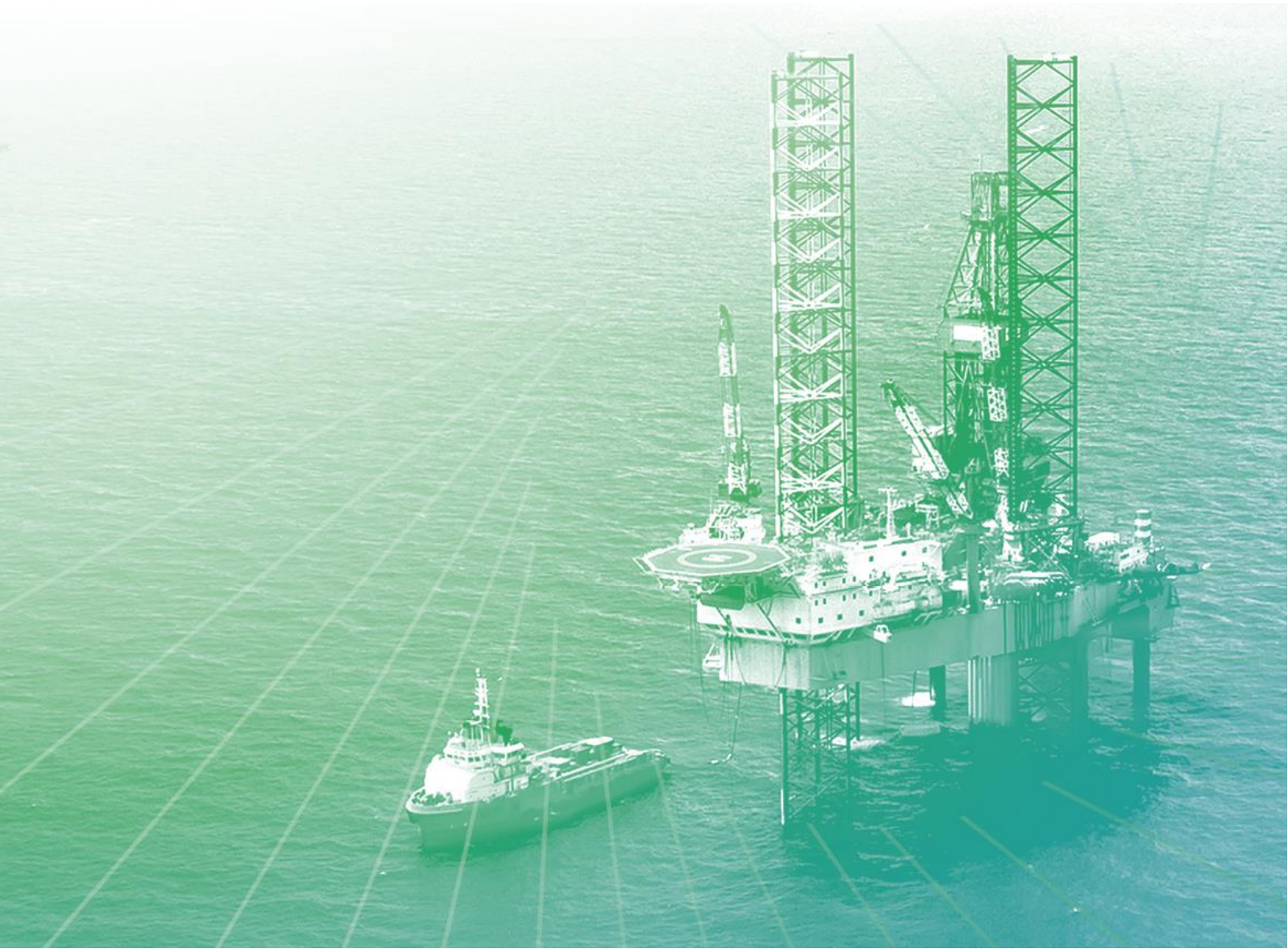
IHS Markit™

CriteriaXML Specification

UPSTREAM ENERGY

Energy Web Services U.S. Edition 2017 v6

July 2017



Energy Web Services U.S. Edition ® 2017 v6

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Introduction

This document assumes the audience has **a good understanding of XML structure**. For an introduction to XML, go to http://www.w3.org. The document describes in detail how to construct a valid query formatted as an IHS Enerdeq CriteriaXML document (see Figure 1). The Enerdeq Query System will process CriteriaXML, and it will return a result set to the client:

```
<criterias>
        <criteria type="value">
                <domain>US</domain>
                <datatype>Well</datatype>
                <attribute_group>Identification</attribute_group>
                <attribute>Operator</attribute>
                <type>code</type>
                <displaytype />
                <filter logic="equals">
                        <value actual="124223" name="ABC OIL INCORPORATED" />
                </filter>
        </criteria>
</criterias>
```

Figure 1: Sample CriteriaXML query

At first glance, the CriteriaXML structure does not look complicated at least not when working with simple queries. However, the structure quickly gets involved when forming more complex queries on multiple attributes using various logical operators. You can view the XML structure as a set of simple building blocks from which you can construct complex and powerful queries.

Figure 2, below, illustrates a complex query with the general building blocks becoming visible. The CriteriaXML core structure consists of exactly one ***criterias*** element containing one or more ***criteria*** elements. When more than one ***criteria*** element is present, the result set is the intersection of the result set for each ***criteria*** element, i.e. a logical **AND** operation.

The ***criteria*** element contains attributes and elements uniquely identifying the query attribute, e.g. *Total Depth* and a ***filter*** element.

The ***filter*** element contains a set operator attribute, ***logic***, and one or more *value* elements. When more than one ***value*** element is present, the result set is a superset of the result set for each ***value*** element, i.e. a logical inclusive **OR** operation.

```
<criterias>
	<criteria type="value">
		<domain>US</domain>
		<datatype>Well</datatype>
		<attribute_group>Date</attribute_group>
		<attribute>Permit License Date</attribute>
		<type>date</type>
		<filter logic="between">
			<value actual="1980/01/01--1990/01/01"/>
		</filter>
	</criteria>
	<criteria type="value">
		<domain>US</domain>
		<datatype>Well</datatype>
		<attribute_group>Location</attribute_group>
		<attribute>State</attribute>
		<type>code</type>
		<filter logic="equals">
			<value actual="45"/>
		<value actual="02"/>
		</filter>
	</criteria>
	<criteria type="value">
		<domain>US</domain>
		<datatype>Well</datatype>
		<attribute_group>Well</attribute_group>
		<attribute>Total Depth</attribute>
		<type>depth</type>
		<filter logic="between">
			<value actual="8000--9000"/>
		</filter>
	</criteria>
</criterias>
```

Figure 2: Complex CriteriaXML query

Build CriteriaXML

The ***criterias*** Element

The *criterias* element (root element) contains the entire query definition described as one or many *criteria* elements. The *criterias* element does not have any attributes — see Fig. 1 and Fig. 2.

The ***criteria*** Element

One and only one logical query component, e.g. Total Depth >= 12000 can be specified in a *criteria* element. Fig. 2 illustrates the concept with three separate *criteria* elements within one ***criterias*** element. The *criteria* element has one mandatory attribute and seven mandatory child elements documented below.

type Attribute

Definition: Indicator for "simple" (**value**) or "complex" (**group**) *filter/value* element

Valid value: value, group

Example: type="value"

domain Element

Definition: Geographical origin of data, e.g. US

Valid value: US

Example: <domain>US</domain>

datatype Element

Definition: Subject area, e.g. Well

Valid values: Well, Production Allocated, Production Unallocated, Activity.-

Example: <datatype>Well</datatype>

attribute_group Element

Definition: Grouping of attributes, e.g. Location.

Example: <attribute_group>Location</ attribute_group

Value:

1. Well
    a. Date
    b. Geology
    c. Grid/Location
    d. Identification
    e. Location
    f. Well

2. Production Allocated
    a. Date
    b. Geology
    c. Grid/Location
    d. Identification
    e. Location
    f. Production
    g. Well

3. Production Allocated
    a. Date
    b. Geology
    c. Grid/Location
    d. Identification
    e. Location
    f. Production
    g. Well

4. Activity Data
    a. Date
    b. Geology
    c. Grid/Location
    d. Identification
    e. Location
    f. Well
5. Rig Activity
    a. Rigs
    b. Date
    c. Geology
    d. Identification
    e. Location
    f. Well

attribute Element

Definition: Query attribute name

Valid values: Operator, Total Depth, etc. — see complete list in Appendix A.

Example: <attribute>Operator</attribute>

type Element

Definition: Query attribute type

Value: Depth, Date, Code, etc.

Example: <type>US</type>

The ***filter*** Element

One and only one *filter* element can be specified within each *criteria* element. The *filter* element specifies a logical operator, i.e. greater than, between, etc. in the *logic* attribute and the query constraint in the *value* element. You may specify one or many *value* elements (logical inclusive **OR** operation). A *value* element can be represented as shown in Figure 3 if there is a one-to-one mapping between the query attribute and the attribute queried in the database. However, some of the query attributes do have a complex mapping to two or more attributes — see Figure. 4 — in the database, which in the CriteriaXML is handled by giving the *value* element sub elements named *condition*.

```
<criterias>
        <criteria type="value">
                <domain>US</domain>
                <datatype>Well</datatype>
                <attribute_group>Geology</attribute_group>
                <attribute>Bottom-Hole Formation</attribute>
                <type>code</type>
                <filter logic="equals">
                        <value actual="653ABVL"/>
                        <value actual="403ABBT"/>
                        <value actual="202ABRN"/>
                </filter>
        </criteria>
```

Figure 3: Complex CriteriaXML query with multiple value elements

Note: The *filter logic* attribute needs to be set to "**include**" when you are defining complex queries with *value* elements with multiple *condition* elements.

logic Attribute

Definition: Filter level logical operator

Valid values: **include**, like, between, equals, greater than or equal, less than or equal

Note: The "**include**" value is special because it allows you to specify a *value* with multiple *condition* elements — one logical query attribute maps to many database attributes.

```
<criterias>
    <criteria type="group">
        <domain>US</domain>
        <datatype>Well</datatype>
        <attribute_group>Grid/Location</attribute_group>
        <attribute>Lat/Long-Surface</attribute>
        <filter logic="include">
                <value>
                        <group_actual>
                                <operator logic="and">
                                        <condition logic="between">
                                                <attribute>latitude</attribute>
                                                <value_list><value min="35" max="40"/></value_list>
                                        </condition>
                                        <condition logic="between">
                                                <attribute>longitude</attribute>
                                                <value_list><value min="-95" max="-90"/></value_list>
                                        </condition>
                                </operator>
                        </group_actual>
                </value>
                <value>
                        <group_actual>
                                <operator logic="and">
                                        <condition logic="between">
                                                <attribute>latitude</attribute>
                                                <value_list>
                                                        <value min="40" max="41"/>
                                                </value_list>
                                        </condition>
                                        <condition logic="between">
                                                <attribute>longitude</attribute>
                                                <value_list>
                                                        <value min="-95" max="-90"/>
                                                </value_list>
                                        </condition>
                                </operator>
                        </group_actual>
                </value>
        </filter>
    </criteria>
</criterias>
```

Figure 4: Complex CriteriaXML query with two values attributes and multiple conditions

value Element

The *value* element is a very complex element. The setting of the *criteria/criteria/type* attribute determines which of two possible *value* sub-schemas need to be populated.

Simple value element

When the *criteria/criteria/type* is set to "value" and the *filter/logic* attribute is not set to "**include**", the *value* element is considered "simple". The variations are not many and only the *display* attribute demands some attention.

value Element

Definition: Query constraint

Valid values: The ***actual*** attribute value feed must be given in a machine readable format.

If *filter/logic*= **between**: you may specify a **lower** and an **upper** boundary as:

<value **actual**="8000--9000" />

If *filter/logic*= **equals**: you may specify an exact match constraint as:

<value **actual**="45"/>

If *filter/logic*= **greater than or equal**: you may specify a **lower** boundary as:

<value **actual**="9000"/>

If *filter/logic*= **less than or equal**: you may specify an **upper** boundary as:

<value **actual**="9000"/>

If *filter/logic*= **like**: you may specify a constraint pattern as:

<value actual="AB%"/>

Complex value element

When the *criteria/criteria/type* is set to "**group**" and the *filter/logic* attribute is set to "**include**" the *value* element is considered "complex". The structure of the *value* element is completely different from the structure for a "simple" *value* element. The "complex" *value* element contains only one *group_actual* and only one *group_display* element, but no attributes. Please also note that the *criteria type* element is not part of a complex CriteriaXML.

group_actual Element

Definition: This element contains one sub element: *operator*

Valid values: **n.a.**

operator Element

Definition: This element contains one attribute: *logic* and many *condition* elements.

Valid values: **n.a.**

logic Attribute

Definition: Defines logical "and" or "or" between the individual *condition* elements.

Valid values: *and, or*

condition Element

Definition: The query condition is made up of a *logic* attribute, an *attribute* element, and a *value_list* element.

Valid values: **n.a.**

logic Attribute

Definition: Condition level logical operator

Valid values: between, equals, greater than or equal, less than or equal.

Example: logic="between"

attribute Element

Definition: Database query attribute name

Valid values: See description of individual complex query attributes, e.g. Lat/Long-Surface

Example: <attribute>longitude</attribute>

value_list Element

Definition: Query element *value* defines two attributes, *min* and *max*

Valid values: **n.a**

min Attribute

Definition: Query element *value's min* attribute value

Valid values: **n.a.**

Example: <value min="-95" max="-90"/>

max Attribute

Definition: Query element *value's max* attribute value

Valid values: **n.a.**

Example: <value min="-95" max="-90"/>

Simple Query Attribute Categories

Most query attributes can be grouped into one of the following categories and are called simple query attributes:

1. *Date* — Category: **Q-DATE**
2. *Depth* — Category: **Q-DEPTH**
3. *Count* — Category: **Q-COUNT**
4. *Name* — Category: **Q-NAME**
5. *Code* — Category: **Q-CODE**

The topics below describe how to write CriteriaXML for each of the five main query categories above. Chapter 4, *Queryable Attributes*, makes references to one of the five attribute categories.

The Date Category (Q-DATE)

The *criteria type* attribute must be set to the constant value: *value*.

The *criteria type* element must be specified as: *date*.

The *filter logic* attribute can be set to one of the four following constants:

- **between** ( Note the "--" notation separating lower and upper boundary)
- **greater_than_or_equals**
- **less_than_or_equals**
- **like** ( Note: the **like** operator will match the date part only of the Oracle date *datatype* — the **equals** operator matches the entire content of a date, which includes a time stamp. Conceptually, **like** in this case implements **equals**).

You may define as many *criteria value* elements as needed within the *criteria* element to describe a complex **OR**'ed condition.

```
<criterias>
        <criteria type="value">
                <domain>US</domain>
                <datatype>Well</datatype>
                <attribute_group>Date</attribute_group>
                <attribute>Completion Date</attribute>
                <type>date</type>
                <filter logic="between">
                        <value actual="2000/01/01--2002/01/02"/>
                </filter>
        </criteria>
```

Figure 5: Simple Q-DATE query defining between logic

```
<criterias>
        <criteria type="value">
                <domain>US</domain>
                <datatype>Well</datatype>
                <attribute_group>Date</attribute_group>
                <attribute>Permit License Date</attribute>
                <type>date</type>
                <filter logic="greater_than_or_equals">
                        <value actual="2006/01/01"/>
                </filter>
        </criteria>
</criterias>
```

Figure 6: Simple Q-DATE query defining greater_than_or_equals logic

```
<criterias>
        <criteria type="value">
                <domain>US</domain>
                <datatype>Well</datatype>
                <attribute_group>Date</attribute_group>
                <attribute>Completion Date</attribute>
                <type>date</type>
                <filter logic="between">
                        <value actual="2001/01/01--2002/01/01"/>
                        <value actual="2004/01/01--2005/01/01"/>
                </filter>
        </criteria>
</criterias>
```

Figure 7: Simple Q-DATE query defining an OR condition

```
<criterias>

        <criteria type="value">

                <domain>US</domain>

                <datatype>Well</datatype>

                <attribute_group>Date</attribute_group>

                <attribute>Permit License Date</attribute>
```

Figure 8: Simple Q-DATE query defining equals logic

The Depth Category (Q-DEPTH)

The structure of a Q-DEPTH type CriteriaXML document is very similar to the Q-DATE type described above. The Q-DATE examples are therefore valid for Q-DEPTH, except that the *criteria type* must be set to *depth*.

The *criteria type* attribute must be set to the constant value: *value*.

The *criteria type* element must be specified as: *depth.*

The *filter logic* attribute can be set to one of the four following constants:

- **between** (Note the "--" notation separating lower and upper boundary)
- **greater_than_or_equals**
- **less_than_or_equals**
- **equals**

You may define as many *criteria value* elements as needed within the *criteria* element to describe a complex **OR**'ed condition.

```
<criterias>
        <criteria type="value">
                <domain>US</domain>
                <datatype>Well</datatype>
                <attribute_group>Well</attribute_group>
                <attribute>Total Depth</attribute>
```

Figure 10: Simple Q-DATE query defining equals logic

The Count Category (Q-COUNT)

```
<criterias>
        <criteria type="value">
                <domain>US</domain>
                <datatype>Well</datatype>
                <attribute_group>Well</attribute_group>
                <attribute>Total Depth</attribute>
```

Figure 9: Simple Q-DEPTH query defining less_than_or_equals logic

The structure of a Q-COUNT type CriteriaXML document is very similar to the Q-DATE type described above. The Q-DATE examples are therefore valid for Q-COUNT, except that the *criteria type* must be set to *count*.

The *criteria type* attribute must be set to the constant value: *value*.

The *criteria type* element must be specified as: *count.*

The *filter logic* attribute can be set to one of the four following constants:

- **between** (Note the "--" notation separating lower and upper boundary)
- **greater_than_or_equals**
- **less_than_or_equals**
- **equals**

You may define as many *criteria value* elements as needed within the *criteria* element to describe a complex **OR**'ed condition.

```
<criterias>

        <criteria type="value">

                <domain>US</domain>

                <datatype>Production Allocated</datatype>


        <attribute_group>Production</attribute_group>
```

Figure 11: Simple Q-COUNT query defining greater_than_or_equals logic

The Name Category (Q-NAME)

The *criteria type* attribute must be set to the constant value: *value*.

The *criteria type* element must be specified as: *name*.

The *filter logic* attribute can be set to one of the three following constants:

- **equals**
- **like**

You may define as many *criteria value* elements as needed within the *criteria* element to describe a complex OR'ed condition.

```
<criterias>

        <criteria type="value">

                <domain>US</domain>

                <datatype>Well</datatype>


        <attribute_group>Identification</attribute_group>
```

Figure 12: Simple Q-NAME query defining equals logic

```
<criterias>
        <criteria type="value">
                <domain>US</domain>
                <datatype>Well</datatype>

        <attribute_group>Identification</attribute_group>
```

Figure 13: Simple Q-Name query defining like logic

```
<criterias>
        <criteria type="value">
                <domain>US</domain>
                <datatype>Well</datatype>

        <attribute_group>Identification</attribute_group>
                <attribute>Lease Name</attribute>
                <type>name</type>
                <filter logic="equals">
```

Figure 14: Simple Q-NAME type query defining an OR condition

The Code Category (Q-CODE)

The structure of a Q-CODE-type CriteriaXML document is very similar to the Q-NAME type described above. The Q-NAME examples are therefore valid for Q-CODE, except that the *criteria type* must be set to *code*.

The *criteria type* attribute must be set to the constant value: *value*.

The *criteria type* element must be specified as: *code.*

The *filter logic* attribute can be set to one of the three following constants:

- **equals**
- **like**

You may define as many *criteria value* elements as needed within the *criteria* element to describe a complex **OR**'ed condition.

Note: *Generally, queries are performing better on a code value than a name.*

```
<criterias>

        <criteria type="value">

                <domain>US</domain>

                <datatype>Well</datatype>

                <attribute_group>Geology</attribute_group>

                <attribute>Bottom-Hole
Formation</attribute>
```

Figure 15: Simple Q-CODE type query defining equals logic and OR conditions

Queryable Attributes

There are five different datasets supported by CriteriaXML:

- Well
- Production Allocated
- Production Unallocated
- Activity Data
- Rig Activity

Each dataset is composed of a number of attribute groups, e.g. Date, Geology, Location, etc. Each queryable attribute belongs to an attribute group.

In the description of each query attribute below, all the simple query attributes reference back to the previous chapter, *Simple Query Attribute Categories*.

For example, the Well Completion Date attribute is part of the **Q-DATE category**. To build a *criteria* element for Completion Date:

- Look up the Q-DATE definition.
- Enter the right domain indicator, e.g. US.
- Enter the right datatype, e.g. Well.
- Substitute the value in the attribute element with Completion Date.
- Modify the filter/logic attribute to match your query condition, e.g. greater_than_or_equals.
- Adjust the value/*actual* attribute.

```
<criterias>

        <criteria type="value">

                <domain>US</domain>

                <datatype>Well</datatype>

                <attribute_group>Date</attribute_group>

                <attribute>Completion Date</attribute>
```

Figure 16: Well Completion Date query

The Well Dataset

The *Date* Attribute Group

- Completion Date [ref. Q-DATE]
- Dir Survey Date [ref. Q-DATE]
- Last Activity Date [ref. Q-DATE]

- Last Update [ref. Q-DATE]
- Permit License Date [ref. Q-DATE]
- Rig Release Date [ref. Q-DATE]
- Spud Date [ref. Q-DATE]

The *Geology* Attribute Group

- Bottom-Hole Formation [name ref. Q-NAME]
- Bottom-Hole Formation [code ref. Q-CODE]
- Formation Tops [name ref. Q-NAME]
- Formation Tops [code ref. Q-CODE]
- Formation Tops [source ref. Q-CODE]
- Formation Tops [interpreter ref. Q-CODE]
- Oldest Age Penetrated [name ref. Q-NAME]
- Oldest Age Penetrated [code ref. Q-CODE]
- Play Name [name ref. Q-NAME]
- Play Type [name ref. Q-NAME]
- Play Type [code ref. Q-CODE]
- Producing Formation [name ref. Q-NAME]
- Producing Formation [code ref. Q-CODE]
- Target Formation [name ref. Q-NAME]
- Target Formation [code ref. Q-CODE]

The *Grid/Location* Attribute Group

- Lat/Long-Bottom Hole [**complex query**]
- Lat/Long-Surface [**complex query**]

```
<criterias>
        <criteria type="group">
                <domain>US</domain>
                <datatype>Well</datatype>

        <attribute_group>Grid/Location</attribute_group>
                <attribute>Lat/Long-Surface</attribute>
                <filter logic="include">
                        <value>
                                <group_actual>
                                        <operator
logic="and">
                                                <condition
logic="between">

        <attribute>latitude</attribute>

        <value_list>

        <value min="28" max="32"/>

        </value_list>
                                                </condition>
                                                <condition
logic="between">

        <attribute>longitude</attribute>

        <value_list>

        <value min="-100" max="-90"/>
                                                        </value_list>
                                                </condition>
                                        </operator>
                                </group_actual>
                        </value>
                </filter>
        </criteria>
</criterias>
```

Figure 17: Well Lat/Long Surface query

Fig.18 shows the complex CriteriaXML for a Well lat/long-Surface query. Using Fig.18 as a template, you can make changes to the lat/long-window to be queried by editing the min and max values for **latitude** and **longitude**. Fig. 19 illustrates a lat/long query with multiple lat/long-windows defined, introducing the concept of a *criteria* element with multiple *value* elements.

```
<criterias>
	<criteria type="group">
		<domain>US</domain>
		<datatype>Well</datatype>
		<attribute_group>Grid/Location</attribute_group>
		<attribute>Lat/Long-Surface</attribute>
		<filter logic="include">
			<value>
				<group_actual>
					<operator logic="and">
						<condition logic="between">
							<attribute>latitude</attribute>
							<value_list>
								<value min="35" max="40"/>
							</value_list>
						</condition>
						<condition logic="between">
							<attribute>longitude</attribute>
							<value_list>
								<value min="-95" max="-90"/>
							</value_list>
						</condition>
					</operator>
				</group_actual>
			</value>
			<value>
				<group_actual>
					<operator logic="and">
						<condition logic="between">
							<attribute>latitude</attribute>
							<value_list>
								<value min="40" max="41"/>
							</value_list>
						</condition>
						<condition logic="between">
							<attribute>longitude</attribute>
							<value_list>
								<value min="-95" max="-90"/>
							</value_list>
						</condition>
					</operator>
				</group_actual>
			</value>
		</filter>
	</criteria>
</criterias>
```

Figure 18: Well Lat/Long Surface query with two lat/long windows

- Polygon-Surface [**simple query**]

```
<criterias>
	<criteria type="value">
		<domain>US</domain>
		<datatype>Well</datatype>
		<attribute_group>Grid/Location</attribute_group>
		<attribute>Polygon-Surface</attribute>
		<displaytype></displaytype>
		<filter logic="equals">
			<value actual="	-98.68217179965629 30.97661659050489;
					-98.70370895344315 31.023679259891004;
					-98.67339740366904 31.099458134326273;
					-98.61516732120825 31.104244168501132;
					-98.56491396237221 31.043621068952916;
					-98.56730697945964 31.03165598351577;
					-98.56730697945964 31.03165598351577;
					-98.68217179965629 30.97661659050489;" />
		</filter>
	</criteria>
</criterias>
```

Figure 19: Well Polygon-Surface query with 8 vertices

The *Identification* Attribute Group

- API/IC Number [code ref. Q-CODE]

```
<criterias>
	<criteria type="group">
		<domain>US</domain>
		<datatype>Well</datatype>
		<attribute_group>Identification</attribute_group>
		<attribute>API/IC Number</attribute>
		<filter logic="include">
			<value><group_actual>
				<operator logic="or">
					<condition logic="equals">
						<attribute>code</attribute>
						<value_list>
							<value>40003050010000</value>
						</value_list>
					</condition>
					<condition logic="equals">
						<attribute>ic</attribute>
						<value_list>
							<value>40003050010000</value>
						</value_list>
					</condition>
				</operator>
			</group_actual></value>
			<value><group_actual>
				<operator logic="or">
					<condition logic="equals">
						<attribute>code</attribute>
						<value_list>
							<value>40007050000000</value>
						</value_list>
					</condition>
					<condition logic="equals">
						<attribute>ic</attribute>
						<value_list>
							<value>40007050000000</value>
						</value_list>
					</condition>
				</operator>
			</group_actual></value>
		</filter>
	</criteria>
</criterias>
```

Figure 20: Well API/IC query with two IDs

- Current Operator [name ref. Q-NAME]
- Current Operator [code ref. Q-CODE]
- Lease Name [name ref. Q-NAME]

- Operator [name ref. Q-NAME]
- Operator [code ref. Q-CODE]
- Regulatory API Number [code ref. Q-CODE]
- State Permit Number [ref. Q-CODE]
- Well Number [ref. Q-CODE]

The *Location* Attribute Group

- AAPG Geologic Province [name ref. Q-NAME]
- AAPG Geologic Province [code ref. Q-CODE]
- Basin [name ref. Q-NAME]
- Basin [code ref. Q-CODE]
- Country [code ref. Q-CODE]
- District [name ref. Q-NAME]
- District [code ref. Q-CODE]
- Field [name ref. Q-NAME]
- Field [field_alias ref. Q-NAME]
- Field [code ref. Q-CODE]
- Region [name ref. Q-NAME]
- Region [code ref. Q-CODE]
- State/County [name ref. Q-NAME]
- State/County [code ref. Q-CODE]

```
<criterias>
	<criteria type="group">
		<domain>US</domain>
		<datatype>Well</datatype>
		<attribute_group>Location</attribute_group>
		<attribute>State/County</attribute>
		<filter logic="include">
			<value>
				<group_actual>
					<operator logic="and">
						<condition logic="equals">
							<attribute>state_code</attribute>
							<value_list>
								<value>42</value>
							</value_list>
						</condition>
						<condition logic="equals">
							<attribute>county_code</attribute>
							<value_list>
								<value>005</value>
							</value_list>
						</condition>
					</operator>
				</group_actual>
			</value>
			<value>
				<group_actual>
					<operator logic="and">
						<condition logic="equals">
							<attribute>state_code</attribute>
							<value_list>
								<value>42</value>
							</value_list>
						</condition>
						<condition logic="equals">
							<attribute>county_code</attribute>
							<value_list>
								<value>007</value>
							</value_list>
						</condition>
					</operator>
				</group_actual>
			</value>
		</filter>
	</criteria>
</criterias>
```

Figure 21: Well State/County for two counties

The *Well* Attribute Group

- Casing Depth [ref. Q-DEPTH]
- Casing Size [name. Q-CODE]
- Current Production Status [ref. Q-CODE]
- Current Well Type [name. Q-NAME]
- Current Well Type [code. Q-CODE]
- Dir Survey - N Reference [name. Q-NAME]
- Dir Survey - N Reference [code. Q-CODE]
- Final Lahee Class [name. Q-NAME]
- Final Lahee Class [code. Q-CODE]
- Final Status [name. Q-NAME]
- Final Status [code. Q-CODE]
- Final Status Code [name. Q-NAME]
- Final Status Code [code. Q-CODE]
- Hole Direction [ref. Q-CODE]
  With only four valid code values:
  - "D", Directional
  - "H", Horizontal
  - "M", Horizontal Mining Borehole
  - "V", Vertical
- Initial Class [name ref. Q-NAME]
- Initial Class [code ref. Q-CODE]
- Lateral Length [ref. Q-DEPTH]
  With type of:
  - "depthGross" for Gross Perf Interval
  - "depthHorizontal" for Horizontal Displacement
- Liner Base Depth [ref. Q-DEPTH]
- Liner Size [ref. Q-CODE]
- Liner Top Depth [ref. Q-DEPTH]
- Log Type [name ref. Q-NAME]
- Log Type [code ref. Q-CODE]
- Map Symbol [name ref. Q-NAME]
- Map Symbol [code ref. Q-CODE]
- Offshore Water Depth [ref. Q-DEPTH]
- Tax Credit Type [Code ref. Q-CODE]
  With only four valid code values:

    - "C", COALBED METHANE
    - "D", DEVONIAN SHALE
    - "M", MULTIPLE (TIGHT GAS/DEVONIAN SHALE)
    - "T", TIGHT GAS
- Total Depth [ref. Q-DEPTH]
- Treatment Type [name ref. Q-NAME]
- Treatment Type [code ref. Q-CODE]
- Tubing Depth [ref. Q-DEPTH]
- Tubing Size [ref. Q-CODE]
- Well Offshore Indicators [ref. Q-CODE]
  With only three valid code values:
    - "F", FEDERAL OFFSHORE
    - "S", STATE OFFSHORE
    - "B", BAYS OR ESTUARIES

The Production_Allocated and Unallocated Datasets

This section covers query attributes in the Production Allocated and Production Unallocated datasets. The following example shows the general structure of the CriteriaXML document:

```
<criterias>
        <criteria type="value">
                <domain>US</domain>
                <datatype>Production Allocated</datatype>
                <attribute_group>Date</attribute_group>
                <attribute>Production Start Date</attribute>
                <type>date</type>
                <displaytype/>
                <filter logic="between">
                        <value actual="2000/01/01--2000/12/31"/>
                </filter>
        </criteria>
</criterias>
```

Figure 22: Production Allocated Production Start Date query

The *Date* Attribute Group

- Last Update [ref. Q-DATE]
- Production Start Date [ref. Q-DATE]
- Production Stop Date [ref. Q-DATE]

The *Geology* Attribute Group

- Play Name [name ref. Q-NAME]
- Play Type [name ref. Q-NAME]
- Play Type [code ref. Q-CODE]
- Prod Zone [name ref. Q-NAME]
- Prod Zone [code ref. Q-CODE]

- Reservoir [Name/Onshore- complex query]

```
<criterias>
	<criteria type="group">
		<domain>US</domain>
		<datatype>Production Allocated</datatype>
		<attribute_group>Geology</attribute_group>
		<attribute>Reservoir</attribute>
		<filter logic="include">
			<value>
				<group_actual>
					<operator logic="or">
						<condition logic="equals">
							<attribute>pool_name</attribute>
							<value_list>
								<value>AE376</value>
							</value_list>
						</condition>
					</operator>
				</group_actual>
			</value>
		</filter>
	</criteria>
</criterias>
```

Figure 23: Production Allocated Reservoir Name/Onshore Query with equals logic

```
<criterias>
	<criteria type="group">
		<domain>US</domain>
		<datatype>Production Allocated</datatype>
		<attribute_group>Geology</attribute_group>
		<attribute>Reservoir</attribute>
		<filter logic="include">
			<value>
				<group_actual>
					<operator logic="or">
						<condition logic="like">
							<attribute>pool_name</attribute>
							<value_list>
								<value>AWW%</value>
							</value_list>
						</condition>
					</operator>
				</group_actual>
			</value>
		</filter>
	</criteria>
</criterias>
```

Figure 24: Production Allocated Reservoir Name/Onshore Query with like logic

Reservoir [Name/Offshore - complex query]

```
<criterias>
	<criteria type="group">
		<domain>US</domain>
		<datatype>Production Allocated</datatype>
		<attribute_group>Geology</attribute_group>
		<attribute>Reservoir</attribute>
		<filter logic="include">
			<value>
				<group_actual>
					<operator logic="or">
						<condition logic="equals">
							<attribute>resv_name</attribute>
							<value_list>
								<value>AE RB</value>
							</value_list>
						</condition>
					</operator>
				</group_actual>
			</value>
		</filter>
	</criteria>
</criterias>
```

Figure 25: Production Allocated Reservoir Name/Offshore Query with equals logic

```
<criterias>
	<criteria type="group">
		<domain>US</domain>
		<datatype>Production Allocated</datatype>
		<attribute_group>Geology</attribute_group>
		<attribute>Reservoir</attribute>
		<filter logic="include">
			<value>
				<group_actual>
					<operator logic="or">
						<condition logic="like">
							<attribute>resv_name</attribute>
							<value_list>
								<value>AE%</value>
							</value_list>
						</condition>
					</operator>
				</group_actual>
			</value>
		</filter>
	</criteria>
</criterias>
```

Figure 27: Production Allocated Reservoir Name/Offshore Query with Like logic

Reservoir [Code/Onshore — complex query]

```
<criterias>
	<criteria type="group">
		<domain>US</domain>
		<datatype>Production Allocated</datatype>
		<attribute_group>Geology</attribute_group>
		<attribute>Reservoir</attribute>
		<filter logic="include">
			<value>
				<group_actual>
					<operator logic="or">
						<condition logic="equals">
							<attribute>pool_code</attribute>
							<value_list>
								<value>000401</value>
							</value_list>
						</condition>
					</operator>
				</group_actual>
			</value>
		</filter>
	</criteria>
</criterias>
```

Figure 26: Production Allocated Reservoir Code/Onshore Query with equals logic

```
<criterias>
	<criteria type="group">
		<domain>US</domain>
		<datatype>Production Allocated</datatype>
		<attribute_group>Geology</attribute_group>
		<attribute>Reservoir</attribute>
		<filter logic="include">
			<value>
				<group_actual>
					<operator logic="or">
						<condition logic="like">
							<attribute>pool_code</attribute>
							<value_list>
								<value>0004%</value>
							</value_list>
						</condition>
					</operator>
				</group_actual>
			</value>
		</filter>
	</criteria>
</criterias>
```

Figure 28: Production Allocated Reservoir Code/Onshore Query with like logic

The *Grid/Location* Attribute Group

- Lat/Long-Bottom Hole [complex query]
- Lat/Long-Surface [complex query]
  The following sample shows the complex CriteriaXML for a Production Allocated Lat/long-Surface query. Using the sample as a template, you can make changes to the lat/long-window to be queried by editing the min and max values for **latitude** and **longitude**.

```
<criterias>
	<criteria type="group">
		<domain>US</domain>
		<datatype>Production Allocated</datatype>
		<attribute_group>Grid/Location</attribute_group>
		<attribute>Lat/Long-Surface</attribute>
		<filter logic="include">
			<value>
				<group_actual>
					<operator logic="and">
						<condition logic="between">
							<attribute>latitude</attribute>
							<value_list>
								<value min="28" max="32"/>
							</value_list>
						</condition>
						<condition logic="between">
							<attribute>longitude</attribute>
							<value_list>
								<value min="-100" max="-90"/>
							</value_list>
						</condition>
					</operator>
				</group_actual>
			</value>
		</filter>
	</criteria>
</criterias>
```

Figure 29: Production Allocated Lat/Long Surface query

- Polygon-Surface [**simple query**]

```
<criterias>
	<criteria type="value">
		<domain>US</domain>
		<datatype>Production Allocated</datatype>
		<attribute_group>Grid/Location</attribute_group>
		<attribute>Polygon-Surface</attribute>
		<displaytype></displaytype>
		<filter logic="equals">
			<value actual="	-99.92243635400008 32.366564843035796;
				-99.90817278706402 32.36621409958655;
				-99.91927966295685 32.36001763198317;
				-99.91927966295685 32.36001763198317;
				-99.92243635400008 32.366564843035796;"/>
		</filter>
	</criteria>
</criterias>
```

Figure 30: Production Allocated Polygon-Surface query with 5 vertices

The *Identification* Attribute Group

- API Number

```
<criterias>
	<criteria type="value">
		<domain>US</domain>
		<datatype>Production Allocated</datatype>
		<attribute_group>Identification</attribute_group>
		<attribute>API Number</attribute>
		<type>code</type>
		<displaytype />
		<filter logic="equals">
			<value actual="12009211700000" display="" />
			<value actual="12021249660000" display="" />
		</filter>
	</criteria>
</criterias>
```

Figure 31: Production Allocated API query with two IDs

-

- Lease Code [ref. Q-CODE]
- Lease Name [ref. Q-NAME]
- Operator [name ref. Q-NAME]
- Operator [code ref. Q-CODE]

- Production ID [ref. Q-CODE]
- Regulatory Number [ref. Q-CODE]
- Well Serial Number [ref. Q-CODE]

The *Location* Attribute Group

- AAPG Geologic Province [name ref. Q-NAME]
- AAPG Geologic Province [code ref. Q-CODE]
- Basin [name ref. Q-NAME]
- Basin [code ref. Q-CODE]
- Country [code ref. Q-CODE]
- District [name ref. Q-NAME]
- District [code ref. Q-CODE]
- Field [name ref. Q-NAME]
- Field [field_alias ref. Q-NAME]
- Field [code ref. Q-CODE]
- Region [name ref. Q-NAME]
- Region [node ref. Q-CODE]
- Situation [Code ref. Q-CODE]
  With only four valid code values:
  - "B", BAYS AND ESTUARIES
  - "F", FEDERAL
  - "S", STATE
  - "L", LAND
- State/County [name ref. Q-NAME]
- State/County [code ref. Q-CODE]

The following complex CriteriaXML for a State/County query with two IDs

```
<criterias>
	<criteria type="group">
		<domain>US</domain>
		<datatype>Production Allocated</datatype>
		<attribute_group>Location</attribute_group>
		<attribute>State/County</attribute>
		<filter logic="include">
			<value>
				<group_actual>
					<operator logic="and">
						<condition logic="equals">
							<attribute>state_code</attribute>
							<value_list>
								<value>42</value>
							</value_list>
						</condition>
						<condition logic="equals">
							<attribute>county_code</attribute>
							<value_list>
								<value>005</value>
							</value_list>
						</condition>
					</operator>
				</group_actual>
			</value>
			<value>
				<group_actual>
					<operator logic="and">
						<condition logic="equals">
							<attribute>state_code</attribute>
							<value_list>
								<value>42</value>
							</value_list>
						</condition>
						<condition logic="equals">
							<attribute>county_code</attribute>
							<value_list>
								<value>007</value>
							</value_list>
						</condition>
					</operator>
				</group_actual>
			</value>
		</filter>
	</criteria>
</criterias>
```

Figure 32: Production Allocated State/County query for two counties

The *Production* Attribute Group

- Gatherer [name ref. Q-NAME]
- Gatherer [code ref. Q-CODE]
- Lower Perforations [ref. Q-DEPTH]
- Number of Active Well [ref. Q-COUNT]
- Product Code [ref. Q-CODE]
  With only six valid code values:
  - "CO", Carbon Dioxide (CO_2)
  - "G", Gas
  - "GIJ", Gas Property with Injection
  - "I", Injection
  - "O", Oil
  - "OIJ", Oil Property with Injection "P", Inactive
- Production Status [ref. Q-CODE]
  With only three valid status flags:
  - "A", Active
  - "D", Inactive – current year
  - "P", Inactive – prior year

```
<criterias>
        <criteria type="value">
                <domain>US</domain>
                <datatype>Production Allocated</datatype>
                <attribute_group>Production</attribute_group>
                <attribute>Production Status</attribute>
                <type>code</type>
                <filter logic="equals">
                        <value actual="A"/>
                        <value actual="P"/>
                </filter>
        </criteria>
</criterias>
```

Figure 33: Production Allocated Product Status Query with OR logic

- Upper Perforations [ref. Q-DEPTH]
- Years on Production [ref. Q-COUNT]

The *Well* Attribute Group

- Hole Direction [ref. Q-CODE]
  With only four valid code values:
  - "D", Directional
  - "H", Horizontal
  - "M", Horizontal Mining Borehole
  - "V", Vertical
- Map Symbol [name ref. Q-NAME]
- Map Symbol [code ref. Q-CODE]
- Offshore Water Depth [ref. Q-DEPTH]
- Tax Credit Type [Code ref. Q-CODE]
  With only four valid code values:
  - "C", Coalbed Methane
  - "D", Devonian Shale
  - "M", Multiple (Tight Gas/Devonian Shale)
  - "T", Tight Gas
- Total Measured Depth [ref. Q-DEPTH]
- Well Type [name ref. Q-NAME]
- Well Type [code ref. Q-CODE]

The Activity Data Dataset

The final section covers US query attributes in the Activity Data dataset. The following example shows the general structure of the CriteriaXML document:

```
<criterias>
        <criteria type="value">
                <domain>US</domain>
                <datatype>Activity Data</datatype>
                <attribute_group>Date</attribute_group>
                <attribute>Completion Date</attribute>
                <type>date</type>
                <filter logic="between">
                        <value actual="2014/01/14--2014/11/22"/>
                </filter>
        </criteria>
</criterias>
```

Figure 34: Activity Data Completion Date query

The *Date* Attribute Group

- Abloc Date [ref. Q-DATE]
- Completion Date [ref. Q-DATE]
- Last Activity Date [ref. Q-DATE]
- Last Update [ref. Q-DATE]
- Permit First Report Date [ref. Q-DATE]
- Permit License Date [ref. Q-DATE]
- Rig Onsite Date [ref. Q-DATE]
- Rig Release Date [ref. Q-DATE]
- Spud Date [ref. Q-DATE]
- Suspended Date [ref. Q-DATE]

The *Geology* Attribute Group

- Bottom-Hole Formation [name ref. Q-NAME]
- Bottom-Hole Formation [code ref. Q-CODE]
- Formation Tops [name ref. Q-NAME]
- Formation Tops [code ref. Q-CODE]
- Formation Tops [source ref. Q-CODE]
- Formation Tops [interpreter ref. Q-CODE]
- Oldest Age Penetrated [name ref. Q-NAME]

- Oldest Age Penetrated [code ref. Q-CODE]
- Play Name [name ref. Q-NAME]
- Play Type [name ref. Q-NAME]
- Play Type [code ref. Q-CODE]
- Producing Formation [name ref. Q-NAME]
- Producing Formation [code ref. Q-CODE]
- Target Formation [name ref. Q-NAME]
- Target Formation [code ref. Q-CODE]

The *Grid/Location* Attribute Group

- Lat/Long-Bottom Hole [complex query]
- Lat/Long-Surface [complex query]

```
<criterias>
	<criteria type="group">
		<domain>US</domain>
		<datatype>Activity Data</datatype>
		<attribute_group>Grid/Location</attribute_group>
		<attribute>Lat/Long-Surface</attribute>
		<filter logic="include">
			<value><group_actual>
				<operator logic="and">
					<condition logic="between">
						<attribute>latitude</attribute>
						<value_list>
							<value min="28" max="32"/>
						</value_list>
					</condition>
					<condition logic="between">
						<attribute>longitude</attribute>
						<value_list>
							<value min="-100" max="-90"/>
						</value_list>
					</condition>
				</operator>
			</group_actual></value>
		</filter>
	</criteria>
</criterias>
```

Figure 35: Activity Data Lat/Long Surface query

- Polygon-Surface [simple query]

```
<criterias>
	<criteria type="value">
		<domain>US</domain>
		<datatype>Activity Data</datatype>
		<attribute_group>Grid/Location</attribute_group>
		<attribute>Polygon-Surface</attribute>
		<displaytype></displaytype>
		<filter logic="equals">
			<value actual="	-98.13811590730883 31.259600136614587;
				-97.68057071522885 31.142203672857228;
				-97.98760762044041 30.92848190550409;
				-97.98760762044041 30.92848190550409;
				-98.13811590730883 31.259600136614587;" />
		</filter>
	</criteria>
</criterias>
```

Figure 36: Well Polygon-Surface query with 5 vertices

The *Identification* Attribute Group

- Activity [Code ref. Q-CODE]
  With only four valid status flags:
  - "C", Completed
  - "B", In progress
  - "A", Permit
  - "E", Abandoned location

```
<criterias>
        <criteria type="value">
                <domain>US</domain>
                <datatype>Activity Data</datatype>
                <attribute_group>Identification</attribute_group>
                <attribute>Activity</attribute>
                <type>code</type>
                <filter logic="equals">
                        <value actual="C"/>
                        <value actual="A"/>
                        <value actual="E"/>
                </filter>
        </criteria>
</criterias>
```

Figure 37: Activity Data Activity query with OR logic

- API/IC Number [Code ref. Q-CODE]

```
<criterias>
	<criteria type="group">
		<domain>US</domain>
		<datatype>Activity Data</datatype>
		<attribute_group>Identification</attribute_group>
		<attribute>API/IC Number</attribute>
		<filter logic="include">
			<value><group_actual>
				<operator logic="or">
					<condition logic="equals">
						<attribute>code</attribute>
						<value_list>
							<value>40003050010000</value>
						</value_list>
					</condition>
					<condition logic="equals">
						<attribute>ic</attribute>
						<value_list>
							<value>40003050010000</value>
						</value_list>
					</condition>
				</operator>
			</group_actual></value>
			<value><group_actual>
				<operator logic="or">
					<condition logic="equals">
						<attribute>code</attribute>
						<value_list>
							<value>40007050000000</value>
						</value_list>
					</condition>
					<condition logic="equals">
						<attribute>ic</attribute>
						<value_list>
							<value>40007050000000</value>
						</value_list>
					</condition>
				</operator>
			</group_actual></value>
		</filter>
	</criteria>
</criterias>
```

Figure 38: Activity Data API/IC query with two IDs

- Lease Name [ref. Q-NAME]
- Operator [name ref. Q-NAME]
- Operator [code ref. Q-CODE]
- Permit Expiration Days [ref. Q-COUNT]

- Regulatory API Number [ref. Q-CODE]
- State Permit Number [ref. Q-CODE]
- Well Number [ref. Q-CODE]

The *Location* Attribute Group

- AAPG Geologic Province [name ref. Q-NAME]
- AAPG Geologic Province [code ref. Q-CODE]
- Basin [name ref. Q-NAME]
- Basin [code ref. Q-CODE]
- Country [code ref. Q-CODE]
- District [name ref. Q-NAME]
- District [code ref. Q-CODE]
- Field [name ref. Q-NAME]
- Field [code ref. Q-CODE]
- Region [name ref. Q-NAME]
- Region [code ref. Q-CODE]
- State/County [name ref. Q-NAME]
- State/County [code ref. Q-CODE]

The *Well* Attribute Group

- Casing Depth [ref. Q-DEPTH]
- Casing Size [name ref. Q-CODE]
- Current Production Status [ref. Q-CODE]
- Final Lahee Class [name ref. Q-NAME]
- Final Lahee Class [code ref. Q-CODE]
- Final Status [name ref. Q-NAME]
- Final Status [code ref. Q-CODE]
- Final Status Code [name. Q-NAME]
- Final Status Code [code. Q-CODE]
- Hole Direction [ref. Q-CODE]
  With only four valid code values:
  - "D", Directional
  - "H", Horizontal
  - "M", Horizontal Mining Borehole
  - "V", Vertical
- Initial Class [Name ref. Q-NAME]

- Initial Class [Code ref. Q-CODE]
- Liner Base Depth [ref. Q-DEPTH]
- Liner Size [ref. Q-CODE]
- Liner Top Depth [ref. Q-DEPTH]
- Log Type [Name ref. Q-NAME]
- Log Type [Code ref. Q-CODE]
- Map Symbol [Name ref. Q-NAME]
- Map Symbol [Code ref. Q-CODE]
- Offshore Water Depth [ref. Q-DEPTH]
- Projected Depth [ref. Q-DEPTH]
- Tax Credit Type [Code ref. Q-CODE]
  With only four valid code values:
  - "C", Coalbed Methane
  - "D", Devonian Shale
  - "M", Multiple (Tight Gas/Devonian Shale)
  - "T", Tight Gas
- Total Depth [ref. Q-DEPTH]
- Treatment Type [Name ref. Q-NAME]
- Treatment Type [Code ref. Q-CODE]
- Tubing Depth [ref. Q-DEPTH]
- Tubing Size [ref. Q-CODE]

The Rig Activity Dataset

The final section covers US query attributes in the Rig Activity dataset. The following example shows the general structure of the CriteriaXML document:

```
<criterias>
        <criteria type="value">
                <domain>US</domain>
                <datatype>Rig Activity</datatype>
                <attribute_group>Date</attribute_group>
                <attribute>Rig Release Date</attribute>
                <type>date</type>
                <filter logic="between">
                        <value actual="2014/01/14--2014/11/22"/>
                </filter>
        </criteria>
</criterias>
```

Figure 39: Rig Activity Rig Release Date query

The *Rigs* Attribute Group

- Rig Contractor/Rig Name
- Rig Release Date [ref. Q-DATE]
- Rig Status

The *Date* Attribute Group

- Last Activity Date [ref. Q-DATE]
- Permit License Date [ref. Q-DATE]
- Rig Release Date [ref. Q-DATE]
- Spud Date [ref. Q-DATE]

The *Geology* Attribute Group

- Target Formation [name ref. Q-NAME]
- Target Formation [code ref. Q-CODE]

The *Identification* Attribute Group

- API Number [Code ref. Q-CODE]

```
<criterias>
  <criteria type="group">
    <domain>US</domain>
    <datatype>Rig Activity</datatype>
    <attribute_group>Identification</attribute_group>
    <attribute>API Number</attribute>
    <filter logic="include">
      <value>
        <group_actual>
          <operator logic="or">
            <condition logic="like">
              <attribute>code</attribute>
              <value_list>
                <value>0403057%</value>
              </value_list>
            </condition>
          </operator>
        </group_actual>
        <group_display>code starts with 0403057% </group_display>
      </value>
    </filter>
  </criteria>
</criterias>
```

Figure 40: Rig Activity API Number query with two IDs

- Lease Name [ref. Q-NAME]
- Operator [name ref. Q-NAME]
- Operator [code ref. Q-CODE]
- Regulatory API Number [ref. Q-CODE]
- State Permit Number [ref. Q-CODE]
- Well Number [ref. Q-CODE]

The *Location* Attribute Group

- AAPG Geologic Province [name ref. Q-NAME]
- AAPG Geologic Province [code ref. Q-CODE]
- Basin [name ref. Q-NAME]
- Basin [code ref. Q-CODE]
- Country [code ref. Q-CODE]
- District [name ref. Q-NAME]
- District [code ref. Q-CODE]

- Field [name ref. Q-NAME]
- Field [code ref. Q-CODE]
- Region [name ref. Q-NAME]
- Region [code ref. Q-CODE]
- State/County [name ref. Q-NAME]
- State/County [code ref. Q-CODE]
- Sub-Basin [name ref. Q-NAME]
- Sub-Basin [code ref. Q-CODE]

The *Well* Attribute Group

- Hole Direction [ref. Q-CODE]
  With only four valid code values:
  - "D", Directional
  - "H", Horizontal
  - "M", Horizontal Mining Borehole
  - "V", Vertical
- Initial Class [Name ref. Q-NAME]
- Initial Class [Code ref. Q-CODE]
- Offshore Water Depth [ref. Q-DEPTH]
- Production Type [Name ref. Q-NAME]
- Production Type [Code ref. Q-CODE]
- Projected Depth [ref. Q-DEPTH]
- Total Depth [ref. Q-DEPTH]

Appendix: Queryable Attribute Table

Well Dataset

Attribute Group	**Attribute Name**
Date	
	Completion Date
	Dir Survey Date
	Last Activity Date
	Last Update
	Permit License Date
	Rig Release Date
	Spud Date
Geology	
	Bottom-Hole Formation
	Formation Tops
	Oldest Age Penetrated
	Play Name
	Play Type
	Producing Formation
	Target Formation
Grid/Location	
	Lat/Long-Bottom Hole
	Lat/Long-Surface
	Polygon-Surface
Identification	
	API/IC Number
	Current Operator

Attribute Group	Attribute Name
Identification	
	Lease Name
	Operator
	Regulatory API Number
	State Permit Number
	Well Number
Location	
	AAPG Geologic Province
	Basin
	Country
	District
	Field
	Region
	State/County
Well	
	Casing Depth
	Casing Size
	Current Production Status
	Current Well Type
	Dir Survey – N Reference
	Final Lahee Class
	Final Status
	Final Status Code
	Hole Direction

Attribute Group	Attribute Name
Well	
	Initial Class
	Lateral Length
	Liner Base Depth
	Liner Size
	Liner Top Depth
	Log Type
	Map Symbol
	Offshore Water Depth
	Tax Credit Type
	Total Depth
	Treatment Type
	Tubing Depth
	Tubing Size
	Well Offshore Indicators

Production Allocated/Unallocated Datasets

Attribute Group	**Attribute Name**
Date	
	Last Update
	Production Start Date
	Production Stop Date
Geology	
	Play Name
	Play Type
	Prod Zone
	Reservoir
Grid/Location	
	Lat/Long-Bottom Hole
	Lat/Long-Surface
	Polygon-Surface
Identification	
	API Number
	Lease Code
	Lease Name
	Operator
	Production ID
	Regulatory Number
	Well Serial Number
Location	
	AAPG Geologic Province
	Basin

Attribute Group	Attribute Name
Location	
	Country
	District
	Field
	Region
	Situation
	State/County
Production	
	Gatherer
	Lower Perforations
	Number of Active Wells
	Product Code
	Production Status
	Upper Perforations
	Years on Production
Well	
	Hole Direction
	Map Symbol
	Offshore Water Depth
	Tax Credit Type
	Total Measured Depth
	Well Type

Activity Data Dataset

Attribute Group	**Attribute Name**
Date	
	Abloc Date
	Completion Date
	Last Activity Date
	Last Update
	Permit First Report Date
	Permit License Date
	Rig Onsite Date
	Rig Release Date
	Spud Date
	Suspended Date
Geology	
	Bottom-Hole Formation
	Formation Tops
	Oldest Age Penetrated
	Play Name
	Play Type
	Producing Formation
	Target Formation
Grid/Location	
	Lat/Long-Bottom Hole
	Lat/Long-Surface
	Polygon-Surface

Attribute Group	Attribute Name
Identification	
	Activity
	API/IC Number
	Lease Name
	Operator
	Permit Expiration Days
	Regulatory API Number
	State Permit Number
	Well Number
Location	
	AAPG Geologic Province
	Basin
	Country
	District
	Field
	Region
	State/County
Well	
	Casing Depth
	Casing Size
	Current Production Status
	Final Lahee Class
	Final Status
	Final Status Code
	Hole Direction

Attribute Group	Attribute Name
Well	
	Initial Class
	Liner Base Depth
	Liner Size
	Liner Top Depth
	Log Type
	Map Symbol
	Offshore Water Depth
	Projected Depth
	Tax Credit Type
	Total Depth
	Treatment Type
	Tubing Depth
	Tubing Size
	Well Offshore Indicators

Rig Activity Dataset

Attribute Group	**Attribute Name**
Rigs	
	Rig Contractor/Rig Name
	Rig Release Date
	Rig Status
Date	
	Last Activity Date
	Permit License Date
	Spud Date
Geology	
	Target Formation
Identification	
	API Number
	Lease Name
	Operator
	Regulatory API Number
	State Permit Number
	Well Number
Location	
	AAPG Geologic Province
	Basin
	Country
	District
	Field

Attribute Group	**Attribute Name**
Location	
	Region
	State/County
	Sub-Basin
Well	
	Hole Direction
	Initial Class
	Offshore Water Depth
	Production Type
	Projected Depth
	Total Depth