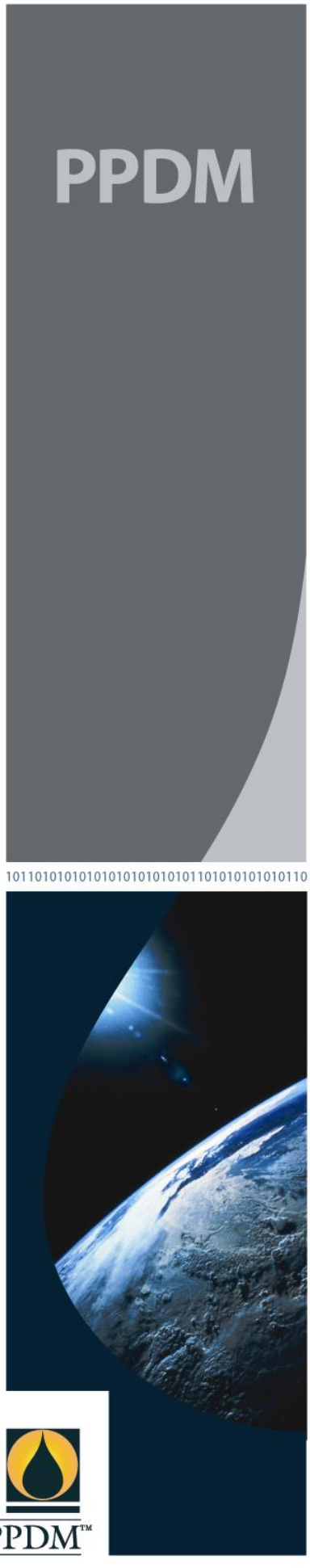
PPDM Association

Contracts

Reference Guide

Last updated for PPDM 3.7



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About This Document

This reference guide has been prepared to help managers, analysts, DBAs, programmers, data managers, and users understand how the Data Model should be used. Readers at many levels, from managerial to technical implementers will benefit from reading this document. General, high-level business information is contained at the beginning of the document, with each section becoming progressively more technical and detailed.

Sometimes the terms we use in this and other PPDM documents need to be defined. We provide definitions in a separate Glossary, which you can obtain from PPDM.

This reference guide contains the following sections:

- Introduction

  Provides an executive overview of the PPDM Model as it pertains to Contracts.

- Business Process Overview

  Summarizes Contracts and provides examples of related business processes.

- Integration

  Discusses how Contracts is integrated with the other PPDM Business Modules and provides information about related references guides.

- Model Overview

  Includes the entity relationship diagram and discusses the use of Contracts Module tables in the Data Model.

- Tables and Columns – Contracts

  Identifies the data model tables for the Contracts Module, what they contain, and how they should be used. This section should be used in conjunction with the PPDM Table Report available for download from the PPDM Web Site (www.ppdm.org).

- Implementation Considerations

  Discusses issues related to implementing the PPDM model, architectural methodologies used in design, or special considerations for implementation that are not related to a specific table.

- Frequently Asked Questions

  Addresses technical and business questions about the Contracts Module.

- Appendix A – Sample Queries

Provides example queries with the appropriate SQL scripts that should assist in the query process when testing the accuracy of data stored in the module.

- Appendix B – Changes to the Model

  Identifies the changes in the Contracts Module from the latest version to the newest release version of the model.

Introduction

The control and management of the ongoing land business functions within an organization necessitate the storage of vital information. Information is an asset; a data model is essential for managing this asset. The PPDM Version 3.7 Contracts Module is a detailed database module designed to allow the capture of business objects as they pertain to land contracts. The data structure of the Contracts Module is broken down into sub-modules that cover:

- General Contract Details

  Valid contract types, general comments, internal contract referencing, specified expenditures, relationships between contracts.

- Business Relationships

  Unique sets of interests determined by the contract, cross-referencing of services provided by other Business Associates.

- Provisions

  Conditions and terms that the fulfillment of a contract depends upon, relationships between provisions, conditions whose interpretation relies on other provisions, exemptions.

- Management Procedures

  Accounting procedures, operating procedures, allowable expenses, producing substance(s) to be marketed, fees and rates.

- Location

  Country, provinces or states, districts, jurisdictions.

- Associations

  Cross-references to land rights, seismic, facilities, wells, property conflicts, mortgages, caveats, liens, etc.

- Obligations

  Financial and non-financial obligations such as rentals, royalties, work commitments, notifications, response requirements, etc.

Higher productivity can be achieved through integration of the various types and sources of information. The other business modules within PPDM Version 3.7 respond to these demands by including more scope and functionality to support the technical and business processes within exploration and production. The following modules can be used to capture specific detailed information required by the Contracts Module. These modules are:

- Interest Set Module

Business Associates' interest sets and cross-references.

- Obligations Module

  Obligations information such as general obligations, types of obligations (financial and non-financial), calculations, cross-references, obligation deductions, and obligation payments.

- Seismic Module

  Used for seismic options or purchases. Seismic acquisition may be linked to a Seismic Option Agreement in which a Business Associate shoots seismic lines, shares data with partners, and then has the option to drill a well based on the data/knowledge gathered from the seismic.

- Support Modules
  - Business Associates

    Contract participant's organization, addresses, contact information, service, cross-references

  - Named Areas

    Land area names and descriptions

  - Project

    Grouping by Business Associate, Business Associates roles, AFEs, cross-references, relationships

  - Source Documents

    This tiny module tracks documents, bibliographical material, boiler plates and more.

  - Units of Measure

    Months, years, barrels, cubic metres, feet, metres, currency, etc., and conversions

- Wells Module

  General information such as miscellaneous well data, well status, well licences, well right, well interest, well locations, legal locations, well production information

In summary, the various modules address all data related to the compliance of negotiated terms and conditions specified in land contracts. The ownership and operatorship of various lease, exploration, or development agreements, which grant access to a "bundle of rights" or facilities for a specific period of time, are also addressed.

Business Process Overview

Purpose

Contracts are created between Business Associates to provide mutual benefit from the sharing of revenue and expenses related to the administration and management of the land assets, financial activities, and facilities owned by an oil and gas company, individual, or government body. Contracts are an effective way to manage exploration risk and production development.

Description

Contracts may be negotiated with individuals, companies, consortiums, or jurisdictional bodies such as governments or government agencies. Substantial interaction occurs between contracts and various kinds of land rights, such as lease agreements. Special legislation or the mutual agreement of Business Associates upon terms and conditions affect how the contracts are managed over their lifetime.

Terms and conditions identified in land contracts govern the operations of land rights. These terms define procedures to be used, fees, elections, and rates, ongoing obligations, or the distribution of revenue and expenditures. In addition, they define the working interest of each Business Associate and the role each Business Associate has agreed to provide, such as operatorship.

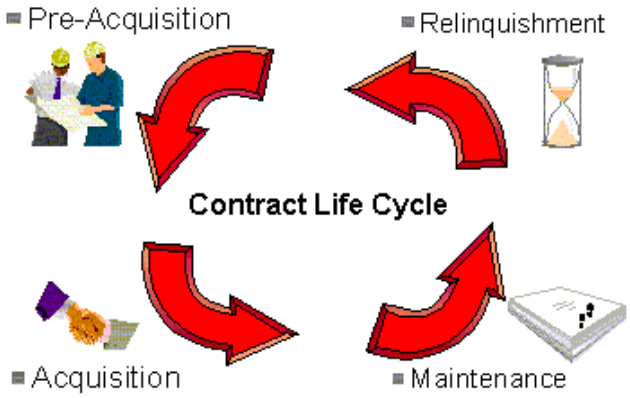
Spatial exposure, both on the surface and to specified subsurface zones, and access to specific substances are defined in the contract.

Ensuring that all obligations and requirements have been fulfilled over the life of the contract is an essential function of land management groups. Participating Business Associates are required to comply with these terms and conditions during the life cycle of a contract. If compliance cannot be obtained, modification, renegotiation, litigation, or arbitration may be required.

At some point, one or more partners may wish to terminate or relinquish all or a portion of their interest in a consortium or partnership. Requirements to divest interest may be defined by the terms of the contract or in some cases may be legislated.

Key Business Processes

Four key business processes encompass the life cycle activities of contracts. The key business processes for each cycle are detailed below:



Pre-Acquisition

Pre-acquisition activities primarily involve the strategic planning and research that go into the decision to acquire or enter negotiations to secure a land contract. Organizations within a company contribute different roles in the pre-negotiation cycle. A typical deal is illustrated in this example:

> *A geologist identifies a "hot play" and initiates a preliminary evaluation. First, the ownership of the land rights must be determined. If the rights are unleased, it may be publicly owned by a regulatory body (Bureau of Land Management in the US, Federal or Provincial Crown in Canada, First Nations, Aboriginal or a Municipality or by a company (EnCana, AmocoBP, ExxonMobil, Railroads) or individual(s). If the rights are unleased and owned by a regulatory body, a posting request may be required to list the land rights for a competitive bidding process; otherwise, a negotiation occurs with the owner. If rights are already leased, a negotiation may be initiated with the current Business Associate lessees.*

Fundamentally, companies approach the pre-negotiation phase with more rigor when the researching company is planning to increase their presence or to divest holdings in an area.

Acquisition

Securing a land contract commits the signatories to the terms agreed upon in the pre-negotiation process through the execution of a legal, binding contract. The contract negotiation process includes high-level planning details associated with maintenance requirements. Contracts can be categorized as exploration and

operating contracts, joint interest contracts, marketing contracts, or purchase and sale contracts.

Contract negotiations include detailed handling of time sensitive triggers, determination of rates and fees, requirements for notifications and financial obligations. Certain operating elections such as casing point, the right for disposal of interest and tangibles, and applicable accounting requirements are also agreed upon. Burden bearer encumbrances (royalty) are also identified in the negotiation stage.

Maintenance

Maintenance business processes result from complying with the terms and conditions of the negotiated contract. Compliance is accomplished by meeting all financial obligations quickly and by performing all required duties.

Financial obligations are the payments made for the maintenance of operations on, and production from, the specified lands. Operational payments may include all the costs related to exploit the lands, which includes the costs associated with the exploration for, and the removal, processing, and transportation of petroleum substances. Production payments are the costs allocated to an actual substance that is removed and the division of revenues associated with that substance. These payments include such things as taxes and different royalty types such as production, shut-in, and compensatory.

The performances of duties are the actual actions taken or directed by the appropriate Business Associates in order to comply with the maintenance and operational commitments specified in the contract. Most duties will be the responsibility of the Business Associate whose role is designated as operator. During maintenance, the original terms and conditions of the negotiated contract can be amended or changed. Notices are served and shared amongst the Business Associates during operations. Notifications may include right of first refusal (ROFR), independent operations notices, change of operatorship, or change of ownership. Changes of ownership are administered through documents like division orders, assignments, or transfer orders, and can directly affect a set of business interests.

In addition, relinquishment of a contract or interest required adherence to certain terms to avoid retention of unknown liabilities.

Relinquishment

Relinquishment deals with information related to the research, planning, and execution stages of relinquishing land contracts through natural expiry or early surrender of the land mineral rights, and trades or divestitures.

A trade or divestiture scenario may entail the following: Authorized personnel within an organization identify area(s) as candidates for divestiture. The value of the property is assessed to include reserves, land costs, tangible and intangible assets, and environment liabilities. This vital data is gathered and compiled into sale or trade packages that are accessed by potential purchasers in a data room.

Certain terms of the contract must be complied with prior to relinquishment. The methodology involved in this compliance process is known as performing a title review, or due diligence, and can be used to simultaneously gather other information that will be required in the relinquishment process. Necessary notifications are required to relinquish a contract and completely dispose of an interest in land. An example of such notice is the issuance of a Notice of Right-of-First Refusal (ROFR) to offer the area(s) to the existing Business Associates in a contract.

The preparation of release documentation is required to ensure that the ownership, right, or interest in the land contract(s) from one Business Associate to another occurs. These release documents include the purchase, sale or trade agreement, notices of assignments, assignment agreements, transfer documents, division orders, novation agreements, quit claim agreements, or notifications of bankruptcy, dissolution, amalgamation or name change, etc.

A contract can be relinquished only when the Business Associates have met all the required obligations, commitments, and regulations and must use the proper method of disposition to be considered free and clear of any possible liabilities or future interest.

The PPDM Contracts module and associated sub-modules (see Integration) provides oil and gas companies with a method and a data structure to manage and store vital information throughout the life cycle of a land contract.

Integration

Integration

Integration is the key to managing the Seismic Module and its components properly. Information critical to managing seismic data throughout its life cycle is managed in many support and business modules in PPDM version 3.6:

Support Modules

AFE: Application for Expenditure or Cost Center. Capture information about the cost centers or AFE's used through the life cycle.

Areas: business, regional or project areas associated with a seismic set

Business Associates: track detailed information about partners, service providers and other people, companies and regulatory agencies that you do business with.

Entitlements: information about the rights that you have to any type of data and what you are able to do with it.

PPDM Units of Measure: capture the default stored unit of measure for any measured value in the database.

Work Order: captures requests for work to be completed with some summary information about what was done and the data affected by the work order.

Business Modules

BA Interest Sets: describe partnership information for the ownership of seismic sets or products of those sets.

Contracts: contracts formed to support acquisition, processing, interpretation, data storage etc.

Geodetic and spatial: use this module to reference any positional information to geodetic or cartographic information.

Land Rights: capture surface access rights for seismic field acquisition.

Stratigraphy: make use of subsurface stratigraphic definitions that can be shared among all modules.

Obligations: especially useful to ensure that surface access requirements or conditions are met.

Projects: track work projects, such as for field acquisition, interpretation, or processing.

- Records Management: track the physical location of digital and hard copy products, circulation, retention, etc.
- Restriction: capture details about environmentally sensitive areas where access is limited.

- Support facility: describe marine vessels used for marine acquisition.
- Wells: describe in details wells that are used for VSP recording.

Contact PPDM to inquire about the status and availability of reference guides for these modules.

Model Overview

The diagram on this page is the legend for the tables discussed later in this document. Note that some or all of these elements may be present in data diagrams provided by the Association. Some elements are removed from final products to reduce file size:

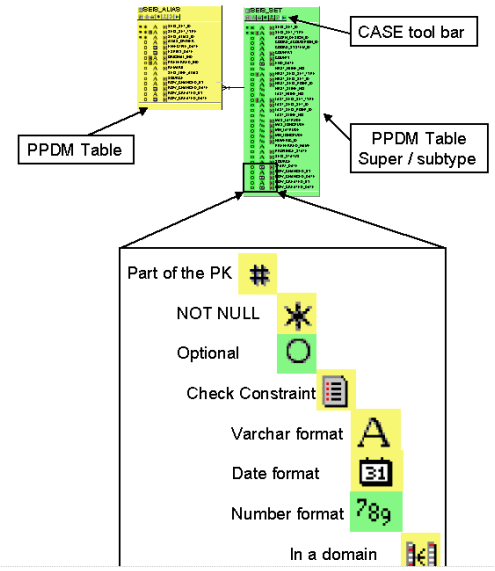


Figure 2: *This illustration shows the functions of each icon used in the data diagrams provided with PPDM version 3.6.*

The data diagrams for the Contracts Module are not provided in this reference guide because of their very large file size. Data diagrams can be obtained from

the PPDM Association as part of the final model documentation or as a set of PowerPoint diagrams. The PowerPoint diagrams will provide the best resolution for printed quality.

Tables and Columns: Contracts

The following tables exist in the contracts module of PPDM version 3.7. Each table is described in the following section; you can jump to a table description by clicking on the hyper-linked table name below. Note that for detailed content descriptions for each table, you should refer to the PPDM version 3.7 table documentation.

CONTRACT

A binding agreement between two or more parties for the express purpose of sharing risk with associated revenue and expenses in an exploitation or exploration undertaking or the joint building of an oil and gas production facility. An agreement for exploration or exploitation is always associated with substance(s) and zone(s), which have been granted by the mineral rights owner.

PPDM Version 3.7 describes contracts primarily from a land agreement perspective, although future development to accommodate other types of contracts has been planned for and supported as much as possible. In many respects, contracts of all types share many key characteristics. All are formed between more than one Business Associate, and all contain clauses that clearly spell out obligations, limitations, expectations, exclusions, and conditions that regulate the relationship between the parties in the contract.

PPDM captures general information such as the date that the contract became effective, the date it expired, its name and number, the currency used for operations, its current status, and high level AFE information in the CONTRACT table. Operating procedures for exploration land contracts are also captured in the CONTRACT table. Details including penalty percentages and costs to liability summaries can be described here.

Back to the list of table names

CONTRACT_COMPONENT

While describing contracts is in itself useful, it is the association of these details to the lease, land agreement, well, seismic line, field, production entity, partner and so on that makes this data truly useful. These relationships are handled through a multiple association table called CONTRACT_COMPONENT. Using this table, relationships to all the PPDM objects that are affected by the contract can be maintained, together with information about the relationship.

Contracts are formed to document agreements between parties. PPDM allows the association of a contract with the PPDM objects (such as wells, seismic lines, land rights, obligations, etc.) as required. This association may be formed for any of several reasons (REASON_TYPE), such as:

- The object was acquired to fulfill a condition of the contract (a seismic line was shot according to an obligation defined by the contract).
- Maintenance of the object is governed by the contract (the land right is managed according to the terms of one or more contracts).
- Services were provided under terms of an agreement (brokerage services for land acquisition were provided under the terms of a contract).

Where a contract may be associated with many PPDM objects, or a PPDM object with many contracts, the relationships are captured in this table. In some cases, a single relationship with the contract is captured in the business table. Usually, you have the option of associating an object with the contract as a whole or with a specific provision in the contract.

When populating this table, be careful to ensure that either *all* the columns in a constraint are populated or *none* of them are. Allowing only some columns in a constraint to be populated can enable corrupted data to enter your database undetected.

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CONT_ACCOUNT_PROC

The accounting procedure defines those terms and conditions that must be adhered to by all business associates having a working interest in the lands covered by the contract. Accounting procedures may be industry-standard forms (e.g., PASC 1998 or COPAS 1986) or unique to a contract.

Back to the list of table names

CONT_ALIAS

This table allows you to track alternate names and identifiers assigned to a contract by partners, service providers, jurisdictional bodies, or other organizations.

Back to the list of table names

CONT_ALLOW_EXPENSE

This table allows the capture of allowable expenses for a contractual agreement that are usually derived from the accounting procedure. It provides the ability to track the rate, amount, or percentage of an expense that can be deducted and the frequency with which the deduction can be made and define the type of expense that is described.

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CONT_AREA

This table replaces all previous tables describing relationships between a contract and an area, such as a county, province, state or country. It may also be used to track relationships between the contract and any other area that is relevant.

Back to the list of table names

CONT_BA

Relationships between stakeholders (business associates) and the roles they play in creating or managing a contract may be described here. Information about the dates that the business associate was involved, their role and whether they are presently involved is tracked.

Back to the list of table names

CONT_BA_SERVICE

This cross-reference table allows services provided by a business associate for the management or maintenance of the contract. This table should *not* be used to track partner shares (this information is captured in the Interest Set module).

Back to the list of table names

CONT_COUNTY

This table allows you to reference a contract to the county whose jurisdiction the contract falls in. In some cases, the operation of a contract may be regulated in part by one or more jurisdictional bodies. Replaced by CONT_AREA.

Back to the list of table names

CONT_DISTRICT

This table allows you to reference a contract to the district whose jurisdiction the contract falls in. In some cases, the operation of a contract may be regulated in part by one or more jurisdictional bodies. Replaced by CONT_AREA.

Back to the list of table names

CONT_EXEMPTION

This table allows you to capture special conditions in which a Business Associate may be exempt from the conditions of a contract. This exemption may occur for a specific period of time, or may be in force until some other condition is met, or may be in effect for the lifetime of the contract. When populating this table, you can indicate either the contract that the Business Associate is exempt from, or you can define a specific provision in the contract that relates to the exemption.

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CONT_EXTENSION

Extensions may be granted through adherence to the terms of a contract or through negotiation with other partners. The type of extension, issuance information and a land right that is involved may be tracked.

Back to the list of table names

CONT_JURISDICTION

This table allows you to reference a contract to the jurisdictions that the contract falls in. In some cases, the operation of a contract may be regulated in part by one or more jurisdictional bodies.

Back to the list of table names

CONT_KEY_WORD

This table allows you to track a searchable, meaningful key word found in the contract. The table is used to facilitate word searches based on text strings.

Back to the list of table names

CONT_MKTG_ELECT_SUBST

This table allows you to track the producing substance(s) to be marketed by the operator on behalf of the joint account. The table can be used to indicate the cost

and/or percentage of the marketing election and to list the substances that are involved. Details about how substances can participate in market elections can change over time; use SUBSTANCE_OBS_NO to indicate different versions of details. The row that is currently active should have the ACTIVE_IND set to 'Y'.

Back to the list of table names

CONT_OPER_PROC

High-level details about the operating procedure for a contract are defined in this table. Adjustment details, equipment, exploration and development penalties, insurance elections, ROFR (Right of First Refusal) and more are described. A contract may have more than one operating procedure over its life time.

Back to the list of table names

CONT_PROVISION

This table captures an article or clause contained in the body of the contract. Details about the provision such as the provision type, effective and expiry dates may be captured in this table. Associations between contract provisions are captured in the CONT_PROVISION_XREF table.

Back to the list of table names

CONT_PROVISION_TEXT

This table captures the actual text used in the distinct article in the formal document. Use PROVISION_TEXT_SEQ_NO to order rows of text for correct retrieval sequencing.

Back to the list of table names

CONT_PROVISION_XREF

In some cases, it may be helpful to be extremely explicit and indicate not only which contracts relate to each other, but also precisely which provisions in a contract affects provisions in other contracts. For those who require this level of detail, the CONT_PROVISION_XREF can be used.

Back to the list of table names

CONT_PROV_STATE

This table allows you to reference a contract to the province or state whose jurisdiction the contract falls in. In some cases, the operation of a contract may be

regulated in part by one or more jurisdictional bodies. This table is replaced by CONT_AREA.

Back to the list of table names

CONT_REMARK

This table allows you to capture text description such as general comments on the contract tracking when remark was made, who is the author, and the type of remark.

Back to the list of table names

CONT_STATUS

Relevant information about the status of a contract may vary, depending on the role of the person asking the question. Legal staff need to know whether a contract has been executed. Financial people need to know whether it is active in the finance system. Land managers need to know both in order to function correctly. Status information may be qualified as to the STATUS TYPE (financial, operational, legal etc) and the actual STATUS (executed, active etc) within that type of status.

Back to the list of table names

CONT_TYPE

This table captures a list of valid types for a specific contract, such as pooling agreement, joint venture, joint operating agreement, farmout, etc. Each contract may be categorized in ways that support business activities for a variety of users.

Back to the list of table names

CONT_VOTING_PROC

Voting procedures are defined in order to ensure that decisions may be made in a timely and efficient manner. A typical land management contract will define how many votes are needed for quorum, what abstaining votes imply, and what percent or number of positive votes are needed to pass a vote.

Back to the list of table names

CONT_XREF

Relationships between contracts must be captured, as they provide critical information for correctly managing contracts over time. Contracts that govern the

operation of other contracts, contracts that supercede (or replace) contracts, or contracts that simply elaborate and define other contracts are related to each other in the CONTRACT_XREF table. Clauses or conditions in some contracts may clarify, define, elaborate on, or specify the operation of clauses on another contract.

CONTRACT_XREF_TYPE is used to capture the reason that you have associated two contracts. Various reasons for creating an association may include replacement, supercedence, governing, additional detail, etc. Use ORDER_OF_SUPERCEDENCE to define which contract governs the operation of another.

Back to the list of table names

SPATIAL_DESCRIPTION

This table tracks the surface and sub-surface description of a parcel of land. The surface description may be stated in terms of a legal survey system, metes and bounds, or polygon. The mineral zone description describes the minerals (substances) and subsurface definition (zones/formations) to which rights are granted.

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Implementation Considerations

Constraints in PPDM

It is essential that anyone who is considering using PPDM version 3.7 review the Constraints Reference Guide first. Improper use or population of constrained columns in PPDM can compromise the quality of your data and the reliability of your queries. This document may be obtained from the PPDM Association or downloaded from the PPDM web site at www.ppdm.org.

Check Constraints

PPDM Version 3.7 makes use of check constraints in rare cases where the values that may be input for a column are known at design time and will not change over time. Two types of uses are observed in PPDM 3.7.

- Where the column name is %_IND, the column is an indicator field, and the values may only be Y, N, or null.
- Super-sub type implementations use check constraints to enforce the integrity of the super-sub type relationship. Currently these relationships are in use for Seismic, Business Associates, Records Management, Support Facilities, Production Entities and Land Rights.

  Let's use Seismic Sets as an example. This structure consists of a parent table (SEIS_SET) and several sub-type tables (SEIS_3D, SEIS_ACQTN_SURVEY, SEIS_INTERP_SET, SEIS_LINE, SEIS_PROC_SET, SEIS_SEGMENT, SEIS_SET_PLAN and SEIS_WELL). Each of the tables has a two-part primary key: SEIS_SET_ID and SEIS_SET_TYPE.

  SEIS_SET_ID is assigned by the user and can have any value as long as it is unique for that type of seismic set. SEIS_SET_TYPE was designed to maintain the integrity of the super-sub type structure and can only have the values assigned to it by check constraints; these values are the table names of the eight valid sub-types. In SEIS_SET, the SEIS_SET _TYPE can have any of the table names, but in each of the sub-types, it can only have the name of the table it is owned by.

Currencies in PPDM

Costs in PPDM may originate in any valid Unit of Measure (UOM), such as USD, $CDN, YEN, etc. However, to ensure that queries for retrieval and reporting are efficient, it is desirable to convert all original currencies to a standard unit of measure for storage in the database. PPDM supports the requirement to restore the original value in the following way:

- Convert all stored currencies to a single currency type, such as US dollars.

- CURRENCY_OUOM stores the currency in which the funds were initially received. When the stored currency is multiplied by the CURRENCY_CONVERSION, the value of the transaction in the original currency is obtained.

- CURRENCY_CONVERSION stores the rate applied to convert the currency to its original monetary UOM from the stored UOM. This value is valid for this row in this table at the time of conversion only. When this value is multiplied by the stored currency value, the original value of the transaction in the original currency is restored.

Units of Measure

Relational databases, powerful as they are, are not good at certain types of query and retrieval. Any query that requires the database to retrieve all the rows in a large table and perform some calculations on the data before returning results to a user is likely to perform very poorly. This assumes, of course, that the person constructing the query is aware that a calculation is necessary when writing the query. Data management strategies for such tables recommend that requirements for on-line conversions such as this be eliminated if at all possible. The PPDM strategy for handling units of measure falls into this category.

Every column in the data model that references a Unit of Measure (such as a depth, temperature, length etc.) should be stored using a single, common unit of measure. For example, in one PPDM instance, all the total well depths should be stores as meters or as feet. Storing some depths as meters and the rest as feet creates problems for the data base and adds confusion to the user (who may not be aware that the numbers in the depth column are not all meters).

The original unit of measure (the unit in which the data was originally received) can be stored in the data table. For example, the WELL table captures FINAL_TD and FINAL_TD_OUOM. These columns capture the value of the final total depth of the well and the units that the depth was originally captured in.

The ***stored unit of measure*** is captured in the PPDM meta model, PPDM_COLUMN. This table captures the default unit of measure for a column and the name of the column where the original unit of measure is stored. The following illustration provides an example:

WELL

UWI	DRILL_TD	DRILL_TD_OUOM
SMITH12F	1250	FEET
JONES44	1560	METERS
12345	1400	FEET

PPDM_COLUMN

TABLE_ NAME	COLUMN_ NAME	UOM_ COLUMN	OUOM_ COLUMN	DEFAULT _ OUM_ SYMBOL
WELL	UWI			
WELL	DRILL_TD		DRILL_TD_OUOM	M
WELL	DRILL_TD_OUOM			
WELL_CEMENT	CEMENT_AMOUNT	CEMENT_AMOUNT_UOM	CEMENT_AMOUNT_OUOM	

Figure 9: *The method for storing and tracking units of measure is illustrated here.*

Note that in the example, the Drilling TD is stored in meters, but was originally received as feet.

In some cases, it is not possible to ensure that all the rows in a column are stored as a single unit of measure – this is common in cases where the unit of measure is dependent on some other factor. For example, substance measurements may depend on the substance being measured; gases are stored as MCF, liquids as BBL etc. In these cases, the unit of measure is stored directly in the business table.

PPDM GUID

The Global Unique Identifier (GUID) has been added to every table in PPDM. Applications that are designed to take advantage of this column should implement the DDL set PPDM37.GUID. This procedure will alter the PPDM_GUID column to be NOT NULL and to add a Unique Index to each column.

Audit Columns

Each table contains five columns: SOURCE, ROW_CHANGED_BY, ROW_CHANGED_DATE, ROW_CREATED_BY, and ROW_CHANGED_DATE. These columns satisfy a data-auditing requirement to identify the user and date of database transactions.

Use the “CREATED” columns when you are inserting new data rows and the “CHANGED” columns when you are updating a data row. The

ROW_CHANGED / CREATED_BY columns are usually populated using the system login id in use. ROW_CHANGED / CREATED_DATE is usually set to the system date of the insert or update operation.

To populate the SOURCE column, specify where you obtained the data. If you receive the data from Vendor A, and Vendor A received the data from Regulatory B, you should set the SOURCE to Vendor A. In some cases (such as for interpreted picks), data is created by an application. In this case, the source may be set to identify the application that created the data.

Identifying Rows Of Data That Are Active

Maintaining information about how a business object has changed over time is an important business requirement for all these modules. To support this, mechanisms for allowing versioning have been added to many tables.

Every table in PPDM version 3.7 contains a column called ACTIVE_IND. The values for this column may be one of Y, N, or null. When more than one row of data (such as a spatial description or a status) has been created for a business object, use the ACTIVE_IND to indicate which row is currently active (note that in some cases, more than one row may be active simultaneously).

This provides implementers with two benefits. First, when populating EFFECTIVE_DATE and EXPIRY_DATE it will not be necessary to populate EXPIRY_DATE with a false future date to indicate that the row of data has not expired yet. Second, queries can explicitly search only for rows that are active.

If this column is used for queries, as recommended (such as “find me the currently active status for this land right”), you should implement procedures to ensure that this column is always populated as either Y or N and maintained appropriately. If the column is left blank (NULL), the query will not be consistent or reliable.

For example, you could default the value to N if the expiry date is filled in and has already happened. Make it Y if the expiry date is empty *or* if the expiry date contains a future date.

Modifying PPDM 3.7

Subsetting PPDM

The PPDM data model is designed to allow users to implement portions that support their business without needing to manage modules that are not required. Good data management practices are also supported; this means that data redundancy is reduced in the Model whenever possible.

All information about Seismic will be found in the seismic module; information about contracts is stored in the Contracts module, details about objects that are retained for long term use are stored in the Records Management module and so

on. Depending on your business requirements, you can implement all or some of the modules.

PPDM version 3.7 is released with a dataset that is populated with information grouping tables into modules (PPDM_TABLE_GROUP). You can use this information to create a subset DDL if you wish.

In general, it is usually simplest to install the entire PPDM data model and simply restrict usage to the portions that are useful to you. Additional tables can be implemented as your business requirements expand, or as your data and processes are able to support capture in a data model. Architectural guidelines for subsetting PPDM are contained in the PPDM Architectural Principles Document. This document can be obtained from the PPDM Association or downloaded from the PPDM web site at www.ppdm.org.

Expanding PPDM

As a consequence of the PPDM Design process, which actively solicits and incorporates business requirements from Industry, many users find that the model is quite complete. However, individual implementations may find that additional columns are needed, or that some denormalization will help their performance.

The Association provides documentation about how to expand the data model to accommodate your specific requirements. This document can be obtained from the PPDM Association or downloaded from the PPDM web site at www.ppdm.org. Tables or columns that have been added should be so marked in PPDM_TABLE.EXTENSION_IND, PPDM_COLUMN.EXTENSION_IND or PPDM_CONSTRAINT.EXTENSION_IND.

Feedback to PPDM

Much of the growth of the PPDM model can be attributed to Industry feedback. All implementers are requested and encouraged to provide feedback to the Association about changes they have made for implementation. Feedback can be submitted to changes@ppdm.org.

Frequently Asked Questions (FAQ)

How do I track the contracts that my partners and I created to administer this land right?

Contracts are used to manage the terms and conditions set up between partners to administer the land right and any other facilities, wells or other assets that may be developed on the land right.

A LAND_ RIGHT that is obtained through a legal contract with another party is called a LAND_AGREEMENT. If you later divide those land rights up into smaller components, they are called LAND_AGREE_PART.

1. Create rows in the CONTRACT and LAND_RIGHT tables to capture information about the contract and land right you have obtained. See the Land Rights Reference Guide for details on how to do this correctly.
2. Populate the Contract module to capture information about the contract itself, including details about the administration of the contract.
3. Use the CONTRACT_COMPONENT table to associate the land rights with the contract.

How do I track different kinds of notifications that I send to my partners?

1. Once you have created the CONTRACT, add a row to the NOTIFICATION table for every notification you send out or receive. You can indicate the type of notification and when you made it as well as capture other details about it, as needed.
2. Use CONTRACT_COMPONENT to associate the notification with the contract.
3. Use the table NOTIF_BA to indicate whom you have sent notifications to, when they were sent, and when received.

Where is the operating procedure for a contract defined?

Details about the operating procedure are captured in the CONT_OPER_PROC table.

How do I capture relationships between contracts? Some contracts are governing contracts; others have superceded old contracts.

Relationships between contracts are captured in the CONTRACT_XREF table. In addition, the contract that is the governing contract for another contract can be indicated in the CONTRACT table directly, through the column GOVERNING_CONTRACT_IND. If the contract is the governing contract, you can set GOVERNING_CONTRACT_IND to Y.

How should I indicate what substances are covered by the agreement?

SP_MINERAL_ZONE is used to track very explicitly what substances are included in the agreement. For query purposes, it may also be useful to list that some substances are explicitly *not* included in the agreement (for the query *"find me all the lands where I do not have rights to gas in this area"*). In this case, you can use the INCLUDED_IND and the EXCLUDED_IND to explicitly state what is and is not included.

Appendix A: Sample Queries

These sample queries have been developed based on a subset of the requirements defined and captured in the Business Requirements Document. Inevitably, there are as many ways to address the question that is asked as there are—we have tried to provide one useful example for your reference. Our intention is to give you some examples that illustrate use of the model.

Overall, there are a few fundamental issues related to queries that are relevant to nearly every Business Area:

- **Spatial or GIS queries:** Spatial queries are not thoroughly addressed in this section of the reference guide; how you deal with those depends on the spatial engine you are using. In many cases, we have avoided using spatial queries because the number of query lines needed obscures the rest of the query and makes it more difficult to read. Sometimes, we have provided a connection to a NAMED AREA rather than a lat/long box.
- **Versioning over time:** Many aspects of the Oil and Gas business have a strong time component. Users require information about how a business object was configured in the past, what it looks like now, and what it is expected to look like in the future (i.e., who were my partners in 1995, who are they now, and who will they be in 2005). If your queries need to address the situation as it is now, use the ACTIVE_IND you will find in many versioned table. This will help ensure that you do not return data that is out of date.

What facilities are in the Western Canadian Sedimentary basin and what type of facilities are they?

```
SELECT      F.FACILITY_NAME, F.FACILITY_TYPE
  FROM      FACILITY F, FACILITY_AREA FA
 WHERE      F.FACILITY_ID = FA.FACILITY_ID
   AND      F.FACILITY_TYPE = FA.FACILITY_TYPE
   AND      FA.AREA_TYPE = 'SED BASIN'
   AND      FA.AREA_ID = 'WESTERN CDN'
```

Comments: The answer for this question could have also been gotten from SP_POLYGON, SP_BOUNDARY where the FACILITY_TYPE is in SP_COMPONENT.

Who owns these facilities?

```
SELECT      F.FACILITY_NAME, F.FACILITY_TYPE, ISP.PARTNER_BA_ID,
            ISC.ACTIVE_IND, ISP.INTEREST_SET_ROLE, ISP.EFFECTIVE_DATE,
            ISP.EXPIRY_DATE, ISP.GROSS_PERCENT_INTEREST,
            ISP.NET_PERCENT_INTEREST
```

```
  FROM      FACILITY F, INTEREST_SET INS, INT_SET_COMPONENT ISC,
            INT_SET_PARTNER ISP, FACILITY_AREA FA
 WHERE      F.FACILITY_ID = ISC.FACILITY_ID
   AND      F.FACILITY_TYPE = ISC.FACILITY_TYPE
   AND      F.FACILITY_ID = FA.FACILITY_ID
   AND      F.FACILITY_TYPE = FA.FACILITY_TYPE
   AND      FA.AREA_TYPE = 'SED BASIN'
   AND      FA.AREA_ID = 'WESTERN CDN'
   AND      ISC.INTEREST_SET_ID = INS.INTEREST_SET_ID
   AND      ISC.INTEREST_SET_SEQ_NO = INS.INTEREST_SET_SEQ_NO
   AND      INS.INTEREST_SET_ID = ISP.INTEREST_SET_ID
   AND      INS.INTEREST_SET_SEQ_NO = ISP.INTEREST_SET_SEQ_NO
   AND      UPPER(INS.ACTIVE_IND) = 'Y'
```

Comments: If you wish, you can add other criteria to discriminate between facilities, such as dates, substances handled, etc.

What is the capacity and capability of this facility?

```
select      F.FACILITY_NAME, F.FACILITY_TYPE, FS.SUBSTANCE_ID,
            FS.AVERAGE_CAPACITY, FS.MAX_CAPACITY,
            FS.SUBSTANCE_INCLUDED_IND "CAN PROCESS",
            FS.SUBSTANCE_EXCLUDED_IND "CANNOT PROCESS"
  from      FACILITY F, FACILITY_SUBSTANCE FS
 where      FS.FACILITY_TYPE = F.FACILITY_TYPE
   and      FS.FACILITY_ID = F.FACILITY_ID
   and      UPPER(F.ACTIVE_IND) = 'Y'
```

For my partnership agreements (working interest sets only) in an area, what roles does each participating company play?

```
SELECT      ISP.PARTNER_BA_ID, ISP.INTEREST_SET_ROLE
  FROM      LAND_RIGHT LR, LAND_AREA LA, INT_SET_COMPONENT ISC,
            INT_SET_PARTNER ISP, INTEREST_SET INS
 WHERE      LR.LAND_RIGHT_ID = LA.LAND_RIGHT_ID
   AND      LR.LAND_RIGHT_TYPE = LA.LAND_RIGHT_TYPE
   AND      ISC.LAND_RIGHT_ID = LR.LAND_RIGHT_ID
   AND      ISC.LAND_RIGHT_TYPE = LR.LAND_RIGHT_TYPE
   AND      ISC.INTEREST_SET_ID = INS.INTEREST_SET_ID
   AND      ISC.INTEREST_SET_SEQ_NO = INS.INTEREST_SET_SEQ_NO
   AND      INS.INTEREST_SET_ID = ISP.INTEREST_SET_ID
   AND      INS.INTEREST_SET_SEQ_NO = ISP.INTEREST_SET_SEQ_NO
   AND      LR.ACTIVE_IND = 'Y'
   AND      INS.INTEREST_SET_TYPE = 'WORKING'
   AND      LA.AREA_TYPE = 'SED BASIN'
   AND      LA.AREA_ID = 'WESTERN CDN'
GROUP BY    ISP.PARTNER_BA_ID, ISP.INTEREST_SET_ROLE
```

Comments: Theoretically, each interest set could carry a different set of roles. From a practical perspective, operational roles are generally defined in the working interest set. However, a royalty

interest set may be used to define which partner is responsible for managing the royalty payments, etc.

What companies have currently invested in Facilities in an area and when did they invest in it?

```
SELECT      DISTINCT ISP.PARTNER_BA_ID, INS.EFFECTIVE_DATE
  FROM      FACILITY F, INT_SET_COMPONENT ISC,
            INTEREST_SET INS, INT_SET_PARTNER ISP,
            FACILITY_AREA FA
 WHERE      F.FACILITY_ID = ISC.FACILITY_ID
   AND      F.FACILITY_TYPE = ISC.FACILITY_TYPE
   AND      F.FACILITY_ID = FA.FACILITY_ID
   AND      F.FACILITY_TYPE = FA.FACILITY_TYPE
   AND      FA.AREA_TYPE = 'SED BASIN'
   AND      FA.AREA_ID = 'WESTERN CDN'
   AND      INS.INTEREST_SET_ID = ISC.INTEREST_SET_ID
   AND      INS.INTEREST_SET_SEQ_NO = ISC.INTEREST_SET_SEQ_NO
   AND      INS.INTEREST_SET_ID = ISP.INTEREST_SET_ID
   AND      INS.INTEREST_SET_SEQ_NO = ISP.INTEREST_SET_SEQ_NO
   AND      UPPER(INS.ACTIVE_IND) = 'Y'
```

What are the current types of interest that Esso has in facilities in this area?

```
SELECT      DISTINCT F.FACILITY_ID, F.FACILITY_TYPE,
            INS.INTEREST_SET_TYPE
  FROM      FACILITY F, FACILITY_AREA FA, INT_SET_COMPONENT ISC,
            INTEREST_SET INS, INT_SET_PARTNER ISP
 WHERE      INS.INTEREST_SET_ID = ISP.INTEREST_SET_ID
   AND      INS.INTEREST_SET_SEQ_NO = ISP.INTEREST_SET_SEQ_NO
   AND      INS.INTEREST_SET_ID = ISC.INTEREST_SET_ID
   AND      INS.INTEREST_SET_SEQ_NO = ISC.INTEREST_SET_SEQ_NO
   AND      ISP.PARTNER_BA_ID = 'ESSO'
   AND      UPPER(INS.ACTIVE_IND) = 'Y'
   AND      F.FACILITY_ID = ISC.FACILITY_ID
   AND      F.FACILITY_TYPE = ISC.FACILITY_TYPE
   AND      F.FACILITY_ID = FA.FACILITY_ID
   AND      F.FACILITY_TYPE = FA.FACILITY_TYPE
   AND      FA.AREA_TYPE = 'SED BASIN'
   AND      FA.AREA_ID = 'WESTERN CDN'
```

Show me the order of supercedence for all the contracts.

```
select      C1.CONTRACT_NAME, C2.CONTRACT_NAME, CX.CONTRACT_XREF_TYPE,
            CX.ORDER_OF_SUPERCEDENCE
  from      CONTRACT C1, CONTRACT C2, CONT_XREF CX
 where      CX.CONTRACT_ID = C1.CONTRACT_ID
   and      CX.CONTRACT_ID_2 = C2.CONTRACT_ID
```

What date did this agreement (9107) become legally effective?

```
SELECT      EFFECTIVE_DATE
  FROM      CONTRACT
 WHERE      CONTRACT_ID = '9107'
```

Comments: There are several dates that may be important here, including the date the agreement was signed, the date it was received, the date it was registered or became legal, etc.

When must I begin drilling for a drilling agreement or AMI (area of mutual interest)?

```
select      C.CONTRACT_ID, O.OBLIGATION_ID, O.OBLIGATION_TYPE,
            O.CRITICAL_DATE
  from      CONTRACT C, OBLIGATION_COMPONENT OC, OBLIGATION O
 where      C.CONTRACT_ID = OC.CONTRACT_ID
   and      OC.OBLIGATION_ID = O.OBLIGATION_ID
   and      O.OBLIGATION_CATEGORY = 'WORK'
   and      O.OBLIGATION_TYPE = 'DRILLING'
   and      C.CONTRACT_ID = '9107'
```

Find any AMI or AOE (area of exception) associated with a parcel of land (DLS Township 25, range 20, section 12, W4M).

```
select      C.CONTRACT_NAME, LR.LAND_RIGHT_ID
  from      CONTRACT C, CONTRACT_COMPONENT CC, LAND_RIGHT LR,
            SP_COMPONENT SC, SP_PARCEL_DLS SPD, SPATIAL_DESCRIPTION SD
 where      CC.LAND_RIGHT_ID    = LR.LAND_RIGHT_ID
   and      CC.LAND_RIGHT_TYPE  = LR.LAND_RIGHT_TYPE
   and      CC.LAND_RIGHT_ID    = SC.LAND_RIGHT_ID
   and      CC.LAND_RIGHT_TYPE  = SC.LAND_RIGHT_TYPE
   and      CC.CONTRACT_ID      = C.CONTRACT_ID
   and      SC.SPATIAL_DESCRIPTION_ID = SPD.SPATIAL_DESCRIPTION_ID
   and      SC.SPATIAL_OBS_NO   = SPD.SPATIAL_OBS_NO
   and      SPD.DLS_MERIDIAN = 4
   and      SPD.DLS_TOWNSHIP = 25
   and      SPD.DLS_RANGE = 20
   and      SPD.DLS_SECTION = 12
   and      UPPER(SD.DLS_IND) = 'Y'
   and      UPPER(C.AMI_AOE_IND) = 'Y'
   and      UPPER(LR.ACTIVE_IND) = 'Y'
   and      C.AMI_AOE_IND       = 'Y'
```

Are there any owners exempt from provisions?

```
SELECT      CE.BUSINESS_ASSOCIATE, CP.CONT_PROVISION_TYPE,
            CE.EXEMPTION_DESC
```

```
  FROM      CONTRACT C, CONT_PROVISION CP, CONT_EXEMPTION CE
 WHERE      C.CONTRACT_ID = CP.CONTRACT_ID
   AND      CP.CONTRACT_ID = CE.CONTRACT_ID
   AND      CP.PROVISION_ID = CE.PROVISION_ID
   AND      CP.CONT_PROVISION_TYPE IN ('EXCLUSION', 'EXCL')
   AND      UPPER(C.ACTIVE_IND) = 'Y'
```

What must I do to fulfill all the obligations defined in this contract?

```
select      O.OBLIGATION_ID, O.OBLIGATION_SEQ_NO, O.DESCRIPTION,
            O.OBLIGATION_TYPE, O.OBLIGATION_CATEGORY
  from      OBLIGATION O, OBLIGATION_COMPONENT OC, CONTRACT C
 where      C.CONTRACT_ID = OC.CONTRACT_ID
   and      OC.OBLIGATION_ID = O.OBLIGATION_ID
   and      OC.OBLIGATION_SEQ_NO = O.OBLIGATION_SEQ_NO
   and      UPPER(C.ACTIVE_IND) = 'Y'
   and      UPPER(O.FULFILLED_IND) = 'N'
```

Do I have any ROFR clauses in this contract? Who should I send the notice to?

```
select      C.CONTRACT_NAME, ISP.PARTNER_BA_ID
  from      CONTRACT C, INT_SET_COMPONENT ISC, INT_SET_PARTNER ISP,
            INTEREST_SET INS
 where      C.CONTRACT_ID = ISC.CONTRACT_ID
   and      INS.INTEREST_SET_ID = ISC.INTEREST_SET_ID
   and      INS.INTEREST_SET_SEQ_NO = ISC.INTEREST_SET_SEQ_NO
   and      INS.INTEREST_SET_ID = ISP.INTEREST_SET_ID
   and      INS.INTEREST_SET_SEQ_NO = ISP.INTEREST_SET_SEQ_NO
   and      C.CONTRACT_ID = 'CA924215'
   and      INS.INTEREST_SET_TYPE = 'WI'
   and      UPPER(C.ROFR_IND) = 'Y'
   and      INS.EXPIRY_DATE IS NULL
```

Who should I have served notice to for this contract in the past?

```
select      C.CONTRACT_NAME, ISP.PARTNER_BA_ID
  from      CONTRACT C, INT_SET_COMPONENT ISC, INT_SET_PARTNER ISP,
            INTEREST_SET INS
 where      C.CONTRACT_ID = ISC.CONTRACT_ID
   and      INS.INTEREST_SET_ID = ISC.INTEREST_SET_ID
   and      INS.INTEREST_SET_SEQ_NO = ISC.INTEREST_SET_SEQ_NO
   and      INS.INTEREST_SET_ID = ISP.INTEREST_SET_ID
   and      INS.INTEREST_SET_SEQ_NO = ISP.INTEREST_SET_SEQ_NO
   and      '01-JAN-97' BETWEEN INS.EFFECTIVE_DATE AND INS.EXPIRY_DATE
   and      UPPER(INS.INTEREST_SET_TYPE) = 'WI'
   and      UPPER(C.ROFR_IND) = 'Y'
   and      C.CONTRACT_ID = 'CA41230'
```

Are parties self-insured under the operating procedure for this contract?

```
select      C.CONTRACT_ID, COP.INSURANCE_ELECTION
  from      CONTRACT C, CONT_OPER_PROC COP
 where      C.CONTRACT_ID = COP.CONTRACT_ID
   and      C.CONTRACT_ID = 'CA41230'
```

Was a standard operating procedure used for this contract?

```
select      C.CONTRACT_ID, COP.OPERATING_PROCEDURE_ID
  from      CONTRACT C, CONT_OPER_PROC COP
 where      C.CONTRACT_ID = COP.CONTRACT_ID
   and      C.CONTRACT_ID = '9107'
```

Where are the agreements for this contract filed?

```
SELECT      C.CONTRACT_ID, RPI.CATALOGUE_NAME, RMS.NAME,
            RMS.LONG_LOCATION
  FROM      CONTRACT C, RM_INFO_ITEM_CONTENT RIIC, RM_PHYSICAL_ITEM
RPI,
            RM_DATA_CONTENT RDC, RM_DATA_STORE RMS
 WHERE      C.CONTRACT_ID = RIIC.CONTRACT_ID
   AND      RIIC.INFORMATION_ITEM_ID = RDC.INFORMATION_ITEM_ID
   AND      RDC.PHYSICAL_ITEM_ID = RPI.PHYSICAL_ITEM_ID
```

Show me cross-references to wells that are associated with each of my contracts.

```
SELECT      C.CONTRACT_NAME, W.WELL_NAME, CC.EFFECTIVE_DATE,
            CC.EXPIRY_DATE
  FROM      CONTRACT C, CONTRACT_COMPONENT CC, WELL W
 WHERE      C.CONTRACT_ID = CC.CONTRACT_ID
   AND      CC.UWI = W.UWI
```

Show me cross-references between my contracts and leases.

```
SELECT      C.CONTRACT_NAME, LR.LAND_RIGHT_ID, LR.ACQTN_DATE,
            CC.EFFECTIVE_DATE, CC.EXPIRY_DATE
  FROM      CONTRACT C, CONTRACT_COMPONENT CC, LAND_RIGHT LR
 WHERE      C.CONTRACT_ID = CC.CONTRACT_ID
   AND      LR.LAND_RIGHT_ID = CC.LAND_RIGHT_ID
```

Comments: If the LAND_RIGHT_ID is used as a natural identifier and no data about the lease is needed, then the link to the LAND_RIGHT table is not needed.

Show me cross-references between this contract and other contracts. How are they related to each other?

```
SELECT      C.CONTRACT_ID, CX.CONTRACT_ID_2, CX.CONTRACT_XREF_TYPE,
            CX.EFFECTIVE_DATE, CX.EXPIRY_DATE
  FROM      CONTRACT C, CONT_XREF CX
 WHERE      C.CONTRACT_ID = CX.CONTRACT_ID
```

Who are my contacts for this land unit? What role is played by each contact?

```
select      LU.LAND_RIGHT_ID, LU.LAND_RIGHT_TYPE,
            ISP.PARTNER_BA_ID, ISPC.CONTACT_BA_ID,
            ISPC.CONTACT_ROLE
  from      LAND_UNIT LU, INT_SET_COMPONENT ISC, INT_SET_PARTNER
            ISP, INT_SET_PARTNER_CONT ISPC, INTEREST_SET INS
 where      LU.LAND_RIGHT_ID = ISC.LAND_RIGHT_ID
   and      LU.LAND_RIGHT_TYPE = ISC.LAND_RIGHT_TYPE
   and      INS.INTEREST_SET_ID = ISC.INTEREST_SET_ID
   and      INS.INTEREST_SET_SEQ_NO = ISC.INTEREST_SET_SEQ_NO
   and      INS.INTEREST_SET_ID = ISP.INTEREST_SET_ID
   and      INS.INTEREST_SET_SEQ_NO = ISP.INTEREST_SET_SEQ_NO
   and      ISP.INTEREST_SET_ID = ISPC.INTEREST_SET_ID
   and      ISP.INTEREST_SET_SEQ_NO = ISPC.INTEREST_SET_SEQ_NO
   and      UPPER(ISPC.ACTIVE_IND) = 'Y'
   and      LU.LAND_RIGHT_ID = '2049875'
```

Where have my legal agreements been registered or filed in the USA?

```
SELECT      I.JURISDICTION, LR.LAND_RIGHT_ID, I.COUNTRY,
            I.PROVINCE_STATE, I.COUNTY, I.REGISTRATION_NUM,
            I.REGISTRATION_DATE, I.BOOK_NAME, I.PAGE_NUMBER
  FROM      LAND_RIGHT LR,LAND_AREA LA,INSTRUMENT_AREA IA, INSTRUMENT I
 WHERE      LR.LAND_RIGHT_ID = LA.LAND_RIGHT_ID
   AND      LR.LAND_RIGHT_TYPE = LA.LAND_RIGHT_TYPE
   AND      LA.AREA_ID=IA.AREA_ID
   AND      LA.AREA_TYPE=IA.AREA_TYPE
   AND      IA.INSTRUMENT_ID=I.INSTRUMENT_ID
```

What are the terms to alter, extend, or terminate this contract?

```
SELECT      EXTENSION_CONDITION
  FROM      CONTRACT
 WHERE      CONTRACT_ID = '9107'
```

Comments: Specific terms and descriptions may be stored in the CONT_PROVISION table if desired.

Report the text of all provisions in this contract (ID = CA45013).

```
SELECT      C.CONTRACT_NAME, CP.PROVISION_ID, CP.CONT_PROVISION_TYPE,
            CP.CLAUSE_NUMBER, CP.CLAUSE_HEADING, CP.EFFECTIVE_DATE,
            CP.EXPIRY_DATE, CP.PROVISION_DESC, CPT.PROVISION_TEXT
  FROM      CONTRACT C, CONT_PROVISION CP, CONT_PROVISION_TEXT CPT
 WHERE      C.CONTRACT_ID = CP.CONTRACT_ID
   AND      CP.CONTRACT_ID = CPT.CONTRACT_ID
   AND      CP.PROVISION_ID = CPT.PROVISION_ID
   AND      C.CONTRACT_ID = 'CA45013'
```

Who actually signed the contract for Esso? (Signatory who authorized the contract)

```
select      CONTACT_BA_ID
  from      CONTRACT C, INT_SET_COMPONENT ISC,
            NT_SET_PARTNER_CONT ISPC
 where      C.CONTRACT_ID = ISC.CONTRACT_ID
   and      ISC.INTEREST_SET_ID = ISPC.INTEREST_SET_ID
   and      ISC.INTEREST_SET_SEQ_NO = ISPC.INTEREST_SET_SEQ_NO
   and      ISPC.ACTIVE_IND = 'Y'
   and      CONTACT_ROLE = 'SIGNATORY'
   and      ISPC.PARTNER_BA_ID = 'ESSO'
```

What BAs are participants in this consortium?

```
select      ISP.PARTNER_BA_ID
  from      BUSINESS_ASSOCIATE BA, INT_SET_COMPONENT ISC,
            INT_SET_PARTNER ISP, INTEREST_SET INS
 where      INS.INTEREST_SET_ID = ISC.INTEREST_SET_ID
   and      INS.INTEREST_SET_SEQ_NO = ISC.INTEREST_SET_SEQ_NO
   and      INS.INTEREST_SET_ID = ISP.INTEREST_SET_ID
   and      INS.INTEREST_SET_SEQ_NO = ISP.INTEREST_SET_SEQ_NO
   and      ISC.BUSINESS_ASSOCIATE = BA.BUSINESS_ASSOCIATE
   and      ISP.PARTNER_BA_ID = BA.BUSINESS_ASSOCIATE
   and      BA.BA_TYPE = 'CONSORTIUM'
   and      UPPER(ISP.ACTIVE_IND) = 'Y'
   and      ISC.BUSINESS_ASSOCIATE = 'EAST COAST'
```

What units/leases are operated by this consortium?

```
SELECT      LR.LAND_RIGHT_ID, LR.LAND_RIGHT_TYPE
  FROM      INT_SET_COMPONENT ISC, LAND_RIGHT LR, INT_SET_PARTNER ISP
 WHERE      LR.LAND_RIGHT_ID = ISC.LAND_RIGHT_ID
   AND      LR.LAND_RIGHT_TYPE = ISC.LAND_RIGHT_TYPE
   AND      ISC.INTEREST_SET_SEQ_NO = ISP.INTEREST_SET_SEQ_NO
   AND      ISC.INTEREST_SET_ID = ISP.INTEREST_SET_ID
   AND      ISP.PARTNER_BA_ID = 'EAST COAST'
   AND      ISP.INTEREST_SET_ROLE = 'OPERATOR'
   AND      UPPER(ISC.ACTIVE_IND) = 'Y'
```

Comments: This is why BUSINESS_ASSOCIATE is in BA_INT_SET_COMPONENT.

What is the working interest of each partner in the consortium?

```
select      C.CONTRACT_NAME, ISP.PARTNER_BA_ID, INS.INTEREST_SET_TYPE,
            ISP.NET_PERCENT_INTEREST, ISP.GROSS_PERCENT_INTEREST
  from      INT_SET_COMPONENT ISC, CONTRACT C,
            INT_SET_PARTNER ISP, INTEREST_SET INS
 where      C.CONTRACT_ID = ISC.CONTRACT_ID
   and      INS.INTEREST_SET_ID = ISC.INTEREST_SET_ID
   and      INS.INTEREST_SET_SEQ_NO = ISC.INTEREST_SET_SEQ_NO
   and      INS.INTEREST_SET_ID = ISP.INTEREST_SET_ID
   and      INS.INTEREST_SET_SEQ_NO = ISP.INTEREST_SET_SEQ_NO
   and      UPPER(ISC.ACTIVE_IND) = 'Y'
   and      UPPER(INS.ACTIVE_IND) = 'Y'
   and      ISC.BUSINESS_ASSOCIATE = 'EAST COAST'
order by    C.CONTRACT_ID
```

Comments: This is why BUSINESS_ASSOCIATE is in BA_INT_SET_COMPONENT.

What is the current status of this contract (ID = CA10931)?

```
SELECT      CURRENT_STATUS
  FROM      CONTRACT
 WHERE      CONTRACT_ID = 'CA10931'
```

When do Areas of Interest (AOI) or Areas of Exclusion (AOE) expire?

```
select      C.CONTRACT_NAME, C.EXPIRY_DATE
  from      CONTRACT C, CONT_TYPE CT
 where      C.CONTRACT_ID = CT.CONTRACT_ID
   and      (CT.CONTRACT_TYPE IN ('AOI', 'AOE')
    or      UPPER(C.AMI_AOE_IND) = 'Y')
   and      UPPER(C.ACTIVE_IND) = 'Y'
```

Where in this area (Moose Mountain) are there AMIs ?

```
SELECT      C.CONTRACT_NAME
  FROM      CONTRACT C, AREA A, CONTRACT_COMPONENT CCOM,CONT_TYPE CT
 WHERE      C.CONTRACT_ID = CT.CONTRACT_ID
   AND      C.CONTRACT_ID = CCOM.CONTRACT_ID
   AND      CCOM.AREA_ID = A.AREA_ID
   AND      CCOM.AREA_TYPE = A.AREA_TYPE
   AND      CT.CONTRACT_TYPE = 'AMI'
   AND      A.PREFERRED_NAME = 'MOOSE MOUNTAIN'
   AND      UPPER(C.ACTIVE_IND) = 'Y'
```

List the partners I am in penalty with right now.

```
SELECT      INTEREST_SET_ID, INTEREST_SET_SEQ_NO
  FROM      INT_SET_PARTNER
 WHERE      PENALTY_IND = 'Y'
   AND      ACTIVE_IND = 'Y'
```

I am about to buy company ABC, so show me all the contracts I have with them now.

```
select      C.CONTRACT_NAME
  from      CONTRACT C, INT_SET_COMPONENT ISC,
            INT_SET_PARTNER ISP, INTEREST_SET INS
 where      C.CONTRACT_ID = ISC.CONTRACT_ID
   and      INS.INTEREST_SET_ID = ISC.INTEREST_SET_ID
   and      INS.INTEREST_SET_SEQ_NO = ISC.INTEREST_SET_SEQ_NO
   and      INS.INTEREST_SET_ID = ISP.INTEREST_SET_ID
   and      INS.INTEREST_SET_SEQ_NO = ISP.INTEREST_SET_SEQ_NO
   and      ISP.PARTNER_BA_ID = 'MY Company'
   and      UPPER(C.ACTIVE_IND) = 'Y'
   and      UPPER(INS.ACTIVE_IND) = 'Y'
UNION
select      C.CONTRACT_NAME
from        CONTRACT C, INT_SET_COMPONENT ISC,
            INT_SET_PARTNER ISP, INTEREST_SET INS
where       C.CONTRACT_ID = ISC.CONTRACT_ID
   and      INS.INTEREST_SET_ID = ISC.INTEREST_SET_ID
   and      INS.INTEREST_SET_SEQ_NO = ISC.INTEREST_SET_SEQ_NO
   and      INS.INTEREST_SET_ID = ISP.INTEREST_SET_ID
   and      INS.INTEREST_SET_SEQ_NO = ISP.INTEREST_SET_SEQ_NO
   and      ISP.PARTNER_BA_ID = 'ABC Company'
   and      UPPER(C.ACTIVE_IND) = 'Y'
```

Comments: There are many different ways of writing this type of SQL.

How many participants are required as quorum on this contract (ID = 9107)?

```
SELECT      QUORUM_COUNT
  FROM      CONT_ACCOUNT_PROC CAP, CONTRACT C
 WHERE      C.CONTRACT_ID = CAP.CONTRACT_ID
   AND      C.CONTRACT_ID = '9107'
```

Has notification to the partner been served regarding the expiry or surrender of the contract (ID = MB01235)?

```
SELECT      C.CONTRACT_NAME, NOTB.BUSINESS_ASSOCIATE, NOTB.SERVED_DATE
  FROM      NOTIF_BA NOTB, NOTIFICATION NOTI, CONTRACT C,
            CONTRACT_COMPONENT CCOM
 WHERE      C.CONTRACT_ID = CCOM.CONTRACT_ID
   AND      CCOM.LAND_RIGHT_ID = NOTI.LAND_RIGHT_ID
   AND      CCOM.LAND_RIGHT_TYPE = NOTI.LAND_RIGHT_TYPE
   AND      NOTB.NOTIFICATION_ID = NOTI.NOTIFICATION_ID
   AND      NOTI.CONTRACT_IND = 'Y'
   AND      C.CONTRACT_ID = 'MB01235'
```

Appendix B: Changes to the Model

The PPDM Association has made a concerted effort to reduce the impact of new model development on members who are using other versions of PPDM. However, any new development is accompanied by some changes. Arriving at a model that is sufficiently detailed to meet the business needs of every member and yet flexible or abstract enough to be shielded from the corporate or regulatory variations is complex, but achievable. Every attempt is made to ensure the model complies with, but is relatively independent of, specific jurisdictional requirements, changes in government policy, regulations, or structure that may at time invalidate portions of the model. Internal re-engineering business process in industry companies may affect business requirements, which drive the data model. Rapid technological changes may also affect the model structure.

This section identifies all applicable changes from the latest version to the newest release version to assist the members in an ease of transition to implement the latest version of the PPDM model.

Changes Between Versions 3.4 and 3.5

PPDM Version 3.4 contained only a single "placeholder" table for the Contracts module. Development by the work group for PPDM version 3.5 has added significantly to the level of detail captured by the Contracts module. Nearly everything in this module is new for version 3.5.

The business requirements that provided the impetus for model growth were documented by the work group during the business requirements gathering phase of development. The Business Requirements Document is available to members of the association.

For a detailed enumeration of changes, additions, and deletions, refer to the Data Mapping document, provided with the PPDM 3.5 release documentation.

Changes Between Versions 3.5 and 3.6

No significant changes made.

Changes Between Versions 3.6 and 3.7

Operating procedures, voting procedures, accounting procedures broken out into separate tables so that this information does not intrude on non-land contract usage.

Other new tables added to support business requirements articulated by the workgroups. For details, please refer to the data model mapping.