



PPDM™

PROFESSIONAL PETROLEUM
DATA MANAGEMENT ASSOCIATION

PPDM COMPLIANCE

VENDOR NAME: GEOLOGIC SYSTEMS LTD

PRODUCT NAME: proprietary DATA CENTRE (pDC)

VERSION: V1.0

MEASUREMENT DATE: JUNE 15/2011

PPDM COMPLIANCE SCORE

SCORE: GEOLOGIC, pDC, VERSION 1.0, CRC V3.8 -
1136:AREA, BUSINESS ASSOCIATE, CS, DEPRECATE, FIELD,
LEGAL DESCRIPTIONS, POOL, PPDM META, PPDM UOM,
PPDM VOL REGIME, PRODUCT, PRODUCTION_ENTITIES,
REFERENCE, STRAT, WELL:1136:1080 GOLD 95%

CREATED BY

Name: Geordie Sinclair

Position: Systems Administrator

Date: July 6, 2011

VERIFIED AND AUTHORIZED BY

Name: _____

Position: _____

Date: _____

PRODUCT DESCRIPTION

‘Proprietary Data Center’ is based upon three main components that cover:

- moving data into the model
- data editing of the data in the model
- business use of data in the model by analysis and business intelligence tools.

‘Proprietary Data Center’ is based on the PPDM 3.8 data model, a model that many companies believe is the right model to base their corporate or enterprise implementations on. The model now has enough categories, is very robust, and includes the meta model management and component tables for integration. ‘Proprietary Data Center’ has the potential to reduce the costs and time to implement the system by incorporating domain expertise in data loading, data quality and PPDM to create a standard approach to the implementation of PPDM.

Example screen captures include:

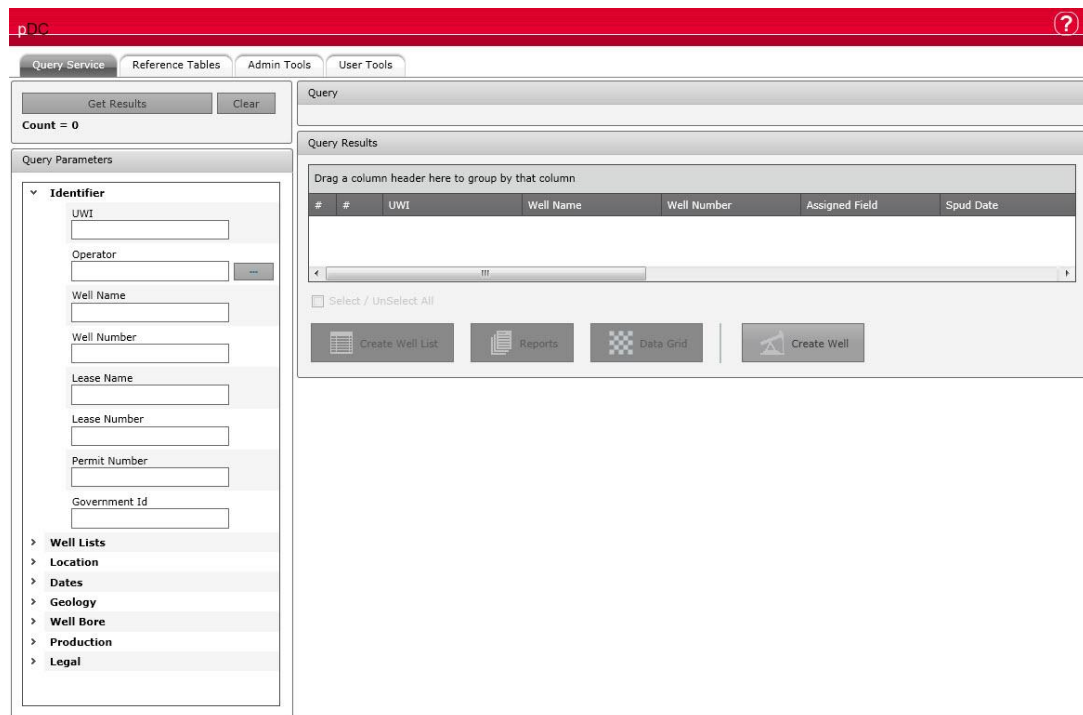


Figure 1. Main ‘Proprietary Data Center’ screen

pDC ?

Well Data Well Editor

Attribute Name	Well	Well Version 1	Well Version 2	Well Version 3
▼ Identifier				
Source	COMPOSITE	CS EXPLORER	ACCOUNTING	GEOLOGIC
UWI	100010111606W600	100010111606W600	100010111606W600	100010111606W600
Government Id				
Operator	APACHE CDA LTD	APACHE CDA LTD	APACHE CDA LTD	APACHE CDA LTD
Well Name	ACL ZAMA 1-1-116-6	ACL ZAMA 1-1-116-6	ACL ZAMA 1-1-116-6	ACL ZAMA 1-1-116-6
Well Short Name	acl zama 1	acl zama 1		
Well Number	0116633			0116633
Well Plot Symbol	ABANDONED OIL			ABANDONED OIL
Well Level Type				
Lease Name	acl zama 1-1-116-6	acl zama 1-1-116-6		
Lease Number	42	42		
▼ Location				
Field Name	ZAMA	ZAMA		ZAMA
Onshore / Offshore				
▼ Dates				
Rig On Site Date				
Spud Date	1/2/1986	1/2/1986	1/2/1986	1/2/1986
Final Drill Date	1/15/1986			1/15/1986
Rig Release Date	1/19/1986	1/19/1986		1/19/1986
Completion Date	1/15/1986			1/15/1986
Abandonment Date				
▼ Geology				
Formation at TD	Dkeg_rv	Dkeg_rv		Dkeg_rv
Formation Set	pDC	pDC		pDC
▼ Well Bore				
KB Elevation	365.7 m	365.7 m		365.7 m
Ground Elevation	361.7 m	m		361.7 m
Total Depth				
Water Depth				
Current Status	ABD OIL ZONE	ABD OIL ZONE	ABD OIL ZONE	ABD OIL ZONE
Current Status Type	WELL	WELL	WELL	WELL
Initial Class				
▼ Remarks				
Remark				

Figure 2. Well/Well Version Composite/Rollup screen;



PPDM™

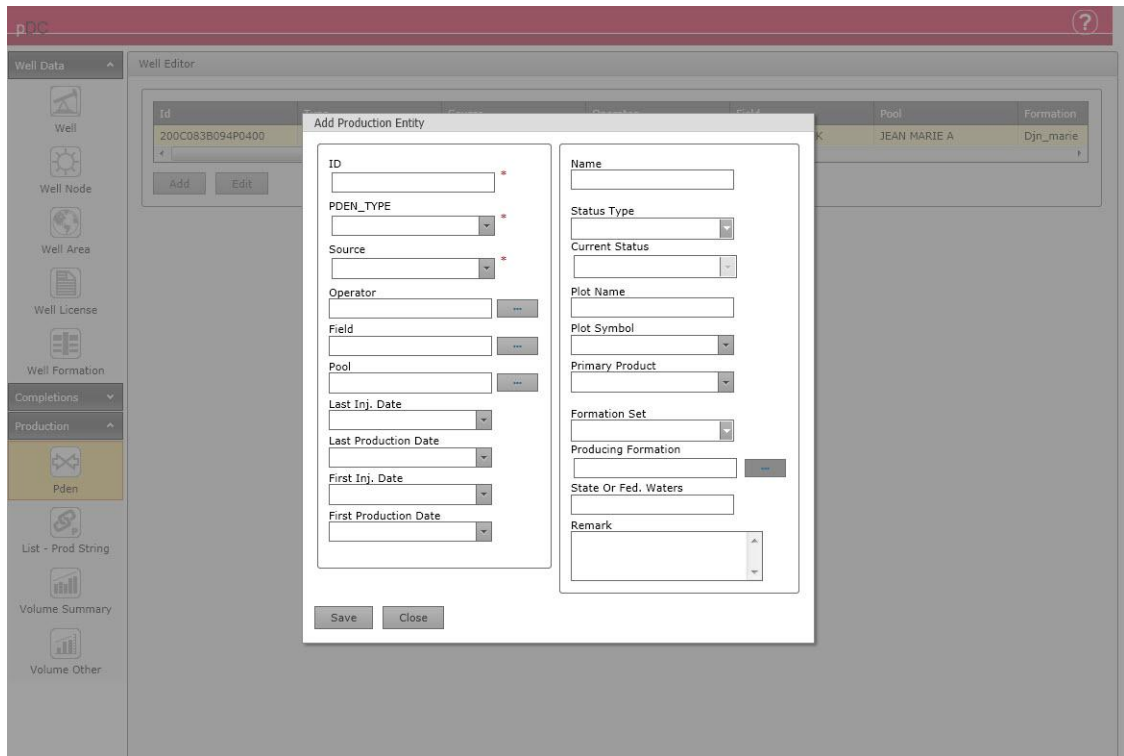


Figure 3. Adding Production Data to 'Proprietary Data Center'

Compliance Application Filled out by: Wes Baird, geOLOGIC systems Ltd.

pDC

Query Service Reference Tables Admin Tools User Tools

Analysis
Core
Downhole

- R_CEMENT_TYPE
- R_COLLAR_TYPE
- R_CORE_HANDLING
- R_CORE_SAMPLE_TYPE
- R_CORE_SOLVENT
- R_CORE_TYPE
- R_CURVE_TYPE
- R_CUSHION_TYPE
- R_CUTTING_FLUID
- R_DIR_SRVY_CLASS
- R_DIR_SRVY_COMPUTE
- R_DRILLING_MEDIA
- R_ENVIRONMENT
- R_HORIZ_DRILL_REASON
- R_LOG_INDEX_TYPE
- R_LOG_MATRIX
- R_RIG_CODE
- R_WATER_DATUM
- R_WATER_TYPE
- R_WELL_CLASS
- R_WELL_DATUM_TYPE
- R_WELL_LEVEL_TYPE
- R_WELL_LOG_CLASS
- R_WELL_PROFILE_TYPE**
- R_WELL_STATUS
- R_WELL_STATUS_TYPE

General
Land
Location
Meta Data

R_WELL_PROFILE_TYPE

Actions	Well Profile Type	Abbreviation	Is Active	Effective Date	Expiry Date	Long Name	Remark	Short Name
Edit New	V	V	<input checked="" type="checkbox"/>	8/19/2005		VERTICAL WELL, SH AND BH ARE THE SAME		VERTICAL WELL
Edit New	H	H	<input checked="" type="checkbox"/>	8/19/2005		HORIZONTAL WELL, BASED ON DERIVED CLASS		HORIZONTAL WELL
Edit New	D	D	<input checked="" type="checkbox"/>	8/19/2005		DEVIATED WELL, BH TO SH DISTANCE >= 2 PCT OF TD		DEVIATED WELLS
Edit New	C	C	<input checked="" type="checkbox"/>	8/19/2005		CROOKED WELL, BH TO SH DISTANCE < 2 PCT		CROOKED WELL
Edit New	0	0	<input checked="" type="checkbox"/>	8/19/2005		COULD NOT BE DETERMINED		UNKNOWN

Figure 4. Editing Reference data in ‘Proprietary Data Center’

UNDERLYING TECHNOLOGY

Database and version supported: Microsoft SQL-Server 2005 & 2008; Oracle 10g, 11g

Operating System supported: Microsoft Windows

Other as appropriate: IE 8,9; Firefox 4.x, Chrome

COMPLIANCE TYPE

- This product connects directly to the tables and columns in a physical PPDM database via SQL (Gold Compliance)
- This product connects to a PPDM database by views or other connecting technology (Silver Compliance)

Compliance Application Filled out by: Wes Baird, geoLOGIC systems ltd.



PPDM™

PRODUCT COMPLIANCE DETAILS

Version of PPDM supported	3.8
Footprint: Which PPDM modules does your product reference?	AREA, BUSINESS ASSOCIATE, CS, DEPRECATE, FIELD, LEGAL DESCRIPTIONS, POOL, PPDM META, PPDM UOM, PPDM VOL REGIME, PRODUCT, PRODUCTION_ENTITIES, REFERENCE, STRAT, WELL
Product Scope: Number of tables or views implemented or referenced in the product, including tables that are not included in the PPDM data model.	1136
Footprint: Number of tables or views that map to PPDM table definitions. On a separate document (using the DETAIL template provided), please list the names of the tables used.	1136
Compliance: Have the Primary Keys of any PPDM tables been modified or dropped? If any, indicate on the DETAIL document.	1 primary key has been altered. This is in the PROD_STRING table with the column length of STRING_ID being increased to 40 characters.
Compliance: Have any columns from any PPDM tables been removed or modified in any way? If any, indicate on the DETAIL document.	All foreign keys from the PROD_STRING table that contain the field 'STRING_ID' have had their length increased to 40 characters.
Compliance: Have parent tables for any tables used by your product been dropped from your footprint? Please list if yes.	No
Compliance: Do any additional tables or columns created for your product affect the PK of an existing PPDM Table?	No
Compliance: Do any additional tables or columns created for your product create mandatory relationships in PPDM tables?	No

Compliance Application Filled out by: Wes Baird, geoLOGIC systems ltd.



PPDM™

Product Details

TABLENAME	COLUMN NAME	PK ALTERED	FK ALTERED	COLUMN ALTERED
PROD_STRING	STRING_ID	PS_PK		VARCHAR2(40)
APPLICATION_COMPONENT	STRING_ID		APPC_PS_FK	VARCHAR2(40)
AREA_COMPONENT	STRING_ID		ACMP_PS_FK	VARCHAR2(40)
BA_AUTHORITY_COMP	PROD_STRING_ID		BAAUC_PS_FK	VARCHAR2(40)
BA_COMPONENT	STRING_ID		BACOMP_PS_FK	VARCHAR2(40)
BA_ORGANIZATION_COMP	PROD_STRING_ID		BAOC_PS_FK	VARCHAR2(40)
CLASS_LEVEL_COMPONENT	STRING_ID		CLSLCOMP_PS_FK	VARCHAR2(40)
CONSENT_COMPONENT	PROD_STRING_ID		CONCOM_PS_FK	VARCHAR2(40)
CONSULT_COMPONENT	PROD_STRING_ID		COCOM_PS_FK	VARCHAR2(40)
CONTEST_COMPONENT	PROD_STRING_ID		COTCOM_PS_FK	VARCHAR2(40)
CONTRACT_COMPONENT	PROD_STRING_ID		CCOM_PS_FK	VARCHAR2(40)
ENT_COMPONENT	PROD_STRING_ID		ENTCOM_PS_FK	VARCHAR2(40)
EQUIPMENT_COMPONENT	STRING_ID		EQCOMP_PS_FK	VARCHAR2(40)
FACILITY_COMPONENT	STRING_ID		FACCOMP_PS_FK	VARCHAR2(40)
FIELD_COMPONENT	STRING_ID		FLDC_PS_FK	VARCHAR2(40)
FIN_COMPONENT	PROD_STRING_ID		FINC_PS_FK	VARCHAR2(40)
HSE_INCIDENT_COMPONENT	PROD_STRING_ID		HICOM_PS_FK	VARCHAR2(40)
INSTRUMENT_COMPONENT	STRING_ID		INSCOMP_PS_FK	VARCHAR2(40)
INT_SET_COMPONENT	PROD_STRING_ID		INTCOM_PS_FK	VARCHAR2(40)
LAND_RIGHT_COMPONENT	PROD_STRING_ID		LRCOMP_PS_FK	VARCHAR2(40)

Compliance Application Filled out by: Wes Baird, geoLOGIC systems Ltd.



PPDM™

LAND_RIGHT_WELL	STRING_ID		LRW_PS_FK	VARCHAR2(40)
LITH_LOG_COMPONENT	STRING_ID		LILC_PS_FK	VARCHAR2(40)
NOTIFICATION_COMPONENT	STRING_ID		NOTC_PS_FK	VARCHAR2(40)
OBLIGATION_COMPONENT	PROD_STRING_ID		OBCOM_PS_FK	VARCHAR2(40)
PALEO_SUM_COMP	PROD_STRING_ID		PASCOM_PS_FK	VARCHAR2(40)
PDEN_COMPONENT	STRING_ID		PDENC_PS_FK	VARCHAR2(40)
PDEN_PROD_STRING	STRING_ID		PDENPS_PS_FK	VARCHAR2(40)
PDEN_PROD_STRING_XREF	STRING_ID		PDENPSX_PS_FK	VARCHAR2(40)
PDEN_PR_STR_FORM	STRING_ID		PDENPSF_PS_FK	VARCHAR2(40)
POOL_COMPONENT	STRING_ID		PLC_PS_FK	VARCHAR2(40)
PPDM_METRIC_COMPONENT	STRING_ID		PMC_PS_FK	VARCHAR2(40)
PPDM_RULE_COMPONENT	STRING_ID		PRC_PS_FK	VARCHAR2(40)
PROD_STRING_ALIAS	STRING_ID		PSAL_PS_FK	VARCHAR2(40)
PROD_STRING_COMPONENT	STRING_ID		PSCMP_PS_FK	VARCHAR2(40)
PROD_STRING_FORMATION	STRING_ID		PSF_PS_FK	VARCHAR2(40)
PROD_STR_STAT_HIST	STRING_ID		PSSH_PS_FK	VARCHAR2(40)
PROJECT_COMPONENT	PROD_STRING_ID		PROJCOM_PS_FK	VARCHAR2(40)
PR_LSE_UNIT_STR_HIST	STRING_ID		PLUSH_PS_FK	VARCHAR2(40)
RATE_SCHEDULE_COMPONENT	STRING_ID		RATEC_PS_FK	VARCHAR2(40)
RESENT_COMPONENT	PROD_STRING_ID		RSCOM_PS_FK	VARCHAR2(40)
RM_INFO_ITEM_CONTENT	PROD_STRING_ID		RMIIC_PS_FK	VARCHAR2(40)
SAMPLE_ANAL_COMPONENT	STRING_ID		SACOMP_PS_FK	VARCHAR2(40)
SEIS_INSP_COMPONENT	PROD_STRING_ID		SSIC_PS_FK	VARCHAR2(40)
SEIS_SET_COMPONENT	STRING_ID		SSCMP_PS_FK	VARCHAR2(40)

Compliance Application Filled out by: Wes Baird, geoLOGIC systems ltd.



PPDM™

SEIS_TRANS_COMPONENT	PROD_STRING_ID		SSTC_PS_FK	VARCHAR2(40)
SF_COMPONENT	PROD_STRING_ID		SFCOM_PS_FK	VARCHAR2(40)
SP_COMPONENT	PROD_STRING_ID		SPCOM_PS_FK	VARCHAR2(40)
STRAT_UNIT_COMPONENT	STRING_ID		STUC_PS_FK	VARCHAR2(40)
WELL_ACTIVITY	PROD_STRING_ID		WAC_PS_FK	VARCHAR2(40)
WELL_ACTIVITY_COMPONENT	PROD_STRING_ID		WACOMP_PS_FK	VARCHAR2(40)
WELL_COMPONENT	STRING_ID		WC_PS_FK	VARCHAR2(40)
WELL_EQUIPMENT	STRING_ID		WEQ_PS_FK	VARCHAR2(40)
WELL_FACILITY	STRING_ID		WFAC_PS_FK	VARCHAR2(40)
WELL_PRESSURE	PROD_STRING_ID		WPSR_PS_FK	VARCHAR2(40)
WELL_TEST	PROD_STRING_ID		WT_PS_FK	VARCHAR2(40)
WORK_ORDER_COMPONENT	PROD_STRING_ID		WOCOM_PS_FK	VARCHAR2(40)
Z_WELL_EVENT	PROD_STRING_ID		Z_WEV_PS_FK	VARCHAR2(40)
Z_WELL_OIL_ANALYSIS	STRING_ID		Z_WOA_PS_FK	VARCHAR2(40)
Z_WELL_WATER_ANALYSIS	STRING_ID		Z_WWA_PS_FK	VARCHAR2(40)

COMPANY VERIFICATION

I, _____ hereby verify that the information provided in this document dated: _____ provides a true and complete representation of the information required for a PPDM Compliance Measurement, has been created by persons with sufficient technical knowledge, and has been verified and authorized by an officer or appointed designate of the Company.

CREATED BY

Name: Wes Baird

Position: Product Architect

Date: _____

Compliance Application Filled out by: Wes Baird, geoLOGIC systems ltd.