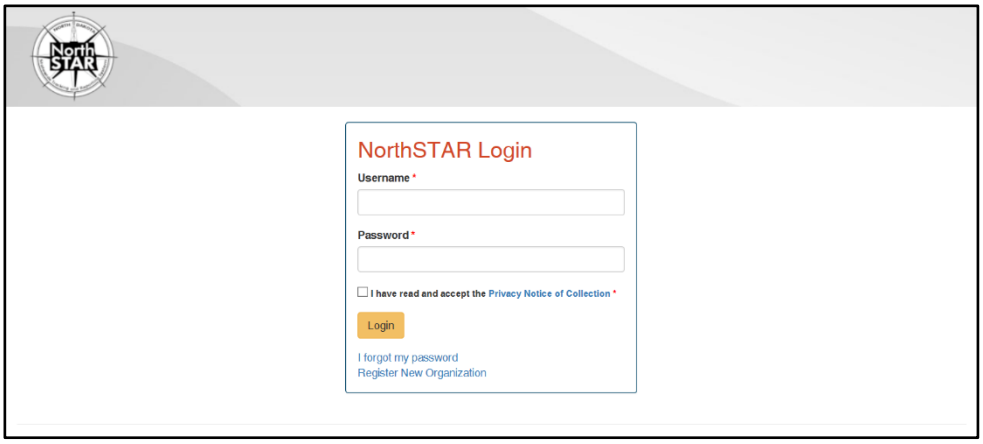
Guide to Creating Plugging Procedures in NorthSTAR

V.01 02.06.2020

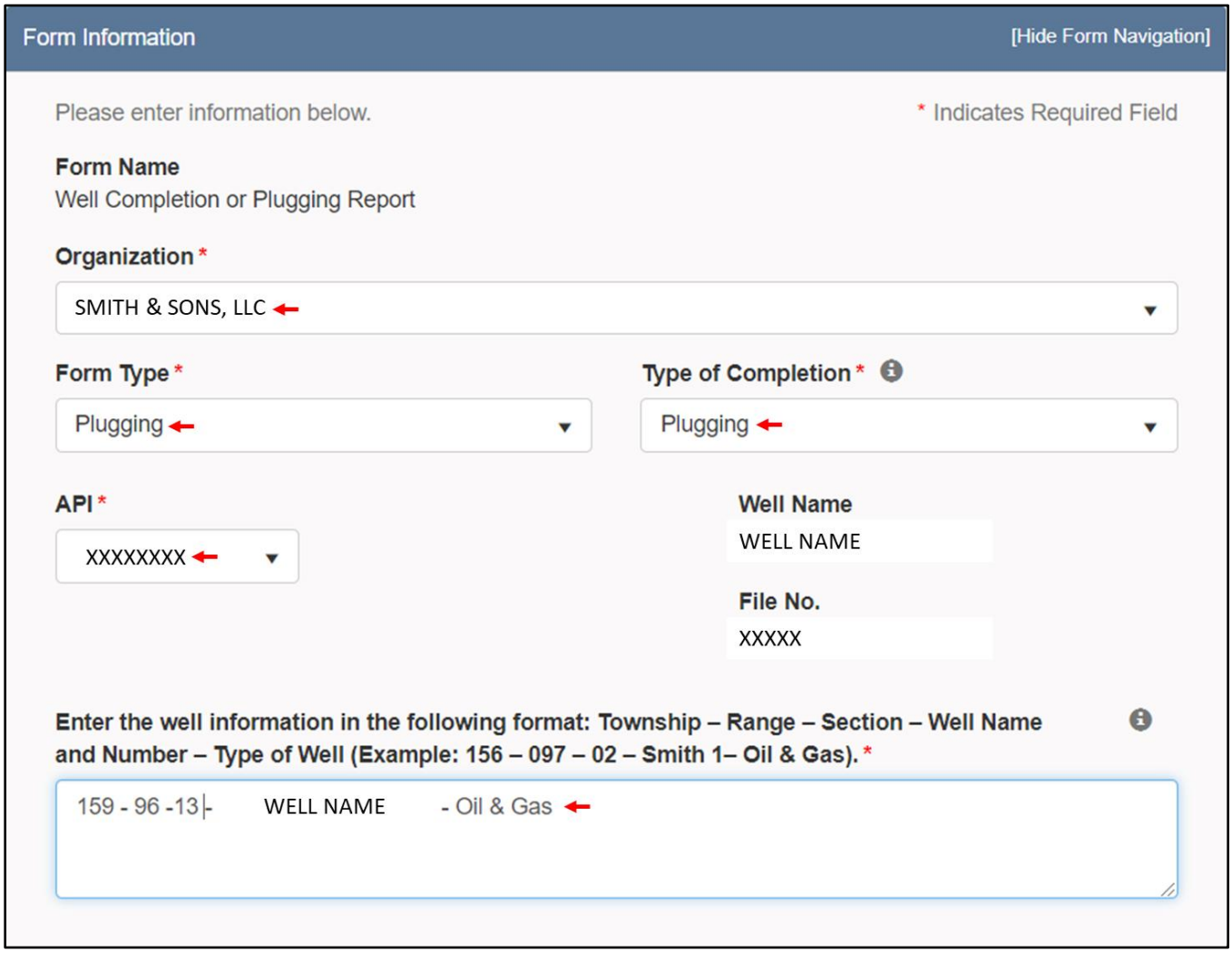
How to Get Started

- Log into NorthSTAR using Microsoft Edge, Google Chrome, or Firefox.
  URL: https://northstar.dmr.nd.gov



To begin a sundry for the intent to plug & abandon a well:

- Select *[Forms]* and *[Online Forms]* from the options at the top of the page.
- Select *[Well Completion or Plugging Report].*
- Select your organization from the *Organization* list.
- Select *[Plugging]* for both *Form Type* and *Type of Completion.*
- Select the *[API Number]* for the well that was plugged. Check to make sure the well name & file no. that populate are correct.

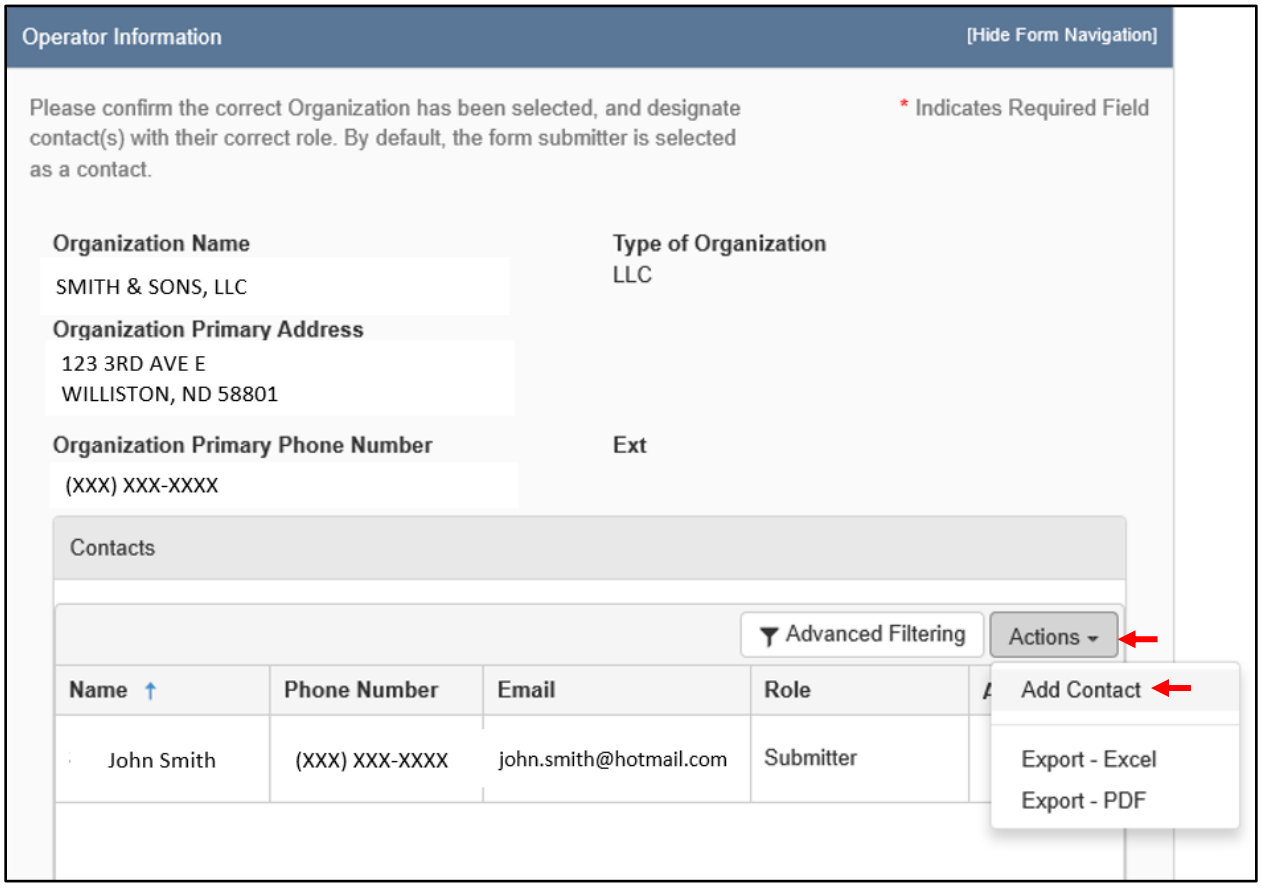

Form Information
[Hide Form Navigation]
Please enter information below.
* Indicates Required Field
Form Name
Well Completion or Plugging Report
Organization *
SMITH & SONS, LLC
Form Type *
Plugging
Type of Completion *
Plugging
API *
XXXXXXXX
Well Name
WELL NAME
File No.
XXXXX
Enter the well information in the following format: Township – Range – Section – Well Name and Number – Type of Well (Example: 156 – 097 – 02 – Smith 1– Oil & Gas). *
159 - 96 -13 - WELL NAME - Oil & Gas

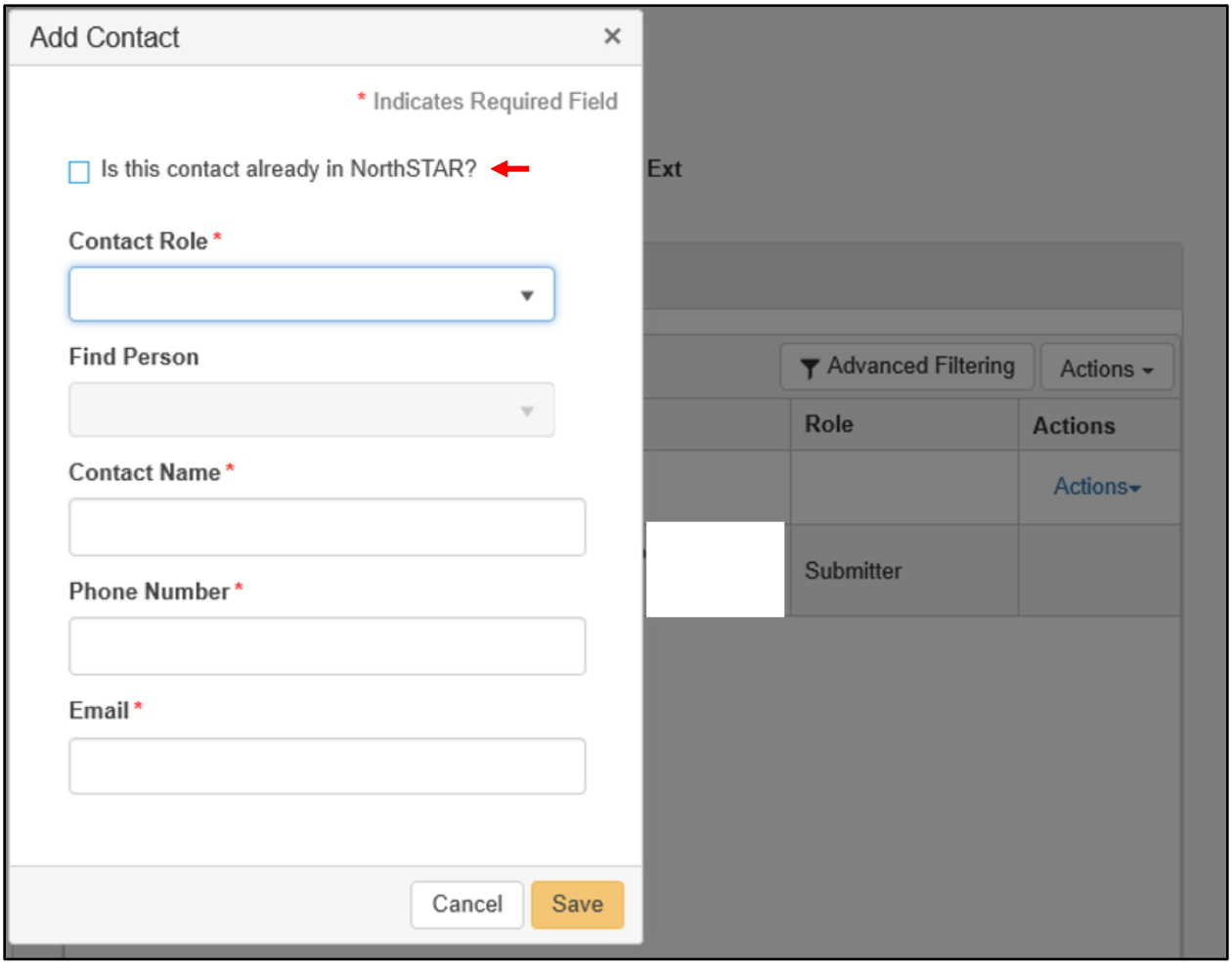
Operator Information

Contacts added to the form will be alerted by email when the status of the form changes.

Users may add a contact by selecting [*Actions]* and [*Add Contact].*

- To add a contact that is already in the NorthSTAR system, find their *Contact Role* and name in the drop down menus.
- To add a contact that is not in the NorthSTAR system, uncheck the box titled *[Is this contact already in NorthSTAR?]* and fill out all required fields.



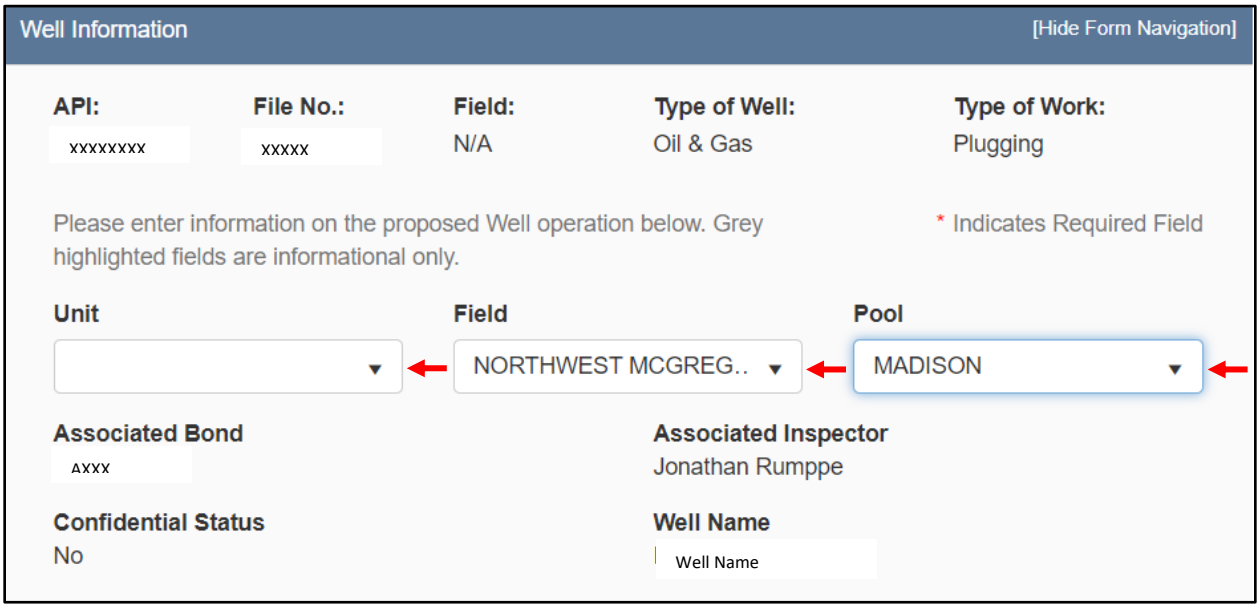

Add Contact
* Indicates Required Field
Is this contact already in NorthSTAR?
Contact Role *
Find Person
Contact Name *
Phone Number *
Email *
Cancel
Save
Ext
Advanced Filtering
Actions
Role
Actions
Actions
Submitter

Well Information

Users must fill out all applicable fields.

- If the well is currently part of a unitized field, select the *Unit* from the list.
- Select the *Field* from the list.
- Select the 'active' production / injection pool for the well from the list.

- For a plugged well, the *Operator Reported Status* will be *[Shut In]*.
- The *Spud / Start Date* is the date the plug & abandon work began.
- The *Date Completed* is the date the plug & abandon work was completed.
- The *KB Elevation (Ft Above SL)* is the reference elevation above sea level used for logging.



Wellhead Location

Surface Owner
N/A

Footages From Nearest Section Line

Footage 1: 810	**Feet From**	N	**Line**
Footage 2: 1980	**Feet From**	E	**Line**

Qtr-Qtr or Lot:	Section:	Township:	Range:	County:
NW NE	13	159 N	96 W	Williams

Latitude of Well Head (NAD 83):
AXXX

Longitude of Well Head (NAD 83):
AXXX

Ground Elevation (Ft above SL):
N/A

Graded Pad Elevation (Ft above SL):

Operator Reported Well Status *
Shut In

Spud/Start Date *
12/16/2019

Driller Total Depth
8084

Disposition of Gas

KB Elevation (Ft above SL) *
2303

Operator Reported Producing Method

Date Completed *
12/22/2019

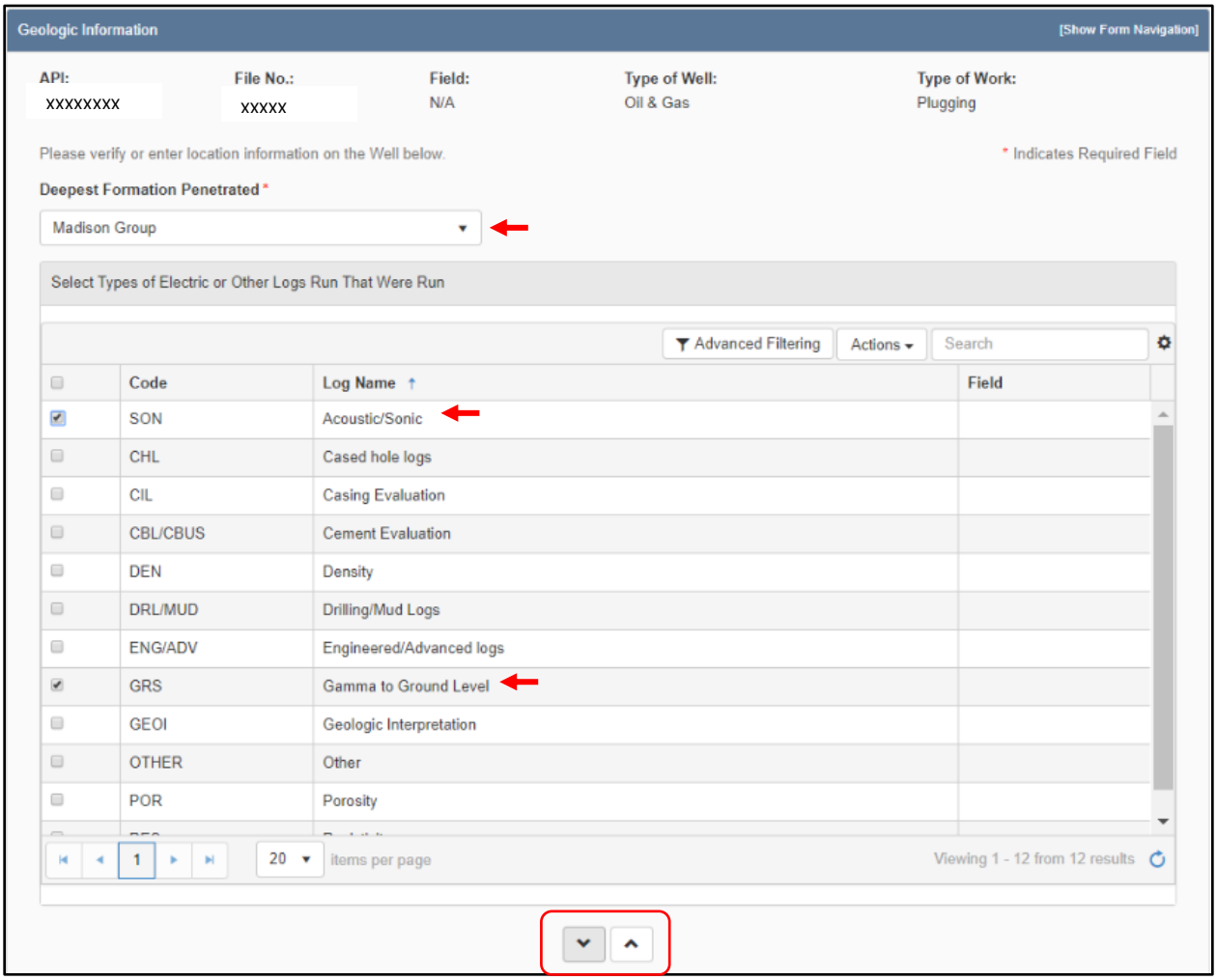
- **An oil well** shall be considered completed when the first oil is produced through wellhead equipment into tanks from the ultimate producing interval after casing has been run.
- **A gas well** shall be considered complete when the well is capable of producing gas through wellhead equipment from the ultimate producing zone after casing has been run.
- **For EOR or SWD wells,** please report the date the well is capable of injection through tubing and packer into the permitted injection zone. Also, please report the packer type and depth and the tubing size, depth, and type. The packer and tubing type may be included in the "Additional Information" portion of the report.

Size & Type of Pump

Geological Information

Users must select all logs that were run on the well prior to or during plugging & abandon operations.

- *Deepest Formation Penetrated* is the deepest formation reached while drilling the well. This may not be related to the deepest casing string or the current production interval.
- Select the logs from the table provided near the top of the screen by marking the check box in the left-hand column.
- Press the *[v]* button to move the log types that were marked into the table below.
- To add additional logs of the same type (e.g. two separate cement bond logs), repeat the instructions above for that specific log type until the correct number show up in the table below.
- If a log was mistakenly added to the list, select the log using the checkbox and press the *[^]* to remove it from the list.
- Specify any other logs that were not found in the list under the *Other Logs* section



Plugging

Users must fill out all applicable fields on this form.

- *Weight of Fluid Between Plugs* is, in general, the weight of fluid that was circulated in the wellbore prior to cementing. This field must contain a single numeric value. If different fluids were circulated in the wellbore during P&A operations, note the first weight in this field and all subsequent weights under *Comments* below.
- *Date Well Plugged* is the date P&A operations were completed.
- *Number of DSTs* is the total number of drill stem tests run on the well (during initial drilling or recompletion).
- *Directional Survey Run?* indicates whether there are one of more sets of surveys for the well (e.g. MWD, GYRO, etc).
- *Was Completion Attempted?* indicates whether a well was fully or partially completed (e.g. hydraulic fracturing, formation acid treatment, etc).
- *Was the Well Cored?* Indicates whether core samples were taken from the well.
- *Was Casing Pulled?* Indicates whether one or more casing strings have been completely of partially pulled throughout the lifespan of the well.
- *Depth of Interval(s) Cored (Top-Bottom)* are the depths at which core samples were retrieved. Type *[N/A]* if no coring was done. Type each interval starting with the depth of the top of core, and separate core sample intervals with a comma (e.g. 7600-7645ft, 8235-8280ft), the core section on the geology information section will also need to be filled out.
- *Name of Inspector Present During Plugging* is the name of the ND DMR or BLM field inspector that witnessed cement work during P&A operations.
- List all pertinent *Plugging Contractors*. At a minimum include the workover company, cement company, and wireline company.
- Any additional information can be added to the comment box. Features in the wellbore, cement plug information, and procedures will be added in subsequent sections.

Plugging

[Hide Form Navigation]

API:	File No.:	Field:	Type of Well:	Type of Work:
3310500594	2855	N/A	Oil & Gas	Plugging

Please verify or enter plugging data for the Well below.

* Indicates Required Field

Plugging Information

Weight of Fluid Between Plugs (lbs/gal)

10

Date Well Plugged *

12/22/2019

Number of DSTs *

0

Directional Survey Run? *

○ Yes ◉ No

Was Completion Attempted? *

○ Yes ◉ No

Was Well Cored? *

○ Yes ◉ No

Was Casing Pulled? *

○ Yes ◉ No

Depth of Interval(s) Cored (Top-Bottom) *

N/A

Name of Field Inspector Present During Plugging *

Jon Rumppe

Plugging Contractors *

HAM WELL SERVICE, NEXTIER CEMENT,

Comments

Add

Features & Cement – The Basics

Some information about the wellbore will already be populated in the tables. If a piece of information appears to be inaccurate, please review the well file prior to making any changes. If changes are made to an item, all required fields must a completed.

Table Descriptions:

- *Wellbore Information* lists the openhole record of the wellbore. Missing or inaccurate records will require additional paperwork to update.
- *Wellbore Construction Feature* itemizes the objects inside the wellbore. ***Features*** may also be proposed on the sundry. Missing ***Features*** may be added here.
- *Cement Segment* is a description of the cement inside and behind casing. ***Cement segments*** may also be proposed on the sundry. ***Cement Segments*** must have an ***Associated Feature***. Missing ***Cement Segments*** may be added here.
- *Cement Class* is a description of the cement from the ***Cement Segments*** table. The cement class must have an associated ***Cement Segment***. Missing ***Cement Class*** information may be added here.

The tables may be formatted to a better size using the [*Hide Form Navigation*] button.

Information may be added to each table by clicking on [*Actions]* at the top of the table and selecting [*Add New].*

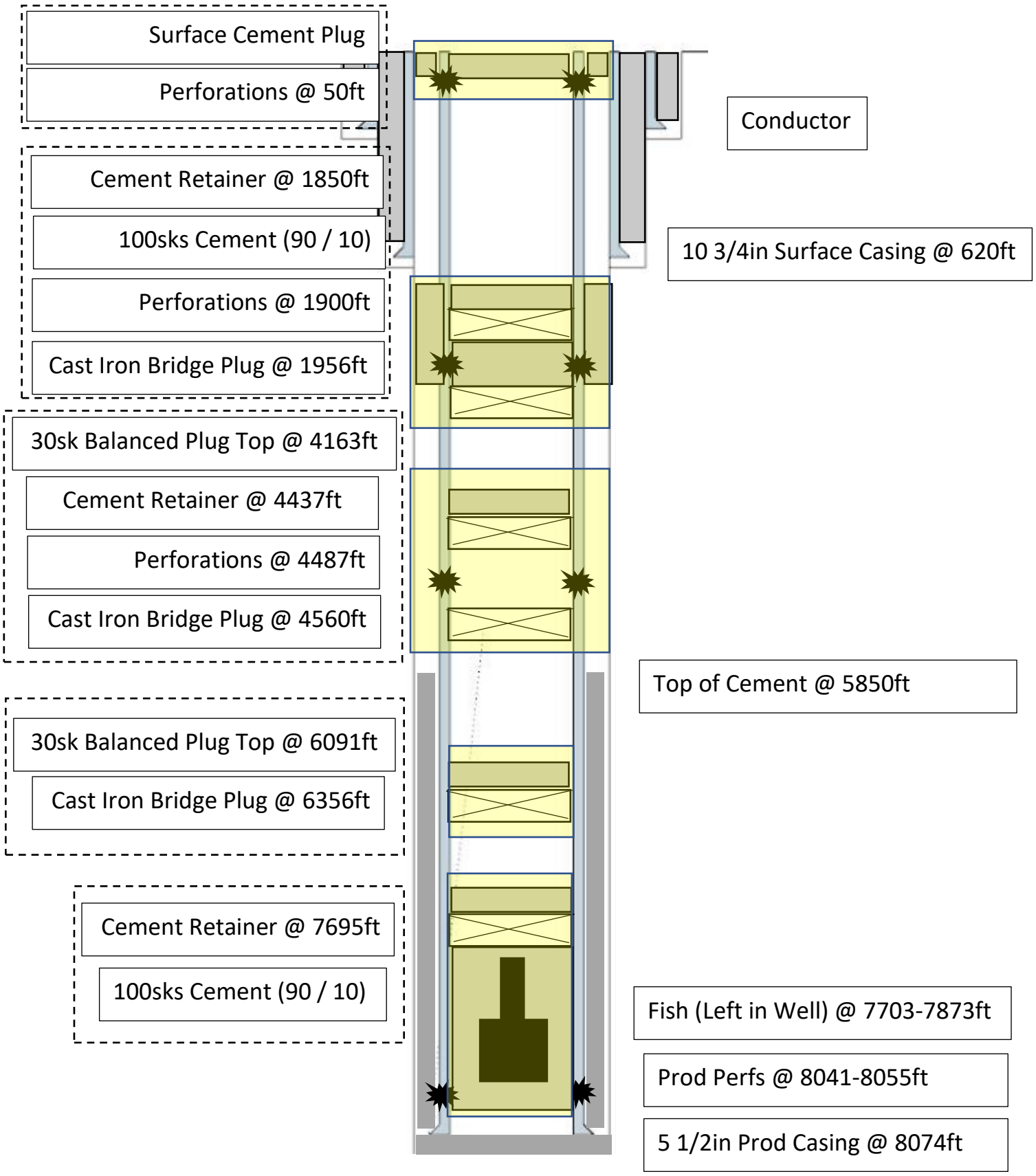
Information regarding a ***Feature***, ***Cement Segment***, ***Cement Class***, ***Completion Interval***, **or** ***Completion Open Hole or Perforations*** may be edited by clicking [*Actions]* for the specific item and [*Edit Record].*

Items added by the user on this sundry will have a ***New Record Status***. These items may also be deleted by the user by clicking on [*Actions]* for the specific item and selecting [*Delete Record]*.

IF THE FEATURES FOR THE P&A WERE ALREADY PROPOSED IN NORTHSTAR, SKIP TO SECTION B.

IF THE FEATURES FOR THE P&A ARE NOT IN NORTHSTAR, FOLLOW THE INSTRUCTIONS IN SECTION A.

SECTION A – Wellbore Diagram for Example



SECTION A (Example)

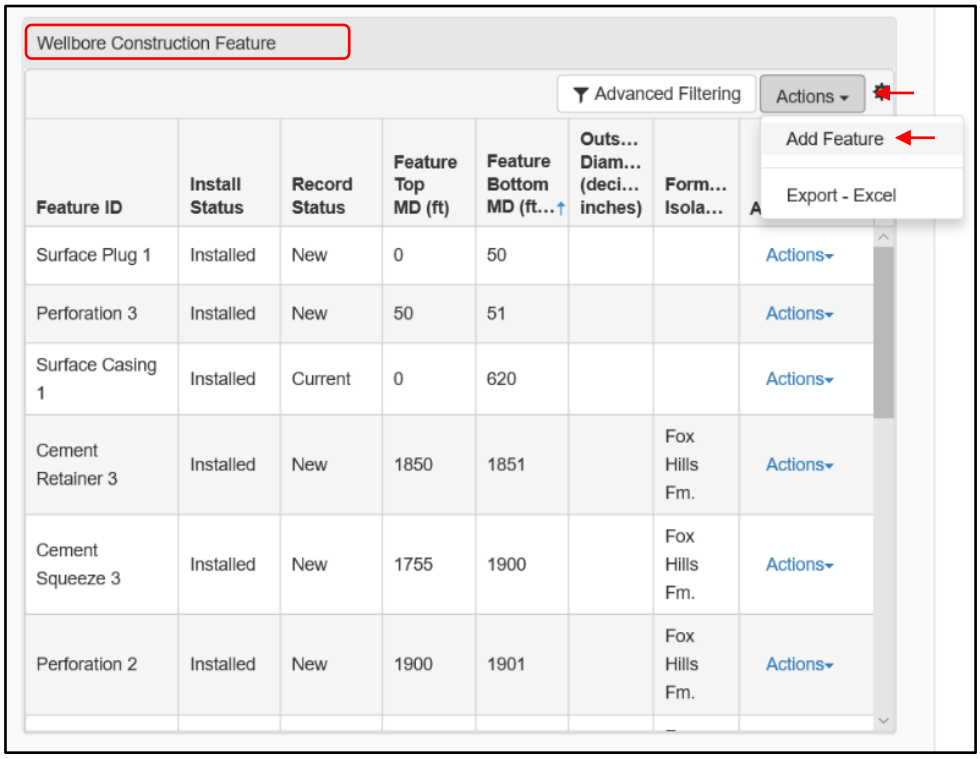
Features & Cement – Adding a Cement Squeeze for Existing Perforations

In this example, a cement retainer was set above a fish in the wellbore. A cement squeeze was performed on the production perforations below the fish.

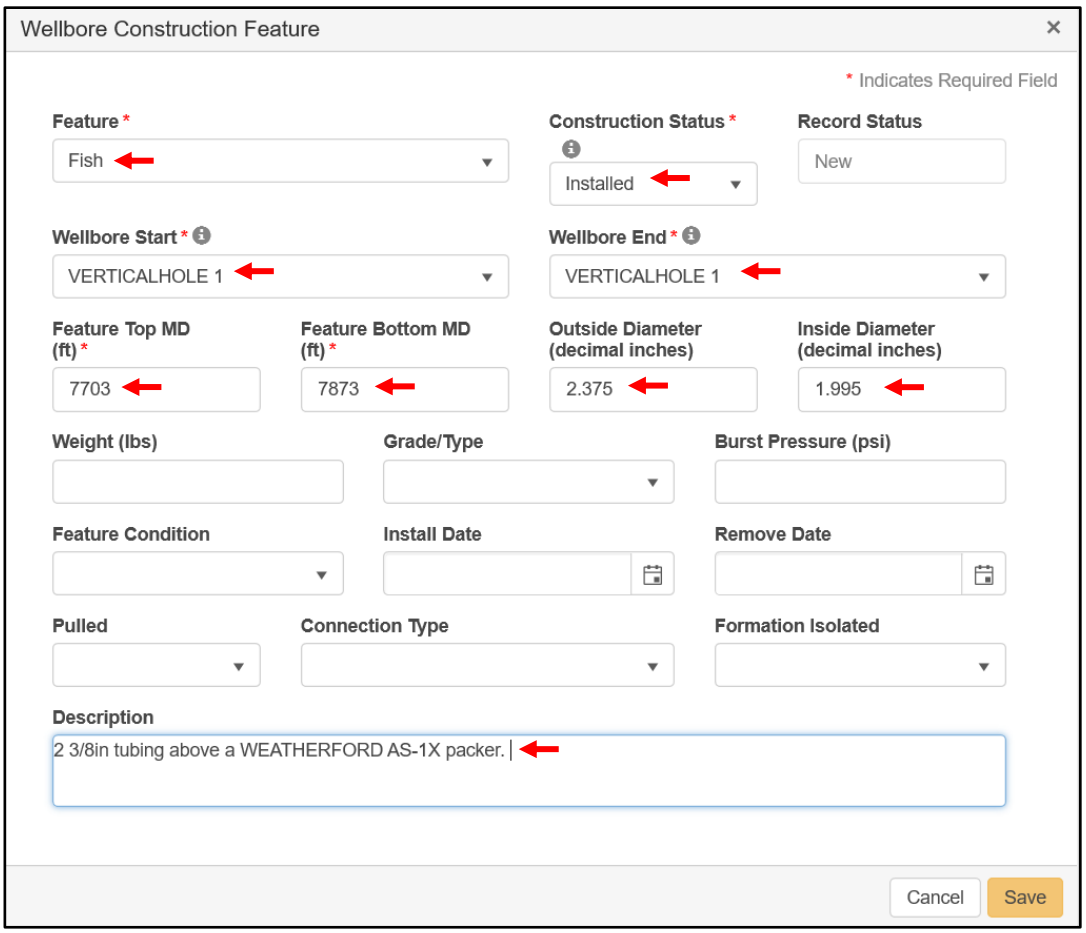
Features for a cement squeeze may include: Cast Iron Bridge Plug, Perforations, Cement Squeeze, Cement Retainer.

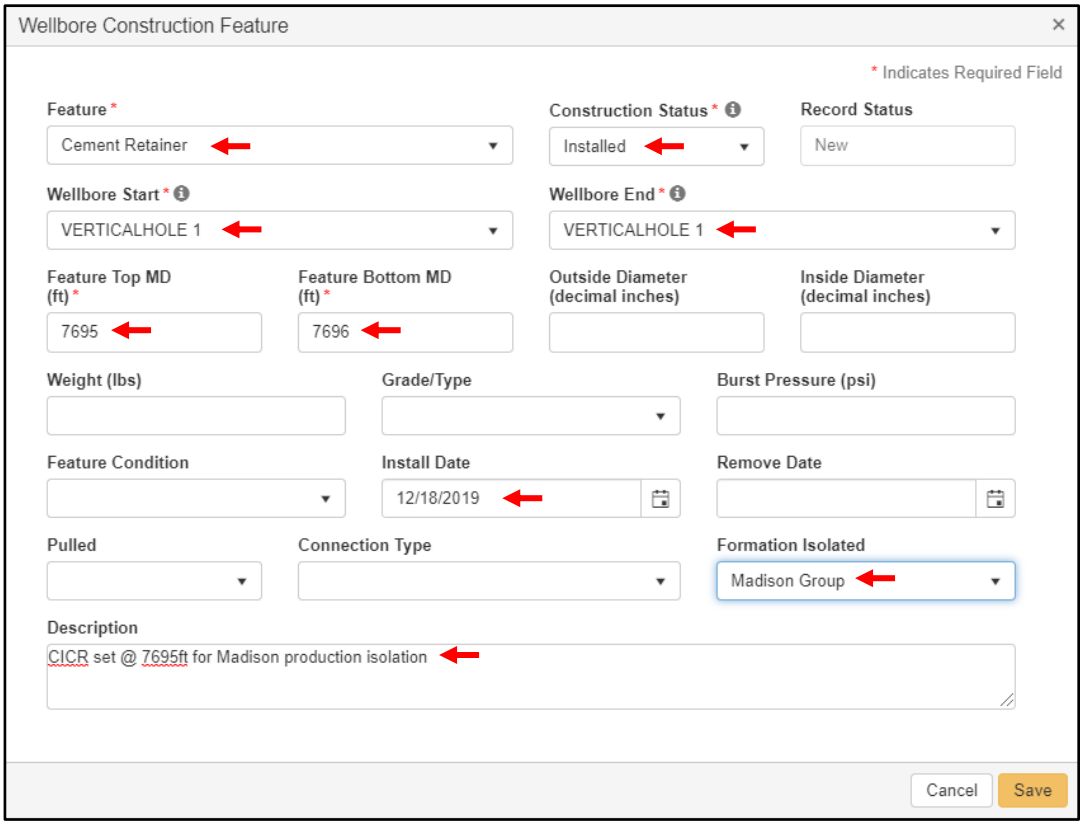
In order to add a cement squeeze, select *[Actions]* and *[Add Feature]*:

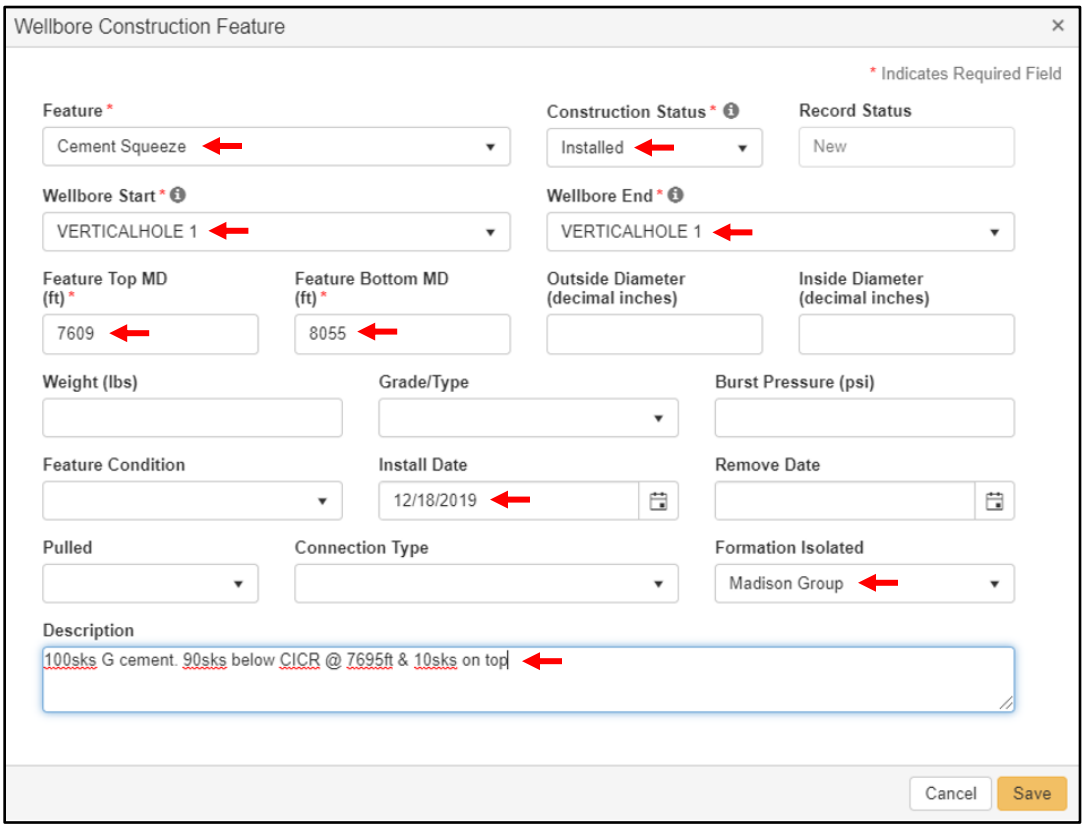
- Add *[Fish]*, *[Cement Retainer]*, and *[Cement Squeeze]* ***Features***.
- ***Construction Status*** will be *[Installed]*.
- ***Wellbore Start*** and ***Wellbore End*** will be *[VerticalHole1]* if the item is inside the vertical section of the wellbore below the ***SurfaceHole1*** depth.
- ***Feature Bottom MD (ft)*** will be bottom of tool for the *Cement Retainer* and lowest perforation depth for the *Cement Squeeze*.
- ***Feature Top MD (ft)*** will be the proposed top of tool for the *Cement Retainer* and top of cement for the *Cement Squeeze*. 10sks cement left 86ft of cement on top of the *Cement Retainer*.
- ***Install Date*** is the date the tool was set or cement work was completed.
- ***Formation Isolated*** is the formation that was isolated by the cement squeeze.

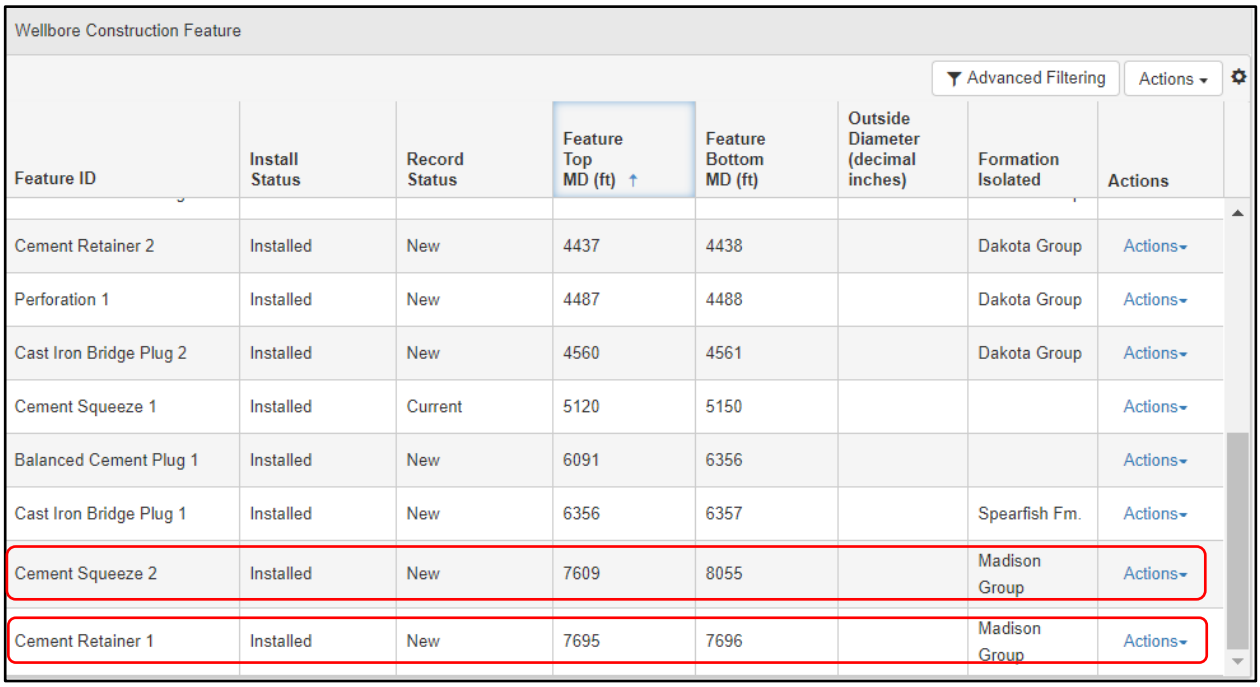


Feature ID	Install Status	Record Status	Feature Top MD (ft)	Feature Bottom MD (ft...↑	Outs... Diam... (deci... inches)	Form... Isola...	A
Surface Plug 1	Installed	New	0	50			Actions
Perforation 3	Installed	New	50	51			Actions
Surface Casing 1	Installed	Current	0	620			Actions
Cement Retainer 3	Installed	New	1850	1851		Fox Hills Fm.	Actions
Cement Squeeze 3	Installed	New	1755	1900		Fox Hills Fm.	Actions
Perforation 2	Installed	New	1900	1901		Fox Hills Fm.	Actions


Wellbore Construction Feature
* Indicates Required Field
Feature *
Fish
Construction Status *
Installed
Record Status
New
Wellbore Start *
VERTICALHOLE 1
Wellbore End *
VERTICALHOLE 1
Feature Top MD (ft) *
7703
Feature Bottom MD (ft) *
7873
Outside Diameter (decimal inches)
2.375
Inside Diameter (decimal inches)
1.995
Weight (lbs)
Grade/Type
Burst Pressure (psi)
Feature Condition
Install Date
Remove Date
Pulled
Connection Type
Formation Isolated
Description
2 3/8in tubing above a WEATHERFORD AS-1X packer.
Cancel
Save


Wellbore Construction Feature
* Indicates Required Field
Feature *
Cement Retainer
Construction Status *
Installed
Record Status
New
Wellbore Start *
VERTICALHOLE 1
Wellbore End *
VERTICALHOLE 1
Feature Top MD (ft) *
7695
Feature Bottom MD (ft) *
7696
Outside Diameter (decimal inches)
Inside Diameter (decimal inches)
Weight (lbs)
Grade/Type
Burst Pressure (psi)
Feature Condition
Install Date
12/18/2019
Remove Date
Pulled
Connection Type
Formation Isolated
Madison Group
Description
CICR set @ 7695ft for Madison production isolation
Cancel
Save


Wellbore Construction Feature
* Indicates Required Field
Feature *
Cement Squeeze
Construction Status *
Installed
Record Status
New
Wellbore Start *
VERTICALHOLE 1
Wellbore End *
VERTICALHOLE 1
Feature Top MD (ft) *
7609
Feature Bottom MD (ft) *
8055
Outside Diameter (decimal inches)
Inside Diameter (decimal inches)
Weight (lbs)
Grade/Type
Burst Pressure (psi)
Feature Condition
Install Date
12/18/2019
Remove Date
Pulled
Connection Type
Formation Isolated
Madison Group
Description
100sks G cement. 90sks below CICR @ 7695ft & 10sks on top
Cancel
Save


Wellbore Construction Feature
Advanced Filtering
Actions
Feature ID
Install Status
Record Status
Feature Top MD (ft)
Feature Bottom MD (ft)
Outside Diameter (decimal inches)
Formation Isolated
Actions
Cement Retainer 2 Installed New 4437 4438 Dakota Group Actions
Perforation 1 Installed New 4487 4488 Dakota Group Actions
Cast Iron Bridge Plug 2 Installed New 4560 4561 Dakota Group Actions
Cement Squeeze 1 Installed Current 5120 5150 Actions
Balanced Cement Plug 1 Installed New 6091 6356 Actions
Cast Iron Bridge Plug 1 Installed New 6356 6357 Spearfish Fm. Actions
Cement Squeeze 2 Installed New 7609 8055 Madison Group Actions
Cement Retainer 1 Installed New 7695 7696 Madison Group Actions

SECTION A (Example)

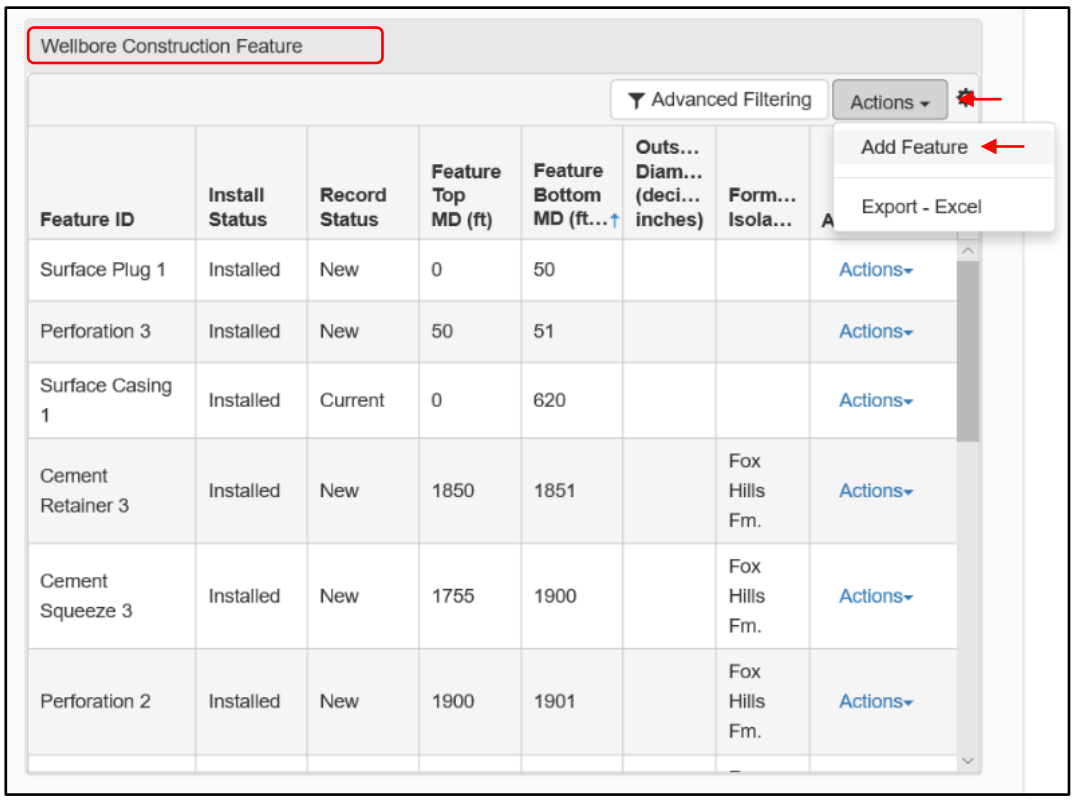
Features & Cement – Adding a Cast Iron Bridge Plug and Balanced Plug

In this example, a cast iron bridge plug was set, and a cement balanced plug was pumped on top of the plug.

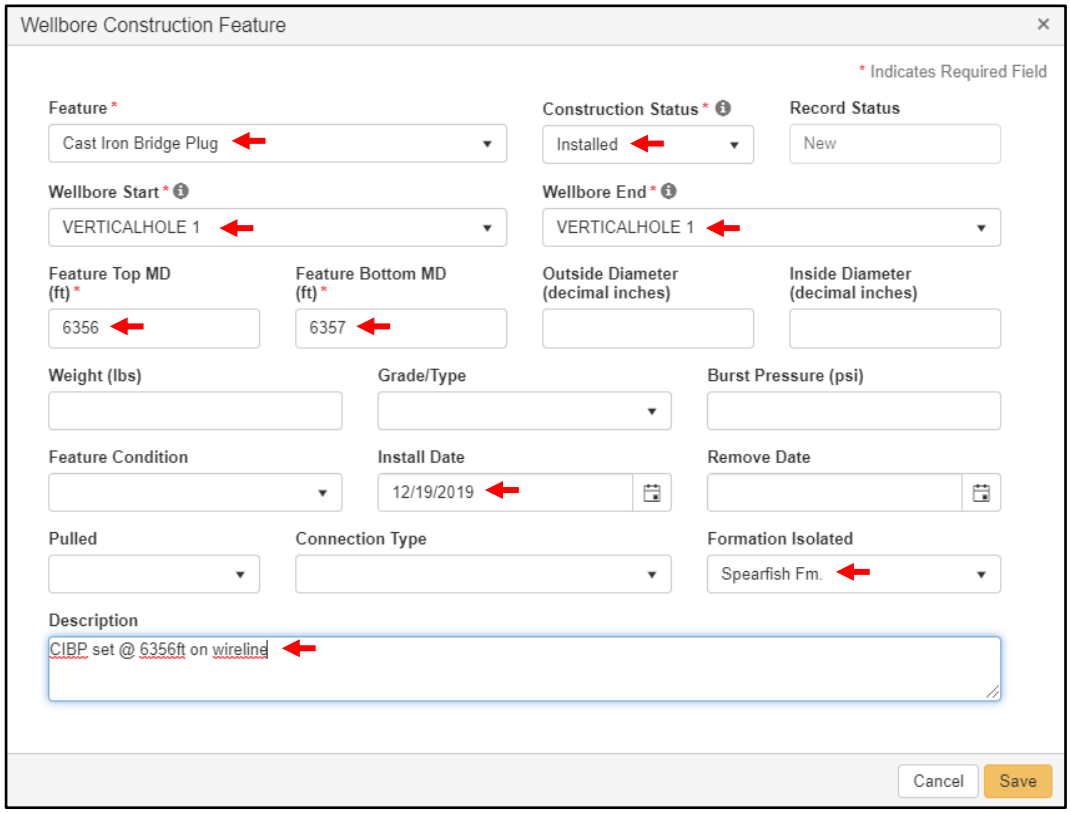
Features for balanced plugs may include: Cast Iron Bridge Plug, Cement Retainer & Balanced Plug.

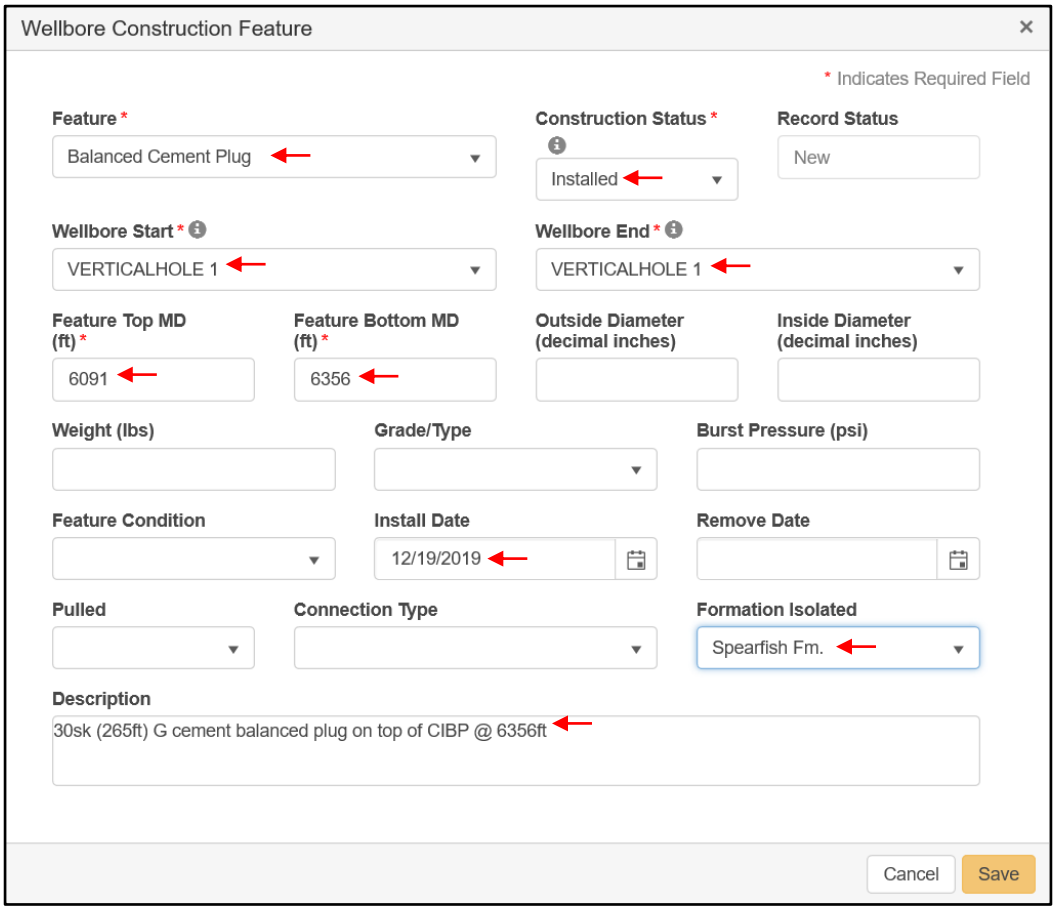
In order to add the balanced plug features, for each feature select *[Actions]* and [*Add Feature*]:

- Add *[Cast Iron Bridge Plug]* and *[Balanced Plug]* ***Features.***
- ***Construction Status*** will be *[Installed].*
- ***Wellbore Start*** and ***Wellbore End*** will be *[VerticalHole1]* if the item is inside the vertical section of the wellbore below the ***SurfaceHole1*** depth.
- ***Feature Bottom MD (ft)*** will be:
  - The depth of the bottom of tool for the *Cast Iron Bridge Plug.*
  - The end of tubing for the *Balanced Plug*.
- ***Feature Top MD (ft)*** will be:
  - The top of tool for the *Cast Iron Bridge Plug*
  - The calculated cement top for the *Balanced Plug*. If the height of the *Balanced Plug* was verified (e.g. by tagging), the top of the plug is the depth that was verified.
- ***Install Date*** is the date the tool was set or cement work was completed.
- ***Formation Isolated*** is the formation isolated by the balanced plug.



Feature ID	Install Status	Record Status	Feature Top MD (ft)	Feature Bottom MD (ft...↑	Outs... Diam... (deci... inches)	Form... Isola...	A
Surface Plug 1	Installed	New	0	50			Actions
Perforation 3	Installed	New	50	51			Actions
Surface Casing 1	Installed	Current	0	620			Actions
Cement Retainer 3	Installed	New	1850	1851		Fox Hills Fm.	Actions
Cement Squeeze 3	Installed	New	1755	1900		Fox Hills Fm.	Actions
Perforation 2	Installed	New	1900	1901		Fox Hills Fm.	Actions


Wellbore Construction Feature
* Indicates Required Field
Feature *
Cast Iron Bridge Plug
Construction Status *
Installed
Record Status
New
Wellbore Start *
VERTICALHOLE 1
Wellbore End *
VERTICALHOLE 1
Feature Top MD (ft) *
6356
Feature Bottom MD (ft) *
6357
Outside Diameter (decimal inches)
Inside Diameter (decimal inches)
Weight (lbs)
Grade/Type
Burst Pressure (psi)
Feature Condition
Install Date
12/19/2019
Remove Date
Pulled
Connection Type
Formation Isolated
Spearfish Fm.
Description
CIBP set @ 6356ft on wireline
Cancel
Save


Wellbore Construction Feature
* Indicates Required Field
Feature *
Balanced Cement Plug
Construction Status *
Installed
Record Status
New
Wellbore Start *
VERTICALHOLE 1
Wellbore End *
VERTICALHOLE 1
Feature Top MD (ft) *
6091
Feature Bottom MD (ft) *
6356
Outside Diameter (decimal inches)
Inside Diameter (decimal inches)
Weight (lbs)
Grade/Type
Burst Pressure (psi)
Feature Condition
Install Date
12/19/2019
Remove Date
Pulled
Connection Type
Formation Isolated
Spearfish Fm.
Description
30sk (265ft) G cement balanced plug on top of CIBP @ 6356ft
Cancel
Save

Wellbore Construction Feature

Advanced Filtering | Actions

Feature ID	Install Status	Record Status	Feature Top MD (ft)	Feature Bottom MD (ft) ↑	Outside Diameter (decimal inches)	Formation Isolated	Actions
						Group	
Cast Iron Bridge Plug 2	Installed	New	4560	4561		Dakota Group	Actions
Cement Squeeze 1	Installed	Current	5120	5150			Actions
Balanced Cement Plug 1	Installed	New	6091	6356		Spearfish Fm.	Actions
Cast Iron Bridge Plug 1	Installed	New	6356	6357		Spearfish Fm.	Actions
Cement Retainer 1	Installed	New	7695	7696		Madison Group	Actions
Cement Squeeze 2	Installed	New	7609	8055		Madison Group	Actions
Production Casing 1	Installed	Current	0	8074			Actions

SECTION A (Example)

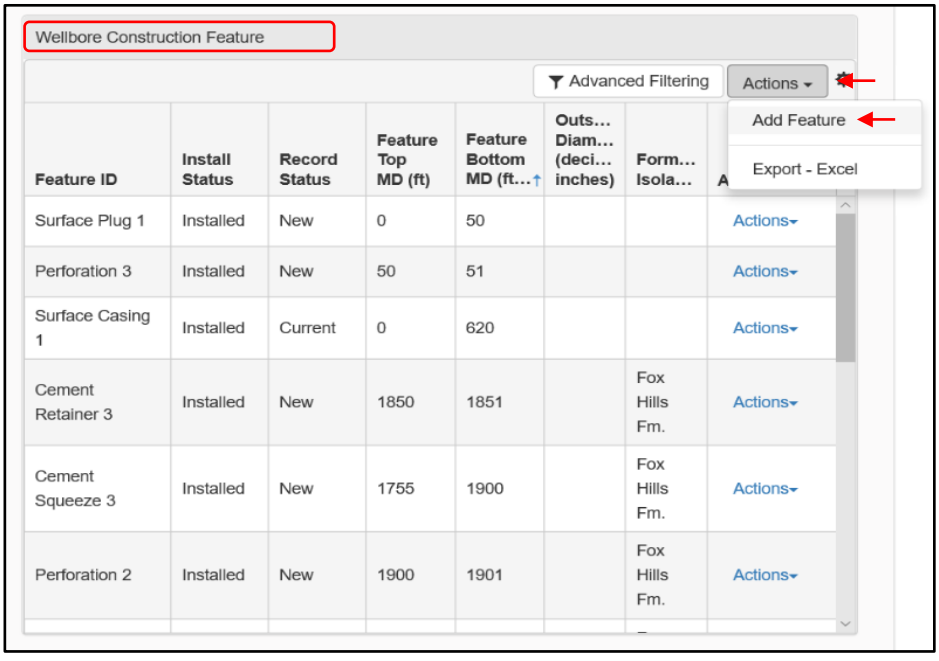
Features & Cement – Adding a Failed Cement Squeeze Attempt

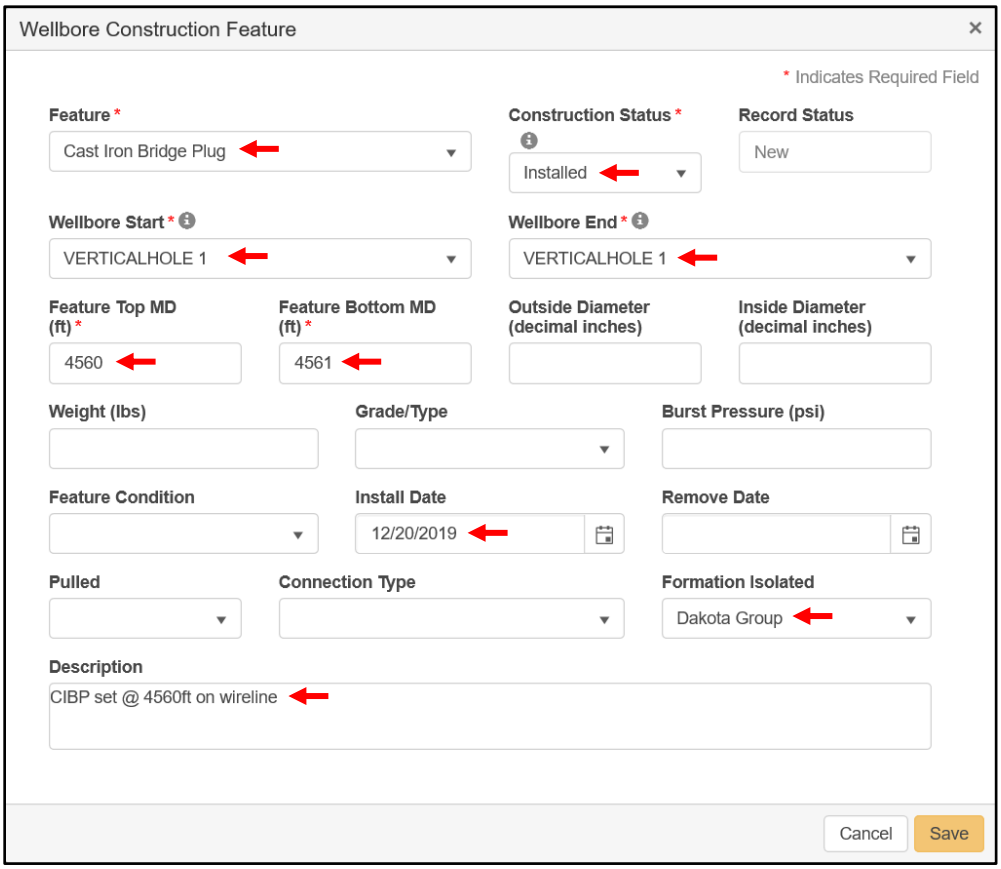
In this example, the cement squeeze was unable to be performed. A cast iron bridge plug was set, the casing was perforated, a cement retainer was set, and a cement balanced plug was placed on top of the cement retainer.

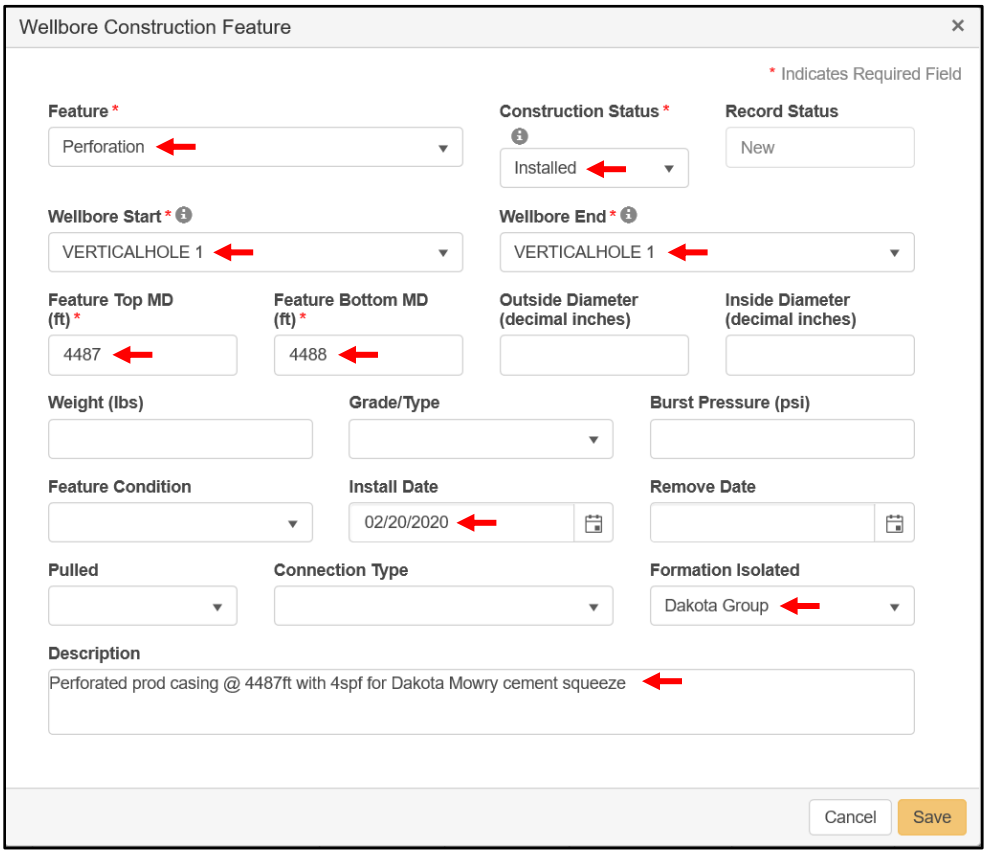
Features for cement squeezes may include: Cast Iron Bridge Plug, Cement Retainer, Cement Squeeze, and Perforations. A

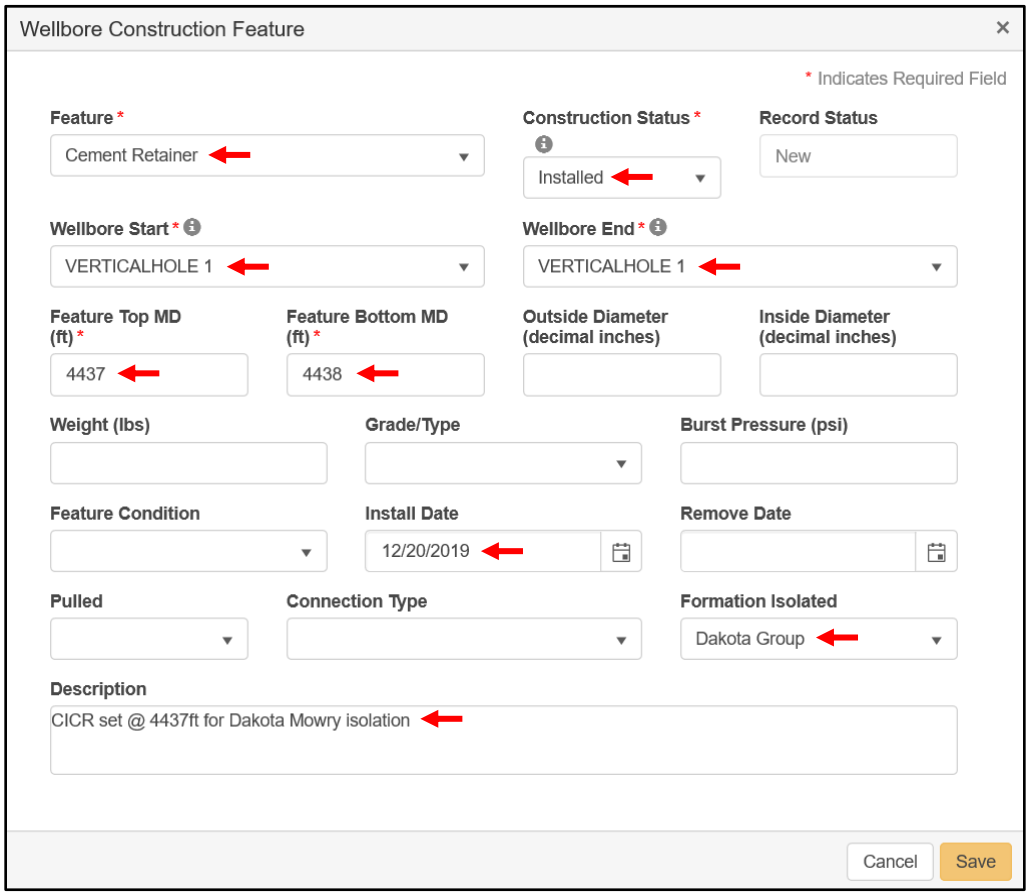
In order to add cement squeeze and balanced plug features, for each feature select *[Actions]* for the table and *[Add Feature]*:

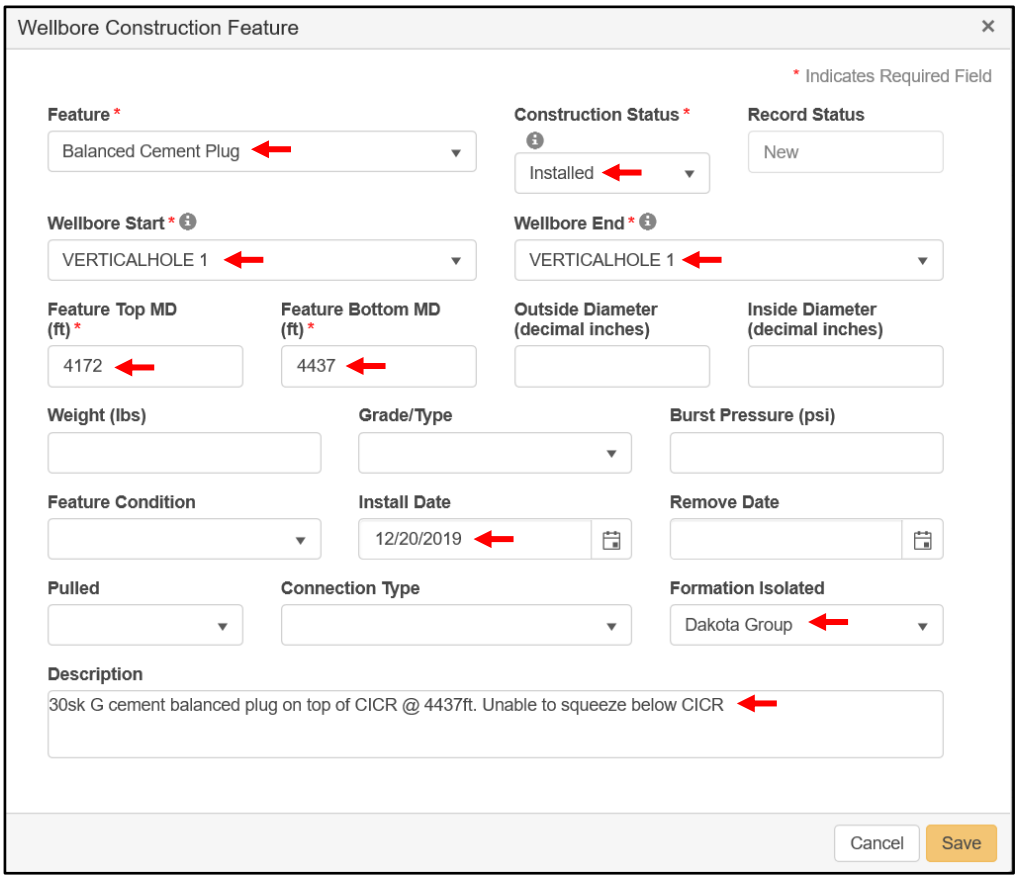
- Add *[Cast Iron Bridge Plug]*, *[Perforations]*, *[Cement Retainer]*, *and [Balanced Plug]* ***Features***.
- ***Wellbore Start*** and ***Wellbore End*** will be *[VerticalHole1]* if the item is inside the vertical section of the wellbore below the ***SurfaceHole1*** depth.
- ***Feature Bottom MD (ft)*** will be:
  - The depth of the bottom of tools for the *Cast Iron Bridge Plug & Cement Retainer*
  - The bottom of the perforated interval for *Perforations*
  - The end of tubing for the *Balanced Plug*.
- ***Feature Top MD (ft)*** will be:
  - The top of tool for the *Cast Iron Bridge Plug & Cement Retainer*
  - The top of the perforated interval for *Perforations*
  - The calculated cement top for the *Balanced Plug*. If the height of the *Balanced Plug* was verified (e.g. by tagging), the top of the plug is the depth that was verified.
- ***Install Date*** is the date the tool was set or cement work was completed.
- ***Formation Isolated*** is the formation isolated by the balanced plug.




Wellbore Construction Feature
* Indicates Required Field
Feature *
Cast Iron Bridge Plug
Construction Status *
Installed
Record Status
New
Wellbore Start *
VERTICALHOLE 1
Wellbore End *
VERTICALHOLE 1
Feature Top MD (ft) *
4560
Feature Bottom MD (ft) *
4561
Outside Diameter (decimal inches)
Inside Diameter (decimal inches)
Weight (lbs)
Grade/Type
Burst Pressure (psi)
Feature Condition
Install Date
12/20/2019
Remove Date
Pulled
Connection Type
Formation Isolated
Dakota Group
Description
CIBP set @ 4560ft on wireline
Cancel
Save


Wellbore Construction Feature
* Indicates Required Field
Feature *
Perforation
Construction Status *
Installed
Record Status
New
Wellbore Start *
VERTICALHOLE 1
Wellbore End *
VERTICALHOLE 1
Feature Top MD (ft) *
4487
Feature Bottom MD (ft) *
4488
Outside Diameter (decimal inches)
Inside Diameter (decimal inches)
Weight (lbs)
Grade/Type
Burst Pressure (psi)
Feature Condition
Install Date
02/20/2020
Remove Date
Pulled
Connection Type
Formation Isolated
Dakota Group
Description
Perforated prod casing @ 4487ft with 4spf for Dakota Mowry cement squeeze
Cancel
Save


Wellbore Construction Feature
* Indicates Required Field
Feature *
Cement Retainer
Construction Status *
Installed
Record Status
New
Wellbore Start *
VERTICALHOLE 1
Wellbore End *
VERTICALHOLE 1
Feature Top MD (ft) *
4437
Feature Bottom MD (ft) *
4438
Outside Diameter (decimal inches)
Inside Diameter (decimal inches)
Weight (lbs)
Grade/Type
Burst Pressure (psi)
Feature Condition
Install Date
12/20/2019
Remove Date
Pulled
Connection Type
Formation Isolated
Dakota Group
Description
CICR set @ 4437ft for Dakota Mowry isolation
Cancel
Save


Wellbore Construction Feature
* Indicates Required Field
Feature *
Balanced Cement Plug
Construction Status *
Installed
Record Status
New
Wellbore Start *
VERTICALHOLE 1
Wellbore End *
VERTICALHOLE 1
Feature Top MD (ft) *
4172
Feature Bottom MD (ft) *
4437
Outside Diameter (decimal inches)
Inside Diameter (decimal inches)
Weight (lbs)
Grade/Type
Burst Pressure (psi)
Feature Condition
Install Date
12/20/2019
Remove Date
Pulled
Connection Type
Formation Isolated
Dakota Group
Description
30sk G cement balanced plug on top of CICR @ 4437ft. Unable to squeeze below CICR
Cancel
Save

Wellbore Construction Feature

Advanced Filtering | Actions

Feature ID	Install Status	Record Status	Feature Top MD (ft)	Feature Bottom MD (ft) ↑	Outside Diameter (decimal inches)	Formation Isolated	Actions
Perforation 2	Installed	New	1900	1901		Fox Hills Fm.	Actions
Cast Iron Bridge Plug 3	Installed	New	1956	1957		Fox Hills Fm.	Actions
Balanced Cement Plug 2	Installed	New	4172	4437		Dakota Group	Actions
Cement Retainer 2	Installed	New	4437	4438		Dakota Group	Actions
Perforation 1	Installed	New	4487	4488		Dakota Group	Actions
Cast Iron Bridge Plug 2	Installed	New	4560	4561		Dakota Group	Actions
Cement Squeeze 1	Installed	Current	5120	5150			Actions
Balanced Cement Plug 1	Installed	New	6091	6356		Spearfish Fm	Actions

SECTION A (Example)

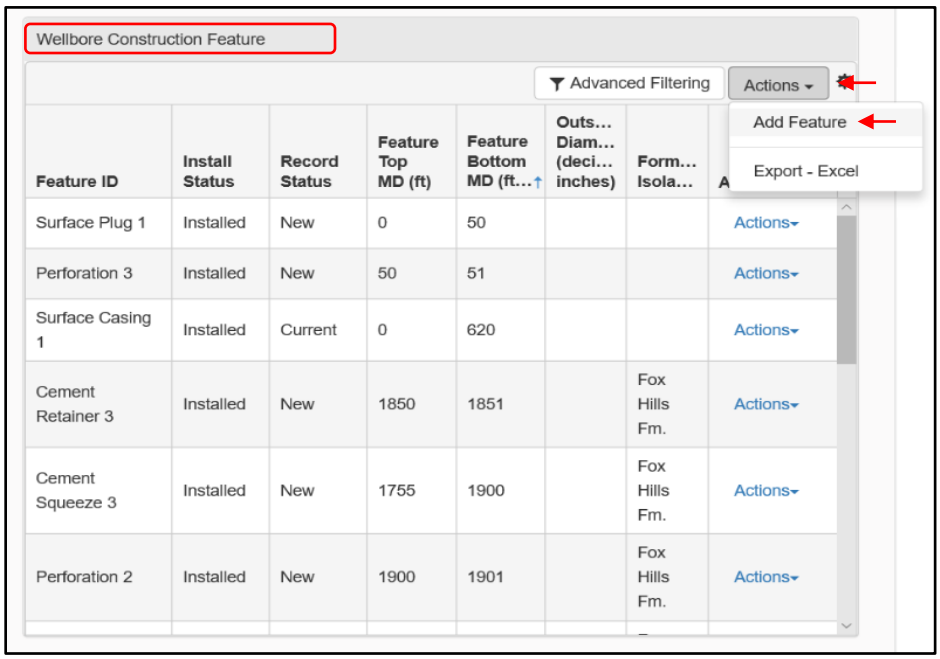
Features & Cement – Adding a Cement Squeeze Performed Due to Insufficient Top of Cement

In this example a cement squeeze is performed below the surface shoe. A cast iron bridge plug was set, the casing was perforated, a cement retainer was set, and a cement squeeze was performed.

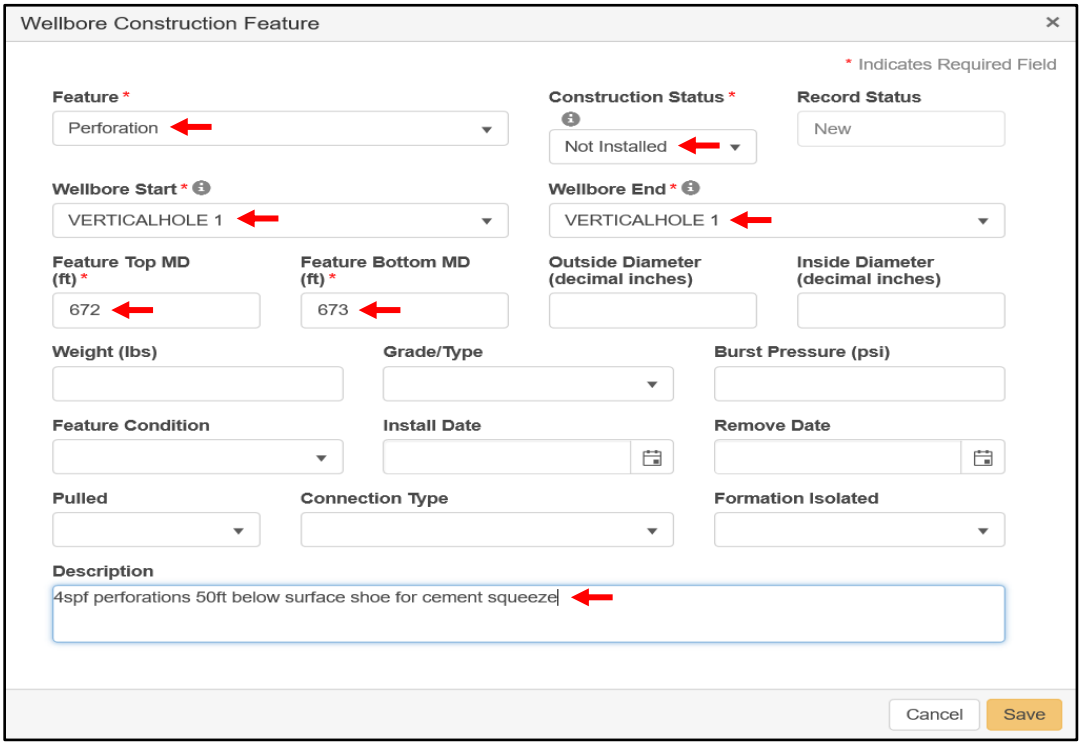
Features for cement squeezes may include: Cast Iron Bridge Plug, Cement Retainer, Cement Squeeze, and Perforations.

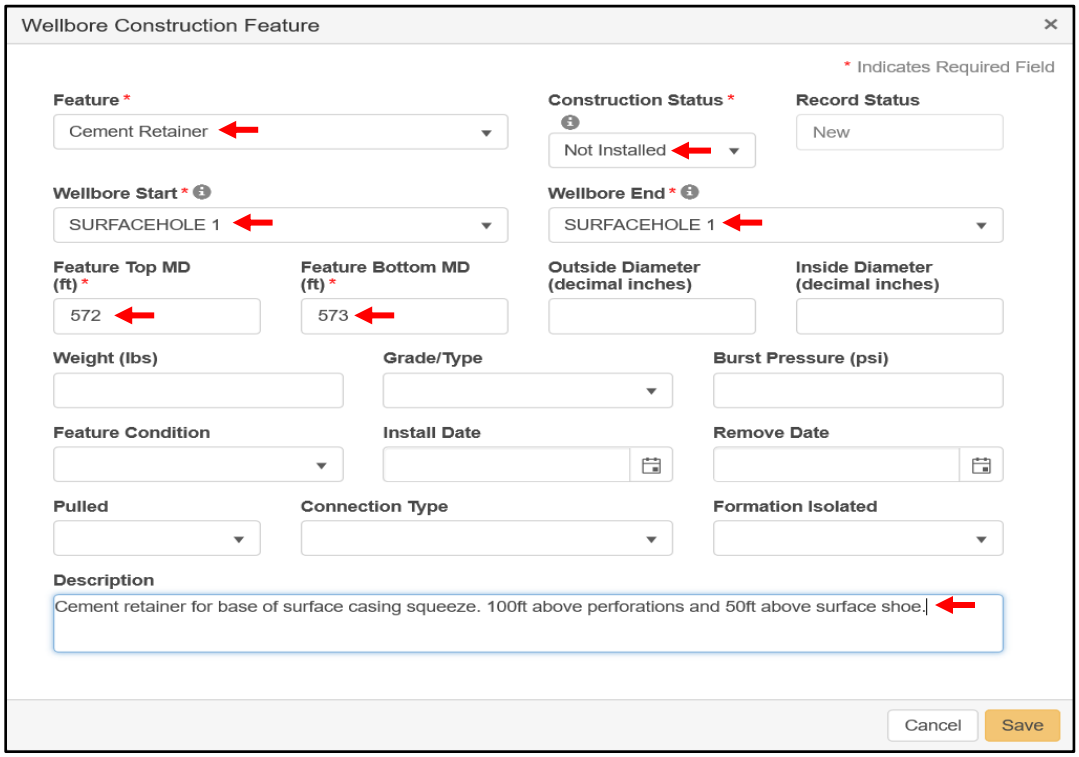
In order to add proposed cement squeeze features, for each feature select *[Actions]* for the table and *[Add Feature]*:

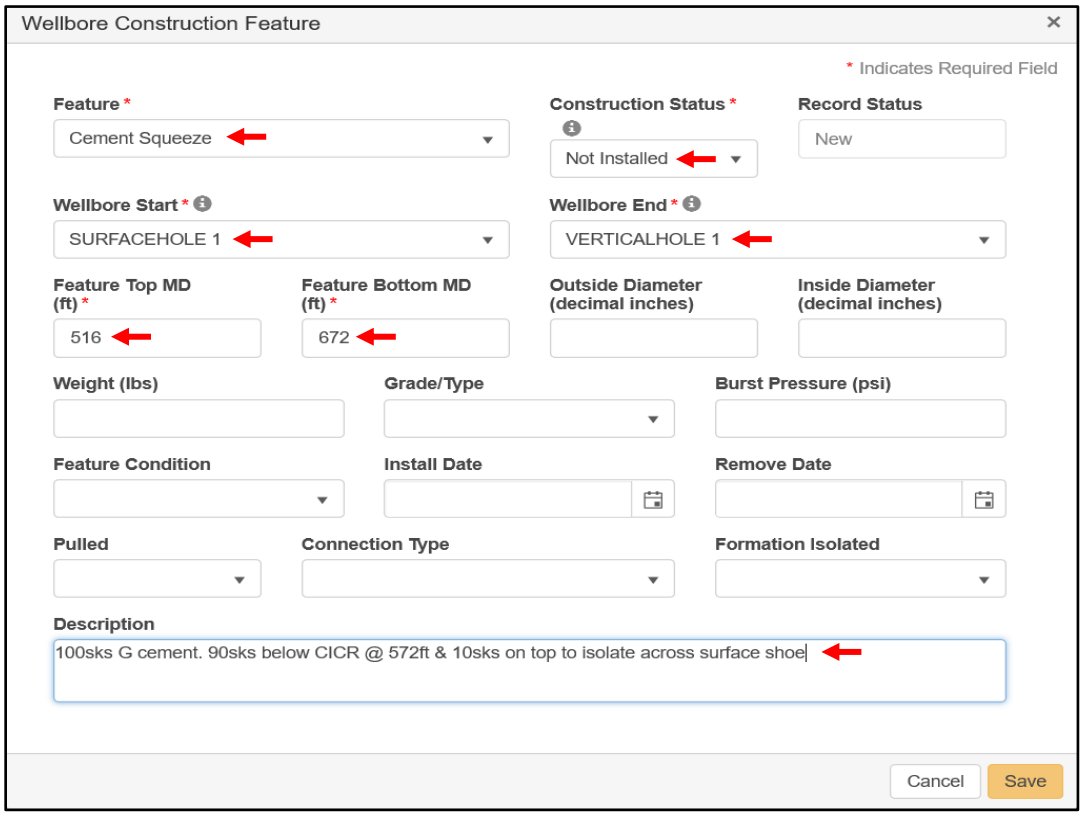
- Add *[Cast Iron Bridge Plug]*, *[Perforations]*, *[Cement Retainer]*, *and [Cement Squeeze]* ***Features***.
- ***Construction Status*** will be *[Not Installed]*.
- ***Wellbore Start*** and ***Wellbore End*** will be *[VerticalHole1]* or *[SurfaceHole1]* depending on whether the *Feature* starts or ends above or below the ***SurfaceHole1*** depth.
- ***Feature Bottom MD (ft)*** and ***Feature Top MD (ft)*** will be the proposed bottom and top of the ***Feature.***
- ***Install Date*** is the date the tool was set or cement work was completed.
- ***Formation Isolated*** is the formation isolated by the balanced plug.

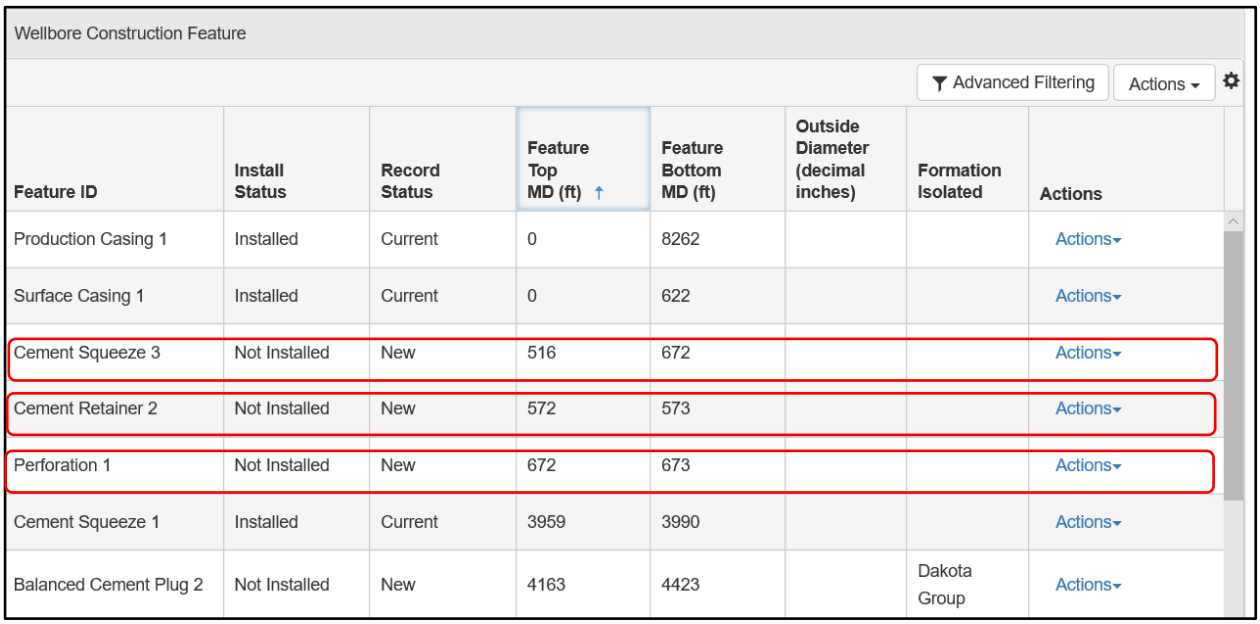


Feature ID	Install Status	Record Status	Feature Top MD (ft)	Feature Bottom MD (ft...↑	Outs... Diam... (deci... inches)	Form... Isola...	A
Surface Plug 1	Installed	New	0	50			Actions
Perforation 3	Installed	New	50	51			Actions
Surface Casing 1	Installed	Current	0	620			Actions
Cement Retainer 3	Installed	New	1850	1851		Fox Hills Fm.	Actions
Cement Squeeze 3	Installed	New	1755	1900		Fox Hills Fm.	Actions
Perforation 2	Installed	New	1900	1901		Fox Hills Fm.	Actions


Wellbore Construction Feature
* Indicates Required Field
Feature *
Perforation
Construction Status *
Not Installed
Record Status
New
Wellbore Start *
VERTICALHOLE 1
Wellbore End *
VERTICALHOLE 1
Feature Top MD (ft) *
672
Feature Bottom MD (ft) *
673
Outside Diameter (decimal inches)
Inside Diameter (decimal inches)
Weight (lbs)
Grade/Type
Burst Pressure (psi)
Feature Condition
Install Date
Remove Date
Pulled
Connection Type
Formation Isolated
Description
4spf perforations 50ft below surface shoe for cement squeeze
Cancel
Save


Wellbore Construction Feature
* Indicates Required Field
Feature *
Cement Retainer
Construction Status *
Not Installed
Record Status
New
Wellbore Start *
SURFACEHOLE 1
Wellbore End *
SURFACEHOLE 1
Feature Top MD (ft) *
572
Feature Bottom MD (ft) *
573
Outside Diameter (decimal inches)
Inside Diameter (decimal inches)
Weight (lbs)
Grade/Type
Burst Pressure (psi)
Feature Condition
Install Date
Remove Date
Pulled
Connection Type
Formation Isolated
Description
Cement retainer for base of surface casing squeeze. 100ft above perforations and 50ft above surface shoe.
Cancel
Save





Feature ID	Install Status	Record Status	Feature Top MD (ft)	Feature Bottom MD (ft)	Outside Diameter (decimal inches)	Formation Isolated	Actions
Production Casing 1	Installed	Current	0	8262			Actions
Surface Casing 1	Installed	Current	0	622			Actions
Cement Squeeze 3	Not Installed	New	516	672			Actions
Cement Retainer 2	Not Installed	New	572	573			Actions
Perforation 1	Not Installed	New	672	673			Actions
Cement Squeeze 1	Installed	Current	3959	3990			Actions
Balanced Cement Plug 2	Not Installed	New	4163	4423		Dakota Group	Actions

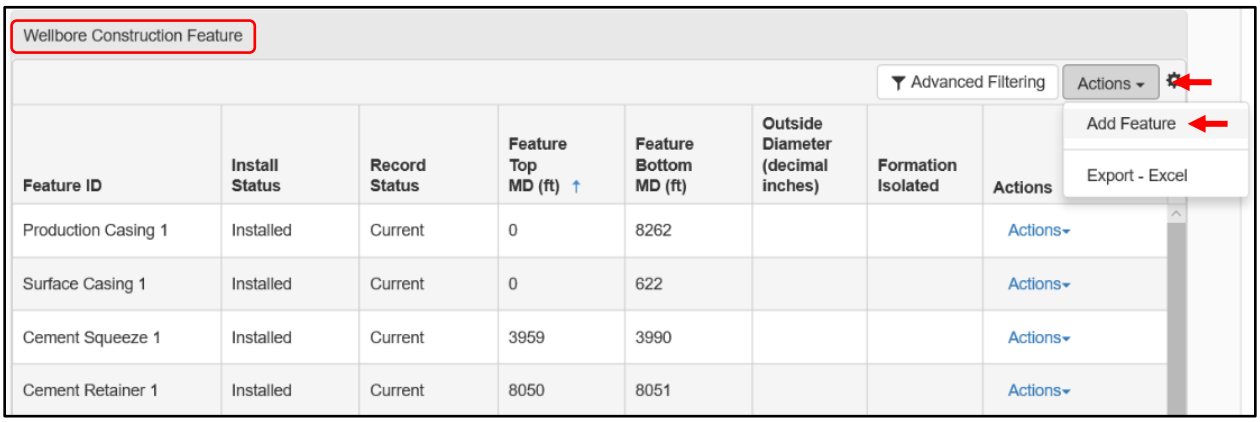
SECTION A (Example)

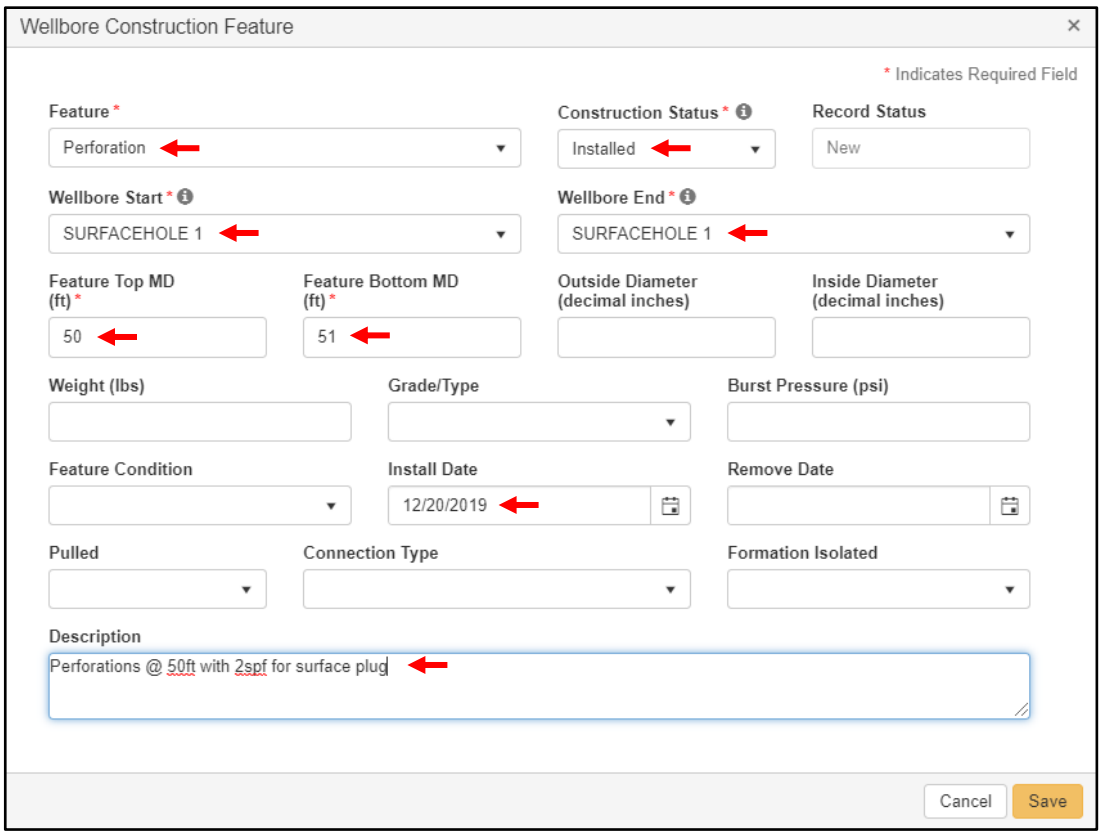
Features & Cement – Adding a Surface Plug

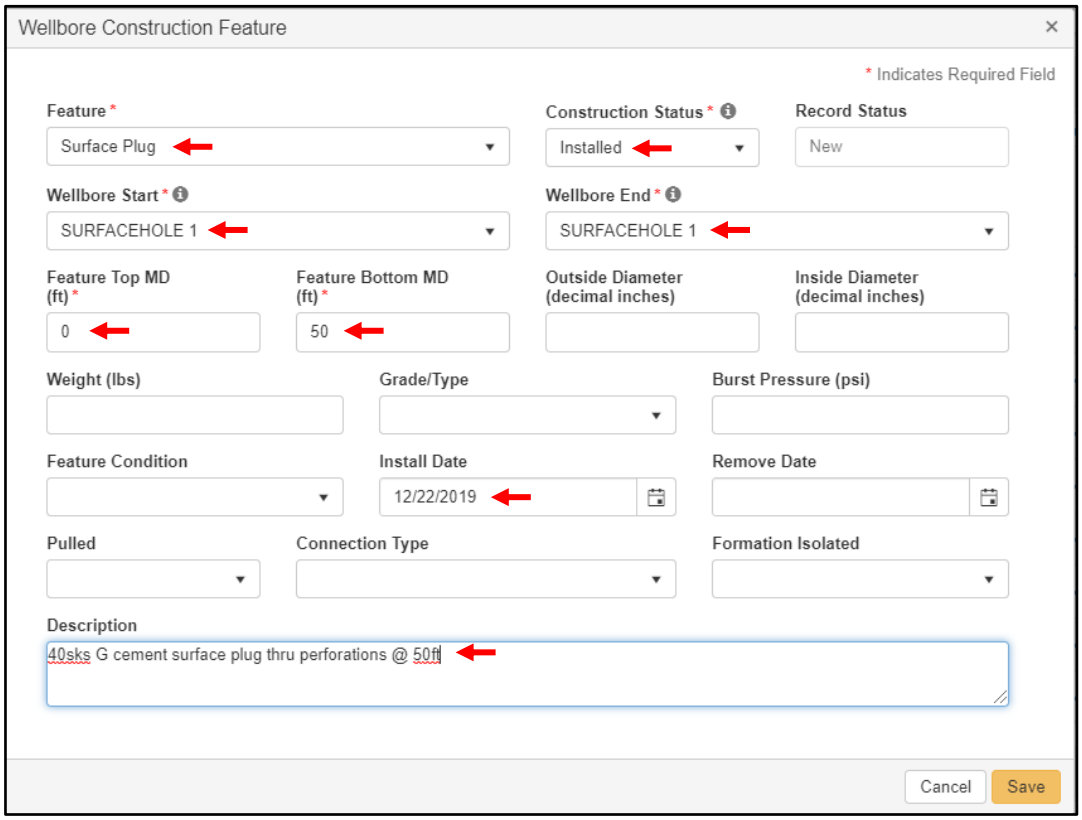
Features for surface plugs may include: Perforation, Cut, Cut and Pull, and Surface Plug.

In order to add the surface plug features, for each ***Feature*** select [*Actions*] and [*Add Feature*]:

- Add *[Perforation] and [Surface Plug]* ***Features***.
- ***Construction Status*** will be *[Installed].*
- ***Wellbore Start*** and ***Wellbore End*** will be *[SurfaceHole1]* because the items are above the ***SurfaceHole1*** depth.
- ***Feature Bottom MD (ft)*** and ***Feature Top MD (ft)*** will be the proposed bottom and top of the ***Feature***.




Wellbore Construction Feature
* Indicates Required Field
Feature *
Perforation
Construction Status *
Installed
Record Status
New
Wellbore Start *
SURFACEHOLE 1
Wellbore End *
SURFACEHOLE 1
Feature Top MD (ft) *
50
Feature Bottom MD (ft) *
51
Outside Diameter (decimal inches)
Inside Diameter (decimal inches)
Weight (lbs)
Grade/Type
Burst Pressure (psi)
Feature Condition
Install Date
12/20/2019
Remove Date
Pulled
Connection Type
Formation Isolated
Description
Perforations @ 50ft with 2spf for surface plug
Cancel
Save


Wellbore Construction Feature
* Indicates Required Field
Feature *
Surface Plug
Construction Status *
Installed
Record Status
New
Wellbore Start *
SURFACEHOLE 1
Wellbore End *
SURFACEHOLE 1
Feature Top MD (ft) *
0
Feature Bottom MD (ft) *
50
Outside Diameter (decimal inches)
Inside Diameter (decimal inches)
Weight (lbs)
Grade/Type
Burst Pressure (psi)
Feature Condition
Install Date
12/22/2019
Remove Date
Pulled
Connection Type
Formation Isolated
Description
40sks G cement surface plug thru perforations @ 50ft
Cancel
Save

Wellbore Construction Feature

Advanced Filtering | Actions

Feature ID	Install Status	Record Status	Feature Top MD (ft…↑	Feature Bottom MD (ft)	Outsi… Diam… (deci… inches)	Form… Isolat…	Actions
Production Casing 1	Installed	Current	0	8074			Actions
Surface Casing 1	Installed	Current	0	620			Actions
Surface Plug 1	Installed	New	0	51			Actions
Perforation 1	Installed	New	50	51			Actions
Cement Squeeze 1	Installed	Current	5120	5150			Actions

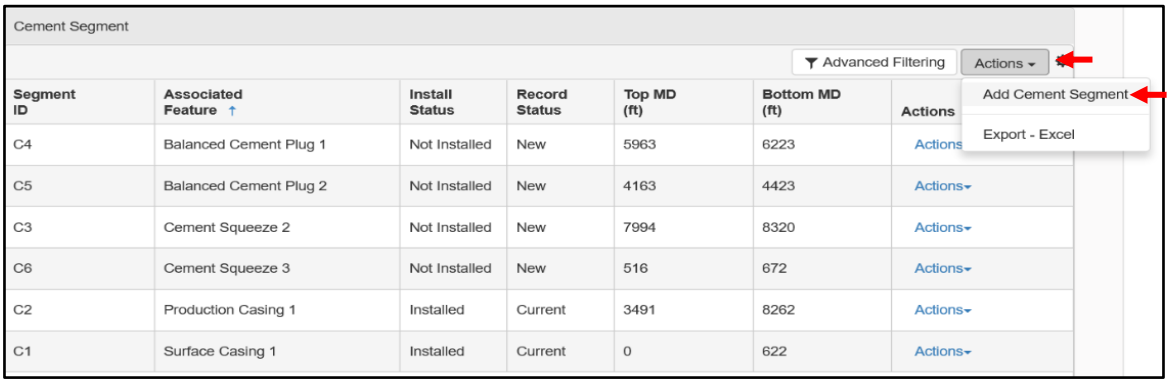
SECTION A (Example)

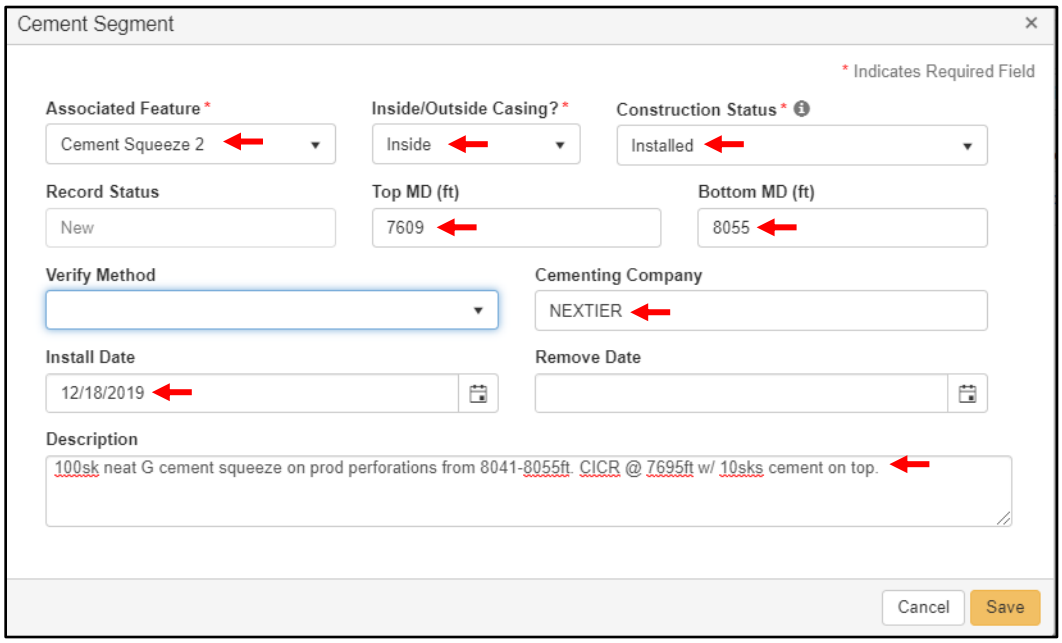
Features & Cement – Adding Cement Segments

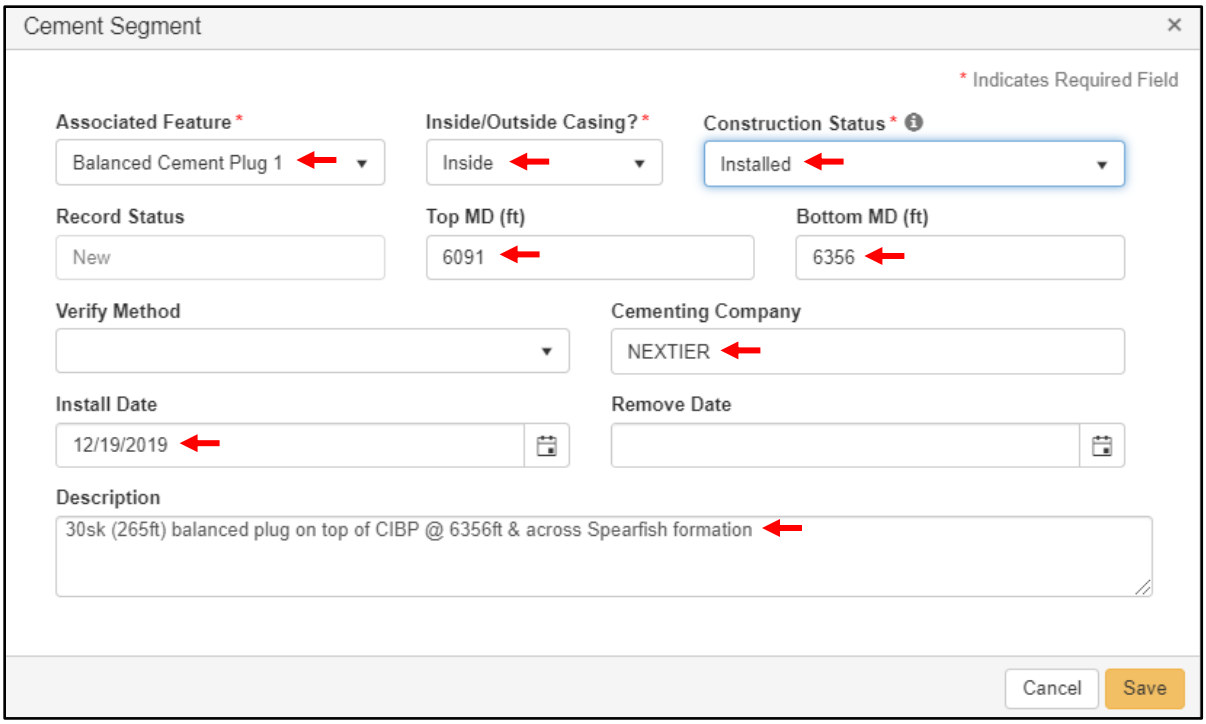
Cement Segments must have an associated ***Feature*** from the ***Wellbore Construction Feature*** table.

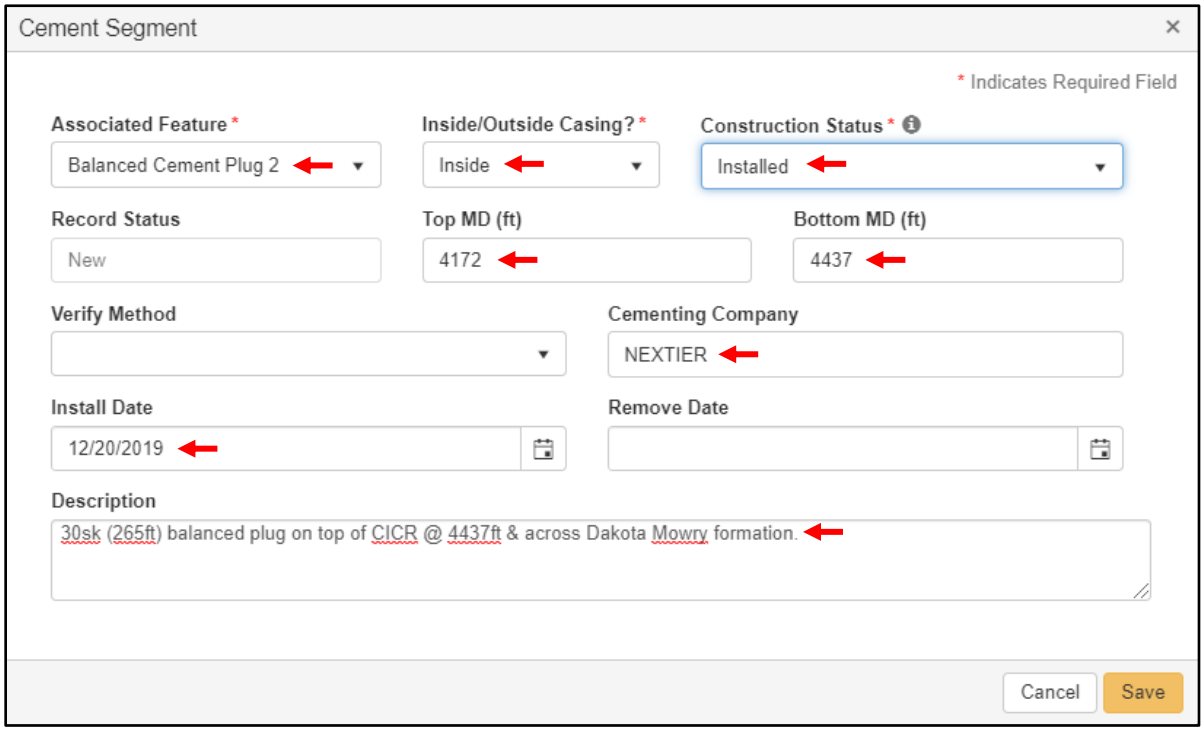
To add ***Cement Segments***, for each ***Segment*** select *[Actions]* and *[Add Cement Segment]:*

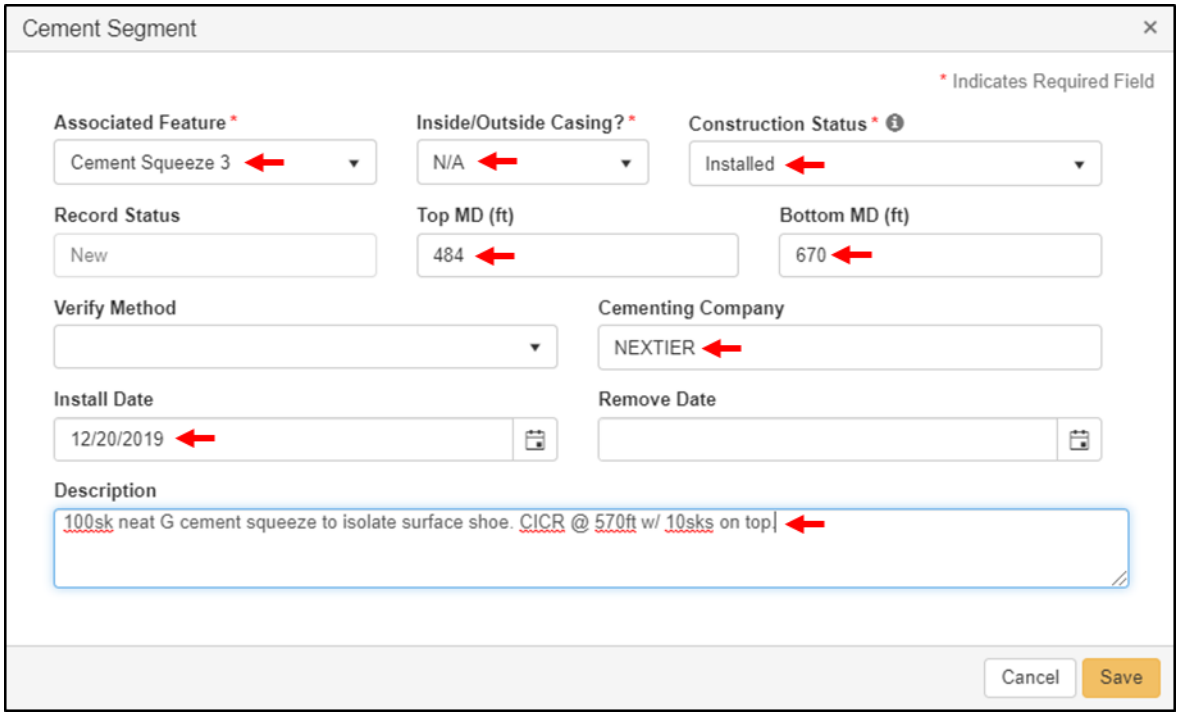
- For cement squeezes on production / injection intervals or balanced plugs, select *[Inside]* for ***Inside / Outside Casing?***
- For cement squeezes due to inadequate casing cement (where cement was squeezed inside and behind casing), select *[N/A]* for ***Inside / Outside Casing***?
- The ***Top*** and ***Bottom*** of the ***Cement Segment*** will be the same depths as the ***Associated Features***.
- Details about a multi-stage cement job can be accounted for in the ***Cement Classes*** section.

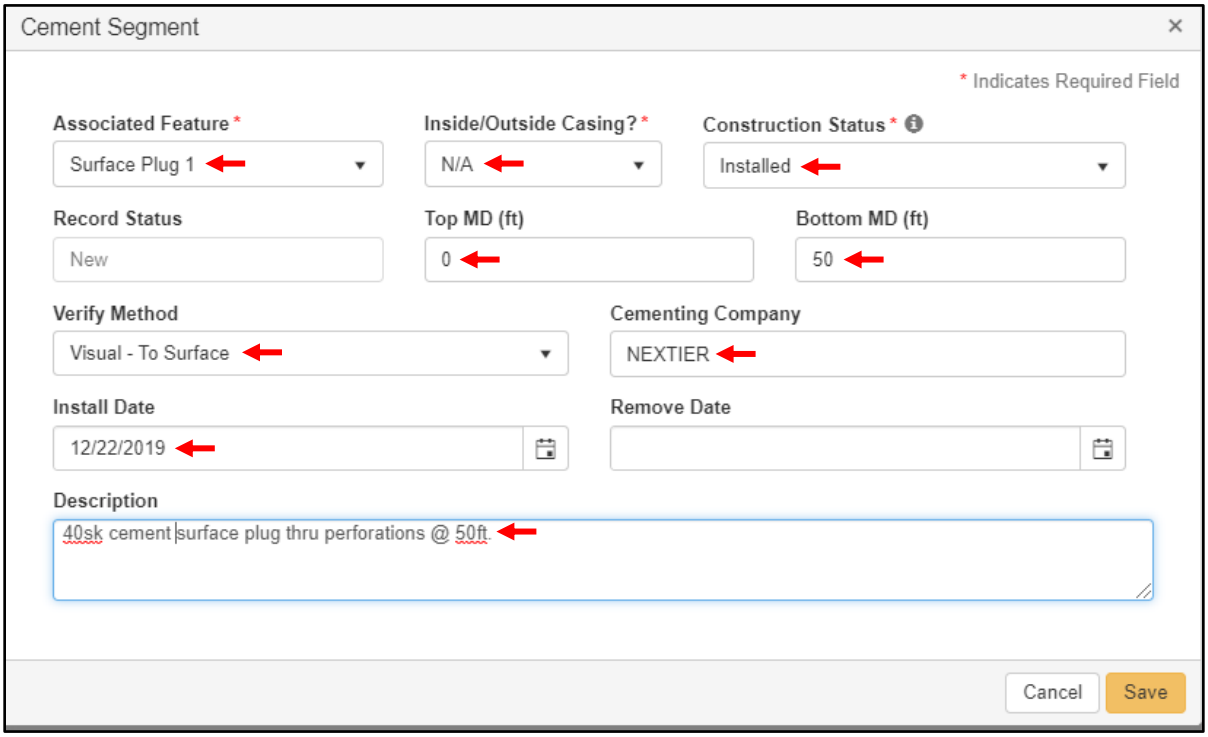





Cement Segment
* Indicates Required Field
Associated Feature *
Balanced Cement Plug 1
Inside/Outside Casing? *
Inside
Construction Status *
Installed
Record Status
New
Top MD (ft)
6091
Bottom MD (ft)
6356
Verify Method
Cementing Company
NEXTIER
Install Date
12/19/2019
Remove Date
Description
30sk (265ft) balanced plug on top of CIBP @ 6356ft & across Spearfish formation
Cancel
Save


Cement Segment
* Indicates Required Field
Associated Feature *
Balanced Cement Plug 2
Inside/Outside Casing? *
Inside
Construction Status *
Installed
Record Status
New
Top MD (ft)
4172
Bottom MD (ft)
4437
Verify Method
Cementing Company
NEXTIER
Install Date
12/20/2019
Remove Date
Description
30sk (265ft) balanced plug on top of CICR @ 4437ft & across Dakota Mowry formation.
Cancel
Save


Cement Segment
* Indicates Required Field
Associated Feature *
Cement Squeeze 3
Inside/Outside Casing? *
N/A
Construction Status *
Installed
Record Status
New
Top MD (ft)
484
Bottom MD (ft)
670
Verify Method
Cementing Company
NEXTIER
Install Date
12/20/2019
Remove Date
Description
100sk neat G cement squeeze to isolate surface shoe. CICR @ 570ft w/ 10sks on top
Cancel
Save


Cement Segment
* Indicates Required Field
Associated Feature *
Surface Plug 1
Inside/Outside Casing? *
N/A
Construction Status *
Installed
Record Status
New
Top MD (ft)
0
Bottom MD (ft)
50
Verify Method
Visual - To Surface
Cementing Company
NEXTIER
Install Date
12/22/2019
Remove Date
Description
40sk cement surface plug thru perforations @ 50ft.
Cancel
Save

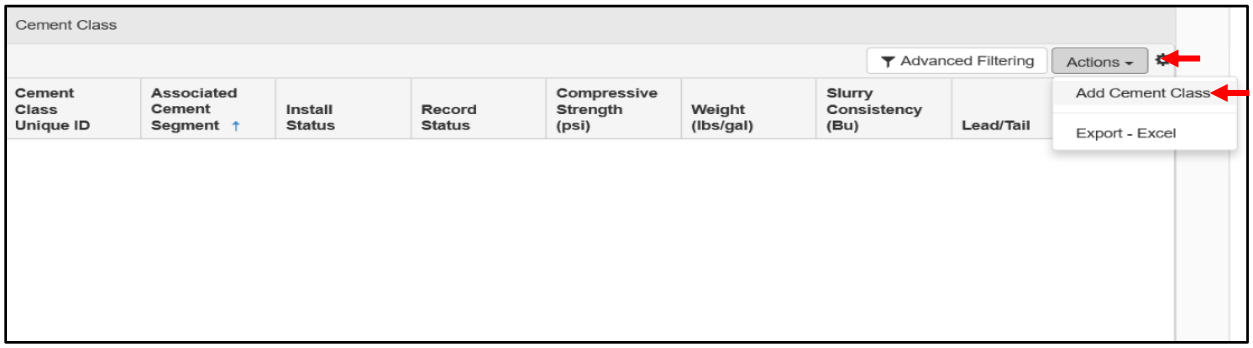
SECTION A (Example)

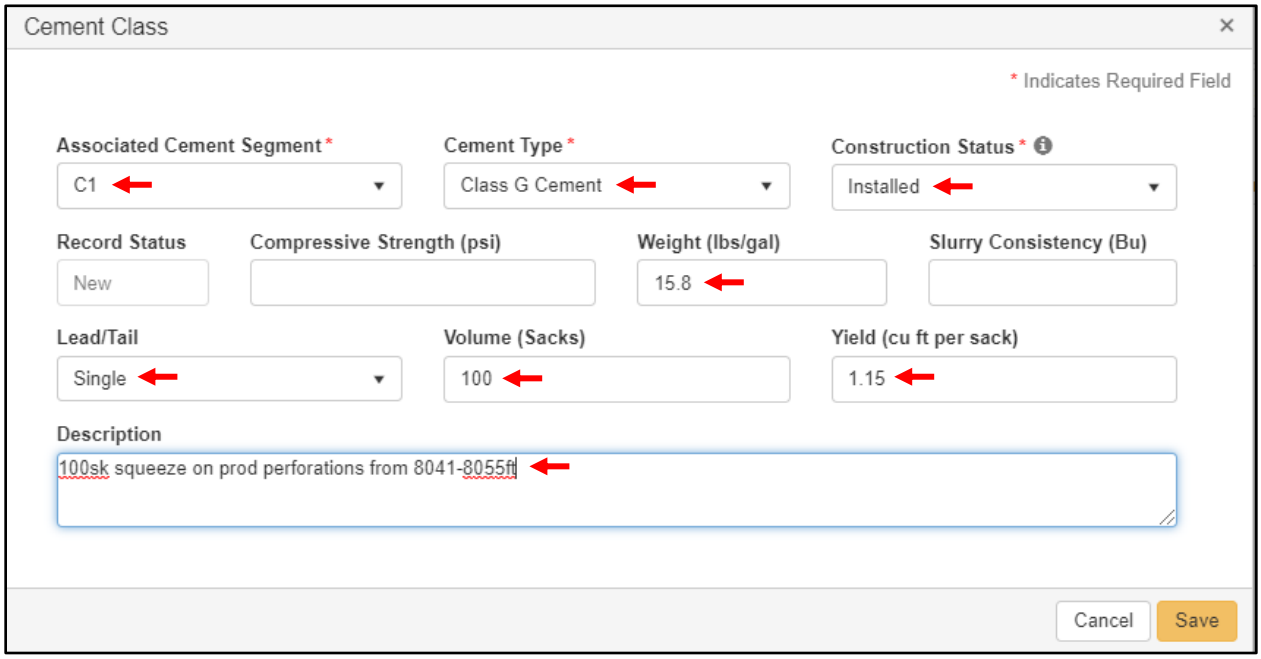
Features & Cement – Adding Cement Classes

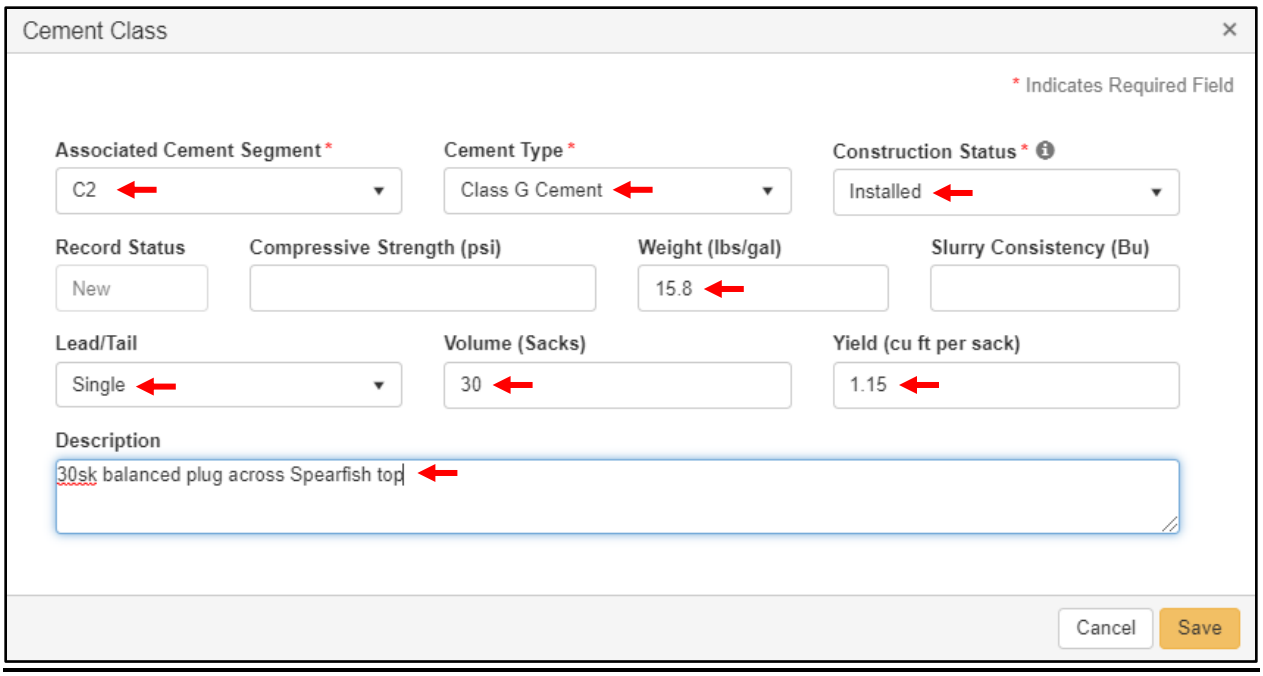
Cement Classes must have an associated ***Cement Segment*** from the ***Cement Segment*** table.

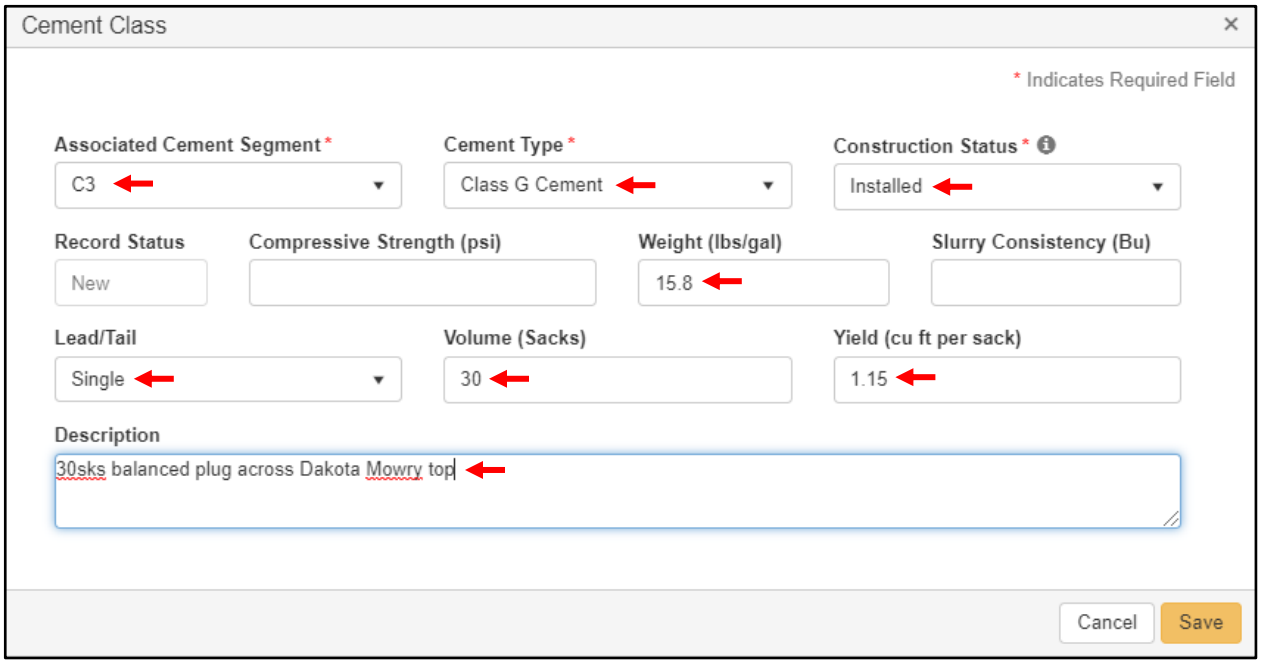
To add ***Cement Classes*** select *[Actions]* and *[Add Cement Segment]:*

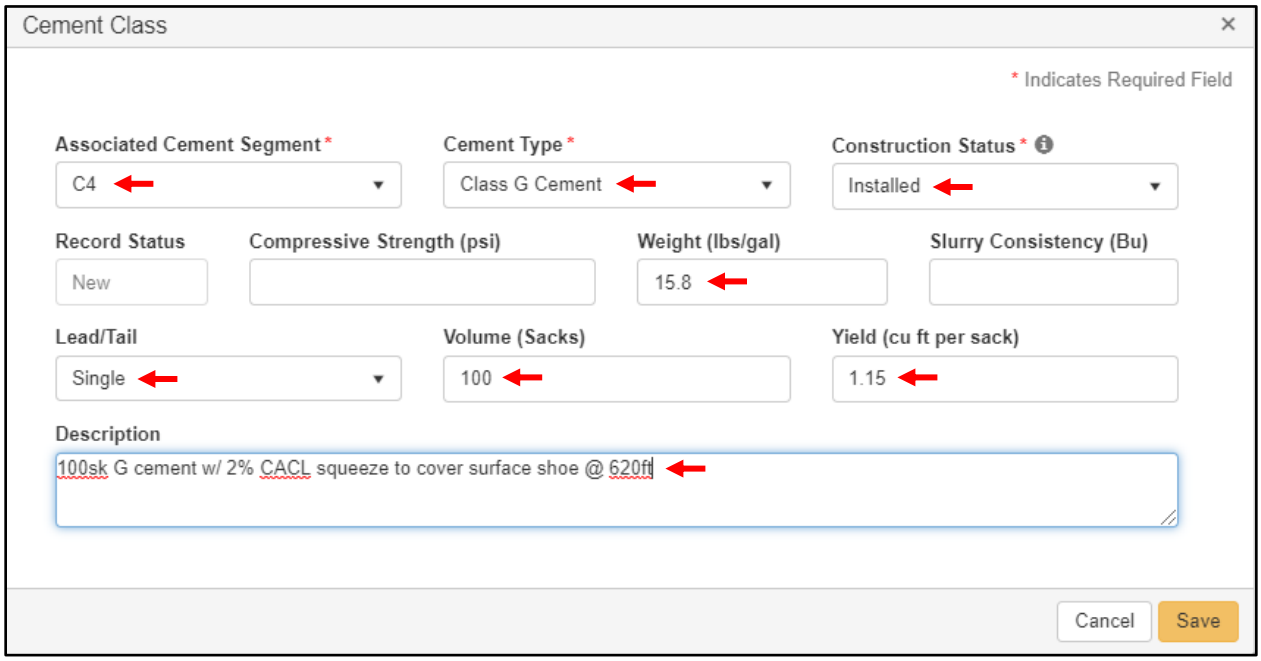
- Select the *[Associated Cement Segment]* from the list.
- Select the *[Cement Type]* from the list.
- Add all other pertinent information about the ***Cement Segment*** in the spaces provided.
- Multiple ***Cement Classes*** (e.g. stages) can be associated with a single ***Cement Segment***. An example of this is choosing a lead and tail ***Cement Class*** for a single ***Cement Segment***.

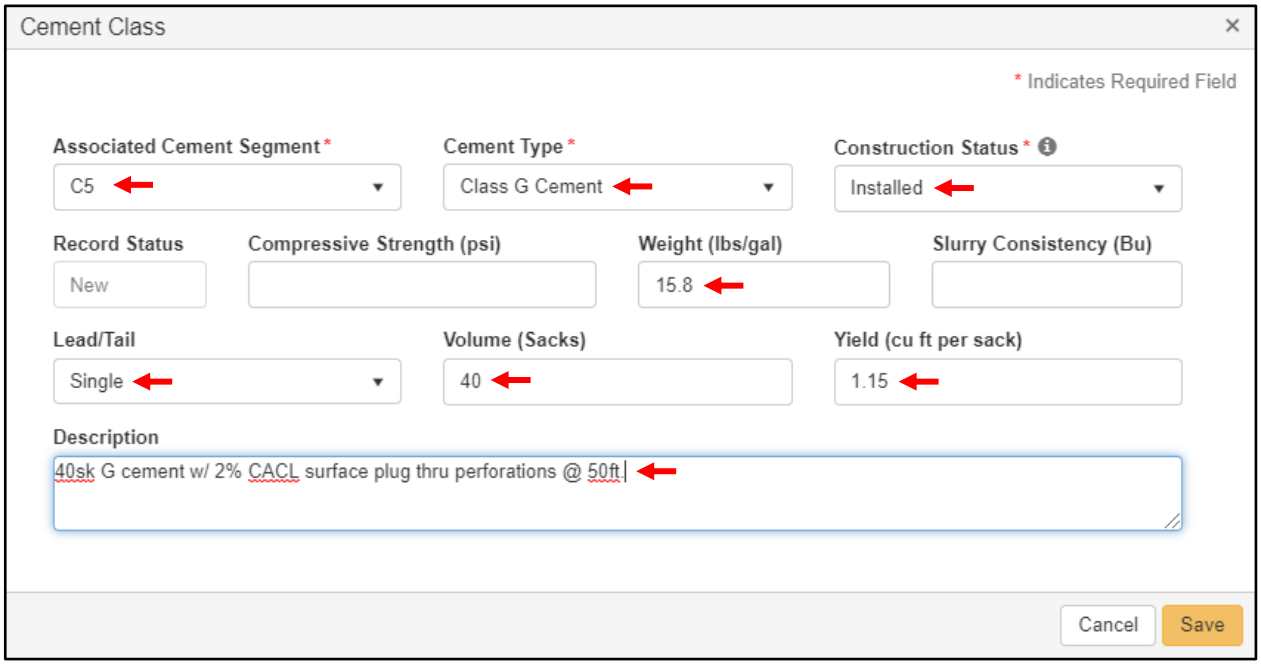





Cement Class
* Indicates Required Field
Associated Cement Segment *
C2
Cement Type *
Class G Cement
Construction Status *
Installed
Record Status
New
Compressive Strength (psi)
Weight (lbs/gal)
15.8
Slurry Consistency (Bu)
Lead/Tail
Single
Volume (Sacks)
30
Yield (cu ft per sack)
1.15
Description
30sk balanced plug across Spearfish top
Cancel
Save


Cement Class
* Indicates Required Field
Associated Cement Segment *
C3
Cement Type *
Class G Cement
Construction Status *
Installed
Record Status
New
Compressive Strength (psi)
Weight (lbs/gal)
15.8
Slurry Consistency (Bu)
Lead/Tail
Single
Volume (Sacks)
30
Yield (cu ft per sack)
1.15
Description
30sks balanced plug across Dakota Mowry top
Cancel
Save


Cement Class
* Indicates Required Field
Associated Cement Segment *
C4
Cement Type *
Class G Cement
Construction Status *
Installed
Record Status
New
Compressive Strength (psi)
Weight (lbs/gal)
15.8
Slurry Consistency (Bu)
Lead/Tail
Single
Volume (Sacks)
100
Yield (cu ft per sack)
1.15
Description
100sk G cement w/ 2% CACL squeeze to cover surface shoe @ 620ft
Cancel
Save


Cement Class
* Indicates Required Field
Associated Cement Segment *
C5
Cement Type *
Class G Cement
Construction Status *
Installed
Record Status
New
Compressive Strength (psi)
Weight (lbs/gal)
15.8
Slurry Consistency (Bu)
Lead/Tail
Single
Volume (Sacks)
40
Yield (cu ft per sack)
1.15
Description
40sk G cement w/ 2% CACL surface plug thru perforations @ 50ft
Cancel
Save

SECTION B

Editing Proposed Wellbore Features, Cement Segments, and Cement Classes

If all of the Features, Cement Segments, and Cement Classes were proposed on the sundry for the intent to plug & abandon the wellbore, the information will be populated in the plugging report.

Items may be added by selecting *[Actions]* and *[Add…]* from the appropriate table.

To edit an existing item, select *[Actions]* and *[Edit…]* for the item.

- All ***Construction Statuses*** for items that were installed need to changed to *[Installed]*.
- All ***Construction Statuses*** for items that were not installed should remain as *[Not Installed]*.
- Any wellbore features added or discovered while conducting work should be added. These may include: fish, collapsed casing, fill, hole, internal casing patch, milled casing, other damage, oval damage, parted casing, split casing, and tight spot in casing.

Use the examples in Section A to fill out all required items and information.

Lists from the following dropdowns are provided in the Appendix (these options may be subject to change):

- Wellbore Information: Wellbore Type
- Wellbore Construction Feature: Feature
- Cement Class: Cement Type

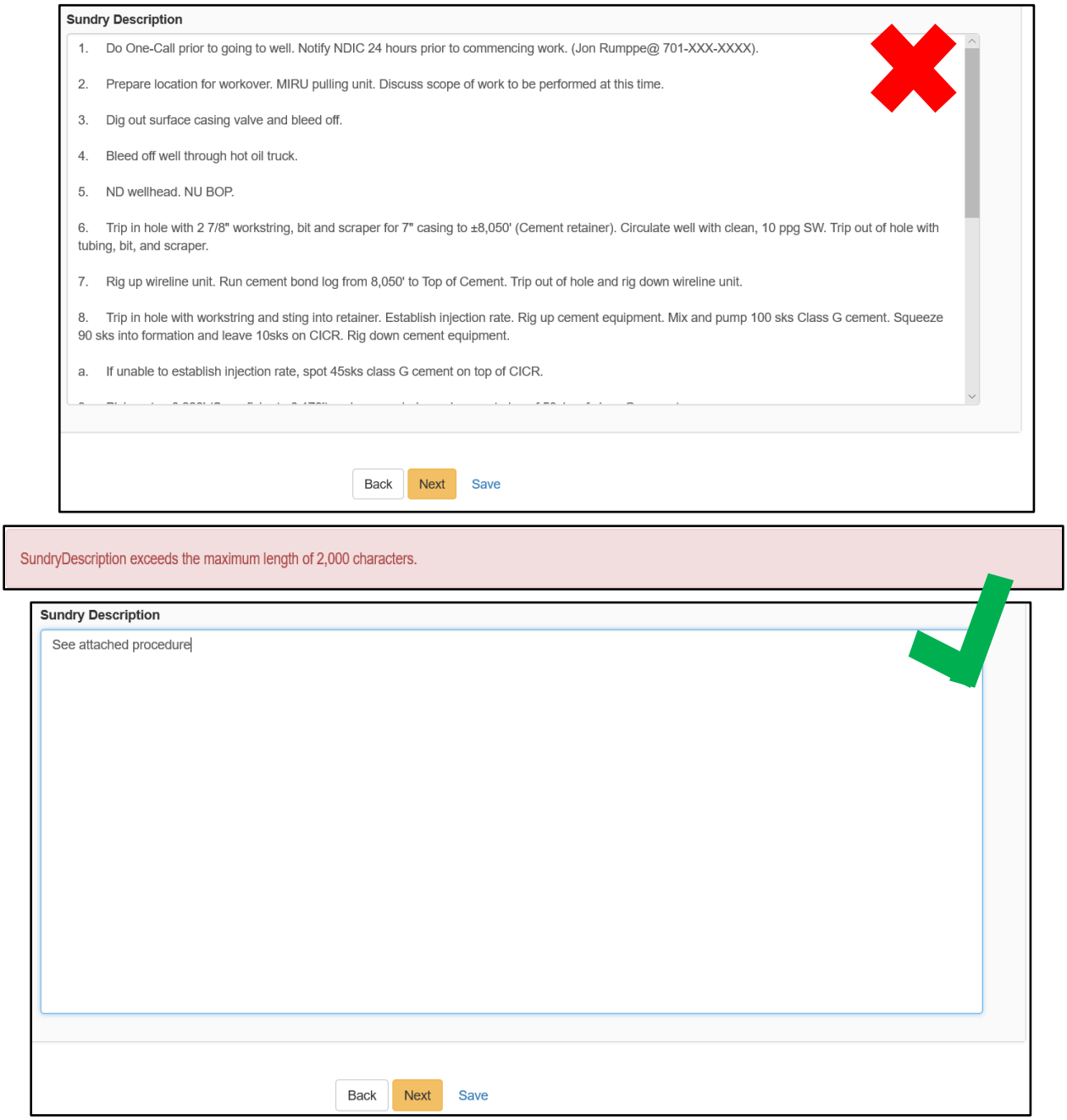
Data being entered in NorthSTAR has a similar layout to the Form 7 – Plugging Reports.

Sundry Data – Adding a P&A Procedure

P&A procedures may be entered into the *Sundry Description* area. *Sundry Descriptions* are limited to 2000 characters. P&A procedures may also be attached as a document (explained in the next section).

- Procedures may be typed into the *Sundry Description* area.

- Procedures may be copied from another document and pasted into the *Sundry Description* area.



Document Upload

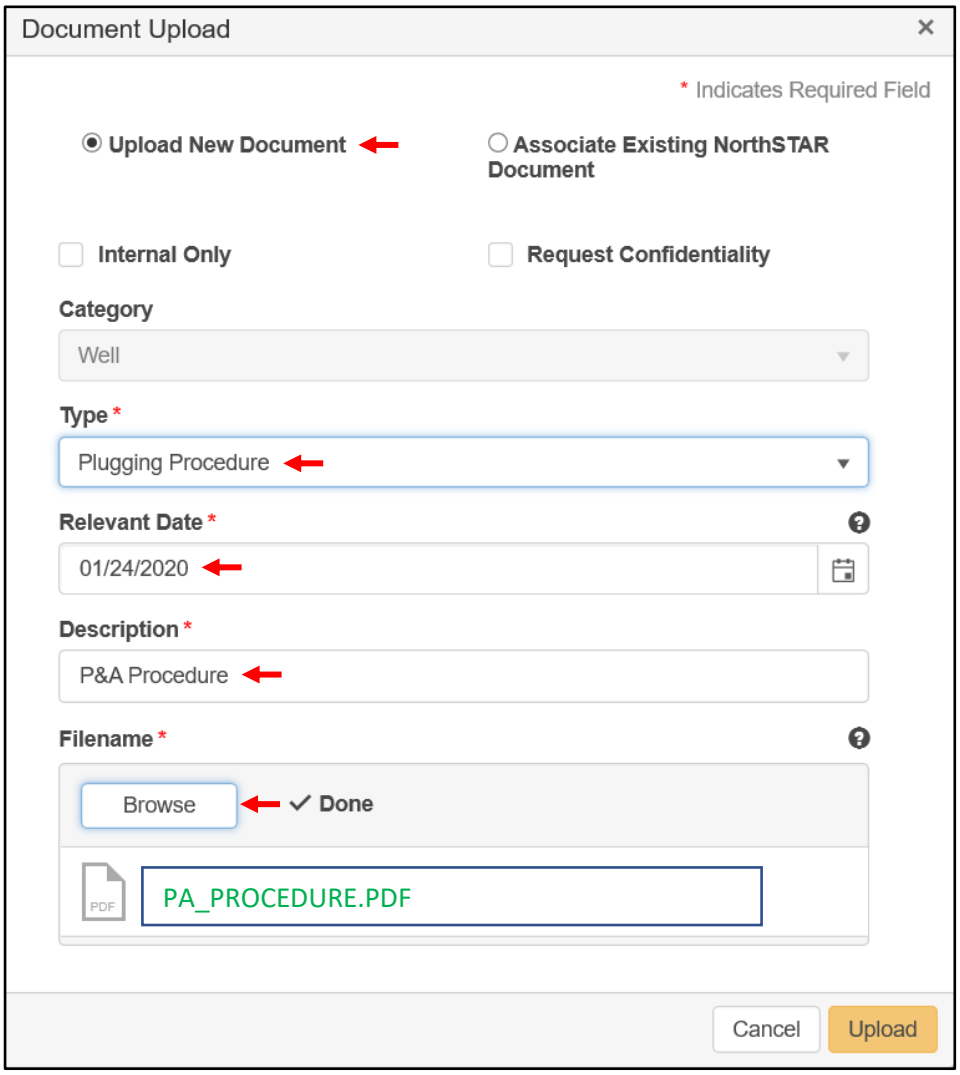
Documents related to the sundry should be uploaded here. Documents will be available for download by any users that have permission to review the sundry.

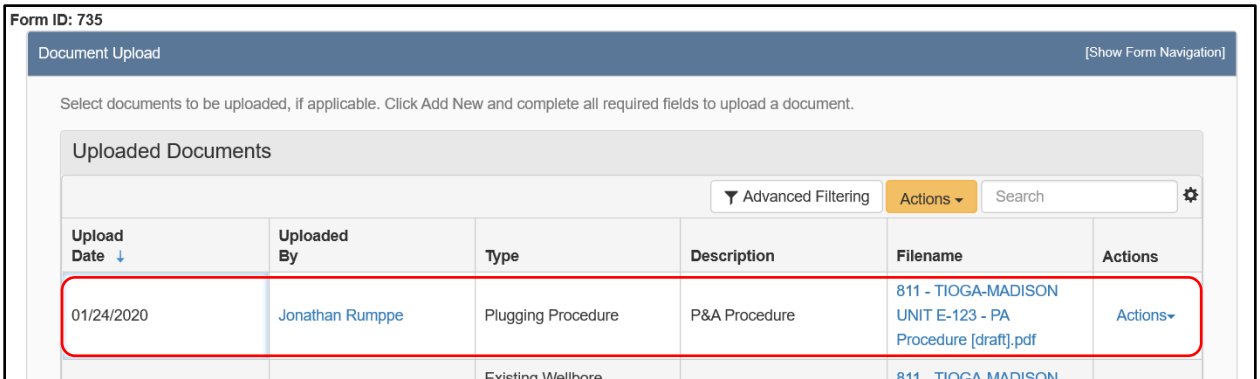
Typical documents to include are a P&A procedure and current wellbore schematic (both required under NDAC 43-02-03-33).

To upload a document, select [*Actions*] and [*Add New*]:

- Select the *Type* of document from the dropdown menu (*[Diagram]*, *[Plugging Procedure]*, or [Sundry Attachment]).
- The *Relevant Date* in this case is the date the document is uploaded.
- Enter a brief *Description* of the document (e.g. 'Current Wellbore Diagram', 'Proposed P&A Diagram', 'P&A Procedure', etc).

Documents uploaded by the user may also be deleted by selecting *[Actions]* and *[Remove Document]*.





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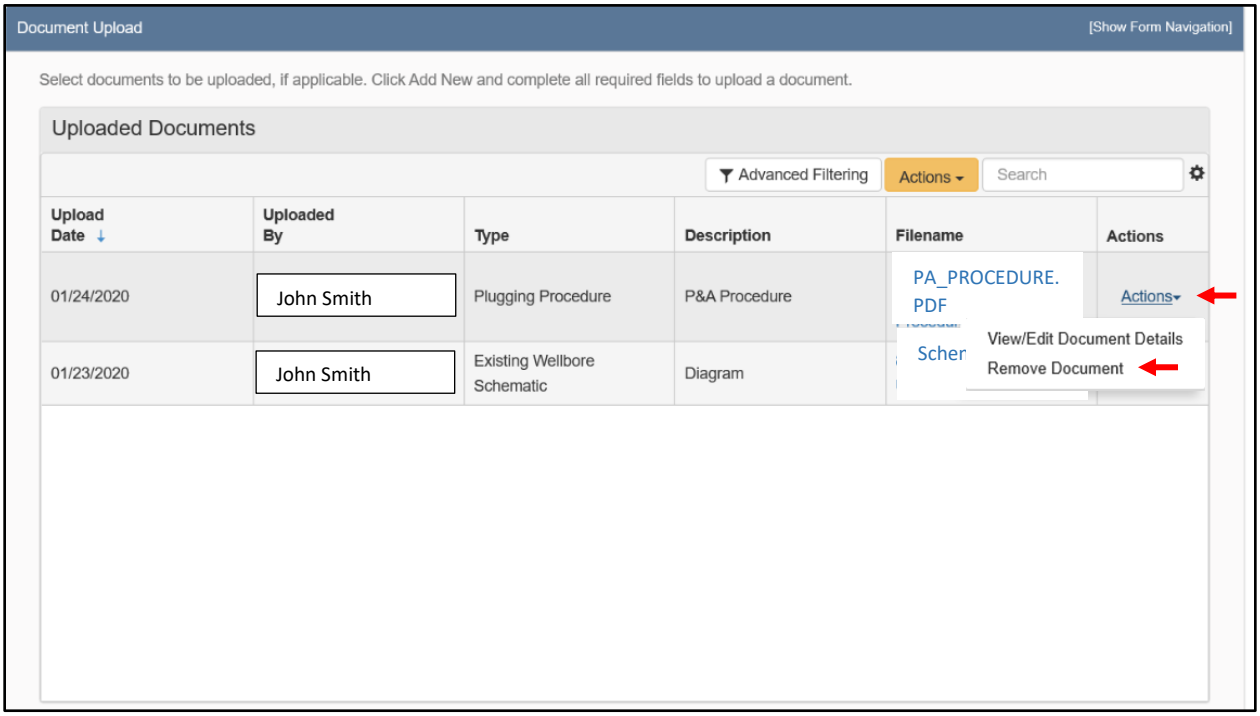
PA_PROCEDURE.PDF

Schematic.PDF



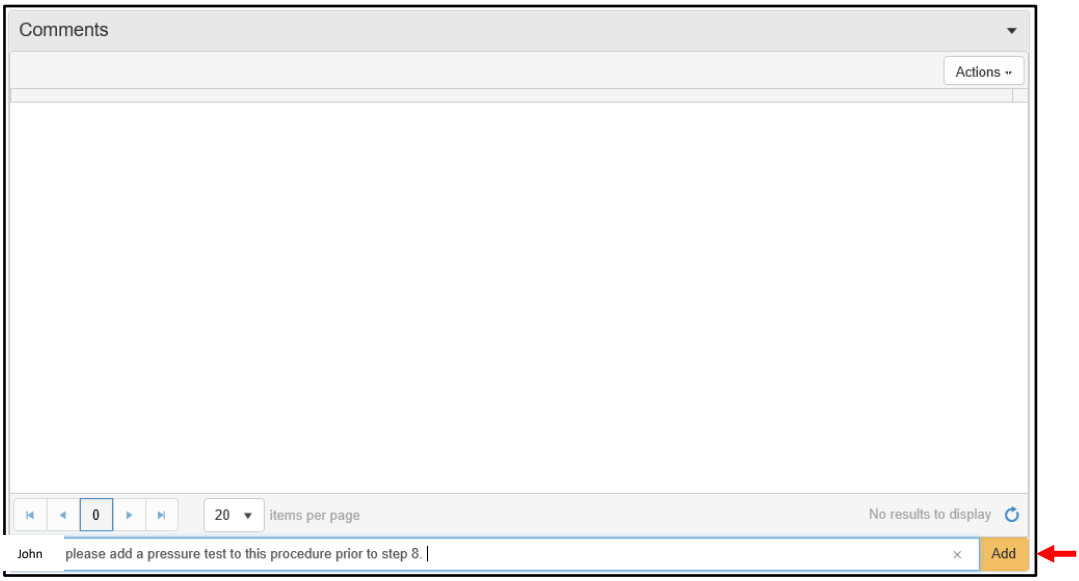
Form Submit – Comments, Acknowledgement, and Final Review

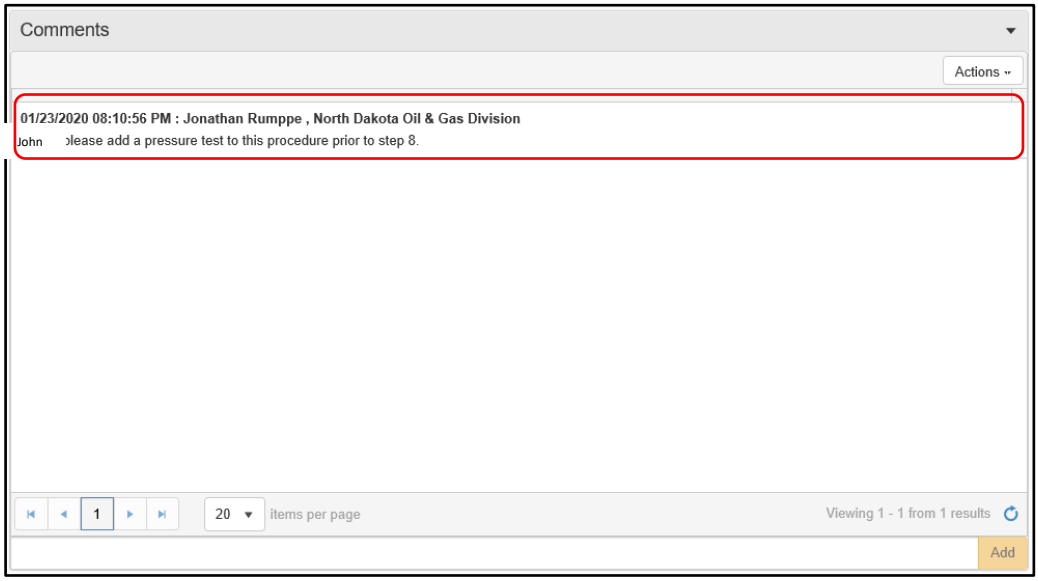
Users may add comments to the sundry and read reviewers' comments in the Comments section.

Users must eSign the sundry by clicking on the checkbox under the Acknowledgement subform.

Users may review the entire sundry by clicking on the *[Preview Submission Summary]* button.

By clicking on the *[Next]* button from this page, the user will submit the sundry. <u>The user will not be able to file a sundry that has missing information in required fields.</u>





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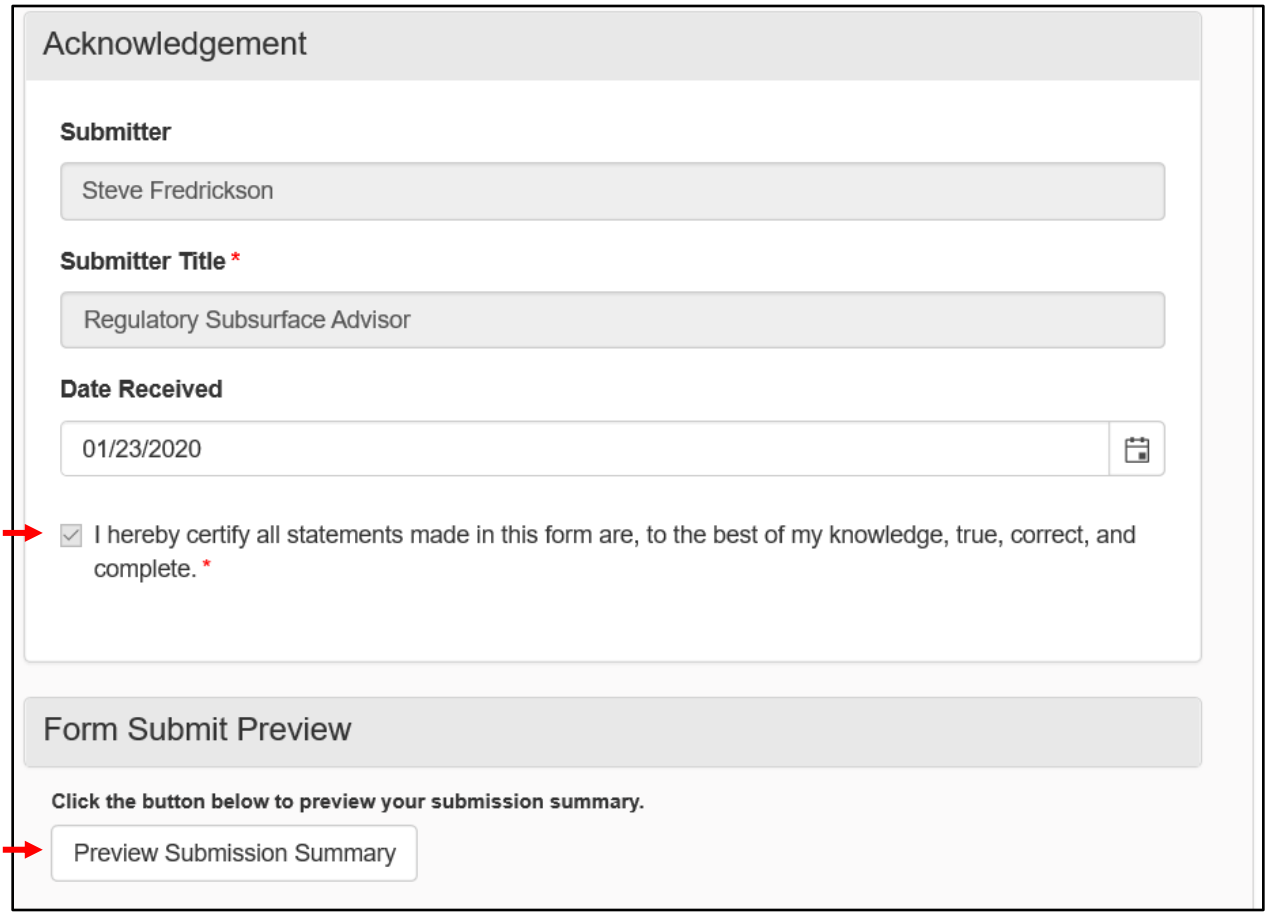
Owner


Acknowledgement
Submitter
Steve Fredrickson
Submitter Title *
Regulatory Subsurface Advisor
Date Received
01/23/2020
I hereby certify all statements made in this form are, to the best of my knowledge, true, correct, and complete. *
Form Submit Preview
Click the button below to preview your submission summary.
Preview Submission Summary