

# Land Information Ontario Data Description

## Petroleum Well

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# LIO Class Description

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## Petroleum Well

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**Class Short Name:** PETWELL

**Version Number:** 4

**Class Description:**

A Petroleum Well is a point feature that identifies a well drilled into geological formations for: - production of oil, gas or formation water (excluding fresh water); - injection, storage and withdrawal of oil, gas, brine or other hydrocarbons; - disposal of oil field fluid; mining of salt by the solution mining method; - geological evaluation or testing of underground bedrock formations that may contain oil or gas. Wells that are no longer used may be plugged with no visible structures at the surface.

**Abstract Class Name:** SPSPNT

**Abstract Class**

**Description:**

Spatial Single-Point: An object is represented by ONE and ONLY ONE point. Examples: A cabin, bird nest, tower.

**Metadata URL:**

## Tables in LIO Class:

### Petroleum Well

#### PETROLEUM\_WELL\_FT

A Petroleum Well is a point feature that identifies a well drilled into geological formations for: - production of oil, gas or formation water (excluding fresh water); - injection, storage and withdrawal of oil, gas, brine or other hydrocarbons; - disposal of oil field fluid; mining of salt by the solution mining method; - geological evaluation or testing of underground bedrock formations that may contain oil or gas. Wells that are no longer used may be plugged with no visible structures at the surface.

| Column Name                                                                                                               | Column Type   | Mandatory | Short Name | Valid Values                                                                                                                                        |
|---------------------------------------------------------------------------------------------------------------------------|---------------|-----------|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>OGF_ID</b>                                                                                                             | NUMBER(13,0)  | Yes       | OGF_ID     |                                                                                                                                                     |
| A unique numeric identifier assigned to each feature by the LIO Warehouse.                                                |               |           |            |                                                                                                                                                     |
| <b>WELL_ID</b>                                                                                                            | NUMBER(12,0)  | Yes       | WELL_ID    |                                                                                                                                                     |
| The identification number of the petroleum well, generated by the Ontario Petroleum Data System (OPDS) Oracle database.   |               |           |            |                                                                                                                                                     |
| <b>LICENCE_NUMBER</b>                                                                                                     | VARCHAR2(8)   | Yes       | LIC_NUMBER |                                                                                                                                                     |
| Petroleum well licence number issued by the MNR.                                                                          |               |           |            |                                                                                                                                                     |
| <b>WELL_NAME</b>                                                                                                          | VARCHAR2(80)  | Yes       | WELL_NAME  |                                                                                                                                                     |
| The name of the petroleum well.                                                                                           |               |           |            |                                                                                                                                                     |
| <b>OPERATOR</b>                                                                                                           | VARCHAR2(80)  | Yes       | OPERATOR   |                                                                                                                                                     |
| The entity that is responsible for the operation of the well. If the operator is not known, a value of "Unknown" is used. |               |           |            |                                                                                                                                                     |
| <b>WELL_TYPE</b>                                                                                                          | VARCHAR2(100) | Yes       | WELL_TYPE  | Brine Well, Brine Well Natural Gas Well, Brine Well Oil Well, Cavern Storage Well, Disposal Well, Dry Hole, ...<br>(See PETRO_WELL_TYPE_LIST table) |
| The type of petroleum well as a result of the drilling operation.                                                         |               |           |            |                                                                                                                                                     |
| <b>WELL_MODE</b>                                                                                                          | VARCHAR2(100) | Yes       | WELL_MODE  | Abandoned Well, Abandoned and Junked (Lost), Active Well, Cancelled, Capped Well, Denied, ...<br>(See PETRO_WELL_MODE_LIST table)                   |
| The operating status of the petroleum well.                                                                               |               |           |            |                                                                                                                                                     |
| <b>SURFACE_LATITUDE_83</b>                                                                                                | NUMBER(12,8)  | Yes       | SUR_LAT83  |                                                                                                                                                     |
| The latitude at the top of the well in decimal degrees (NAD83). For example: 43.1234567.                                  |               |           |            |                                                                                                                                                     |
| <b>SURFACE_LONGITUDE_83</b>                                                                                               | NUMBER(12,8)  | Yes       | SUR_LONG83 |                                                                                                                                                     |
| The longitude at the top of the well in decimal degrees (NAD83). For example: -80.1234567.                                |               |           |            |                                                                                                                                                     |

|                                                                                                                                                                                                                                                                                                                                            |               |     |            |                                                                                                                                                          |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|-----|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>BOTTOM_LATITUDE_83</b>                                                                                                                                                                                                                                                                                                                  | NUMBER(12,8)  | No  | BOT_LAT83  |                                                                                                                                                          |
| The latitude at the bottom of the hole in decimal degrees (NAD 83). For example: 42.1234567.                                                                                                                                                                                                                                               |               |     |            |                                                                                                                                                          |
| <b>BOTTOM_LONGITUDE_83</b>                                                                                                                                                                                                                                                                                                                 | NUMBER(12,8)  | No  | BOT_LONG83 |                                                                                                                                                          |
| The longitude at the bottom of the hole in decimal degrees (NAD 83). For example: -80.1234567.                                                                                                                                                                                                                                             |               |     |            |                                                                                                                                                          |
| <b>LOCATION_ACCURACY</b>                                                                                                                                                                                                                                                                                                                   | VARCHAR2(25)  | Yes | ACCURACY   | Not Applicable, Over 10,000 metres, Within 1 metre, Within 10 metres, Within 10,000 metres, Within 100 metres, ...<br>(See LOCATION_ACCURACY_LIST table) |
| The degree of conformity or closeness of a measurement within the database to its true value in the world.                                                                                                                                                                                                                                 |               |     |            |                                                                                                                                                          |
| <b>LOCATION_SOURCE</b>                                                                                                                                                                                                                                                                                                                     | VARCHAR2(100) | No  | LOC_SOURCE |                                                                                                                                                          |
| The source of the information that was used to determine the location of the petroleum well. For example: GPS or Well Records (pre 1921)                                                                                                                                                                                                   |               |     |            |                                                                                                                                                          |
| <b>GROUND_ELEVATION</b>                                                                                                                                                                                                                                                                                                                    | NUMBER(12,2)  | No  | GRND_ELEV  |                                                                                                                                                          |
| A number representing the estimated ground elevation of a petroleum well in metres above sea level (ASL).                                                                                                                                                                                                                                  |               |     |            |                                                                                                                                                          |
| <b>TOTAL_DEPTH</b>                                                                                                                                                                                                                                                                                                                         | NUMBER(12,2)  | No  | TD         |                                                                                                                                                          |
| The total length of the hole from the rig floor to the bottom of the hole measured in metres.                                                                                                                                                                                                                                              |               |     |            |                                                                                                                                                          |
| <b>TRUE_VERTICAL_DEPTH</b>                                                                                                                                                                                                                                                                                                                 | NUMBER(12,2)  | No  | TVD        |                                                                                                                                                          |
| The true vertical depth (TVD) of a petroleum well measured in metres. This is the depth from the rig floor horizontal datum to the bottom of the well, measured by a line perpendicular to the datum. For vertical wells, this value will be the same as Total Depth.                                                                      |               |     |            |                                                                                                                                                          |
| <b>COUNTY</b>                                                                                                                                                                                                                                                                                                                              | VARCHAR2(100) | No  | COUNTY     |                                                                                                                                                          |
| The county in which the surface of the petroleum well is located.                                                                                                                                                                                                                                                                          |               |     |            |                                                                                                                                                          |
| <b>TOWNSHIP</b>                                                                                                                                                                                                                                                                                                                            | VARCHAR2(100) | No  | TOWNSHIP   |                                                                                                                                                          |
| The geographic township in which the surface (top) location of the petroleum well is located.                                                                                                                                                                                                                                              |               |     |            |                                                                                                                                                          |
| <b>LOT</b>                                                                                                                                                                                                                                                                                                                                 | VARCHAR2(100) | No  | LOT        |                                                                                                                                                          |
| The lot identifier for a particular geographic township and concession where the petroleum well surface (top) location is.                                                                                                                                                                                                                 |               |     |            |                                                                                                                                                          |
| <b>CONCESSION</b>                                                                                                                                                                                                                                                                                                                          | VARCHAR2(100) | No  | CONCESSION |                                                                                                                                                          |
| The concession identifier for the geographic township where the petroleum well surface (top) location is.                                                                                                                                                                                                                                  |               |     |            |                                                                                                                                                          |
| <b>NORTH_SOUTH_BOUNDARY</b>                                                                                                                                                                                                                                                                                                                | NUMBER(12,2)  | No  | NS_BOUNDRY |                                                                                                                                                          |
| Part of the metes and bounds description. The distance in metres commencing at a corner of the lot, measured along the eastern or western lot boundary, to the point 90 degrees from the well. The North South Flg will indicate the direction of measurement. The north/south measurement is determined before the east/west measurement. |               |     |            |                                                                                                                                                          |
| <b>NORTH_SOUTH_FLG</b>                                                                                                                                                                                                                                                                                                                     | VARCHAR2(1)   | No  | NS_FLG     |                                                                                                                                                          |
| Part of the metes and bounds description. The direction, north or south, for the Location North South measurement.                                                                                                                                                                                                                         |               |     |            |                                                                                                                                                          |
| <b>EAST_WEST_BOUNDARY</b>                                                                                                                                                                                                                                                                                                                  | NUMBER(12,2)  | No  | EW_BOUNDRY |                                                                                                                                                          |
| Part of the metes and bounds description. The distance in metres taken perpendicular to the eastern or western lot boundary to the petroleum well. The north/south measurement is determined before the east/west                                                                                                                          |               |     |            |                                                                                                                                                          |

measurement.

|                                                                                                                                                                                                                                                                                                                                                                                                       |              |     |            |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|-----|------------|
| <b>EAST_WEST_FLG</b>                                                                                                                                                                                                                                                                                                                                                                                  | VARCHAR2(1)  | No  | EW_FLG     |
| Part of the metes and bounds description. The direction, east or west, for the Location East West measurement.                                                                                                                                                                                                                                                                                        |              |     |            |
| <b>OFFSHORE_BLOCK</b>                                                                                                                                                                                                                                                                                                                                                                                 | VARCHAR2(12) | No  | OFFSHORE_B |
| The block number for a petroleum well located on offshore crown land.                                                                                                                                                                                                                                                                                                                                 |              |     |            |
| <b>OFFSHORE_TRACT</b>                                                                                                                                                                                                                                                                                                                                                                                 | VARCHAR2(12) | No  | OFFSHORE_T |
| The tract identifier for a petroleum well located on offshore crown land.                                                                                                                                                                                                                                                                                                                             |              |     |            |
| <b>VERTICAL_FLG</b>                                                                                                                                                                                                                                                                                                                                                                                   | VARCHAR2(1)  | No  | VERTICAL   |
| Indicates whether the well was drilled vertically straight downward. The surface latitude and longitude coordinate is the same as the bottom hole latitude and longitude coordinate.                                                                                                                                                                                                                  |              |     |            |
| <b>HORIZONTAL_FLG</b>                                                                                                                                                                                                                                                                                                                                                                                 | VARCHAR2(1)  | No  | HORIZONTAL |
| Indicates whether the bottom portion of the well was drilled horizontally within the target geological formation. The surface latitude and longitude coordinate differs from the bottom hole latitude and longitude coordinate.                                                                                                                                                                       |              |     |            |
| <b>DIRECTIONAL_FLG</b>                                                                                                                                                                                                                                                                                                                                                                                | VARCHAR2(1)  | No  | DIRECTION  |
| Indicates whether the majority of the well was drilled on an angle. The surface latitude and longitude coordinate differs from the bottom hole latitude and longitude coordinate.                                                                                                                                                                                                                     |              |     |            |
| <b>DEEPENING_FLG</b>                                                                                                                                                                                                                                                                                                                                                                                  | VARCHAR2(1)  | No  | DEEPENING  |
| Indicates whether the well was re-entered to extend its length.                                                                                                                                                                                                                                                                                                                                       |              |     |            |
| <b>REENTRY_FLG</b>                                                                                                                                                                                                                                                                                                                                                                                    | VARCHAR2(1)  | No  | REENTRY    |
| Indicates whether the well was re-entered for purposes other than deepening the well or drilling a lateral well. For example, to drill out plugs in order to produce oil or gas.                                                                                                                                                                                                                      |              |     |            |
| <b>LATERAL_FLG</b>                                                                                                                                                                                                                                                                                                                                                                                    | VARCHAR2(1)  | No  | LATERAL    |
| Indicates whether the well was drilled from the bottom portion of an existing horizontal/lateral well into the same target geological formation. The lateral wellhole begins at the point where the drilling was kicked off from the existing borehole. For record purposes, the surface latitude and longitude coordinate is equivalent to the horizontal surface latitude and longitude coordinate. |              |     |            |
| <b>SPUD_DATE</b>                                                                                                                                                                                                                                                                                                                                                                                      | DATE         | No  | SPUD_DATE  |
| The date that drilling started.                                                                                                                                                                                                                                                                                                                                                                       |              |     |            |
| <b>TOTAL_DEPTH_REACHED_DATE</b>                                                                                                                                                                                                                                                                                                                                                                       | DATE         | No  | TD_DATE    |
| The date that the total depth of the petroleum well was reached.                                                                                                                                                                                                                                                                                                                                      |              |     |            |
| <b>PLUGGING_END_DATE</b>                                                                                                                                                                                                                                                                                                                                                                              | DATE         | No  | PLUG_DATE  |
| The date that the petroleum well plugging was completed.                                                                                                                                                                                                                                                                                                                                              |              |     |            |
| <b>MAP_SYMBOL_CODE</b>                                                                                                                                                                                                                                                                                                                                                                                | VARCHAR2(20) | No  | MAP_SYMBOL |
| A code used for symbology on map products. It is a combination of Well Type and Well Mode. For example: Natural Gas (Producer) Active is GP-ACT                                                                                                                                                                                                                                                       |              |     |            |
| <b>GEOMETRY_UPDATE_DATETIME</b>                                                                                                                                                                                                                                                                                                                                                                       | DATE         | No  | GEO_UPT_DT |
| Date/time the geometry was created or last modified in the source database.                                                                                                                                                                                                                                                                                                                           |              |     |            |
| <b>EFFECTIVE_DATETIME</b>                                                                                                                                                                                                                                                                                                                                                                             | DATE         | Yes | EFF_DATE   |
| Date/time the record was created or last modified in the source database.                                                                                                                                                                                                                                                                                                                             |              |     |            |
| <b>SHAPE</b>                                                                                                                                                                                                                                                                                                                                                                                          | SDO_GEOMETRY | No  | SHAPE      |

Geometry attribute.

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