



Sessões Técnicas 2016

3.ª Sessão Técnica

Harmonização de dados de Sondagens Geotécnicas com base no **Modelo de Dados**

INSPIRE RAA e no HALE

Tópicos da Comunicação

- ✓ **Enquadramento;**
- ✓ **Base de Dados em Sistemas de Informação Geográfica (SIG): Sondagens Geotécnicas – 26N;**
- ✓ **Harmonização com o Modelo de Dados RAA;**
- ✓ **Validação com Hale**
- ✓ **Considerações Finais e Perspetivas Futuras**

Enquadramento

- O LREC tem realizado serviços no âmbito Prospeção Geotécnica (Sondagens à Rotação), de modo a servir de apoio ao dimensionamento de obras de engenharia civil/geotécnica.
- Inserção em Base de dados (SIG) os conteúdos de Relatórios, Notas técnicas e Boletins de Ensaios em formato analógico e/ou digital.
 - Consulta e a exploração dos dados obtidos é um processo moroso.



Sondagens Geotécnicas

- Conteúdos gerais da base de dados:
 - Dados de carater geral dos Relatórios;
 - Informação sobre sondagens (métodos de perfuração, designação da sondagem);
 - Localização espacial;
 - Caracterização lito-estratigráfica em profundidade;
 - Índices de qualidade de maciços rochosos (RQD, Alterabilidade, Fraturação);
 - Resultados de ensaios de campo (SPT);
 - Resultados sobre a caracterização física e mecânica de solos e rochas, por ensaios laboratoriais.

Table

Sondagens

RL_SONDAGENS_26N_DADOS_OBTIDOS : DADOS_OBTIDOS
RL_DADOS_ENTRADA_SONDAGENS_26N : DADOS_ENTRADA

OB.	DATA	LOCAL
475	03-2012	Vila da Povoação (S.Miguel)
480	03-2012	Vila da Povoação (S.Miguel)
481	03-2012	Vila da Povoação (S.Miguel)

Table

DADOS

RL_DADOS_OBTIDOS_SPT : SPT
RL_DADOS_OBTIDOS_RQD : RQD
RL_DADOS_OBTIDOS_FRATURACAO : FRATURACAO
RL_DADOS_OBTIDOS_ALTERABILIDADE : ALTERABILIDADE
RL_SONDAGENS_26N_DADOS_OBTIDOS : Sondagens_26N
RL_SONDAGENS_25N_DADOS_OBTIDOS : Sondagens_25N

OB.	DATA	LOCAL
475	03-2012	Vila da Povoação (S.Miguel)
480	03-2012	Vila da Povoação (S.Miguel)
481	03-2012	Vila da Povoação (S.Miguel)

Sondagens Geotécnicas

✓ Inventariação da informação

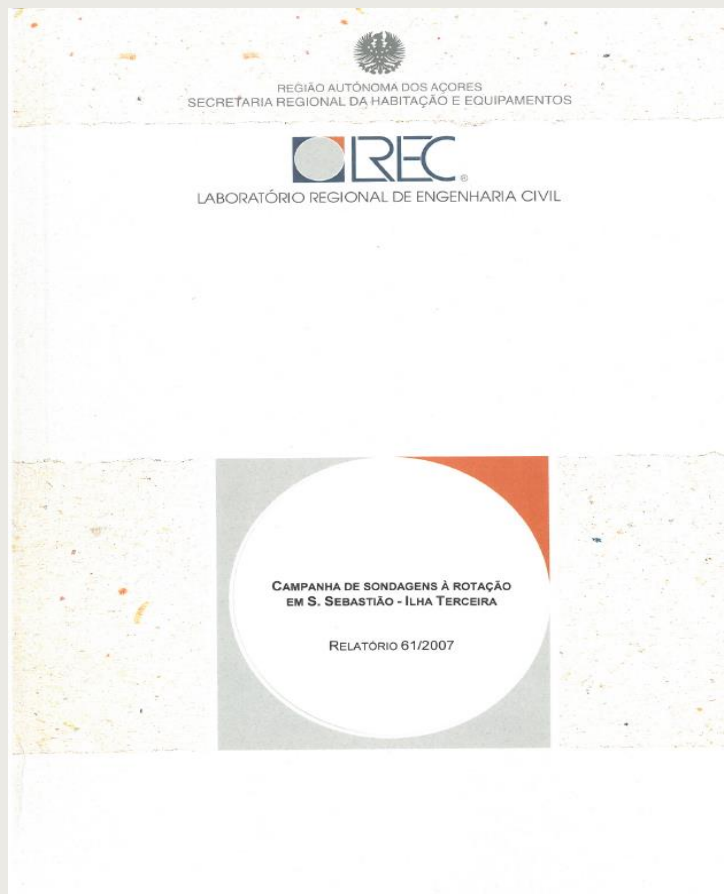


Figura 1 : Relatório de Sondagens à Rotação

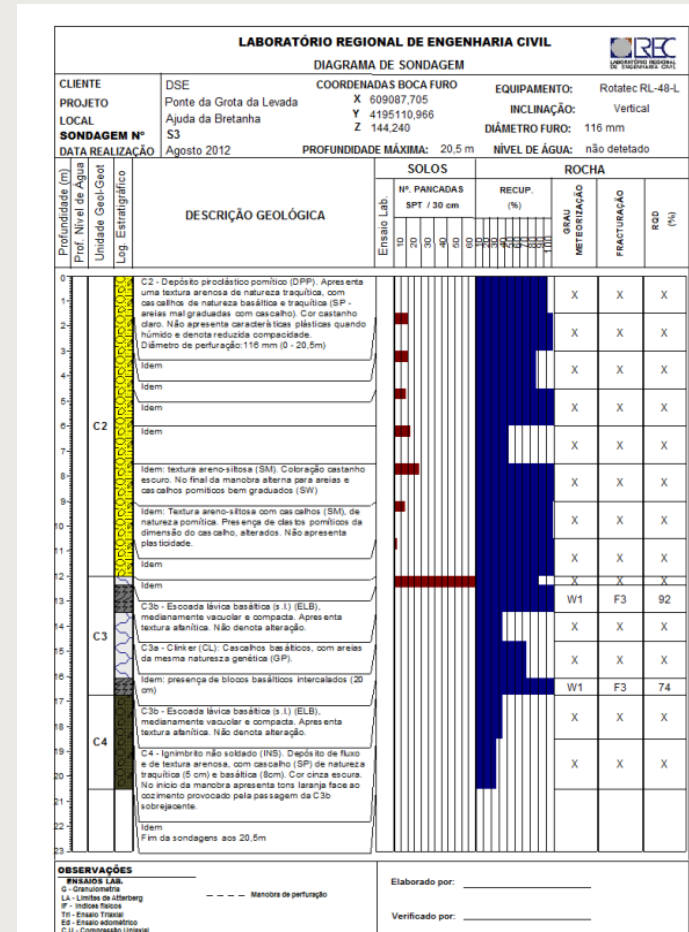


Figura 2: Diagrama de Sondagem

Sondagens Geotécnicas

✓ Preenchimento - Tabela de Atributos

The screenshot displays the ArcMap interface with a map of a rural area. Three attribute tables are open, showing data for geotechnical surveys.

Table - DADOS_ENTRADA

OBJE	IDda	ID	NS	COORD	COORDY	C	PROF	EQUIPAMEN	INCLI	METODO	DATA	RE
479	450	89	S1	654875	4179675	0	7.25	ROLATEC RL	Verti	Rotação	03-2012	Va
480	451	89	S2	654919	4179665	0	7.85	ROLATEC RL	Verti	Rotação	03-2012	Va
481	452	89	S3	655028	4179623	0	4.97	ROLATEC RL	Verti	Rotação	03-2012	Va

DADOS_ENTRADA

ANO	MES	ENTIDADE	PROJETO	OB	AUTORE	OU
2012	Março	Direção de S	Beneficiação ao acesso nascente à Vila da Povoação		Amaral, P.	Sm

DADOS_OBTIDOS

OBJE	ID	IDDA	LITOLO	TOP	BAS
1837	1848	450	DAL (L)	4,1	4,7
1839	1850	451	DA (L)	0	3,1
1840	1851	451	DAL (L)	3,1	7,9
1836	1847	450	DA (L)	0	4,1
1838	1849	450	INS (L)	4,7	7,3
1841	1852	452	INS (L)	0	5

FRATURACAO

OBJECTID	ID	IDDA
934	997	1849
938	100	1852
937	100	1852
939	100	1852
936	999	1852

Descrição litológica

DAL (Depósito aluvionar) blocos basálticos de natureza diversa.
 DA (Aterro) Pavimento (12cm) passando a aterro, materiais escoréceos da dir
 DAL (Depósito aluvionar) blocos basálticos de natureza diversa com faces rol
 DA (Aterro) Pavimento (10cm) passando a aterro, materiais escoréceos da dir
 INS (Ignimbrito soldado) depósito piroclástico pomítico de fluxo consolidado, ele
 INS (Ignimbrito soldado), Pavimento (14cm) passando a Ignimbrito soldado, depi

Figura 3: Tabela de Atributos

Sondagens Geotécnicas

✓ Representação Geográfica

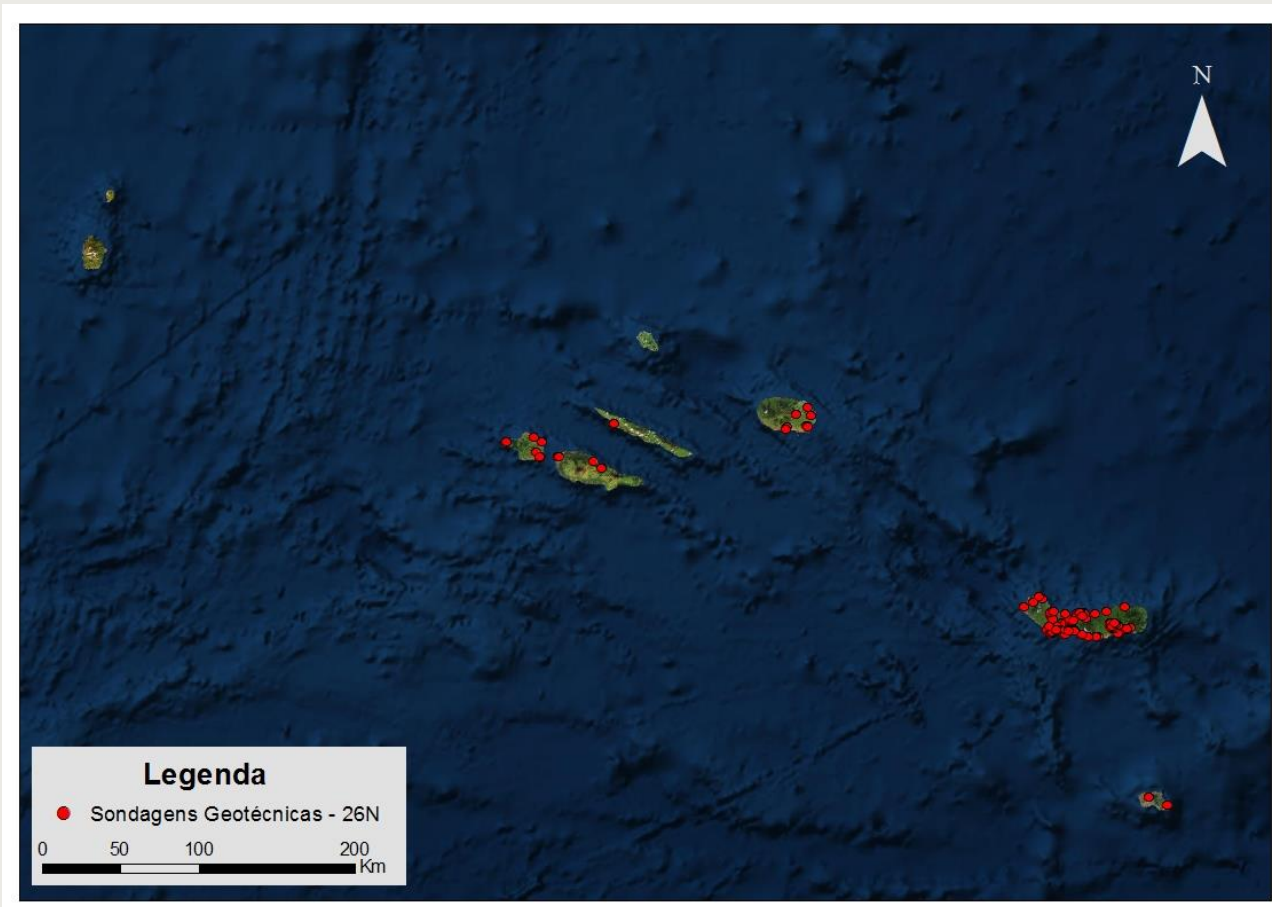


Figura 4: Distribuição das Sondagens no Arquipélago dos Açores.

Modelos de Datos INSPIRE

✓ GeologicCollection : Class diagram

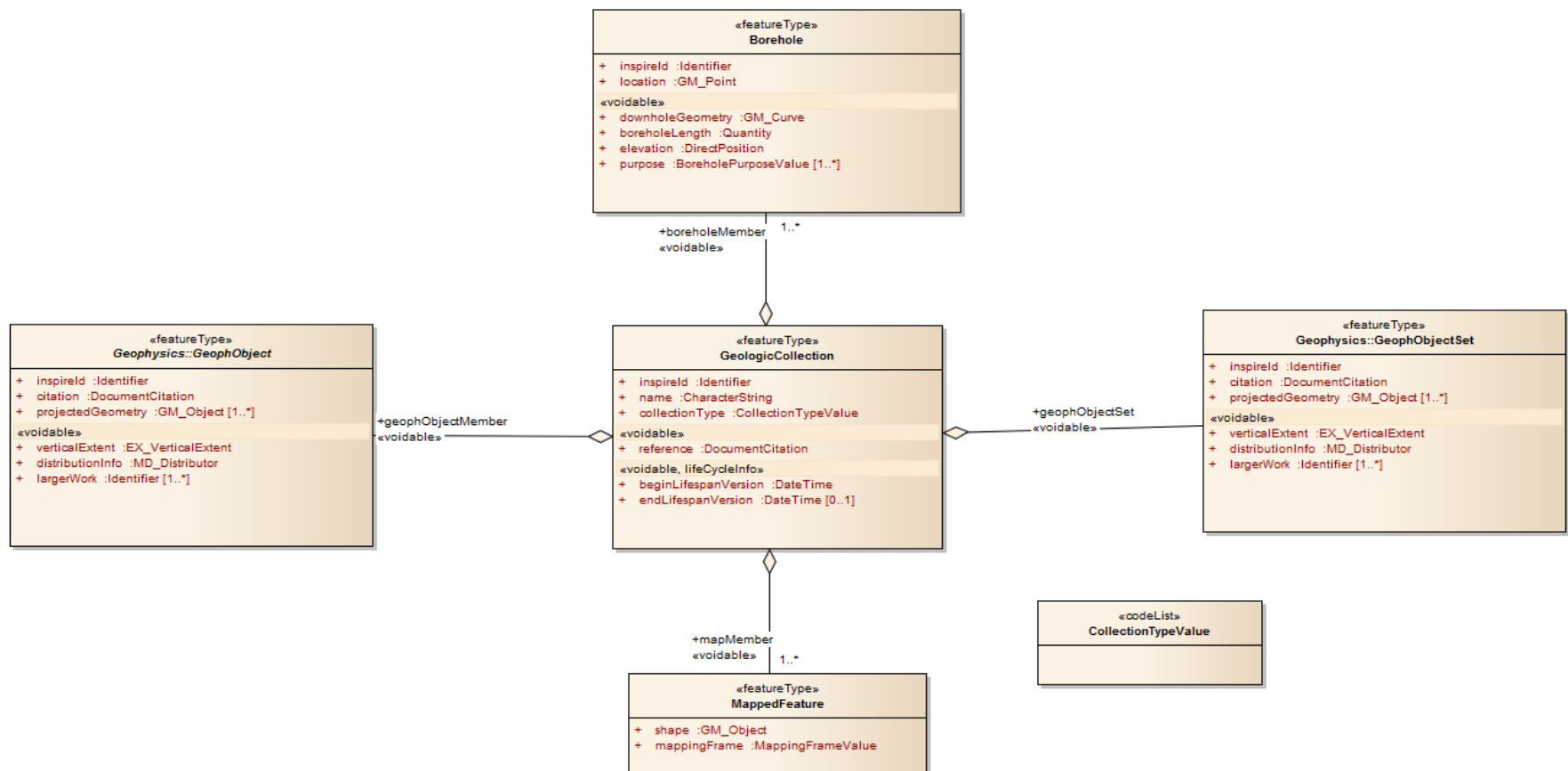
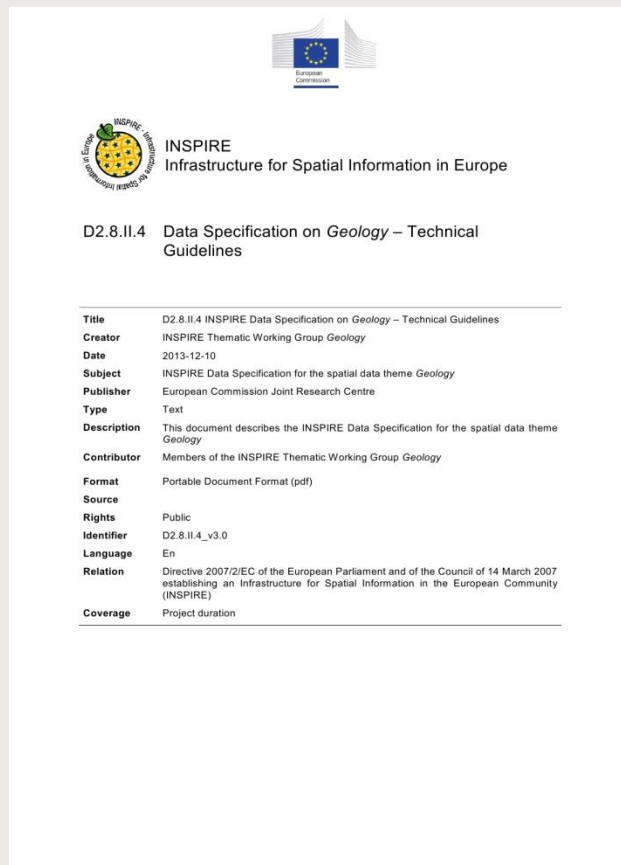


Figura 5 : UML class diagram: GeologicCollection
<http://inspire.ec.europa.eu/data-model/approved/r4618-ir/html/>

Modelos de Dados INSPIRE

✓ D2.8.II.4 Data Specification on *Geology* – Technical Guidelines



✓ 5.3.2.1.2. Borehole

INSPIRE	Reference: D2.8.II.4_v3.0		
TWG-GE	Data Specification on <i>Geology</i>	2013-12-10	Page 29

AnthropogenicGeomorphologicFeature	
Value type:	AnthropogenicGeomorphologicFeatureTypeValue
Definition:	Terms describing the type of a geomorphologic feature.
Multiplicity:	1

5.3.2.1.2. Borehole

Borehole	
Definition:	A borehole is the generalized term for any narrow shaft drilled in the ground.
Stereotypes:	«featureType»

Attribute: inspireId	
Value type:	Identifier
Definition:	External object identifier of the spatial object.
Multiplicity:	1

Attribute: downholeGeometry	
Name:	The downhole geometry of the borehole
Value type:	GM_Curve
Multiplicity:	1
Stereotypes:	«voidable»

Attribute: boreholeLength	
Value type:	Quantity
Definition:	The distance along a borehole.
Description:	This will be determined by the data provider (ie, "length" can have different sources, like drillers measurement, loggers measurement, survey).
Multiplicity:	1
Stereotypes:	«voidable»

Attribute: elevation	
Value type:	DirectPosition
Definition:	The vertical height above datum of the borehole collar.
Description:	This is a compromise approach to supply elevation explicitly for location; this is to allow for software that cannot process 3-D GM_Point. Use null if elevation is unknown. Direct position shall have a dimension of 1, and CRS will be a "vertical" CRS (e.g. EPSG CRSs in the range 5600-5799).
Multiplicity:	1
Stereotypes:	«voidable»

Attribute: location	
Value type:	GM_Point
Definition:	The location of the borehole collar.
Multiplicity:	1

Attribute: purpose	
Value type:	BoreholePurposeValue
Definition:	The purpose for which the borehole was drilled.
Description:	EXAMPLE: site investigation, mineral exploration, hydrocarbon exploration, water resources.
Multiplicity:	1..*
Stereotypes:	«voidable»

Association role: logElement	
Value type:	MappedInterval
Definition:	1-D MappedFeature instances that are logged (interpreted) intervals within a

Figura 6 : Especificações Técnicas de Geologia

<http://www.ideia.azores.gov.pt/projetos/inspire/Paginas/modelos-dados.aspx>

Modelos de Dados INSPIRE

✓ 5.3.2.1.4. GeologicCollection

5.3.2.1.4. GeologicCollection

GeologicCollection	
Definition:	A collection of geological or geophysical objects.
Description:	Geologic objects are commonly grouped into collections such as geological maps, thematic maps, or the required input to a geological model.
Stereotypes:	«featureType»
Attribute: inspireId	
Value type:	Identifier
Definition:	External object identifier of the spatial object.
Multiplicity:	1
Attribute: name	
Value type:	CharacterString
Definition:	The name of the collection.
Multiplicity:	1
Attribute: collectionType	
Value type:	CollectionTypeValue
Definition:	The type of the collection.
Description:	Refers to a vocabulary of types. EXAMPLE: geological map, thematic map etc.
Multiplicity:	1
Attribute: reference	
Value type:	DocumentCitation
Definition:	A reference for the collection.
Multiplicity:	1
Stereotypes:	«voidable»

INSPIRE	Reference: D2.8.II.4_v3.0	
TWG-GE	Data Specification on <i>Geology</i>	2013-12-10
		Page 31
GeologicCollection		
Attribute: beginLifespanVersion		
Value type:	DateTime	
Definition:	Date and time at which this version of the spatial object was inserted or changed in the spatial data set.	
Multiplicity:	1	
Stereotypes:	«voidable,lifeCycleInfo»	
Attribute: endLifespanVersion		
Value type:	DateTime	
Definition:	Date and time at which this version of the spatial object was superseded or retired in the spatial data set.	
Multiplicity:	0..1	
Stereotypes:	«voidable,lifeCycleInfo»	
Association role: geophObjectSet		
Value type:	GeophObjectSet	
Definition:	A GeophObjectSet member of a Geologic Collection.	
Multiplicity:		
Stereotypes:	«voidable»	
Association role: geophObjectMember		
Value type:	GeophObject	
Definition:	A GeophObject member of a Geologic Collection.	
Multiplicity:		
Stereotypes:	«voidable»	
Association role: boreholeMember		
Value type:	Borehole	
Definition:	A Borehole member of a Geologic Collection.	
Description:	Association that allows Borehole objects to be included as members in a GML Collection, through the use of the GeologicCollection class.	
Multiplicity:	1..*	
Stereotypes:	«voidable»	
Association role: mapMember		
Value type:	MappedFeature	
Definition:	A MappedFeature member of a Geologic Collection.	
Description:	Association that allows MappedFeature objects to be included as members in a GML Collection, through the use of the GeologicCollection class.	
Multiplicity:	1..*	
Stereotypes:	«voidable»	

Figura 7: Especificações Técnicas de Geologia

<http://www.ideia.azores.gov.pt/projetos/inspire/Paginas/modelos-dados.aspx>

Modelos de Dados RAA - INSPIRE

✓ ModeloDados_INSPIRE_RAA_20150407

The image displays the INSPIRE RAA data model structure for the year 20150407. It is organized into three main sections:

- Left Panel (Tree View):** Shows a hierarchical structure of data models. The model **II_04_Geology_UTM26N** is highlighted with a red box.
- Central Panel (Feature List):** Lists the features associated with the selected model. The feature **geBoreholeLocation_UTM26N** is highlighted with a red box.
- Right Panel (Type List):** Lists the types associated with the selected feature. The types **T_GE_Borehole**, **T_GE_BoreholePurposeValue**, **T_GE_GeologicCollection**, and **T_Identifier** are highlighted with red boxes.

Red lines indicate the relationships between the selected model, feature, and types.

Modelos de Dados RAA - INSPIRE

✓ Matching Table

✓ ArcCatalog – Load – Load Data

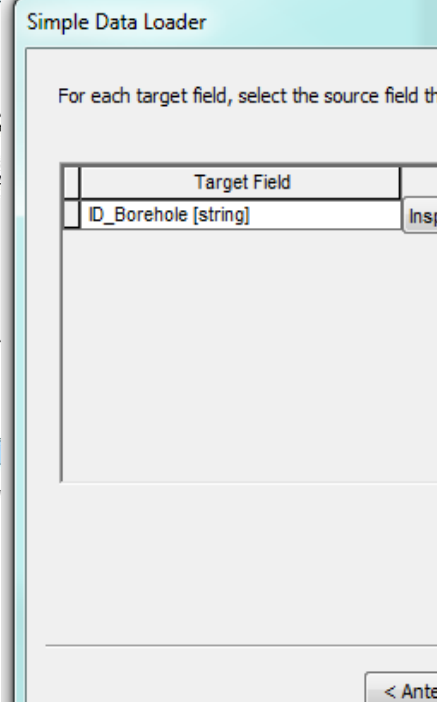
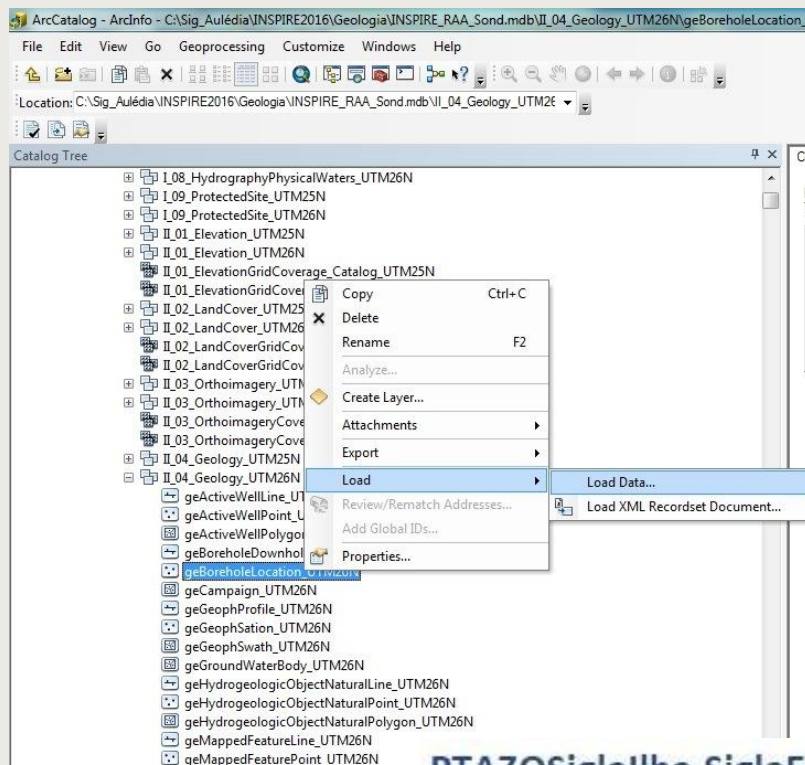


Table			
geBoreholeLocation_UTM26N			
OBJECTID *	SHAPE *	inspireId *	
1	Point	PTAZO.LREC.GE.AQ.PT.6	
2	Point	PTAZO.LREC.GE.AQ.PT.8	
3	Point	PTAZO.LREC.GE.AQ.PT.11	
4	Point	PTAZO.LREC.GE.AQ.PT.12	
5	Point	PTAZO.LREC.GE.AQ.PT.15	
6	Point	PTAZO.LREC.GE.AQ.PT.16	
7	Point	PTAZO.LREC.GE.AQ.PT.17	
8	Point	PTAZO.LREC.GE.AQ.PT.18	
9	Point	PTAZO.LREC.GE.AQ.PT.19	
10	Point	PTAZO.LREC.GE.AQ.PT.20	
11	Point	PTAZO.LREC.GE.AQ.PT.21	
12	Point	PTAZO.LREC.GE.AQ.PT.22	
13	Point	PTAZO.LREC.GE.AQ.PT.23	
14	Point	PTAZO.LREC.GE.AQ.PT.24	
15	Point	PTAZO.LREC.GE.AQ.PT.25	
16	Point	PTAZO.LREC.GE.AQ.PT.26	
17	Point	PTAZO.LREC.GE.AQ.PT.27	
18	Point	PTAZO.LREC.GE.AQ.PT.28	
19	Point	PTAZO.LREC.GE.AQ.PT.29	
20	Point	PTAZO.LREC.GE.AQ.PT.30	
21	Point	PTAZO.LREC.GE.AQ.PT.31	
22	Point	PTAZO.LREC.GE.AQ.PT.32	
23	Point	PTAZO.LREC.GE.AQ.PT.33	
24	Point	PTAZO.LREC.GE.AQ.PT.34	
25	Point	PTAZO.LREC.GE.AQ.PT.35	
26	Point	PTAZO.LREC.GE.AQ.PT.36	
27	Point	PTAZO.LREC.GE.AQ.PT.37	
28	Point	PTAZO.LREC.GE.AQ.PT.38	
29	Point	PTAZO.LREC.GE.AQ.PT.39	
30	Point	PTAZO.LREC.GE.AQ.PT.40	
31	Point	PTAZO.LREC.GE.AQ.PT.41	
32	Point	PTAZO.LREC.GE.AQ.PT.42	
33	Point	PTAZO.LREC.GE.AQ.PT.43	
34	Point	PTAZO.LREC.GE.AQ.PT.44	
35	Point	PTAZO.LREC.GE.AQ.PT.45	
36	Point	PTAZO.LREC.GE.AQ.PT.46	
37	Point	PTAZO.LREC.GE.AQ.PT.47	

PTAZOSiglallha.SiglaEntidade.SiglaTema.NomeFeatureOriginal.Geometria.LocalID

Modelos de Dados RAA - INSPIRE

- ✓ Matching Table
- ✓ ArcMap – Field Calculator

Table

T_GE_Borehole

OBJECTID *	inspireId *	boreholeLength
inspireId [string]		
boreholeLength [float]		
boreholeLength_void [string]		
elevation [float]		
elevation_void [string]		
downholeGeometry_void [string]		
purpose_void [string]		

Table

Sondagens_26N

Nº SONDAGEM *	COORDX	COORDY	COTA	Elevation
S1	619447	4178663	21	<Null>
S2	619455	4178638	20	<Null>
S3	620883	4179833	43	<Null>
S4	621495	4179947	55,5	<Null>
S5	621173	4179933	50	<Null>
S6	620568	4179612	34,5	<Null>
S7	620547	4179515	25	<Null>
S8				
S1				
S2				
S3				
S1				
S2				
S3				
S4				
S5				
S6				
S7				
S8				
S9				
S10				
S11				
S12				
S12a				
S13				
S13a				
S14				
S15				
S16				
S17				

Field Calculator

Parser

☒ VB Script ☐ Python

Fields:

OBJECTID
ID
IDENTRADA
NSONDAGEM
COORDX

Type:

☒ Number
☐ String
☐ Date

Functions:

Abs ()
Atn ()
Cos ()
Exp ()
Fix ()
Int ()

Table

Sondagens_26N

IDdadossondagens *	inspireId *	IDENTRADA *	Nº SONDAGEM *	COORDX	COORDY	elevation	COTA	PROF. MAXIMA (m)	BoreholeLength	EQUIPAMENT *	INCLINACAO	NIVEL
6	PTAZO.LREC.GE.AQ.PT.6	13	S1	619447	4178663	21	21	8,19	8,19	OUTRO: Percussão	Vertical	
8	PTAZO.LREC.GE.AQ.PT.8	13	S2	619455	4178638	20	20	8,5	8,5	LONGYEAR 24 Diamond core drill	Vertical	
11	PTAZO.LREC.GE.AQ.PT.11	13	S3	620883	4179833	43	43	4,04	4,04	OUTRO: Percussão	Vertical	
12	PTAZO.LREC.GE.AQ.PT.12	13	S4	621495	4179947	55,5	55,5	3,97	3,97	OUTRO: Percussão	Vertical	
15	PTAZO.LREC.GE.AQ.PT.15	13	S5	621173	4179933	50	50	5,33	5,33	OUTRO: Percussão	Vertical	
16	PTAZO.LREC.GE.AQ.PT.16	13	S6	620568	4179612	34,5	34,5	3,53	3,53	OUTRO: Percussão	Vertical	
17	PTAZO.LREC.GE.AQ.PT.17	13	S7	620547	4179515	25	25	3,97	3,97	OUTRO: Percussão	Vertical	
18	PTAZO.LREC.GE.AQ.PT.18	13	S8	619634	4178722	28,5	28,5	3,01	3,01	OUTRO: Percussão	Vertical	
19	PTAZO.LREC.GE.AQ.PT.19	16	S1	617198	4179773	0	0	15,05	15,05	OUTRO: Percussão	Vertical	
20	PTAZO.LREC.GE.AQ.PT.20	16	S2	617208	4179754	0	0	10,9	10,9	OUTRO: Percussão	Vertical	
21	PTAZO.LREC.GE.AQ.PT.21	16	S3	617212	4179741	0	0	13,95	13,95	OUTRO: Percussão	Vertical	
22	PTAZO.LREC.GE.AQ.PT.22	17	S1	618934	4178169	0	0	8	8	LONGYEAR 24 Diamond core drill	Vertical	
23	PTAZO.LREC.GE.AQ.PT.23	17	S2	618921	4178202	0	0	8	8	LONGYEAR 24 Diamond core drill	Vertical	
24	PTAZO.LREC.GE.AQ.PT.24	17	S3	619352	4178590	0	0	10	10	LONGYEAR 24 Diamond core drill	Vertical	
25	PTAZO.LREC.GE.AQ.PT.25	17	S4	619308	4178611	0	0	12,5	12,5	LONGYEAR 24 Diamond core drill	Vertical	
26	PTAZO.LREC.GE.AQ.PT.26	17	S5	619441	4178641	0	0	13,55	13,55	LONGYEAR 24 Diamond core drill	Vertical	
27	PTAZO.LREC.GE.AQ.PT.27	17	S6	619454	4178637	20	20	11	11	LONGYEAR 24 Diamond core drill	Vertical	
28	PTAZO.LREC.GE.AQ.PT.28	17	S7	619698	4178765	0	0	6	6	LONGYEAR 24 Diamond core drill	Vertical	
29	PTAZO.LREC.GE.AQ.PT.29	17	S8	619698	4178765	0	0	8	8	LONGYEAR 24 Diamond core drill	Vertical	
30	PTAZO.LREC.GE.AQ.PT.30	17	S9	619904	4178904	0	0	8	8	LONGYEAR 24 Diamond core drill	Vertical	
31	PTAZO.LREC.GE.AQ.PT.31	17	S10	619921	4178924	0	0	7,65	7,65	LONGYEAR 24 Diamond core drill	Vertical	
32	PTAZO.LREC.GE.AQ.PT.32	17	S11	620222	4179217	0	0	15	15	LONGYEAR 24 Diamond core drill	Vertical	
33	PTAZO.LREC.GE.AQ.PT.33	17	S12	620530	4179523	0	0	9	9	LONGYEAR 24 Diamond core drill	Vertical	
34	PTAZO.LREC.GE.AQ.PT.34	17	S12a	620567	4179613	34,5	34,5	12,5	12,5	LONGYEAR 24 Diamond core drill	Vertical	
35	PTAZO.LREC.GE.AQ.PT.35	17	S13	620491	4179512	0	0	8	8	LONGYEAR 24 Diamond core drill	Vertical	
36	PTAZO.LREC.GE.AQ.PT.36	17	S13a	620390	4179375	0	0	6,1	6,1	LONGYEAR 24 Diamond core drill	Vertical	
37	PTAZO.LREC.GE.AQ.PT.37	17	S14	620884	4179837	0	0	8	8	LONGYEAR 24 Diamond core drill	Vertical	
38	PTAZO.LREC.GE.AQ.PT.38	17	S15	620898	4179860	0	0	8	8	LONGYEAR 24 Diamond core drill	Vertical	
39	PTAZO.LREC.GE.AQ.PT.39	17	S16	621180	4179926	0	0	8,5	8,5	LONGYEAR 24 Diamond core drill	Vertical	
40	PTAZO.LREC.GE.AQ.PT.40	17	S17	621198	4179955	0	0	10	10	LONGYEAR 24 Diamond core drill	Vertical	
41	PTAZO.LREC.GE.AQ.PT.41	17	S18	621483	4179976	0	0	14	14	LONGYEAR 24 Diamond core drill	Vertical	
42	PTAZO.LREC.GE.AQ.PT.42	17	S19	621568	4179961	0	0	14	14	LONGYEAR 24 Diamond core drill	Vertical	
43	PTAZO.LREC.GE.AQ.PT.43	17	S20	621627	4180219	0	0	9	9	LONGYEAR 24 Diamond core drill	Vertical	
44	PTAZO.LREC.GE.AQ.PT.44	17	S21	622045	4180526	0	0	8	8	LONGYEAR 24 Diamond core drill	Vertical	
45	PTAZO.LREC.GE.AQ.PT.45	17	S22	622049	4180567	0	0	8	8	LONGYEAR 24 Diamond core drill	Vertical	
46	PTAZO.LREC.GE.AQ.PT.46	17	S23	619563	4178886	0	0	9,5	9,5	LONGYEAR 24 Diamond core drill	Vertical	
47	PTAZO.LREC.GE.AQ.PT.47	17	S24	619574	4178724	0	0	12,4	12,4	LONGYEAR 24 Diamond core drill	Vertical	
48	PTAZO.LREC.GE.AQ.PT.48	18	S1	0	0	0	0	8,85	8,85	OUTRO: Percussão	Vertical	
49	PTAZO.LREC.GE.AQ.PT.49	18	S2	0	0	0	0	8	8	OUTRO: Percussão	Vertical	

Sondagens_26N

0 out of 743 Selected

Modelos de Datos RAA - INSPIRE

ArcCatalog - ArcInfo - C:\Sig_Aul dia\INSPIRE2016\Geologia\INSPIRE_RAA_Sond.mdb

File Edit View Go Geoprocessing Customize Windows Help

Location: C:\Sig_Aul dia\INSPIRE2016\Geologia\INSPIRE_RAA_Sond.mdb\T_GE_Borehole

Catalog Tree

- T_ER_FossilFuelMeasure
- T_ER_FossilFuelResourceType
- T_ER_VerticalExtentType
- T_ER_VerticalExtentValue
- T_GE_ActiveWellTypeValue
- T_GE_AnthropogenicGeomorphologicFeature
- T_GE_Aquiclude
- T_GE_Aquifer
- T_GE_AquiferSystem
- T_GE_Aquitard
- T_GE_Borehole**
- T_GE_BoreholeType
- T_GE_Compact
- T_GE_Fold
- T_GE_GeologicUnit
- T_GE_GeologicUnitValue
- T_GE_GeologicUnitType
- T_GE_GeologicUnitValue
- T_GE_Large
- T_GE_Natural
- T_GE_Network
- T_GE_Piezometer
- T_GE_Relative
- T_GE_Shear
- T_GE_Static
- T_GE_Thermal
- T_GF_Property
- T_GN_GeographicName
- T_GN_NamedPlaceType
- T_GN_PronunciationOfName
- T_GN_SpellingOfName
- T_HB_HabitatSpeciesType
- T_HB_HabitatTypeCoverType
- T_HB_HabitatVegetationType
- T_HB_LocalNameType
- T_HH_AgeRangeType
- T_HH_Biomarker
- T_HH_BiomarkerStatisticalParameterType
- T_HH_BiomarkerThematicMetadata
- T_HH_BiomarkerType

Copy Ctrl+C

Delete

Rename F2

Register with Geodatabase

Analyze...

Attachments

Export

Create Feature Class

Compress File Geodatabase...

Uncompress File Geodatabase...

Geocode Addresses...

Load

Add Global IDs...

Properties...

Table

T_GE_Borehole

OBJECTID *	inspireId *	boreholeLength	boreholeLength void	elevation	elevation void	downholeGeometry void	purpose void
1	PTAZO.LREC.GE.AQ.PT.6	8,19	<Null>	21	<Null>	unknown	<Null>
2	PTAZO.LREC.GE.AQ.PT.8	8,5	<Null>	20	<Null>	unknown	<Null>
3	PTAZO.LREC.GE.AQ.PT.11	4,04	<Null>	43	<Null>	unknown	<Null>
4	PTAZO.LREC.GE.AQ.PT.12	3,97	<Null>	55,5	<Null>	unknown	<Null>
5	PTAZO.LREC.GE.AQ.PT.15	5,33	<Null>	50	<Null>	unknown	<Null>
6	PTAZO.LREC.GE.AQ.PT.16	3,53	<Null>	34,5	<Null>	unknown	<Null>
7	PTAZO.LREC.GE.AQ.PT.17	3,97	<Null>	25	<Null>	unknown	<Null>
8	PTAZO.LREC.GE.AQ.PT.18	3,01	<Null>	28,5	<Null>	unknown	<Null>
9	PTAZO.LREC.GE.AQ.PT.19	15,05	<Null>	0	unknown	unknown	<Null>
10	PTAZO.LREC.GE.AQ.PT.20	10,9	<Null>	0	unknown	unknown	<Null>
11	PTAZO.LREC.GE.AQ.PT.21	13,95	<Null>	0	unknown	unknown	<Null>
12	PTAZO.LREC.GE.AQ.PT.22	8	<Null>	0	unknown	unknown	<Null>
13	PTAZO.LREC.GE.AQ.PT.23	8	<Null>	0	unknown	unknown	<Null>
14	PTAZO.LREC.GE.AQ.PT.24	10	<Null>	0	unknown	unknown	<Null>
15	PTAZO.LREC.GE.AQ.PT.25	12,5	<Null>	0	unknown	unknown	<Null>
16	PTAZO.LREC.GE.AQ.PT.26	13,55	<Null>	0	unknown	unknown	<Null>
17	PTAZO.LREC.GE.AQ.PT.27	11	<Null>	20	<Null>	unknown	<Null>
18	PTAZO.LREC.GE.AQ.PT.28	6	<Null>	0	unknown	unknown	<Null>
19	PTAZO.LREC.GE.AQ.PT.29	8	<Null>	0	unknown	unknown	<Null>
20	PTAZO.LREC.GE.AQ.PT.30	8	<Null>	0	unknown	unknown	<Null>
21	PTAZO.LREC.GE.AQ.PT.31	7,65	<Null>	0	unknown	unknown	<Null>
22	PTAZO.LREC.GE.AQ.PT.32	15	<Null>	0	unknown	unknown	<Null>
23	PTAZO.LREC.GE.AQ.PT.33	9	<Null>	0	unknown	unknown	<Null>
24	PTAZO.LREC.GE.AQ.PT.34	12,5	<Null>	34,5	<Null>	unknown	<Null>
25	PTAZO.LREC.GE.AQ.PT.35	8	<Null>	0	unknown	unknown	<Null>
26	PTAZO.LREC.GE.AQ.PT.36	6,1	<Null>	0	unknown	unknown	<Null>
27	PTAZO.LREC.GE.AQ.PT.37	8	<Null>	0	unknown	unknown	<Null>
28	PTAZO.LREC.GE.AQ.PT.38	8	<Null>	0	unknown	unknown	<Null>
29	PTAZO.LREC.GE.AQ.PT.39	8,5	<Null>	0	unknown	unknown	<Null>
30	PTAZO.LREC.GE.AQ.PT.40	10	<Null>	0	unknown	unknown	<Null>
31	PTAZO.LREC.GE.AQ.PT.41	14	<Null>	0	unknown	unknown	<Null>
32	PTAZO.LREC.GE.AQ.PT.42	14	<Null>	0	unknown	unknown	<Null>
33	PTAZO.LREC.GE.AQ.PT.43	9	<Null>	0	unknown	unknown	<Null>
34	PTAZO.LREC.GE.AQ.PT.44	8	<Null>	0	unknown	unknown	<Null>
35	PTAZO.LREC.GE.AQ.PT.45	8	<Null>	0	unknown	unknown	<Null>

0 (0 out of 743 Selected)

T_GE_Borehole

Load data into this feature class or table

Modelo de Dados RAA - Harmonização

✓ Continuação da Harmonização

- T_GE_Borehole
- T_GE_BoreholePurposeValue
- T_Ge_GeologicCollection
- T_Identifier

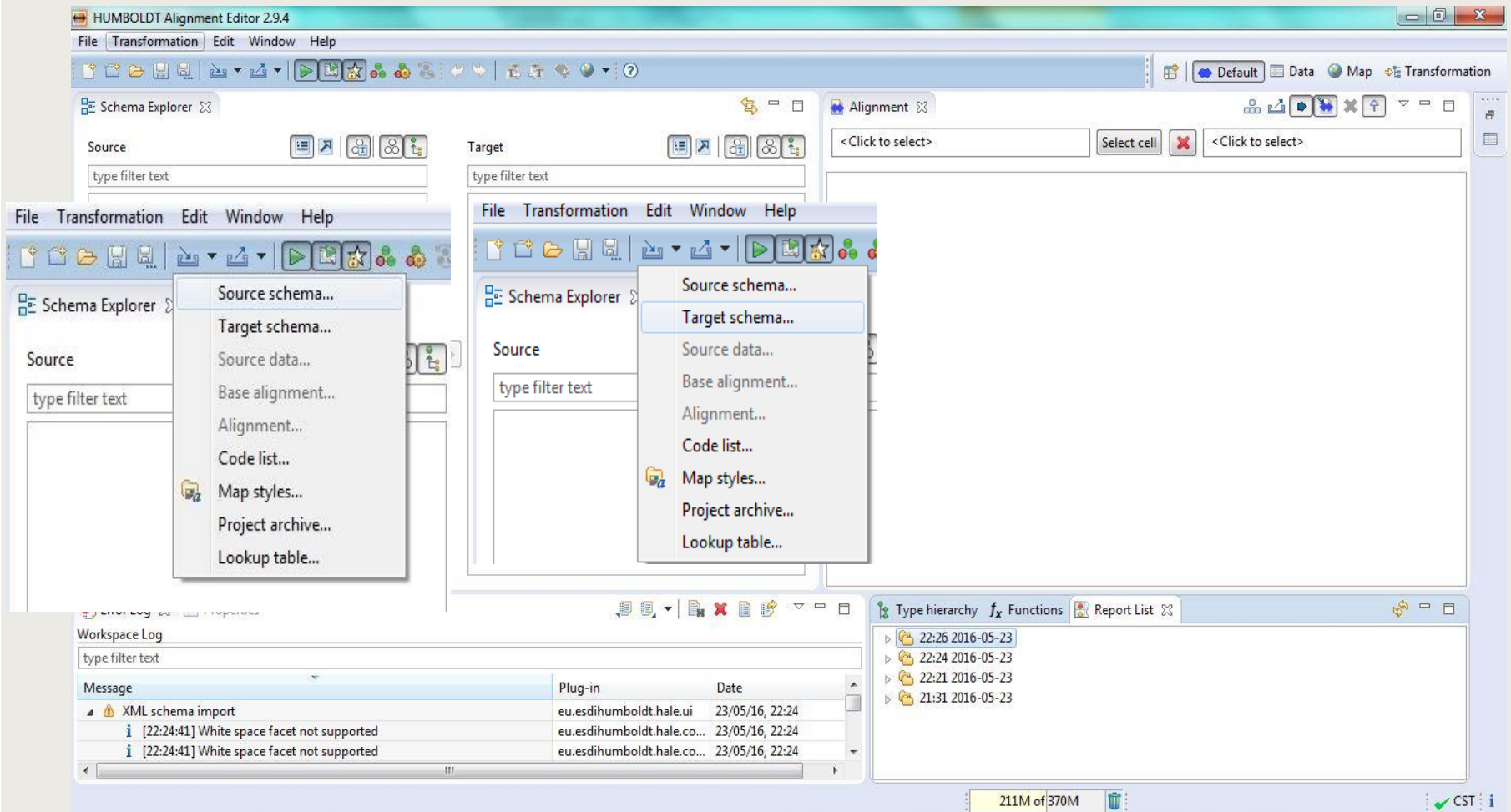
The screenshot displays a data management application interface. The main window shows a table titled 'T_Identifier' with the following columns: OBJECTID, namespace, localid, and versionid. The table contains 45 rows of data, with OBJECTID ranging from 6695 to 6729. The namespace column contains values like 'PTAZO.LREC.GE.AQ.PT'. The localid column contains values from 6 to 45. The versionid column contains '<Null>' for all rows.

Overlaid on the table is a 'Field Calculator' dialog box. The 'Parser' is set to 'VB Script'. The 'Fields' list includes 'OBJECTID', 'namespace', 'localid', 'versionid', 'versionid_void', and 'inspireId'. The 'Type' is set to 'Date'. The 'Functions' list includes 'Date()', 'DateAdd()', 'DateDiff()', 'DatePart()', and 'Now()'. The 'Now()' function is selected. The 'Show Codeblock' checkbox is checked. The code block contains the expression 'Now ()'. The 'OK' button is highlighted.

OBJECTID	namespace	localid	versionid
6695	PTAZO.LREC.GE.AQ.PT	6	<Null>
6696	PTAZO.LREC.GE.AQ.PT	8	<Null>
6697	PTAZO.LREC.GE.AQ.PT	11	<Null>
6698	PTAZO.LREC.GE.AQ.PT	12	<Null>
6699	PTAZO.LREC.GE.AQ.PT	15	<Null>
6700	PTAZO.LREC.GE.AQ.PT	16	<Null>
6701	PTAZO.LREC.GE.AQ.PT	17	<Null>
6702	PTAZO.LREC.GE.AQ.PT	18	<Null>
6703	PTAZO.LREC.GE.AQ.PT	19	<Null>
6704	PTAZO.LREC.GE.AQ.PT	20	<Null>
6705	PTAZO.LREC.GE.AQ.PT	21	<Null>
6706	PTAZO.LREC.GE.AQ.PT	22	<Null>
6707	PTAZO.LREC.GE.AQ.PT	23	<Null>
6708	PTAZO.LREC.GE.AQ.PT	24	<Null>
6709	PTAZO.LREC.GE.AQ.PT	25	<Null>
6710	PTAZO.LREC.GE.AQ.PT	26	<Null>
6711	PTAZO.LREC.GE.AQ.PT	27	<Null>
6712	PTAZO.LREC.GE.AQ.PT	28	<Null>
6713	PTAZO.LREC.GE.AQ.PT	29	<Null>
6714	PTAZO.LREC.GE.AQ.PT	30	<Null>
6715	PTAZO.LREC.GE.AQ.PT	31	<Null>
6716	PTAZO.LREC.GE.AQ.PT	32	<Null>
6717	PTAZO.LREC.GE.AQ.PT	33	<Null>
6718	PTAZO.LREC.GE.AQ.PT	34	<Null>
6719	PTAZO.LREC.GE.AQ.PT	35	<Null>
6720	PTAZO.LREC.GE.AQ.PT	36	<Null>
6721	PTAZO.LREC.GE.AQ.PT	37	<Null>
6722	PTAZO.LREC.GE.AQ.PT	38	<Null>
6723	PTAZO.LREC.GE.AQ.PT	39	<Null>
6724	PTAZO.LREC.GE.AQ.PT	40	<Null>
6725	PTAZO.LREC.GE.AQ.PT	41	<Null>
6726	PTAZO.LREC.GE.AQ.PT	42	<Null>
6727	PTAZO.LREC.GE.AQ.PT	43	<Null>
6728	PTAZO.LREC.GE.AQ.PT	44	<Null>
6729	PTAZO.LREC.GE.AQ.PT	45	<Null>

The HUMBOLDT Alignment Editor - HALE

✓ Source Schema e Target schema



The HUMBOLDT Alignment Editor - HALE

- ✓ Source Schema e tabela de atributos (apoio)

The screenshot displays the HUMBOLDT Alignment Editor (HALE) interface. The top menu bar includes File, Transformation, Edit, Window, and Help. The toolbar contains various icons for file operations, alignment, and transformation. The main workspace is divided into three panes:

- Source Schema Explorer:** Shows a tree view of the source schema 'Sond26N' with attributes like beginLifes, collection, COORDX, COORDY, downholeGe, elevation, filename, Id, inspired, Length, localID, nameCollec, nameSpaceB, nameSpaceC, OBJECTID, Purpose, and the_geom.
- Target Schema Explorer:** Similar to the source, but currently empty.
- Table:** A detailed data table for 'Sond26N' with columns: FID, Shape, OB, Id, insoid, COORDX, COORDY, elevati, localID, downhole, Length, Purpose, nameSpaceB, nameCollec, collection, beginLifes, and nameSpaceC. The table contains 34 rows of data.

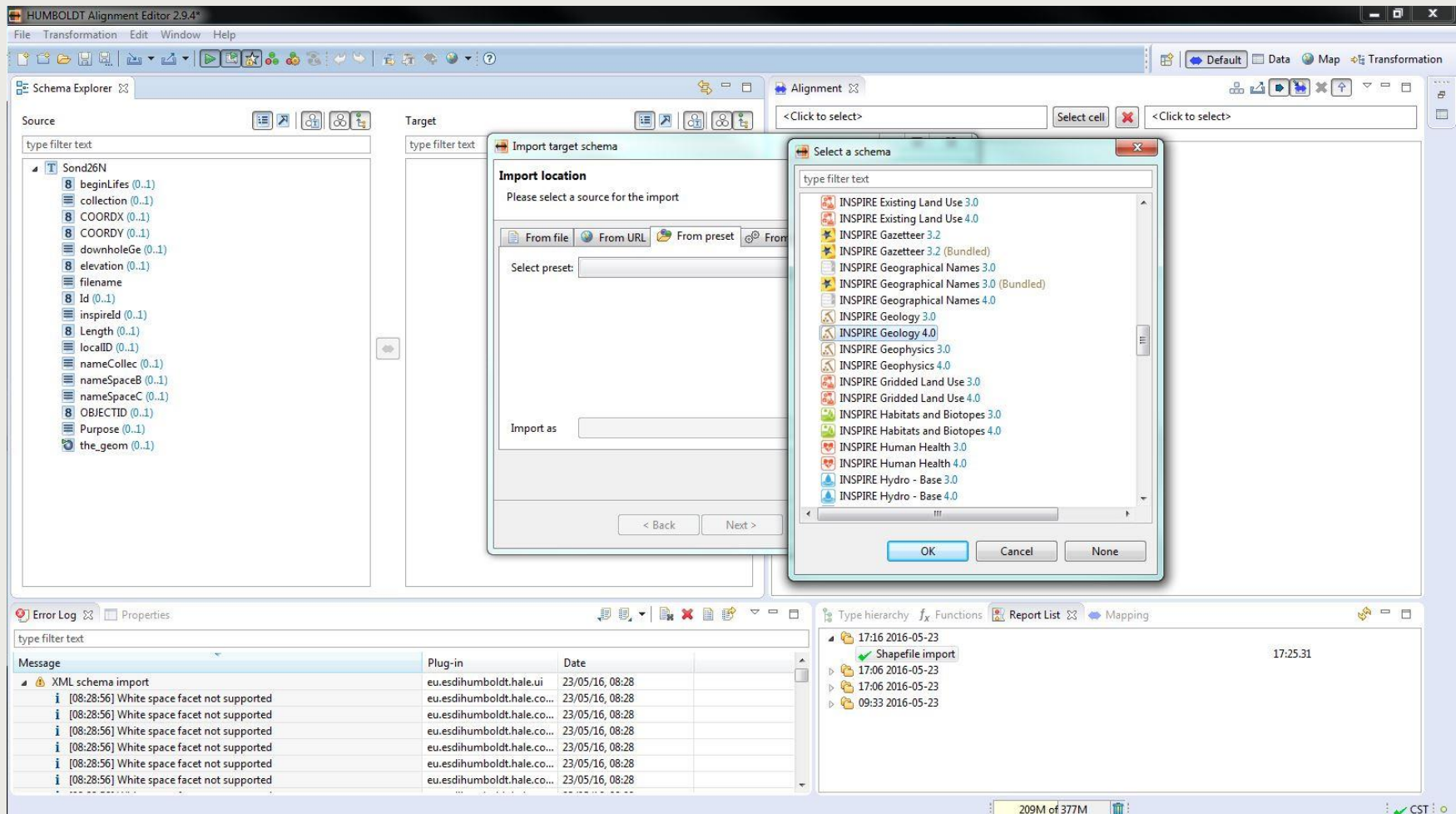
The bottom status bar shows the current file 'Sond26N' and the total number of records (0 out of 743 Selected).

Table Data:

FID	Shape	OB	Id	insoid	COORDX	COORDY	elevati	localID	downhole	Length	Purpose	nameSpaceB	nameCollec	collection	beginLifes	nameSpaceC
0	Point	1	6	PTAZO.LREC.GE.AQ.PT.6	619447.000122	4178663.00012	21	6	unknown	8.19	geotechnicalSurvey	PTAZO.LREC.GE.AQ.PT	13	boreholeCollection	22-05-2016	PTAZO.LREC.GE.GU.PT
1	Point	2	8	PTAZO.LREC.GE.AQ.PT.8	619455.000122	4178638.00012	20	8	unknown	8.5	geotechnicalSurvey	PTAZO.LREC.GE.AQ.PT	13	boreholeCollection	22-05-2016	PTAZO.LREC.GE.GU.PT
2	Point	3	11	PTAZO.LREC.GE.AQ.PT.11	620883.000122	4178633.00012	43	11	unknown	4.04	geotechnicalSurvey	PTAZO.LREC.GE.AQ.PT	13	boreholeCollection	22-05-2016	PTAZO.LREC.GE.GU.PT
3	Point	4	12	PTAZO.LREC.GE.AQ.PT.12	621495.000122	4178647.00012	55.5	12	unknown	3.97	geotechnicalSurvey	PTAZO.LREC.GE.AQ.PT	13	boreholeCollection	22-05-2016	PTAZO.LREC.GE.GU.PT
4	Point	5	15	PTAZO.LREC.GE.AQ.PT.15	621173.000122	4178933.00012	50	15	unknown	5.33	geotechnicalSurvey	PTAZO.LREC.GE.AQ.PT	13	boreholeCollection	22-05-2016	PTAZO.LREC.GE.GU.PT
5	Point	6	16	PTAZO.LREC.GE.AQ.PT.16	620568.000122	4178612.00012	34.5	16	unknown	3.53	geotechnicalSurvey	PTAZO.LREC.GE.AQ.PT	13	boreholeCollection	22-05-2016	PTAZO.LREC.GE.GU.PT
6	Point	7	17	PTAZO.LREC.GE.AQ.PT.17	620547.000122	4178515.00012	25	17	unknown	3.97	geotechnicalSurvey	PTAZO.LREC.GE.AQ.PT	13	boreholeCollection	22-05-2016	PTAZO.LREC.GE.GU.PT
7	Point	8	18	PTAZO.LREC.GE.AQ.PT.18	619634.000122	4178722.00012	28.5	18	unknown	3.01	geotechnicalSurvey	PTAZO.LREC.GE.AQ.PT	13	boreholeCollection	22-05-2016	PTAZO.LREC.GE.GU.PT
8	Point	9	19	PTAZO.LREC.GE.AQ.PT.19	617198.000122	4178773.00012	0	19	unknown	15.05	geotechnicalSurvey	PTAZO.LREC.GE.AQ.PT	16	boreholeCollection	22-05-2016	PTAZO.LREC.GE.GU.PT
9	Point	10	20	PTAZO.LREC.GE.AQ.PT.20	617206.000122	4178754.00012	0	20	unknown	10.9	geotechnicalSurvey	PTAZO.LREC.GE.AQ.PT	16	boreholeCollection	22-05-2016	PTAZO.LREC.GE.GU.PT
10	Point	11	21	PTAZO.LREC.GE.AQ.PT.21	617212.000122	4178741.00012	0	21	unknown	13.95	geotechnicalSurvey	PTAZO.LREC.GE.AQ.PT	16	boreholeCollection	22-05-2016	PTAZO.LREC.GE.GU.PT
11	Point	12	22	PTAZO.LREC.GE.AQ.PT.22	618834.000122	4178169.00012	0	22	unknown	8	geotechnicalSurvey	PTAZO.LREC.GE.AQ.PT	17	boreholeCollection	22-05-2016	PTAZO.LREC.GE.GU.PT
12	Point	13	23	PTAZO.LREC.GE.AQ.PT.23	618921.000122	4178202.00012	0	23	unknown	8	geotechnicalSurvey	PTAZO.LREC.GE.AQ.PT	17	boreholeCollection	22-05-2016	PTAZO.LREC.GE.GU.PT
13	Point	14	24	PTAZO.LREC.GE.AQ.PT.24	619352.000122	4178590.00012	0	24	unknown	10	geotechnicalSurvey	PTAZO.LREC.GE.AQ.PT	17	boreholeCollection	22-05-2016	PTAZO.LREC.GE.GU.PT
14	Point	15	25	PTAZO.LREC.GE.AQ.PT.25	619308.000122	4178611.00012	0	25	unknown	12.5	geotechnicalSurvey	PTAZO.LREC.GE.AQ.PT	17	boreholeCollection	22-05-2016	PTAZO.LREC.GE.GU.PT
15	Point	16	26	PTAZO.LREC.GE.AQ.PT.26	619441.000122	4178641.00012	0	26	unknown	13.55	geotechnicalSurvey	PTAZO.LREC.GE.AQ.PT	17	boreholeCollection	22-05-2016	PTAZO.LREC.GE.GU.PT
16	Point	17	27	PTAZO.LREC.GE.AQ.PT.27	619454.000122	4178637.00012	20	27	unknown	11	geotechnicalSurvey	PTAZO.LREC.GE.AQ.PT	17	boreholeCollection	22-05-2016	PTAZO.LREC.GE.GU.PT
17	Point	18	28	PTAZO.LREC.GE.AQ.PT.28	619698.000122	4178765.00012	0	28	unknown	6	geotechnicalSurvey	PTAZO.LREC.GE.AQ.PT	17	boreholeCollection	22-05-2016	PTAZO.LREC.GE.GU.PT
18	Point	19	29	PTAZO.LREC.GE.AQ.PT.29	619698.000122	4178765.00012	0	29	unknown	8	geotechnicalSurvey	PTAZO.LREC.GE.AQ.PT	17	boreholeCollection	22-05-2016	PTAZO.LREC.GE.GU.PT
19	Point	20	30	PTAZO.LREC.GE.AQ.PT.30	619904.000122	4178904.00012	0	30	unknown	8	geotechnicalSurvey	PTAZO.LREC.GE.AQ.PT	17	boreholeCollection	22-05-2016	PTAZO.LREC.GE.GU.PT
20	Point	21	31	PTAZO.LREC.GE.AQ.PT.31	619921.000122	4178924.00012	0	31	unknown	7.65	geotechnicalSurvey	PTAZO.LREC.GE.AQ.PT	17	boreholeCollection	22-05-2016	PTAZO.LREC.GE.GU.PT
21	Point	22	32	PTAZO.LREC.GE.AQ.PT.32	620222.000122	4179217.00012	0	32	unknown	15	geotechnicalSurvey	PTAZO.LREC.GE.AQ.PT	17	boreholeCollection	22-05-2016	PTAZO.LREC.GE.GU.PT
22	Point	23	33	PTAZO.LREC.GE.AQ.PT.33	620530.000122	4179523.00012	0	33	unknown	9	geotechnicalSurvey	PTAZO.LREC.GE.AQ.PT	17	boreholeCollection	22-05-2016	PTAZO.LREC.GE.GU.PT
23	Point	24	34	PTAZO.LREC.GE.AQ.PT.34	620567.000122	4179613.00012	34.5	34	unknown	12.5	geotechnicalSurvey	PTAZO.LREC.GE.AQ.PT	17	boreholeCollection	22-05-2016	PTAZO.LREC.GE.GU.PT
24	Point	25	35	PTAZO.LREC.GE.AQ.PT.35	620481.000122	4179512.00012	0	35	unknown	8	geotechnicalSurvey	PTAZO.LREC.GE.AQ.PT	17	boreholeCollection	22-05-2016	PTAZO.LREC.GE.GU.PT
25	Point	26	36	PTAZO.LREC.GE.AQ.PT.36	620390.000122	4179375.00012	0	36	unknown	6.1	geotechnicalSurvey	PTAZO.LREC.GE.AQ.PT	17	boreholeCollection	22-05-2016	PTAZO.LREC.GE.GU.PT
26	Point	27	37	PTAZO.LREC.GE.AQ.PT.37	620884.000122	4179637.00012	0	37	unknown	8	geotechnicalSurvey	PTAZO.LREC.GE.AQ.PT	17	boreholeCollection	22-05-2016	PTAZO.LREC.GE.GU.PT
27	Point	28	38	PTAZO.LREC.GE.AQ.PT.38	620898.000122	4179660.00012	0	38	unknown	8	geotechnicalSurvey	PTAZO.LREC.GE.AQ.PT	17	boreholeCollection	22-05-2016	PTAZO.LREC.GE.GU.PT
28	Point	29	39	PTAZO.LREC.GE.AQ.PT.39	621180.000122	4179926.00012	0	39	unknown	8.5	geotechnicalSurvey	PTAZO.LREC.GE.AQ.PT	17	boreholeCollection	22-05-2016	PTAZO.LREC.GE.GU.PT
29	Point	30	40	PTAZO.LREC.GE.AQ.PT.40	621196.000122	4179955.00012	0	40	unknown	10	geotechnicalSurvey	PTAZO.LREC.GE.AQ.PT	17	boreholeCollection	22-05-2016	PTAZO.LREC.GE.GU.PT
30	Point	31	41	PTAZO.LREC.GE.AQ.PT.41	621463.000122	4179976.00012	0	41	unknown	14	geotechnicalSurvey	PTAZO.LREC.GE.AQ.PT	17	boreholeCollection	22-05-2016	PTAZO.LREC.GE.GU.PT
31	Point	32	42	PTAZO.LREC.GE.AQ.PT.42	621566.000122	4179991.00012	0	42	unknown	14	geotechnicalSurvey	PTAZO.LREC.GE.AQ.PT	17	boreholeCollection	22-05-2016	PTAZO.LREC.GE.GU.PT
32	Point	33	43	PTAZO.LREC.GE.AQ.PT.43	621627.000122	4180219.00012	0	43	unknown	9	geotechnicalSurvey	PTAZO.LREC.GE.AQ.PT	17	boreholeCollection	22-05-2016	PTAZO.LREC.GE.GU.PT
33	Point	34	44	PTAZO.LREC.GE.AQ.PT.44	622045.000122	4180526.00012	0	44	unknown	8	geotechnicalSurvey	PTAZO.LREC.GE.AQ.PT	17	boreholeCollection	22-05-2016	PTAZO.LREC.GE.GU.PT

The HUMBOLDT Alignment Editor - HALE

✓ Target schema INSPIRE Geology 4.0



The HUMBOLDT Alignment Editor - HALE

✓ Source data

The screenshot displays the HUMBOLDT Alignment Editor (HALE) 2.9.4 interface. The main window is divided into several panels:

- Source:** A list of attributes for the 'Sond26N' dataset, including beginLifes (0..1) x743, collection (0..1) x743, COORDX (0..1) x743, COORDY (0..1) x743, downholeGe (0..1) x743, elevation (0..1) x743, filename x743, Id (0..1) x743, inspireId (0..1) x743, Length (0..1) x743, localID (0..1) x743, nameCollec (0..1) x743, nameSpaceB (0..1) x743, nameSpaceC (0..1) x743, OBJECTID (0..1) x743, Purpose (0..1) x743, and the_geom (0..1) x743.
- Target:** A list of feature types, including AnthropogenicGeomorphologicFeature, Borehole, CompositionPart, Fold, GeologicCollection, GeologicEvent, GeologicFeature, GeologicStructure, GeologicUnit, GeomorphologicFeature, MappedFeature, MappedInterval, NaturalGeomorphologicFeature, ShearDisplacementStructure, and ThematicClass.
- Alignment:** A panel with a 'Select cell' button and a '<Click to select>' prompt.
- Error Log:** A panel showing messages related to 'XML schema import' and 'White space facet not supported'.
- Type hierarchy:** A panel showing a tree structure with 'Load data into database' and 'Shapefile import' checked.

The status bar at the bottom indicates '196M of 356M' and 'CST'.

The HUMBOLDT Alignment Editor - HALE

✓ Função Retype

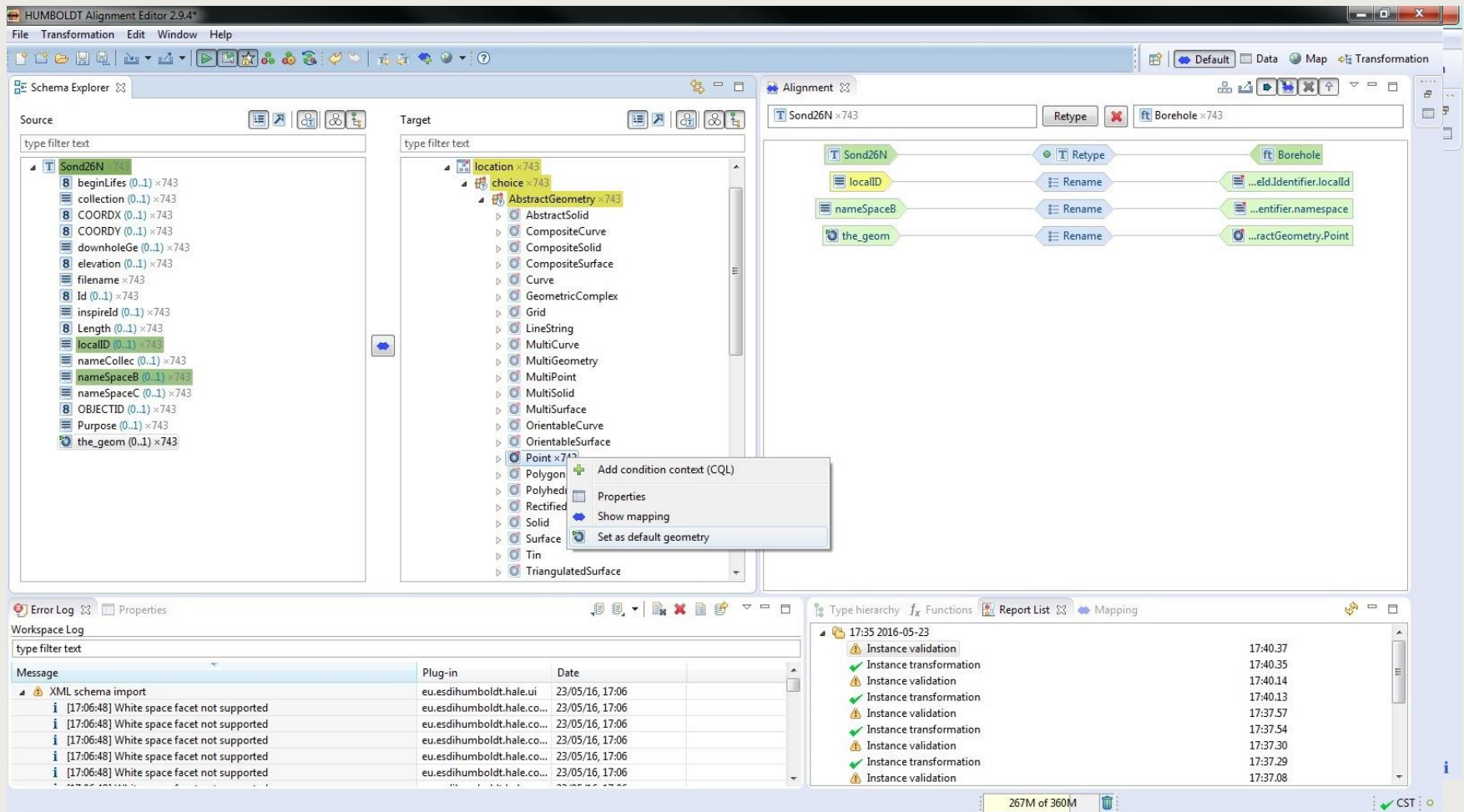
The screenshot displays the HUMBOLDT Alignment Editor (HALE) version 2.9.4. The interface is divided into several panels:

- Schema Explorer:** Shows the source schema 'Sond26N' with various attributes like 'beginLifes', 'collection', 'COORDX', 'COORDY', 'downholeGe', 'elevation', 'filename', 'Id', 'inspireId', 'Length', 'localID', 'nameCollec', 'nameSpaceB', 'nameSpaceC', 'OBJECTID', 'Purpose', and 'the_geom'.
- Target:** Shows the target schema 'Borehole' with attributes 'Borehole' and 'GeologicCollection'.
- Alignment:** Displays two alignment rules. The first rule maps 'Sond26N' to 'Borehole' using the 'Retype' function. The second rule maps 'Sond26N' to 'GeologicCollection' using the 'Retype' function.
- Context Menu:** A right-click context menu is open over the 'Retype' function in the alignment, showing options: 'Groovy Retype', 'Groovy Merge', 'Retype' (selected), and 'Merge'.
- Error Log:** Shows a list of messages, including 'XML schema import' and 'White space facet not supported'.
- Properties:** Shows a table with columns 'Message', 'Plug-in', and 'Date'.
- Type hierarchy:** Shows a list of types and their associated dates.

The bottom status bar indicates '235M of 336M' and 'CST'.

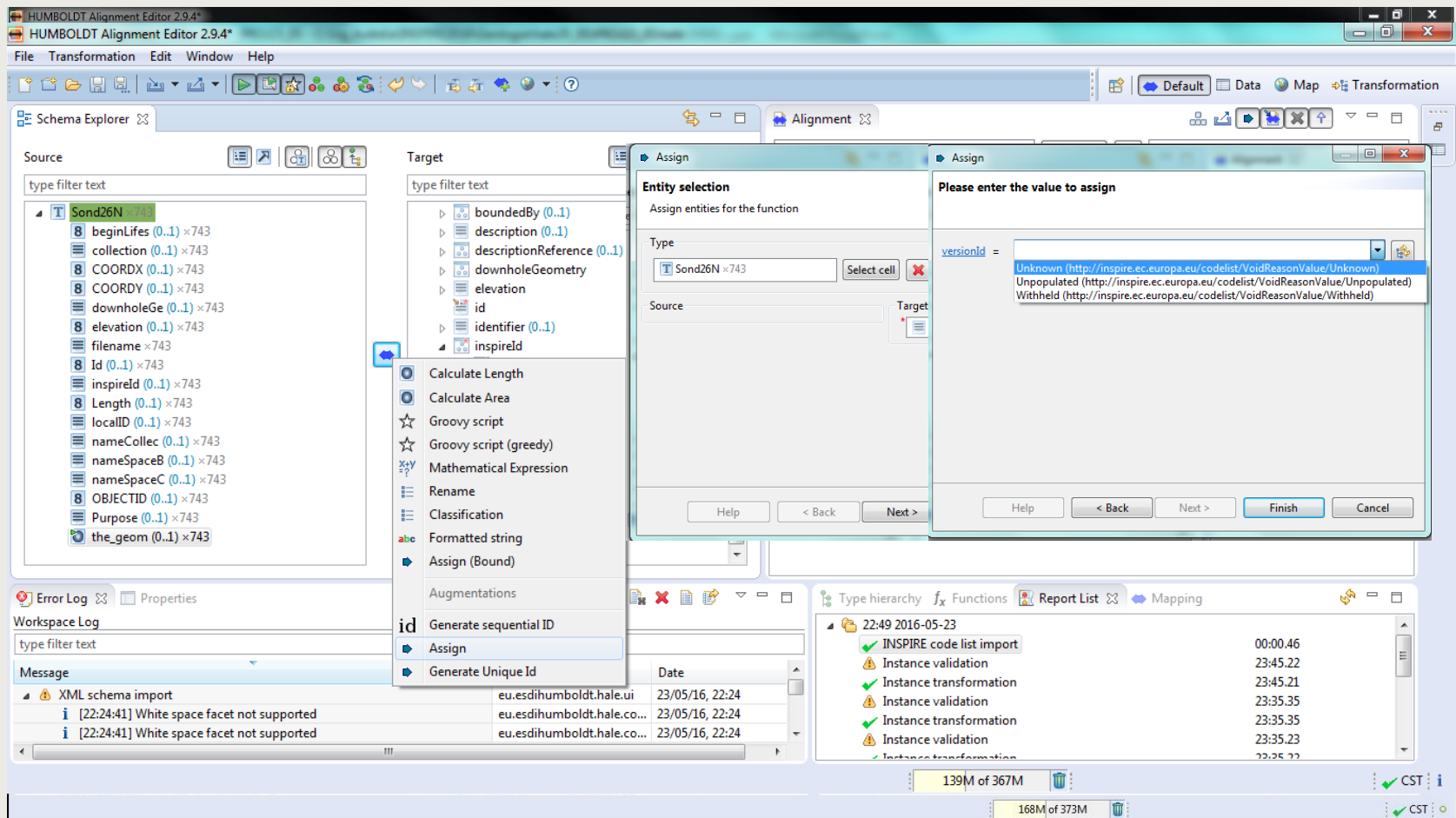
The HUMBOLDT Alignment Editor - HALE

✓ Função Rename



The HUMBOLDT Alignment Editor - HALE

✓ Função Assign e Import Code List



The HUMBOLDT Alignment Editor - HALE

✓ Função Generate Sequential ID

The screenshot displays the HUMBOLDT Alignment Editor (HALE) 2.9.4 interface. The main window is divided into several panes:

- Schema Explorer:** Shows a tree view of the source schema. The 'id' property is highlighted.
- Target:** Shows a tree view of the target schema. The 'id' property is highlighted.
- Alignment:** Shows a list of alignment rules. The 'id' rule is selected.
- Properties:** Shows the properties of the selected 'id' rule. The 'Namespace' is set to 'http://www.opengis.net/gml/3.2'.
- Generate sequential ID dialog:** A modal dialog box is open, prompting the user to configure the identifier generation. The 'Sequence' is set to 'Per target instance type'. The 'Prefix' is 'GE.AQ.' and the 'Suffix' is empty. The 'Example' is 'GE.AQ.1'.

The 'Generate sequential ID' dialog box contains the following fields and buttons:

- Sequence:** A dropdown menu with the selected option 'Per target instance type'.
- Prefix:** A text field containing 'GE.AQ.'.
- Suffix:** An empty text field.
- Example:** A text field containing 'GE.AQ.1'.
- Buttons:** 'Help', '< Back', 'Next >', 'Finish', and 'Cancel'.

The bottom status bar shows the memory usage as '124M of 367M' and the current project as 'CST'.

The HUMBOLDT Alignment Editor - HALE

✓ Borehole - Instance Validation

The screenshot displays the HUMBOLDT Alignment Editor (HALE) interface, version 2.9.4, running on a Windows operating system. The main window is titled "HUMBOLDT Alignment Editor 2.9.4 - teste22_05 - C:\Sig_Aul dia\INSPIRE2016\Geologia\hale_20_05\proj_teste22_05.hale".

The interface is divided into several panes:

- Schema Explorer:** Shows the source schema (T 22_05) and the target schema (ft Borehole x743). The source schema includes properties like beginLifes, collection, COORDX, COORDY, downholeGe, elevation, filename, Id, inspireId, Length, localID, name, namespace, nameSpaceC, OBJECTID, Purpose, and the_geom. The target schema includes properties like location, boreholeLength, boundedBy, description, descriptionReference, downholeGeometry, elevation, id, identifier, inspireId, Identifier, localId, namespace, versionId, location, logElement, metaDataProperty, name, purpose, and GeologicCollection.
- Alignment:** Shows the mapping between the source and target schemas. The alignment is based on the "Borehole" type. The mapping includes: "T 22_05" to "ft Borehole", "Length" to "oleLength.Quantity", "Purpose" to "purpose", "elevation" to "elevation", "localID" to "eld.Identifier.localId", "namespace" to "entifier.namespace", "the_geom" to "ractGeometry.Point", "id" to "id", "inspireId" to "Identifier.versionId", "logElement" to "logElement.href", "metaDataProperty" to "aProperty.nilReason", and "name" to "name".
- Properties:** Shows the properties of the "BoreholeType". The namespace is "http://inspire.ec.europa.eu/schemas/ge-core/4.0". The local name is "BoreholeType". The description is "-- Definition -- A borehole is the generalized term for any narrow shaft drilled in the ground."
- Report List:** Shows a list of operations performed during the alignment process, including "Instance validation", "Instance transformation", "INSPIRE code list import", "Load data into database", "Shapefile import", "XML schema import", "Shapefile import", "HALE project import", and "HALE project import".

The bottom status bar shows the file size "135M of 443M" and the user "CST".

The HUMBOLDT Alignment Editor - HALE

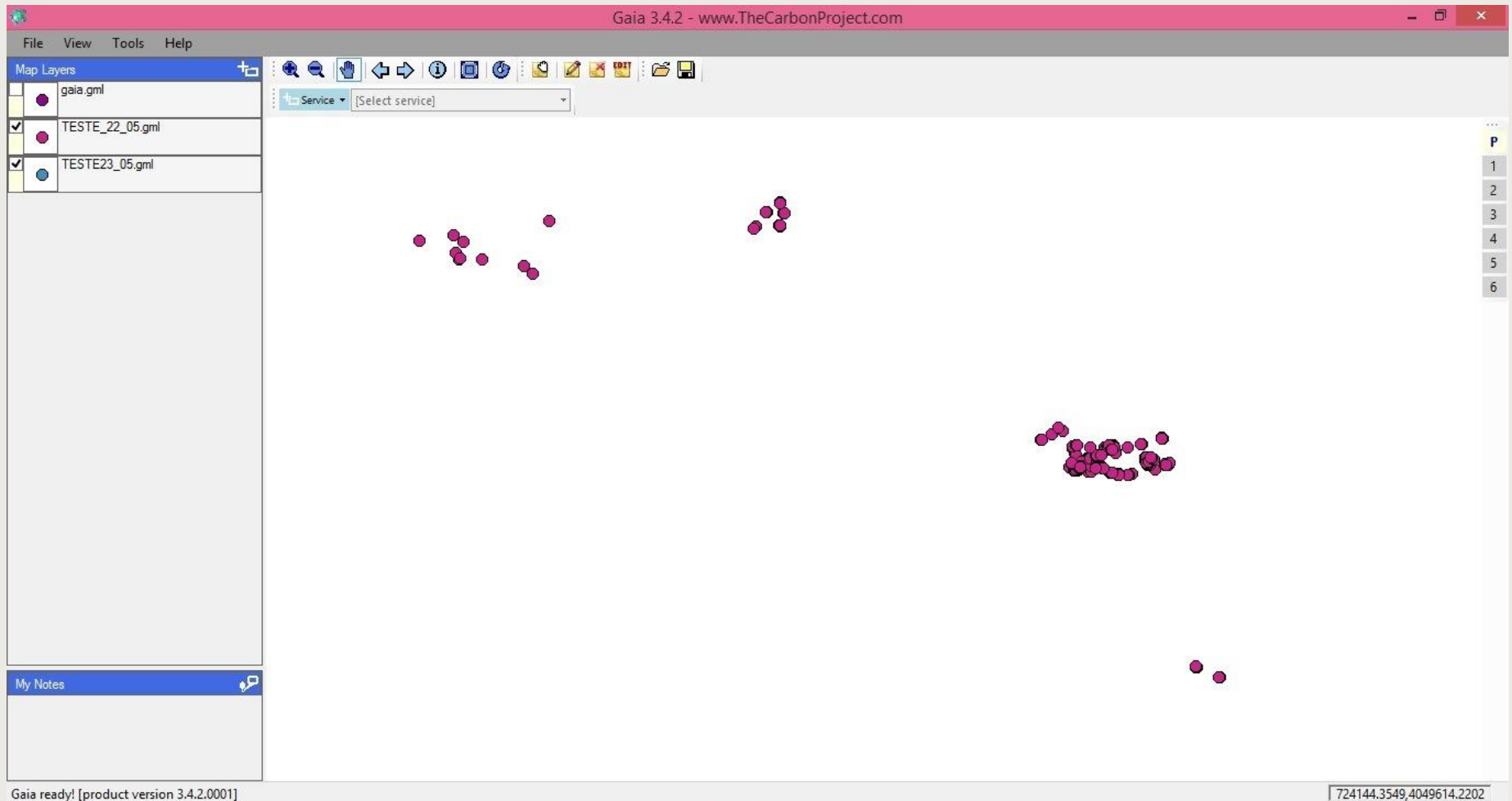
✓ GeologicCollection - Instance Validation

The screenshot displays the HUMBOLDT Alignment Editor (HALE) interface, version 2.9.4, running on a Windows operating system. The main window is titled "HUMBOLDT Alignment Editor 2.9.4 - teste22_05 - C:\Sig_Aul dia\INSPIRE2016\Geologia\hale20_05\proj_teste22_05.hale".

The interface is divided into several panes:

- Schema Explorer:** Shows the source schema "T 22_05" and the target schema "Borehole". The source schema includes elements like "beginLifes", "collection", "COORDX", "COORDY", "downholeGe", "elevation", "filename", "Id", "inspireId", "Length", "localID", "name", "namespace", "nameSpaceC", "OBJECTID", "Purpose", and "the_geom". The target schema includes "Borehole", "GeologicCollection", "location", "beginLifespanVersion", "boreholeMember", "boundedBy", "collectionType", "description", "descriptionReference", "endLifespanVersion", "geophObjectMember", "geophObjectSet", "id", "identifier", "inspireId", "mapMember", "metaDataProperty", "name", "codeSpace", and "reference".
- Alignment:** Shows the mapping between the source and target schemas. The "T 22_05" schema is mapped to the "Borehole" schema. The alignment view shows the "T 22_05" schema on the left, the "Borehole" schema in the middle, and the "T 22_05" schema on the right. The alignment is performed using the "Retype" button.
- Properties:** Shows the properties of the "BoreholeType". The "General" tab is selected, showing the "Namespace" as "http://inspire.ec.europa.eu/schemas/ge-core/4.0", the "Local name" as "BoreholeType", and the "Description" as "-- Definition -- A borehole is the generalized term for any narrow shaft drilled in the ground."
- Log:** Shows the execution log of the alignment process. The log includes the following entries:
 - 17:10 2016-05-23
 - Instance validation
 - Instance transformation
 - INSPIRE code list import
 - Load data into database
 - Shapefile import
 - XML schema import
 - Shapefile import
 - HALE project import
 - 17:06 2016-05-23

Gaia 3.4.2 – www.TheCarbonProject.com



<http://www.thecarbonproject.com/Products/Gaia>

Vantagens e Desvantagens do Hale

- ✓ *Software* Open Source que harmoniza a informação Geográfica em conformidade com as especificações técnicas do INSPIRE. Este *Software* atualiza automaticamente os Schemas e as Codelists INSPIRE;
- ✓ Auxilia e indica correções a executar no preenchimento do Target Schema do nosso tema;
- ✗ Descobrir as funções a usar no mapeamento entre a Source Schema e a Target schema, segundo a génese dos nossos dados;
- ✗ Entender os Warnings resultantes e os eventuais problemas de Cardinalidade.

Essencialmente, contribuiu para o cumprimento da Diretiva INSPIRE.

Considerações Finais e Perspetivas Futuras

- ✓ A harmonização possibilitou a estruturação dos nossos dados, e consequentemente, a criação de uma excelente ferramenta de trabalho interno;
- ✓ O Modelo de Dados RAA permitiu estruturar a nossa Base de Dados de acordo com algumas regras e, consequentemente, o Hale auxiliou a cumprir outras, de modo a estar em condições para exportar para um GML;
- ✓ O GML resultante permite a publicação de Serviços, igualmente obrigatório segundo a Diretiva INSPIRE.

