

PPDM Association

Projects

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, database administrators, programmers, data managers, and users understand how to use the Projects Data Module in PPDM 3.7. Readers at many levels, from managerial to technical implementers will benefit from reading various sections of 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 the PPDM Association.

This reference guide contains the following sections:

- **Introduction**
Provides an executive overview of the PPDM Model as it pertains to Projects.
- **Business Process Overview**
Summarizes projects and provides examples of related business processes.
- **Integration**
Discusses how Projects are integrated with the other PPDM Business Modules and provide information about related references guides.
- **Model Overview**
Includes the entity relationship diagram and discusses the use of Projects Module tables in the Data Model.
- **Tables and Columns – Reserves**
Identifies the data model tables for the Projects Module, how they should be used, what they contain, and recommends 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.ppdmm.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 Projects Module.

- Appendix A – Sample Queries

Provides example queries with the appropriate SQL scripts that illustrate uses of the model based on Business Requirement.

Introduction

Every aspect of business today is dominated, perhaps invisibly, by projects and project management. Simply defined a project is a set of tasks that will, when completed, achieve an objective. Whether your objective is to enter data into a database, fulfill a Work Order or interpret a set of seismic data, it will be met when you have completed a set of tasks correctly. Hopefully, you have a clear understanding of what tasks need to be completed before you get started (in other words, we assume you know how to do your job!).

Managing projects effectively involves a tremendous amount of effort in tracking resources and their allocations, funding and budgets, timelines and schedules and communication. PC based tools to help with project management abound; it is not the intention of the PPDM database to replicate these systems or eliminate a need for Project Management tools.

Explorationists are charged with developing models to explore for new hydrocarbon reserves in areas of unknown accumulations and exploit reserves in areas of known accumulations.

Suppose, for example, an exploration team has developed a prospect involving an oil-bearing sandstone pinchout. To test their idea, they propose that several seismic lines be shot over the prospective area. Following submission of an AFE and acquisition and evaluation of the seismic data, they drill several wells on lands jointly owned with another company. They also hire a well site consultant to evaluate cores and chips and a service company to log the wells and run DSTs.

Once a project such as this is created, they will find it useful to keep track of well interpretations, which company shot the seismic data, funding for the project, and all other information related to the project. The Projects Module in PPDM allows oil and gas companies to track data associated with their projects.

Among the most mission critical uses of the project module are support for work flow and unstructured data. Tracking which documents have been used in a work flow, what was done to them, who did it and where the document may be found provides important support for legislation such as PIPEDA in Canada and Sarsbane-Oxley in the US.

PPDM work group activities over the past four years have highlighted some important aspects of Project Management that can benefit from closer integration with a PPDM database:

- Association between projects and business objects in PPDM: Explicit connections between seismic sets, land rights, contracts, electronic information, physical products, wells, facilities and a project provides important information for geoscientists, managers and other specialists.

- Workflow planning: The ability to create project templates or plans is important to members who can use them to standardize processes for certain activities.
- Workflow management: This involves the scheduling and completion of specific tasks.

More information about work flows can be found at the website of the Workflow Management Coalition (www.wfmc.org).

Business Process Overview

Purpose

The Projects Module provides a means of describing and managing information about projects and their completion. This data is created throughout a project life cycle, from planning through completion.

Description

Projects are created for many reasons. Seismic service companies may use them to support work processes related to fulfilling a Work Order. Land groups may create a project to manage the disposition of a set of land holdings. Facility managers may create maintenance projects to track how and when maintenance operations are required.

E & P projects are created to evaluate, explore, or generate production revenue. An idea generated by an explorationist is approved by managers, and a project plan, together with supporting funding (AFE), is created. Over time, one or more land holdings may be acquired, for example, and seismic data may be acquired for the project. It is useful to keep track of what information and data were used or created by a project.

The Projects module was designed to allow you to create and manage high level information about these projects and provide explicit links to business objects in the model.

Key Business Processes

Project Planning

Project plans or templates can be created to support activities that should be standardized. By creating a reference or template project plan, you can indicate key steps that must be completed and the order in which they should be completed. As you actually conduct the project, you may find that circumstances require some steps to be redone or changed slightly. You can use the model to capture these variations.

Staffing, Funding, and Tracking Information Used or Created

Once a project is created, you may need to engage the services of a contractor or specialist. In our Exploration example you may need the services of a seismic acquisition company, logging company, or well site geologist. You also need to submit an AFE for these expenses.

In addition, if you drill five wells in two years, you may use different logging companies or the same company more than once. The logging company may

also perform well testing services. You will find it useful to track actual and budgeted costs, who was associated with the project, what roles they played, when they played the roles, and how many times they performed the role.

All these activities can be tracked in the Projects Module.

Project Tracking

When you first begin a project, you should create an outline of project steps. If you have created a project plan template, you can use this template to generate your first draft of the actual project outline. Assign resources and due dates to each task. Dependencies between tasks allow you to develop critical paths, or paths that determine the final timeline of the project.

Critical dates are dates by when a project step must be completed; these dates may be created to ensure that the project stays on target or based on externally driven events. People or organizations are assigned roles in the project and associated with specific tasks. As you complete each task, you can track who completed the task and what role they played in that step.

Associate important business objects, such as documents, to the project as needed. You can also associate the project with relevant land rights, seismic, wells, production information etc as needed.

Reusing Project Data

Projects may be active for a while, then may be inactive for several years. For example, suppose you started a drilling project in 1995, and after 5 years of inactivity, you want to drill additional wells. You want to find the well interpretations completed previously and determine who completed them.

To accommodate such a scenario, you need to store the project data in a way that will allow you to examine the data from the previous project.

Model Overview

Integration

Integration is the key to managing the Projects Module and its components properly. Information critical to managing project data throughout its life cycle is managed in many support and business modules in PPDM version 3.7:

Support Modules

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

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

PPDM Unit Measure: captures the default stored unit of measure for any measured value in the database and conversion factors.

PPDM Volume Measure: captures the fluid specific conversion factors and formulas which may be based on varying standard pressures and temperatures.

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

Facility, Field, Pool, Project, Strat Unit, Well: used to reference components which may make up a reserve entity, or to place a reserve entity on a reporting hierarchy.

Product: Validates the products for which reserves may be booked.

Business Modules

BA Interest Sets: describe partnership information for the ownership of Reserves volumes.

Contracts: contracts may be a component of a reserves entity.

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

Land Rights: capture surface access rights associate with a Reserves entity.

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

Obligations: used to manage obligations associated with reserve volumes – usually reporting obligations.

Projects: track work projects related to the development of reserves, or track reserve additions resulting from a specific project.

➤ Records Management: track the physical location of digital and hard copy products, circulation, retention, etc.

- Wells: describe in details wells that are part of the reserve entity.

Production Reserve Calculation

PDEN Decline: Captures forecast information resulting from decline analysis

PDEN Material Balance: captures the volumetric data and the results of gas material balance calculations, used to calculate reserve volumes

PDEN Volume Analysis: captures volumetric data and results, used to calculate reserve volumes

PDEN Volumes: captures the actual well production data used in decline analysis; material balance calculations; and to decrement reserve volumes based on historical production.

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

Data Diagrams

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:

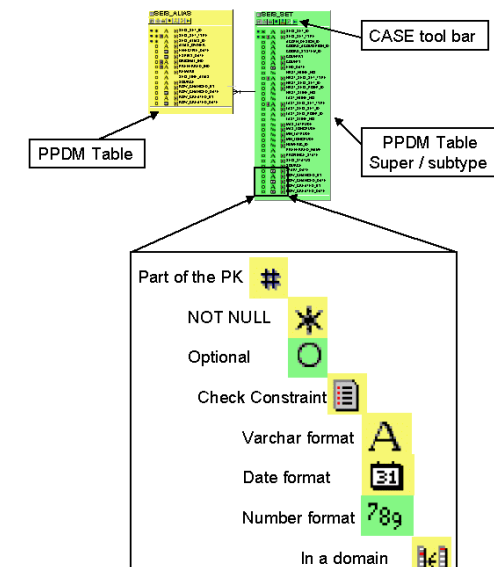


Figure 6: This illustration shows the functions of each icon used in the data diagrams provided with PPDM version 3.7.

The data diagrams PPDM 3.7 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: Projects

The following tables exist in the Projects module of PPDM version 3.6. Each table is described in the following section; you can jump to a table description by clicking on the hyperlinked table name below. Note that for detailed content descriptions for each table, you should refer to the PPDM version 3.6 table documentation.

[PROJECT](#)

[PROJECT_BA](#)

[PROJECT_BA_ROLE](#)

[PROJECT_COMPONENT](#)

[PROJECT_PLAN](#)

[PROJECT_PLAN_STEP](#)

[PROJECT_PLAN_STEP_XREF](#)

[PROJECT_STEP](#)

[PROJECT_STEP_XREF](#)

[PROJECT_STEP_BA](#)

Project plans

PROJECT_PLAN

This table allows you to create template or master project plans. These templates can be re-used many times, and are useful for organizations that require some process standardization in their methods.

Each project plan can be associated with the time period in which it should be used (EFFECTIVE_DATE and EXPIRY_DATE) and whether it is presently an active plan. The project has a PROJECT_TYPE and PLAN_NAME associated with it. A high-level text description of the plan can be input as well.

[Back to the list of table names](#)

PROJECT_PLAN_STEP

As with the Project Plan, each step in the plan can be associated with an EFFECTIVE_DATE and EXPIRY_DATE to indicate when that step was active and an ACTIVE_IND to highlight steps that are currently in the plan. This allows you to modify your plans over time if you wish. However, it is generally preferable to simply create a new project plan to accommodate changes.

Each step in the plan has a STEP_NAME and STEP_TYPE associated with it.

[Back to the list of table names](#)

PROJECT_PLAN_STEP_XREF

Use this table to create dependencies and associations between tasks, such as precursor or following steps, concurrent steps or alternative steps.

[Back to the list of table names](#)

Project management

PROJECT

Project summary information is provided in this table. START_DATE and COMPLETE_DATE provide information about when the project was conducted; the ACTIVE_IND can be set to 'Y' if the project is presently underway. The STATUS column indicates the overall status of the project; note that the status of individual steps may also be indicated in the PROJECT_STEP table.

Several high level indicator flags have also been provided to allow a list of the data types involved in the project; you can use this list to find all the seismic projects, for example. A confidential flag and release date of confidential status are also recorded here.

[Back to the list of table names](#)

PROJECT_BA

This table provides a simple summary of which Business Associates (people, organizations, consortiums or regulatory bodies) have been involved in the project. Additional details about the roles they played is found in PROJECT_BA_ROLE.

A Business Associate is merely identified here, but details such as address and contact information for the Business Associate are stored in tables of PPDM's Business Associate Module. This module is discussed in detail in the Business Associates Reference Guide, available from PPDM.

[Back to the list of table names](#)

PROJECT_BA_ROLE

This table allows you to keep track of the various roles a Business Associate can play in the project. For example, if the Business Associate completed the stratigraphic interpretation for the project, this Business Associate performed the role of interpreter, and you would record this role in this table.

Each Business Associate may fulfill one or more roles in a project; in small projects it's common for one person to do many jobs. In some cases, a Business Associate may be involved in the project for a while, move on to other things and

then come back to the project later (possibly in the same role or a different role). This table allows details to be captured about the roles played by each Business Associate and when that role was played.

[Back to the list of table names](#)

PROJECT_COMPONENT

This table provides foreign key references to all the business objects that have a relation to the project. The flags INPUT_IND and OUTPUT_IND allow you to show whether that business object was used to run the project or created by the project. For example, the contract that governs the operation of the project team may be an input to the project. Seismic interpretation picks, or a copied tape may be the output.

When populating this table, it is important to use the COMPONENT_TYPE with care; an index on this column can greatly improve performance for some types of searches. Each row in the table should contain only one foreign key reference; this will improve data management practices and eliminate possible confusion about the use of columns.

[Back to the list of table names](#)

PROJECT_STEP

Each step in the project can be associated with a step in the project plan through a foreign key from PROJECT_PLAN_STEP. The planned start and end dates, actual start and end dates are tracked along with an assigned due date and a critical date. Note that if a task is not completed by the critical date, the entire project timeline may be affected, or other external drivers may not be satisfied.

The status of each step can be tracked in STATUS. If you wish, you can also track where a step was completed (WHERE_COMPLETED); for example, a project with some field components may have some sample collection steps carried out in the field.

[Back to the list of table names](#)

PROJECT_STEP_BA

Use this table to track who completed each step; note that in some cases more than one Business Associate may have completed the task. In some cases, a step is actually completed more than once, perhaps to correct an error. You can track the role that a Business Associate was filling as that step was completed.

[Back to the list of table names](#)

PROJECT__STEP_XREF

Use this table to track relationships between tasks, such as preceding or following steps. Steps cannot be completed until a preceding step is completed may be identified here.

[Back to the list of table names](#)

Implementation Considerations

Constraints in PPDM

It is essential that anyone who is considering using PPDM version 3.6 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 3.6 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 3.6.

- 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 eight 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 time a query is developed 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.

Audit Columns

Each table contains five columns: SOURCE, ROW_CHANGED_BY, ROW_CHANGED_DATE, ROW_CREATED_BY, and ROW_CREATED_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.

Many tables in PPDM version 3.6 contain 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 the Projects Module

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.

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.

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)

What kind of projects can I use this module for?

Any project that consists of a series of steps with an objective in mind can be captured in the Projects module. However, PPDM work groups have created some smaller “workflow like” tables in other modules that were designed to satisfy very specific business requirements. These include:

- Seismic processing plans. See the Seismic Reference Guide for more details.
- Circulation processes. See the RM Reference Guide for more details.
- Land Right terminations. See the Land Right Reference Guide for more details.

How do I define and use a project plan in PPDM 3.6?

Project plans can be used as templates for actual projects; this allows you to base actual projects on a plan, but modify the actual plan without affecting the template. Use the tables PROJECT_PLAN and PROJECT_PLAN_STEP to define the plan. When you initiate the actual project, use the planned steps to populate the PROJECT_STEP table. As you go along, you can add detail to the plan, add, delete or modify steps and track project completion.

How do I track who the project manager was?

The table PROJECT_BA_ROLE will track who the project manager was. If more than one person filled this role over the life time of the project, you can capture that information.

Should this module be used to capture seismic processing plans?

You can use this table to track a seismic processing project, including who was involved, dates, roles and so on. The technical processing plan is found in the seismic module.

Can I find out whether Heron is a currently active project?

Yes. The ACTIVE_IND column of the PROJECT table indicates whether the project is currently active. When the project is active, the ACTIVE_IND will be set to “Y”. When it is not active, the ACTIVE_IND should be set to “N”. If you plan to use this column, you should implement a site rule that forces this column to be populated, rather than allow it to be NULL. NULL values can only be queried by inference – you assume it means “N”, but you can never be certain. Therefore, NULL values are confusing and ambiguous to the user.

In PPDM version 3.6, how do I designate that a project just involves land acquisition, but has no wells, seismic data, etc.?

In the PROJECT table, set the LAND_RIGHT_IND to yes and all other indicators (WELL_IND, SEIS_LINE_IND, etc.) to no. Use the PROJECT_COMPONENT table to reference the land rights involved in the project.

Does the Projects Module store the stratigraphic units defined for a project?

Not by itself. The Projects Module indicates that a stratigraphic interpretation has been done, but the stratigraphic units defined for the project are stored in the Stratigraphy Module. The Projects Module provides a reference to that module.

Can I find out how far over budget XYZ Project cost?

Yes. The FINANCE table stores actual and budgeted costs. A relationship between the project and the afe is found in the table FIN_COMPONENT.

However, more detailed information about the afe should be derived from your own accounting system. PPDM does not contain a detailed cost tracking module, but only high-level summary information and a pointer to your accounting system (the AFE or cost center number).

Can I find out who managed the project and who interpreted the stratigraphy in ABC Project? Can I also find out when these tasks were carried out?

Yes. Identifiers for Business Associates as well as the roles they play and the dates they played them are tracked in the PROJECT_BA_ROLE table of the Projects Module. The Projects Module includes a reference to the Business Associates Module.

Appendix A: Sample Queries

These sample queries have been developed using a subset of the requirements defined in the Business Requirements Document. Note that there are many ways to address the questions posed here, but we have tried to provide useful examples that illustrate the use of the data model. The PPDM Association does not provide any guarantee that these queries will satisfy your business requirements; they are for illustration only.

- **Spatial or GIS queries:** Spatial queries are not thoroughly addressed in this section of the reference guide; how you deal with these queries 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., if a project is not active now, when was it in the past). If your queries need to address the situation as it is now, use the ACTIVE_IND you will find in many versioned tables. Using this flag helps ensure that you do not return data that is out of date.
- **Units of Measure:** Several examples have been provided to show how units of measure should be queried in PPDM. As these queries are nearly always handled the same way, this guide does not show the method every time it is needed; the authors felt that this would create confusion and obscure the main intent of the query.

Is there a seismic processing plan associated with the JOHNSON project? If so, what is it?

```
Select      PP.PROJECT_PLAN_ID, PPS.PLAN_STEP_ID, PPS.STEP_NAME,
            PPS.STEP_TYPE
  From      PROJECT_PLAN PP, PROJECT_PLAN_STEP PPS,
            PROJECT_COMPONENT PC
 Where     PP.PROJECT_TYPE = 'SEIS PROC'
        and PC.PROJECT_ID = PP.PROJECT_PLAN_ID
        and PC.SEIS_SET_ID = 'JOHNSON'
        and PC.SEIS_SET_TYPE = 'SEIS_PROC_SET'
        and PP.PROJECT_PLAN_ID = PPS.PROJECT_PLAN_ID
```


What steps have been completed during this project, who completed them and when?

```
select      PS.STEP_TYPE, PS.ACTUAL_START_DATE, PS.ACTUAL_END_DATE,
            PSB.BUSINESS_ASSOCIATE
  From      PROJECT P, PROJECT_STEP PS, PROJECT_STEP_BA PSB
 Where     P.PROJECT_NAME = 'JONES RIVER'
    And    P.PROJECT_ID = PS.PROJECT_ID
    And    PS.PROJECT_ID = PSB.PROJECT_ID
    And    PS.STEP_ID = PSB.STEP_ID
    And    PS.STATUS = 'COMPLETE'
```

What are the due dates for this project?

```
Select     STEP_TYPE, DUE_DATE, CRITICAL_DATE
  From     PROJECT_STEP PS
 Where    PROJECT_ID = '123456'
```

What project did I start to track completion of this work order?

```
Select     P.PROJECT_NAME, P.PROJECT_ID
  From     PROJECT P, PROJECT_COMPONENT PC
 Where    PC.WORK_ORDER_ID = '1234565432'
    And    PC.PROJECT_ID = P.PROJECT_ID
```

What AFEs were used for the payment of costs associated with all tape copy projects?

```
select     P.PROJECT_NAME, F.FINANCE_ID, F.FINANCE_TYPE,
            F.ACTUAL_COST
  from     PROJECT P, FINANCE F, FIN_COMPONENT FC
 where    P.PROJECT_TYPE = 'TAPE COPY'
    and    P.PROJECT_ID = FC.PROJECT_ID
    and    FC.FINANCE_ID = F.FINANCE_ID
```

How can I find out when Petro-Canada shot seismic lines in the Pangman prospect?

```
select     SAS.START_DATE, SAS.COMPLETED_DATE
  from     SEIS_ACQTN_SURVEY SAS
 where    SAS.ACQTN_SURVEY_NAME = 'PANGMAN'
```

Note: A seismic prospect may also be a project, but information about the prospect itself is stored in the seismic module.

Who was involved with the Smith Mills project, and what roles did they play?

```

select      P.PROJECT_NAME, BA.BA_NAME, PB.EFFECTIVE_DATE,
            PB.EXPIRY_DATE, PBR.ROLE
  from      PROJECT P, PROJECT_BA PB, PROJECT_BA_ROLE PBR,
            BUSINESS_ASSOCIATE BA
 where     P.PROJECT_NAME = 'SMITH MILLS INTERPRETATION'
        and P.PROJECT_ID = PB.PROJECT_ID
        and PB.PROJECT_ID = PBR.PROJECT_ID
        and PB.BUSINESS_ASSOCIATE = PBR.BUSINESS_ASSOCIATE
        and PB.BUSINESS_ASSOCIATE = BA.BUSINESS_ASSOCIATE

```

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 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 times invalidate portions of the model. Internal re-engineering of business processes 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 help members implement the latest version of the PPDM model.

Changes Between Versions 3.4 and 3.5

The SEIS_PROJECT table, previously part of the Seismic Module, is now the PROJECT table. Also, the INTERPRTR table is now assimilated into the PROJECT_BA_ROLE table.

All business requirements supported in tables of PPDM version 3.4 are fully supported by the Projects Module in version 3.5.

Changes Between Versions 3.5 and 3.6

For complete documentation and a mapping between versions, please refer to the model mapping, available from the PPDM Association. In summary, the following tables have been added to PPDM 3.6:

- PROJECT_PLAN
- PROJECT_PLAN_STEP
- PROJECT_STEP
- PROJECT_STEP_BA

The table PROJECT_AFE has been subsumed into the AFE module, and can be found as a reference in AFE_COMPONENT.

Changes Between Versions 3.6 and 3.7

For complete documentation and a mapping between versions, please refer to the model mapping, available from the PPDM Association. In summary, the following tables have been added to PPDM 3.7:

- [PROJECT PLAN STEP XREF](#)
- [PROJECT STEP XREF](#)