE: A. bahia was coded as Mysidopsis bahia to match the standard species name for the test. Americamysis bahia - EPA-821-R-02-012 (EPA 2002a) - Static-renewal - 96 hours. Menidia beryllina - EPA-821-R-02-012 (EPA 2002a) - Static-renewal - 96 hours. Americamysis bahia - EPA-821-R-02-014 (EPA 2002b) - Static-renewal - 7 days. Menidia beryllina - EPA-821-R-02-014 (EPA 2002b) - 7 days. Arbacia punctulata - EPA-821-R-02-014 (EPA 2002b) - 48-96 h (test duration is based on the time necessary for 70% of control embryos to develop to the pluteus stage. 72 ± 2 h (optimal)). (Test length reported as 120 minutes). Neanthes arenaceodentata - EPA-600-R094-025 (EPA 1994) - Static, non-renewal - 10-days. Leptocheirus plumulosus - EPA-600-R094-025 (EPA 1994) - Static non-renewal - 10-days. Notes from data provider: ToxStat software used for statistics; all controls met acceptance criteria. Americamysis bahia was coded as Mysidopsis bahia in the database. The reproduction endpoint did not include replicate data. Bioassay series were given a 2-digit series number used to group each set of samples with the associated negative controls. The negative controls are reported with a SampleID of "Ctrl" followed by the 2-digit series.	1

## Appendix H: Response Study Notes

Category	SN_ID	StudyNote by Subject	Cnt
BIOASSAY_METHODS	3	<p>Sediment toxicity test results were provided for the following test species and endpoints: 10-d <i>Leptocheirus plumulosus</i> survival and reburial (life history stage - 2-4 mm) 48-h <i>Mysidopsis bahia</i> survival (life history stage - 4 to 5 days) 10-d <i>Neanthes arenaceodentata</i> survival (life history stage - 2-3 weeks post-emergence) Surface water toxicity test results were provided for the following test species and endpoints: 96-h and 7-d <i>Americamysis bahia</i> survival, growth and biomass (life history stage - Juvenile; dilution series - LC50, NOEC and LOEC calculated). NOTE: A. bahia was coded as <i>Mysidopsis bahia</i> to match the standard species name for the test. 48-h <i>Crassostrea gigas</i> survival and development (life history stage - larvae; dilution series - EC50, LC50, NOEC and LOEC calculated) 7-d <i>Menidia beryllina</i> survival, growth and biomass (life history stage - larvae; dilution series - LC50, NOEC and LOEC calculated) 96-h <i>Menidia beryllina</i> survival (life history stage - juvenile) 48-h <i>Mytilus galloprovincialis</i> survival and development (life history stage - larvae; dilution series - EC50, LC50, NOEC and LOEC calculated) 7-d <i>Cyprinodon variegatus</i> survival NOTE: A. bahia was coded as <i>Mysidopsis bahia</i> to match the standard species name for the test. Sediment tests followed guidance given in Standard Test Method for Measuring the Toxicity of Sediment-Associated Contaminants with Estuarine and Marine Invertebrates (ASTM E 1367-03) and PBS&amp;J Standard Operating Procedures No. 4026 and 4041. Experimental Design - The tests were static (non-renewal) exposures. Five replicate treatments were established for each sediment; each test container received 20 amphipods or 10 mysids. The tests containers were aerated (-60 bubbles/min") throughout the test and covered to minimize evaporative loss and salinity increase. Temperature, pH, and salinity were measured daily. The amphipods were not fed during the tests. The mysids, however, were fed (morning and afternoon) newly-hatched brine shrimp to reduce cannibalism. The tests were terminated after two days for the mysids tests or ten days for the amphipod tests. The sediment was wet-sieved (0.5-mm screen) to remove surviving organisms. The mysids or amphipods were counted and discarded. Statistical analysis was conducted using survival data to determine if results for the test sediments were significantly different from the results of the control group(s). Statistical analyses were conducted at a 95% confidence level (<math>\alpha=0.05</math>), using CETIS™v1.8.0.4 (Tidepool Scientific Software). The data were examined for equality of variance and normal distribution using the Bartlett test and the Shapiro-Wilk test, respectively. After analysis of variance (ANOVA), test group comparisons were performed using Dunnett's Multiple Comparisons test or Steel's Many-One Rank Test. Pore Water and Overlying Water Quality Characteristics - The greatest pore water NH3-N concentration (16.1 mg/L, in T58061-9/T001-2350-1 00813-SD-1) was well-below the application limit of &lt;60 mg/L (as total NH3-N) recommended by the USEPA (1994); thus, confounding effects on tests results due to the presence of NH3-N are believed to be minimal. NH3-N concentrations in the overlying waters generally increased as the tests progressed, reaching a maximum just beyond the test mid-point or near the end of the test. The original data file included results for reference toxicant testing - this information was not included in the Query Manager database. The following Samples and toxicity tests were missing a replicate due to laboratory error: Station Sample Toxicity Test 2327-802 T005W 7-day A. Bahia (100% test solution) 1336-803 T005WD 48-h C. Gigas (50% test solution) 1333-804 T005W 7-day M. Beryllina (100% test solution) 0043-826 T008W 48-h M. Galloprovincialis (25% test solution) EC50 and LC50 results reported as &gt;100 were entered as 100 in Query Manager. Bioassay series were given a 2-digit series number used to group each set of samples with the associated negative controls. The negative controls are reported with a SampleID of "Ctrl" followed by the 2-digit series. In this update new data and endpoints were added : 1. Pre-Impact toxicity data. The pre-impact tox data includes sediment samples only. Species include <i>Leptocheirus</i> and <i>Mysid</i>. Endpoint is survival only 2. Additional endpoints for bivalves, chronic mysid, and chronic menidia were added. Bivalves include development, NOEC - development, LOEC - development; EC50; and LOEC - survival. Mysid and menidia include growth; biomass; LOEC - survival; LC50 - biomass; NOEC - biomass; and LOEC - biomass. Biomass is a combined survival and growth endpoint. This number is calculated by the total weight of the organisms divided by the number of original organisms exposed. "</p>	1
BIOASSAY_METHODS	4	<p>These notes were compiled for all of BP bioassay data (studyIDs EX, EY, FL, FO, GJ). <i>Leptocheirus plumulosus</i> 96-h (growth and survival), <i>Leptocheirus plumulosus</i> 10-d (growth and survival). The life history stage was reported as 2-4 mm amphipods, and coded as &lt;6 mm. <i>Mysidopsis bahia</i> 96-h (growth and survival), <i>Mysidopsis bahia</i> 10-d (growth and survival). The life history stage was reported as Juvenile (4-6 day), and coded as Juvenile. <i>Menidia beryllina</i> 96-h (survival). The life history stage was reported as Juvenile (9-14 day), and coded as Juvenile. <i>Farfantepanæus duorarum</i> 7-day survival. The life history stage was reported as Juvenile (20-40 day), and coded as Juvenile. ToxCalc version 5 was used by the labs to determine significance, as well as estimate the EC or LC 50 values. Note that endpoints that indicate a 'Growth (weight) species combination' or 'Percent survival species combination' indicate test methods where the toxicity test combined sediment-dwelling species (<i>Leptocheirus plumulosus</i>) and a water-column species (<i>Mysidopsis bahia</i>) in the same chamber. The matrix reported for the <i>Mysidopsis bahia</i> test is an elutriate (EL code), although it was confirmed that the water in the test chamber was site water, not a prepared elutriate. Algae (species = <i>Dunaliella tertiolecta</i>; <i>Skeletonema costatum</i>) Test reports results from algal cells from culture showing log-phase growth. Bioassay summary data for % inhibition were reported already control-normalized and stored in the ctrladj field (-9 in the EffectVal field). Replicate data for raw cell count data are also included. The relationship between the growth rate in the control during the study relative to the growth rate in the exposure concentrations that is important since we are interested in both the rate of growth as well as the end cell count. Sediment and elutriate tests reported a 0% dilution are coded as negative controls following the sample-naming scheme above. Bioassay series were given a 2-digit series number used to group each set of samples with the associated negative controls. The negative controls are reported with a SampleID of "Ctrl" followed by the 2-digit series. The original series identifier was not unique to a Bioassay Test ("TestID") with a single negative control. New series identifiers were provided that grouped a set of samples with it's associated negative control, including the multiple dilutions. A summary of the Original Series and the 2-digit shorted series is included below. "</p>	5
QUALIFIERS	1	Qualifiers were defined as received from SCRIBE, some remain undefined. The original qualifier "<" was changed to "U." Data reported as below detection were reported at the Detection Limit unless no DL was reported, then the RL was used for the default concentration.	2
QUALIFIERS	2	Qualifiers were defined as received from SCRIBE, some remain undefined.	1



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QUALIFIERS	3	<p>The original database included a laboratory qualifier and final qualifier field. Here is how the final qualifiers were assigned: 1. All non-validated data had nothing in the final qualifier field, so the lab qualifier was used for qualcode. 2. Validated data used the final qualifier for the qualcode field. 3. If there was a qualifier in the lab qual and nothing in the validator qual, generally the lab qual was used as the final qual. 4. Added NSR for non-standard reporting units (mg, ug). Qualifiers were defined as received in the file Qualifier Definitions 21 NOV.xlsx, some remain undefined. Data reported in mass units only (ug, mg) were qualified with the qualifier of NSR (non-standard reporting unit). SOURCE METADATA: The R/V Brooks McCall departed from Port Fourchon, LA on July 16, 2010 to collect data and track subsurface oil plume signals in the Gulf of Mexico, Mississippi Canyon. Water column profiles were obtained from a CTD associated with water sampling. These profiles of physical oceanographic data included temperature, depth, dissolved oxygen, fluorescence, and salinity. Water column samples were collected for Total Petroleum Hydrocarbons analysis (TPH) and Volatile Organics Analysis (VOA), and dissolved oxygen (DO) of samples was measured by handheld probe. Rototoxicology and LISST (Laser In-Situ Scattering and Transmissometry) analyses were also conducted on water samples for the detection and delineation of the dispersed oil plume. The collection includes operational documents, which may include some or all of the following: cruise plans, daily reports, final reports, operational photographs and products developed during the cruise to guide operational decisions. Products may include geospatial data files, maps, charts and/or data plots or graphs. Some of the datasets associated with this cruise are still in process and will be published as they become available. SAMPLE LOCATION. Sampling stations were discrete locations where environmental or biological data were collected. Positional data including latitude and longitude was collected in decimal degrees. Bottom depth was recorded for each sampling station in meters. Data was acquired through shipboard navigation systems or scientific instrumentation (eg. CTD). CTD COLLECTION. CTD instrument packages (Conductivity, Temperature and Depth) were deployed overboard at sampling stations and raised and lowered to create a profile of environmental variables throughout the water column. Variables recorded included fluorescence, salinity (conductivity), dissolved oxygen, temperature, and depth. CTD instrumentation on this cruise was deployed on a water sampling rosette.  WATER SAMPLING AND ANALYSIS. Water was collected at multiple depths using Niskin bottles or various surface collection methods. Water samples were either preserved for onshore analysis or analyzed at sea using shipboard instrumentation. Samples were collected for onshore analysis of Total Petroleum Hydrocarbons (TPH) and Volatile Organics (VOA). Dissolved Oxygen (DO) of water samples was measured on-board using a handheld probe.  LISST (Laser In-Situ Scattering and Transmissometry) SAMPLING. The LISST instrument was used for shipboard analysis of the concentration, size and distribution of particles suspended in water samples. Particles measured by LISST can include sediment, oil droplets, other contaminants, and plankton. On this cruise, water samples were collected from different depths and analyzed on-board with the LISST coupled with a fixed wavelength fluorometer.  GIS DATA PRODUCTS. Spatial information was compiled to create a variety of products.  TOXICOLOGY SAMPLING. Toxicology sampling included rototoxicity assessments using water collected at various depths. Some assessments were conducted on-board and some were completed onshore.  AIR QUALITY SAMPLING AND ANALYSIS. Air quality data was collected at multiple times using handheld instrumentation to measure the amount of airborne Volatile Organic Compounds (VOC) present. Readings were logged regularly when science staff were working on deck to ensure safe working conditions."</p>	1
QUALIFIERS	4	<p>The original database included a laboratory qualifier and final qualifier field. Here is how the final qualifiers were assigned: 1. All non-validated data had nothing in the final qualifier field, so the lab qualifier was used for qualcode. 2. Validated data used the final qualifier for the qualcode field. 3. If there was a qualifier in the lab qual and nothing in the validator qual, generally the lab qual was used as the final qual. 4. Added NSR for non-standard reporting units (mg, ug). Qualifiers were defined as received in the file Qualifier Definitions 21 NOV.xlsx, some remain undefined. Data reported in mass units only (ug, mg) were qualified with the qualifier of NSR (non-standard reporting unit). SOURCE METADATA: The R/V Ferrel departed from Amelia, LA on July 15, 2010 to collect data in the Gulf of Mexico, Mississippi Canyon. Fluorescence data was collected for the detection and delineation of the dispersed oil plume. Total Polycyclic Aromatic Hydrocarbons (PAH), Volatile Organic Analysis (VOA), and Dissolved oxygen data were collected for water column sampling. Physical oceanographic data collected were Conductivity, Temperature, and Depth (CTD). In addition to the physical oceanographic data, samples were also taken to perform microbiological analysis to include Genomics, Transcriptomics, Proteomics, AODC (acridine orange direct count) Cell Count, Nutrient Analysis, Stable Isotope, PLFA (phospholipid fatty acid) &amp; Cell Culturing. After the cruise, the Ferrel returned to port at Theodore, AL on July 20, 2010. The collection includes operational documents, which may include some or all of the following: cruise plans, daily reports, final reports, operational photographs and products developed during the cruise to guide operational decisions. Products may include geospatial data files, maps, charts and/or data plots or graphs. Some of the datasets associated with this cruise are still in process and will be published as they become available. SAMPLE LOCATION. Sampling stations were discrete locations where environmental or biological data were collected. Positional data including latitude, longitude was collected in decimal degrees. Bottom depth was recorded for each sampling station in meters. Data was acquired through shipboard navigation systems or scientific instrumentation (eg. CTD).  CTD COLLECTION. CTD instrument packages (conductivity, temperature and depth) were deployed overboard at sampling stations and raised and lowered to create a profile of environmental variables throughout the water column. Variables recorded included fluorescence, salinity (conductivity), turbidity, density, temperature, and depth.  WATER SAMPLING AND ANALYSIS. Water was collected at multiple depths using Niskin or Go-Flo bottles or various surface collection methods. Water samples were either preserved for onshore analysis or analyzed at sea using shipboard instrumentation. Samples collected on this cruise included VOA (40mL), TPH (1L), BTEX, PAH, microbiology samples and BOD Winkler Titration."</p>	1

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QUALIFIERS	5	<p>The original database included a laboratory qualifier and final qualifier field. Here is how the final qualifiers were assigned: 1. All non-validated data had nothing in the final qualifier field, so the lab qualifier was used for qualcode. 2. Validated data used the final qualifier for the qualcode field. 3. If there was a qualifier in the lab qual and nothing in the validator qual, generally the lab qual was used as the final qual. 4. Added NSR for non-standard reporting units (mg, ug). Qualifiers were defined as received in the file Qualifier Definitions 21 NOV.xlsx, some remain undefined. Data reported in mass units only (ug, mg) were qualified with the qualifier of NSR (non-standard reporting unit). SOURCE METADATA: The R/V Ocean Veritas departed from Port Fourchon, LA on June 01, 2010 to collect data in the Gulf of Mexico, Mississippi Canyon and returned to Port Fourchon, LA on June 05, 2010. The data collection was part of the coordinated response to the Deepwater Horizon incident. LISST, Fluorescence, and Rotox data was collected for the detection and delineation of the dispersed oil plume. Total Petroleum Hydrocarbon and Dissolved oxygen data was collected for water column sampling. Physical oceanographic data collected was Conductivity, Temperature, and Depth (CTD). The collection includes operational documents, which may include some or all of the following: cruise plans, daily reports, final reports, operational photographs and products developed during the cruise to guide operational decisions. Products may include geospatial data files, maps, charts and/or data plots or graphs. Some of the datasets associated with this cruise are still in process and will be published as they become available. SAMPLE LOCATION. Sampling stations were discrete locations where environmental or biological data were collected. Positional data including latitude, longitude was collected in decimal degrees. Bottom depth was recorded for each sampling station in meters. Data was acquired through shipboard navigation systems or scientific instrumentation (eg. CTD). CTD COLLECTION. CTD instrument packages(conductivity, temperature and depth) were deployed overboard at sampling stations and raised and lowered to create a profile of environmental variables throughout the water column. Variables recorded included fluorescence, salinity (conductivity), turbidity, density, temperature, and depth. WATER SAMPLING AND ANALYSIS. Water was collected at multiple depths using Niskin or Go-Flo bottles or various surface collection methods. Water samples were either preserved for onshore analysis or analyzed at sea using shipboard instrumentation. Samples collected on this cruise included Volatile Organic Compounds (VOA 40ml) and Total Petroleum Hydrocarbon (TPH 1L). LISST (Laser In-Situ Scattering and Transmissometry) SAMPLING. LISST instruments were used for either shipboard analysis of water samples or deployed overboard. LISST is utilized for the analysis of size and distribution of particles suspended in water. GIS DATA PRODUCTS. Spatial information was compiled to create a variety of products. TOXICOLOGY SAMPLING. Toxicology sampling included rototoxicity and microtoxicity assessments using water collected at various depths. Some assessments were conducted onboard and some were completed onshore. Rototoxicology samples were collected on this cruise. VIDEO AND PHOTOGRAPHY. Surface and subsurface video and photography were taken for visual assessment for environmental and biological conditions."</p>	1
QUALIFIERS	6	<p>The original database included a laboratory qualifier and final qualifier field. Here is how the final qualifiers were assigned: 1. All non-validated data had nothing in the final qualifier field, so the lab qualifier was used for qualcode. 2. Validated data used the final qualifier for the qualcode field. 3. If there was a qualifier in the lab qual and nothing in the validator qual, generally the lab qual was used as the final qual. 4. Added NSR for non-standard reporting units (mg, ug). Qualifiers were defined as received in the file Qualifier Definitions 21 NOV.xlsx, some remain undefined. Data reported in mass units only (ug, mg) were qualified with the qualifier of NSR (non-standard reporting unit). SOURCE METADATA: The R/V Brooks McCall departed from Port Fourchon, LA on July 28, 2010 to collect data and track subsurface oil plume signals in the Gulf of Mexico, Mississippi Canyon. This cruise focused on sampling in the vicinity of the wellhead to determine if any subsurface oil was present following the capping of the well. One purpose of this cruise was to collect data in accordance with Dispersant Monitoring and Assessment Directive - Addendum 4, including the collection and on-board analysis of dissolved oxygen samples from a range of depths. Water column profiles were obtained from a CTD associated with water sampling. These profiles of physical oceanographic data included temperature, depth, dissolved oxygen (DO), fluorescence, and salinity. Water column samples were collected for Total Petroleum Hydrocarbons analysis (TPH) and Volatile Organics Analysis (VOA). Dissolved oxygen analyses were conducted on water samples using automated Hach-modified Winkler titration and handheld probes. Rototoxicology and LISST (Laser In-Situ Scattering and Transmissometry) analyses were also conducted on water samples for the detection and delineation of the dispersed oil plume. The collection includes operational documents, which may include some or all of the following: cruise plans, daily reports, final reports, operational photographs and products developed during the cruise to guide operational decisions. Products may include geospatial data files, maps, charts and/or data plots or graphs. Some of the datasets associated with this cruise are still in process and will be published as they become available. SAMPLE LOCATION. Sampling stations were discrete locations where environmental or biological data were collected. Positional data including latitude and longitude was collected in decimal degrees. Bottom depth was recorded for each sampling station in meters. Data was acquired through shipboard navigation systems or scientific instrumentation (eg. CTD). CTD COLLECTION. CTD instrument packages (Conductivity, Temperature and Depth) were deployed overboard at sampling stations and raised and lowered to create a profile of environmental variables throughout the water column. Variables recorded included fluorescence, salinity (conductivity), dissolved oxygen, temperature, and depth. CTD instrumentation on this cruise was deployed on a water sampling rosette. WATER SAMPLING AND ANALYSIS. Water was collected at multiple depths using Niskin bottles or various surface collection methods. Water samples were either preserved for onshore analysis or analyzed at sea using shipboard instrumentation. Samples were collected for onshore analysis of Total Petroleum Hydrocarbons (TPH) and Volatile Organics (VOA). On-board analysis of dissolved oxygen from water samples was conducted using Hach-modified Winkler titration and additional handheld probes. LISST (Laser In-Situ Scattering and Transmissometry) SAMPLING. The LISST instrument was used for shipboard analysis of the concentration, size and distribution of particles suspended in water samples. Particles measured by LISST can include sediment, oil droplets, other contaminants, and plankton. On this cruise, water samples were collected from different depths and analyzed on-board with the LISST coupled with a fixed wavelength fluorometer. GIS DATA PRODUCTS. Spatial information was compiled to create a variety of products. TOXICOLOGY SAMPLING. Toxicology sampling included rototoxicity assessments using water collected at various depths. Some assessments were conducted on-board and some were completed onshore. AIR QUALITY SAMPLING AND ANALYSIS. Air quality data was collected at multiple times using handheld instrumentation to measure the amount of airborne Volatile Organic Compounds (VOC) present. Readings were logged regularly when science staff were working on deck to ensure safe working conditions."</p>	1

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QUALIFIERS	7	<p>The original database included a laboratory qualifier and final qualifier field. Here is how the final qualifiers were assigned: 1. All non-validated data had nothing in the final qualifier field, so the lab qualifier was used for qualcode. 2. Validated data used the final qualifier for the qualcode field. 3. If there was a qualifier in the lab qual and nothing in the validator qual, generally the lab qual was used as the final qual. 4. Added NSR for non-standard reporting units (mg, ug). Qualifiers were defined as received in the file Qualifier Definitions 21 NOV.xlsx, some remain undefined. Data reported in mass units only (ug, mg) were qualified with the qualifier of NSR (non-standard reporting unit). SOURCE METADATA: The R/V Ocean Veritas departed from Port Fourchon, LA on September 03, 2010 to collect data in the Gulf of Mexico, Mississippi Canyon and returned to Port Fourchon, LA on September 07, 2010. The data collection was part of the coordinated response to the Deepwater Horizon incident. Fluorescence data was collected for the detection and delineation of the dispersed oil plume. Total Petroleum Hydrocarbon and Dissolved oxygen data was collected for water column sampling. Physical oceanographic data collected was Conductivity, Temperature, and Depth (CTD). The collection includes operational documents, which may include some or all of the following: cruise plans, daily reports, final reports, operational photographs and products developed during the cruise to guide operational decisions. Products may include geospatial data files, maps, charts and/or data plots or graphs. Some of the datasets associated with this cruise are still in process and will be published as they become available. SAMPLE LOCATION. Sampling stations were discrete locations where environmental or biological data were collected. Positional data including latitude, longitude was collected in decimal degrees. Bottom depth was recorded for each sampling station in meters. Data was acquired through shipboard navigation systems or scientific instrumentation (eg. CTD). CTD COLLECTION. CTD instrument packages(conductivity, temperature and depth) were deployed overboard at sampling stations and raised and lowered to create a profile of environmental variables throughout the water column. Variables recorded included fluorescence, salinity (conductivity), turbidity, density, temperature, and depth. WATER SAMPLING AND ANALYSIS. Water was collected at multiple depths using Niskin bottles. Water samples were preserved for onshore analysis. Samples collected on this cruise included Volatile Organic Compounds (VOA 40ml), Total Petroleum Hydrocarbon (TPH 1L), and Dissolved Oxygen (DO). LISST (Laser In-Situ Scattering and Transmissometry) SAMPLING. LISST instruments were used for either shipboard analysis of water samples or deployed overboard. LISST is utilized for the analysis of size and distribution of particles suspended in water. GIS DATA PRODUCTS. Spatial information was compiled to create a variety of products. TOXICOLOGY SAMPLING. Toxicology sampling included rototoxicity and microtoxicity assessments using water collected at various depths. Some assessments were conducted onboard and some were completed onshore. Rototoxicology (Tox 8oz) samples were collected on this cruise and were processed underway."</p>	1
QUALIFIERS	8	<p>The original database included a laboratory qualifier and final qualifier field. Here is how the final qualifiers were assigned: 1. All non-validated data had nothing in the final qualifier field, so the lab qualifier was used for qualcode. 2. Validated data used the final qualifier for the qualcode field. 3. If there was a qualifier in the lab qual and nothing in the validator qual, generally the lab qual was used as the final qual. 4. Added NSR for non-standard reporting units (mg, ug). Qualifiers were defined as received in the file Qualifier Definitions 21 NOV.xlsx, some remain undefined. Data reported in mass units only (ug, mg) were qualified with the qualifier of NSR (non-standard reporting unit). SOURCE METADATA: The R/V Ferrel departed from Theodore, AL on July 25, 2010 to collect data in the Gulf of Mexico, Mississippi Canyon. Fluorescence data was collected for the detection and delineation of the dispersed oil plume. Total Polycyclic Aromatic Hydrocarbons (PAH), Volatile Organic Analysis (VOA), and Dissolved oxygen data was collected for water column sampling. Physical oceanographic data collected were Conductivity, Temperature, and Depth (CTD). In addition to the physical oceanographic data, samples were also taken to perform microbiological analysis to include Genomics, Transcriptomics, Proteomics, AODC (acridine orange direct count) Cell Count, Nutrient Analysis, Stable Isotope, PLFA (phospholipid fatty acid) &amp; Cell Culturing. After the cruise, the Ferrel returned to port at Port Fourchon, LA on July 30, 2010. The collection includes operational documents, which may include some or all of the following: cruise plans, daily reports, final reports, operational photographs and products developed during the cruise to guide operational decisions. Products may include geospatial data files, maps, charts and/or data plots or graphs. Some of the datasets associated with this cruise are still in process and will be published as they become available. SAMPLE LOCATION. Sampling stations were discrete locations where environmental or biological data were collected. Positional data including latitude, longitude was collected in decimal degrees. Bottom depth was recorded for each sampling station in meters. Data was acquired through shipboard navigation systems or scientific instrumentation (eg. CTD). CTD COLLECTION. CTD instrument packages(conductivity, temperature and depth) were deployed overboard at sampling stations and raised and lowered to create a profile of environmental variables throughout the water column. Variables recorded included fluorescence, salinity (conductivity), turbidity, density, temperature, and depth. WATER SAMPLING AND ANALYSIS. Water was collected at multiple depths using Niskin or Go-Flo bottles or various surface collection methods. Water samples were either preserved for onshore analysis or analyzed at sea using shipboard instrumentation. Samples collected on this cruise included VOA (40mL), TPH (1L), microbiology samples, and BOD Winkler Titration."</p>	1

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QUALIFIERS	9	<p>The original database included a laboratory qualifier and final qualifier field. Here is how the final qualifiers were assigned: 1. All non-validated data had nothing in the final qualifier field, so the lab qualifier was used for qualcode. 2. Validated data used the final qualifier for the qualcode field. 3. If there was a qualifier in the lab qual and nothing in the validator qual, generally the lab qual was used as the final qual. 4. Added NSR for non-standard reporting units (mg, ug). Qualifiers were defined as received in the file Qualifier Definitions 21 NOV.xlsx, some remain undefined. Data reported in mass units only (ug, mg) were qualified with the qualifier of NSR (non-standard reporting unit). SOURCE METADATA: The R/V Gyre departed from Port Fourchon, LA on September 19, 2010 to collect data in the Gulf of Mexico, Mississippi Canyon. The data collection was part of the coordinated response to the Deepwater Horizon incident. The Gyre used a megacorer to collect sediment from the ocean floor, focusing primarily on the top 10 cm of sediment and the sediment supernatant water interface. The megacorer was designed to collect 12 core samples at each site and each core was used for a different type of analysis. One core from each site was used for visual analysis which consisted of four strategic photographs. To reduce error core assignments for each analysis were chosen at random using a random number generator. Onboard analyses conducted on the sediment cores consisted of gas chromatography (GC) analysis including, MDL_PAH, MDL_DPnB, acenaphylene, flourene, pyrene etc., and microtox acute toxicity (%effect). Samples collected and prepared for onshore analysis associated with this platform mission include meiofauna, macrofauna, microbiological analysis, total organic carbon, total inorganic carbon, hydrocarbons, trace metals, benzene, toluene, ethylbenzene, and xylene (BTEX), and grain size analysis. Physical oceanographic data also collected were conductivity, temperature, and depth (CTD). Some of the datasets associated with this cruise are still in process and will be published as they become available. SAMPLE LOCATION. Sampling stations were discrete locations where environmental or biological data were collected. Positional data including latitude, longitude was collected in decimal degrees. Bottom depth was recorded for each sampling station in meters. Data was acquired through shipboard navigation systems or scientific instrumentation (eg. CTD). CTD COLLECTION. CTD instrument packages(conductivity, temperature and depth) were deployed overboard at sampling stations and raised and lowered to create a profile of environmental variables throughout the water column. Variables recorded included flourescence, salinity (conductivity), turbidity, density, temperature, and depth. GIS DATA PRODUCTS. Spatial information was compiled to create a variety of products. SEDIMENT SAMPLING. Sediment samples were collected from the seafloor in the form of cores or grab samples. Samples were preserved for onshore analysis or analyzed at sea using shipboard instrumentation. Samples collected on this cruise included microtox, macrofauna, meiofauna, BTEX, Heavy Metals, Hydrocarbon, and grainsize TOXICOLOGY SAMPLING. Toxicology sampling included microtoxicity assessments using water collected at various depths. Some assessments were conducted onboard and some were completed onshore. Microtoxicity % effect was analysed onboard the Gyre."</p>	1
QUALIFIERS	10	<p>The original database included a laboratory qualifier and final qualifier field. Here is how the final qualifiers were assigned: 1. All non-validated data had nothing in the final qualifier field, so the lab qualifier was used for qualcode. 2. Validated data used the final qualifier for the qualcode field. 3. If there was a qualifier in the lab qual and nothing in the validator qual, generally the lab qual was used as the final qual. 4. Added NSR for non-standard reporting units (mg, ug). Qualifiers were defined as received in the file Qualifier Definitions 21 NOV.xlsx, some remain undefined. Data reported in mass units only (ug, mg) were qualified with the qualifier of NSR (non-standard reporting unit). SOURCE METADATA: The M/V Jack Fitz departed from Golden Meadow, LA on August 17, 2010 to collect data in the Gulf of Mexico, Mississippi Canyon. CDOM and Chlorophyll-a Fluorescence data was collected for the detection and delineation of the dispersed oil plume. Total Polycyclic Aromatic Hydrocarbons (PAH), as Total Petroleum Hydrocarbons (TPH_1L), Total Suspended Solids (TSS), Dispersants, Volatile Organic Analysis (VOA), and Dissolved oxygen (DO) data was collected for water column sampling. Physical oceanographic data collected included Conductivity, Temperature, and Depth (CTD), Density, Turbidity, Salinity, and current data from an Acoustic Doppler Current Profiler (ADCP). Visual data from a remotely operated vehicle (ROV) was also collected. Some of the datasets associated with this cruise are still in process and will be published as they become available. SAMPLE LOCATION. Sampling stations were discrete locations where environmental or biological data were collected. Positional data including latitude, longitude was collected in decimal degrees. Bottom depth was recorded for each sampling station in meters. Data was acquired through shipboard navigation systems or scientific instrumentation (eg. CTD). CTD COLLECTION. CTD instrument packages(conductivity, temperature and depth) were deployed overboard at sampling stations and raised and lowered to create a profile of environmental variables throughout the water column. Variables recorded included flourescence, salinity (conductivity), turbidity, density, temperature, and depth. WATER SAMPLING AND ANALYSIS. Water was collected at multiple depths using Niskin or Go-Flo bottles or various surface collection methods. Water samples were either preserved for onshore analysis or analyzed at sea using shipboard instrumentation. Samples collected on this cruise included TSS (total suspended solids), VOA (volatile organics analysis), PAH (polycyclic aromatic hydrocarbons), and dispersant. VIDEO AND PHOTOGRAPHY. Surface and subsurface video and photography were taken for visual assessment for environmental and biological conditions."</p>	1

Category	SN_ID	StudyNote by Subject	Cnt
QUALIFIERS	11	<p>The original database included a laboratory qualifier and final qualifier field. Here is how the final qualifiers were assigned: 1. All non-validated data had nothing in the final qualifier field, so the lab qualifier was used for qualcode. 2. Validated data used the final qualifier for the qualcode field. 3. If there was a qualifier in the lab qual and nothing in the validator qual, generally the lab qual was used as the final qual. 4. Added NSR for non-standard reporting units (mg, ug). Qualifiers were defined as received in the file Qualifier Definitions 21 NOV.xlsx, some remain undefined. Data reported in mass units only (ug, mg) were qualified with the qualifier of NSR (non-standard reporting unit). SOURCE METADATA: The M/V Bunny Bordelon departed from Houma, LA on August 17, 2010 and returned to Port Fourchon, LA on August 24, 2010 to collect data in the Gulf of Mexico, Mississippi Canyon. Fluorometer data was collected, along with video from a remotely operated vehicle (ROV) for the detection and delineation of the dispersed oil plume. Total suspended solid (TSS), volatile organic analysis (VOA), dispersant (DISP), and hydrocarbon (HC) data was collected for water column sampling. Physical oceanographic data collected was Conductivity, Temperature, and Depth (CTD). Some of the datasets associated with this cruise are still in process and will be published as they become available. SAMPLE LOCATION. Sampling stations were discrete locations where environmental or biological data were collected. Positional data including latitude, longitude was collected in decimal degrees. Bottom depth was recorded for each sampling station in meters. Data was acquired through shipboard navigation systems or scientific instrumentation (eg. CTD). CTD COLLECTION. CTD instrument packages (conductivity, temperature, and depth) were deployed overboard at sampling stations and raised and lowered to create a profile of environmental variables throughout the water column. Variables recorded included fluorescence, salinity (conductivity), turbidity, density, temperature, and depth. WATER SAMPLING AND ANALYSIS. Water was collected at multiple depths using Go-Flo bottles or various surface collection methods. Water samples were preserved for onshore analysis. Samples collected on this cruise included Total Suspended Solids (TSS_1L), Hydrocarbon analysis (HC_1L), Volatile Organic Analysis (VOA_40ml), and Dispersant analysis (DISP_20ml). VIDEO AND PHOTOGRAPHY. Subsurface video was taken for visual assessment for environmental and biological conditions by using a remotely operated vehicle (ROV)."</p>	1
QUALIFIERS	12	<p>The original database included a laboratory qualifier and final qualifier field. Here is how the final qualifiers were assigned: 1. All non-validated data had nothing in the final qualifier field, so the lab qualifier was used for qualcode. 2. Validated data used the final qualifier for the qualcode field. 3. If there was a qualifier in the lab qual and nothing in the validator qual, generally the lab qual was used as the final qual. 4. Added NSR for non-standard reporting units (mg, ug). Qualifiers were defined as received in the file Qualifier Definitions 21 NOV.xlsx, some remain undefined. Data reported in mass units only (ug, mg) were qualified with the qualifier of NSR (non-standard reporting unit). SOURCE METADATA: The M/V Ryan Chouest departed from the Port of Mobile Bay, AL on September 15, 2010 and completed the Cruise in the Port of Mobile Bay, AL September 22, 2010. The purpose of Cruises 16 was to chemically characterize the hydrocarbons being emitted at previously identified seafloor hydrocarbon seeps. Subsequent comparison with hydrocarbons present in water and sediment samples would help determine whether or not their presence was natural.A CTD (conductivity, temperature, and depth) unit mounted on a rosette with 12 GoFlo bottles was deployed to collect water samples at discrete depths. Physical oceanographic data was collected for dissolved oxygen as well as conductivity, temperature, and depth. Methane and PAH (polycyclic aromatic hydrocarbons) fluorometers were utilized to detect the presence hydrocarbons in water. The EK60 echo-sounder instrument continuously recorded acoustic data to obtain water column and seafloor bathymetry and oil seep locations. Datasets collected included daily GIS tracts stored in shapefile format containing GPS positional information and fluorometer response data. A CTD instrument collected conductivity, temperature, depth and dissolved oxygen measurements with each cast. Raw acoustic data was collected continuously and stored on the shipboard computer. Photo-documentation and GPS data points were collected when oil was observed throughout the cruise. Wildlife was also photographed when observed and the location was recorded with GPS. The collection includes operational documents, which may include some or all of the following: cruise plans, daily reports, final reports, operational photographs and products developed during the cruise to guide operational decisions. Products may include geospatial data files, maps, charts and/or data plots or graphs. Some of the datasets associated with this cruise are still in process and will be published as they become available. SAMPLE LOCATION. Sampling stations were discrete locations where environmental or biological data were collected. Positional data including latitude, longitude was collected in decimal degrees. Bottom depth was recorded for each sampling station in meters. Data was acquired through shipboard navigation systems or scientific instrumentation (eg. CTD). CTD COLLECTION. CTD instrument packages (conductivity, temperature and depth) were deployed overboard at sampling stations and raised and lowered to create a profile of environmental variables throughout the water column. Variables recorded included fluorescence, salinity (conductivity), density, temperature, depth and dissolved oxygen. WATER SAMPLING AND ANALYSIS. Water was collected at multiple depths using Go-Flo bottles and analyzed at sea using shipboard instrumentation. Water was analyzed for semi-volatile organic compound (SVOC) and polycyclic aromatic hydrocarbons (PAH) using a GCMS instrument. ACOUSTICS DATA. Acoustic data from the Simrad EK60 sonar instrument was recorded continuously to obtain seafloor data including bathymetry and oil seep locations. GIS DATA PRODUCTS. Spatial information was compiled to create location data for sonar contacts and CTD stations. Surface photographs were taken for visual assessment for environmental and biological conditions."</p>	1

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Category	SN_ID	StudyNote by Subject	Cnt
QUALIFIERS	13	<p>The original database included a laboratory qualifier and final qualifier field. Here is how the final qualifiers were assigned: 1. All non-validated data had nothing in the final qualifier field, so the lab qualifier was used for qualcode. 2. Validated data used the final qualifier for the qualcode field. 3. If there was a qualifier in the lab qual and nothing in the validator qual, generally the lab qual was used as the final qual. 4. Added NSR for non-standard reporting units (mg, ug). Qualifiers were defined as received in the file Qualifier Definitions 21 NOV.xlsx, some remain undefined. Data reported in mass units only (ug, mg) were qualified with the qualifier of NSR (non-standard reporting unit). SOURCE METADATA: The R/V Ocean Veritas departed from Port Fourchon, LA on June 07, 2010 to collect data in the Gulf of Mexico, Mississippi Canyon and returned to Port Fourchon, LA on June 11, 2010. The data collection was part of the coordinated response to the Deepwater Horizon incident. LISST, Fluorescence, and Rotox data was collected for the detection and delineation of the dispersed oil plume. Total Petroleum Hydrocarbon and Dissolved oxygen data was collected for water column sampling. Physical oceanographic data collected was Conductivity, Temperature, and Depth (CTD). The collection includes operational documents, which may include some or all of the following: cruise plans, daily reports, final reports, operational photographs and products developed during the cruise to guide operational decisions. Products may include geospatial data files, maps, charts and/or data plots or graphs. Some of the datasets associated with this cruise are still in process and will be published as they become available. SAMPLE LOCATION. Sampling stations were discrete locations where environmental or biological data were collected. Positional data including latitude, longitude was collected in decimal degrees. Bottom depth was recorded for each sampling station in meters. Data was acquired through shipboard navigation systems or scientific instrumentation (eg. CTD). CTD COLLECTION. CTD instrument packages(conductivity, temperature and depth) were deployed overboard at sampling stations and raised and lowered to create a profile of environmental variables throughout the water column. Variables recorded included fluorescence, salinity (conductivity), turbidity, density, temperature, and depth. WATER SAMPLING AND ANALYSIS. Water was collected at multiple depths using Niskin or Go-Flo bottles or various surface collection methods. Water samples were either preserved for onshore analysis or analyzed at sea using shipboard instrumentation. Samples collected on this cruise included Volatile Organic Compounds (VOA 40ml) and Total Petroleum Hydrocarbon (TPH 1L). LISST (Laser In-Situ Scattering and Transmissometry) SAMPLING. LISST instruments were used for either shipboard analysis of water samples or deployed overboard. LISST is utilized for the analysis of size and distribution of particles suspended in water. GIS DATA PRODUCTS. Spatial information was compiled to create a variety of products. TOXICOLOGY SAMPLING. Toxicology sampling included rotoxicity and microtoxicity assessments using water collected at various depths. Some assessments were conducted onboard and some were completed onshore. Rototoxicology samples were collected on this cruise."</p>	1
QUALIFIERS	14	<p>The original database included a laboratory qualifier and final qualifier field. Here is how the final qualifiers were assigned: 1. All non-validated data had nothing in the final qualifier field, so the lab qualifier was used for qualcode. 2. Validated data used the final qualifier for the qualcode field. 3. If there was a qualifier in the lab qual and nothing in the validator qual, generally the lab qual was used as the final qual. 4. Added NSR for non-standard reporting units (mg, ug). Qualifiers were defined as received in the file Qualifier Definitions 21 NOV.xlsx, some remain undefined. Data reported in mass units only (ug, mg) were qualified with the qualifier of NSR (non-standard reporting unit). SOURCE METADATA: The R/V Walton Smith departed on June 03, 2010 to collect data in the Gulf of Mexico, Mississippi Canyon. Total Petroleum Hydrocarbon and Volatile Organic Analysis samples were collected for the detection and delineation of the dispersed oil plume. Physical oceanographic data collected were Conductivity, Temperature, and Depth (CTD). Some of the datasets associated with this cruise are still in process and will be published as they become available. SAMPLE LOCATION. Sampling stations were discrete locations where environmental or biological data were collected. Positional data including latitude, longitude was collected in decimal degrees. Bottom depth was recorded for each sampling station in meters. Data was acquired through shipboard navigation systems or scientific instrumentation (eg. CTD). CTD COLLECTION. CTD instrument packages (conductivity, temperature and depth) were deployed overboard at sampling stations and raised and lowered to create a profile of environmental variables throughout the water column. Variables recorded included fluorescence, salinity (conductivity), turbidity, density, temperature, and depth. WATER SAMPLING AND ANALYSIS. Water was collected at multiple depths using Go-Flo bottles or various surface collection methods. Water samples were either preserved for onshore analysis or analyzed at sea using shipboard instrumentation. Samples collected on this cruise included Volatile Organic Analysis (VOA 40ml) and Total Petroleum Hydrocarbon (TPH 1L)."</p>	1

Category	SN_ID	StudyNote by Subject	Cnt
QUALIFIERS	15	<p>The original database included a laboratory qualifier and final qualifier field. Here is how the final qualifiers were assigned: 1. All non-validated data had nothing in the final qualifier field, so the lab qualifier was used for qualcode. 2. Validated data used the final qualifier for the qualcode field. 3. If there was a qualifier in the lab qual and nothing in the validator qual, generally the lab qual was used as the final qual. 4. Added NSR for non-standard reporting units (mg, ug). Qualifiers were defined as received in the file Qualifier Definitions 21 NOV.xlsx, some remain undefined. Data reported in mass units only (ug, mg) were qualified with the qualifier of NSR (non-standard reporting unit). SOURCE METADATA: The R/V Brooks McCall departed from Port Fourchon, LA on August 3, 2010 to collect data and track subsurface oil plume signals in the Gulf of Mexico, Mississippi Canyon. The primary purpose of this cruise was to complete Dispersant Monitoring and Assessment Directive - Addendum 4, with the collection and analysis of dissolved oxygen samples from a range of depths using automated titration methods. Water column profiles were obtained from a CTD associated with water sampling. These profiles of physical oceanographic data included temperature, depth, dissolved oxygen (DO), fluorescence, and salinity. Water column samples were collected for Total Petroleum Hydrocarbons analysis (TPH) and Volatile Organics Analysis (VOA). Scientists from the NOAA Atlantic Oceanographic and Meteorological Laboratory/University of Miami were present to conduct dissolved oxygen analyses on water samples using automated amperometric (Langdon) Winkler titration. Dissolved oxygen was also measured by other methods for comparison including Hach-modified Winkler titration and handheld probes. Rototoxicology and LISST (Laser In-Situ Scattering and Transmissometry) analyses were also conducted on water samples for the detection and delineation of the dispersed oil plume. The collection includes operational documents, which may include some or all of the following: cruise plans, daily reports, final reports, operational photographs and products developed during the cruise to guide operational decisions. Products may include geospatial data files, maps, charts and/or data plots or graphs. Some of the datasets associated with this cruise are still in process and will be published as they become available. SAMPLE LOCATION. Sampling stations were discrete locations where environmental or biological data were collected. Positional data including latitude and longitude was collected in decimal degrees. Bottom depth was recorded for each sampling station in meters. Data was acquired through shipboard navigation systems or scientific instrumentation (eg. CTD). CTD COLLECTION. CTD instrument packages (Conductivity, Temperature and Depth) were deployed overboard at sampling stations and raised and lowered to create a profile of environmental variables throughout the water column. Variables recorded included fluorescence, salinity (conductivity), dissolved oxygen, temperature, and depth. CTD instrumentation on this cruise was deployed on a water sampling rosette. WATER SAMPLING AND ANALYSIS. Water was collected at multiple depths using Niskin bottles or various surface collection methods. Water samples were either preserved for onshore analysis or analyzed at sea using shipboard instrumentation. Samples were collected for onshore analysis of Total Petroleum Hydrocarbons (TPH) and Volatile Organics (VOA). Shipboard analysis of Dissolved Oxygen from water samples was conducted using automated amperometric (Langdon) Winkler titration, Hach-modified titration, and handheld probes. LISST (Laser In-Situ Scattering and Transmissometry) SAMPLING. The LISST instrument was used for shipboard analysis of the concentration, size and distribution of particles suspended in water samples. Particles measured by LISST can include sediment, oil droplets, other contaminants, and plankton. On this cruise, water samples were collected from different depths and analyzed on-board with the LISST coupled with a fixed wavelength fluorometer. TOXICOLOGY SAMPLING. Toxicology sampling included rototoxicity assessments using water collected at various depths. Some assessments were conducted on-board and some were completed onshore. AIR QUALITY SAMPLING AND ANALYSIS. Air quality data was collected at multiple times using handheld instrumentation to measure the amount of airborne Volatile Organic Compounds (VOC) present. Readings were logged regularly when science staff were working on deck to ensure safe working conditions."</p>	1
QUALIFIERS	16	<p>The original database included a laboratory qualifier and final qualifier field. Here is how the final qualifiers were assigned: 1. All non-validated data had nothing in the final qualifier field, so the lab qualifier was used for qualcode. 2. Validated data used the final qualifier for the qualcode field. 3. If there was a qualifier in the lab qual and nothing in the validator qual, generally the lab qual was used as the final qual. 4. Added NSR for non-standard reporting units (mg, ug). Qualifiers were defined as received in the file Qualifier Definitions 21 NOV.xlsx, some remain undefined. Data reported in mass units only (ug, mg) were qualified with the qualifier of NSR (non-standard reporting unit). SOURCE METADATA: The R/V Ocean Veritas departed from Port Fourchon, LA on September 07, 2010 to collect data in the Gulf of Mexico, Mississippi Canyon and returned to Port Fourchon, LA on September 11, 2010. The data collection was part of the coordinated response to the Deepwater Horizon incident. Fluorescence and Winkler Titration data was collected for the detection and delineation of the dispersed oil plume. Total Petroleum Hydrocarbon and Dissolved oxygen data was collected for water column sampling. Physical oceanographic data collected was Conductivity, Temperature, and Depth (CTD). The collection includes operational documents, which may include some or all of the following: cruise plans, daily reports, final reports, operational photographs and products developed during the cruise to guide operational decisions. Products may include geospatial data files, maps, charts and/or data plots or graphs. Some of the datasets associated with this cruise are still in process and will be published as they become available. SAMPLE LOCATION. Sampling stations were discrete locations where environmental or biological data were collected. Positional data including latitude, longitude was collected in decimal degrees. Bottom depth was recorded for each sampling station in meters. Data was acquired through shipboard navigation systems or scientific instrumentation (eg. CTD). CTD COLLECTION. CTD instrument packages (conductivity, temperature and depth) were deployed overboard at sampling stations and raised and lowered to create a profile of environmental variables throughout the water column. Variables recorded included fluorescence, salinity (conductivity), turbidity, density, temperature, and depth. WATER SAMPLING AND ANALYSIS. Water was collected at multiple depths using Niskin bottles. Water samples were preserved for onshore analysis. Samples collected on this cruise included Volatile Organic Compounds (VOA 40ml), Total Petroleum Hydrocarbon (TPH 1L), and Dissolved Oxygen (DO). LISST (Laser In-Situ Scattering and Transmissometry) SAMPLING. LISST instruments were used for either shipboard analysis of water samples or deployed overboard. LISST is utilized for the analysis of size and distribution of particles suspended in water. GIS DATA PRODUCTS. Spatial information was compiled to create a variety of products. TOXICOLOGY SAMPLING. Toxicology sampling included rototoxicity and microtoxicity assessments using water collected at various depths. Some assessments were conducted onboard and some were completed onshore. Rototoxicology (Tox 8oz) samples were collected on this cruise and were processed underway."</p>	1

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Category	SN_ID	StudyNote by Subject	Cnt
QUALIFIERS	17	<p>The original database included a laboratory qualifier and final qualifier field. Here is how the final qualifiers were assigned: 1. All non-validated data had nothing in the final qualifier field, so the lab qualifier was used for qualcode. 2. Validated data used the final qualifier for the qualcode field. 3. If there was a qualifier in the lab qual and nothing in the validator qual, generally the lab qual was used as the final qual. 4. Added NSR for non-standard reporting units (mg, ug). Qualifiers were defined as received in the file Qualifier Definitions 21 NOV.xlsx, some remain undefined. Data reported in mass units only (ug, mg) were qualified with the qualifier of NSR (non-standard reporting unit). SOURCE METADATA: The R/V Ferrel departed from Port Fourchon, LA on July 30, 2010 to collect data in the Gulf of Mexico, Mississippi Canyon. Fluorescence data was collected for the detection and delineation of the dispersed oil plume. Total Polycyclic Aromatic Hydrocarbons (PAH), Volatile Organic Analysis (VOA), and Dissolved oxygen data were collected for water column sampling. Physical oceanographic data collected were Conductivity, Temperature, and Depth (CTD). In addition to the physical oceanographic data, samples were also taken to perform microbiological analysis to include SIP (stable isotope probing), DNA, RNA, AODC (acridine orange direct count) Cell Count, Nutrient Analysis, PLFA (phospholipid fatty acid), and culture dilution series. Following the cruise, the Ferrel returned to Port Fourchon, LA on August 3, 2010. The collection includes operational documents, which may include some or all of the following: cruise plans, daily reports, final reports, operational photographs and products developed during the cruise to guide operational decisions. Products may include geospatial data files, maps, charts and/or data plots or graphs. Some of the datasets associated with this cruise are still in process and will be published as they become available. SAMPLE LOCATION. Sampling stations were discrete locations where environmental or biological data were collected. Positional data including latitude, longitude was collected in decimal degrees. Bottom depth was recorded for each sampling station in meters. Data was acquired through shipboard navigation systems or scientific instrumentation (eg. CTD). CTD COLLECTION. CTD instrument packages(conductivity, temperature and depth) were deployed overboard at sampling stations and raised and lowered to create a profile of environmental variables throughout the water column. Variables recorded included fluorescence, salinity (conductivity), turbidity, density, temperature, and depth. WATER SAMPLING AND ANALYSIS. Water was collected at multiple depths using Niskin or Go-Flo bottles or various surface collection methods. Water samples were either preserved for onshore analysis or analyzed at sea using shipboard instrumentation. Samples collected on this cruise included VOA (40mL), TPH (1L), microbiology samples, and BOD (biological oxygen demand) Winkler Titration."</p>	1
QUALIFIERS	18	<p>The original database included a laboratory qualifier and final qualifier field. Here is how the final qualifiers were assigned: 1. All non-validated data had nothing in the final qualifier field, so the lab qualifier was used for qualcode. 2. Validated data used the final qualifier for the qualcode field. 3. If there was a qualifier in the lab qual and nothing in the validator qual, generally the lab qual was used as the final qual. 4. Added NSR for non-standard reporting units (mg, ug). Qualifiers were defined as received in the file Qualifier Definitions 21 NOV.xlsx, some remain undefined. Data reported in mass units only (ug, mg) were qualified with the qualifier of NSR (non-standard reporting unit). SOURCE METADATA: The R/V Gyre departed from Port Fourchon, LA on September 25, 2010 to collect data in the Gulf of Mexico, Mississippi Canyon. The data collection was part of the coordinated response to the Deepwater Horizon incident. The Gyre used a megacorer to collect sediment from the ocean floor, focusing primarily on the top 10 cm of sediment and the sediment supernatant water interface. The megacorer was designed to collect 12 core samples at each site and each core was used for a different type of analysis. One core from each site was used for visual analysis which consisted of four strategic photographs. To reduce error core assignments for each analysis were chosen at random using a random number generator. Onboard analyses conducted on the sediment cores consisted of GC (gas chromatography) analysis including, MDL_PAH, MDL_DPnB, Acenaphylene, Flourene, Pyrene etc., and Microtox acute toxicity (%Effect). Samples collected and prepared for onshore analysis associated with this platform mission include Meiofauna, Macrofauna, microbiological analysis, Total organic carbon, Total inorganic carbon, Hydrocarbons, Trace metals, BTEX (Benzene, Toluene, Ethylbenzene, and Xylenes), and Grain size analysis. Physical oceanographic data also collected were Conductivity, Temperature, and Depth (CTD). Some of the datasets associated with this cruise are still in process and will be published as they become available. SAMPLE LOCATION. Sampling stations were discrete locations where environmental or biological data were collected. Positional data including latitude, longitude was collected in decimal degrees. Bottom depth was recorded for each sampling station in meters. Data was acquired through shipboard navigation systems or scientific instrumentation (eg. CTD). CTD COLLECTION. CTD instrument packages (conductivity, temperature and depth) were deployed overboard at sampling stations and raised and lowered to create a profile of environmental variables throughout the water column. Variables recorded included fluorescence, salinity (conductivity), turbidity, density, temperature, and depth. GIS DATA PRODUCTS. Spatial information was compiled to create a variety of products. SEDIMENT SAMPLING. Sediment samples were collected from the seafloor in the form of cores or grab samples. Samples were preserved for onshore analysis or analyzed at sea using shipboard instrumentation. Samples collected on this cruise included microtox, macrofauna, meiofauna, BTEX, Heavy Metals, Hydrocarbon, and grainsize TOXICOLOGY SAMPLING. Toxicology sampling included microtoxicity assessments using water collected at various depths. Some assessments were conducted onboard and some were completed onshore. Microtoxicity % effect was analysed onboard the Gyre."</p>	1



Category	SN_ID	StudyNote by Subject	Cnt
QUALIFIERS	19	<p>The original database included a laboratory qualifier and final qualifier field. Here is how the final qualifiers were assigned: 1. All non-validated data had nothing in the final qualifier field, so the lab qualifier was used for qualcode. 2. Validated data used the final qualifier for the qualcode field. 3. If there was a qualifier in the lab qual and nothing in the validator qual, generally the lab qual was used as the final qual. 4. Added NSR for non-standard reporting units (mg, ug). Qualifiers were defined as received in the file Qualifier Definitions 21 NOV.xlsx, some remain undefined. Data reported in mass units only (ug, mg) were qualified with the qualifier of NSR (non-standard reporting unit). SOURCE METADATA: The M/V Ryan Chouest departed from the Port of Mobile Bay, AL on September 23, 2010 and completed the Cruise in the Port of Mobile Bay, AL September 28, 2010. The purpose of Cruises 17 was to chemically characterize the hydrocarbons being emitted at previously identified seafloor hydrocarbon seeps. Subsequent comparison with hydrocarbons present in water and sediment samples would help determine whether or not their presence was natural. A CTD (conductivity, temperature, and depth) unit mounted on a rosette with 12 GoFlo bottles was deployed to collect water samples at discrete depths. Physical oceanographic data was collected for dissolved oxygen as well as conductivity, temperature, and depth. Methane and PAH (polycyclic aromatic hydrocarbons) fluorimeters were utilized to detect the presence hydrocarbons in water. The EK60 echo-sounder instrument continuously recorded acoustic data to obtain water column and seafloor bathymetry and oil seep locations. Datasets collected included daily GIS tracts stored in shapefile format containing GPS positional information and fluorometer response data. A CTD instrument collected conductivity, temperature, depth and dissolved oxygen measurements with each cast. Raw acoustic data was collected continuously and stored on the shipboard computer. Photo-documentation and GPS data points were collected when oil was observed throughout the cruise. Wildlife was also photographed when observed and the location was recorded with GPS. The collection includes operational documents, which may include some or all of the following: cruise plans, daily reports, final reports, operational photographs and products developed during the cruise to guide operational decisions. Products may include geospatial data files, maps, charts and/or data plots or graphs. Some of the datasets associated with this cruise are still in process and will be published as they become available. SAMPLE LOCATION. Sampling stations were discrete locations where environmental or biological data were collected. Positional data including latitude, longitude was collected in decimal degrees. Bottom depth was recorded for each sampling station in meters. Data was acquired through shipboard navigation systems or scientific instrumentation (eg. CTD). CTD COLLECTION. CTD instrument packages (conductivity, temperature and depth) were deployed overboard at sampling stations and raised and lowered to create a profile of environmental variables throughout the water column. Variables recorded included fluorescence, salinity (conductivity), density, temperature, depth and dissolved oxygen. WATER SAMPLING AND ANALYSIS. Water was collected at multiple depths using Go-Flo bottles and analyzed at sea using shipboard instrumentation. Water was analyzed for semi-volatile organic compound (SVOC) and polycyclic aromatic hydrocarbons (PAH) using a GCMS instrument. ACOUSTICS DATA. Acoustic data from the Simrad EK60 sonar instrument was recorded continuously to obtain seafloor data including bathymetry and oil seep locations. GIS DATA PRODUCTS. Spatial information was compiled to create location data for sonar contacts and CTD stations. Surface photographs were taken for visual assessment for environmental and biological conditions."</p>	1
QUALIFIERS	20	<p>The original database included a laboratory qualifier and final qualifier field. Here is how the final qualifiers were assigned: 1. All non-validated data had nothing in the final qualifier field, so the lab qualifier was used for qualcode. 2. Validated data used the final qualifier for the qualcode field. 3. If there was a qualifier in the lab qual and nothing in the validator qual, generally the lab qual was used as the final qual. 4. Added NSR for non-standard reporting units (mg, ug). Qualifiers were defined as received in the file Qualifier Definitions 21 NOV.xlsx, some remain undefined. Data reported in mass units only (ug, mg) were qualified with the qualifier of NSR (non-standard reporting unit). SOURCE METADATA: The R/V Ocean Veritas departed from Port Fourchon, LA on July 07, 2010 to collect data in the Gulf of Mexico, Mississippi Canyon and returned to Port Fourchon, LA on July 11, 2010. The data collection was part of the coordinated response to the Deepwater Horizon incident. LISST, Fluorescence, and Rotox data was collected for the detection and delineation of the dispersed oil plume. Total Petroleum Hydrocarbon and Dissolved oxygen data was collected for water column sampling. Air quality sampling was conducted for onsite measurements of volatile organic compounds. Physical oceanographic data collected was Conductivity, Temperature, and Depth (CTD). The collection includes operational documents, which may include some or all of the following: cruise plans, daily reports, final reports, operational photographs and products developed during the cruise to guide operational decisions. Products may include geospatial data files, maps, charts and/or data plots or graphs. Some of the datasets associated with this cruise are still in process and will be published as they become available. SAMPLE LOCATION. Sampling stations were discrete locations where environmental or biological data were collected. Positional data including latitude, longitude was collected in decimal degrees. Bottom depth was recorded for each sampling station in meters. Data was acquired through shipboard navigation systems or scientific instrumentation (eg. CTD). CTD COLLECTION. CTD instrument packages (conductivity, temperature and depth) were deployed overboard at sampling stations and raised and lowered to create a profile of environmental variables throughout the water column. Variables recorded included fluorescence, salinity (conductivity), turbidity, density, temperature, and depth. WATER SAMPLING AND ANALYSIS. Water was collected at multiple depths using Niskin bottles. Water samples were preserved for onshore analysis. Samples collected on this cruise included Volatile Organic Compounds (VOA 40ml), Total Petroleum Hydrocarbon (TPH 1L), and Dissolved Oxygen (DO). LISST (Laser In-Situ Scattering and Transmissometry) SAMPLING. LISST instruments were used for either shipboard analysis of water samples or deployed overboard. LISST is utilized for the analysis of size and distribution of particles suspended in water. GIS DATA PRODUCTS. Spatial information was compiled to create a variety of products. TOXICOLOGY SAMPLING. Toxicology sampling included rototoxicity and microtoxicity assessments using water collected at various depths. Some assessments were conducted onboard and some were completed onshore. Rototoxicology (Tox 8oz) samples were collected on this cruise and were processed underway. AIR QUALITY SAMPLING AND ANALYSIS. Air samples were collected at multiple times using various collection methods and were analyzed at sea using shipboard instrumentation to measure the amount of airborne volatile organic compounds (VOC). Any anomalies detected were noted but not recorded. VIDEO AND PHOTOGRAPHY. Surface and subsurface video and photography were taken for visual assessment for environmental and biological conditions."</p>	1

Appendix H: Response Study Notes

Category	SN_ID	StudyNote by Subject	Cnt
QUALIFIERS	21	<p>The original database included a laboratory qualifier and final qualifier field. Here is how the final qualifiers were assigned: 1. All non-validated data had nothing in the final qualifier field, so the lab qualifier was used for qualcode. 2. Validated data used the final qualifier for the qualcode field. 3. If there was a qualifier in the lab qual and nothing in the validator qual, generally the lab qual was used as the final qual. 4. Added NSR for non-standard reporting units (mg, ug). Qualifiers were defined as received in the file Qualifier Definitions 21 NOV.xlsx, some remain undefined. Data reported in mass units only (ug, mg) were qualified with the qualifier of NSR (non-standard reporting unit). SOURCE METADATA: The M/V Wes Bordelon departed from Houma, La on August 18, 2010 to collect data in the Gulf of Mexico, Mississippi Canyon. The primary purpose of this cruise was to determine the extent of the subsurface oil plume originating at the Deepwater Horizon wellhead. The profile of physical oceanographic data included conductivity/salinity, temperature, depth (CTD), dissolved oxygen (DO), fluorometry, and turbidity. Total Petroleum Hydrocarbons (TPH), Volatile Organics (VOA), Dispersants and Total Suspended Solids (TSS) were obtained from select depths throughout the water column. Some of the datasets associated with this cruise are still in process and will be published as they become available. SAMPLE LOCATION. Sampling stations were discrete locations where environmental or biological data were collected. Positional data including latitude, longitude was collected in decimal degrees. Bottom depth was recorded for each sampling station in meters. Data was acquired through shipboard navigation systems or scientific instrumentation (eg. CTD). CTD COLLECTION. CTD instrument packages (conductivity, temperature and depth) were deployed overboard at sampling stations and raised and lowered to create a profile of environmental variables throughout the water column. Variables recorded included fluorescence, salinity (conductivity), turbidity, density, temperature, and depth. WATER SAMPLING AND ANALYSIS. Water was collected at multiple depths using Niskin or Go-Flo bottles or various surface collection methods. Water samples were either preserved for onshore analysis or analyzed at sea using shipboard instrumentation. Samples collected on this cruise included Volatile Organic Compounds (VOA), Total Petroleum Hydrocarbon (TPH), Total Suspended Solids (TSS), and Dispersants."</p>	1
QUALIFIERS	22	<p>The original database included a laboratory qualifier and final qualifier field. Here is how the final qualifiers were assigned: 1. All non-validated data had nothing in the final qualifier field, so the lab qualifier was used for qualcode. 2. Validated data used the final qualifier for the qualcode field. 3. If there was a qualifier in the lab qual and nothing in the validator qual, generally the lab qual was used as the final qual. 4. Added NSR for non-standard reporting units (mg, ug). Qualifiers were defined as received in the file Qualifier Definitions 21 NOV.xlsx, some remain undefined. Data reported in mass units only (ug, mg) were qualified with the qualifier of NSR (non-standard reporting unit). SOURCE METADATA: The R/V Brooks McCall departed from Port Fourchon, LA on August 9, 2010 to collect data and track subsurface oil plume signals in the Gulf of Mexico, Mississippi Canyon, as part of Operation Clean Sweep. The data collected included water column profiles from a CTD associated with water sampling. These profiles of physical oceanographic data included temperature, depth, dissolved oxygen, fluorescence, and salinity. Water column samples were collected for Total Petroleum Hydrocarbons analysis (TPH) and Volatile Organics Analysis (VOA). Scientists from the NOAA Atlantic Oceanographic and Meteorological Laboratory/University of Miami were present to conduct dissolved oxygen analyses on water samples using automated amperometric (Langdon) Winkler titration. Dissolved oxygen was also measured by other methods for comparison including Hach-modified Winkler titration and handheld probes. Rototoxicology and LISST (Laser In-Situ Scattering and Transmissometry) readings were also collected from water samples for the detection and delineation of the dispersed oil plume. The collection includes operational documents, which may include some or all of the following: cruise plans, daily reports, final reports, operational photographs and products developed during the cruise to guide operational decisions. Products may include geospatial data files, maps, charts and/or data plots or graphs. Some of the datasets associated with this cruise are still in process and will be published as they become available. SAMPLE LOCATION. Sampling stations were discrete locations where environmental or biological data were collected. Positional data including latitude and longitude was collected in decimal degrees. Bottom depth was recorded for each sampling station in meters. Data was acquired through shipboard navigation systems or scientific instrumentation (eg. CTD). CTD COLLECTION. CTD instrument packages (Conductivity, Temperature and Depth) were deployed overboard at sampling stations and raised and lowered to create a profile of environmental variables throughout the water column. Variables recorded included fluorescence, salinity (conductivity), dissolved oxygen, temperature, and depth. CTD instrumentation on this cruise was deployed on a water sampling rosette. WATER SAMPLING AND ANALYSIS. Water was collected at multiple depths using Niskin or Go-Flo bottles or various surface collection methods. Water samples were either preserved for onshore analysis or analyzed at sea using shipboard instrumentation. Samples were collected for onshore analysis of Total Petroleum Hydrocarbons (TPH) and Volatile Organics (VOA). On-board analysis of dissolved oxygen from water samples was conducted using automated amperometric (Langdon) Winkler titration, Hach-modified Winkler titration, and handheld probes. LISST (Laser In-Situ Scattering and Transmissometry) SAMPLING. The LISST instrument was used for shipboard analysis of the concentration, size and distribution of particles suspended in water samples. Particles measured by LISST can include sediment, oil droplets, other contaminants, and plankton. On this cruise, water samples were collected from different depths and analyzed onboard with the LISST coupled with a fixed wavelength fluorometer. TOXICOLOGY SAMPLING. Toxicology sampling included rototoxicity assessments using water collected at various depths. Some assessments were conducted on-board and some were completed onshore."</p>	1

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Category	SN_ID	StudyNote by Subject	Cnt
QUALIFIERS	23	<p>The original database included a laboratory qualifier and final qualifier field. Here is how the final qualifiers were assigned: 1. All non-validated data had nothing in the final qualifier field, so the lab qualifier was used for qualcode. 2. Validated data used the final qualifier for the qualcode field. 3. If there was a qualifier in the lab qual and nothing in the validator qual, generally the lab qual was used as the final qual. 4. Added NSR for non-standard reporting units (mg, ug). Qualifiers were defined as received in the file Qualifier Definitions 21 NOV.xlsx, some remain undefined. Data reported in mass units only (ug, mg) were qualified with the qualifier of NSR (non-standard reporting unit). SOURCE METADATA: The R/V Ocean Veritas departed from Port Fourchon, LA on September 11, 2010 to collect data in the Gulf of Mexico, Mississippi Canyon and returned to Morgan City, LA on September 13, 2010. The data collection was part of the coordinated response to the Deepwater Horizon incident. Winkler Titration and Fluorescence data was collected for the detection and delineation of the dispersed oil plume. Total Petroleum Hydrocarbon and Dissolved oxygen data was collected for water column sampling. Physical oceanographic data collected was Conductivity, Temperature, and Depth (CTD). The collection includes operational documents, which may include some or all of the following: cruise plans, daily reports, final reports, operational photographs and products developed during the cruise to guide operational decisions. Products may include geospatial data files, maps, charts and/or data plots or graphs. Some of the datasets associated with this cruise are still in process and will be published as they become available. SAMPLE LOCATION. Sampling stations were discrete locations where environmental or biological data were collected. Positional data including latitude, longitude was collected in decimal degrees. Bottom depth was recorded for each sampling station in meters. Data was acquired through shipboard navigation systems or scientific instrumentation (eg. CTD). CTD COLLECTION. CTD instrument packages(conductivity, temperature and depth) were deployed overboard at sampling stations and raised and lowered to create a profile of environmental variables throughout the water column. Variables recorded included fluorescence, salinity (conductivity), turbidity, density, temperature, and depth. WATER SAMPLING AND ANALYSIS. Water was collected at multiple depths using Niskin bottles. Water samples were preserved for onshore analysis. Samples collected on this cruise included Volatile Organic Compounds (VOA 40ml), Total Petroleum Hydrocarbon (TPH 1L), and Dissolved Oxygen (DO). LISST (Laser In-Situ Scattering and Transmissometry) SAMPLING. LISST instruments were used for either shipboard analysis of water samples or deployed overboard. LISST is utilized for the analysis of size and distribution of particles suspended in water. GIS DATA PRODUCTS. Spatial information was compiled to create a variety of products. TOXICOLOGY SAMPLING. Toxicology sampling included rototoxicity and microtoxicity assessments using water collected at various depths. Some assessments were conducted onboard and some were completed onshore. Rototoxicology (Tox 8oz) samples were collected on this cruise and were processed underway."</p>	1
QUALIFIERS	24	<p>The original database included a laboratory qualifier and final qualifier field. Here is how the final qualifiers were assigned: 1. All non-validated data had nothing in the final qualifier field, so the lab qualifier was used for qualcode. 2. Validated data used the final qualifier for the qualcode field. 3. If there was a qualifier in the lab qual and nothing in the validator qual, generally the lab qual was used as the final qual. 4. Added NSR for non-standard reporting units (mg, ug). Qualifiers were defined as received in the file Qualifier Definitions 21 NOV.xlsx, some remain undefined. Data reported in mass units only (ug, mg) were qualified with the qualifier of NSR (non-standard reporting unit). SOURCE METADATA: The R/V Ferrel departed from Port Fourchon, LA on August 3, 2010 to collect data in the Gulf of Mexico, Mississippi Canyon. Fluorescence data was collected for the detection and delineation of the dispersed oil plume. Total polycyclic aromatic hydrocarbons (PAH), volatile organic analysis (VOA), and dissolved oxygen data were collected for water column sampling. Physical oceanographic data collected were Conductivity, Temperature, and Depth (CTD). In addition to the physical oceanographic data, samples were also taken to perform microbiological analysis to include SIP (stable isotope probing), DNA, RNA, AODC (acridine orange direct count) Cell Count, Nutrient Analysis, PLFA (phospholipid fatty acid analysis), and culture dilution series. The Ferrel returned to port on August 11, 2010. The collection includes operational documents, which may include some or all of the following: cruise plans, daily reports, final reports, operational photographs and products developed during the cruise to guide operational decisions. Products may include geospatial data files, maps, charts and/or data plots or graphs. Some of the datasets associated with this cruise are still in process and will be published as they become available. SAMPLE LOCATION. Sampling stations were discrete locations where environmental or biological data were collected. Positional data including latitude, longitude was collected in decimal degrees. Bottom depth was recorded for each sampling station in meters. Data was acquired through shipboard navigation systems or scientific instrumentation (eg. CTD). CTD COLLECTION. CTD instrument packages(conductivity, temperature and depth) were deployed overboard at sampling stations and raised and lowered to create a profile of environmental variables throughout the water column. Variables recorded included fluorescence, salinity (conductivity), turbidity, density, temperature, and depth. WATER SAMPLING AND ANALYSIS. Water was collected at multiple depths using Niskin or Go-Flo bottles or various surface collection methods. Water samples were either preserved for onshore analysis or analyzed at sea using shipboard instrumentation. Samples collected on this cruise included VOA (40mL), TPH (total polycyclic aromatic hydrocarbon analysis) (1L), microbiology samples, and BOD (biological oxygen demand) Winkler Titration."</p>	1

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Category	SN_ID	StudyNote by Subject	Cnt
QUALIFIERS	25	<p>The original database included a laboratory qualifier and final qualifier field. Here is how the final qualifiers were assigned: 1. All non-validated data had nothing in the final qualifier field, so the lab qualifier was used for qualcode. 2. Validated data used the final qualifier for the qualcode field. 3. If there was a qualifier in the lab qual and nothing in the validator qual, generally the lab qual was used as the final qual. 4. Added NSR for non-standard reporting units (mg, ug). Qualifiers were defined as received in the file Qualifier Definitions 21 NOV.xlsx, some remain undefined. Data reported in mass units only (ug, mg) were qualified with the qualifier of NSR (non-standard reporting unit). SOURCE METADATA: The R/V Gyre departed from Port Fourchon, LA on October 1, 2010 to collect data in the Gulf of Mexico, Mississippi Canyon. The data collection was part of the coordinated response to the Deepwater Horizon incident. The Gyre used a megacorer to collect sediment from the ocean floor, focusing primarily on the top 10 cm of sediment and the sediment supernatant water interface. The megacorer was designed to collect 12 core samples at each site and each core was used for a different type of analysis. One core from each site was used for visual analysis which consisted of four strategic photographs. To reduce error core assignments for each analysis were chosen at random using a random number generator. Onboard analyses conducted on the sediment cores consisted of GC (gas chromatography) analysis including, MDL_PAH, MDL_DPnB, Acenaphylene, Flourene, Pyrene etc., and Microtox acute toxicity (%Effect). Samples collected and prepared for onshore analysis associated with this platform mission include Meiofauna, Macrofauna, microbiological analysis, Total organic carbon, Total inorganic carbon, Hydrocarbons, Trace metals, BTEX (Benzene, Toluene, Ethylbenzene, and Xylenes), and Grain size analysis. Physical oceanographic data also collected were Conductivity, Temperature, and Depth (CTD). Some of the datasets associated with this cruise are still in process and will be published as they become available. SAMPLE LOCATION. Sampling stations were discrete locations where environmental or biological data were collected. Positional data including latitude, longitude was collected in decimal degrees. Bottom depth was recorded for each sampling station in meters. Data was acquired through shipboard navigation systems or scientific instrumentation (eg. CTD). CTD COLLECTION. CTD instrument packages (conductivity, temperature and depth) were deployed overboard at sampling stations and raised and lowered to create a profile of environmental variables throughout the water column. Variables recorded included flourescence, salinity (conductivity), turbidity, density, temperature, and depth. GIS DATA PRODUCTS. Spatial information was compiled to create a variety of products. SEDIMENT SAMPLING. Sediment samples were collected from the seafloor in the form of cores or grab samples. Samples were preserved for onshore analysis or analyzed at sea using shipboard instrumentation. Samples collected on this cruise included microtox, macrofauna, meiofauna, BTEX, Heavy Metals, Hydrocarbon, and grainsize. TOXICOLOGY SAMPLING. Toxicology sampling included microtoxicity assessments using water collected at various depths. Some assessments were conducted onboard and some were completed onshore. Microtoxicity % effect was analysed onboard the Gyre."</p>	1
QUALIFIERS	26	<p>The original database included a laboratory qualifier and final qualifier field. Here is how the final qualifiers were assigned: 1. All non-validated data had nothing in the final qualifier field, so the lab qualifier was used for qualcode. 2. Validated data used the final qualifier for the qualcode field. 3. If there was a qualifier in the lab qual and nothing in the validator qual, generally the lab qual was used as the final qual. 4. Added NSR for non-standard reporting units (mg, ug). Qualifiers were defined as received in the file Qualifier Definitions 21 NOV.xlsx, some remain undefined. Data reported in mass units only (ug, mg) were qualified with the qualifier of NSR (non-standard reporting unit). SOURCE METADATA: The M/V Ryan Chouest departed from Mobile Bay, AL on October 7, 2010 and completed the cruise in the Port of Fourchon, LA on October 17, 2010. The data collection was part of the coordinated response to the Deepwater Horizon incident. The purpose of the cruise was to collect sediment samples from 84 near shore locations and water samples from 9 stations. A CTD (conductivity, temperature, and depth) unit mounted on a rosette with 12 GoFlo bottles was deployed to collect water samples at discrete depths. Physical oceanographic data was collected for dissolved oxygen as well as conductivity, temperature, and depth. A fluorometer measuring PAH was utilized to detect the presence of hydrocarbons in water. Photographs were taken of each sediment sample and used for the visual analysis protocol defined in the "Chouest Sediment Sampling Plan". The collection includes operational documents, which may include some or all of the following: cruise plans, daily reports, final reports, operational photographs and products developed during the cruise to guide operational decisions. Products may include geospatial data files, maps, charts and/or data plots or graphs. Some of the datasets associated with this cruise are still in process and will be published as they become available. SAMPLE LOCATION. Sampling stations were discrete locations where environmental or biological data were collected. Positional data including latitude and longitude was collected in decimal degrees. Bottom depth was recorded for each sampling station in meters. Data was acquired through shipboard navigation systems or scientific instrumentation. The vessel's position was maintained on station for the duration of the sample collection task using its GPS dynamic positioning technology. CTD COLLECTION. CTD instrument packages (conductivity, temperature and depth) were deployed overboard at sampling stations and raised and lowered to create a profile of environmental variables throughout the water column. Variables recorded included salinity (conductivity), turbidity, density, temperature, depth and altitude. Additional sensors for measuring were two fluorometers, dissolved oxygen sensor and an altimeter mounted to a carousel water sampler. WATER SAMPLING AND ANALYSIS. Water was collected at multiple depths using Go-Flo bottles and preserved for onshore analysis. Samples collected on this cruise included BTEX, SHC + TPH, PAH. Samples were prepared according to SOPRC01 and transported by Entrix personal to the lab along with Chain-of-Custody forms. SEDIMENT SAMPLING. Sediment samples were collected from the seafloor in the form of grab samples. And preserved for onshore analysis. Sediment sample analysis consisted of: Total Carbon, TOC (Total Organic Carbon), TIC (Total Inorganic Carbon). Metals, BTEX, SHC + TPH. PAHs + aPAHs - Biomarkers &amp; dispersants. Samples were prepared according to SOPRC01 and transported by Entrix personal to the lab along with Chain-of-Custody forms. GIS DATA PRODUCTS. Spatial information was compiled to create a variety of products. VIDEO AND PHOTOGRAPHY. Surface photographs were taken for visual assessment of the environmental and biological conditions of the sediment sample. The photo Identification section of the document "Chouest Sediment Sampling Plan" defines the details of taking photos to include in the Visual Analysis documentation of each sediment sample."</p>	1

Category	SN_ID	StudyNote by Subject	Cnt
QUALIFIERS	27	<p>The original database included a laboratory qualifier and final qualifier field. Here is how the final qualifiers were assigned: 1. All non-validated data had nothing in the final qualifier field, so the lab qualifier was used for qualcode. 2. Validated data used the final qualifier for the qualcode field. 3. If there was a qualifier in the lab qual and nothing in the validator qual, generally the lab qual was used as the final qual. 4. Added NSR for non-standard reporting units (mg, ug). Qualifiers were defined as received in the file Qualifier Definitions 21 NOV.xlsx, some remain undefined. Data reported in mass units only (ug, mg) were qualified with the qualifier of NSR (non-standard reporting unit). SOURCE METADATA: The R/V Ocean Veritas departed from Port Fourchon, LA on July 19, 2010 to collect data in the Gulf of Mexico, Mississippi Canyon and returned to Port Fourchon, LA on July 23, 2010. The data collection was part of the coordinated response to the Deepwater Horizon incident. LISST, Winkler Titration, Fluorescence, and Rotox data was collected for the detection and delineation of the dispersed oil plume. Total Petroleum Hydrocarbon and Dissolved oxygen data was collected for water column sampling. Air quality sampling was conducted for onsite measurements of volatile organic compounds. Physical oceanographic data collected was Conductivity, Temperature, and Depth (CTD). The collection includes operational documents, which may include some or all of the following: cruise plans, daily reports, final reports, operational photographs and products developed during the cruise to guide operational decisions. Products may include geospatial data files, maps, charts and/or data plots or graphs. Some of the datasets associated with this cruise are still in process and will be published as they become available. SAMPLE LOCATION. Sampling stations were discrete locations where environmental or biological data were collected. Positional data including latitude, longitude was collected in decimal degrees. Bottom depth was recorded for each sampling station in meters. Data was acquired through shipboard navigation systems or scientific instrumentation (eg. CTD). CTD COLLECTION. CTD instrument packages(conductivity, temperature and depth) were deployed overboard at sampling stations and raised and lowered to create a profile of environmental variables throughout the water column. Variables recorded included fluorescence, salinity (conductivity), turbidity, density, temperature, and depth. WATER SAMPLING AND ANALYSIS. Water was collected at multiple depths using Niskin bottles. Water samples were preserved for onshore analysis. Samples collected on this cruise included Volatile Organic Compounds (VOA 40ml), Total Petroleum Hydrocarbon (TPH 1L), and Dissolved Oxygen (DO). LISST (Laser In-Situ Scattering and Transmissometry) SAMPLING. LISST instruments were used for either shipboard analysis of water samples or deployed overboard. LISST is utilized for the analysis of size and distribution of particles suspended in water. GIS DATA PRODUCTS. Spatial information was compiled to create a variety of products. TOXICOLOGY SAMPLING. Toxicology sampling included rototoxicity and microtoxicity assessments using water collected at various depths. Some assessments were conducted onboard and some were completed onshore. Rototoxicology (Tox 8oz) samples were collected on this cruise and were processed underway. AIR QUALITY SAMPLING AND ANALYSIS. Air samples were collected at multiple times using various collection methods and were analyzed at sea using shipboard instrumentation to measure the amount of airborne volatile organic compounds (VOC). Any anomalies detected were noted but not recorded."</p>	1
QUALIFIERS	28	<p>The original database included a laboratory qualifier and final qualifier field. Here is how the final qualifiers were assigned: 1. All non-validated data had nothing in the final qualifier field, so the lab qualifier was used for qualcode. 2. Validated data used the final qualifier for the qualcode field. 3. If there was a qualifier in the lab qual and nothing in the validator qual, generally the lab qual was used as the final qual. 4. Added NSR for non-standard reporting units (mg, ug). Qualifiers were defined as received in the file Qualifier Definitions 21 NOV.xlsx, some remain undefined. Data reported in mass units only (ug, mg) were qualified with the qualifier of NSR (non-standard reporting unit). SOURCE METADATA: The R/V Brooks McCall departed from Port Fourchon, LA on August 15, 2010 to collect data and track subsurface oil plume signals in the Gulf of Mexico, Mississippi Canyon, as part of Operation Clean Sweep. The data collected included water column profiles from a CTD associated with water sampling. These profiles of physical oceanographic data included temperature, depth, dissolved oxygen, fluorescence, and salinity. Water column samples were collected for Total Petroleum Hydrocarbons analysis (TPH) and Volatile Organics Analysis (VOA). Dissolved oxygen analysis was conducted using Hach-modified Winkler titration and additional probes. Rototoxicology and LISST (Laser In-Situ Scattering and Transmissometry) readings were also collected from water samples for the detection and delineation of the dispersed oil plume. The collection includes operational documents, which may include some or all of the following: cruise plans, daily reports, final reports, operational photographs and products developed during the cruise to guide operational decisions. Products may include geospatial data files, maps, charts and/or data plots or graphs. Some of the datasets associated with this cruise are still in process and will be published as they become available. SAMPLE LOCATION. Sampling stations were discrete locations where environmental or biological data were collected. Positional data including latitude and longitude was collected in decimal degrees. Bottom depth was recorded for each sampling station in meters. Data was acquired through shipboard navigation systems or scientific instrumentation (eg. CTD). CTD COLLECTION. CTD instrument packages (Conductivity, Temperature and Depth) were deployed overboard at sampling stations and raised and lowered to create a profile of environmental variables throughout the water column. Variables recorded included fluorescence, salinity (conductivity), dissolved oxygen, temperature, and depth. CTD instrumentation on this cruise was deployed on a water sampling rosette. WATER SAMPLING AND ANALYSIS. Water was collected at multiple depths using Niskin or Go-Flo bottles or various surface collection methods. Water samples were either preserved for onshore analysis or analyzed at sea using shipboard instrumentation. Samples were collected for onshore analysis of Total Petroleum Hydrocarbons (TPH) and Volatile Organics (VOA). Shipboard analyses of dissolved oxygen from water samples were conducted and compared using Hach-modified Winkler titration and handheld probes. LISST (Laser In-Situ Scattering and Transmissometry) SAMPLING. The LISST instrument was used for shipboard analysis of the concentration, size and distribution of particles suspended in water samples. Particles measured by LISST can include sediment, oil droplets, other contaminants, and plankton. On this cruise, water samples were collected from different depths and analyzed onboard with the LISST coupled with a fixed wavelength fluorometer. TOXICOLOGY SAMPLING. Toxicology sampling included rototoxicity assessments using water collected at various depths. Some assessments were conducted on-board and some were completed onshore."</p>	1

Category	SN_ID	StudyNote by Subject	Cnt
QUALIFIERS	29	<p>The original database included a laboratory qualifier and final qualifier field. Here is how the final qualifiers were assigned: 1. All non-validated data had nothing in the final qualifier field, so the lab qualifier was used for qualcode. 2. Validated data used the final qualifier for the qualcode field. 3. If there was a qualifier in the lab qual and nothing in the validator qual, generally the lab qual was used as the final qual. 4. Added NSR for non-standard reporting units (mg, ug). Qualifiers were defined as received in the file Qualifier Definitions 21 NOV.xlsx, some remain undefined. Data reported in mass units only (ug, mg) were qualified with the qualifier of NSR (non-standard reporting unit). SOURCE METADATA: The R/V Ocean Veritas departed from Morgan City, LA on September 22, 2010 to collect data in the Gulf of Mexico and returned to Morgan City, LA on October 24, 2010. The data collection was part of the coordinated response to the Deepwater Horizon incident. Total petroleum hydrocarbons and dissolved oxygen data was collected for water column sampling. Physical oceanographic data collected are Conductivity, Temperature, and Depth (CTD). Sediment samples were collected for biological and chemical analyses. Some of the datasets associated with this cruise are still in process and will be published as they become available. SAMPLE LOCATION. Sampling stations were discrete locations where environmental or biological data were collected. Positional data including latitude, longitude was collected in decimal degrees. Bottom depth was recorded for each sampling station in meters. Data was acquired through shipboard navigation systems or scientific instrumentation (eg. CTD). CTD COLLECTION. CTD instrument packages(conductivity, temperature and depth) were deployed overboard at sampling stations and raised and lowered to create a profile of environmental variables throughout the water column. Variables recorded included fluorescence, salinity (conductivity), turbidity, density, temperature, and depth. WATER SAMPLING AND ANALYSIS. Water was collected at multiple depths using Niskin or Go-Flo bottles or various surface collection methods. Water samples were either preserved for onshore analysis or analyzed at sea using shipboard instrumentation. Samples collected on this cruise included Volatile Organic Compounds (VOA 40ml). SEDIMENT SAMPLING. Sediment samples were collected from the seafloor in the form of cores or grab samples. Samples were preserved for onshore analysis or analyzed at sea using shipboard instrumentation. Samples collected on this cruise included visual analysis, metals, BTEX, hydrocarbons, grain size, meiofauna, macrofauna, microtoxicity, GC-MS, and archive samples. GIS DATA PRODUCTS. Spatial information was compiled to create a variety of products. TOXICOLOGY SAMPLING. Toxicology sampling included rotoxicity and microtoxicity assessments using water collected at various depths. Some assessments were conducted onboard and some were completed onshore. Microtoxicity samples were collected on this cruise. VIDEO AND PHOTOGRAPHY. Surface and subsurface video and photography were taken for visual assessment for environmental and biological conditions."</p>	1
QUALIFIERS	30	<p>The original database included a laboratory qualifier and final qualifier field. Here is how the final qualifiers were assigned: 1. All non-validated data had nothing in the final qualifier field, so the lab qualifier was used for qualcode. 2. Validated data used the final qualifier for the qualcode field. 3. If there was a qualifier in the lab qual and nothing in the validator qual, generally the lab qual was used as the final qual. 4. Added NSR for non-standard reporting units (mg, ug). Qualifiers were defined as received in the file Qualifier Definitions 21 NOV.xlsx, some remain undefined. Data reported in mass units only (ug, mg) were qualified with the qualifier of NSR (non-standard reporting unit). SOURCE METADATA: The R/V Ferrel departed from port on August 13, 2010 to collect data in the Gulf of Mexico, Mississippi Canyon. Fluorescence data was collected for the detection and delineation of the dispersed oil plume. Total Polycyclic Aromatic Hydrocarbons (PAH), Volatile Organic Analysis (VOA), and Dissolved oxygen data were collected for water column sampling. Physical oceanographic data being collected were Conductivity, Temperature, and Depth (CTD). In addition to the physical oceanographic data, samples were also taken to perform microbiological analysis to include SIP (stable isotope probing), DNA, RNA, AODC (acridine orange direct count) Cell Count, Nutrient Analysis, PLFA (phospholipid fatty acid analysis), and culture dilution series. The Ferrel returned to port on August 17, 2010. The collection includes operational documents, which may include some or all of the following: cruise plans, daily reports, final reports, operational photographs and products developed during the cruise to guide operational decisions. Products may include geospatial data files, maps, charts and/or data plots or graphs. Some of the datasets associated with this cruise are still in process and will be published as they become available. SAMPLE LOCATION. Sampling stations were discrete locations where environmental or biological data were collected. Positional data including latitude, longitude was collected in decimal degrees. Bottom depth was recorded for each sampling station in meters. Data was acquired through shipboard navigation systems or scientific instrumentation (eg. CTD). CTD COLLECTION. CTD instrument packages(conductivity, temperature and depth) were deployed overboard at sampling stations and raised and lowered to create a profile of environmental variables throughout the water column. Variables recorded included fluorescence, salinity (conductivity), turbidity, density, temperature, and depth. WATER SAMPLING AND ANALYSIS. Water was collected at multiple depths using Niskin or Go-Flo bottles or various surface collection methods. Water samples were either preserved for onshore analysis or analyzed at sea using shipboard instrumentation. Samples collected on this cruise included VOA (40mL), TPH (1L), microbiology samples, and BOD Winkler Titration."</p>	1

Category	SN_ID	StudyNote by Subject	Cnt
QUALIFIERS	31	<p>The original database included a laboratory qualifier and final qualifier field. Here is how the final qualifiers were assigned: 1. All non-validated data had nothing in the final qualifier field, so the lab qualifier was used for qualcode. 2. Validated data used the final qualifier for the qualcode field. 3. If there was a qualifier in the lab qual and nothing in the validator qual, generally the lab qual was used as the final qual. 4. Added NSR for non-standard reporting units (mg, ug). Qualifiers were defined as received in the file Qualifier Definitions 21 NOV.xlsx, some remain undefined. Data reported in mass units only (ug, mg) were qualified with the qualifier of NSR (non-standard reporting unit). SOURCE METADATA: The R/V Gyre departed from Port Fourchon, LA on October 7, 2010 to collect data in the Gulf of Mexico, Mississippi Canyon. The data collection was part of the coordinated response to the Deepwater Horizon incident. The Gyre used a megacorer to collect sediment from the ocean floor, focusing primarily on the top 10 cm of sediment and the sediment supernatant water interface. The megacorer was designed to collect 12 core samples at each site and each core was used for a different type of analysis. One core from each site was used for visual analysis which consisted of four strategic photographs. To reduce error core assignments for each analysis were chosen at random using a random number generator. Onboard microtoxicology analyses were conducted to determine acute toxicity (%Effect). Samples collected and prepared for onshore analysis associated with this platform mission include Meiofauna, Macrofauna, microbiological analysis, Total organic carbon, Total inorganic carbon, Hydrocarbons, Trace metals, BTEX, and Grain size analysis. Physical oceanographic data also collected were Conductivity, Temperature, and Depth (CTD). Some of the datasets associated with this cruise are still in process and will be published as they become available. SAMPLE LOCATION. Sampling stations were discrete locations where environmental or biological data were collected. Positional data including latitude, longitude was collected in decimal degrees. Bottom depth was recorded for each sampling station in meters. Data was acquired through shipboard navigation systems or scientific instrumentation (eg. CTD). CTD COLLECTION. CTD instrument packages(conductivity, temperature and depth) were deployed overboard at sampling stations and raised and lowered to create a profile of environmental variables throughout the water column. Variables recorded included fluorescence, salinity (conductivity), turbidity, density, temperature, and depth. GIS DATA PRODUCTS. Spatial information was compiled to create a variety of products. SEDIMENT SAMPLING. Sediment samples were collected from the seafloor in the form of cores or grab samples. Samples were preserved for onshore analysis or analyzed at sea using shipboard instrumentation. Samples collected on this cruise included microtox, macrofauna, meiofauna, BTEX, Heavy Metals, Hydrocarbon, and grainsize. TOXICOLOGY SAMPLING. Toxicology sampling included microtoxicity assessments using water collected at various depths. Some assessments were conducted onboard and some were completed onshore. Microtoxicity % effect was analysed onboard the Gyre."</p>	1
QUALIFIERS	32	<p>The original database included a laboratory qualifier and final qualifier field. Here is how the final qualifiers were assigned: 1. All non-validated data had nothing in the final qualifier field, so the lab qualifier was used for qualcode. 2. Validated data used the final qualifier for the qualcode field. 3. If there was a qualifier in the lab qual and nothing in the validator qual, generally the lab qual was used as the final qual. 4. Added NSR for non-standard reporting units (mg, ug). Qualifiers were defined as received in the file Qualifier Definitions 21 NOV.xlsx, some remain undefined. Data reported in mass units only (ug, mg) were qualified with the qualifier of NSR (non-standard reporting unit). SOURCE METADATA: The R/V Ocean Veritas departed from Port Fourchon, LA on July 31, 2010 to collect data in the Gulf of Mexico, Mississippi Canyon and returned to Port Fourchon, LA on August 03, 2010. The data collection was part of the coordinated response to the Deepwater Horizon incident. LISST, Winkler Titration, Fluorescence, and Rotox data was collected for the detection and delineation of the dispersed oil plume. Total Petroleum Hydrocarbon and Dissolved oxygen data was collected for water column sampling. Air quality sampling was conducted for onsite measurements of volatile organic compounds. Physical oceanographic data collected was Conductivity, Temperature, and Depth (CTD). The collection includes operational documents, which may include some or all of the following: cruise plans, daily reports, final reports, operational photographs and products developed during the cruise to guide operational decisions. Products may include geospatial data files, maps, charts and/or data plots or graphs. Some of the datasets associated with this cruise are still in process and will be published as they become available. SAMPLE LOCATION. Sampling stations were discrete locations where environmental or biological data were collected. Positional data including latitude, longitude was collected in decimal degrees. Bottom depth was recorded for each sampling station in meters. Data was acquired through shipboard navigation systems or scientific instrumentation (eg. CTD). CTD COLLECTION. CTD instrument packages(conductivity, temperature and depth) were deployed overboard at sampling stations and raised and lowered to create a profile of environmental variables throughout the water column. Variables recorded included fluorescence, salinity (conductivity), turbidity, density, temperature, and depth. WATER SAMPLING AND ANALYSIS. Water was collected at multiple depths using Niskin bottles. Water samples were preserved for onshore analysis. Samples collected on this cruise included Volatile Organic Compounds (VOA 40ml), Total Petroleum Hydrocarbon (TPH 1L), and Dissolved Oxygen (DO). LISST (Laser In-Situ Scattering and Transmissometry) SAMPLING. LISST instruments were used for either shipboard analysis of water samples or deployed overboard. LISST is utilized for the analysis of size and distribution of particles suspended in water. GIS DATA PRODUCTS. Spatial information was compiled to create a variety of products. TOXICOLOGY SAMPLING. Toxicology sampling included rototoxicity and microtoxicity assessments using water collected at various depths. Some assessments were conducted onboard and some were completed onshore. Rototoxicology (Tox 8oz) samples were collected on this cruise and were processed underway. AIR QUALITY SAMPLING AND ANALYSIS. Air samples were collected at multiple times using various collection methods and were analyzed at sea using shipboard instrumentation to measure the amount of airborne volatile organic compounds (VOC). Any anomalies detected were noted but not recorded. VIDEO AND PHOTOGRAPHY. Surface and subsurface video and photography were taken for visual assessment for environmental and biological conditions."</p>	1

Category	SN_ID	StudyNote by Subject	Cnt
QUALIFIERS	33	<p>The original database included a laboratory qualifier and final qualifier field. Here is how the final qualifiers were assigned: 1. All non-validated data had nothing in the final qualifier field, so the lab qualifier was used for qualcode. 2. Validated data used the final qualifier for the qualcode field. 3. If there was a qualifier in the lab qual and nothing in the validator qual, generally the lab qual was used as the final qual. 4. Added NSR for non-standard reporting units (mg, ug). Qualifiers were defined as received in the file Qualifier Definitions 21 NOV.xlsx, some remain undefined. Data reported in mass units only (ug, mg) were qualified with the qualifier of NSR (non-standard reporting unit). SOURCE METADATA: The R/V Brooks McCall departed from Port Fourchon, LA on August 21, 2010 to collect data and track subsurface oil plume signals in the Gulf of Mexico, Mississippi Canyon, as part of Operation Clean Sweep. The data collected included water column profiles from a CTD associated with water sampling. These profiles of physical oceanographic data included temperature, depth, dissolved oxygen, fluorescence, and salinity. Water column samples were collected for Total Petroleum Hydrocarbons analysis (TPH) and Volatile Organics Analysis (VOA). Dissolved oxygen analysis was conducted using Hach-modified Winkler titration and additional probes. Rototoxicology and LISST (Laser In-Situ Scattering and Transmissometry) readings were also collected from water samples for the detection and delineation of the dispersed oil plume. The collection includes operational documents, which may include some or all of the following: cruise plans, daily reports, final reports, operational photographs and products developed during the cruise to guide operational decisions. Products may include geospatial data files, maps, charts and/or data plots or graphs. Some of the datasets associated with this cruise are still in process and will be published as they become available. SAMPLE LOCATION. Sampling stations were discrete locations where environmental or biological data were collected. Positional data including latitude and longitude were collected in decimal degrees. Bottom depth was recorded for each sampling station in meters. Data was acquired through shipboard navigation systems or scientific instrumentation (eg. CTD). CTD COLLECTION. CTD instrument packages (Conductivity, Temperature and Depth) were deployed overboard at sampling stations and raised and lowered to create a profile of environmental variables throughout the water column. Variables recorded included fluorescence, salinity (conductivity), dissolved oxygen, temperature, and depth. CTD instrumentation on this cruise was deployed on a Niskin-bottle water sampling rosette. WATER SAMPLING AND ANALYSIS. Water was collected at multiple depths using Niskin or Go-Flo bottles or various surface collection methods. Water samples were either preserved for onshore analysis or analyzed at sea using shipboard instrumentation. Samples were collected for onshore analysis of Total Petroleum Hydrocarbons (TPH) and Volatile Organics (VOA). On-board analyses of dissolved oxygen from water samples were conducted and compared using Hach-modified Winkler titration and handheld probes. LISST (Laser In-Situ Scattering and Transmissometry) SAMPLING. The LISST instrument was used for shipboard analysis of the concentration, size and distribution of particles suspended in water samples. Particles measured by LISST can include sediment, oil droplets, other contaminants, and plankton. On this cruise, water samples were collected from different depths and analyzed onboard with the LISST coupled with a fixed wavelength fluorometer. TOXICOLOGY SAMPLING. Toxicology sampling included rototoxicity assessments using water collected at various depths. Some assessments were conducted on-board and some were completed onshore."</p>	1
QUALIFIERS	34	<p>The original database included a laboratory qualifier and final qualifier field. Here is how the final qualifiers were assigned: 1. All non-validated data had nothing in the final qualifier field, so the lab qualifier was used for qualcode. 2. Validated data used the final qualifier for the qualcode field. 3. If there was a qualifier in the lab qual and nothing in the validator qual, generally the lab qual was used as the final qual. 4. Added NSR for non-standard reporting units (mg, ug). Qualifiers were defined as received in the file Qualifier Definitions 21 NOV.xlsx, some remain undefined. Data reported in mass units only (ug, mg) were qualified with the qualifier of NSR (non-standard reporting unit). SOURCE METADATA: The R/V Ferrel departed from port on August 18, 2010 to collect data in the Gulf of Mexico, Mississippi Canyon. Fluorescence data was collected for the detection and delineation of the dispersed oil plume. Total PAH, VOA, and Dissolved oxygen data were collected for water column sampling. Physical oceanographic data collected were Conductivity, Temperature, and Depth (CTD). In addition to the physical oceanographic data, samples were also taken to perform microbiological analysis to include SIP (stable isotope probing), DNA, RNA, AODC (acridine orange direct count) Cell Count, Nutrient Analysis, PLFA (phospholipid fatty acid analysis), and culture dilution series. The Ferrel returned to port on August 23, 2010. The collection includes operational documents, which may include some or all of the following: cruise plans, daily reports, final reports, operational photographs and products developed during the cruise to guide operational decisions. Products may include geospatial data files, maps, charts and/or data plots or graphs. Some of the datasets associated with this cruise are still in process and will be published as they become available. SAMPLE LOCATION. Sampling stations were discrete locations where environmental or biological data were collected. Positional data including latitude, longitude was collected in decimal degrees. Bottom depth was recorded for each sampling station in meters. Data was acquired through shipboard navigation systems or scientific instrumentation (eg. CTD). CTD COLLECTION. CTD instrument packages(conductivity, temperature and depth) were deployed overboard at sampling stations and raised and lowered to create a profile of environmental variables throughout the water column. Variables recorded included fluorescence, salinity (conductivity), turbidity, density, temperature, and depth. WATER SAMPLING AND ANALYSIS. Water was collected at multiple depths using Niskin or Go-Flo bottles or various surface collection methods. Water samples were either preserved for onshore analysis or analyzed at sea using shipboard instrumentation. Samples collected on this cruise included VOA (40mL), TPH (1L), microbiology samples, and BOD (biological oxygen demand) Winkler Titration."</p>	1



Category	SN_ID	StudyNote by Subject	Cnt
QUALIFIERS	35	<p>The original database included a laboratory qualifier and final qualifier field. Here is how the final qualifiers were assigned: 1. All non-validated data had nothing in the final qualifier field, so the lab qualifier was used for qualcode. 2. Validated data used the final qualifier for the qualcode field. 3. If there was a qualifier in the lab qual and nothing in the validator qual, generally the lab qual was used as the final qual. 4. Added NSR for non-standard reporting units (mg, ug). Qualifiers were defined as received in the file Qualifier Definitions 21 NOV.xlsx, some remain undefined. Data reported in mass units only (ug, mg) were qualified with the qualifier of NSR (non-standard reporting unit). SOURCE METADATA: The R/V Ocean Veritas departed from Port Fourchon, LA on August 06, 2010 to collect data in the Gulf of Mexico, Mississippi Canyon and returned to Port Fourchon, LA on August 10, 2010. The data collection was part of the coordinated response to the Deepwater Horizon incident. LISST, Fluorescence, and Rotox data was collected for the detection and delineation of the dispersed oil plume. Total Petroleum Hydrocarbon and Dissolved oxygen data was collected for water column sampling. Physical oceanographic data collected was Conductivity, Temperature, and Depth (CTD). The collection includes operational documents, which may include some or all of the following: cruise plans, daily reports, final reports, operational photographs and products developed during the cruise to guide operational decisions. Products may include geospatial data files, maps, charts and/or data plots or graphs. Some of the datasets associated with this cruise are still in process and will be published as they become available. SAMPLE LOCATION. Sampling stations were discrete locations where environmental or biological data were collected. Positional data including latitude, longitude was collected in decimal degrees. Bottom depth was recorded for each sampling station in meters. Data was acquired through shipboard navigation systems or scientific instrumentation (eg. CTD). CTD COLLECTION. CTD instrument packages(conductivity, temperature and depth) were deployed overboard at sampling stations and raised and lowered to create a profile of environmental variables throughout the water column. Variables recorded included fluorescence, salinity (conductivity), turbidity, density, temperature, and depth. WATER SAMPLING AND ANALYSIS. Water was collected at multiple depths using Niskin bottles. Water samples were preserved for onshore analysis. Samples collected on this cruise included Volatile Organic Compounds (VOA 40ml), Total Petroleum Hydrocarbon (TPH 1L), and Dissolved Oxygen (DO). LISST (Laser In-Situ Scattering and Transmissometry) SAMPLING. LISST instruments were used for either shipboard analysis of water samples or deployed overboard. LISST is utilized for the analysis of size and distribution of particles suspended in water. GIS DATA PRODUCTS. Spatial information was compiled to create a variety of products. TOXICOLOGY SAMPLING. Toxicology sampling included rototoxicity and microtoxicity assessments using water collected at various depths. Some assessments were conducted onboard and some were completed onshore. Rototoxicology (Tox 8oz) samples were collected on this cruise and were processed underway."</p>	1
QUALIFIERS	36	<p>The original database included a laboratory qualifier and final qualifier field. Here is how the final qualifiers were assigned: 1. All non-validated data had nothing in the final qualifier field, so the lab qualifier was used for qualcode. 2. Validated data used the final qualifier for the qualcode field. 3. If there was a qualifier in the lab qual and nothing in the validator qual, generally the lab qual was used as the final qual. 4. Added NSR for non-standard reporting units (mg, ug). Qualifiers were defined as received in the file Qualifier Definitions 21 NOV.xlsx, some remain undefined. Data reported in mass units only (ug, mg) were qualified with the qualifier of NSR (non-standard reporting unit). SOURCE METADATA: The R/V Brooks McCall departed from Port Fourchon, LA on August 29, 2010 to collect data and track subsurface oil plume signals in the Gulf of Mexico, Mississippi Canyon, as part of Operation Clean Sweep. The data collected included water column profiles from a CTD associated with water sampling. These profiles of physical oceanographic data included temperature, depth, dissolved oxygen, fluorescence, and salinity. Water column samples were collected for Total Petroleum Hydrocarbons analysis (TPH) and Volatile Organics Analysis (VOA). Dissolved oxygen analysis was conducted on water samples using Hach-modified Winkler titration and a handheld probe. The collection includes operational documents, which may include some or all of the following: cruise plans, daily reports, final reports, operational photographs and products developed during the cruise to guide operational decisions. Products may include geospatial data files, maps, charts and/or data plots or graphs. Some of the datasets associated with this cruise are still in process and will be published as they become available. SAMPLE LOCATION. Sampling stations were discrete locations where environmental or biological data were collected. Positional data including latitude and longitude were collected in decimal degrees. Bottom depth was recorded for each sampling station in meters. Data was acquired through shipboard navigation systems or scientific instrumentation (eg. CTD). CTD COLLECTION. CTD instrument packages (Conductivity, Temperature and Depth) were deployed overboard at sampling stations and raised and lowered to create a profile of environmental variables throughout the water column. Variables recorded included fluorescence, salinity (conductivity), dissolved oxygen, temperature, and depth. CTD instrumentation on this cruise was deployed on a Niskin-bottle water sampling rosette. WATER SAMPLING AND ANALYSIS. Water was collected at multiple depths using Niskin or Go-Flo bottles or various surface collection methods. Water samples were either preserved for onshore analysis or analyzed at sea using shipboard instrumentation. Samples were collected for onshore analysis of Total Petroleum Hydrocarbons (TPH) and Volatile Organics (VOA). On-board analyses of dissolved oxygen from water samples were conducted and compared using Hach-modified Winkler titration and a handheld probe."</p>	1

Appendix H: Response Study Notes

Category	SN_ID	StudyNote by Subject	Cnt
QUALIFIERS	37	<p>The original database included a laboratory qualifier and final qualifier field. Here is how the final qualifiers were assigned: 1. All non-validated data had nothing in the final qualifier field, so the lab qualifier was used for qualcode. 2. Validated data used the final qualifier for the qualcode field. 3. If there was a qualifier in the lab qual and nothing in the validator qual, generally the lab qual was used as the final qual. 4. Added NSR for non-standard reporting units (mg, ug). Qualifiers were defined as received in the file Qualifier Definitions 21 NOV.xlsx, some remain undefined. Data reported in mass units only (ug, mg) were qualified with the qualifier of NSR (non-standard reporting unit). SOURCE METADATA: The R/V Ferrel departed from port on August 23, 2010 to collect data in the Gulf of Mexico, Mississippi Canyon. Fluorescence data was collected for the detection and delineation of the dispersed oil plume. Total Polycyclic Aromatic Hydrocarbons (PAH), Volatile Organic Analysis (VOA), and Dissolved oxygen data were collected for water column sampling. Physical oceanographic data being collected were Conductivity, Temperature, and Depth (CTD). In addition to the physical oceanographic data, samples were also taken to perform microbiological analysis to include SIP (stable isotope probing), DNA, RNA, AODC (acridine orange direct count) Cell Count, Nutrient Analysis, PLFA (phospholipid fatty acid analysis), and culture dilution series. The Ferrel returned to port on August 27, 2010. The collection includes operational documents, which may include some or all of the following: cruise plans, daily reports, final reports, operational photographs and products developed during the cruise to guide operational decisions. Products may include geospatial data files, maps, charts and/or data plots or graphs. Some of the datasets associated with this cruise are still in process and will be published as they become available. SAMPLE LOCATION. Sampling stations were discrete locations where environmental or biological data were collected. Positional data including latitude, longitude was collected in decimal degrees. Bottom depth was recorded for each sampling station in meters. Data was acquired through shipboard navigation systems or scientific instrumentation (eg. CTD). CTD COLLECTION. CTD instrument packages(conductivity, temperature and depth) were deployed overboard at sampling stations and raised and lowered to create a profile of environmental variables throughout the water column. Variables recorded included fluorescence, salinity (conductivity), turbidity, density, temperature, and depth. WATER SAMPLING AND ANALYSIS. Water was collected at multiple depths using Niskin or Go-Flo bottles or various surface collection methods. Water samples were either preserved for onshore analysis or analyzed at sea using shipboard instrumentation. Samples collected on this cruise included VOA (40mL), TPH (1L), microbiology samples, and BOD Winkler Titration."</p>	1
QUALIFIERS	38	<p>The original database included a laboratory qualifier and final qualifier field. Here is how the final qualifiers were assigned: 1. All non-validated data had nothing in the final qualifier field, so the lab qualifier was used for qualcode. 2. Validated data used the final qualifier for the qualcode field. 3. If there was a qualifier in the lab qual and nothing in the validator qual, generally the lab qual was used as the final qual. 4. Added NSR for non-standard reporting units (mg, ug). Qualifiers were defined as received in the file Qualifier Definitions 21 NOV.xlsx, some remain undefined. Data reported in mass units only (ug, mg) were qualified with the qualifier of NSR (non-standard reporting unit). SOURCE METADATA: The R/V Ocean Veritas departed from Port Fourchon, LA on August 12, 2010 to collect data in the Gulf of Mexico, Mississippi Canyon and returned to Port Fourchon, LA on August 16, 2010. The data collection was part of the coordinated response to the Deepwater Horizon incident. LISST, Fluorescence, and Rotox data was collected for the detection and delineation of the dispersed oil plume. Total Petroleum Hydrocarbon and Dissolved oxygen data was collected for water column sampling. Physical oceanographic data collected was Conductivity, Temperature, and Depth (CTD). The collection includes operational documents, which may include some or all of the following: cruise plans, daily reports, final reports, operational photographs and products developed during the cruise to guide operational decisions. Products may include geospatial data files, maps, charts and/or data plots or graphs. Some of the datasets associated with this cruise are still in process and will be published as they become available. SAMPLE LOCATION. Sampling stations were discrete locations where environmental or biological data were collected. Positional data including latitude, longitude was collected in decimal degrees. Bottom depth was recorded for each sampling station in meters. Data was acquired through shipboard navigation systems or scientific instrumentation (eg. CTD). CTD COLLECTION. CTD instrument packages(conductivity, temperature and depth) were deployed overboard at sampling stations and raised and lowered to create a profile of environmental variables throughout the water column. Variables recorded included fluorescence, salinity (conductivity), turbidity, density, temperature, and depth. WATER SAMPLING AND ANALYSIS. Water was collected at multiple depths using Niskin bottles. Water samples were preserved for onshore analysis. Samples collected on this cruise included Volatile Organic Compounds (VOA 40ml), Total Petroleum Hydrocarbon (TPH 1L), and Dissolved Oxygen (DO). LISST (Laser In-Situ Scattering and Transmissometry) SAMPLING. LISST instruments were used for either shipboard analysis of water samples or deployed overboard. LISST is utilized for the analysis of size and distribution of particles suspended in water. GIS DATA PRODUCTS. Spatial information was compiled to create a variety of products. TOXICOLOGY SAMPLING. Toxicology sampling included rototoxicity and microtoxicity assessments using water collected at various depths. Some assessments were conducted onboard and some were completed onshore. Rototoxicology (Tox 8oz) samples were collected on this cruise and were processed underway."</p>	1

Appendix H: Response Study Notes

Category	SN_ID	StudyNote by Subject	Cnt
QUALIFIERS	39	<p>The original database included a laboratory qualifier and final qualifier field. Here is how the final qualifiers were assigned: 1. All non-validated data had nothing in the final qualifier field, so the lab qualifier was used for qualcode. 2. Validated data used the final qualifier for the qualcode field. 3. If there was a qualifier in the lab qual and nothing in the validator qual, generally the lab qual was used as the final qual. 4. Added NSR for non-standard reporting units (mg, ug). Qualifiers were defined as received in the file Qualifier Definitions 21 NOV.xlsx, some remain undefined. Data reported in mass units only (ug, mg) were qualified with the qualifier of NSR (non-standard reporting unit). SOURCE METADATA: The R/V Brooks McCall departed from Port Fourchon, LA on September 02, 2010 to collect data and track subsurface oil plume signals in the Gulf of Mexico, Mississippi Canyon, as part of Operation Clean Sweep. The data collected included water column profiles from a CTD associated with water sampling. These profiles of physical oceanographic data included temperature, depth, dissolved oxygen, fluorescence, and salinity. Water column samples were collected for Total Petroleum Hydrocarbons analysis (TPH) and Volatile Organics Analysis (VOA). Dissolved oxygen analysis was conducted on water samples using Hach-modified Winkler titration and a handheld probe. The collection includes operational documents, which may include some or all of the following: cruise plans, daily reports, final reports, operational photographs and products developed during the cruise to guide operational decisions. Products may include geospatial data files, maps, charts and/or data plots or graphs. Some of the datasets associated with this cruise are still in process and will be published as they become available. SAMPLE LOCATION. Sampling stations were discrete locations where environmental or biological data were collected. Positional data including latitude and longitude were collected in decimal degrees. Bottom depth was recorded for each sampling station in meters. Data was acquired through shipboard navigation systems or scientific instrumentation (eg. CTD). CTD COLLECTION. CTD instrument packages (Conductivity, Temperature and Depth) were deployed overboard at sampling stations and raised and lowered to create a profile of environmental variables throughout the water column. Variables recorded included fluorescence, salinity (conductivity), dissolved oxygen, temperature, and depth. CTD instrumentation on this cruise was deployed on a Niskin-bottle water sampling rosette. WATER SAMPLING AND ANALYSIS. Water was collected at multiple depths using Niskin or Go-Flo bottles or various surface collection methods. Water samples were either preserved for onshore analysis or analyzed at sea using shipboard instrumentation. Samples were collected for onshore analysis of Total Petroleum Hydrocarbons (TPH) and Volatile Organics (VOA). On-board analyses of dissolved oxygen from water samples were conducted and compared using Hach-modified Winkler titration and a handheld probe."</p>	1
QUALIFIERS	40	<p>The original database included a laboratory qualifier and final qualifier field. Here is how the final qualifiers were assigned: 1. All non-validated data had nothing in the final qualifier field, so the lab qualifier was used for qualcode. 2. Validated data used the final qualifier for the qualcode field. 3. If there was a qualifier in the lab qual and nothing in the validator qual, generally the lab qual was used as the final qual. 4. Added NSR for non-standard reporting units (mg, ug). Qualifiers were defined as received in the file Qualifier Definitions 21 NOV.xlsx, some remain undefined. Data reported in mass units only (ug, mg) were qualified with the qualifier of NSR (non-standard reporting unit). SOURCE METADATA: The R/V Ocean Veritas departed from Port Fourchon, LA on August 18, 2010 to collect data in the Gulf of Mexico, Mississippi Canyon and returned to Port Fourchon, LA on August 22, 2010. The data collection was part of the coordinated response to the Deepwater Horizon incident. LISST, Fluorescence, and Rotox data was collected for the detection and delineation of the dispersed oil plume. Total Petroleum Hydrocarbon and Dissolved oxygen data was collected for water column sampling. Physical oceanographic data collected was Conductivity, Temperature, and Depth (CTD). The collection includes operational documents, which may include some or all of the following: cruise plans, daily reports, final reports, operational photographs and products developed during the cruise to guide operational decisions. Products may include geospatial data files, maps, charts and/or data plots or graphs. Some of the datasets associated with this cruise are still in process and will be published as they become available. SAMPLE LOCATION. Sampling stations were discrete locations where environmental or biological data were collected. Positional data including latitude, longitude was collected in decimal degrees. Bottom depth was recorded for each sampling station in meters. Data was acquired through shipboard navigation systems or scientific instrumentation (eg. CTD). CTD COLLECTION. CTD instrument packages(conductivity, temperature and depth) were deployed overboard at sampling stations and raised and lowered to create a profile of environmental variables throughout the water column. Variables recorded included fluorescence, salinity (conductivity), turbidity, density, temperature, and depth. WATER SAMPLING AND ANALYSIS. Water was collected at multiple depths using Niskin bottles. Water samples were preserved for onshore analysis. Samples collected on this cruise included Volatile Organic Compounds (VOA 40ml), Total Petroleum Hydrocarbon (TPH 1L), and Dissolved Oxygen (DO). LISST (Laser In-Situ Scattering and Transmissometry) SAMPLING. LISST instruments were used for either shipboard analysis of water samples or deployed overboard. LISST is utilized for the analysis of size and distribution of particles suspended in water. GIS DATA PRODUCTS. Spatial information was compiled to create a variety of products. TOXICOLOGY SAMPLING. Toxicology sampling included rototoxicity and microtoxicity assessments using water collected at various depths. Some assessments were conducted onboard and some were completed onshore. Rototoxicology (Tox 8oz) samples were collected on this cruise and were processed underway."</p>	1

Category	SN_ID	StudyNote by Subject	Cnt
QUALIFIERS	41	<p>The original database included a laboratory qualifier and final qualifier field. Here is how the final qualifiers were assigned: 1. All non-validated data had nothing in the final qualifier field, so the lab qualifier was used for qualcode. 2. Validated data used the final qualifier for the qualcode field. 3. If there was a qualifier in the lab qual and nothing in the validator qual, generally the lab qual was used as the final qual. 4. Added NSR for non-standard reporting units (mg, ug). Qualifiers were defined as received in the file Qualifier Definitions 21 NOV.xlsx, some remain undefined. Data reported in mass units only (ug, mg) were qualified with the qualifier of NSR (non-standard reporting unit). SOURCE METADATA: The R/V Brooks McCall departed from Port Fourchon, LA on September 07, 2010 to collect data and track subsurface oil plume signals in the Gulf of Mexico, Mississippi Canyon, as part of Operation Clean Sweep. The data collected included water column profiles from a CTD associated with water sampling. These profiles of physical oceanographic data included temperature, depth, dissolved oxygen, fluorescence, and salinity. Water column samples were collected for Total Petroleum Hydrocarbons analysis (TPH) and Volatile Organics Analysis (VOA). The collection includes operational documents, which may include some or all of the following: cruise plans, daily reports, final reports, operational photographs and products developed during the cruise to guide operational decisions. Products may include geospatial data files, maps, charts and/or data plots or graphs. Some of the datasets associated with this cruise are still in process and will be published as they become available. SAMPLE LOCATION. Sampling stations were discrete locations where environmental or biological data were collected. Positional data including latitude and longitude were collected in decimal degrees. Bottom depth was recorded for each sampling station in meters. Data was acquired through shipboard navigation systems or scientific instrumentation (eg. CTD). CTD COLLECTION. CTD instrument packages (Conductivity, Temperature and Depth) were deployed overboard at sampling stations and raised and lowered to create a profile of environmental variables throughout the water column. Variables recorded included fluorescence, salinity (conductivity), dissolved oxygen, temperature, and depth. CTD instrumentation on this cruise was deployed on a Niskin-bottle water sampling rosette. WATER SAMPLING AND ANALYSIS. Water was collected at multiple depths using Niskin or Go-Flo bottles or various surface collection methods. Water samples were either preserved for onshore analysis or analyzed at sea using shipboard instrumentation. Samples were collected for onshore analysis of Total Petroleum Hydrocarbons (TPH) and Volatile Organics (VOA)."</p>	1
QUALIFIERS	42	<p>The original database included a laboratory qualifier and final qualifier field. Here is how the final qualifiers were assigned: 1. All non-validated data had nothing in the final qualifier field, so the lab qualifier was used for qualcode. 2. Validated data used the final qualifier for the qualcode field. 3. If there was a qualifier in the lab qual and nothing in the validator qual, generally the lab qual was used as the final qual. 4. Added NSR for non-standard reporting units (mg, ug). Qualifiers were defined as received in the file Qualifier Definitions 21 NOV.xlsx, some remain undefined. Data reported in mass units only (ug, mg) were qualified with the qualifier of NSR (non-standard reporting unit). SOURCE METADATA: The R/V Ocean Veritas departed from Port Fourchon, LA on August 25, 2010 to collect data in the Gulf of Mexico, Mississippi Canyon and returned to Port Fourchon, LA on August 29, 2010. The data collection was part of the coordinated response to the Deepwater Horizon incident. LISST, Fluorescence, and Rotox data was collected for the detection and delineation of the dispersed oil plume. Total Petroleum Hydrocarbon and Dissolved oxygen data was collected for water column sampling. Physical oceanographic data collected was Conductivity, Temperature, and Depth (CTD). The collection includes operational documents, which may include some or all of the following: cruise plans, daily reports, final reports, operational photographs and products developed during the cruise to guide operational decisions. Products may include geospatial data files, maps, charts and/or data plots or graphs. Some of the datasets associated with this cruise are still in process and will be published as they become available. SAMPLE LOCATION. Sampling stations were discrete locations where environmental or biological data were collected. Positional data including latitude, longitude was collected in decimal degrees. Bottom depth was recorded for each sampling station in meters. Data was acquired through shipboard navigation systems or scientific instrumentation (eg. CTD). CTD COLLECTION. CTD instrument packages(conductivity, temperature and depth) were deployed overboard at sampling stations and raised and lowered to create a profile of environmental variables throughout the water column. Variables recorded included fluorescence, salinity (conductivity), turbidity, density, temperature, and depth. WATER SAMPLING AND ANALYSIS. Water was collected at multiple depths using Niskin bottles. Water samples were preserved for onshore analysis. Samples collected on this cruise included Volatile Organic Compounds (VOA 40ml), Total Petroleum Hydrocarbon (TPH 1L), and Dissolved Oxygen (DO). LISST (Laser In-Situ Scattering and Transmissometry) SAMPLING. LISST instruments were used for either shipboard analysis of water samples or deployed overboard. LISST is utilized for the analysis of size and distribution of particles suspended in water. GIS DATA PRODUCTS. Spatial information was compiled to create a variety of products. TOXICOLOGY SAMPLING. Toxicology sampling included rototoxicity and microtoxicity assessments using water collected at various depths. Some assessments were conducted onboard and some were completed onshore. Rototoxicology (Tox 8oz) samples were collected on this cruise and were processed underway. VIDEO AND PHOTOGRAPHY. Surface and subsurface video and photography were taken for visual assessment for environmental and biological conditions."</p>	1

Category	SN_ID	StudyNote by Subject	Cnt
QUALIFIERS	43	<p>The original database included a laboratory qualifier and final qualifier field. Here is how the final qualifiers were assigned: 1. All non-validated data had nothing in the final qualifier field, so the lab qualifier was used for qualcode. 2. Validated data used the final qualifier for the qualcode field. 3. If there was a qualifier in the lab qual and nothing in the validator qual, generally the lab qual was used as the final qual. 4. Added NSR for non-standard reporting units (mg, ug). Qualifiers were defined as received in the file Qualifier Definitions 21 NOV.xlsx, some remain undefined. Data reported in mass units only (ug, mg) were qualified with the qualifier of NSR (non-standard reporting unit). SOURCE METADATA: The R/V Ocean Veritas departed from Port Fourchon, LA on August 30, 2010 to collect data in the Gulf of Mexico, Mississippi Canyon and returned to Port Fourchon, LA on September 03, 2010. The data collection was part of the coordinated response to the Deepwater Horizon incident. Fluorescence data was collected for the detection and delineation of the dispersed oil plume. Total Petroleum Hydrocarbon and Dissolved oxygen data was collected for water column sampling. Physical oceanographic data collected was Conductivity, Temperature, and Depth (CTD). The collection includes operational documents, which may include some or all of the following: cruise plans, daily reports, final reports, operational photographs and products developed during the cruise to guide operational decisions. Products may include geospatial data files, maps, charts and/or data plots or graphs. Some of the datasets associated with this cruise are still in process and will be published as they become available. SAMPLE LOCATION. Sampling stations were discrete locations where environmental or biological data were collected. Positional data including latitude, longitude was collected in decimal degrees. Bottom depth was recorded for each sampling station in meters. Data was acquired through shipboard navigation systems or scientific instrumentation (eg. CTD). CTD COLLECTION. CTD instrument packages(conductivity, temperature and depth) were deployed overboard at sampling stations and raised and lowered to create a profile of environmental variables throughout the water column. Variables recorded included fluorescence, salinity (conductivity), turbidity, density, temperature, and depth. WATER SAMPLING AND ANALYSIS. Water was collected at multiple depths using Niskin bottles. Water samples were preserved for onshore analysis. Samples collected on this cruise included Volatile Organic Compounds (VOA 40ml), Total Petroleum Hydrocarbon (TPH 1L), and Dissolved Oxygen (DO). LISST (Laser In-Situ Scattering and Transmissometry) SAMPLING. LISST instruments were used for either shipboard analysis of water samples or deployed overboard. LISST is utilized for the analysis of size and distribution of particles suspended in water. GIS DATA PRODUCTS. Spatial information was compiled to create a variety of products. TOXICOLOGY SAMPLING. Toxicology sampling included rototoxicity and microtoxicity assessments using water collected at various depths. Some assessments were conducted onboard and some were completed onshore. Rototoxicology (Tox 8oz) samples were collected on this cruise and were processed underway."</p>	1
QUALIFIERS	44	<p>The original database included a laboratory qualifier and final qualifier field. Here is how the final qualifiers were assigned: 1. All non-validated data had nothing in the final qualifier field, so the lab qualifier was used for qualcode. 2. Validated data used the final qualifier for the qualcode field. 3. If there was a qualifier in the lab qual and nothing in the validator qual, generally the lab qual was used as the final qual. 4. Added NSR for non-standard reporting units (mg, ug). Qualifiers were defined as received in the file Qualifier Definitions 21 NOV.xlsx, some remain undefined. Data reported in mass units only (ug, mg) were qualified with the qualifier of NSR (non-standard reporting unit). SOURCE METADATA: The R/V Ocean Veritas departed from Port Fourchon, LA on July 13, 2010 to collect data in the Gulf of Mexico, Mississippi Canyon and returned to Port Fourchon, LA on July 16, 2010. The data collection was part of the coordinated response to the Deepwater Horizon incident. LISST, Fluorescence, and Rotox data was collected for the detection and delineation of the dispersed oil plume. Total Petroleum Hydrocarbon and Dissolved oxygen data was collected for water column sampling. Air quality sampling was conducted for onsite measurements of volatile organic compounds. Physical oceanographic data collected was Conductivity, Temperature, and Depth (CTD). The collection includes operational documents, which may include some or all of the following: cruise plans, daily reports, final reports, operational photographs and products developed during the cruise to guide operational decisions. Products may include geospatial data files, maps, charts and/or data plots or graphs. Some of the datasets associated with this cruise are still in process and will be published as they become available. SAMPLE LOCATION. Sampling stations were discrete locations where environmental or biological data were collected. Positional data including latitude, longitude was collected in decimal degrees. Bottom depth was recorded for each sampling station in meters. Data was acquired through shipboard navigation systems or scientific instrumentation (eg. CTD). CTD COLLECTION. CTD instrument packages(conductivity, temperature and depth) were deployed overboard at sampling stations and raised and lowered to create a profile of environmental variables throughout the water column. Variables recorded included fluorescence, salinity (conductivity), turbidity, density, temperature, and depth. WATER SAMPLING AND ANALYSIS. Water was collected at multiple depths using Niskin bottles. Water samples were preserved for onshore analysis. Samples collected on this cruise included Volatile Organic Compounds (VOA 40ml), Total Petroleum Hydrocarbon (TPH 1L), and Dissolved Oxygen (DO). LISST (Laser In-Situ Scattering and Transmissometry) SAMPLING. LISST instruments were used for either shipboard analysis of water samples or deployed overboard. LISST is utilized for the analysis of size and distribution of particles suspended in water. GIS DATA PRODUCTS. Spatial information was compiled to create a variety of products. TOXICOLOGY SAMPLING. Toxicology sampling included rototoxicity and microtoxicity assessments using water collected at various depths. Some assessments were conducted onboard and some were completed onshore. Rototoxicology (Tox 8oz) samples were collected on this cruise and were processed underway. AIR QUALITY SAMPLING AND ANALYSIS. Air samples were collected at multiple times using various collection methods and were analyzed at sea using shipboard instrumentation to measure the amount of airborne volatile organic compounds (VOC). Any anomalies detected were noted but not recorded. VIDEO AND PHOTOGRAPHY. Surface and subsurface video and photography were taken for visual assessment for environmental and biological conditions."</p>	1

Category	SN_ID	StudyNote by Subject	Cnt
QUALIFIERS	45	<p>The original database included a laboratory qualifier and final qualifier field. Here is how the final qualifiers were assigned: 1. All non-validated data had nothing in the final qualifier field, so the lab qualifier was used for qualcode. 2. Validated data used the final qualifier for the qualcode field. 3. If there was a qualifier in the lab qual and nothing in the validator qual, generally the lab qual was used as the final qual. 4. Added NSR for non-standard reporting units (mg, ug). Qualifiers were defined as received in the file Qualifier Definitions 21 NOV.xlsx, some remain undefined. Data reported in mass units only (ug, mg) were qualified with the qualifier of NSR (non-standard reporting unit). SOURCE METADATA: The R/V Ocean Veritas departed from Port Fourchon, LA on July 26, 2010 to collect data in the Gulf of Mexico, Mississippi Canyon and returned to Port Fourchon, LA on July 29, 2010. The data collection was part of the coordinated response to the Deepwater Horizon incident. LISST, Fluorescence, and Rotox data was collected for the detection and delineation of the dispersed oil plume. Total Petroleum Hydrocarbon and Dissolved oxygen data was collected for water column sampling. Air quality sampling was conducted for onsite measurements of volatile organic compounds. Physical oceanographic data collected was Conductivity, Temperature, and Depth (CTD). The collection includes operational documents, which may include some or all of the following: cruise plans, daily reports, final reports, operational photographs and products developed during the cruise to guide operational decisions. Products may include geospatial data files, maps, charts and/or data plots or graphs. Some of the datasets associated with this cruise are still in process and will be published as they become available. SAMPLE LOCATION. Sampling stations were discrete locations where environmental or biological data were collected. Positional data including latitude, longitude was collected in decimal degrees. Bottom depth was recorded for each sampling station in meters. Data was acquired through shipboard navigation systems or scientific instrumentation (eg. CTD). CTD COLLECTION. CTD instrument packages(conductivity, temperature and depth) were deployed overboard at sampling stations and raised and lowered to create a profile of environmental variables throughout the water column. Variables recorded included fluorescence, salinity (conductivity), turbidity, density, temperature, and depth. WATER SAMPLING AND ANALYSIS. Water was collected at multiple depths using Niskin bottles. Water samples were preserved for onshore analysis. Samples collected on this cruise included Volatile Organic Compounds (VOA 40ml), Total Petroleum Hydrocarbon (TPH 1L), and Dissolved Oxygen (DO). LISST (Laser In-Situ Scattering and Transmissometry) SAMPLING. LISST instruments were used for either shipboard analysis of water samples or deployed overboard. LISST is utilized for the analysis of size and distribution of particles suspended in water. GIS DATA PRODUCTS. Spatial information was compiled to create a variety of products. TOXICOLOGY SAMPLING. Toxicology sampling included rototoxicity and microtoxicity assessments using water collected at various depths. Some assessments were conducted onboard and some were completed onshore. Rototoxicology (Tox 8oz) samples were collected on this cruise and were processed underway. AIR QUALITY SAMPLING AND ANALYSIS. Air samples were collected at multiple times using various collection methods and were analyzed at sea using shipboard instrumentation to measure the amount of airborne volatile organic compounds (VOC). Any anomalies detected were noted but not recorded. VIDEO AND PHOTOGRAPHY. Surface and subsurface video and photography were taken for visual assessment for environmental and biological conditions."</p>	1

Category	SN_ID	StudyNote by Subject	Cnt
QUALIFIERS	46	<p>The original database included a laboratory qualifier and final qualifier field. Here is how the final qualifiers were assigned: 1. All non-validated data had nothing in the final qualifier field, so the lab qualifier was used for qualcode. 2. Validated data used the final qualifier for the qualcode field. 3. If there was a qualifier in the lab qual and nothing in the validator qual, generally the lab qual was used as the final qual. 4. Added NSR for non-standard reporting units (mg, ug). Qualifiers were defined as received in the file Qualifier Definitions 21 NOV.xls, some remain undefined. Data reported in mass units only (ug, mg) were qualified with the qualifier of NSR (non-standard reporting unit). SOURCE METADATA: The R/V Brooks McCall departed from Port Fourchon, LA on May 7, 2010 to collect data in the Gulf of Mexico, Mississippi Canyon. The data collected included water column profiles from a CTD associated with water sampling. In addition, continuous data was collected underway using a Laser In-Situ Scattering and Transmissometry (LISST) instrument and a Turner C3 Fluorometer. The profile of physical oceanographic data included: conductivity, temperature, and depth (CTD); dissolved oxygen; fluorometry; and salinity. Water column samples included Total Polycyclic Aromatic Hydrocarbons(PAH), as Total Petroleum Hydrocarbons(TPH_1L) and Dissolved Oxygen (DO) with LaMotte. Grab samples were also collected of surface oil - when present. Fluorometry and LISST readings were collected for the detection and delineation of the dispersed oil plume. The collection includes operational documents, which may include some or all of the following: cruise plans, daily reports, final reports, operational photographs and products developed during the cruise to guide operational decisions. Products may include geospatial data files, maps, charts and/or data plots or graphs. Some of the datasets associated with this cruise are still in process and will be published as they become available. SAMPLE LOCATION. Sampling stations were discrete locations where environmental or biological data were collected. Positional data including latitude, longitude was collected in decimal degrees. Bottom depth was recorded for each sampling station in meters. Data was acquired through shipboard navigation systems or scientific instrumentation (eg. CTD). CTD COLLECTION. CTD instrument packages(conductivity, temperature and depth) were deployed overboard at sampling stations and raised and lowered to create a profile of environmental variables throughout the water column. Variables recorded included fluorescence, salinity (conductivity), dissolved oxygen, temperature, and depth. WATER SAMPLING AND ANALYSIS. Water was collected at multiple depths using Niskin or Go-Flo bottles or various surface collection methods. Water samples were either preserved for onshore analysis or analyzed at sea using shipboard instrumentation. Samples collected on this cruise included Total Petroleum Hydrocarbons (TPH) and Dissolved Oxygen with LaMotte. LISST (Laser In-Situ Scattering and Transmissometry) SAMPLING. LISST instruments were used for either shipboard analysis of water samples or deployed overboard. LISST is utilized for the analysis of size and distribution of particles suspended in water. GIS DATA PRODUCTS. Spatial information was compiled to create a variety of products. AIR QUALITY SAMPLING AND ANALYSIS. Air quality data was collected at multiple times using shipboard instrumentation to measure the amount of airborne Volatile Organic Compounds (VOC)present. Readings were logged regularly when science staff were working on deck. TRAWLING/TOWED EQUIPMENT. Continuous or underway data includes a LISST 100X instrument or a Turner C3 Fluorometer, customized for oil, CDOM, and turbidity measurements. The LISST-100X particle counter was deployed from a transponder boom off the port side of the R/V Brooks McCall at approximately 3 meters depth for continuous monitoring while simultaneously conducting a SMART protocol survey based on oil fluorescence. The Turner C3 Towfish Fluorometer was deployed on the starboard A-frame and run continuously whilst transiting between stations. Depth for fluorescence measurements was between 1-3 m at approximately 2 knots, to avoid surface bubble interference."</p>	1
QUALIFIERS	47	<p>The original database included a laboratory qualifier and final qualifier field. Here is how the final qualifiers were assigned: 1. All non-validated data had nothing in the final qualifier field, so the lab qualifier was used for qualcode. 2. Validated data used the final qualifier for the qualcode field. 3. If there was a qualifier in the lab qual and nothing in the validator qual, generally the lab qual was used as the final qual. 4. Added NSR for non-standard reporting units (mg, ug). Qualifiers were defined as received in the file Qualifier Definitions 21 NOV.xls, some remain undefined. Data reported in mass units only (ug, mg) were qualified with the qualifier of NSR (non-standard reporting unit). SOURCE METADATA: The R/V Brooks McCall departed from Port Fourchon, LA on May 15, 2010 to collect data in the Gulf of Mexico, Mississippi Canyon. The data collected included water column profiles from a CTD associated with water sampling. The profile of physical oceanographic data included: conductivity, temperature and depth (CTD); dissolved oxygen (DO); fluorometry; and salinity. Water column samples included Total Polycyclic Aromatic Hydrocarbons(PAH) - as Total Petroleum Hydrocarbons(TPH_1L), Volatile Organics (VOA), and Dissolved Oxygen with LaMotte. Grab samples were also collected of surface oil - when present. Continuous data was collected underway using a Laser In-Situ Scattering and Transmissometry (LISST) instrument. Fluorometry, Rototoxicity, and LISST readings were collected for the detection and delineation of the dispersed oil plume. The collection includes operational documents, which may include some or all of the following: cruise plans, daily reports, final reports, operational photographs and products developed during the cruise to guide operational decisions. Products may include geospatial data files, maps, charts and/or data plots or graphs. Some of the datasets associated with this cruise are still in process and will be published as they become available. SAMPLE LOCATION. Sampling stations were discrete locations where environmental or biological data were collected. Positional data including latitude, longitude was collected in decimal degrees. Bottom depth was recorded for each sampling station in meters. Data was acquired through shipboard navigation systems or scientific instrumentation (eg. CTD). CTD COLLECTION. CTD instrument packages(conductivity, temperature and depth) were deployed overboard at sampling stations and raised and lowered to create a profile of environmental variables throughout the water column. Variables recorded included fluorescence, salinity (conductivity), dissolved oxygen, temperature, and depth. WATER SAMPLING AND ANALYSIS. Water was collected at multiple depths using Niskin or Go-Flo bottles or various surface collection methods. Water samples were either preserved for onshore analysis or analyzed at sea using shipboard instrumentation. Samples collected on this cruise included Total Petroleum Hydrocarbons (TPH), Volatile Organics (VOA), and Dissolved Oxygen with LaMotte. LISST (Laser In-Situ Scattering and Transmissometry) SAMPLING. LISST instruments were used for either shipboard analysis of water samples or deployed overboard. LISST is utilized for the analysis of size and distribution of particles suspended in water. GIS DATA PRODUCTS. Spatial information was compiled to create a variety of products. TOXICOLOGY SAMPLING. Toxicology sampling included rotoxicity assessments using water collected at various depths. Some assessments were conducted onboard and some were completed onshore. TRAWLING/TOWED EQUIPMENT. Continuous, or underway, data is from the LISST 100X instrument, a particle counter that was deployed from a transponder boom off the port side at approximately 3 meters depth for continuous monitoring."</p>	1

Appendix H: Response Study Notes

Category	SN_ID	StudyNote by Subject	Cnt
QUALIFIERS	48	<p>The original database included a laboratory qualifier and final qualifier field. Here is how the final qualifiers were assigned: 1. All non-validated data had nothing in the final qualifier field, so the lab qualifier was used for qualcode. 2. Validated data used the final qualifier for the qualcode field. 3. If there was a qualifier in the lab qual and nothing in the validator qual, generally the lab qual was used as the final qual. 4. Added NSR for non-standard reporting units (mg, ug). Qualifiers were defined as received in the file Qualifier Definitions 21 NOV.xlsx, some remain undefined. Data reported in mass units only (ug, mg) were qualified with the qualifier of NSR (non-standard reporting unit). SOURCE METADATA: The R/V Brooks McCall departed from Port Fourchon, LA on May 18, 2010 to collect data in the Gulf of Mexico, Mississippi Canyon. The data collected included water column profiles from a CTD associated with water sampling. The profile of physical oceanographic data included: conductivity, temperature and depth (CTD); dissolved oxygen (DO); fluorometry; and salinity. Water column samples included Total Polycyclic Aromatic Hydrocarbons(PAH) - as Total Petroleum Hydrocarbons(TPH_1L), Volatile Organics (VOA), and Dissolved Oxygen with LaMotte. Grab samples were also collected of surface oil - when present. Continuous data was collected underway using a Turner C3 Submersible Fluorometer. Fluorometry, Rototoxicity, and Laser In-Situ Scattering and Transmissometry (LISST) readings were collected for the detection and delineation of the dispersed oil plume. The collection includes operational documents, which may include some or all of the following: cruise plans, daily reports, final reports, operational photographs and products developed during the cruise to guide operational decisions. Products may include geospatial data files, maps, charts and/or data plots or graphs. Some of the datasets associated with this cruise are still in process and will be published as they become available. SAMPLE LOCATION. Sampling stations were discrete locations where environmental or biological data were collected. Positional data including latitude, longitude was collected in decimal degrees. Bottom depth was recorded for each sampling station in meters. Data was acquired through shipboard navigation systems or scientific instrumentation (eg. CTD). CTD COLLECTION. CTD instrument packages(conductivity, temperature and depth) were deployed overboard at sampling stations and raised and lowered to create a profile of environmental variables throughout the water column. Variables recorded included fluorescence, salinity (conductivity), dissolved oxygen, temperature, and depth. WATER SAMPLING AND ANALYSIS. Water was collected at multiple depths using Niskin or Go-Flo bottles or various surface collection methods. Water samples were either preserved for onshore analysis or analyzed at sea using shipboard instrumentation. Samples collected on this cruise included Total Petroleum Hydrocarbons (TPH), Volatile Organics (VOA), and Dissolved Oxygen with LaMotte. LISST (Laser In-Situ Scattering and Transmissometry) SAMPLING. LISST instruments were used for either shipboard analysis of water samples or deployed overboard. LISST is utilized for the analysis of size and distribution of particles suspended in water. GIS DATA PRODUCTS. Spatial information was compiled to create a variety of products. TOXICOLOGY SAMPLING. Toxicology sampling included rototoxicity assessments using water collected at various depths. Some assessments were conducted onboard and some were completed onshore. TRAWLING/TOWED EQUIPMENT. Continuous, or underway, data collected by a Turner C3 Fluorometer, customized for oil, CDOM, and turbidity measurements. The Turner C3 Towfish Fluorometer was deployed on the starboard A-frame and run continuously whilst transiting between stations. Depth for fluorescence measurements was between 1-3 m at approximately 2 knots, to avoid surface bubble interference."</p>	1
QUALIFIERS	49	<p>The original database included a laboratory qualifier and final qualifier field. Here is how the final qualifiers were assigned: 1. All non-validated data had nothing in the final qualifier field, so the lab qualifier was used for qualcode. 2. Validated data used the final qualifier for the qualcode field. 3. If there was a qualifier in the lab qual and nothing in the validator qual, generally the lab qual was used as the final qual. 4. Added NSR for non-standard reporting units (mg, ug). Qualifiers were defined as received in the file Qualifier Definitions 21 NOV.xlsx, some remain undefined. Data reported in mass units only (ug, mg) were qualified with the qualifier of NSR (non-standard reporting unit). SOURCE METADATA: The R/V Brooks McCall departed from Port Fourchon, LA on May 23, 2010 to collect data in the Gulf of Mexico, Mississippi Canyon. The profile of physical oceanographic data included conductivity, temperature, depth, dissolved oxygen, fluorometry, salinity, and turbidity. Total Polycyclic Aromatic Hydrocarbons (PAH) Total Petroleum Hydrocarbons (TPH), Volatile Organics (VOA), and Dissolved Oxygen with LaMotte were sampled from the water column. Fluorometry, Rototoxicity, and Laser In-Situ Scattering and Transmissometry (LISST) readings were collected for the detection and delineation of the dispersed oil plume. The collection includes operational documents, which may include some or all of the following: cruise plans, daily reports, final reports, operational photographs and products developed during the cruise to guide operational decisions. Products may include geospatial data files, maps, charts and/or data plots or graphs. Some of the datasets associated with this cruise are still in process and will be published as they become available. SAMPLE LOCATION. Sampling stations were discrete locations where environmental or biological data were collected. Positional data including latitude, longitude was collected in decimal degrees. Bottom depth was recorded for each sampling station in meters. Data was acquired through shipboard navigation systems or scientific instrumentation (eg. CTD). CTD COLLECTION. CTD instrument packages(conductivity, temperature and depth) were deployed overboard at sampling stations and raised and lowered to create a profile of environmental variables throughout the water column. Variables recorded included fluorescence, salinity (conductivity), turbidity, density, temperature, and depth. WATER SAMPLING AND ANALYSIS. Water was collected at multiple depths using Niskin or Go-Flo bottles or various surface collection methods. Water samples were either preserved for onshore analysis or analyzed at sea using shipboard instrumentation. Samples collected on this cruise included Total Petroleum Hydrocarbons (TPH), Volatile Organics (VOA), and Dissolved Oxygen with LaMotte. LISST (Laser In-Situ Scattering and Transmissometry) SAMPLING. LISST instruments were used for either shipboard analysis of water samples or deployed overboard. LISST is utilized for the analysis of size and distribution of particles suspended in water. GIS DATA PRODUCTS. Spatial information was compiled to create a variety of products. TOXICOLOGY SAMPLING. Toxicology sampling included rototoxicity assessments using water collected at various depths. Some assessments were conducted onboard and some were completed onshore."</p>	1



Appendix H: Response Study Notes

Category	SN_ID	StudyNote by Subject	Cnt
QUALIFIERS	50	<p>The original database included a laboratory qualifier and final qualifier field. Here is how the final qualifiers were assigned: 1. All non-validated data had nothing in the final qualifier field, so the lab qualifier was used for qualcode. 2. Validated data used the final qualifier for the qualcode field. 3. If there was a qualifier in the lab qual and nothing in the validator qual, generally the lab qual was used as the final qual. 4. Added NSR for non-standard reporting units (mg, ug). Qualifiers were defined as received in the file Qualifier Definitions 21 NOV.xlsx, some remain undefined. Data reported in mass units only (ug, mg) were qualified with the qualifier of NSR (non-standard reporting unit). SOURCE METADATA: The R/V Brooks McCall departed from Port Fourchon, LA on May 30, 2010 to collect data in the Gulf of Mexico, Mississippi Canyon. The profile of physical oceanographic data included conductivity, temperature, depth, dissolved oxygen, pH, fluorometry, salinity, and turbidity. Water column sampled included Total Petroleum Hydrocarbons (TPH) and Volatile Organics (VOA). Fluorometry, Rototoxicity, and Laser In-Situ Scattering and Transmissometry (LISST) readings were collected for the detection and delineation of the dispersed oil plume. Researchers from Lawrence Berkeley National Laboratory (LBNL) collected bacteria from the water samples to conduct genetic analysis. They also used these analytes to conducted stable isotope analysis for petroleum products. Any further biological and genomic analysis conducted by the LBNL researchers was carried out onshore. The collection includes operational documents, which may include some or all of the following: cruise plans, daily reports, final reports, operational photographs and products developed during the cruise to guide operational decisions. Products may include geospatial data files, maps, charts and/or data plots or graphs. Some of the datasets associated with this cruise are still in process and will be published as they become available. SAMPLE LOCATION. Sampling stations were discrete locations where environmental or biological data were collected. Positional data including latitude, longitude was collected in decimal degrees. Bottom depth was recorded for each sampling station in meters. Data was acquired through shipboard navigation systems or scientific instrumentation (eg. CTD). CTD COLLECTION. CTD instrument packages(conductivity, temperature and depth) were deployed overboard at sampling stations and raised and lowered to create a profile of environmental variables throughout the water column. Variables recorded included fluorescence, salinity (conductivity), turbidity, density, temperature, and depth. WATER SAMPLING AND ANALYSIS. Water was collected at multiple depths using Niskin or Go-Flo bottles or various surface collection methods. Water samples were either preserved for onshore analysis or analyzed at sea using shipboard instrumentation. Samples collected on this cruise included Total Petroleum Hydrocarbons (TPH), Volatile Organics (VOA), and Rototoxicity. Sample sheen was observed, and pH was measured with a hand-held unit. Finally, the Lawrence Berkeley National Laboratory collected bacterial samples for omic (genomics) analysis, including DNA/RNA/protein extraction, and stable isotope analysis for petroleum products. LISST (Laser In-Situ Scattering and Transmissometry) SAMPLING. LISST instruments were used for either shipboard analysis of water samples or deployed overboard. LISST is utilized for the analysis of size and distribution of particles suspended in water. GIS DATA PRODUCTS. Spatial information was compiled to create a variety of products. TOXICOLOGY SAMPLING. Toxicology sampling included rotoxicity assessments using water collected at various depths. Some assessments were conducted onboard and some were completed onshore."</p>	1
QUALIFIERS	51	<p>The original database included a laboratory qualifier and final qualifier field. Here is how the final qualifiers were assigned: 1. All non-validated data had nothing in the final qualifier field, so the lab qualifier was used for qualcode. 2. Validated data used the final qualifier for the qualcode field. 3. If there was a qualifier in the lab qual and nothing in the validator qual, generally the lab qual was used as the final qual. 4. Added NSR for non-standard reporting units (mg, ug). Qualifiers were defined as received in the file Qualifier Definitions 21 NOV.xlsx, some remain undefined. Data reported in mass units only (ug, mg) were qualified with the qualifier of NSR (non-standard reporting unit). SOURCE METADATA: The R/V Ocean Veritas departed from Morgan City, LA on May 26, 2010 to collect data in the Gulf of Mexico, Mississippi Canyon and returned to Port Fourchon, LA on May 30, 2010. The data collection was part of the coordinated response to the Deepwater Horizon incident. LISST, Fluorescence, and Rotox data was collected for the detection and delineation of the dispersed oil plume. Total Petroleum Hydrocarbon and Dissolved oxygen data was collected for water column sampling. Physical oceanographic data collected was Conductivity, Temperature, and Depth (CTD). The collection includes operational documents, which may include some or all of the following: cruise plans, daily reports, final reports, operational photographs and products developed during the cruise to guide operational decisions. Products may include geospatial data files, maps, charts and/or data plots or graphs. Some of the datasets associated with this cruise are still in process and will be published as they become available. SAMPLE LOCATION. Sampling stations were discrete locations where environmental or biological data were collected. Positional data including latitude, longitude was collected in decimal degrees. Bottom depth was recorded for each sampling station in meters. Data was acquired through shipboard navigation systems or scientific instrumentation (eg. CTD). CTD COLLECTION. CTD instrument packages(conductivity, temperature and depth) were deployed overboard at sampling stations and raised and lowered to create a profile of environmental variables throughout the water column. Variables recorded included fluorescence, salinity (conductivity), turbidity, density, temperature, and depth. WATER SAMPLING AND ANALYSIS. Water was collected at multiple depths using Niskin or Go-Flo bottles or various surface collection methods. Water samples were either preserved for onshore analysis or analyzed at sea using shipboard instrumentation. Samples collected on this cruise included Volatile Organic Compounds (VOA 40ml) and Total Petroleum Hydrocarbon (TPH 1L). LISST (Laser In-Situ Scattering and Transmissometry) SAMPLING. LISST instruments were used for either shipboard analysis of water samples or deployed overboard. LISST is utilized for the analysis of size and distribution of particles suspended in water. GIS DATA PRODUCTS. Spatial information was compiled to create a variety of products. TOXICOLOGY SAMPLING. Toxicology sampling included rotoxicity and microtoxicity assessments using water collected at various depths. Some assessments were conducted onboard and some were completed onshore. Rototoxicology samples were collected on this cruise. VIDEO AND PHOTOGRAPHY. Surface and subsurface video and photography were taken for visual assessment for environmental and biological conditions."</p>	1

Category	SN_ID	StudyNote by Subject	Cnt
QUALIFIERS	52	<p>The original database included a laboratory qualifier and final qualifier field. Here is how the final qualifiers were assigned: 1. All non-validated data had nothing in the final qualifier field, so the lab qualifier was used for qualcode. 2. Validated data used the final qualifier for the qualcode field. 3. If there was a qualifier in the lab qual and nothing in the validator qual, generally the lab qual was used as the final qual. 4. Added NSR for non-standard reporting units (mg, ug). Qualifiers were defined as received in the file Qualifier Definitions 21 NOV.xlsx, some remain undefined. Data reported in mass units only (ug, mg) were qualified with the qualifier of NSR (non-standard reporting unit). SOURCE METADATA: The R/V Brooks McCall departed from Port Fourchon, LA on June 4, 2010 to collect data in the Gulf of Mexico, Mississippi Canyon. The profile of physical oceanographic data included conductivity, temperature, depth, dissolved oxygen, pH, fluorometry, salinity, and turbidity. Water column sampled included Total Petroleum Hydrocarbons (TPH) and Volatile Organics (VOA). Fluorometry, Rototoxicity, and Laser In-Situ Scattering and Transmissometry (LISST) readings were collected for the detection and delineation of the dispersed oil plume. Researchers from Lawrence Berkeley National Laboratory (LBNL) collected bacteria from the water samples to conduct genetic analysis. They also used these analytes to conducted stable isotope analysis for petroleum products. Any further biological and genomic analysis conducted by the LBNL researchers was carried out onshore. The collection includes operational documents, which may include some or all of the following: cruise plans, daily reports, final reports, operational photographs and products developed during the cruise to guide operational decisions. Products may include geospatial data files, maps, charts and/or data plots or graphs. Some of the datasets associated with this cruise are still in process and will be published as they become available. SAMPLE LOCATION. Sampling stations were discrete locations where environmental or biological data were collected. Positional data including latitude, longitude was collected in decimal degrees. Bottom depth was recorded for each sampling station in meters. Data was acquired through shipboard navigation systems or scientific instrumentation (eg. CTD). CTD COLLECTION. CTD instrument packages(conductivity, temperature and depth) were deployed overboard at sampling stations and raised and lowered to create a profile of environmental variables throughout the water column. Variables recorded included fluorescence, salinity (conductivity), turbidity, density, temperature, and depth. WATER SAMPLING AND ANALYSIS. Water was collected at multiple depths using Niskin or Go-Flo bottles or various surface collection methods. Water samples were either preserved for onshore analysis or analyzed at sea using shipboard instrumentation. Samples collected on this cruise included Total Petroleum Hydrocarbons (TPH), Volatile Organics (VOA), and Rototoxicity. Sample sheen was observed, and pH was measured with a hand-held unit. Finally, the Livermore-Berkeley lab collected filtrate for omic - micronomic and genomic - analysis (DNA/RNA/proteins) and stable isotope analysis for petroleum products. LISST (Laser In-Situ Scattering and Transmissometry) SAMPLING. LISST instruments were used for either shipboard analysis of water samples or deployed overboard. LISST is utilized for the analysis of size and distribution of particles suspended in water. GIS DATA PRODUCTS. Spatial information was compiled to create a variety of products. TOXICOLOGY SAMPLING. Toxicology sampling included rotoxicity assessments using water collected at various depths. Some assessments were conducted onboard and some were completed onshore. AIR QUALITY SAMPLING AND ANALYSIS. Air quality data was collected at multiple times using shipboard instrumentation to measure the amount of airborne Volatile Organic Compounds (VOC)present. Readings were logged regularly when science staff were working on deck."</p>	1
QUALIFIERS	53	<p>The original database included a laboratory qualifier and final qualifier field. Here is how the final qualifiers were assigned: 1. All non-validated data had nothing in the final qualifier field, so the lab qualifier was used for qualcode. 2. Validated data used the final qualifier for the qualcode field. 3. If there was a qualifier in the lab qual and nothing in the validator qual, generally the lab qual was used as the final qual. 4. Added NSR for non-standard reporting units (mg, ug). Qualifiers were defined as received in the file Qualifier Definitions 21 NOV.xlsx, some remain undefined. Data reported in mass units only (ug, mg) were qualified with the qualifier of NSR (non-standard reporting unit). SOURCE METADATA: The R/V Brooks McCall departed from Port Fourchon, LA on June 10, 2010 to collect data in the Gulf of Mexico, Mississippi Canyon. The profile of physical oceanographic data included conductivity, temperature, depth, dissolved oxygen, pH, fluorometry, salinity, and turbidity. Water column sampled included Total Petroleum Hydrocarbons (TPH) and Volatile Organics (VOA). Fluorometry, Rototoxicity, and Laser In-Situ Scattering and Transmissometry (LISST)readings were collected for the detection and delineation of the dispersed oil plume. Researchers from Lawrence Berkeley National Laboratory (LBNL) collected bacteria from the water samples to conduct genetic analysis. They also used these analytes to conducted stable isotope analysis for petroleum products. Any further biological and genomic analysis conducted by the LBNL researchers was carried out onshore. The collection includes operational documents, which may include some or all of the following: cruise plans, daily reports, final reports, operational photographs and products developed during the cruise to guide operational decisions. Products may include geospatial data files, maps, charts and/or data plots or graphs. Some of the datasets associated with this cruise are still in process and will be published as they become available. SAMPLE LOCATION. Sampling stations were discrete locations where environmental or biological data were collected. Positional data including latitude, longitude was collected in decimal degrees. Bottom depth was recorded for each sampling station in meters. Data was acquired through shipboard navigation systems or scientific instrumentation (eg. CTD). CTD COLLECTION. CTD instrument packages(conductivity, temperature and depth) were deployed overboard at sampling stations and raised and lowered to create a profile of environmental variables throughout the water column. Variables recorded included fluorescence, salinity (conductivity), turbidity, density, temperature, and depth. WATER SAMPLING AND ANALYSIS. Water was collected at multiple depths using Niskin or Go-Flo bottles or various surface collection methods. Water samples were either preserved for onshore analysis or analyzed at sea using shipboard instrumentation. Samples collected on this cruise included Total Petroleum Hydrocarbons (TPH), Volatile Organics (VOA), and Rototoxicity. Sample sheen was observed, and pH was measured with a hand-held unit. Finally, the Lawrence Berkeley National Laboratory collected bacterial samples for omic (genomics) analysis, including DNA/RNA/protein extraction, and stable isotope analysis for petroleum products. LISST (Laser In-Situ Scattering and Transmissometry) SAMPLING. LISST instruments were used for either shipboard analysis of water samples or deployed overboard. LISST is utilized for the analysis of size and distribution of particles suspended in water. GIS DATA PRODUCTS. Spatial information was compiled to create a variety of products. TOXICOLOGY SAMPLING. Toxicology sampling included rotoxicity assessments using water collected at various depths. Some assessments were conducted onboard and some were completed onshore. AIR QUALITY SAMPLING AND ANALYSIS. Air quality data was collected at multiple times using shipboard instrumentation to measure the amount of airborne Volatile Organic Compounds (VOC)present. Readings were logged regularly when science staff were working on deck."</p>	1

Category	SN_ID	StudyNote by Subject	Cnt
QUALIFIERS	54	<p>The original database included a laboratory qualifier and final qualifier field. Here is how the final qualifiers were assigned: 1. All non-validated data had nothing in the final qualifier field, so the lab qualifier was used for qualcode. 2. Validated data used the final qualifier for the qualcode field. 3. If there was a qualifier in the lab qual and nothing in the validator qual, generally the lab qual was used as the final qual. 4. Added NSR for non-standard reporting units (mg, ug). Qualifiers were defined as received in the file Qualifier Definitions 21 NOV.xlsx, some remain undefined. Data reported in mass units only (ug, mg) were qualified with the qualifier of NSR (non-standard reporting unit). SOURCE METADATA: The R/V Brooks McCall departed from Port Fourchon, LA on June 16, 2010 to collect data and track subsurface oil plume signals in the Gulf of Mexico, Mississippi Canyon. Water column profiles were obtained from a CTD associated with water sampling. These profiles of physical oceanographic data included temperature, depth, dissolved oxygen, fluorescence, and salinity. Water column samples were collected for Total Petroleum Hydrocarbons analysis (TPH) and Volatile Organics Analysis (VOA), and dissolved oxygen (DO) and pH of samples were measured by a handheld probe. Rototoxicology and LISST (Laser In-Situ Scattering and Transmissometry) analyses were also conducted on water samples for the detection and delineation of the dispersed oil plume. Researchers from the Lawrence Berkeley National Laboratory (LBNL) collected bacteria from water samples to conduct biological and genomic analyses. The collection includes operational documents, which may include some or all of the following: cruise plans, daily reports, final reports, operational photographs and products developed during the cruise to guide operational decisions. Products may include geospatial data files, maps, charts and/or data plots or graphs. Some of the datasets associated with this cruise are still in process and will be published as they become available.</p> <p>SAMPLE LOCATION. Sampling stations were discrete locations where environmental or biological data were collected. Positional data including latitude and longitude was collected in decimal degrees. Bottom depth was recorded for each sampling station in meters. Data was acquired through shipboard navigation systems or scientific instrumentation (eg. CTD). CTD COLLECTION. CTD instrument packages (Conductivity, Temperature and Depth) were deployed overboard at sampling stations and raised and lowered to create a profile of environmental variables throughout the water column. Variables recorded included fluorescence, salinity (conductivity), dissolved oxygen, temperature, and depth. CTD instrumentation on this cruise was deployed on a water sampling rosette. WATER SAMPLING AND ANALYSIS. Water was collected at multiple depths using Niskin bottles or various surface collection methods. Water samples were either preserved for onshore analysis or analyzed at sea using shipboard instrumentation. Samples were collected for onshore analysis of Total Petroleum Hydrocarbons (TPH) and Volatile Organics Analysis (VOA). Dissolved Oxygen (DO) and pH of water samples were measured on-board using a handheld probe. Finally, the Lawrence Berkeley National Laboratory collected bacterial samples for omic (genomics) analysis, including DNA/RNA/protein extraction, and stable isotope analysis for petroleum products. LISST (Laser In-Situ Scattering and Transmissometry) SAMPLING. The LISST instrument was used for shipboard analysis of the concentration, size and distribution of particles suspended in water samples, or was deployed overboard for continuous sampling of the water column. Particles measured by LISST can include sediment, oil droplets, other contaminants, and plankton. On this cruise, water samples were collected from different depths and analyzed on-board with the LISST coupled with a fixed wavelength fluorometer. TOXICOLOGY SAMPLING. Toxicology sampling included rototoxicity assessments using water collected at various depths. Some assessments were conducted on-board and some were completed onshore. AIR QUALITY SAMPLING AND ANALYSIS. Air quality data was collected at multiple times using handheld instrumentation to measure the amount of airborne Volatile Organic Compounds (VOC) present. Readings were logged regularly when science staff were working on deck to ensure safe working conditions."</p>	1

Appendix H: Response Study Notes

Category	SN_ID	StudyNote by Subject	Cnt
QUALIFIERS	55	<p>The original database included a laboratory qualifier and final qualifier field. Here is how the final qualifiers were assigned: 1. All non-validated data had nothing in the final qualifier field, so the lab qualifier was used for qualcode. 2. Validated data used the final qualifier for the qualcode field. 3. If there was a qualifier in the lab qual and nothing in the validator qual, generally the lab qual was used as the final qual. 4. Added NSR for non-standard reporting units (mg, ug). Qualifiers were defined as received in the file Qualifier Definitions 21 NOV.xlsx, some remain undefined. Data reported in mass units only (ug, mg) were qualified with the qualifier of NSR (non-standard reporting unit). SOURCE METADATA: The R/V Brooks McCall departed from Port Fourchon, LA on June 22, 2010 to collect data and track subsurface oil plume signals in the Gulf of Mexico, Mississippi Canyon. Water column profiles were obtained from a CTD associated with water sampling. These profiles of physical oceanographic data included temperature, depth, dissolved oxygen, fluorescence, and salinity. Water column samples were collected for Total Petroleum Hydrocarbons analysis (TPH) and Volatile Organics Analysis (VOA), and dissolved oxygen (DO) and pH of samples were measured by a handheld probe. Rototoxicology and LISST (Laser In-Situ Scattering and Transmissometry) analyses were also conducted on water samples for the detection and delineation of the dispersed oil plume. Researchers from the Lawrence Berkeley National Laboratory (LBNL) collected bacteria from water samples to conduct biological and genomic analyses. The collection includes operational documents, which may include some or all of the following: cruise plans, daily reports, final reports, operational photographs and products developed during the cruise to guide operational decisions. Products may include geospatial data files, maps, charts and/or data plots or graphs. Some of the datasets associated with this cruise are still in process and will be published as they become available.</p> <p>SAMPLE LOCATION. Sampling stations were discrete locations where environmental or biological data were collected. Positional data including latitude and longitude was collected in decimal degrees. Bottom depth was recorded for each sampling station in meters. Data was acquired through shipboard navigation systems or scientific instrumentation (eg. CTD). CTD COLLECTION. CTD instrument packages (Conductivity, Temperature and Depth) were deployed overboard at sampling stations and raised and lowered to create a profile of environmental variables throughout the water column. Variables recorded included fluorescence, salinity (conductivity), dissolved oxygen, temperature, and depth. CTD instrumentation on this cruise was deployed on a water sampling rosette. WATER SAMPLING AND ANALYSIS. Water was collected at multiple depths using Niskin bottles or various surface collection methods. Water samples were either preserved for onshore analysis or analyzed at sea using shipboard instrumentation. Samples were collected for onshore analysis of Total Petroleum Hydrocarbons (TPH) and Volatile Organics (VOA). Dissolved oxygen (DO) and pH of water samples were measured on-board using a handheld probe. Finally, the Lawrence Berkeley National Laboratory collected bacterial samples for omic (genomics) analysis, including DNA/RNA/protein extraction, and stable isotope analysis for petroleum products. LISST (Laser In-Situ Scattering and Transmissometry) SAMPLING. The LISST instrument was used for shipboard analysis of the concentration, size and distribution of particles suspended in water samples, or was deployed overboard for continuous sampling of the water column. Particles measured by LISST can include sediment, oil droplets, other contaminants, and plankton. On this cruise, water samples were collected from different depths and analyzed on-board with the LISST coupled with a fixed wavelength fluorometer. TOXICOLOGY SAMPLING. Toxicology sampling included rotoxicity assessments using water collected at various depths. Some assessments were conducted on-board and some were completed onshore. AIR QUALITY SAMPLING AND ANALYSIS. Air quality data was collected at multiple times using handheld instrumentation to measure the amount of airborne Volatile Organic Compounds (VOC) present. Readings were logged regularly when science staff were working on deck to ensure safe working conditions."</p>	1

Category	SN_ID	StudyNote by Subject	Cnt
QUALIFIERS	56	<p>The original database included a laboratory qualifier and final qualifier field. Here is how the final qualifiers were assigned: 1. All non-validated data had nothing in the final qualifier field, so the lab qualifier was used for qualcode. 2. Validated data used the final qualifier for the qualcode field. 3. If there was a qualifier in the lab qual and nothing in the validator qual, generally the lab qual was used as the final qual. 4. Added NSR for non-standard reporting units (mg, ug). Qualifiers were defined as received in the file Qualifier Definitions 21 NOV.xls, some remain undefined. Data reported in mass units only (ug, mg) were qualified with the qualifier of NSR (non-standard reporting unit). SOURCE METADATA: The R/V Ocean Veritas departed from Port Fourchon, LA on June 13, 2010 to collect data in the Gulf of Mexico, Mississippi Canyon and returned to Port Fourchon, LA on June 17, 2010. The data collection was part of the coordinated response to the Deepwater Horizon incident. LISST, Fluorescence, and Rotox data was collected for the detection and delineation of the dispersed oil plume. Total Petroleum Hydrocarbon and Dissolved oxygen data was collected for water column sampling. Air quality sampling was conducted for on-site measurements of volatile organic compounds. Physical oceanographic data collected was Conductivity, Temperature, and Depth (CTD). The collection includes operational documents, which may include some or all of the following: cruise plans, daily reports, final reports, operational photographs and products developed during the cruise to guide operational decisions. Products may include geospatial data files, maps, charts and/or data plots or graphs. Some of the datasets associated with this cruise are still in process and will be published as they become available. SAMPLE LOCATION. Sampling stations were discrete locations where environmental or biological data were collected. Positional data including latitude, longitude was collected in decimal degrees. Bottom depth was recorded for each sampling station in meters. Data was acquired through shipboard navigation systems or scientific instrumentation (eg. CTD). CTD COLLECTION. CTD instrument packages(conductivity, temperature and depth) were deployed overboard at sampling stations and raised and lowered to create a profile of environmental variables throughout the water column. Variables recorded included fluorescence, salinity (conductivity), turbidity, density, temperature, and depth. WATER SAMPLING AND ANALYSIS. Water was collected at multiple depths using Niskin or Go-Flo bottles or various surface collection methods. Water samples were either preserved for onshore analysis or analyzed at sea using shipboard instrumentation. Samples collected on this cruise included Volatile Organic Compounds (VOA 40ml) and Total Petroleum Hydrocarbon (TPH 1L). LISST (Laser In-Situ Scattering and Transmissometry) SAMPLING. LISST instruments were used for either shipboard analysis of water samples or deployed overboard. LISST is utilized for the analysis of size and distribution of particles suspended in water. GIS DATA PRODUCTS. Spatial information was compiled to create a variety of products. TOXICOLOGY SAMPLING. Toxicology sampling included rototoxicity and microtoxicity assessments using water collected at various depths. Some assessments were conducted onboard and some were completed onshore. Rototoxicology samples were collected on this cruise. AIR QUALITY SAMPLING AND ANALYSIS. Air samples were collected at multiple times using various collection methods and were analyzed at sea using shipboard instrumentation to measure the amount of airborne volatile organic compounds (VOC). Any anomalies detected were noted but not recorded."</p>	1
QUALIFIERS	57	<p>The original database included a laboratory qualifier and final qualifier field. Here is how the final qualifiers were assigned: 1. All non-validated data had nothing in the final qualifier field, so the lab qualifier was used for qualcode. 2. Validated data used the final qualifier for the qualcode field. 3. If there was a qualifier in the lab qual and nothing in the validator qual, generally the lab qual was used as the final qual. 4. Added NSR for non-standard reporting units (mg, ug). Qualifiers were defined as received in the file Qualifier Definitions 21 NOV.xls, some remain undefined. Data reported in mass units only (ug, mg) were qualified with the qualifier of NSR (non-standard reporting unit). SOURCE METADATA: The R/V Ocean Veritas departed from Port Fourchon, LA on June 19, 2010 to collect data in the Gulf of Mexico, Mississippi Canyon and returned to Port Fourchon, LA on June 23, 2010. The data collection was part of the coordinated response to the Deepwater Horizon incident. LISST, Fluorescence, and Rotox data was collected for the detection and delineation of the dispersed oil plume. Total Petroleum Hydrocarbon and Dissolved oxygen data was collected for water column sampling. Physical oceanographic data collected was Conductivity, Temperature, and Depth (CTD). The collection includes operational documents, which may include some or all of the following: cruise plans, daily reports, final reports, operational photographs and products developed during the cruise to guide operational decisions. Products may include geospatial data files, maps, charts and/or data plots or graphs. Some of the datasets associated with this cruise are still in process and will be published as they become available. SAMPLE LOCATION. Sampling stations were discrete locations where environmental or biological data were collected. Positional data including latitude, longitude was collected in decimal degrees. Bottom depth was recorded for each sampling station in meters. Data was acquired through shipboard navigation systems or scientific instrumentation (eg. CTD). CTD COLLECTION. CTD instrument packages(conductivity, temperature and depth) were deployed overboard at sampling stations and raised and lowered to create a profile of environmental variables throughout the water column. Variables recorded included fluorescence, salinity (conductivity), turbidity, density, temperature, and depth. WATER SAMPLING AND ANALYSIS. Water was collected at multiple depths using Niskin or Go-Flo bottles or various surface collection methods. Water samples were either preserved for onshore analysis or analyzed at sea using shipboard instrumentation. Samples collected on this cruise included Volatile Organic Compounds (VOA 40ml) and Total Petroleum Hydrocarbon (TPH 1L). LISST (Laser In-Situ Scattering and Transmissometry) SAMPLING. LISST instruments were used for either shipboard analysis of water samples or deployed overboard. LISST is utilized for the analysis of size and distribution of particles suspended in water. GIS DATA PRODUCTS. Spatial information was compiled to create a variety of products. TOXICOLOGY SAMPLING. Toxicology sampling included rototoxicity and microtoxicity assessments using water collected at various depths. Some assessments were conducted onboard and some were completed onshore. Rototoxicology samples were collected on this cruise. VIDEO AND PHOTOGRAPHY. Surface and subsurface video and photography were taken for visual assessment for environmental and biological conditions."</p>	1

Appendix H: Response Study Notes

Category	SN_ID	StudyNote by Subject	Cnt
QUALIFIERS	58	<p>The original database included a laboratory qualifier and final qualifier field. Here is how the final qualifiers were assigned: 1. All non-validated data had nothing in the final qualifier field, so the lab qualifier was used for qualcode. 2. Validated data used the final qualifier for the qualcode field. 3. If there was a qualifier in the lab qual and nothing in the validator qual, generally the lab qual was used as the final qual. 4. Added NSR for non-standard reporting units (mg, ug). Qualifiers were defined as received in the file Qualifier Definitions 21 NOV.xlsx, some remain undefined. Data reported in mass units only (ug, mg) were qualified with the qualifier of NSR (non-standard reporting unit). SOURCE METADATA: The R/V Ocean Veritas departed from Port Fourchon, LA on June 25, 2010 to collect data in the Gulf of Mexico, Mississippi Canyon and returned to Port Fourchon, LA on June 29, 2010. The data collection was part of the coordinated response to the Deepwater Horizon incident. LISST, Fluorescence, and Rotox data was collected for the detection and delineation of the dispersed oil plume. Total Petroleum Hydrocarbon and Dissolved oxygen data was collected for water column sampling. Physical oceanographic data collected was Conductivity, Temperature, and Depth (CTD). The collection includes operational documents, which may include some or all of the following: cruise plans, daily reports, final reports, operational photographs and products developed during the cruise to guide operational decisions. Products may include geospatial data files, maps, charts and/or data plots or graphs. Some of the datasets associated with this cruise are still in process and will be published as they become available. SAMPLE LOCATION. Sampling stations were discrete locations where environmental or biological data were collected. Positional data including latitude, longitude was collected in decimal degrees. Bottom depth was recorded for each sampling station in meters. Data was acquired through shipboard navigation systems or scientific instrumentation (eg. CTD). CTD COLLECTION. CTD instrument packages(conductivity, temperature and depth) were deployed overboard at sampling stations and raised and lowered to create a profile of environmental variables throughout the water column. Variables recorded included fluorescence, salinity (conductivity), turbidity, density, temperature, and depth. WATER SAMPLING AND ANALYSIS. Water was collected at multiple depths using Niskin bottles. Water samples were preserved for onshore analysis. Samples collected on this cruise included Volatile Organic Compounds (VOA 40ml), Total Petroleum Hydrocarbon (TPH 1L), and Dissolved Oxygen (DO). LISST (Laser In-Situ Scattering and Transmissometry) SAMPLING. LISST instruments were used for either shipboard analysis of water samples or deployed overboard. LISST is utilized for the analysis of size and distribution of particles suspended in water. GIS DATA PRODUCTS. Spatial information was compiled to create a variety of products. TOXICOLOGY SAMPLING. Toxicology sampling included rototoxicity and microtoxicity assessments using water collected at various depths. Some assessments were conducted onboard and some were completed onshore. Rototoxicology (Tox 8oz) samples were collected on this cruise and were processed underway. VIDEO AND PHOTOGRAPHY. Surface and subsurface video and photography were taken for visual assessment for environmental and biological conditions."</p>	1
QUALIFIERS	59	<p>The original database included a laboratory qualifier and final qualifier field. Here is how the final qualifiers were assigned: 1. All non-validated data had nothing in the final qualifier field, so the lab qualifier was used for qualcode. 2. Validated data used the final qualifier for the qualcode field. 3. If there was a qualifier in the lab qual and nothing in the validator qual, generally the lab qual was used as the final qual. 4. Added NSR for non-standard reporting units (mg, ug). Qualifiers were defined as received in the file Qualifier Definitions 21 NOV.xlsx, some remain undefined. Data reported in mass units only (ug, mg) were qualified with the qualifier of NSR (non-standard reporting unit). SOURCE METADATA: The R/V Brooks McCall departed from Port Fourchon, LA on July 04, 2010 to collect data and track subsurface oil plume signals in the Gulf of Mexico, Mississippi Canyon. Water column profiles were obtained from a CTD associated with water sampling. These profiles of physical oceanographic data included temperature, depth, dissolved oxygen, fluorescence, and salinity. Water column samples were collected for Total Petroleum Hydrocarbons analysis (TPH) and Volatile Organics Analysis (VOA), and dissolved oxygen (DO) and pH of samples were measured by handheld probes. Rototoxicology and LISST (Laser In-Situ Scattering and Transmissometry) analyses were also conducted on water samples for the detection and delineation of the dispersed oil plume. In addition, meteorologists from Texas A&amp;M University were present to conduct weather-related experiments. The collection includes operational documents, which may include some or all of the following: cruise plans, daily reports, final reports, operational photographs and products developed during the cruise to guide operational decisions. Products may include geospatial data files, maps, charts and/or data plots or graphs. Some of the datasets associated with this cruise are still in process and will be published as they become available. SAMPLE LOCATION. Sampling stations were discrete locations where environmental or biological data were collected. Positional data including latitude and longitude was collected in decimal degrees. Bottom depth was recorded for each sampling station in meters. Data was acquired through shipboard navigation systems or scientific instrumentation (eg. CTD). CTD COLLECTION. CTD instrument packages (Conductivity, Temperature and Depth) were deployed overboard at sampling stations and raised and lowered to create a profile of environmental variables throughout the water column. Variables recorded included fluorescence, salinity (conductivity), dissolved oxygen, temperature, and depth. CTD instrumentation on this cruise was deployed on a water sampling rosette. WATER SAMPLING AND ANALYSIS. Water was collected at multiple depths using Niskin bottles or various surface collection methods. Water samples were either preserved for onshore analysis or analyzed at sea using shipboard instrumentation. Samples were collected for onshore analysis of Total Petroleum Hydrocarbons (TPH) and Volatile Organics (VOA). Dissolved oxygen (DO) of water samples was measured on-board using a handheld membrane probe and optical probe, and the pH of water samples was also measured with the handheld membrane probe. LISST (Laser In-Situ Scattering and Transmissometry) SAMPLING. The LISST instrument was used for shipboard analysis of the concentration, size and distribution of particles suspended in water samples. Particles measured by LISST can include sediment, oil droplets, other contaminants, and plankton. On this cruise, water samples were collected from different depths and analyzed on-board with the LISST coupled with a fixed wavelength fluorometer. GIS DATA PRODUCTS. Spatial information was compiled to create a variety of products. TOXICOLOGY SAMPLING. Toxicology sampling included rototoxicity assessments using water collected at various depths. Some assessments were conducted on-board and some were completed onshore. AIR QUALITY SAMPLING AND ANALYSIS. Air quality data was collected at multiple times using handheld instrumentation to measure the amount of airborne Volatile Organic Compounds (VOC) present. Readings were logged regularly when science staff were working on deck to ensure safe working conditions."</p>	1

Category	SN_ID	StudyNote by Subject	Cnt
QUALIFIERS	60	<p>The original database included a laboratory qualifier and final qualifier field. Here is how the final qualifiers were assigned: 1. All non-validated data had nothing in the final qualifier field, so the lab qualifier was used for qualcode. 2. Validated data used the final qualifier for the qualcode field. 3. If there was a qualifier in the lab qual and nothing in the validator qual, generally the lab qual was used as the final qual. 4. Added NSR for non-standard reporting units (mg, ug). Qualifiers were defined as received in the file Qualifier Definitions 21 NOV.xlsx, some remain undefined. Data reported in mass units only (ug, mg) were qualified with the qualifier of NSR (non-standard reporting unit). SOURCE METADATA: The R/V Brooks McCall departed from Port Fourchon, LA on July 10, 2010 to collect data and track subsurface oil plume signals in the Gulf of Mexico, Mississippi Canyon. Water column profiles were obtained from a CTD associated with water sampling. These profiles of physical oceanographic data included temperature, depth, dissolved oxygen, fluorescence, and salinity. Water column samples were collected for Total Petroleum Hydrocarbons analysis (TPH) and Volatile Organics Analysis (VOA), and dissolved oxygen (DO) of samples was measured by handheld probe. Rototoxicology and LISST (Laser In-Situ Scattering and Transmissometry) analyses were also conducted on water samples for the detection and delineation of the dispersed oil plume. In addition, meteorologists from Texas A&amp;M University were present to conduct weather-related experiments. The collection includes operational documents, which may include some or all of the following: cruise plans, daily reports, final reports, operational photographs and products developed during the cruise to guide operational decisions. Products may include geospatial data files, maps, charts and/or data plots or graphs. Some of the datasets associated with this cruise are still in process and will be published as they become available. SAMPLE LOCATION. Sampling stations were discrete locations where environmental or biological data were collected. Positional data including latitude and longitude was collected in decimal degrees. Bottom depth was recorded for each sampling station in meters. Data was acquired through shipboard navigation systems or scientific instrumentation (eg. CTD). CTD COLLECTION. CTD instrument packages(Conductivity, Temperature and Depth) were deployed overboard at sampling stations and raised and lowered to create a profile of environmental variables throughout the water column. Variables recorded included fluorescence, salinity (conductivity), dissolved oxygen, temperature, and depth. CTD instrumentation on this cruise was deployed on a water sampling rosette. WATER SAMPLING AND ANALYSIS. Water was collected at multiple depths using Niskin bottles or various surface collection methods. Water samples were either preserved for onshore analysis or analyzed at sea using shipboard instrumentation. Samples were collected for onshore analysis of Total Petroleum Hydrocarbons (TPH) and Volatile Organics (VOA). Dissolved Oxygen (DO) of water samples was measured on-board using a handheld probe. LISST (Laser In-Situ Scattering and Transmissometry) SAMPLING. The LISST instrument was used for shipboard analysis of the concentration, size and distribution of particles suspended in water samples. Particles measured by LISST can include sediment, oil droplets, other contaminants, and plankton. On this cruise, water samples were collected from different depths and analyzed on-board with the LISST coupled with a fixed wavelength fluorometer. GIS DATA PRODUCTS. Spatial information was compiled to create a variety of products. TOXICOLOGY SAMPLING. Toxicology sampling included rototoxicity assessments using water collected at various depths. Some assessments were conducted on-board and some were completed onshore. AIR QUALITY SAMPLING AND ANALYSIS. Air quality data was collected at multiple times using handheld instrumentation to measure the amount of airborne Volatile Organic Compounds (VOC) present. Readings were logged regularly when science staff were working on deck to ensure safe working conditions."</p>	1
QUALIFIERS	61	<p>The original database included a laboratory qualifier and final qualifier field. Here is how the final qualifiers were assigned: 1. All non-validated data had nothing in the final qualifier field, so the lab qualifier was used for qualcode. 2. Validated data used the final qualifier for the qualcode field. 3. If there was a qualifier in the lab qual and nothing in the validator qual, generally the lab qual was used as the final qual. 4. Added NSR for non-standard reporting units (mg, ug). Qualifiers were defined as received in the file Qualifier Definitions 21 NOV.xlsx, some remain undefined. Data reported in mass units only (ug, mg) were qualified with the qualifier of NSR (non-standard reporting unit). SOURCE METADATA: The R/V Ocean Veritas departed from Port Fourchon, LA on June 29, 2010 to collect data in the Gulf of Mexico, Mississippi Canyon and returned to Port Fourchon, LA on July 05, 2010. The data collection was part of the coordinated response to the Deepwater Horizon incident. LISST, Fluorescence, and Rotox data was collected for the detection and delineation of the dispersed oil plume. Total Petroleum Hydrocarbon and Dissolved oxygen data was collected for water column sampling. Physical oceanographic data collected was Conductivity, Temperature, and Depth (CTD). The collection includes operational documents, which may include some or all of the following: cruise plans, daily reports, final reports, operational photographs and products developed during the cruise to guide operational decisions. Products may include geospatial data files, maps, charts and/or data plots or graphs. Some of the datasets associated with this cruise are still in process and will be published as they become available. SAMPLE LOCATION. Sampling stations were discrete locations where environmental or biological data were collected. Positional data including latitude, longitude was collected in decimal degrees. Bottom depth was recorded for each sampling station in meters. Data was acquired through shipboard navigation systems or scientific instrumentation (eg. CTD). CTD COLLECTION. CTD instrument packages(conductivity, temperature and depth) were deployed overboard at sampling stations and raised and lowered to create a profile of environmental variables throughout the water column. Variables recorded included fluorescence, salinity (conductivity), turbidity, density, temperature, and depth. WATER SAMPLING AND ANALYSIS. Water was collected at multiple depths using Niskin bottles. Water samples were preserved for onshore analysis. Samples collected on this cruise included Volatile Organic Compounds (VOA 40ml), Total Petroleum Hydrocarbon (TPH 1L), and Dissolved Oxygen (DO). LISST (Laser In-Situ Scattering and Transmissometry) SAMPLING. LISST instruments were used for either shipboard analysis of water samples or deployed overboard. LISST is utilized for the analysis of size and distribution of particles suspended in water. GIS DATA PRODUCTS. Spatial information was compiled to create a variety of products. TOXICOLOGY SAMPLING. Toxicology sampling included rototoxicity and microtoxicity assessments using water collected at various depths. Some assessments were conducted onboard and some were completed onshore. Rototoxicology (Tox 8oz) samples were collected on this cruise and were processed underway. VIDEO AND PHOTOGRAPHY. Surface and subsurface video and photography were taken for visual assessment for environmental and biological conditions."</p>	1

## Appendix H: Response Study Notes

Category	SN_ID	StudyNote by Subject	Cnt
QUALIFIERS	62	The original database included a laboratory qualifier and final qualifier field. Here is how the final qualifiers were assigned: 1. All non-validated data had nothing in the final qualifier field, so the lab qualifier was used for qualcode. 2. Validated data used the final qualifier for the qualcode field. 3. If there was a qualifier in the lab qual and nothing in the validator qual, generally the lab qual was used as the final qual. 4. Added NSR for non-standard reporting units (mg, ug). Qualifiers were defined as received in the file Qualifier Definitions 21 NOV.xlsx, some remain undefined. Data reported in mass units only (ug, mg) were qualified with the qualifier of NSR (non-standard reporting unit).	92
MISC	1	Sediment chemistry data reported in wet weight were not converted to dry weight due to lack of solids or moisture information. Data reported as below detection were reported at the Detection Limit unless no DL was reported, then the RL was used for the default concentration.	1
MISC	2	Data reported in mass units (mg or ug) were reported as is, with an NSR qualifier (non-standard reporting unit).	1
MISC	3	Sediment data are reported in wet weight, no solids or moisture were available to convert these to dry weight.	1
MISC	4	Grain size data were converted from %passing or %retained to grain size fractions. Treatment of zero (and missing -9) results: 1. For most values reported as not detected, the result was filled with MDL. 2. For values with DL = 0 and RL <> 0, replaced Result with RL. 3. For values with DL and RL = 0, changed result to -9. 4. Changed DL/RL reported as 0 to -9.	146
MISC	5	QA Notes are available in the supplementary eddchem file; these notes are not reflected in the qualifiers reported in the database.	1
MISC	6	Treatment of zero (and missing -9) results: 1. For most values reported as not detected, the result was filled with MDL. 2. For values with DL = 0 and RL <> 0, replaced Result with RL. 3. For values with DL and RL = 0, changed result to -9. 4. Changed DL/RL reported as 0 to -9.	18
BIOASSAY_NOTES	1	Source: BP/Exponent Original file name: BPToxData_NOAAFormat_Feb16_(StationsUnique).xlsx Stations and Samples were matched to ESI database so that paired chemistry/bioassay analyses could be conducted. Sample match file provided by Exponent and edited.	5



Appendix I: Cross-Reference between Study Names and Study Notes

StudyID	STUDYNAME	DATA_SOURCE	DATA_COLLECTION_PURPOSE	STUDY	STATION	SAMPLES_AND_DUPLICATES	REPLICATES	BIOASSAY_METHODS	QUALIFIERS	MISC	BIOASSAY_NOTES
01	USGS Aug-Oct 2010	1	1	1	1	1	1	1			
02	EPA Region 04 Jun-Sep 2010	2	2	2	2	2	2	2	1		
03	ADEM/ALECI Sampling Analytical Monitoring 2010	3	3	3	3	3			2	1	
05	EPA Region 06 Apr-Sep 2010	4	4	2	4	4	2	3	1		
06	CTEH Sampling April-Nov 2010	5	1	4	1	5	3			2	
07	ADEM Sampling Analytical Monitoring 2010	6	3	5	5	6	4				
08	NPS Sampling Analytical 2010	7	3	6	5	7					
09	MSDEQ DW Sampling Analytical 2010	8	3	7	5	8	5			3	
0B	Brooks-McCall Cruise 13 JUL 16-19 2010 (DW/OB)	9	3	8	6	9	6		3	4	
0F	Ferrel Cruise 02 JUL 15-20 2010 (DW)	10	3	8	6	10	6		4	4	
0V	Ocean Veritas Cruise 02 JUN 01-04 2010 (DW/OB)	9	3	8	6	9	6		5	4	
10	FL DEP Sampling 2010-1011	11	1	9	7	11				5	
1B	Brooks-McCall Cruise 15 JUL 28-31 2010 (DW/OB)	9	3	8	6	9	6		6	4	
1C	Ocean Veritas Cruise 18 SEP 03-07 2010 (DW)	10	3	8	6	10	6		7	4	
1F	Ferrel Cruise 03 JUL 26-30 2010 (DW)	10	3	8	6	10	6		8	4	
1G	Gyre Cruise 02 SEP 19-22 2010 (DW)	10	3	8	6	10	6		9	4	
1J	Jack Fitz Cruise CS1 AUG 17-23 2010 (DW)	10	3	8	6	10	6		10	4	
1Q	Bunny Bordelon Cruise CS1 AUG 17-23 2010 (DW)	10	3	8	6	10	6		11	4	
1R	Ryan Chouest Cruise 16 SEP 16-20 2010 (DW)	10	3	8	6	10	6		12	4	
1S	Ryan Chouest Cruise 07 JUL 11-13 2010 (Onboard)	12	3	10	6	12				6	
1V	Ocean Veritas Cruise 03 JUN 07-10 2010 (DW/OB)	9	3	8	6	9	6		13	4	
1W	Walton Smith Cruise 02 JUN 01-06 2010 (DW)	10	3	8	6	10	6		14	4	
2B	Brooks-McCall Cruise 16 AUG 03-06 2010 (DW/OB)	9	3	8	6	9	6		15	4	
2C	Ocean Veritas Cruise 19 SEP 07-11 2010 (DW/OB)	9	3	8	6	9	6		16	4	
2F	Ferrel Cruise 04 JUL 30-AUG 03 2010 (DW/OB)	9	3	8	6	9	6		17	4	
2G	Gyre Cruise 03 SEP 25-28 2010 (DW/OB)	13	3	8	6	9	6		18	4	
2R	Ryan Chouest Cruise 17 SEP 23-OCT 28 2010 (DW/OB)	9	3	8	6	13	6		19	4	
2S	Ryan Chouest Cruise 08 JUL 14-19 2010 (Onboard)	12	3	10	6	12				6	
2V	Ocean Veritas Cruise 08 JUL 07-11 2010 (DW/OB)	9	3	8	6	9	6		20	4	
2W	Wes Bordelon Cruise CS1 AUG 17-23 2010 (DW)	10	3	8	6	10	6		21	4	
3B	Brooks-McCall Cruise 17 AUG 09-11 2010 (DW/OB)	9	3	8	6	9	6		22	4	
3C	Ocean Veritas Cruise 20 SEP 11-16 2010 (DW/OB)	9	3	8	6	9	6		23	4	
3F	Ferrel Cruise 05 AUG 03-11 2010 (DW)	10	3	8	6	10	6		24	4	
3G	Gyre Cruise 04 SEP 30-OCT 03 2010 (DW)	10	3	8	6	10	6		25	4	
3R	Ryan Chouest Cruise 18 OCT 07-17 2010 (DW)	10	3	8	6	10	6		26	4	
3S	Ryan Chouest Cruise 09 JUL 21-23 2010 (Onboard)	12	3	10	6	12				6	
3V	Ocean Veritas Cruise 10 JUL 19-22 2010 (DW/OB)	9	3	8	6	9	6		27	4	
4B	Brooks-McCall Cruise 18 AUG 15-18 2010 (DW)	10	3	8	6	10	6		28	4	
4C	Ocean Veritas Cruise 21 SEP 22-OCT 30 2010 (DW/OB)	13	3	8	6	9	6		29	4	
4F	Ferrel Cruise 06 AUG 13-17 2010 (DW/OB)	9	3	8	6	9	6		30	4	
4G	Gyre Cruise 05 OCT 07-19 2010 (DW)	10	3	8	6	10	6		31	4	
4S	Ryan Chouest Cruise 10 JUL 25-28 (Onboard)	12	3	10	6	12				6	
4V	Ocean Veritas Cruise 12 JUL 31-AUG 02 2010 (DW/OB)	9	3	8	6	9	6		32	4	
5B	Brooks-McCall Cruise 19 AUG 21-24 2010 (DW)	10	3	8	6	10	6		33	4	
5F	Ferrel Cruise 07 AUG 18-23 2010 (DW/OB)	9	3	8	6	9	6		34	4	
5S	Ryan Chouest Cruise 11 JUL 28-AUG 9 2010 (Onboard)	12	3	10	6	12				6	

## Appendix I: Cross-Reference between Study Names and Study Notes

StudyID	STUDYNAME	DATA_SOURCE	DATA_COLLECTION_PURPOSE	STUDY	STATION	SAMPLES_AND_DUPLICATES	REPLICATES	BIOASSAY_METHODS	QUALIFIERS	MISC	BIOASSAY_NOTES
5V	Ocean Veritas Cruise 13 AUG 06-09 2010 (DW/OB)	9	3	8	6	9	6		35	4	
6B	Brooks-McCall Cruise 20 AUG 29-SEP 01 2010 (DW)	10	3	8	6	10	6		36	4	
6F	Ferrel Cruise 08 AUG 23-27 2010 (DW)	10	3	8	6	10	6		37	4	
6S	Ryan Chouest Cruise 12 AUG 13-23 2010 (Onboard)	12	3	10	6	12				6	
6V	Ocean Veritas Cruise 14 AUG 12-15 2010 (DW/OB)	9	3	8	6	9	6		38	4	
7B	Brooks-McCall Cruise 21 SEP 02-05 2010 (DW)	10	3	8	6	10	6		39	4	
7R	Ryan Chouest Cruise 04 JUN 18-23 2010 (Onboard)	12	3	10	6	12				6	
7S	Ryan Chouest Cruise 13 AUG 27-SEP 1 2010 (Onboard)	12	3	10	6	12				6	
7V	Ocean Veritas Cruise 15 AUG 18-21 2010 (DW)	10	3	8	6	10	6		40	4	
8B	Brooks-McCall Cruise 22 SEP 07-10 2010 (DW)	10	3	8	6	10	6		41	4	
8R	Ryan Chouest Cruise 05 JUN 24-29 2010 (Onboard)	12	3	10	6	12				6	
8S	Ryan Chouest Cruise 14 SEPT 4-7 2010 (Onboard)	12	3	10	6	12				6	
8V	Ocean Veritas Cruise 16 AUG 25-27 2010 (DW)	10	3	8	6	10	6		42	4	
9R	Ryan Chouest Cruise 06 JUL 1-9 2010 (Onboard)	12	3	10	6	12				6	
9S	Ryan Chouest Cruise 15 SEPT 9-14 2010 (Onboard)	12	3	10	6	12				6	
9V	Ocean Veritas Cruise 17 AUG 30-SEP 03 2010 (DW)	10	3	8	6	10	6		43	4	
A2	Ocean Veritas Cruise 09 JUL 13-17 2010 (DW/OB)	9	3	8	6	9	6		44	4	
A4	Ocean Veritas Cruise 11 JUL 26-29 2010 (DW/OB)	9	3	8	6	9	6		45	4	
B1	Brooks-McCall Cruise 01 MAY 8-11 2010 (DW)	10	3	8	6	10	6		46	4	
B2	Brooks-McCall Cruise 02 MAY 15-17 2010 (DW/OB)	9	3	8	6	9	6		47	4	
B3	Brooks-McCall Cruise 03 MAY 19-21 2010 (DW/OB)	9	3	8	6	9	6		48	4	
B4	Brooks-McCall Cruise 04 MAY 23-25 2010 (DW/OB)	9	3	8	6	9	6		49	4	
B5	Brooks-McCall Cruise 05 MAY 30-JUN 1 2010 (DW)	10	3	8	6	10	6		50	4	
B7	Ocean Veritas Cruise 01 MAY 26-30 2010 (DW/OB)	9	3	8	6	9	6		51	4	
B8	Brooks-McCall Cruise 06 JUN 5-7 2010 (DW/OB)	9	3	8	6	9	6		52	4	
B9	Brooks-McCall Cruise 07 JUN 11-13 2010 (DW/OB)	9	3	8	6	9	6		53	4	
Ba	Brooks-McCall Cruise 08 JUN 17-19 2010 (DW/OB)	9	3	8	6	9	6		54	4	
Bb	Brooks-McCall Cruise 09 JUN 22-26 2010 (DW/OB)	9	3	8	6	9	6		55	4	
Be	Ocean Veritas Cruise 04 JUN 13-17 2010 (DW/OB)	9	3	8	6	9	6		56	4	
Bf	Ocean Veritas Cruise 05 JUN 19-23 2010 (DW/OB)	9	3	8	6	9	6		57	4	
Bg	Ocean Veritas Cruise 06 JUN 25-29 2010 (DW/OB)	9	3	8	6	9	6		58	4	
Bi	Brooks-McCall Cruise 11 JUL 4-8 2010 (DW/OB)	9	3	8	6	9	6		59	4	
Bl	Brooks-McCall Cruise 12 JUL 10-14 2010 (DW/OB)	9	3	8	6	9	6		60	4	
Df	Ocean Veritas Cruise 07 JUN 29-JUL 5 201 (DW/OB)	9	3	8	6	9	6		61	4	
E1	Ferrel Cruise 02 JUL 15-20 2010 (ES)	14	3	11	2	14	7		62	4	
E2	Ferrel Cruise 03 JUL 26-30 2010 (ES)	14	3	11	2	14	7		62	4	
E3	Ferrel Cruise 04 JUL 30-AUG 03 2010 (ES)	14	3	11	2	14	7		62	4	
E4	Ferrel Cruise 05 AUG 03-11 2010 (ES)	14	3	11	2	14	7		62	4	
E5	Ferrel Cruise 06 AUG 13-17 2010 (ES)	14	3	11	2	14	7		62	4	
E6	Ferrel Cruise 07 AUG 18-23 2010 (ES)	14	3	11	2	14	7		62	4	
E7	Ferrel Cruise 08 AUG 23-27 2010 (ES)	14	3	11	2	14	7		62	4	
E8	Ferrel Cruise 01 JUL 03-07 2010 (ES)	14	3	11	2	14	7		62	4	
EA	Bio Chem Strike Team Field Trial 9/2010 (ES)	14	3	11	2	14	7		62	4	
EB	Brooks-McCall Cruise 01 MAY 8-11 2010 (ES)	14	3	11	2	14	7		62	4	
EC	Brooks-McCall Cruise 02 MAY 15-17 2010 (ES)	14	3	11	2	14	7		62	4	
ED	Brooks-McCall Cruise 03 MAY 19-21 2010 (ES)	14	3	11	2	14	7		62	4	

## Appendix I: Cross-Reference between Study Names and Study Notes

StudyID	STUDYNAME	DATA_SOURCE	DATA_COLLECTION_PURPOSE	STUDY	STATION	SAMPLES_AND_DUPLICATES	REPLICATES	BIOASSAY_METHODS	QUALIFIERS	MISC	BIOASSAY_NOTES
EE	Brooks-McCall Cruise 04 MAY 23-25 2010 (ES/OB)	15	3	12	6	15	7		62	4	
EF	Brooks-McCall Cruise 05 MAY 30-JUN 1 2010 (ES)	14	3	11	2	14	7		62	4	
EG	Brooks-McCall Cruise 06 JUN 5-7 2010 (ES)	14	3	11	2	14	7		62	4	
EH	Brooks-McCall Cruise 07 JUN 11-13 2010 (ES)	14	3	11	2	14	7		62	4	
EI	Brooks-McCall Cruise 08 JUN 17-19 2010 (ES)	14	3	11	2	14	7		62	4	
EJ	Brooks-McCall Cruise 09 JUN 22-26 2010 (ES)	14	3	11	2	14	7		62	4	
EK	Brooks-McCall Cruise 11 JUL 4-8 2010 (ES)	14	3	11	2	14	7		62	4	
EL	Brooks-McCall Cruise 12 JUL 10-14 2010 (ES)	14	3	11	2	14	7		62	4	
EM	Brooks-McCall Cruise 13 JUL 16-19 2010 (ES)	14	3	11	2	14	7		62	4	
EN	Brooks-McCall Cruise 15 JUL 28-31 2010 (ES)	14	3	11	2	14	7		62	4	
EO	Brooks-McCall Cruise 16 AUG 03-06 2010 (ES)	14	3	11	2	14	7		62	4	
EP	Brooks-McCall Cruise 17 AUG 09-11 2010 (ES)	14	3	11	2	14	7		62	4	
EQ	Brooks-McCall Cruise 18 AUG 15-18 2010 (ES)	14	3	11	2	14	7		62	4	
ER	Brooks-McCall Cruise 19 AUG 21-24 2010 (ES)	14	3	11	2	14	7		62	4	
ES	Brooks-McCall Cruise 20 AUG 29-SEP 01 2010 (ES)	14	3	11	2	14	7		62	4	
ET	Brooks-McCall Cruise 21 SEP 02-05 2010 (ES)	14	3	11	2	14	7		62	4	
EU	Brooks-McCall Cruise 22 SEP 07-10 2010 (ES)	14	3	11	2	14	7		62	4	
EV	Bunny Bordelon Cruise CS1 AUG 17-23 2010 (ES)	14	3	11	2	14	7		62	4	
EW	DDSP Dispersants 05-06/2010 (ES)	14	3	11	2	14	7		62	4	
EX	Fate Oil Research (R/V Intl Peace) 8-10/2010 (ES)	16	3	11	2	14	7	4	62	4	1
EY	Fate of Oil Research Team 10/2010 (ES)	16	3	11	2	14	7	4	62	4	1
EZ	Forensics Rapid Assessment Samples 5/10-3/11 (ES)	14	3	11	2	14	7		62	4	
F1	Ocean Veritas Cruise 14 AUG 12-15 2010 (ES)	14	3	11	2	14	7		62	4	
F2	Ocean Veritas Cruise 15 AUG 18-21 2010 (ES)	14	3	11	2	14	7		62	4	
F3	Ocean Veritas Cruise 16 AUG 25-27 2010 (ES)	14	3	11	2	14	7		62	4	
F4	Ocean Veritas Cruise 17 AUG 30-SEP 03 2010 (ES)	14	3	11	2	14	7		62	4	
F5	Ocean Veritas Cruise 18 SEP 03-07 2010 (ES)	14	3	11	2	14	7		62	4	
F6	Ocean Veritas Cruise 19 SEP 07-11 2010 (ES)	14	3	11	2	14	7		62	4	
F7	Ocean Veritas Cruise 20 SEP 11-16 2010 (ES)	14	3	11	2	14	7		62	4	
F8	Ocean Veritas Cruise 21 SEP 22-OCT 30 2010 (ES)	14	3	11	2	14	7		62	4	
FA	Gyre Cruise 01 SEP 19-22 2010 (ES)	14	3	11	2	14	7		62	4	
FB	Gyre Cruise 03 SEP 25-28 2010 (ES)	14	3	11	2	14	7		62	4	
FC	Gyre Cruise 04 SEP 30-OCT 03 2010 (ES)	14	3	11	2	14	7		62	4	
FD	Gyre Cruise 05 OCT 07-19 2010 (ES)	14	3	11	2	16	7		62	4	
Fe	Gordon Gunter Cruise 06 AUG 2-8 2010 (Onboard)	10	3	13	6	17				6	
FF	Jack Fitz Cruise CS1 AUG 17-23 2010 (ES)	14	3	11	2	14	7		62	4	
FG	Long Term Monitoring 9/10-3/11 (ES)	14	3	11	2	14	7		62	4	
FH	Lousiana Offshore Oil Port 05-07/2010 (ES)	14	3	11	2	14	7		62	4	
FI	Marsh Sediment Sampling 10-12/2010 (ES)	14	3	11	2	14	7		62	4	
FJ	Miscellaneous ESI (CTEH) 06-09/2010 (ES)	14	3	11	2	14	7		62	4	
FK	Miscellaneous ESI 05-08/2010 (ES)	14	3	11	2	14	7		62	4	
FL	Nearshore Sediment Sampling (USGS) 10/2010 (ES)	16	3	11	2	14	7	4	62	4	1
FM	Nearshore Sediment Smping (Other) 12/10-3/11 (ES)	14	3	11	2	14	7		62	4	
FN	Nearshore-Offshore Sed Smping (NOAA) 08/2010 (ES)	14	3	11	2	14	7		62	4	
FO	Nearshore-Offshore Sed Smping (USGS) 10/2010 (ES)	16	3	11	2	14	7	4	62	4	1
FP	Ocean Veritas Cruise 02 JUN 01-04 2010 (ES)	14	3	11	2	14	7		62	4	

Appendix I: Cross-Reference between Study Names and Study Notes

StudyID	STUDYNAME	DATA_SOURCE	DATA_COLLECTION_PURPOSE	STUDY	STATION	SAMPLES_AND_DUPLICATES	REPLICATES	BIOASSAY_METHODS	QUALIFIERS	MISC	BIOASSAY_NOTES
FQ	Ocean Veritas Cruise 03 JUN 07-10 2010 (ES)	14	3	11	2	14	7		62	4	
FR	Ocean Veritas Cruise 04 JUN 13-17 2010 (ES)	14	3	11	2	14	7		62	4	
FS	Ocean Veritas Cruise 06 JUN 25-29 2010 (ES)	14	3	11	2	14	7		62	4	
FT	Ocean Veritas Cruise 07 JUN 29-JUL 5 201 (ES)	14	3	11	2	14	7		62	4	
FU	Ocean Veritas Cruise 08 JUL 07-11 2010 (ES/OB)	15	3	11	6	15	7		62	4	
FV	Ocean Veritas Cruise 09 JUL 13-17 2010 (ES)	14	3	11	2	14	7		62	4	
FW	Ocean Veritas Cruise 10 JUL 19-22 2010 (ES)	14	3	11	2	14	7		62	4	
FX	Ocean Veritas Cruise 11 JUL 26-29 2010 (ES)	14	3	11	2	14	7		62	4	
FY	Ocean Veritas Cruise 12 JUL 31-AUG 02 2010 (ES)	14	3	11	2	14	7		62	4	
FZ	Ocean Veritas Cruise 13 AUG 06-09 2010 (ES)	14	3	11	2	14	7		62	4	
G1	Oil Fingerprinting 10/10-02/11 (ES)	14	3	11	2	14	7		62	4	
G2	On Shore Water Sampling 12/2010 (ES)	14	3	11	2	14	7		62	4	
G3	Platform Intake Sampling 05-08/2010 (ES)	14	3	11	2	14	7		62	4	
G4	Rapid Assessment Sampling 05-09/2010 (ES)	14	3	11	2	14	7		62	4	
G5	Ryan Chouest Cruise 18 OCT 07-17 2010 (ES)	14	3	11	2	14	7		62	4	
G6	Ryan Chouest Cruise 16 SEP 16-20 2010 (ES)	14	3	11	2	14	7		62	4	
G7	Ryan Chouest Cruise 17 SEP 23-OCT 28 2010 (ES)	14	3	11	2	14	7		62	4	
G8	Sand Washing Samples 09-12/2010 (ES)	14	3	11	2	14	7		62	4	
GA	Sentinel Snare Sampling 05-09/2010 (ES)	14	3	11	2	14	7		62	4	
GB	Shallow Water Sediment Sampling 09-10/2010 (ES)	14	3	11	2	14	7		62	4	
GC	Shoreline Cleanup Assessment Smping 7/10-1/11(ES)	14	3	11	2	14	7		62	4	
GD	Special Monitor Applied Resp Tech 05-07/2010 (ES)	14	3	11	2	14	7		62	4	
GE	Special Request Sampling 05-11/2010 (ES)	14	3	11	2	14	7		62	4	
GF	Tilling Sand Samples 10/2010 (ES)	14	3	11	2	14	7		62	4	
GG	Top Kill Mud Sampling 06/2010 (ES)	14	3	11	2	14	7		62	4	
GH	Walton Smith Cruise JUN 01-06 2010 (ES)	14	3	11	2	14	7		62	4	
GI	Waste Sampling 05/2010 (ES)	14	3	11	2	14	7		62	4	
GJ	Water Sampling (R/V Intl Peace) 05-07/2010 (ES)	16	3	11	2	14	7	4	62	4	1
GK	Wes Bordelon Cruise CS1 AUG 17-23 2010 (ES)	14	3	11	2	14	7		62	4	
GL	Hesco Basket Sampling 12/10-01/11 (ES)	14	3	11	2	14	7		62	4	
R3	Henry Bigelow Cruise JUL 28-AUG 11 2010 (Onboard)	10	3	13	6	17				6	
R5	Pisces Cruise 03 AUG 5-14 2010 (Onboard)	10	3	13	6	17				6	
R6	Pisces Cruise 04 AUG 18-SEP 2 2010 (Onboard)	10	3	13	6	17				6	
R8	Pisces Cruise 05 SEP 8-17 2010 (Onboard)	10	3	13	6	17				6	
Ra	Pisces Cruise 06 SEP 25-OCT 4 2010 (Onboard)	10	3	13	6	17				6	

## Appendix J: Outline of Archived Files

Data are archived at the National Oceanographic Data Center (NODC) under the Accession Number 0108924. Files included in this accession are listed below.

ORR\_QueryManager/data/

QM\_Response\_All\_Sediment.csv

QM\_Response\_All\_TarOil.csv

QM\_Response\_All\_Tissue.csv

QM\_Response\_All\_Water.csv

ORR\_QueryManager/documentation/

QM\_Response\_All\_Sediment\_metadata.xml

QM\_Response\_All\_TarOil\_metadata.xml

QM\_Response\_All\_Tissue\_metadata.xml

QM\_Response\_All\_Water\_metadata.xml

Evaluation and Comparison of Tables from Scribe Import Files and QM DBF files.docx

ResponseAllStudyNotes.docx

QM\_Fields\_in\_Scribe\_Imports.xlsx

Response\_QueryManager\_ValidValues.xlsx

SummaryScribePhaseIII.pdf

Appendix K: Query Manager Output File Fields by Matrix

Field	Sediment Files	Water Files	Tissue Files	Tar/Oil Files
STUDYID	X	X	X	X
SCR_STUDYN	X	X	X	X
STUDYNAME	X	X	X	X
STATIONID	X	X	X	X
LATITUDE	X	X	X	X
LONGITUDE	X	X	X	X
LOCDESC	X	X	X	X
EST_STN	X	X	X	X
DATUM	X	X	X	X
SAMPLEID	X	X	X	X
SAMPDATE	X	X	X	X
SAMPTIME	X	X	X	X
UDEPTH	X	X		X
UDUNITS	X	X		X
LDEPTH	X	X		X
LDUNITS	X	X		X
SAMPTYPE	X	X	X	X
TOC	X			
PCTFINES	X			
WTRDEPTH	X	X	X	X
WDUNITS	X	X	X	X
MATRIX	X	X		X
NOTES	X	X	X	X
SPECIES			X	
SPP			X	
TISSUE			X	
TISSCODE			X	
LABREP	X	X	X	X
CHEMCODE	X	X	X	X
CONC	X	X	X	X
UNITS	X	X	X	X
QUALCODE	X	X	X	X
MEASBASIS	X	X	X	X
DL	X	X	X	X
RL	X	X	X	X
METHOD	X	X	X	X
QCBATCH	X	X	X	X
DVLEVEL	X	X	X	X
LABID	X	X	X	X
LABNAME	X	X	X	X
SCR_STATIO	X	X	X	X
EXSAMPID	X	X	X	X
SCR_MATRIX	X	X	X	X
CHEMNAME	X	X	X	X
CASNUM	X	X	X	X

Appendix K: Query Manager Output File Fields by Matrix

Field	Sediment Files	Water Files	Tissue Files	Tar/Oil Files
ANALYTTYPE	X	X	X	X
LABQUAL	X	X	X	X
DVQUAL	X	X	X	X
FINALQUAL	X	X	X	X
QCTYPE	X	X	X	X
DILFACT	X	X	X	X
TOTALDISS	X	X	X	X
DETFLAG	X	X	X	X
SAMPIDCOC	X	X	X	X
VALNOTES	X	X	X	X
CHEMTABLE	X	X	X	X
EDD_SCRIBE2QM	X	X	X	X
MSTR_SCRIBE2QM	X	X	X	X
IMPFILE	X	X	X	X
IMPFILERECD	X	X	X	X

**Appendix L. Data Dictionary**

Field	Definition	Accompanying Value List	Applicable Output Files	Database Source Table(s)
STUDYID	Study identifier - two-digit code		Sediment, Water, Tar/Oil, Tissue	Study
SCR_STUDYN	Short name of Scribe database source	X	Sediment, Water, Tar/Oil, Tissue	Smpmstr
STUDYNAME	Short name of study		Sediment, Water, Tar/Oil, Tissue	Study
STATIONID	Station identifier		Sediment, Water, Tar/Oil, Tissue	Station
LATITUDE	General latitude for site location		Sediment, Water, Tar/Oil, Tissue	Station
LONGITUDE	General longitude for site location		Sediment, Water, Tar/Oil, Tissue	Station
LOCDESC	Station location description		Sediment, Water, Tar/Oil, Tissue	Station
EST_STN	Designation of how the station coordinates were established	X	Sediment, Water, Tar/Oil, Tissue	Station
DATUM	Datum used for coordinates	X	Sediment, Water, Tar/Oil, Tissue	Station
SAMPLEID	Sample identifier		Sediment, Water, Tar/Oil, Tissue	sample tables
SAMPDATE	Date sample collected as YYYYMMDD		Sediment, Water, Tar/Oil, Tissue	sample tables
SAMPTIME	Time sample collected as HH:MM		Sediment, Water, Tar/Oil, Tissue	sample tables
UDEPTH	Top (upper) depth of sample; if depth is unknown, UDEPTH="-9"		Sediment, Water, Tar/Oil	sample tables
UDUNITS	Unit of measure corresponding to UDEPTH; null if UDEPTH="-9"	X	Sediment, Water, Tar/Oil	None
LDEPTH	Bottom (lower) depth of sample; if depth is unknown, UDEPTH="-9"		Sediment, Water, Tar/Oil	sample tables
LDUNITS	Unit of measure corresponding to LDEPTH; null if LDEPTH="-9"	X	Sediment, Water, Tar/Oil	None
SAMPTYPE	Indicates the type of sample	X	Sediment, Water, Tar/Oil, Tissue	sample tables
TOC	Total organic carbon as percent		Sediment	sample tables
PCTFINES	Percent fines		Sediment	sample tables
WTRDEPTH	Total water depth (sea surface to seafloor) at station where sample was collected; if depth is unknown, WTRDEPTH= "-9"		Sediment, Water, Tar/Oil, Tissue	sample tables
WDUNITS	Unit of measure corresponding to WTRDEPTH; null if WTRDEPTH="-9"	X	Sediment, Water, Tar/Oil, Tissue	None



**Appendix L. Data Dictionary**

Field	Definition	Accompanying Value List	Applicable Output Files	Database Source Table(s)
MATRIX	Indicates the Query Manager valid matrix of sample	X	Sediment, Water, Tar/Oil	sample tables
NOTES	Memo field with data processing notes		Sediment, Water, Tar/Oil, Tissue	sample tables
SPECIES	Species code (vestigial field)	X	Tissue	Smptiss
SPP	Species code (new field)	X	Tissue	Smptiss
TISSUE	Description of tissue collected (vestigial field)	X	Tissue	Smptiss
TISSCODE	Code used to describe tissue collected (new field)	X	Tissue	Smptiss
LABREP	Lab replicate number		Sediment, Water, Tar/Oil, Tissue	sample tables
CHEMCODE	A code used to refer to the reported parameter; often a short name or abbreviation for the corresponding chemical name	X	Sediment, Water, Tar/Oil, Tissue	chem tables
CONC	Measured concentration		Sediment, Water, Tar/Oil, Tissue	chem tables
UNITS	Units of concentration for parameter. The units are standardized to the units field in chemdict.	X	Sediment, Water, Tar/Oil, Tissue	chem tables
QUALCODE	Assigned qualifier for concentration. "U" is the first letter of the qualcode field for all non-detected data.	X	Sediment, Water, Tar/Oil, Tissue	chem tables
MEASBASIS	Indicator for basis reporting	X	Sediment, Water, Tar/Oil, Tissue	chem tables
DL	Analytical Method Detection Limit		Sediment, Water, Tar/Oil, Tissue	Eddchem, Eddchemqc
RL	Reporting Limit - Level at which target analytes are reported (practical quantitation limit)		Sediment, Water, Tar/Oil, Tissue	Eddchem, Eddchemqc
METHOD	Analytical method	X	Sediment, Water, Tar/Oil, Tissue	chem tables
QCBATCH	Quality Control Batch - a unique identifier that groups a series of samples analyzed in the same batch. Also called Sample Delivery Group		Sediment, Water, Tar/Oil, Tissue	chem tables
DVLEVEL	Data Validation level conducted on the sample	X	Sediment, Water, Tar/Oil, Tissue	chem tables
LABID	Laboratory SampleID -- Identifier assigned by the Laboratory		Sediment, Water, Tar/Oil, Tissue	chem tables
LABNAME	Laboratory Name	X	Sediment, Water, Tar/Oil, Tissue	chem tables
SCR_STATIO	Scribe Location field in Scribe Location table which identifies the location where sampling results are collected.		Sediment, Water, Tar/Oil, Tissue	Smpmstr
EXSAMPID	Investigator's original field sample identifier; Scribe Samp_No in Scribe Samples table		Sediment, Water, Tar/Oil, Tissue	sample tables
SCR_MATRIX	Relates to the sample Matrix, Media, or Type reported in the Scribe database Samples table	X	Sediment, Water, Tar/Oil, Tissue	Smpmstr

**Appendix L. Data Dictionary**

Field	Definition	Accompanying Value List	Applicable Output Files	Database Source Table(s)
CHEMNAME	Full chemical name - equivalent to Analyte in Eddchem, Eddchemqc, and Scribe LabResults table	X	Sediment, Water, Tar/Oil, Tissue	chem tables
CASNUM	Chemical Abstract Number (CAS) for the analyte that was measured.	X	Sediment, Water, Tar/Oil, Tissue	Eddchmsp
ANALYTTYPE	Scribe Result_Type_Code field.	X	Sediment, Water, Tar/Oil, Tissue	Eddchem, Eddchemqc
LABQUAL	Scribe Lab_Result_Qualifier field in Scribe LabResults table indicating the Result Qualifier as reported by the Lab	X	Sediment, Water, Tar/Oil, Tissue	Eddchem, Eddchemqc
DVQUAL	Data validation qualifier	X	Sediment, Water, Tar/Oil, Tissue	Eddchem, Eddchemqc
FINALQUAL	Scribe Result_Qualifier field. Also used as Qualifier(s) field in QM Chem and ChemQC tables.	X	Sediment, Water, Tar/Oil, Tissue	Eddchem, Eddchemqc
QCTYPE	Scribe Basis field in Scribe LabResults table. Also used in QM ChemQC table.	X	Sediment, Water, Tar/Oil, Tissue	Eddchem, Eddchemqc
DILFACT	Scribe Dilution_Factor field in Scribe LabResults table indicating the effective test dilution factor		Sediment, Water, Tar/Oil, Tissue	Eddchem, Eddchemqc
TOTALDISS	Scribe Total_Or_Disolved field. Also used in QM Chem and ChemQC	X	Sediment, Water, Tar/Oil, Tissue	Eddchem, Eddchemqc
DETFLAG	Scribe Detected field indicating whether an analyte was detected or not.	X	Sediment, Water, Tar/Oil, Tissue	Eddchem, Eddchemqc
SAMPIDCOC	Chain of Custody Number as reported by the Lab		Sediment, Water, Tar/Oil, Tissue	Eddchmsp
VALNOTES	Notes and findings reported during validation		Sediment, Water, Tar/Oil, Tissue	Eddchmsp
CHEMTABLE	The Query Manager chem table that contains the given record	X	Sediment, Water, Tar/Oil, Tissue	Eddchem, Eddchemqc
EDD_SCRIBE2QM	Description of modification from import file to QM at chemistry level		Sediment, Water, Tar/Oil, Tissue	Smpmstr
MSTR_SCRIBE2QM	Description of modification from import file to QM at sample level		Sediment, Water, Tar/Oil, Tissue	Eddchem, Eddchemqc
IMPFILE	Name of Scribe import file used for the given record	X	Sediment, Water, Tar/Oil, Tissue	Eddchem, Eddchemqc
IMPFILERECD	Equivalent to the the autonumber ID in the IMPFILE import EDD		Sediment, Water, Tar/Oil, Tissue	Eddchem, Eddchemqc