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Association is a not  
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with industry to  
develop  
Professional Data  
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standards for the  
Petroleum Industry.”**

# **Global Well Identification Framework Report**

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## Table of Contents

INTRODUCTION .....	5
Purpose .....	5
Background .....	5
Industry Consultation .....	5
Committee Mandate .....	5
OVERVIEW .....	6
Well .....	6
Well Identifiers .....	6
Well Identification System .....	7
Global Framework .....	7
BUSINESS REQUIREMENTS .....	9
GUIDING PRINCIPLES FOR DESIGNING THE FRAMEWORK .....	10
GLOBAL FRAMEWORK SPECIFICATIONS .....	13
Well Identification System Standard (WISS) .....	13
Well Identification System Implementation (WISI) .....	15
Well Identification System Repository (WISR) .....	16
COMPLIANCE WITH THE GLOBAL FRAMEWORK .....	17
RECOMMENDATIONS FOR IMPLEMENTATION .....	18
Test of Uniqueness .....	18
When Identifiers Can Change .....	20
APPENDIX .....	21
APPENDIX A - What Is A Well? (WIAW) .....	21
APPENDIX B – Glossary .....	24



## INTRODUCTION

### Purpose

The purpose of this document is to describe a global framework for well identification.

The purpose of the [Global Framework](#) is to guide the design and implementation of effective well identification systems for the petroleum industry.

### Background

The PPDM Association established the Well Identification Project (WIP) in 2010. The vision of the project is a framework for Well Identification that is consistently adopted by all industry stakeholders so that every wellbore can be uniquely recognized and the exchange of well information is unambiguous.

The WIP builds upon the [What Is A Well?](#) Project (WIAW). This industry-sponsored PPDM work group produced a set of baseline definitions for essential Well components with the goal of reducing the ambiguity and miscommunication that are often associated with the variable use of these common terms throughout the petroleum industry. The WIAW definitions are available at [www.ppdm.org](http://www.ppdm.org) or from the PPDM Association office in Calgary, Canada.

### Industry Consultation

An early stage of the WIP was a process of consultation with industry stakeholders: regulators, operators, service companies, and data vendors. Their business requirements for well identification formed the input to this committee, which has been charged with the task of producing a global framework that supports modern well configurations around the world. The report on stakeholder interviews is available at [www.ppdm.org](http://www.ppdm.org) or from the PPDM Association office.

### Committee Mandate

The committee's mandate is to create a Global Well Identification Framework that can be used by any organization to build a well identification system that meets the defined business requirements and is capable of uniquely identifying a well. The Global Framework Committee is made up of regulators, operators, service providers, and data vendors from 11 countries.



## OVERVIEW

The terms [Well Origin](#), [Wellbore](#), and [Wellbore Completion](#) are used according to PPDM's What is a Well (WIAW) baseline definitions. See [Appendix A](#).

## Well

The term “well” is widely used in the industry, but has many definitions and is often a major point of confusion. The term “well” as used in the Global Framework conforms to the WIAW definition.

A **WELL** is a proposed or actual drilled hole in the ground designed to exchange (or facilitate the exchange of) fluids between a subsurface reservoir and the surface (or another reservoir), or to enable the detection and measurement of rock properties.

## Well Identifiers

An identifier is a code assigned to differentiate a unique object from all other objects. The code may be a name, number, or alphanumeric string. It may have a simple or compound construction. It may or may not have embedded meaning.

Any system that creates unique identifiers must define a “test of uniqueness” that determines when an object is different from those already identified and should therefore be assigned its own unique identifier. This test of uniqueness uses attributes of the object to differentiate it from other objects in the set. In real-life situations, knowledge of the object attributes may be imperfect, and the test of uniqueness may employ a decision tree or other heuristic approach to determine whether an object is the same as one that has already been identified.

“Well identifier” refers to those names, numeric or alphanumeric sequences, codes, tags, abbreviations, and so on that are maintained or exist in industry, government, vendor, business partner, or proprietary systems, datasets, or documents whose purpose is to uniquely identify a single Well or Well component (i.e., Well Origin, Wellbore, Wellbore Completion).

A Well identifier is classified according to its readability. If an identifier is to be used primarily by humans, it should be lucent; thus, mnemonic and canonical names are desirable as they are easily recognizable. Where an identifier is used chiefly by technology, it is generally opaque; thus, sequential or randomly selected numeric strings (e.g., Global Unique Identifiers) or bar codes can deliver the desired level of efficiency.

The [Global Framework](#) focuses on well identifiers for the subset of well components from WIAW most commonly required by all industry stakeholders:

- Well Origin
- Wellbore
- Wellbore Completion

The purpose of a well identifier is to enable unequivocal recognition of a single instance.



## Well Identification System

A Well Identification System (WIS) is the structured assembly of criteria, methodology, and facility that enable an authority to administer well identifiers. “Administer” includes assignment, dispensation, cross-referencing, and maintaining a history of changes. A Well Identification System is a combination of the following.

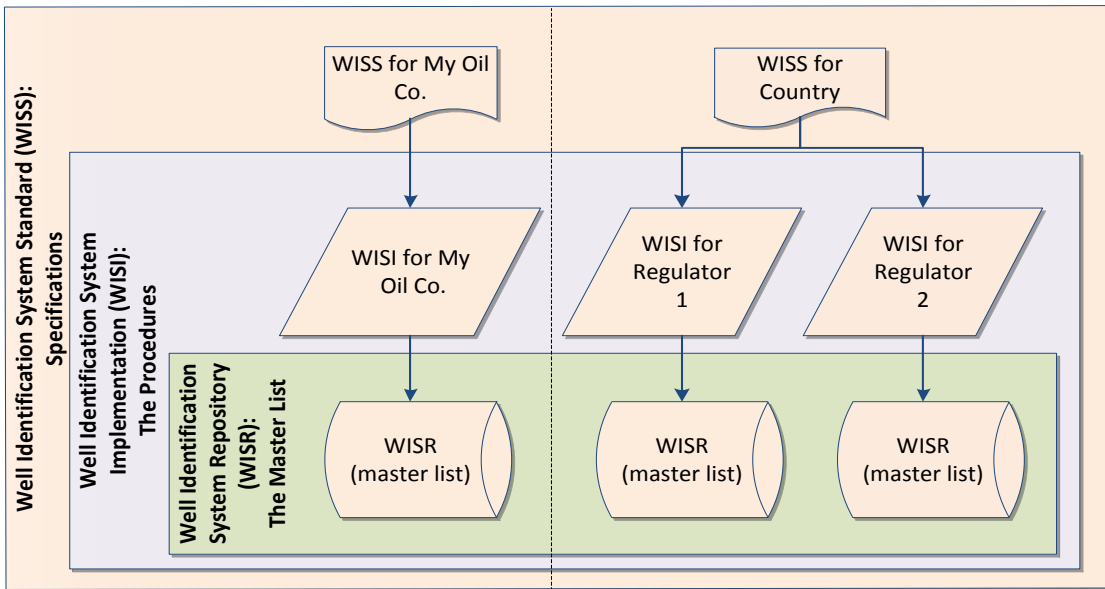
1. **Well Identification System Standard (WISS)** – the specifications and best practice recommendations for creating each of the parts of any Well Identification System that follows that standard.
2. **Well Identification System Implementation (WISI)** – a documented process for creating well identifiers within a specific business or regulatory entity.
3. **Well Identification System Repository (WISR)** – the master list of identifiers and their supporting attributes and metadata created by a specific Well Identification System Implementation.

## Global Framework

The Global Framework is a set of specifications for a Well Identification System and best practices for their application.

	Current Examples			
	USA Ohio	USA Colorado	Canada Alberta	Norway
<b>Global Framework</b>	None exist			
<b>Well Identification System Standard</b>	API D12A rev. 1979 for 12-digit API Well Number		CPA 1978	NPD guidelines for designation of wells and wellbores
<b>Well Identification System Implementation</b>	Ohio DNR implementation of the API D12A 12-digit System Standard	Colorado OGCC implementation of the API D12A 12-digit System Standard	ERCB Directive 059, Appendix 2	Internal implementation rules not published
<b>Well Identification System Repository</b>	Internal database	Internal database	Internal database	DISKOS repository

**Figure 1:** Examples of current Well Identification Systems



**Figure 2:** This illustrates the relationship between the levels of a Well Identification System. Two independent standards (WISS) conform to the Global Framework. In one case, there are two implementations (WISI) of the same standard; i.e., WISS for Country.





## **BUSINESS REQUIREMENTS**

Well identifiers play a role in mitigating the full range of risks related to our industry's operations. Complete and accurate management of well data requires effective identifiers. Inadequate data quality and data access contribute to mistakes or deficiencies in planning, drilling, completion, and production operations. These problems are then expressed in financial, environmental, or safety performance and may impact contractual, social, and regulatory obligations.

The [Global Framework](#) requires compliance to the principles and rules of well identification. The industry can achieve greater benefits by adopting a shared set of practices in the design and implementation of compliant well identification systems.

### **Stakeholder Consultation**

Business requirements for well identification were determined by stakeholder consultation.

1. A [Well Identification System](#) must unambiguously identify every well in its scope in order to ensure that all information about that well is preserved and accessible.
2. A Well Identification System must be sufficient to allow for accurate and consistent use.
3. Documentation of a Well Identification System must facilitate the exchange of well information.
4. The ownership and management of every part of a Well Identification System must be clear so that anyone using it has confidence in the content.



## GUIDING PRINCIPLES FOR DESIGNING THE FRAMEWORK

The [Global Framework](#) is based on the following guiding principles, which incorporate the essential business requirements for a [Well Identification System](#).

**Framework Guiding Principle 1:** A Well Identification System must be capable of assigning an identifier to every Well Origin, Wellbore, or Wellbore Completion in its scope.

Clarification:

- The [Well Origin](#) is the unique and permanent component on which to base the identification of a [Well](#) because it is objectively determined and is the single common reference for all information throughout the life cycle and beyond.
- The [Wellbore](#) is the component with which to associate downhole information for a specific Well Origin.
- The [Wellbore Completion](#) is the component with which to associate isolated flows for continuous measurement.

Response to the business requirements:

- Reliable identifiers allow information to be correctly associated with a well component for the lifetime of the well.

**Framework Guiding Principle 2:** All identifiers assigned by a Well Identification System must be permanent.

Clarification:

- An identifier must remain with the well component forever, even beyond the end of the life of the well.
  - A well at the end of its life cycle is permanently closed, but may be recovered and re-entered. There would then be two or more [Wells](#), but only one [Well Origin](#). The re-entry is deemed to be a new Well because a new life cycle has started.
- The best assurance of compliance to this principle is to use [opaque](#) identifiers; that is, the identifiers have no embedded meaning.
- If the [WIS](#) uses [lucent](#) identifiers to support a business requirement, changes may be necessary to repair the embedded meaning. This need may override the principle of permanence. Any provision for changing an identifier must be addressed by rules and best practices within the [WISS](#) and [WISI](#).

Response to the business requirements:

- Any change in an identifier creates risks of data inconsistency and miscommunication, especially in the exchange of information.
- Any change in an identifier damages the integrity of the data associated with the well component.
- The business need for unambiguous identity may require a change to an identifier having embedded meaning.



**Framework Guiding Principle 3:** All identifiers assigned by a Well Identification System must be unique within that system.

Clarification:

- The [WIS](#) must define uniqueness criteria that determine when a new well component is assigned an identifier.
- An identifier must never be duplicated (i.e., assigned to more than one instance).
- An assigned identifier must not be reused.

Response to the business requirements:

- Data integrity is compromised when there are duplicate identifiers.

**Framework Guiding Principle 4:** A Well Identification System must relate every identified Wellbore to the Well Origin where it begins.

Clarification:

- All [Wellbores](#) in a [Well](#) share the same [Well Origin](#).

Response to the business requirements:

- Relating each Wellbore to its Well Origin ensures that all Wellbores that commence at a specific surface location are associated with the correct Well.
- Without this association, Wellbore data may be missed or attached to the wrong Well, causing errors in operations, analysis, and regulatory reporting.

**Framework Guiding Principle 5:** A Well Identification System must relate every identified Wellbore Completion to the Well Origin and/or Wellbore(s) from which it was created.

Clarification:

- A [Wellbore Completion](#) is created and accessed through a single [Well Origin](#).
- A Wellbore Completion exists within one or more [Wellbores](#).
- A multilateral Wellbore Completion must be identified in relation to at least one relevant Wellbore; additional means may be required to correlate the Wellbore Completion to the other Wellbores.

Response to the business requirements:

- Relating each Wellbore Completion to its Well Origin ensures that it is associated with the correct Well.
- Relating each Wellbore Completion to its Wellbore(s) ensures that other directly relevant information (e.g., perforation interval and properties) is accurately associated with the Wellbore Completion.

**Framework Guiding Principle 6:** The Global Framework must define the information required for each part of the Well Identification System. The information must be detailed enough to allow users of the Well Identification System to find and exchange well information unambiguously.

Clarification:

- Each part of the [WIS](#) includes data attributes, text, and metadata, which combine to document the system.
- Documentation should be designed to support practical use by all relevant parties.

Response to the business requirements:

- A reliable identifier is essential for accurate and consistent retrieval and exchange of information.
- The essential business purpose of an identifier is to facilitate accurate retrieval and exchange of information.
- Where a [WISS](#) has more than one [WISI](#), effective documentation is essential to ensure consistency across all implementations.
- Confidence in the reliability of an identifier is based, in part, on the user's understanding of how the identifier was created.
- A [lucent](#) identifier has embedded meaning. Effective supporting information facilitates accurate understanding of the meaning.

**Framework Guiding Principle 7:** Each part of the Well Identification System must have an identified owner (Authority) and documented processes for the management of change.

Clarification:

- The [Authority](#) is the entity having the right of ownership and control of the name, content, distribution, use, and management of change.
- The Authority for a [WISS](#) may be a national or regional organization, a business enterprise, or an industry organization.
- The Authority for a specific [WISI](#) and its associated [WISR](#) may be a national or regional organization, a business enterprise, or an industry organization.

Response to the business requirements:

- Identifying the Authority for each part of the [WIS](#) allows the user to determine which standard is being used and creates confidence in the WIS.
- Since a WISS and a WISI are each owned and controlled by an Authority, it is clear that changes to either that have not been authorized by that Authority cannot be part of that WIS. They create a non-standard system that must be clearly distinguished by name from the system on which it is based.

## GLOBAL FRAMEWORK SPECIFICATIONS

The [Global Framework](#) defines all of the components and protocols of a [Well Identification System](#) and specifies standards and best practices for identifying wells uniquely and unambiguously. This section provides the details of all levels of the WIS.

### Well Identification System Standard (WISS)

#### Definition:

A **Well Identification System Standard (WISS)** is the specifications and best practice recommendations for creating each of the parts of any Well Identification System that follows that standard.

#### Clarification:

- The WISS should be independent of local regulation and practices.
- A WISS is defined by a recognized entity (e.g., individual, a company, a standards organization, or any other formally constituted group).
- The WISS must document the following.

<b>Authority</b>	The entity or governing body responsible for defining the WISS. The entity decides what is in the WISS initially and approves revisions after it has been published. The entity could be an individual, a company, a standards organization, or any other formally constituted group.
<b>Versioning</b>	The WISS may be revised and must therefore have a version identifier, including an effective date (i.e., a publish change point such as Canada CPA 1978 and CAPP 2001).
<b>Scope</b>	The constraints around what is identified. Examples of scope may be regional (all wells in North America), jurisdictional (only wells within Alberta), functional (wells drilled for the intent of, or in aid of, the production of hydrocarbons), structural (only wells below a specified depth), or any combination of these.
<b>What is Identified</b>	The well components for which this WISS provides the identifier. The WISS must be capable of identifying the following components: <a href="#">Well Origin</a> , <a href="#">Wellbore</a> , and <a href="#">Wellbore Completion</a> . The WISS may also identify additional components.
<b>Uniqueness Criteria</b>	The description of the rules and attributes that will be used to determine uniqueness for generating an identifier.
<b>Defining Attributes</b>	A list of the minimum set of attributes for the well component(s) to support the uniqueness criteria and rules for generating the identifier.
<b>Structure</b>	The composition of the well identifier: length, format, semantic parts, etc.
<b>Well Identification Change Rules</b>	If the identifier can change after it is assigned, there must be mechanisms for publishing this information.



### **Recommendations for designing a WISS**

The WISS should be designed to allow each implementation to accommodate local requirements within the constraints of the essential common elements.

An identifier may be constructed without meaning, such as a number assigned in sequence.

If intelligence is included in the identifier, it should be the minimum necessary to accomplish the purpose of an identifier. The more extensive or precise the intelligence, the greater the risk of error and the need to change the identifier.

Intelligence that is ephemeral should be avoided. For example, operator name, well type, and status commonly change throughout the life cycle of a well.



## Well Identification System Implementation (WISI)

### Definition:

A **Well Identification System Implementation (WISI)** is a documented process for creating well identifiers within a specific business or regulatory entity.

### Clarification:

- The WISI must conform to the principles in the [WISS](#).
- The WISI documentation must contain explicit instructions.
- The WISI may accommodate local regulation and practices.
- The WISI must document the following.

<b>WISS</b>	Identify the WISS that the implementation is based on, including any version information.
<b>Authority</b>	The entity or governing body responsible for the WISI.
<b>Versioning</b>	The WISI may be revised and must therefore have a version identifier, including an effective date.
<b>Scope</b>	This scope may not exceed the scope in the applicable WISS.
<b>What is Identified</b>	The WISI must state what WISS well components to implement.
<b>Uniqueness Criteria</b>	Based on the rules and attributes of the WISS.
<b>Rules for Generating a Identifier</b>	Define specific set of rules for creating the identifier.
<b>Well Identifier Change Rules</b>	Define specific set of rules for generating an identifier change. Define the mechanism for disseminating the changes.

### Recommendations for designing a WISI

For a system implementation to be effective it must be clearly documented, communicated, and governed.

Determine and publish when the identifier is applied to a [Well Origin](#), [Wellbore](#), and/or [Wellbore Completion](#). For example:

- Planning
- On approval
- Real time
- On receipt of data



## Well Identification System Repository (WISR)

### Definition:

The **Well Identification System Repository (WISR)** is the master list of identifiers and their supporting attributes and metadata created by a specific Well Identification System Implementation.

### Clarification:

- There is one WISR that is the system of record for a [WISI](#).

### Metadata for the unique identifier in the WISR:

The following is a minimum recommended set of information assigned to each identifier in the WISR.

1. WISI Authority
2. WISI Version Number
3. Identifier Creation Date

### Required attributes for the unique identifier in the WISR:

- The minimum set of attributes as defined by the WISI.



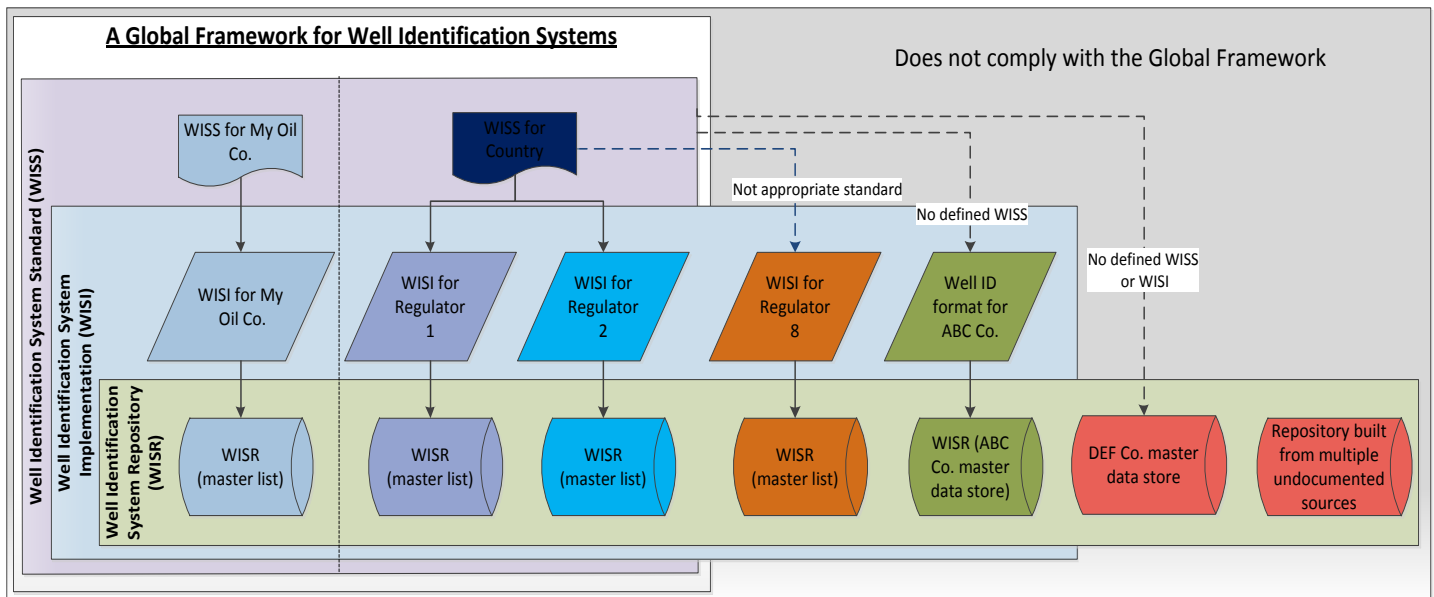
## COMPLIANCE WITH THE GLOBAL FRAMEWORK

To comply with the [Global Framework](#), a [Well Identification System](#) must:

- include all three levels of the Global Framework
- follow the specifications for each level
- be sufficiently documented to ensure consistent use
- be actively maintained by the [Authority](#) for each level

Ways in which a WIS can fail to comply with the Global Framework include:

- A regulator identifies a standard but does not implement it completely.
  - E.g., The standard requires identifying [Wellbores](#), but the implementation does not do so.
- A regulator's WIS is based on a standard that is not appropriate.
  - E.g., a regulator in Africa decides to use the API D12A standard as the basis for their well identification system, even though the API D12A standard is specifically defined for North American use only.
- A company's internal WIS does not follow an external standard and does not sufficiently document its own processes as an internal standard.
- A [WISR](#) merges identifiers from multiple sources (from multiple implementations) without defining a new standard and implementation to administer it.



**Figure 3:** Examples of non-compliant Well Identification Systems and lists of identifiers.



## RECOMMENDATIONS FOR IMPLEMENTATION

Each implementation of a [WISS](#) may accommodate local requirements, provided it remains compliant with the essential properties and conditions of the WISS. When well information from different implementations is exchanged, it is best to have as much commonality as possible between the implementations. Commonality in design and practice reduces the need for data transformation and reduces the risk of errors. The following recommendations are intended to encourage consistent methods of implementing a WISS while respecting the need to accommodate local requirements.

### Test of Uniqueness

Every [WISI](#) must address the issue of uniqueness. The primary intention and purpose of an identifier is that it identifies a unique object. The purpose of the test of uniqueness is to use available data to determine whether it is a unique object.

The [Global Framework](#) requires a unique identifier for every [Well Origin](#), [Wellbore](#), or [Wellbore Completion](#) within the scope of a specific [WIS](#). The criteria for what constitutes a distinctly separate object should be consistent for all identifiers created by a single WISI. Ideally, this consistency will be applied across all implementations of a WISS.

#### Test for uniqueness of a Well Origin

Every new penetration of the earth's surface or seabed initiates the new [Well](#) that must be identified. Regardless of the complexity below the surface, a well has only one point of entry into the earth.

These are recommendations for the test for uniqueness of a Well Origin.

- A new planned or permitted well has a unique Well Origin as there is a new penetration of the earth (i.e., a different set of surface coordinates, such as latitude and longitude).
- Each well in a multi-well pad/platform has its own identifier because each has a unique Well Origin.
- If a well is junked while drilling, and the rig is skidded to spud a new hole for the same objective, there are two Well Origins. The junked hole and the second spud hole are each assigned a unique identifier.
- Is this a new life cycle? A well at the end of its life cycle is permanently closed, but may be recovered and re-entered. There are now two or more wells, but only one Well Origin. The re-entry is deemed to be a new well because a new life cycle has started.

Recognized Exception:

- A Well that spuds at a location different from the planned and/or permitted location may not require a new identifier (different from the identifier assigned on the permit) because only the physical Well Origin is definitive.

Special Case:

- The [WISS](#) or [WISI](#) must specify a consistent practice on how to identify any well.



### **Test for uniqueness of a Wellbore**

Every [Wellbore](#) needs to be identified, regardless of the Wellbore's design or intention or drilling process. Every drilled interval in a well has information that is (or may become) valuable.

These are recommendations for the test for uniqueness of a Wellbore.

- A hole abandoned for technical reasons (junked, ghost hole, etc.) must be identified.
- A Wellbore is recognized by a unique terminating point at the conclusion of drilling operations.

Recognized Exceptions:

- Drilling operations within an existing interval (e.g., widening) do not create a new Wellbore.
- The identifier for a planned Wellbore may be transferred to the physical Wellbore, subject to local requirements specified in the WISI.

Special Case:

- The [WISS](#) or [WISI](#) must specify a consistent practice on how to identify any Wellbore.

### **Test for uniqueness of a Wellbore Completion**

There are various regulatory and industry practices for determining what qualifies as a unique [Wellbore Completion](#). Refer to the [WIAW](#) baseline definition, especially to "...capable of isolating a fluid flow for continuous measurement." A single Wellbore Completion may span more than one [Wellbore](#) (multi-leg completion) and more than one formation or zone (commingled). The creation of a new Wellbore Completion always involves a new or existing [Wellbore Contact Interval](#). However, other considerations and local regulations are involved in the designation of a "completion." Therefore, the criteria for recognizing a Wellbore Completion should be incorporated into the [WISI](#) to satisfy the requirements of the specific regulator or business entity.

The following are recommendations for the test for uniqueness of a Wellbore Completion. The terms are used in accordance with the WIAW baseline definitions. The test is presented as a series of sequential questions.

1. Is a new or different Wellbore Contact Interval involved? If yes, this may require the assignment of a new Wellbore Completion identifier.
2. Is a new or different configuration of existing Wellbore Contact Intervals involved? If yes, this may require the assignment of a new Wellbore Completion identifier.
3. Is a new or different reservoir exposed? If yes, this may require the assignment of a new Wellbore Completion identifier.
4. Does the well's construction allow the Wellbore Contact Interval(s) to function as a unit to produce or inject fluids? If yes, this may require the assignment of a new Wellbore Completion identifier.
5. Is the well's construction, in relation to the recognized Wellbore Contact Interval(s), capable of isolating a fluid for continuous measurement? If yes, this may require the assignment of a new Wellbore Completion identifier.
6. Is a new Wellbore Completion identifier required? If yes, the identifier must relate to the [Well Origin](#) and to the relevant Wellbore(s).



Special Case:

- The [WISS](#) or [WISI](#) must specify a consistent practice on how to identify any Wellbore Completion.

## When Identifiers Can Change

The identifier should be permanent and never changed, but business realities make this impossible to achieve in all cases. A change to an existing identifier is in effect the creation of a new identifier and the process must be defined in the [WISI](#).

A change to an existing identifier may be justified under the following conditions:

- If the identifier was created in error (e.g. not following the process defined in the WISI)
  - If more than one identifier is assigned to the same unique object (see Guiding Principle 2)
- If the identifier was created on erroneous information (e.g., wrong information on the permit application)



## APPENDIX

### APPENDIX A - What Is A Well? (WIAW)

The PPDM Association's What Is A Well? Project created baseline definitions in order to promote better understanding and communication when using terms to describe essential well components. For more details, including illustrations and additional component definitions, see [www.whatisawell.org](http://www.whatisawell.org) or [www.ppdm.org](http://www.ppdm.org).

A **WELL** is a proposed or actual drilled hole in the ground designed to exchange (or facilitate the exchange of) fluids between a subsurface reservoir and the surface (or another reservoir), or to enable the detection and measurement of rock properties.

**Key Concept:**

A physical Well is created each time the drill bit breaks the surface of the earth.

**Clarification:**

A Well is the parent of the Wellhead Stream(s), Well Origin, and all Well Components down hole from its Well Origin.

A Well has a single Well Origin and all Wellbore(s) which extend from this Well Origin are parts of the Well.

Re-entry through the same Well Origin for a Well that has not been plugged and abandoned does not create a new Well.

A Well which has the same geographic coordinates as a previously existing plugged and abandoned, reclaimed or undrilled Well is a new Well.

A **WELL ORIGIN** is the location on the surface of the earth or sea bed where the drill bit is planned to penetrate or does penetrate the earth to establish or rework a Well.

**Key Concept:**

Every Well has one real, physical Well Origin.

**Clarification:**

A Well has only one valid Well Origin at any point in time. A Well Origin is associated with one Well, and all Wellbores and other Components that are part of that Well.

The location of a planned Well Origin can change or be inexact. Once the drill bit hits the ground, the location is fixed.

A new Well gets a new Well Origin.



A **WELLBORE** is a path of drilled footage, from the Well Origin (top/start) to a terminating point (bottom/end).

**Key Concept:**

Wellbores do not need to be drilled in one continuous operation; they are defined as a path from the Well Origin to a terminating point.

**Clarification:**

There are one or more Wellbores in a planned or drilled Well, namely the original Wellbore, and a Wellbore for each intended, actual or accidental sidetrack. Each Wellbore has a unique terminating point.

A deepening of an existing Wellbore is considered a new Wellbore with the same Well Origin. Note that in this case, the original terminating point will be located within the new Wellbore.

Widening of an existing Wellbore does not constitute a new, separate Wellbore.

A **WELLBORE CONTACT INTERVAL** is a measured depth range within a Wellbore that is intended to put the Wellbore into contact with one or more stratigraphic zones for the purpose of production, injection, or service.

**Key Concept(s):**

A physical section of a Wellbore allowing fluid flow through the wall of the Wellbore.

**Clarification:**

A Wellbore Contact Interval is created by a sequence of actions including (but not limited to) completion, recompletion, perforation, or frac jobs. Perforation intervals, open hole intervals, slotted liner intervals, or a combination of these are examples of Wellbore Contact Intervals.

Unlike a Wellbore Completion, an individual Wellbore Contact Interval need not be capable of isolating fluid flow.

A Wellbore Contact Interval is contained in only one Wellbore Completion at any point in time, although it might be contained in different Wellbore Completions over the life of the Wellbore Contact Interval.

A Wellbore Contact Interval must not be associated with more than one Wellbore Completion at any one time, but may exist, at least temporarily, without a Wellbore Completion.

The life of a Wellbore Contact Interval may be shorter than the entire life of a Wellbore.

A **WELLBORE COMPLETION** is a set of one or more Wellbore Contact Intervals that function as a unit to produce or inject fluids.

**Key Concept:**

A Wellbore Completion is capable of isolating a fluid flow for continuous measurement. A Wellbore Completion is not an activity or a state, but a physical configuration.



**Clarification:**

A Well may have zero, one, or more Wellbore Completions.

A Wellbore Completion can span multiple Wellbores or Wellbore Segments.

A Wellbore Completion may span multiple reservoirs, and a single reservoir may exchange fluids with multiple Wellbore Completions.



## APPENDIX B – Glossary

**Authority** – the entity having the right of ownership and control of the name, content, distribution, use, and management of change.

**Global Framework** – a set of specifications for a Well Identification System and best practices for their application.

**Lucent Identifier** – an identifier with embedded meaning.

**Opaque Identifier** – an identifier with no embedded meaning.

**Well Identification System (WIS)** – the structured assembly of criteria, methodology, and facility that enable an authority to administer well identifiers. “Administer” includes assignment, dispensation, cross-referencing, and maintaining a history of changes. A Well Identification System is a combination of WISS, WISI, and WISR.

**Well Identification System Standard (WISS)** – the specifications and best practice recommendations for creating each of the parts of any Well Identification System that follows that standard.

**Well Identification System Implementation (WISI)** – a documented process for creating well identifiers within a specific business or regulatory entity.

**Well Identification System Repository (WISR)** – the master list of identifiers and their supporting attributes and metadata created by a specific Well Identification System Implementation.