



Exploration & Production

GENERAL SPECIFICATION

Environment

GS EP ENV 501

GIS deliverables for HSE

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Owner: HSE

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1. Scope

The objective of the present General Specification is to define the basic requirements to build a Geographic Information System (GIS) with Environmental and Societal data relative to an affiliate, a site or a Project.

2. Reference documents

The reference documents listed below form an integral part of this General Specification. Unless otherwise stipulated, the applicable version of these documents, including relevant appendices and supplements, is the latest revision published at the EFFECTIVE DATE of the CONTRACT.

Standards

Reference	Title
Not applicable	

Professional Documents

Reference	Title
NOS OR&R 11	Environmental Sensitivity Index Guidelines, version 3.0, National Oceanic and Atmospheric Administration (NOAA, USA)
Technical Report No 40	Corine land cover technical guide – Addendum 2000, 2000, European Environmental Agency (EEA)
Technical Report No 89	Corine land cover update 2000, technical guidelines, 2002, European Environmental Agency (EEA)

Regulations

Reference	Title
Not applicable	

Codes

Reference	Title
Not applicable	

Other documents

Reference	Title
Not applicable	



Total General Specifications

Reference	Title
GS EP ENV 111	Environmental Baseline and Monitoring Studies: Onshore sites
GS EP ENV 112	Environmental Baseline and Monitoring Studies: Offshore and Nearshore sites
GS EP ENV 120	Environmental Impact Assessment of E&P activities
GS EP GIN 301	Geographical Information shared data specifications
GS EP SDV 101	Social Baseline Study
GS EP SDV 102	Social Impact Assessment

3. Deliverables

The GIS for HSE is developed with information collected in the frame of Environmental and Social studies as defined in [GS EP ENV 111](#), [GS EP ENV 112](#), [GS EP ENV 120](#), [GS EP SDV 101](#) and [GS EP SDV 102](#).

The GIS for HSE shall allow to:

- Access to available HSE data where any E&P activity occurs,
- Measure any potential changes happening in the surroundings of an E&P site,
- Prepare a strategy and manage an Oil Spill Response,
- Provide reliable information for crises management.

3.1 Documentation provided by the Company

When available, Company provides the following information to the Contractor:

- The official geodesy and its parameters to be applied for the project,
- Oil and/or gas facilities locations,
- Any available cultural data,
- Satellite images (if license is available)
- A model geodatabase.

The GIS *area of interest* is defined in a particular specification.

When available, the Company provides in the geodatabase, the dataset from previous Environmental or Social studies. In that case, the Contractor shall provide only updated interpretation dataset as described in the particular specification.

3.2 Deliverables to be provided by the Contractor

3.2.1 GIS Preliminary Report

A preliminary GIS Report shall be provided to the Company for approval, containing:

- a description of all the dataset identified,



- a proposal for organization of the dataset in accordance with the present General Specification.

3.2.2 Dataset delivery

The following shall be provided by the Contractor, after GIS Preliminary Report approval:

- dataset as Geodatabase formats, rasters, built as required in chapter 5 and appendices,
- layout and/or maps as defined by the Company in a particular specification,
- when relevant, project (*.mxd), projection (*.prj), templates (*.mxt), style (*.style), layer (*.lyr), queries and scripts files. The dataset in the *.mxd will be stored in relative path.

The more precise dataset shall be preferentially integrated to the GIS.

Dataset format and architecture shall comply with **GS EP GIN 301** requirements to ensure data sharing between E&P entities.

3.2.3 GIS Report

The GIS Report shall be delivered in paper and digital copy.

The GIS Report shall contain at least the following information:

General information

- **Title of the study**
 - Name of the recipient - Company affiliate/ project,
 - Block reference and site name, Country,
 - Study Contractor name,
 - Start/end dates of the study.
- **Certification:** the first page of the report shall show the Contractor's certification, and shall specify:
 - Name(s) of person(s) responsible(s) for GIS dataset preparation,
 - Name and signature of QA/QC issuing Authority,
 - Date of issue.

Project summary

- **Abstract:** brief description of the study
 - Study dates,
 - Name(s) of person(s) responsible(s) for the study,
 - Site(s) and location(s) surveyed with key co-ordinates and situation plan.
- Project Geodesy.
- Listing of all the dataset and description.

Description of the satellite images (when relevant)

The Contractor shall describe for each dataset the following elements:

- **Name** of the location

- **Satellite information:**

- Platform, Sensor, Type,

- Acquisition Date,

- Resolution,

- Geodesy of acquisition,

- Integration and georeferencing Process of raw data (Description and listing of used points).

- **Method** applied to process raw data (Radiometric and geometric treatment).

Description of the dataset

For each dataset the following elements shall be described:

- **Content:** meaning of the layer,
- Type of **geometry** (raster, vector, point, polyline Z, polyline M, etc.),
- **Attributes:** name, significance, type, values, domains, etc.,
- A brief description of the **origin** of the dataset: Excel file, software export, etc.,
- **The method** applied to collect the data, and definition and method applied to characterize sensibility.

Others

Where applicable: all significant scripts, queries, etc. used for the Project.

4. General requirements

4.1 Software compatibility

Contractor's deliverables shall be compliant with ArcGis Desktop 9.3, from ESRI, unless otherwise stipulated in a particular specification.

4.2 Dataset compatibility

Dataset shall be stored in a geodatabase organized as per section 5.5 and appendices 2 to 6.

Any geo-referenced data can be imported into GIS. The preferred formats, however, are as follows:

- Raster files: Geotiff, Tiff, Jpg (associated with *.Tfw or *.Jwg world file, and spatial index saved),
- Vector files: a Geodatabase (FGDB),
- Microsoft Excel files with geodesy description appended.

4.3 Language

The English language shall be used except otherwise defined in a particular specification.

4.4 Dataset QA/QC

The Contractor shall apply QA/QC procedures for producing the GIS datasets.



Any anomaly or discrepancies between the datasets detected by the Contractor shall be brought to the attention of the Company.

In particular, the following items are of primary importance:

- Georeferencing
- Geometry
- Topology
- Content (attributes, metadata), etc.

4.5 Units

International System shall be used.

4.6 Applicable geodesy

All files shall be geo-referenced in the official geodetic system specified by Company in the particular specification since the beginning of the project.

5. Dataset organization

5.1 Conventional naming of the files

The layer's names in the geodatabase shall be given as described in the appendices 2 to 6.

The name of the layers can be modified (see section 5.4). Any modification shall be submitted to the Company for approval

For new layers, the Contractor shall submit a name to the Company for approval. Fields names shall be in capital letters with no space and no hyphen.

5.2 Metadata

Any data imported into the GIS shall be traceable for its source and history:

This is achieved by ensuring the inclusion of the relevant metadata.

For each dataset, the Contractor shall provide the following metadata:

- Company name
- Contractor name
- Study date
- Project reference
- GIS Contractor
- GIS date
- GIS revision
- GIS Maker
- Geodesy
- Source



Metadata should be provided using FGDC profile.

At least, these metadata shall be stored in the layers, in the appropriate fields.

5.3 Symbology

Prior to building the datasets, the Contractor shall propose to the Company the symbology intended to be used for approval.

The symbology proposed shall be in accordance with the [Technical Report No 40](#) and [Technical Report No 89](#).

5.4 Associated documents (hyperlinks)

All documents that can be linked to spatial data (image, log, report, Microsoft Excel spreadsheet, etc.) shall have hyperlink functionality.

The relative file path name shall be given in the hyperlink field of the attribute data.

The layer name shall indicate the hyperlink existence (for example with “_HYP” at the end of the name of the layer).

5.5 Dataset organisation

Dataset shall be organized in a geodatabase.

Unless otherwise stipulated in a particular specification, the themes shall be organized as follows:

- Cultural data,
- Environmental data,
- Societal data
- Logistical data for pollution control,
- Sampling location,
- Oil and/or gas facilities.

The layers and attributes are described in detail in appendices 2 to 6.



Bibliography

IMO / IPIECA	Guide for Oil Spill Sensitivity Mapping and its Integration into Preparedness and Response Systems in the West and Central Africa Region- GIWACAF (2008)
WCMC/UNEP	World Database on Protected Areas (WDPA) (permanent update)



Appendix 1 Glossary

E&P	Exploration & Production
ESI	Environmental Sensitivity Index
ESRI	Environmental System Research Institute
FGDB	FileGeodatabase
GIS	Geographic Information System
GIWACAF	Global Initiative for West and Central Africa
IPIECA	International Petroleum Industry Environmental Conservation Association
NGO	Non Governmental Organization
NOAA	National Oceanographic and Atmospheric Administration
QA/QC	Quality Assessment/ quality Control



Appendix 2 Cultural data

Notes:

Data marked with an (*) can be provided by the Company otherwise to be provided by the Contractor for Company's approval.

Data marked with an (**) is only filled for point features.

Field Name	Alias	Examples of contents (not limited)	Type
*A/ 1.1- Administrative Data - Country (polygon feature)			
ID		ADM_0_000001 then ADM_0_000002	Text
NAME	Name of the country		Text
*A/ 1.2- Administrative Data - Province1 (polygon feature)			
ID		ADM_1_000001 then ADM_1_000002	Text
NAME	Name of the region		Text
*A/ 1.3- Administrative Data - Province2 (polygon feature)			
ID		ADM_2_000001 then ADM_2_000002	Text
NAME	Name of the province		Text
*A/ 1.4- Administrative Data - Province3 (polygon feature)			
ID		ADM_3_000001 then ADM_3_000002	Text
NAME	Name of the district		Text
A/ 2- Built-up Areas: city/village (point feature) - Main cities location			
ID		BA_000001 then BA_000002	Text
NORTHING			Double
EASTING			Double
NAME	Name of the city		Text
TYPE	Type of the city	town, village, ...	Text
POP	Number of inhabitants	integer values	Long integer
STATUS	Status of the city	capital, prefecture, county town, ...	Text
ADM_0	Name of the country		Text
ADM_1	Name of the region		Text
ADM_2	Name of the province		Text
OBSERV	Observations		Text



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Appendix 2

A/ 3- General Infrastructures (point feature)			
ID		GI_000001 then GI_000002	Text
NORTHING			Double
EASTING			Double
ELEMENT	Type of the infrastructure	transport, facilities, equipment, security, ...	Text
NAME	Name of the infrastructure (if any)		Text
SUBELEMENT	The sub-element	station, airport, heliport, hospitals, military camps, police camps, refugee camps, ...	Text
STATUS	Status of the infrastructure	private, public, community	Text
CONTACT	Other contact		Text
OBSERV	Observations		Text
A/ 4.1- Access - Road network (polyline feature)			
ID		A_RN_000001 then A_RN_000002	Text
NAME	Name or the number of the road		Text
IMPORT	Importance of the road	national, regional, local, ...	Text
TYPE_ROAD	Type of the access	paved road, carriage way, track, path, ...	Text
OBSERV	Observations		Text
A/ 4.2- Access - Railway (polyline feature)			
ID		A_R_000001 then A_R_000002	Text
NAME	Name or the number of the rail		Text
IMPORT	Importance of the rail	national, regional, local, ...	Text
NB_RAIL	Number of ways	1, 2, ...	Short integer
OBSERV	Observations	rail conditions, ...	Text
A/ 5.1- Hydrographical network (polyline feature)			
ID		HN_000001 then HN_000002	Text
NAME	Name of the river		Text
TYPE	Type of the river	river, stream, beck, canal, ...	Text
DRAINAGE_B	Name of the drainage basin		Text
IMPORT	Importance of the flow rate	permanent, intermittent	Text
FLOW	Average estimated flow (m3/s)		Double
WIDTH	Estimated width (m)		Double
LENGTH	Estimated length (m)		Double
NAVIGAB	Navigability of the river	navigable or not	Text
PERIOD	Period of the navigability	month to month	Text
TYPE_VES	Type of vessels able to use it		Text
OBSERV	Observations		text



A/ 5.2- Hydrography - Water bodies (polygon feature)			
ID		H_WB_000001 then H_WB_000002	Text
NAME	Name of the lake		Text
TYPE	Type of the lake	lake, lagoon, pond, water well, ...	Text
DEPTH	Estimated depth (m)		Double
AREA	Estimated area (m²)		Double
NAVIGAB	Navigability of the lake	bad, medium, good	Text
PERIOD	Period of the navigability	month to month	Text
OBSERV	Observations		Text
*A/ 6- Topography (polyline feature)			
ID		T_000001 then T_000002	Text
W_DEPTH	Height (m)		Double
Unit		meter	Text
*A/ 7- Bathymetry (polyline feature)			
ID		B_000001 then B_000002	Text
W_DEPTH	Water depth (m)		Double
Unit		meter	Text
A/ 8- Power lines (polyline feature)			
ID		PL_000001 then PL_000002	Text
TYPE	Type of the power line	high voltage, low voltage	Text



Appendix 3 Environmental data

Notes:

Data marked with an (**) is only filled for point features.

Field Name	Alias	Examples of contents (not limited)	Type
B/ 1- Land Cover (polygon feature)			
ID		LC_000001 then LC_000002	Text
LAND_COV_1	Class of land cover		Text
LAND_COV_2	Type of land cover		Text
SENSITIVIT	Environmental sensitivity of the land cover	low, average, high, very high	Text
OBSERV	Observations	vegetation height, ...	Text
B/ 2- Surface geology (polygon feature)			
ID		GEOL_000001 then GEOL_000002	Text
NAT_GEOL	Geological nature of the soil		Text
GRANULO	Granulometry (µm)		Double
SEEP	Existence or absence s of seep of hydrocarbons	If seep exist: "Existence of seep", otherwise: nothing	Text
TYPE_SEEP	Type of seep		Text
DEPTH	Estimated depth of the hydrocarbon layer (m)		Double
SLOPE	Slope (%)		Double
B/ 3- ESI Coast (polyline feature, polygon feature)			
ID		ESI_000001 then ESI_000002	Text
TYPE_GEOMO	Geomorphological type of the coast	sandy, rocky, vegetated (mangrove swamp), ...	Text
ESI_INDEX	Vulnerability of the coast (coastal vegetation integrated)	ESI index between 1 and 10 (NOAA definitions) in NOS OR&R 11	Short Integer
ESI_LEVEL	ESI index simplified : 4 levels	low (1 to 3), average (4 to 6), high (7 to 8), very high (9 to 10)	Text
RESOUR_BIO	Type of marine species sensitive to pollution	turtles, seabirds, subtidal habitats (coral), ...	Text
VULNERA_BIO	Vulnerability of biological resources	low, average, high, very high	Text
RESOUR_SOC	Type of sensitive coastal human activities	fishing area, beach tourism, ports, ...	Text
VULNERA_SOC	Vulnerability of socio-economic resources	low, average, high, very high	Text
SYNTH_VULN	Synthesizing the three sets of information (ESI, sensitive biological and human-use resources)	low, average, high, very high	Text
PROTECTION	Priority levels of protection	low, average, high	Text
CLEANUP	Priority levels of cleanup	low, average, high	Text



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Appendix 3

B/ 4- Sensitive wildlife resources (point feature, polygon feature)			
ID		SENS_000001 then SENS_000002	Text
**NORTHING			Double
**EASTING			Double
NAME_GROUP	Group name of sensitive species	birds (marine & shore), mammals (marine & shore), reptiles, invertebrates, coastal fish	Text
NAME_FAMIL	Family name of sensitive species	diving bird, wading bird, raptor, limicolous, whale, dolphin, manatee, turtle, ...	Text
NAME_SPECY	Common name of sensitive species		Text
NAME_LATIN	Scientific name of sensitive species	latin name	Text
PERIOD_PRE_BEG	Beginning of presence period of sensitive species	month	Text
PERIOD_PRE_END	End of presence period of sensitive species	month	Text
PERIOD_REP_BEG	Beginning of reproduction period of sensitive species	month	Text
PERIOD_REP_END	End of reproduction period of sensitive species	month	Text
SENSITI_SP	Combination: diversity of interest and sensitivity	low (sensitive, managed), average (endangered), high (rare, threatened by extinction)	Text
PROTECTION	Priority levels of protection	low, average, high	Text
CLEANUP	Priority levels of cleanup	low, average, high	Text
OBSERV	Observations		Text
B/ 5- Subtidal habitats (point feature, polyline feature, polygon feature)			
ID		SUB_H_000001 then SUB_H_000002	Text
**NORTHING			Double
**EASTING			Double
HABITAT	Nature of the habitat	coral reefs, seagrass beds, floating aquatic vegetation, ...	Text
HABITAT_SP	Sensitive dominant species in the habitat	common name of dominant species	Text
SENSITIVIT	Natural sensitivity	low, average, high, very high	Text
PROTECTION	Priority levels of protection	low, average, high	Text
CLEANUP	Priority levels of cleanup	low, average, high	Text
OBSERV	Observations		Text



Appendix 4 Societal data

Notes:

Data marked with an (**) is only filled for point features.

Field Name	Alias	Examples of contents (not limited)	Type
C/ 1.1- Societal occupation - Inhabited areas (polygon feature)			
ID		SO_IA_000001 then SO_IA_000002	Text
NAME	Name of the town		Text
AREA	Area value in km ²		Double
ADM_1	Name of the region		Text
ADM_2	Name of the province		Text
TYPE	Type of Societal occupation		Text
OBSERV	Observations		Text
C/ 1.2- Societal occupation - Buildings points (point feature)			
ID		SO_BP_000001 then SO_BP_000002	Text
NORTHING			Double
EASTING			Double
NAME	Name of the locality (if exists)		Text
ADM_1	Name of the region		Text
ADM_2	Name of the province		Text
OBSERV	Observations		Text
C/ 1.3- Societal occupation - Societal particular infrastructures (point feature)			
ID		SO_SPI_000001 then SO_SPI_000002	Text
NORTHING			Double
EASTING			Double
ELEMENT	Type of infrastructure	facilities, public services, cultural, ...	Text
NATURE	Nature of infrastructure	school, town hall, clinic, ...	Text
STATUS	Status of the infrastructure	private, public, community	Text
NAME_OWNER	Information about owner		Text
CONTACT	Other contact		Text
PROTECTION	Priority levels of protection	low, average, high	Text
CLEANUP	Priority levels of cleanup	low, average, high	Text
OBSERV	Observations		Text



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C/ 1.4- Societal occupation - Property map (point feature, polygon feature)			
ID		SO_PM_000001 then SO_PM_000002	Text
**NORTHING			Double
**EASTING			Double
NUMBER	Property number	integer values	Short integer
AREA	Area (m ²)		Double
STATUS	Status of property	private, custom, ...	Text
PROPER_USE	Type of use	leisure, industry, subsistence activity (trade, fisheries, crop type), ...	Text
INHABITANT	Number of inhabitants	integer values	Long integer
NAME_OWNER	Information about owner		Text
ADM_1	Name of the region		Text
ADM_2	Name of the province		Text
OBSERV	Observations		Text
C/ 1.5- Societal occupation - Heritage and Culture (point feature, polygon feature)			
ID		SO_HC_000001 then SO_HC_000002	Text
**NORTHING			Double
**EASTING			Double
TYPE	Type of heritage	archaeological site, religious site, place of worship, burial place, ...	Text
NAME	Site name (if any)		Text
DESCRIP	Short description of the site	heritage value, interest, ...	Text
C/ 2.1- Socio-economic activities - Tourism (point feature, polygon feature)			
ID		SEA_T_000001 then SEA_T_000002	Text
**NORTHING			Double
**EASTING			Double
NAME	Name of the locality		Text
TYPE	Type of infrastructure		Text
IMPORTANCE	Importance	small, medium, large	Text
PERIOD	Full time	month to month	Text
CONTACT	Information		Text
SENSITIVIT	Level of sensitivity	low, average, high	Text
OBSERV	Observations		Text



C/ 2.2- Socio-economic activities - Industry (point feature, polygon feature)			
ID		SEA_I_000001 then SEA_I_000002	Text
**NORTHING			Double
**EASTING			Double
NAME	Name of the Compagny		Text
TYPE	Type of industry		Text
IMPORTANCE	Size	small, medium, large	Text
AREA	Area (m²)		Double
CONTACT	Information		Text
SENSITIVIT	Level of sensitivity	low, average, high	Text
OBSERV	Observations		Text
C/ 2.3- Socio-economic activities - Fishing area (point feature, polygon feature)			
ID		SEA_FA_000001 then SEA_FA_000002	Text
**NORTHING			Double
**EASTING			Double
TYPE_FISH	Type of fishing	artisanal, commercial, recreational, subsistence fishing, ...	Text
METH_FISH	Fishing method	canoe, walk, ...	Text
PRODUCT	Type of fishery resources taken	crabs, shrimp, oysters, sardines, shell, ...	Text
PER_FISH	Period during which fishing is conducted	month to month, all year	Text
PROTECTION	Priority levels of protection	low, average, high	Text
CLEANUP	Priority levels of cleanup	low, average, high	Text
SENSITIVIT	Level of sensitivity	low, average, high	Text
OBSERV	Observations		Text
C/ 3.1- Human settlements - Sociology, community groups (polygon feature)			
ID		HS_SCG_000001 then HS_SCG_000002	Text
NAME	Name of community group		Text
POPULATION	Estimated population	integer values	Long integer
DESCRIP	Short description of the group (features)	nomadic, sedentary, religion, people first, dominant economic activity, refugees, ...	Text
C/ 3.2- Human settlements - Health status (polygon feature)			
ID		HS_HST_000001 then HS_HST_000002	Text
NAT_DISEAS	Nature of the dominant pathology	malaria, dengue, ...	Text
AERA	Extent of contaminated (km²)		Double
POPULATION	Estimated population affected	integer values	Short integer
OBSERV	Observations		Text



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Appendix 4

C/ 4- Societal constraints - Impacted areas (polygon feature)			
ID		SC_IA_000001 then SC_IA_000002	Text
TYPE	Type of impact	direct impact, indirect impact, legal area, ...	Text
AREA	Area (km²)		Double
OBSERV	Observations		Text
C/ 5- Development Project (point feature)			
ID		DEV_P_000001 then DEV_P_000002	Text
NORTHING			Double
EASTING			Double
OPERATOR	Name of the main operator	Company, NGOs xxx, state, country, other agencies, ...	Text
NATURE	Nature of the development project	building schools, drilling wells, health centers, ...	Text
PROGRESS	The progress of the project	future, ongoing, completed	Text
PARTENER	The partners of the development project		Text
PERIOD_DEV_BEG	Start of the development project	mm/dd/yyyy	Date
PERIOD_DEV_END	End of the development project	mm/dd/yyyy	
ADM_1	Name of the region		Text
OBSERV	Observations		Text



Appendix 5 Logistical resources and preparation for pollution control

Notes:

Data marked with an (**) is only filled for point features.

Field Name	Alias	Examples of contents (not limited)	Type
D/ 1- Danger zones (point feature, polygon feature)			
ID		DZ_000001 then DZ_000002	Text
**NORTHING			Double
**EASTING			Double
NAME	Name of the hazardous site		Text
TYPE	Type of hazard	mines, armed conflict, risk of landslides, dangerous animals, ...	Text
AERA	Size of the area concerned by the danger (km²)		Double
OBSERV	Observations		Text
D/ 2- Access point (point feature, polyline feature)			
ID		A_P_000001 then A_P_000002	Text
**NORTHING			Double
**EASTING			Double
TYPE_ACCES	Type of the access	bridge, level crossing, coastal access, pathway, ...	Text
MODE_ACCES	Mode of the access	motorised and pedestrian, only pedestrian, only motorised, ...	Text
TYPE_VEH	Type of vehicules able to use it	car, 4x4, truck, heavy transports, bulldozer, plane, ...	Text
TRAFICAB	Level of the traficability of the access	bad, medium, good	Text
OBSERV	Observations		Text
D/ 3- Waste Storage (point feature, polygon feature)			
ID		W_S_000001 then W_S_000002	Text
**NORTHING			Double
**EASTING			Double
NAME	Name of the site where is located the storage area		Text
NAT_GROUND	Type of storage structure	bin, storage tank, storage tank buried ...	Text
CAPACITY	Volumetric capacity of the area (m³)		Double
HB_STOCK	Nature of the hydrocarbons to store	type, name of oil spilled	Text
OBSERV	Observations		Text



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D/ 4- Control equipment storage (point feature, polygon feature)			
ID		CES_000001 then CES_000002	Text
**NORTHING			Double
**EASTING			Double
NAME	Name of the site where the equipment is located		Text
TYPE	Type of material available	dam, dispersing ...	Text
OWNER	Name of the owner of the material	Company, ...	Text
OBSERV	Observations		Text
D/ 5- Boom deployment areas (polyline feature, polygon feature)			
ID		BDA_000001 then BDA_000002	Text
NAME	Name of the deployment site of the dam		Text
TYPE	Type of dam to deploy	lightweight floating barrier, anchorage ground, ...	Text
OBSERV	Observations	description of the area (sensitive sites, human activities, ...)	Text
D/ 6- History of incidents (point feature)			
ID		HI_000001 then HI_000002	Text
NORTHING			Double
EASTING			Double
NAME_BLOCK	Name of the block		Text
NAME_SITE	Name of the site concerned		Text
NATURE_POL	Nature of the pollution		Text
TYPE_INCID	Type of incident		Text
DATE_BEG	The start date of the incident	mm/dd/yyyy	Date
DATE_END	The end date of the incident	mm/dd/yyyy	Date
VOLUME_HB	Amount of oil spilled (m ³)		Double
OBSERV	Observations		Text



Appendix 6 Sampling location

Field Name	Alias	Examples of contents (not limited)	Type
E/ 1- Sampling location (point feature)			
ID		SL_000001 then SL_000002	Text
NORTHING			Double
EASTING			Double
NAME_LOCAT	Name of sampling location		Text
INSTALLATION	Name or number of installation		Text
DATE_SAMPLING	Date of sampling	mm/dd/yyyy	Date
ELEVATION	Positive for ground elevation (m), negative for water depth (m)		Double
DIST_INSTA	Distance from installation (m)		Double
OBSERV	Observations		Text