What’s New

PPDM Version 3.9

- New subject
- Changes made
- Destructive Changes
- Removed / Deprecated
These constraints are now mandatory for compliance.
REVISED SUBJECT: SAMPLE MANAGEMENT

Collection
- where was the sample collected?
- is it a composite sample?
- what method was used to collect the sample?
- what stratigraphic bed or formation are the samples from?

Management
- where is the sample stored?
- how often was this sample used?

Preparation
- was all or part of the sample used?
- were parts of many samples combined?
- what methods were used?
- how much original sample remained?
- what was the sample quality?
NEW SUBJECT: ORGANIC GEOCHEMISTRY

SAMPLES

VALIDATE AND QC

PRODUCTS AND SUBSTANCES

SAMPLE ACTIVITIES

SAMPLE ANALYSIS RESULTS

http://commons.wikimedia.org/
ARCHITECTURAL CHANGES: PRIMARY KEYS

IDENTIFIER columns
- Changed from varchar2(20) → varchar2(40)

TYPE columns
- Changed from varchar2(20) → varchar2(40)
  - Architectural Principles allow column lengths to be increased without impact
ARCHITECTURAL CHANGES: DATES

DATES are defined using these rules:

- XXX_DATE is a native database DATE data type
- XXX_DATE_DESC as a varchar2 (8)
  - YYYY, YYYYMM, YYYYMMDD, YYYYQQ
- XXX_DATE_STRING as a varchar2 only if needed

PDEN subject

- %_DATE
  - varchar → date data type.
- Add a new column XXX_DATE_DESC
- Remove DATE from PK
- New PK component PERIOD_ID
ARCHITECTURAL CHANGES: TIMES

TIME values are defined using these rules:

- **XXX_TIME_ELAPSED**: to indicate that the value represents a total amount of elapsed time (and OUOM).

- **XXX_TIME**: Time of Day. This column must also be accompanied by TIMEZONE (and foreign key).

<table>
<thead>
<tr>
<th>PROJECT_STEP_TIME</th>
</tr>
</thead>
<tbody>
<tr>
<td>START_DATE</td>
</tr>
<tr>
<td>START_TIME</td>
</tr>
<tr>
<td>START_TIMEZONE</td>
</tr>
<tr>
<td>TOTAL_TIME_ELAPSED</td>
</tr>
<tr>
<td>TOTAL_TIME_ELAPSED_OUOM</td>
</tr>
<tr>
<td>TOTAL_TIME_ELAPSED_UOM</td>
</tr>
<tr>
<td>ROW_CHANGED_BY</td>
</tr>
</tbody>
</table>
ARCHITECTURAL CHANGES:
PK COLUMN NOT = TABLE NAME

• Where TABLE_NAME = COLUMN_NAME,
  • If in the PK, add the character string "_ID" to the end of the column name if the column.
    • Cascade this change to all child tables, unless the child column name has already been differentiated
      • 16 tables (plus cascades)
  • If the column is not in the PK, modify the name.
    • 9 tables
ARCHITECTURAL CHANGES: LONG AND SHORT NAMES

SHORT_NAME = varchar2(30)
- ~1100 + uses (~71 changes)
- One member requested increase to 60

LONG_NAME = varchar2(255)
- ~1000 uses (~16 changes)
- Increase consistency of use
- None are in a PK
# ARCHITECTURAL CHANGES: OTHER

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
<th>Change</th>
</tr>
</thead>
</table>
| 39.007 | ROW_EFFECTIVE_DATE  
ROW_EXPIRY_DATE | Added to all tables                                                   |
| 39.008 | PPDM_GUID                    | Clarify definition  
ROW_MANAGEMENT_GUID                                                   |
| 39.021 | PPDM_CONSTRAINT             | Increase column length                                                |
| 39.009 | Sub type clarification of usage                                           | Rename disambiguation column %_SUBTYPE                                |
| 39.010 | Order of PK for Super/Sub types  
- LAND_RIGHT_SUBTYPE  
- PDEN_SUBTYPE  
- RM_INFO_ITEM_SUBTYPE  
- SEIS_SET_SUBTYPE  
- SF_SUBTYPE | Subtype placed first                                                     |
| 39.012 | SQL Server number data type                                               | Set to FLOAT                                                          |
Support for sophisticated reference behaviour

- Multiple sources
- Hierarchy and granularity
- Equivalences

PPDM_CODE_VERSION to be deprecated (in the next version)

CLASSIFICATION
SUBJECT

Use this subject to capture Hierarchies and granularity

Referential Integrity

\[ R\_\% \]

\[ RA\_\% \]

Equivalences, Sources, Aliases, alternate spellings

...
AREAS: TABLES ADDED

Canada
  Country
AB
  Province
YU
  Territory
white
  Municipality
red
  Parish

Areas

AREA
  AREA_ALIAS
  AREA_CLASS
  AREA_COMPONENT
  AREA_CONTAIN
  AREA_DESCRIPTION
  AREA_HIERARCHY
  AREA_HIER_DETAIL
  AREA_XREF

AREA_HIERARCHY

AREA_CLASS

R_AREA_TYPE

AREA

AREA_XREF

39.026
PRODUCTS AND SUBSTANCES

- Hydrocarbons, minerals, elements and other substances
- Regulatory differences (What is Oil?)
- Composition details (What is this Oil made of?)
- Supports lab analysis
DATA MAPPING LOADS

New tables to track data loads based on mappings

PPDM_MAP_LOAD
PPDM_MAP_LOAD_ERROR
Many columns in the WELL Table represent information that is mastered in another table in PPDM. However, it can be very difficult to populate all of these columns in their normalized "home location", and much important contextual information may simply not be available if you are collecting well information from a regulatory agency or a data vendor. In this case, you should examine the columns one at a time and decide on a good Business Rule that you can apply uniformly in the implementation. The data administrator should decide how to achieve acceptable data quality if the same information is stored in many places, which could be done by quality checks on loading or by using database triggers to populate one column from the other.

- The source for the BOTTOM_HOLE_LATITUDE column is WELL_NODE_LATITUDE. Improving the performance of many applications. Keep in mind that coordinates need to be updated and information up to date.
- The source for COMPLETION_DATE is WELL_COMPLETION.COMPLETION_DATE. If you decide to denormalize one of them into this table, establish a business rule to determine this value.
- The source for DEEPEST_DEPTH is WELL_ACTIVITY.EVENT.DEPTH if DEEPEST_DEPTH is needed in well header information for cases where detailed information about well activity is not available, such as from a regulatory agency or a data vendor. In that case, DEEPEST_DEPTH should be considered to be shallower than the deepest depth that is reported.
- The DEPTH_DATUM column describes the type of reference for depths reported in the well. In a horizontal well, it could be just the rig floor or derrick floor, which is the level having a measured depth of zero. Elsewhere in the Well Module (e.g., WELL_LOG_TRIP), it is possible to define a datum that is used for the depths. As you populate DEPTH_DATUM, be aware that a well may have more than one depth datum, particularly if more than one contractor may have conducted work on the well site.
- DEPTH_DATUM_ELEV is the elevation (e.g., height above mean sea level) of the depth datum. Surface elevations may then be computed as DEPTH_DATUM_ELEV - MEASURED_DEPTH, provided the measured depth is "true vertical".
- DRILL_TD is the total depth reported by the driller (operator). It is the length from the datum (at surface) to the bottom of the hole, measured along the wellbore. This total depth may vary somewhat from the total depth measured by logging tools or other means, especially in a very deep well.
WHAT IS A WELL?

COMPONENTS

Avoid highly destructive changes
Don’t assume the user knows which component type is created
Keep the RI structure as simple as possible
No mandatory hierarchy - relate only components you know.
Distinguish between completions (n) and completions (v)
Allow components to be fully described

2014-09-09
WHAT IS A WELL?

COMPLETIONS VS. COMPLETIONS

Avoid highly destructive changes

Don’t assume the user knows which component type is created

Keep the RI structure as simple as possible

No mandatory hierarchy - relate only components you know.

Distinguish between completions (n) and completions (v)

Allow components to be fully described

This is a functionally destructive change and will require users to review their use of WELL COMPLETION and its child tables.
Reference table deprecation completed

Support Multiple AREA references where needed

- Add AREA table
- POOL VERSION AREA
- PDEN WELL REPORT STREAM
- PROD LEASE UNIT VERSION AREA
- WELL VERSION AREA
- SF AREA
DIRECTIONAL SURVEYS

- WELL_DIR_SURVEY
- WELL_DIR_SRVY
- WELL_DIR_SRVY_STATION
- WELL_DIR_SRVY_COMPOSITE

- NEW: Allow alternate versions
- NEW: More detail
- NEW: Composites reduce replication

- 39.013
- 39.050
- 39.051
DEPRECATED GEOMETRY TABLES

- RM_INFO_ITEM_GEOMETRY
- SEIS_SET_GEOMETRY
- STRAT_FIELD_GEOMETRY
- WELL_DIR_SURVEY_GEOMETRY
- WELL_GEOMETRY
- WELL_NODE_GEOMETRY
- SP_GEOMETRY
- R_GEOMETRY_FORMAT
- R_GEOMETRY_TYPE

Tables

- AREA.AREA_NUMERIC_ID
- RM_INFORMATION_ITEM.INFO_ITEM_NUMERIC_ID
- SEIS_BIN_GRID.SEIS_BIN_NUMERIC_ID
- SEIS_SET.NUMERIC_ID
- SF_MONUMENT.MONUMENT_NUMERIC_ID
- STRAT_FIELD_STATION.FIELD_STATION_NUMERIC_ID
- WELL.WELL_NUMERIC_ID
- WELL_DIR_SRVY.SURVEY_NUMERIC_ID
- WELL_NODE.NODE_NUMERIC_ID

Columns
Pre populate this; Query as needed
<table>
<thead>
<tr>
<th>Ref</th>
<th>Tables</th>
<th>Change</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>39.048</td>
<td>%_ALIAS tables</td>
<td>Rename ALIAS_CODE → ABBREVIATION and format</td>
<td>Column name, Column length</td>
</tr>
<tr>
<td>39.026</td>
<td>AREA_XREF</td>
<td>Add new table</td>
<td>New table</td>
</tr>
<tr>
<td>39.022</td>
<td>BA_ADDRESS</td>
<td>Add PREFERRED_IND</td>
<td>New column</td>
</tr>
<tr>
<td>39.014</td>
<td>Ohio location tables</td>
<td>added columns</td>
<td>New columns</td>
</tr>
<tr>
<td>39.015</td>
<td>LEGAL_LOC_%</td>
<td>EVENT_SEQUENCE number 1 → varchar2(4)</td>
<td>Data type, column length</td>
</tr>
<tr>
<td>39.018</td>
<td>INT_SET_PARTNER</td>
<td>added PK column</td>
<td>New column</td>
</tr>
<tr>
<td>39.020</td>
<td>PPDM_RULE</td>
<td>added REMARK column</td>
<td>New column</td>
</tr>
</tbody>
</table>
### MISCELLANEOUS CHANGES

<table>
<thead>
<tr>
<th>Ref</th>
<th>Tables</th>
<th>Change</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>39.023</td>
<td>PDEN_FLOW_MEASUREMENT</td>
<td>PERIOD_TYPE to PK &lt;br&gt;MEASUREMENT_DATE removed from PK &lt;br&gt;MEASUREMENT_TIME added &lt;br&gt;MEASUREMENT_OBS_NO added to PK</td>
<td>PK changed &lt;br&gt;New columns</td>
</tr>
<tr>
<td>39.025</td>
<td>PDEN_VOL_SUMMARY</td>
<td>GAS_ENERGY and units</td>
<td>New columns</td>
</tr>
<tr>
<td>39.025</td>
<td>PDEN_VOL_SUMM_OTHER</td>
<td>MASS and units &lt;br&gt;GAS_ENERGY and units</td>
<td>New columns</td>
</tr>
<tr>
<td>39.024</td>
<td>PDEN_VOL_SUMMARY</td>
<td>PERIOD_ON_INJECTION and PERIOD_ON_PRODUCTION &lt;br&gt;number 4.0 → number 15.5</td>
<td>Column length</td>
</tr>
</tbody>
</table>
# MISCELLANEOUS CHANGES

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<tr>
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<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>39.053</td>
<td>RM_COPY_RECORD</td>
<td>NEW_RECORD_NUM → NEW_RECORD_NO</td>
<td>Column name</td>
</tr>
<tr>
<td>39.031</td>
<td>RM_SEIS_TRACE</td>
<td>SAMPLE_RATE number 1 → number 8.4</td>
<td>Column length</td>
</tr>
<tr>
<td>39.032</td>
<td>RM_INFO_ITEM_CONTENT</td>
<td>Add FK from SEIS_BIN_GRID</td>
<td>Add FK</td>
</tr>
<tr>
<td>39.033</td>
<td>RM_FILE_CONTENT</td>
<td>FILE_SIZE Number 10.5 → 20.5</td>
<td>Column length</td>
</tr>
<tr>
<td>39.034</td>
<td>RM_PHYSICAL_ITEM</td>
<td>DIGITAL_DENSITY move to R_MEDIA_TYPE</td>
<td>Column names New column</td>
</tr>
<tr>
<td>39.035</td>
<td>RM_PHYSICAL_ITEM</td>
<td>LOCATION_REFERENCE Varchar2(30) → (240)</td>
<td>Column length</td>
</tr>
<tr>
<td>39.052</td>
<td>RM_PHYS_ITEM_CONDITION</td>
<td>Correct error in the PK</td>
<td>Change PK</td>
</tr>
</tbody>
</table>
### MISCELLANEOUS CHANGES

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<th>Ref</th>
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</tr>
</thead>
<tbody>
<tr>
<td>39.036</td>
<td>SEIS_BIN_OUTLINE</td>
<td>EASTING and NORTHING Number 12.7 → 15.7</td>
<td>Column length</td>
</tr>
<tr>
<td>39.036</td>
<td>SEIS_BIN_POINT</td>
<td>EASTING and NORTHING Number 12.7 → 15.7</td>
<td>Column length</td>
</tr>
<tr>
<td>39.036</td>
<td>SEIS_BIN_GRID</td>
<td>EASTING and NORTHING Number 12.7 → 15.7</td>
<td>Column length</td>
</tr>
<tr>
<td>39.032</td>
<td>SEIS_PROC_COMPONENT</td>
<td>Add FK from SEIS_BIN_GRID</td>
<td>Add FK</td>
</tr>
<tr>
<td>39.027</td>
<td>STRAT_FIELD_STATION</td>
<td>FIELD_STATION_ID Number → varchar2(40) + FK %_COMPONENT tables</td>
<td>Column Length New FK</td>
</tr>
<tr>
<td>39.041</td>
<td>SF_RIG</td>
<td>WATER_DEPTH to WATER_DEPTH_CAPACITY</td>
<td>Column name</td>
</tr>
<tr>
<td>39.042</td>
<td>LITH_%</td>
<td>Table and column names COMPONENT → ROCKPART</td>
<td>Table names Column names</td>
</tr>
</tbody>
</table>
## MISCELLANEOUS CHANGES

<table>
<thead>
<tr>
<th>Ref</th>
<th>Tables</th>
<th>Change</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>39.049</td>
<td>SEIS_WELL</td>
<td>DEPTH_DATUM DEPTH_DATUM_ELEV and units</td>
<td>New columns</td>
</tr>
<tr>
<td>39.040</td>
<td>Many well tables</td>
<td>WELL DEPTH columns Number 10.5 → 15.5</td>
<td>Column length</td>
</tr>
<tr>
<td>39.016</td>
<td>WELL TREATMENT</td>
<td>• TREATMENT_AMOUNT number 7.1 → 8.2</td>
<td>Column length</td>
</tr>
<tr>
<td>39.017</td>
<td>WELL TREATMENT</td>
<td>• PROPPANT_MESH_SIZE number 3.0 → varchar2(30)</td>
<td></td>
</tr>
<tr>
<td>39.047</td>
<td>WELL_LOG_CURVE_VALUE</td>
<td>DATE_FORMAT_DESC dropped</td>
<td>Column dropped</td>
</tr>
<tr>
<td>39.047</td>
<td>WELL_LOG_CURVE_FRAME</td>
<td>DATE_FORMAT_DESC dropped</td>
<td>Column dropped</td>
</tr>
</tbody>
</table>
This is a high level summary
Contact us for more details