



PPDM™

PROFESSIONAL PETROLEUM
DATA MANAGEMENT ASSOCIATION

PPDM COMPLIANCE

VENDOR NAME: THE INFORMATION STORE

PRODUCT NAME: PDMS

VERSION: 1.0

MEASUREMENT DATE: OCT 9, 2009



PRODUCT DESCRIPTION

INTRODUCTION

The PetroTrek Data Management Solution (PDMS) is a product that has been developed by the Information Store to allow QA/QC management of E&P data on top of the industry standard PPDM data model. PDMS is a data adaptive tool that presents data in a spreadsheet like interface that is easily and quickly understood by anyone in the E&P industry. It incorporates a business transaction oriented approach to managing and displaying data that allows data editing capability against all parts of the data model. Extensions to the data model can be created and made available for data admin staff within the interface in as little as 10 minutes. Integrated into the PDMS interface is the capability to define data validity rules (data business rules) for incoming data so that only properly conditioned data is loaded to the database. In addition, the interface honours all referential integrity in the data model explicitly by providing data filters that are data type aware, pull downs in the edit grid to restrict data edits to foreign key reference tables and by providing an interface for direct edit of reference table information in context to the data tables which point to them. PDMS comes pre-configured with business transactions within the PPDM data model for all the commonly used data types, including Well Header, Directional Survey, Stratigraphy, Cores, Tests, etc.

The target audience for this product is Data Administrators / Data Management staffs.

DATABASE DESIGN

The system is based on the PPDM 3.8 data model. For those data items special to a particular company, the model can be extended locally. A data model enhancement process is published by PPDM for adding extensions for new data types that can be utilized by any company wanting to put their data model into the public domain for comment and support. Within PDMS, the PPDM data model is changed or extended according to the compliance rules of PPDM. Additional data items may be added, as long as the referential integrity rules or constraints of the data model are not comprised. This allows the PDMS database to be accessed by other software that has been written against PPDM with no modification. Further, by understanding the modeling style of PPDM, we will work with clients to extend the model in a form that is more amenable to inclusion in future versions of the model.

PPDM MODEL COVERAGE

PDMS allows management of all data that might be input into a PPDM data model database. In addition, by virtue of its meta-data based design, any client extension that has been modeled into the PPDM database can be addressed via the same UI displayed herein in screen shot form. The iStore follows the referential model of PPDM and uses that part of the model to guide the meta data based UI and business transactions.

The PPDM Association

Reserved.

Suite 202, 621 4th Ave SW Calgary, AB, Canada T2P 0K2

Phone: 1 403-660-7817 Fax: 1 403-660-0540

Email: info@ppdm.org Web: www.ppdm.org

Copyright 2009, PPDM Association, All Rights



META DATA

Information about the business transactions, data validity rules and the layout of the user interface are managed using the PPDM meta data model. The meta data is referenced via an admin interface within PDMS that makes it easy for a client to:

- Define/Edit/Change business transactions
- Define/Edit data load validity rules
- Define/Edit the edit grid layout

Meta data tables utilized are:

- PPDM_COLUMN
- PPDM_CONS_COLUMN
- PPDM_CONSTRAINT
- PPDM_GROUP
- PPDM_GROUP_OBJECT
- PPDM_GROUP_XREF
- PPDM_MAP_DETAIL
- PPDM_MAP_RULE
- PPDM_RULE
- PPDM_RULE_DETAIL
- PPDM_SYSTEM
- PPDM_SYSTEM_MAP
- PPDM_TABLE
- PPDM_TABLE_ALIAS

BUSINESS TRANSACTIONS

Data is viewed and manipulated within PDMS using a business transaction model of data abstraction. Physical data tables in the model are mapped to higher level objects termed “transactions” that are defined as units of work. For example, the PTK_WELL transaction is comprised of the tables in the model that hold information about a well:

- WELL
- WELL_VERSION
- WELL_MISC_DATA
- WELL_XREF
- WELL_ALIAS
- WELL_STATUS
- WELL_REMARK
- WELL_AREA

The PPDM Association

Reserved.

Suite 202, 621 4th Ave SW Calgary, AB, Canada T2P 0K2
Phone: 1 403-660-7817 Fax: 1 403-660-0540
Email: info@ppdm.org Web: www.ppdm.org

Copyright 2009, PPDM Association, All Rights



Transactions

Transactions are defined in the model as tables with a “table_type” of ‘BT’. The columns to these tables are defined in terms of the physical columns to which they refer. Using PPDM_MAP_DETAIL, BT tables/columns are mapped to physical tables/columns. The columns in the BT tables become the input parameters to stored procedures that are defined in terms of the business transaction. One set of stored procedures interpret the meta data and provide data load/delete service according to parameter values passed in the procedure call. Another set of procedures are exposed to the client and are dynamically prepared whenever a business transaction is created or changed. This external procedure set analyzes the parameters against a known set of default values to determine what values need to be sent for loading to the database.

As part of the business transaction edit process, user interface meta data is created to establish a default edit grid for the transaction. This default layout then serves to assist the user in immediately editing data as it is loaded or as a starting point for setting up the desired edit grid.

User Interface

Each business transaction is available for mapping to an edit grid. The mapping is done through a GUI that guides a user in defining how the data will be viewed and edited.



PDMS User Interface Editor

The PPDM Association

Reserved.

Suite 202, 621 4th Ave SW Calgary, AB, Canada T2P 0K2

Phone: 1 403-660-7817

Fax: 1 403-660-0540

Email: info@ppdm.org

Web: www.ppdm.org

Copyright 2009, PPDM Association, All Rights



Petrolink DATA MANAGEMENT SOLUTION

Data Entry Site Admin

Business Object: Well Transaction Name: PTK_WELL Parameter Set: Os

Filter Rows

UWI	WELL_NAME	WELL_NUM	WELL_NUMERIC_ID	PLOT_NAME	PLOT_SYMB	ALIAS_FULL_NAME	WELL_ALIAS_J	ALIAS_TYPE (A	SOUR
00052404810W400	ALPHABIT C...	10	0	aa		ALPHABIT CAODC 5-24...	10	COMMON NAME	PetroT...
00052404810W400	ALPHABIT C...	10	0	aa		ALPHABIT CAODC 5-24...	10	COMMON NAME	PetroT...
00052404810W400	ALPHABIT C...	10	0	aa		ALPHABIT CAODC 5-24...	10	COMMON NAME	PetroT...
00052404810W400	ALPHABIT C...	10	0	aa		ALPHABIT CAODC 5-24...	10	COMMON NAME	PetroT...
00052404810W400	ALPHABIT C...	10	0	aa		ALPHABIT CAODC 5-24...	10	COMMON NAME	PetroT...
00052404810W400	ALPHABIT C...	10	0	aa		ALPHABIT CAODC 5-24...	10	COMMON NAME	PetroT...
00052404810W400	ALPHABIT C...	10	0	aa		ALPHABIT CAODC 5-24...	10	COMMON NAME	PetroT...
00052404810W400	ALPHABIT C...	10	0	aa		ALPHABIT CAODC 5-24...	10	COMMON NAME	PetroT...
00052404810W400	ALPHABIT C...	10	0	aa		ALPHABIT CAODC 5-24...	10	COMMON NAME	PetroT...
00052404810W400	ALPHABIT C...	10	0	aa		ALPHABIT CAODC 5-24...	10	COMMON NAME	PetroT...
00052404810W400	ALPHABIT C...	10	0	aa		ALPHABIT CAODC 5-24...	10	COMMON NAME	PetroT...
00052404810W400	ALPHABIT C...	10	0	aa		ALPHABIT CAODC 5-24...	10	COMMON NAME	PetroT...
00052404810W400	ALPHABIT C...	10	0	aa		ALPHABIT CAODC 5-24...	10	COMMON NAME	PetroT...
00052404810W400	ALPHABIT C...	10	0	aa		ALPHABIT CAODC 5-24...	10	COMMON NAME	PetroT...
100010100913W600	BRRC ET AL...	A1756660	13	01-01	03	BRRC ET AL PRES PAT...	A1756660	COMMON NAME	PetroT...
100010100913W600	BRRC ET AL...	A1756660	13	01-01	03	BRRC ET AL PRES PAT...	A1756660	COMMON NAME	PetroT...
100010100913W600	BRRC ET AL...	A1756660	13	01-01	03	BRRC ET AL PRES PAT...	A1756660	COMMON NAME	PetroT...
100010100913W600	BRRC ET AL...	A1756660	13	01-01	03	BRRC ET AL PRES PAT...	A1756660	COMMON NAME	PetroT...
100010100913W600	BRRC ET AL...	A1756660	13	01-01	03	BRRC ET AL PRES PAT...	A1756660	COMMON NAME	PetroT...

PDMS Main Data Edit Interface

The User Interface meta data hierarchy is:

- Business Object, e.g., “Well”
 - Business Transaction, e.g., PTK_WELL
 - Parameter Set, e.g., “Ids”
 - Business transaction parameters

The UI meta data is modeled into PPDM_GROUP, PPDM_GROUP_OBJECT, and PPDM_GROUP_XREF.

Reference Data

Reference data in PPDM is addressed via a similar edit interface and can be addressed directly through the Reference Table Editor or through the edit grid itself. The Reference Table Editor (see below) allows a user to manage data in the reference table chosen – add/edit/delete values. If delete is required, the user must first determine that no columns are actively referencing the row in the reference table. This is shown in the far right column of the edit grid. If no active foreign keys exist, then a check box is displayed to allow deletion of the row. If foreign keys exist, then a number is shown that is itself a link to further information about the reference table row. Selecting this link displays the tables/columns that are referring to this row.

The PPDM Association

Reserved.

Suite 202, 621 4th Ave SW Calgary, AB, Canada T2P 0K2
 Phone: 1 403-660-7817 Fax: 1 403-660-0540
 Email: info@ppdm.org Web: www.ppdm.org

Copyright 2009, PPDM Association, All Rights Reserved.



Petrorek DATA MANAGEMENT SOLUTION

Reference Table Editor

R_WELL | R_WELL_CLASS | Filter Rows

WELL_CLASS	ABBREVIATION	LONG_NAME	REMARK	SHORT_NAME	SOURCE	ROW_QUALITY	Delete
DEV	DEV	Development Well	[A well drilled] to further exploit or extend a known pool. (EUB)	DEV	PPDM	Reference	<input type="checkbox"/>
DPT	DPT	Deeper Pool Test	An exploratory well drilled in proximity to known pools of hydrocarbon, with the purpose of discoveri...	DPT	PPDM	Reference	<input type="checkbox"/>
EUB DEV	DEV	Development	[A well drilled] to further exploit or extend a known pool. (EUB)	EUB DEV	EUB2005Or056	Reference	<input type="checkbox"/>
EUB DPT	DPT	Deeper Pool Test	An exploratory well drilled in proximity to known pools of hydrocarbon, with the purpose of discoveri...	EUB DPT	EUB2005Or056	Reference	<input type="checkbox"/>
EUB Develop S...	DSW	Development Ser...	An EUB Dr056 classification ... drilled to introduce fluids into a formation or observe the performance...	EUB Developmen...	EUB2005Or056	Reference	<input type="checkbox"/>
EUB Eval Oil Sands	OV	Evaluation Of Sa...	An EUB Dr056 classification. [A well] drilled in an oil sands area to evaluate the oil sands and a net L...	EUB Evaluation O...	EUB2005Or056	Reference	<input type="checkbox"/>
EUB Experimental	EX	Experimental	An EUB Dr056 classification. ... part of an EUB-approved experimental scheme. (EUB)	Experimental	EUB2005Or056	Reference	<input type="checkbox"/>
EUB NPW	NPW	New Field Wildcat	An exploratory well located at a considerable distance beyond the limits of known pools, drilled to as...	EUB NPW	EUB2005Or056	Reference	<input type="checkbox"/>
EUB NPW	NPW	New Pool Wildcat	An exploratory well drilled to discover new pools in an already discovered field.	EUB NPW	EUB2005Or056	Reference	<input type="checkbox"/>
EUB OUT	OUT	Outpost	An exploratory well drilled to extend the limits of a known pool.	EUB OUT	EUB2005Or056	Reference	<input type="checkbox"/>
EUB Other	OTH	Other	An EUB Dr056 classification. A well drilled for water production, brine production, gas storage, wate...	EUB Other	EUB2005Or056	Reference	<input type="checkbox"/>
EUB Re-entry	REN	Re-entry Well	An EUB Dr056 classification. ... assigned to a well that re-enters an existing wellbore for the purpos...	EUB Re-entry Well	EUB2005Or056	Reference	<input type="checkbox"/>
EUB Test Hole	TH	Test Hole	An EUB Dr056 classification. A well drilled for geological and geophysical stratigraphic evaluation pu...	EUB Test Hole	EUB2005Or056	Reference	<input type="checkbox"/>
N/A	N/A	Not Applicable		N/A	PPDM	Reference	<input type="checkbox"/>
NPW	NPW	New Field Wildcat	An exploratory well located at a considerable distance beyond the limits of known pools, drilled to as...	NPW	PPDM	Reference	<input type="checkbox"/>
NPW	NPW	New Pool Wildcat	An exploratory well drilled to discover new pools in an already discovered field.	NPW	PPDM	Reference	<input type="checkbox"/>
OUT	OUT	Outpost	An exploratory well drilled to extend the limits of a known pool.	OUT	PPDM	Reference	<input type="checkbox"/>
SPT	SPT	Shallower Pool T...	An exploratory well drilled in proximity to known pools of hydrocarbon, with the purpose of discoveri...	SPT	PPDM	Reference	<input type="checkbox"/>
Service Well		Service Well	A well drilled with the purpose of providing a service. Includes, but not limited to Exploration and Prod...	Service Well	PPDM	Reference	<input type="checkbox"/>
Stratigraphic		Stratigraphic Test	A well drilled with the purpose of gathering geological informatio...	Stratigraphic	PPDM	Reference	<input type="checkbox"/>

Page 1 of 2

PDMS Reference Table Editor

Petrorek DATA MANAGEMENT SOLUTION

References to R_WELL_CLASS

Table	Referenced WELL_CLASS	Number of References To This Row of R_WELL_CLASS
WELL	INITIAL_CLASS: DEV	2
WELL	INITIAL_CLASS: DEV	4
WELL_VERSION	CURRENT_CLASS: DEV	1

PDMS Reference Table Editor: Foreign Key Display

The PPDM Association
Reserved.

Suite 202, 621 4th Ave SW Calgary, AB, Canada T2P 0K2
 Phone: 1 403-660-7817 Fax: 1 403-660-0540
 Email: info@ppdm.org Web: www.ppdm.org

Copyright 2009, PPDM Association, All Rights Reserved.



Petrolink DATA MANAGEMENT SOLUTION

Reference Editor

Data Entry Site Admin

Business Object: Well Transaction Name: PTK_WELL Parameter Set: Os

Filter Range

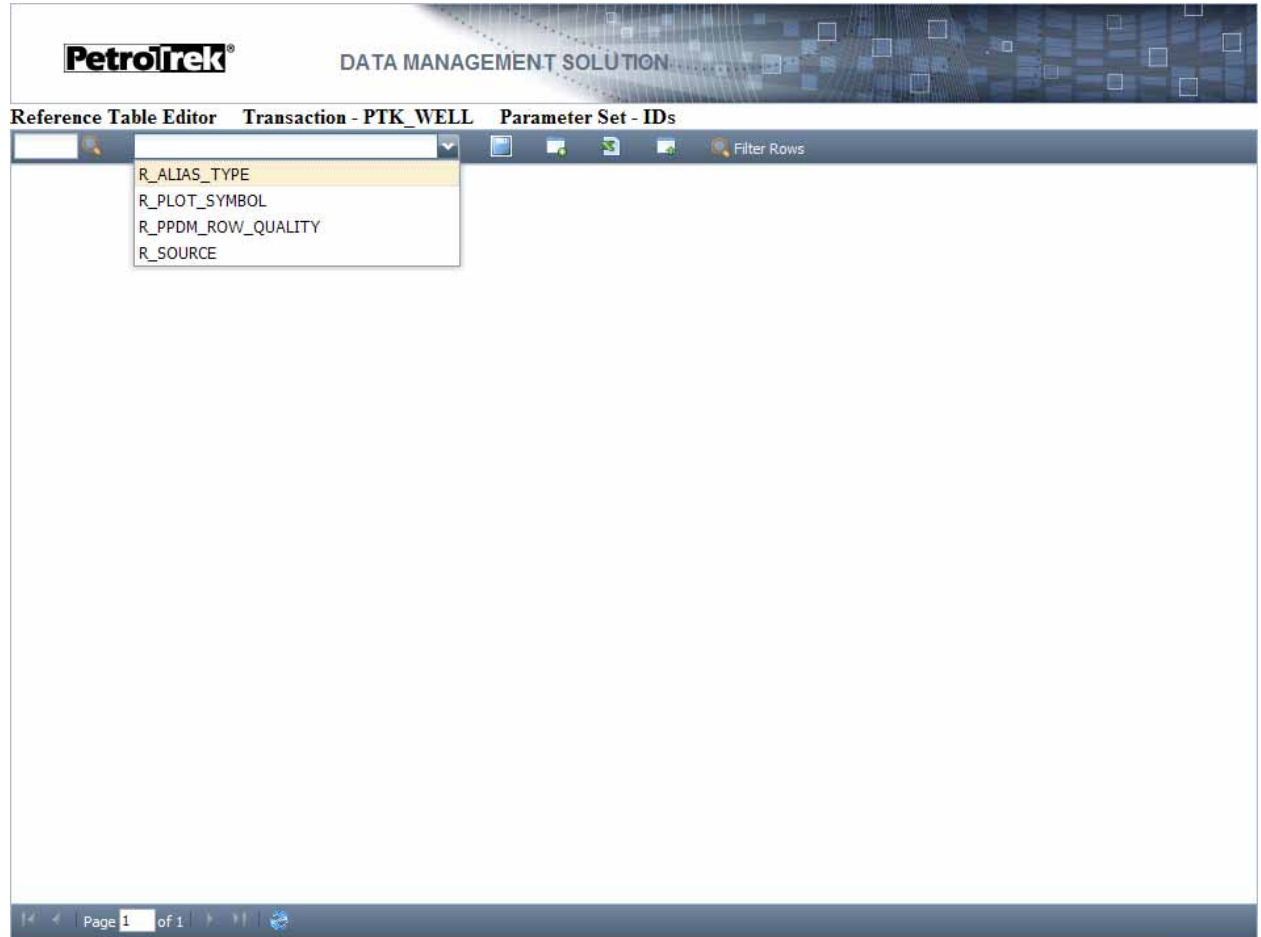
UWI	WELL_NAME	WELL_NUM	WELL_NUMERIC_ID	PLOT_NAME	PLOT_SYMB	ALIAS_FULL_NAME	WELL_ALIAS_J	ALIAS_TYPE (A	SOUR
00052404810W400	ALPHABIT C...	10	0	aa		ALPHABIT CAODC 5-24...	10	COMMON NAME	PetroT...
00052404810W400	ALPHABIT C...	10	0	aa		ALPHABIT CAODC 5-24...	10	COMMON NAME	PetroT...
00052404810W400	ALPHABIT C...	10	0	aa		ALPHABIT CAODC 5-24...	10	COMMON NAME	PetroT...
00052404810W400	ALPHABIT C...	10	0	aa		ALPHABIT CAODC 5-24...	10	COMMON NAME	PetroT...
00052404810W400	ALPHABIT C...	10	0	aa		ALPHABIT CAODC 5-24...	10	COMMON NAME	PetroT...
00052404810W400	ALPHABIT C...	10	0	aa		ALPHABIT CAODC 5-24...	10	COMMON NAME	PetroT...
00052404810W400	ALPHABIT C...	10	0	aa		ALPHABIT CAODC 5-24...	10	COMMON NAME	PetroT...
00052404810W400	ALPHABIT C...	10	0	aa		ALPHABIT CAODC 5-24...	10	COMMON NAME	PetroT...
00052404810W400	ALPHABIT C...	10	0	aa		ALPHABIT CAODC 5-24...	10	COMMON NAME	PetroT...
00052404810W400	ALPHABIT C...	10	0	aa		ALPHABIT CAODC 5-24...	10	COMMON NAME	PetroT...
00052404810W400	ALPHABIT C...	10	0	aa		ALPHABIT CAODC 5-24...	10	COMMON NAME	PetroT...
00052404810W400	ALPHABIT C...	10	0	aa		ALPHABIT CAODC 5-24...	10	COMMON NAME	PetroT...
00052404810W400	ALPHABIT C...	10	0	aa		ALPHABIT CAODC 5-24...	10	COMMON NAME	PetroT...
00052404810W400	ALPHABIT C...	10	0	aa		ALPHABIT CAODC 5-24...	10	COMMON NAME	PetroT...
00052404810W400	ALPHABIT C...	10	0	aa		ALPHABIT CAODC 5-24...	10	COMMON NAME	PetroT...
100010100913W600	BRRRC ET AL...	A1756660	13	01-01	03	BRRRC ET AL PRESPAT...	A1756660	COMMON NAME	PetroT...
100010100913W600	BRRRC ET AL...	A1756660	13	01-01	03	BRRRC ET AL PRESPAT...	A1756660	COMMON NAME	PetroT...
100010100913W600	BRRRC ET AL...	A1756660	13	01-01	03	BRRRC ET AL PRESPAT...	A1756660	COMMON NAME	PetroT...
100010100913W600	BRRRC ET AL...	A1756660	13	01-01	03	BRRRC ET AL PRESPAT...	A1756660	COMMON NAME	PetroT...
100010100913W600	BRRRC ET AL...	A1756660	13	01-01	03	BRRRC ET AL PRESPAT...	A1756660	COMMON NAME	PetroT...

PDMS Main Edit Grid

The PPDM Association
Reserved.

Suite 202, 621 4th Ave SW Calgary, AB, Canada T2P 0K2
 Phone: 1 403-660-7817 Fax: 1 403-660-0540
 Email: info@ppdm.org Web: www.ppdm.org

Copyright 2009, PPDM Association, All Rights Reserved.



PDMS Reference Table Editor : via Edit Screen

When activated from the edit grid, the reference tables that are in effect against tables within a Business Transaction are populated into the pull down list for the user. Choosing a table, the user sees the same display as available through the reference table edit screen. At this point the function is the same. By providing this link in the Edit grid, a user can quickly see and manage any foreign key reference tables that are pertinent to a Business Transaction. Within the reference editor, a reference value can be changed as needed. If there are active foreign keys, the data in the child tables are updated to match the change in reference value.



Petrotek DATA MANAGEMENT SOLUTION

Reference Table Editor Transaction - PTK_WELL Parameter Set - IDs

R_PLOT_SYMBOL Filter Rows

PLOT_SYMBOL	ABBREVIATION	LONG_NAME	REMARK	SHORT_NAME	SOURCE	ROW_QUALITY	Delete
01	01	01	01	01	PPDM	Real	17
02	02	02	02	02	PPDM	Real	5
03	03	03	03	03	PPDM	Real	2
04	04	04	04	04	PPDM	Real	2
09	09	09	09	09	PPDM	Real	8
10	10	10	10	10	PPDM	Real	292
11	11	11	11	11	PPDM	Real	8
20	20	20	20	20	PPDM	Real	42
21	21	21	21	21	PPDM	Real	8
22	22	22	22	22	PPDM	Real	57
23	23	23	23	23	PPDM	Real	1
24	24	24	24	24	PPDM	Real	21
25	25	25	25	25	PPDM	Real	2
30	30	30	30	30	PPDM	Real	71
31	31	31	31	31	PPDM	Real	22
32	32	32	32	32	PPDM	Real	1
41	41	41	41	41	PPDM	Real	23
42	42	42	42	42	PPDM	Real	2
45	45	45	45	45	PPDM	Real	2
50	50	50	50	50	PPDM	Real	1
52	52	52	52	52	PPDM	Real	1
54	54	54	54	54	PPDM	Real	5
80	80	80	80	80	PPDM	Real	18
81	81	81	81	81	PPDM	Real	2
86	86	86	86	86	PPDM	Real	1

Page 1 of 2

PDMS Reference Editor: via Edit Screen

DATA EDIT GRID

All data within PPDM is available in the edit grid (with the exception of 2 BLOB columns and reference data that is handled separately). The edit grid, configured in the UI Meta Data Editor, displays information by row according to the parameter set defined. Within the grid, each data item is editable. Columns that have a foreign key to another column and table will display a popup menu derived from the target foreign key table. The filter rows menu is dynamically generated from the business transaction parameters displayed and is data type aware (see below example). In general, all displays and controls are generated from meta data, making the product completely configurable to any data model configuration desired.

While saving data, any defined data validity rules are processed and feedback supplied via popup dialog in the event a row violated a data load rule.

The PPDM Association

Reserved.

Suite 202, 621 4th Ave SW Calgary, AB, Canada T2P 0K2
 Phone: 1 403-660-7817 Fax: 1 403-660-0540
 Email: info@ppdm.org Web: www.ppdm.org

Copyright 2009, PPDM Association, All Rights



Data Export / Upload

Data is unloaded and uploaded to the PPDM database via the transaction API based on business transactions. Shown below is an example excel sheet showing the mappings from the business transactions (row 7) to the tables/columns in PPDM. This sheet is copied/pasted to an upload form that is then processed into the database.

Transaction: PTK_WELL	WELL_NAME	WELL_NUM	WELL_NUMERIC_ID	PLOT_NAME	PLOT_SYMBOL	ALIAS_FULL_NAME	WELL_ALIAS_ID	ALIAS_TYPE
Parameter Set: IDs	WELL	WELL	WELL	WELL	WELL	WELL_ALIAS	WELL_ALIAS	WELL_ALIAS
Exported: Tuesday, October 06, 2009 3:32:43 PM	P_W_WELL_NAME	P_W_WELL_NUM	P_W_WELL_NUMERIC_ID	P_W_PLOT_NAME	P_W_PLOT_SYMBOL	P_W_A1_ALIAS_FULL_NAME	P_WELL_ALIAS_ID	P_W_A1_ALIAS_TYPE
00052404610W400	ALPHABET CAODC 5-24-46-10	10		0 aa		ALPHABET CAODC 5-24-46-10	10	COMMON NAME
100010108913W600	BRRIC ET AL PRESPTOU 1-1-89-13	A1756660		13 01-01	03	BRRIC ET AL PRESPTOU 1-1-1-A1756660		COMMON NAME
100010208911W600	AEL CLEAR HILLS 1-2-89-11	A1968160		1439 01-02	09	AEL CLEAR HILLS 1-2-89-11	A1968160	COMMON NAME
100010600629W100	MANDAK POPE TELSTON 1 6	M0015220		4 01-06	20		M0015220	COMMON NAME

PDMS Excel Export / Upload Spreadsheet

UNDERLYING TECHNOLOGY

Database and version supported: Oracle 10 and above

Operating System supported: Windows XP, Internet Explorer 6 and 7

Other as appropriate: .NET Framework 2.0, EXT JS, iStore PTKPSL Toolkit

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)

PRODUCT COMPLIANCE DETAILS

Version of PPDM supported	3.8
Footprint: Which PPDM modules does your product reference?	All.

The PPDM Association
Reserved.

Suite 202, 621 4th Ave SW Calgary, AB, Canada T2P 0K2
Phone: 1 403-660-7817 Fax: 1 403-660-0540
Email: info@ppdm.org Web: www.ppdm.org

Copyright 2009, PPDM Association, All Rights Reserved.



PPDM™

Product Scope: Number of tables or views implemented or referenced in the product, including tables that are not included in the PPDM data model.	1765. This can increase if extensions are added by clients.
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.	1710
Compliance: Have the Primary Keys of any PPDM tables been modified or dropped? If any, indicate on the DETAIL document.	No
Compliance: Have any columns from any PPDM tables been removed or modified in any way? If any, indicate on the DETAIL document.	No
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

The PPDM Association

Reserved.

Suite 202, 621 4th Ave SW Calgary, AB, Canada T2P 0K2

Phone: 1 403-660-7817 Fax: 1 403-660-0540

Email: info@ppdm.org Web: www.ppdm.org

Copyright 2009, PPDM Association, All Rights



COMPANY VERIFICATION

I, Brian Richardson, hereby verify that the information provided in this document 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: Brian Richardson

Position: Technical Principal

Date: October 9, 2009

VERIFIED AND AUTHORIZED BY

Name: Oscar Teoh

Position: Chief Knowledge Officer

Date: October 9, 2009

PPDM COMPLIANCE SCORE

SCORE: PDMS PPDM V3.8: 1765: 1710:FULL: 1710:GOLD:100%

CREATED BY

Name: Geordie Sinclair

Position: Technical analyst

Date: October 23, 2009

VERIFIED AND AUTHORIZED BY

Name: Trudy Curtis

Position: CEO, PPDM Association

Date: October 23, 2009

The PPDM Association

Reserved.

Suite 202, 621 4th Ave SW Calgary, AB, Canada T2P 0K2

Phone: 1 403-660-7817 Fax: 1 403-660-0540

Email: info@ppdm.org Web: www.ppdm.org

Copyright 2009, PPDM Association, All Rights