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**SSDM v2 Change Log**

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# FOCUS OF SSDM V2 DEVELOPMENT

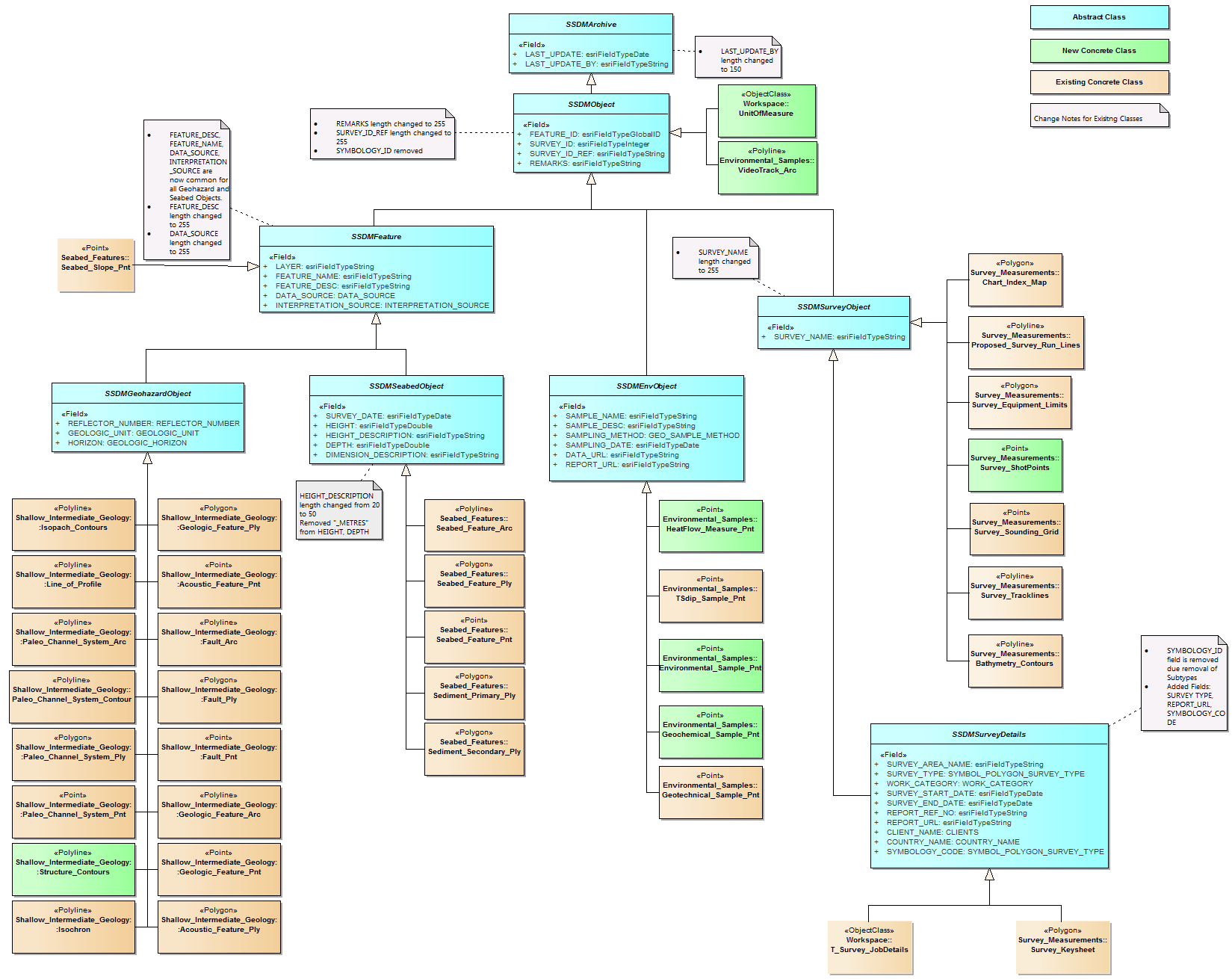
* UML design of the model in Enterprise Architect for both ArcGIS implementation and GML encoding
* Compliance with EPSG and consistency with other IOGP Standards
* Closing the gap in defining more seabed and subsurface features
* Completing CAD Template and GIS Symbology stylesheet for SSDM Features
* Integration of environmental/benthic survey and geotechnical surveys
* Considerations for long-term sustainability and maintenance of the SSDM schema

# UML MODEL

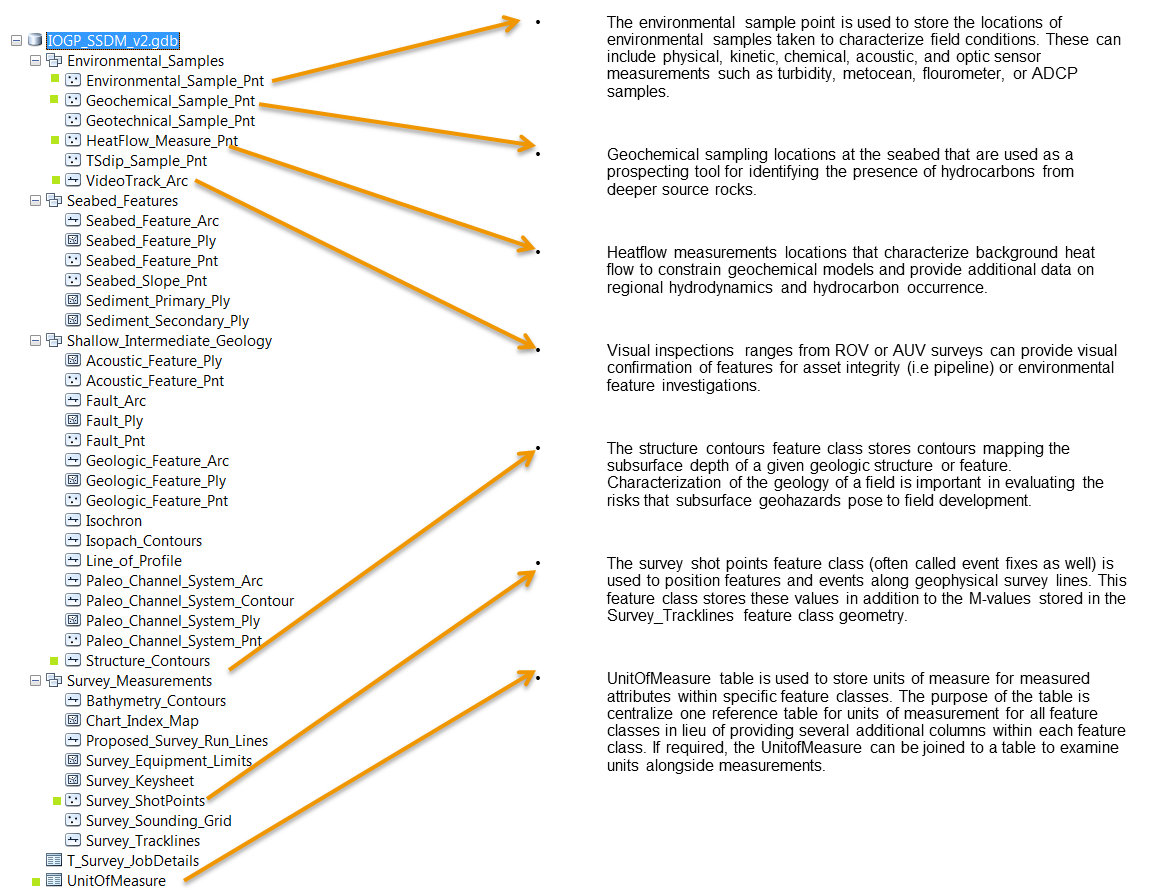
SSDMv2 was re-designed using UML profile for ArcGIS/GML in Enterprise Architect that is exported to XML Workspace document for physical implementation.

Seabed Survey Data Model (SSDM) is founded based on geographic representations of seabed survey objects (classes), their attributes, inheritance and relationships. A class is defined as either an Abstract or Concrete class. Abstract classes are templates used to generalize common attributes and behaviours that would otherwise be duplicated across (sub) classes – concrete classes. A concrete class inherits base attributes and relationships which results in creation of the concrete feature during –physical implementation of the model.

The SSDM v2 conceptual model below depicts abstract and concrete classes and object inheritance. Refer to SSDM Data Dictionary for additional details on Abstract and Concrete Classes for SSDM v2.



# NEW SSDM OBJECTS



# EPSG COMPLIANCE

* SSDM v2 has been made compliant with EPSG and consistent with other IOGP Standards:
* All coordinates in SSDM now reference a single horizontal and vertical Coordinate Reference System.
* The identification of indirect (EPSG - full OGC URN string) and direct description (Well-known text (WKT)) of CRS for the whole model will be defined as string text in the attribute fields of T\_Survey\_JobDetails table.
* Well-known Text (WKT) format will follow the requirements specified in ISO 19162.
* Direct description of CRS will be required only in cases where indirect citation to EPSG code is not possible.
* It was agreed to remove the coordinate attribute fields such as SOL and EOL easting and northing, latitude and longitude fields, Vertical\_Datum and other CRS terminology from all of the attribute tables.

# UNITS OF MEASURE

* All unit declarations in the field names have been removed.
* SSDM v2 includes a centralized reference table for units of measure (‘UnitOfMeasure’) for all of the objects in SSDM.
* Measurement units in ‘UnitOfMeasure’ Table should reference the Energistics Unit Symbols (<http://w3.energistics.org/uom/poscUnits22.xml>).
* ‘UnitofMeasure’ can be joined to any table in SSDMv2 to examine units alongside measurements
* ‘UnitofMeasure’ table is scalable to store multiple units for a specific field differentiated by Survey\_ID or Survey\_ID\_Ref.

# SYMBOLOGY CODES

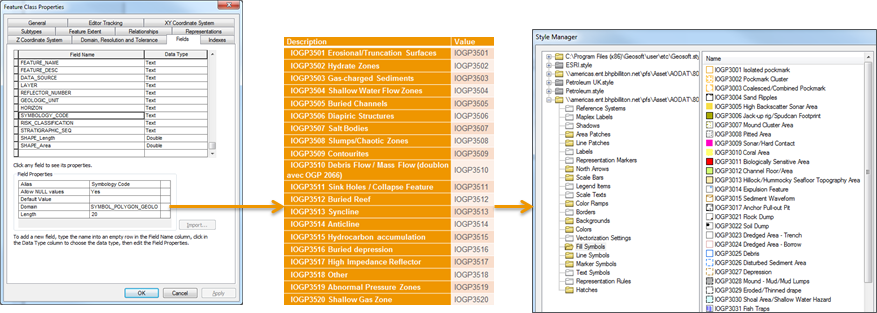
SSDMv2 is a domain based model only and no longer supports Subtypes. This structure is consistent with other IOGP LSDM data model.

This structural change will allow the update of the feature lists and symbol codes independently from the model schema.

Symbology Codes have been grouped under SYMBOL\_(GEOMETRY)\_(SUBJECT) domains:

* SYMBOL\_LINE\_CHANNEL
* SYMBOL\_LINE\_CONTOURS
* SYMBOL\_LINE\_FAULT
* SYMBOL\_LINE\_GEOLOGIC\_FEATURE
* SYMBOL\_LINE\_ISOLINES
* SYMBOL\_LINE\_SEABED\_FEATURE
* SYMBOL\_LINE\_SURVEY\_TRACK
* SYMBOL\_POINT\_ACOUSTIC
* SYMBOL\_POINT\_GEOTECHNICAL
* SYMBOL\_POINT\_SEABED\_FEATURE
* SYMBOL\_POINT\_SOUNDING\_GRID
* SYMBOL\_POINT\_TSDip
* SYMBOL\_POLYGON\_ACOUSTIC
* SYMBOL\_POLYGON\_CHANNEL
* SYMBOL\_POLYGON\_CHART
* SYMBOL\_POLYGON\_EQUIPMENT\_LIMITS
* SYMBOL\_POLYGON\_FAULT
* SYMBOL\_POLYGON\_GEOLOGIC\_FEATURE
* SYMBOL\_POLYGON\_SEABED\_FEATURE
* SYMBOL\_POLYGON\_SEDIMENT
* SYMBOL\_ POLYGON\_SURVEY\_TYPE

All Symbology Domain Codes are prefixed with ‘IOGP’.



Symbology Codes have been extended to close the gap in defining more seabed and subsurface features. Previous Symbology code domains (SYMBOL\_OGP\_LINE\_ALL, SYMBOL\_OGP\_POINT\_ALL, SYMBOL\_OGP\_POLYGON\_ALL, SYMBOL\_LINE\_GENERAL\_OGP, etc.) have been renamed and re-grouped. List of SSDMv2 symbology domain codes is presented below with code changes and/or additions highlighted in green:

### SYMBOL\_LINE\_CHANNEL

Type: esriFieldTypeString

| Description | Value |
| --- | --- |
| IOGP2121 Palaeo-Channel R1 | IOGP2121 |
| IOGP2122 Palaeo-Channel R2 | IOGP2122 |
| IOGP2123 Palaeo-channel R3 | IOGP2123 |
| IOGP2124 Palaeo-channel R4 | IOGP2124 |
| **IOGP2125 Base of channel depth below seabed - R1** | **IOGP2125** |
| **IOGP2126 Base of channel depth below seabed - R2** | **IOGP2126** |
| **IOGP2127 Base of channel depth below seabed - R3** | **IOGP2127** |
| **IOGP2128 Base of channel depth below seabed - R4** | **IOGP2128** |

### SYMBOL\_LINE\_CONTOURS

Type: esriFieldTypeString

| Description | Value |
| --- | --- |
| IOGP3701 Major contours | IOGP3701 |
| IOGP3702 Minor contours | IOGP3702 |

### SYMBOL\_LINE\_FAULT

Type: esriFieldTypeString

| Description | Value |
| --- | --- |
| **IOGP2109 Polygonal fault** | **IOGP2109** |
| **IOGP2110 Radial Fault** | **IOGP2110** |
| IOGP2111 Normal Fault | IOGP2111 |
| IOGP2112 Thrust Fault | IOGP2112 |
| IOGP2113 Reverse Fault | IOGP2113 |
| IOGP2114 Strike-Slip Fault | IOGP2114 |
| IOGP2115 Inactive Fault | IOGP2115 |

### SYMBOL\_LINE\_GEOLOGIC\_FEATURE

Type: esriFieldTypeString

| Description | Value |
| --- | --- |
| **IOGP3501 Erosional/Truncation Surfaces** | **IOGP3501** |
| **IOGP3502 Hydrate Zones** | **IOGP3502** |
| **IOGP3503 Gas-charged Sediments** | **IOGP3503** |
| **IOGP3504 Shallow Water Flow Zones** | **IOGP3504** |
| **IOGP3505 Buried Channels** | **IOGP3505** |
| **IOGP3506 Diapiric Structures** | **IOGP3506** |
| **IOGP3507 Salt Bodies** | **IOGP3507** |
| **IOGP3508 Slumps/Chaotic Zones** | **IOGP3508** |
| **IOGP3509 Contourites** | **IOGP3509** |
| **IOGP3510 Debris Flow / Mass Flow (doublon avec OGP 2066)** | **IOGP3510** |
| **IOGP3511 Sink Holes / Collapse Feature** | **IOGP3511** |
| **IOGP3512 Buried Reef** | **IOGP3512** |
| **IOGP3513 Syncline** | **IOGP3513** |
| **IOGP3514 Anticline** | **IOGP3514** |
| **IOGP3515 Hydrocarbon accumulation** | **IOGP3515** |
| **IOGP3516 Buried depression** | **IOGP3516** |
| **IOGP3517 High Impedance Reflector** | **IOGP3517** |
| **IOGP3518 Other** | **IOGP3518** |
| **IOGP3519 Abnormal Pressure Zones** | **IOGP3519** |
| **IOGP3520 Shallow Gas Zone** | **IOGP3520** |

### SYMBOL\_LINE\_ISOLINES

Type: esriFieldTypeString

| Description | Value |
| --- | --- |
| IOGP2201 Major Isopach Contours to base of Unit A | IOGP2201 |
| IOGP2202 Minor Isopach Contours to base of Unit A | IOGP2202 |
| IOGP2203 Major Isopach Contours to base of Unit B | IOGP2203 |
| IOGP2204 Minor Isopach Contours to base of Unit B | IOGP2204 |
| IOGP2205 Major Isopach Contours to base of Unit C | IOGP2205 |
| IOGP2206 Minor Isopach Contours to base of Unit C | IOGP2206 |
| IOGP2207 Major Isopach Contours to base of Unit D | IOGP2207 |
| IOGP2208 Minor Isopach Contours to base of Unit D | IOGP2208 |

### SYMBOL\_LINE\_SEABED\_FEATURE

Type: esriFieldTypeString

Removed: OGP2111, OGP2112, OGP2113, OGP2114 and OGP2115

| Description | Value |
| --- | --- |
| IOGP2001 Anchor scar/Plough mark | IOGP2001 |
| IOGP2002 Linear debris | IOGP2002 |
| IOGP2003 Spud Can Drag Scar | IOGP2003 |
| IOGP2004 Trawl Scar | IOGP2004 |
| IOGP2005 Possible wreck | IOGP2005 |
| IOGP2006 Plough Mark - Iceberg | IOGP2006 |
| **IOGP2050 Ridge Axis** | **IOGP2050** |
| IOGP2051 Fault Scarp | IOGP2051 |
| IOGP2052 Scarp/Escarpment | IOGP2052 |
| IOGP2053 Lineament/Linear Feature | IOGP2053 |
| IOGP2054 Channel/Superficial Channel | IOGP2054 |
| **IOGP2055 Mud Flow** | **IOGP2055** |
| IOGP2056 Mound | IOGP2056 |
| IOGP2057 Bulge | IOGP2057 |
| IOGP2058 Diapiric structure | IOGP2058 |
| IOGP2059 Ridge | IOGP2059 |
| IOGP2061 Deposition - Rockfall | IOGP2061 |
| IOGP2062 Deposition - Creep | IOGP2062 |
| IOGP2063 Deposition - Slide | IOGP2063 |
| IOGP2064 Deposition - Rotated Slide | IOGP2064 |
| IOGP2065 Deposition - Slump/Slope Failure | IOGP2065 |
| IOGP2066 Deposition - Debris Flow | IOGP2066 |
| IOGP2067 Deposition - Grain/Fluidized Flow | IOGP2067 |
| IOGP2068 Deposition - Turbidite | IOGP2068 |
| IOGP2069 Sand Wave Crest | IOGP2069 |
| IOGP2071 Boundary - Outcrop | IOGP2071 |
| IOGP2072 Boundary - Sediment | IOGP2072 |
| IOGP2073 Boundary - Others | IOGP2073 |
| IOGP2074 Inferred Boundary - Sediment | IOGP2074 |
| **IOGP2075 Anchor Chain/Wire Scar** | **IOGP2075** |
| **IOGP2076 Bedrock** | **IOGP2076** |
| **IOGP2077 Area of Depression** | **IOGP2077** |
| **IOGP2078 Cable** | **IOGP2078** |
| **IOGP2079 Other ( Use Comments)** | **IOGP2079** |

### SYMBOL\_LINE\_SURVEY\_TRACK

Type: esriFieldTypeString

| Description | Value |
| --- | --- |
| IOGP2301 Navigation Track at Antenna Position | IOGP2301 |
| IOGP2302 Navigation Track at Boomer Position | IOGP2302 |
| IOGP2303 Navigation Track at CDP Position | IOGP2303 |
| IOGP2304 Navigation Track at Echo-Sounder Position | IOGP2304 |
| IOGP2305 Navigation Track at Receiver Group Position | IOGP2305 |
| IOGP2306 Navigation Track at Pinger Position | IOGP2306 |
| IOGP2307 Navigation Track at Bin Centre Position | IOGP2307 |
| IOGP2308 Navigation Track at SSS Position/Centre of Source | IOGP2308 |
| IOGP2309 Navigation Track at Towfish/Tailbuoy Position | IOGP2309 |
| IOGP2310 Navigation Track at USBL Position | IOGP2310 |
| IOGP2311 Navigation Track at Vessel Reference Point | IOGP2311 |

### SYMBOL\_POINT\_ACOUSTIC

Type: esriFieldTypeString

| Description | Value |
| --- | --- |
| **IOGP1301 High Amplitude Anomaly** | **IOGP1301** |
| **IOGP1302 Phase Reversal** | **IOGP1302** |
| **IOGP1303 Velocity Pulldown** | **IOGP1303** |
| **IOGP1304 Acoustic Diffraction** | **IOGP1304** |
| **IOGP1305 Acoustic Blanking/Masking** | **IOGP1305** |

### SYMBOL\_POINT\_GEOTECHNICAL

Type: esriFieldTypeString

| Description | Value |
| --- | --- |
| **IOGP1101 Sampling Borehole** | **IOGP1101** |
| **IOGP1102 Pilot Borehole** | **IOGP1102** |
| **IOGP1103 CPT Borehole** | **IOGP1103** |
| **IOGP1104 PCPT Borehole** | **IOGP1104** |
| **IOGP1105 Composite Sampling and CPT Borehole** | **IOGP1105** |
| **IOGP1106 Hydraulic Fracture (Packer) Test Borehole** | **IOGP1106** |
| **IOGP1107 Box Core** | **IOGP1107** |
| **IOGP1108 Seabed CPT** | **IOGP1108** |
| **IOGP1109 Seabed PCPT** | **IOGP1109** |
| **IOGP1110 Grab sample** | **IOGP1110** |
| **IOGP1111 Piston Core** | **IOGP1111** |
| **IOGP1112 Seismic PCPT** | **IOGP1112** |
| **IOGP1113 Multi Core** | **IOGP1113** |
| **IOGP1114 Jumbo Core** | **IOGP1114** |
| **IOGP1115 Vibro Core** | **IOGP1115** |
| **IOGP1116 Gravity Core** | **IOGP1116** |

### SYMBOL\_POINT\_SEABED\_FEATURE

Type: esriFieldTypeString

| Description | Value |
| --- | --- |
| IOGP1001 Coral Pinnacle | IOGP1001 |
| IOGP1002 Coral spotheight | IOGP1002 |
| IOGP1003 Seabed Mound | IOGP1003 |
| **IOGP1004 Sidescan Sonar Contact** | **IOGP1004** |
| IOGP1005 Isolated Depression or Pockmark | IOGP1005 |
| IOGP1006 Sonar Contact - Water Column | IOGP1006 |
| IOGP1007 Boulder | IOGP1007 |
| IOGP1008 Shallow Gas | IOGP1008 |
| IOGP1009 Megaripple Crest | IOGP1009 |
| **IOGP1010 Anchor** | **IOGP1010** |
| **IOGP1011 Anchor Chain** | **IOGP1011** |
| **IOGP1012 Cable/Wire** | **IOGP1012** |
| **IOGP1013 Soft rope** | **IOGP1013** |
| **IOGP1014 Fishing net** | **IOGP1014** |
| **IOGP1015 Scaffolding** | **IOGP1015** |
| **IOGP1016 Pipe** | **IOGP1016** |
| **IOGP1017 Drum** | **IOGP1017** |
| **IOGP1018 Metal** | **IOGP1018** |
| **IOGP1019 Concrete** | **IOGP1019** |
| **IOGP1020 Plastic/Metal Container** | **IOGP1020** |
| **IOGP1021 Debris/Suspected Debris** | **IOGP1021** |
| **IOGP1022 Wreck** | **IOGP1022** |
| **IOGP1023 Fish Trap** | **IOGP1023** |
| **IOGP1024 Mine only** | **IOGP1024** |
| **IOGP1025 Mine Sinker only** | **IOGP1025** |
| **IOGP1026 UXO ( Unexploded Ordinance)** | **IOGP1026** |
| **IOGP1027 Unidentified** | **IOGP1027** |
| **IOGP1028 Possible Boulder** | **IOGP1028** |
| **IOGP1029 Possible Mine** | **IOGP1029** |
| **IOGP1030 Possible UXO (Unexploded Ordnance)** | **IOGP1030** |
| **IOGP1031 Post Drill Well** | **IOGP1031** |
| **IOGP1032 Unidentified Debris** | **IOGP1032** |
| **IOGP1033 Anchor Pull-out Pit** | **IOGP1033** |
| **IOGP1034 Magnetometer** | **IOGP1034** |
| **IOGP1035 Megaripple Orientation** | **IOGP1035** |
| **IOGP1036 Biogenic Feature** | **IOGP1036** |
| **IOGP1037 Trawl board** | **IOGP1037** |
| **IOGP1038 Tarpaulin** | **IOGP1038** |
| **IOGP1039 Mine with sinker** | **IOGP1039** |
| **IOGP1040 Identified Debris** | **IOGP1040** |

### SYMBOL\_POINT\_SOUNDING\_GRID

Type: esriFieldTypeString

| Description | Value |
| --- | --- |
| **IOGP3901 Single Beam Echo Sounder (SBES)** | **IOGP3901** |
| IOGP3902 Multibeam Echo Sounder (MBES) | IOGP3902 |
| IOGP3903 Laser Airborne Depth Sounder (LADS) | IOGP3903 |
| IOGP3904 Other Types (See Remarks) | IOGP3904 |

### SYMBOL\_POINT\_TSDip

Type: esriFieldTypeString

| Description | Value |
| --- | --- |
| IOGP1201 Sound Velocity sample - SVP/TSdip | IOGP1201 |
| IOGP32202 Spot Elevation | IOGP32202 |

### SYMBOL\_POLYGON\_ACOUSTIC

Type: esriFieldTypeString

| Description | Value |
| --- | --- |
| IOGP3701 Anomaly 1 High Amplitude | IOGP3701 |
| IOGP3702 Anomaly 2 High Amplitude | IOGP3702 |
| IOGP3703 Anomaly 3 High Amplitude | IOGP3703 |
| IOGP3704 Anomaly 4 High Amplitude | IOGP3704 |
| IOGP3705 Anomaly 5 High Amplitude | IOGP3705 |
| IOGP3706 Anomaly 6 High Amplitude | IOGP3706 |
| IOGP3707 Anomaly 7 High Amplitude | IOGP3707 |
| IOGP3708 Anomaly 8 High Amplitude | IOGP3708 |
| IOGP3709 Anomaly 9 High Amplitude | IOGP3709 |
| IOGP3710 Anomaly 10 High Amplitude | IOGP3710 |
| IOGP3721 Acoustic Blanking Zone | IOGP3721 |
| IOGP3725 Phase Reversal | IOGP3725 |
| IOGP3726 Velocity Pulldown | IOGP3726 |
| IOGP3727 Acoustic Diffraction | IOGP3727 |

### SYMBOL\_POLYGON\_CHANNEL

Type: esriFieldTypeString

No codes, domain exists so codes can be added if required in future.

### SYMBOL\_POLYGON\_CHART

Type: esriFieldTypeString

| Description | Value |
| --- | --- |
| **IOGP3801 Situation/Locality Map** | **IOGP3801** |
| **IOGP3802 Datum/Navigation Track** | **IOGP3802** |
| **IOGP3803 Single Beam Bathymetry Map** | **IOGP3803** |
| **IOGP3804 Multibeam Bathymetry Map** | **IOGP3804** |
| **IOGP3805 Seabed-relief/Seafloor Image Map** | **IOGP3805** |
| **IOGP3806 Seabed Features Map** | **IOGP3806** |
| **IOGP3807 Shallow Geological Zone Map** | **IOGP3807** |
| **IOGP3808 Intermediate Geological Zone Map** | **IOGP3808** |
| **IOGP3809 Profile** | **IOGP3809** |
| **IOGP3810 Alignment Chart** | **IOGP3810** |
| **IOGP3811 Engineering Drawing Alignment Chart** | **IOGP3811** |
| **IOGP3812 Shallow Hazard Chart** | **IOGP3812** |
| **IOGP3813 Pipeline Inspection Chart** | **IOGP3813** |
| **IOGP3814 Miscellaneous Chart** | **IOGP3814** |

### SYMBOL\_POLYGON\_EQUIPMENT\_LIMITS

Type: esriFieldTypeString

| Description | Value |
| --- | --- |
| IOGP3301 Limit of Survey Area | IOGP3301 |
| IOGP3302 Limit of Analogue and Digital Coverage | IOGP3302 |
| IOGP3303 Limit of Analogue Survey Coverage | IOGP3303 |
| IOGP3304 Limit of Digital Survey Coverage | IOGP3304 |

### SYMBOL\_POLYGON\_FAULT

Type: esriFieldTypeString

| Description | Value |
| --- | --- |
| **IOGP3400 Normal Fault** | **IOGP3400** |
| **IOGP3401 Thrust Fault** | **IOGP3401** |
| **IOGP3402 Reverse Fault** | **IOGP3402** |
| **IOGP3403 Strike-Slip Fault** | **IOGP3403** |
| **IOGP3404 Inactive Fault** | **IOGP3404** |

### SYMBOL\_POLYGON\_GEOLOGIC\_FEATURE

Type: esriFieldTypeString

| Description | Value |
| --- | --- |
| **IOGP3405 Erosional/Truncation Surfaces** | **IOGP3405** |
| **IOGP3406 Gas-charged Sediments** | **IOGP3406** |
| **IOGP3407 Shallow Water Flow Zones** | **IOGP3407** |
| **IOGP3408 Buried Channels** | **IOGP3408** |
| **IOGP3409 Diapiric Structures** | **IOGP3409** |
| **IOGP3410 Salt Bodies** | **IOGP3410** |
| **IOGP3411 Slumps/Chaotic Zones** | **IOGP3411** |
| **IOGP3412 Contourites** | **IOGP3412** |
| **IOGP3413 Debris Flow / Mass Flow (doublon avec OGP 2066)** | **IOGP3413** |
| **IOGP3414 Sink Holes / Collapse Feature** | **IOGP3414** |
| **IOGP3415 Buried Reef** | **IOGP3415** |
| **IOGP3416 Syncline** | **IOGP3416** |
| **IOGP3417 Anticline** | **IOGP3417** |
| **IOGP3418 Hydrocarbon accumulation** | **IOGP3418** |
| **IOGP3419 Buried depression** | **IOGP3419** |
| **IOGP3420 Other** | **IOGP3420** |
| **IOGP3421 Abnormal Pressure Zones** | **IOGP3421** |
| **IOGP3422 Absence of Reflector** | **IOGP3422** |
| **IOGP3423 Deposit/Buried Mudflow** | **IOGP3423** |
| **IOGP3424 Mapped Horizon Outcrop** | **IOGP3424** |
| **IOGP3425 Bottom Simulating Reflector** | **IOGP3425** |
| **IOGP3426 Buried Crater** | **IOGP3426** |
| **IOGP3427 Buried Mound** | **IOGP3427** |
| **IOGP3428 Fractured Zone** | **IOGP3428** |
| **IOGP3429 Rafted Block** | **IOGP3429** |
| **IOGP3430 Buried Hardgrounds/Mudflow** | **IOGP3430** |
| **IOGP3723 Cross Bedding** | **IOGP3723** |
| **IOGP3724 Shallow Gas Zone** | **IOGP3724** |

### SYMBOL\_POLYGON\_SEABED\_FEATURE

Type: esriFieldTypeString

Removed: OGP3722, OGP3723 and OGP3724

| Description | Value |
| --- | --- |
| IOGP3001 Isolated pockmark | IOGP3001 |
| IOGP3002 Pockmark Cluster | IOGP3002 |
| IOGP3003 Coalesced/Combined Pockmark | IOGP3003 |
| IOGP3004 Sand Ripples | IOGP3004 |
| **IOGP3005 High Intensity Backscatter** | **IOGP3005** |
| IOGP3006 Jack-up rig / Spudcan Footprint | IOGP3006 |
| **IOGP3007 Mound Cluster** | **IOGP3007** |
| IOGP3008 Pitted Seabed | IOGP3008 |
| IOGP3009 Sonar/Hard Contact | IOGP3009 |
| **IOGP3010 Coral** | **IOGP3010** |
| **IOGP3011 Biologically Sensitive (Chemosynthetic Communities)** | **IOGP3011** |
| **IOGP3012 Channel Floor** | **IOGP3012** |
| IOGP3013 Hillock/Hummocky Seafloor Topography Area | IOGP3013 |
| IOGP3014 Expulsion Feature | IOGP3014 |
| IOGP3015 Sediment Waveform | IOGP3015 |
| IOGP3016 Plough Mark - Iceberg | IOGP3016 |
| IOGP3017 Anchor Pull-out Pit | IOGP3017 |
| IOGP3021 Rock Dump | IOGP3021 |
| IOGP3022 Soil Dump | IOGP3022 |
| IOGP3023 Dredged Area - Trench | IOGP3023 |
| IOGP3024 Dredged Area - Borrow | IOGP3024 |
| IOGP3025 Debris | IOGP3025 |
| IOGP3026 Disturbed Sediment | IOGP3026 |
| IOGP3027 Depression | IOGP3027 |
| IOGP3028 Mound - Mud/Mud Lumps | IOGP3028 |
| IOGP3029 Eroded/Thinned drape | IOGP3029 |
| IOGP3030 Shoal Area/Shallow Water Hazard | IOGP3030 |
| IOGP3031 Fish Traps | IOGP3031 |
| IOGP3032 Shallow Gas Vents | IOGP3032 |
| IOGP3033 Mud Volcanoes | IOGP3033 |
| IOGP3034 Mound - Hydrate | IOGP3034 |
| IOGP3035 Collapse Features | IOGP3035 |
| IOGP3036 Scour | IOGP3036 |
| **IOGP3037 Drills Cuttings** | **IOGP3037** |
| IOGP3051 Sand Bar | IOGP3051 |
| IOGP3052 Mega Ripples | IOGP3052 |
| IOGP3058 Diapiric Structures | IOGP3058 |
| IOGP3061 Deposition - Rockfall | IOGP3061 |
| IOGP3062 Deposition - Creep | IOGP3062 |
| IOGP3063 Deposition - Slide | IOGP3063 |
| IOGP3064 Deposition - Rotated Slide | IOGP3064 |
| IOGP3065 Deposition - Slump/Slope Failure | IOGP3065 |
| IOGP3066 Deposition - Debris Flow | IOGP3066 |
| IOGP3067 Deposition - Grain/Fluidized Flow | IOGP3067 |
| IOGP3068 Deposition - Turbidite | IOGP3068 |
| IOGP3069 Mass-Transport Deposit Area | IOGP3069 |
| IOGP3071 Boundary - Outcrop | IOGP3071 |
| IOGP3072 Boundary - Sediment | IOGP3072 |
| IOGP3073 Boundary - Others | IOGP3073 |
| IOGP3074 Inferred Boundary - Sediment | IOGP3074 |
| IOGP3075 Areas with Numerous boulders | IOGP3075 |
| **IOGP3076 Areas with Occasional boulders** | **IOGP3076** |
| **IOGP3077 Outline of Corals from acoustic data** | **IOGP3077** |
| **IOGP3078 Area of Anchor/Wire scars** | **IOGP3078** |
| **IOGP3079 Area of Bedrock** | **IOGP3079** |
| **IOGP3080 Possible UXO (Unexploded Ordinance)** | **IOGP3080** |
| **IOGP3081 Expelled Material** | **IOGP3081** |
| **IOGP3082 Debris Disposal Path** | **IOGP3082** |
| **IOGP3083 Seafloor Amplitude Anomalies** | **IOGP3083** |
| **IOGP3084 Seafloor Furrow/Grooves** | **IOGP3084** |
| **IOGP3085 Irregular Debris** | **IOGP3085** |
| **IOGP3086 Gully** | **IOGP3086** |
| **IOGP3087 Canyon** | **IOGP3087** |
| **IOGP3088 Erosional Escarpment** | **IOGP3088** |
| **IOGP3089 Sediment Transport Pathway** | **IOGP3089** |
| **IOGP3090 Biogenic/Environmental** | **IOGP3090** |
| **IOGP3092 Megaripple Orientation** | **IOGP3092** |
| **IOGP3093 Coarse Sediment** | **IOGP3093** |
| **IOGP3094 Heavily Faulted Zone** | **IOGP3094** |
| **IOGP3095 Low Intensity Backscatter** | **IOGP3095** |
| **IOGP3096 High Sonar Reflectivity** | **IOGP3096** |
| **IOGP3097 Low Sonar Reflectivity** | **IOGP3097** |
| **IOGP3098 Potential Hardgrounds (MBES Backscatter)** | **IOGP3098** |
| **IOGP3099 Mottled Seafloor** | **IOGP3099** |
| **IOGP3100 Pressure Ridge** | **IOGP3100** |

### SYMBOL\_POLYGON\_SEDIMENT\_OGP

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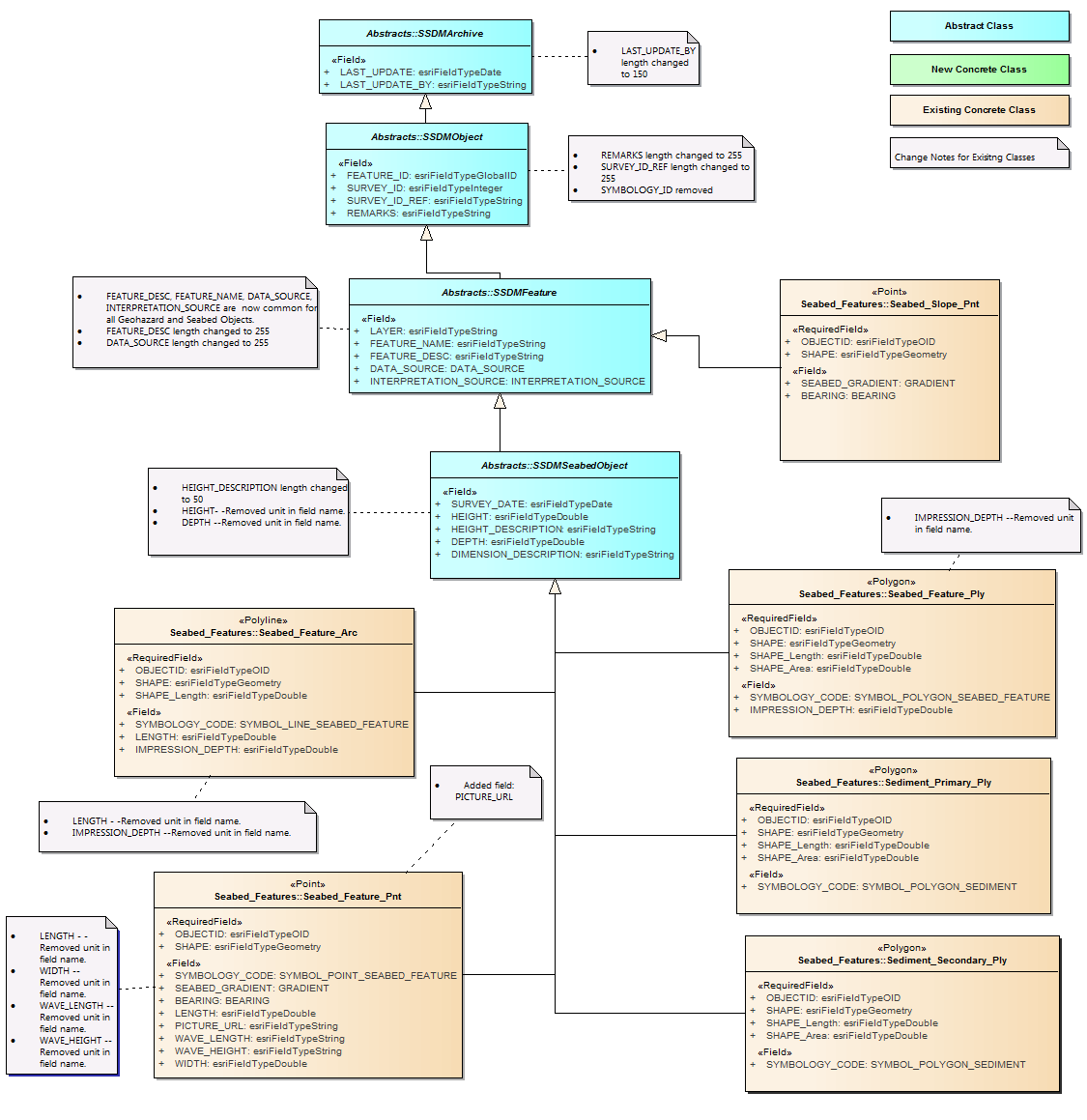
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| IOGP3101 Gravel | IOGP3101 |
| IOGP3102 Sand | IOGP3102 |
| IOGP3103 Silt | IOGP3103 |
| IOGP3104 Clay | IOGP3104 |
| IOGP3201 Silty -Sand | IOGP3201 |
| IOGP3202 Clayey-Sand | IOGP3202 |
| IOGP3203 Silty Clay | IOGP3203 |
| IOGP3204 Sandy-clay | IOGP3204 |
| IOGP3205 Rocky | IOGP3205 |

### SYMBOL\_POLYGON\_SURVEY\_TYPE

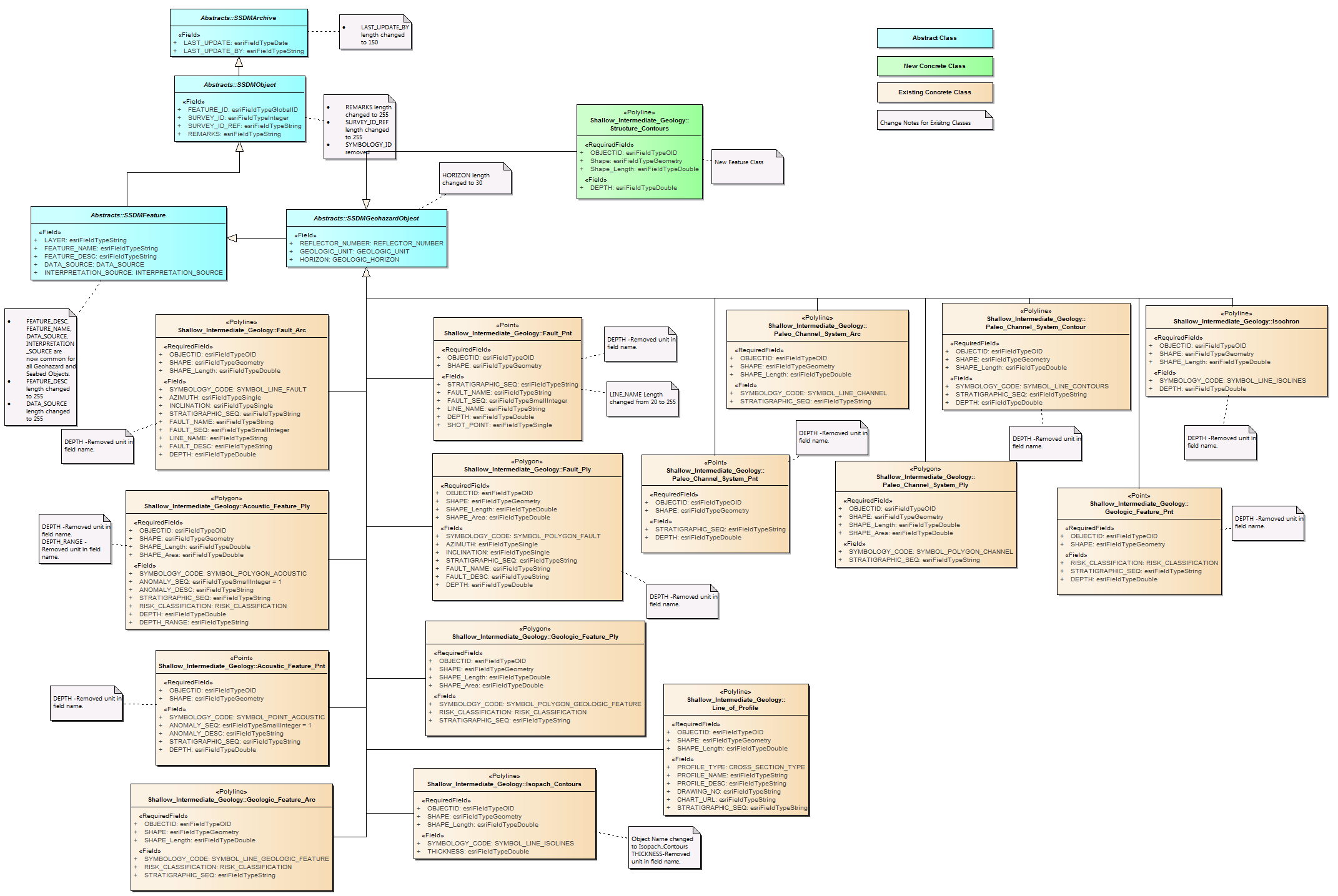
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| Description | Value |
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| **IOGP3600 Site (Rig/Platform) Survey** | **IOGP3600** |
| **IOGP3601 2D Seismic Survey** | **IOGP3601** |
| **IOGP3602 3D Seismic Survey** | **IOGP3602** |
| **IOGP3603 4D Seismic Survey** | **IOGP3603** |
| **IOGP3604 Environmental Survey** | **IOGP3604** |
| **IOGP3605 Geotechnical Investigation Survey** | **IOGP3605** |
| **IOGP3606 Seabed Survey - Detail** | **IOGP3606** |
| **IOGP3607 Seabed Survey - Reconnaissance** | **IOGP3607** |
| **IOGP3608 Seabed Survey - Pre-Anchor Survey** | **IOGP3608** |
| **IOGP3609 Seabed Survey - Post-Anchor Survey** | **IOGP3609** |
| **IOGP3610 Pipeline/Cable - Pre-lay** | **IOGP3610** |
| **IOGP3611 Pipeline/Cable - As-laid** | **IOGP3611** |
| **IOGP3612 Pipeline/Cable - As-built** | **IOGP3612** |
| **IOGP3613 Pipeline/Cable - Out-of Straightness Survey** | **IOGP3613** |
| **IOGP3614 Pipeline/Cable Inspection - Visual (VIS)** | **IOGP3614** |
| **IOGP3615 Pipeline/Cable Inspection - Acoustic** | **IOGP3615** |
| **IOGP3616 Pipeline/Cable Inspection - Crossing Survey** | **IOGP3616** |
| **IOGP3617 Seabed Intervention SRI** | **IOGP3617** |
| **IOGP3618 Seabed Intervention Trenching** | **IOGP3618** |
| **IOGP3619 Seabed Intervention Excavation** | **IOGP3619** |
| **IOGP3620 Seabed Intervention Ploughing** | **IOGP3620** |
| **IOGP3621 Seabed Intervention Dredging** | **IOGP3621** |
| **IOGP3622 Metrology Survey** | **IOGP3622** |
| **IOGP3623 Structure Inspection** | **IOGP3623** |
| **IOGP3624 Structure Pre-Installation Survey** | **IOGP3624** |
| **IOGP3625 Structure Post-Installation Survey** | **IOGP3625** |
| **IOGP3626 Structure As-Built Survey** | **IOGP3626** |
| **IOGP3627 Visual Survey** | **IOGP3627** |
| **IOGP3628 UXO survey** | **IOGP3628** |
| **IOGP3629 Other** | **IOGP3629** |

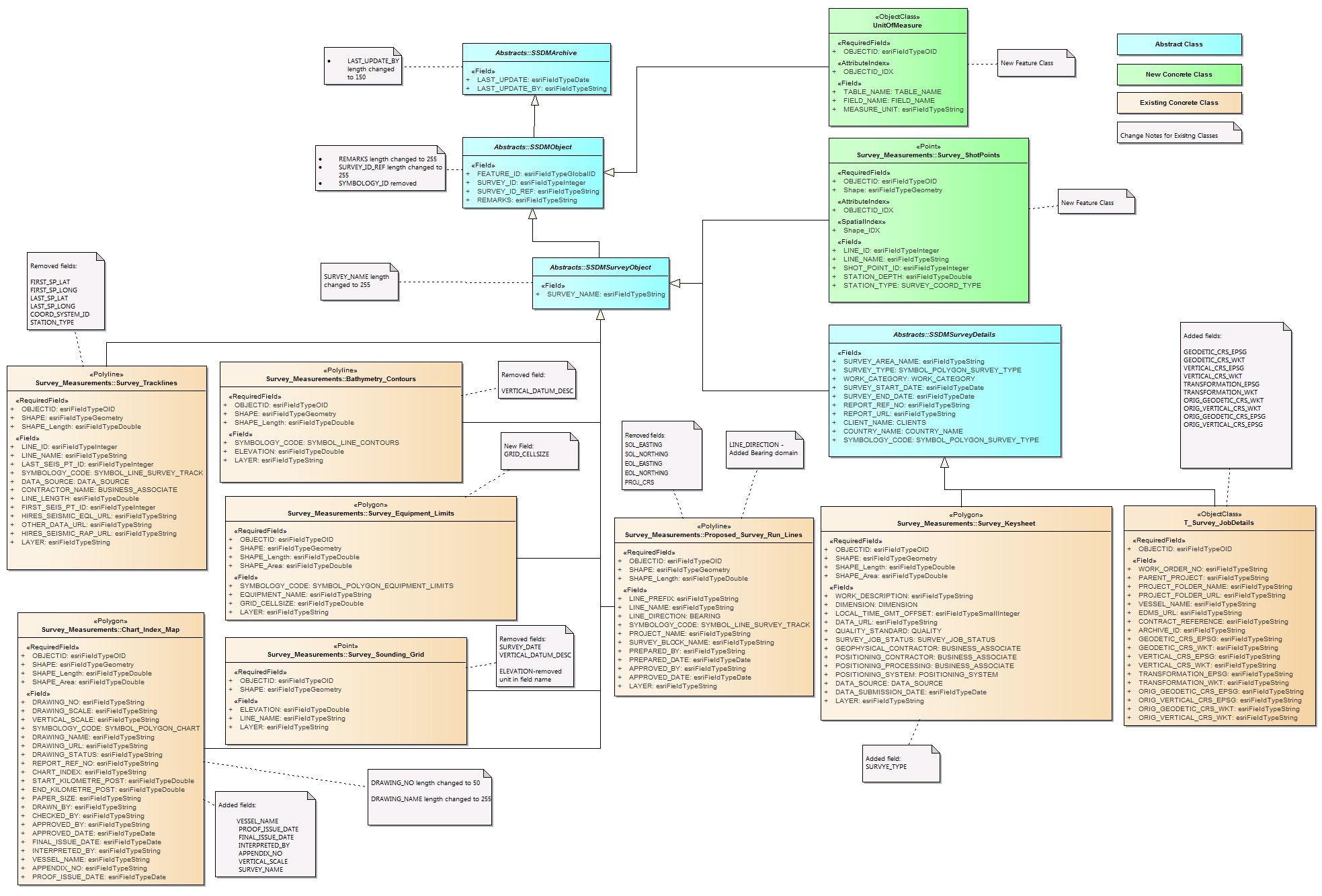
# SEABED FEATURES UPDATES



# SHALLOW INTERMEDIATE GEOLOGY UPDATES



# SURVEY\_MEASUREMENTS UPDATES



# ENVIRONMENTAL\_SAMPLES UPDATES

