| Requirement: BSSE | Leak Path Addressed | Testing/Verification Requirements |
| :---: | :---: | :---: |
| Plug (3) <br> BSEE: 250.1715(a)(8) A well with casing: <br> A cement surface plug at least 150 feet long set in the smallest casing that extends to the mud line with the top of the plug no more than 150 feet below the mudline. | wellbore to seafloor | Allow for sufficient WOC, tag up with agreed upon weight. Pressure test. All cement jobs must be designed to abide by regulation 250.420.c.(1) and (2) |
| Plug (3) <br> Cut and pull $10-3 / 4^{4}$ <br> SSEE: 250.1715 (a)(4) A casing stub where the stub end is within the casing <br> (iii) A cement plug at least 200 feet long with the bottom of the plug set no <br> more than 100 feet above the stub end. | //4"x $166^{\text {" annulus }}$ | Allow for sufficient WOC, tag up with agreed upon weight. Pressure test. All cement jobs must be designed to abide by regulation 250.420.c.(1) and (2) |
| Possible Alt. Compliance - set plug deeper, may leave excessive cement in BOP stack |  |  |




| TOC (annulus) | 548.5 |
| :--- | :--- |
| $16 "$ shoe | 1529 |



| Plug (1) <br> BSEE: 250.1715(a)(3) A perforated zone that is currently open and not previously squeezed or isolated <br> (iii) If perforated zones are isolated from the hole below, you may use plugs specified <br> (B) A bridge plug set 50 to 100 ft aove the top of the perforated interval and at least 50 feet of cement on top of the bridge plug | Isolation of perforations | Allow for sufficient WOC, tag up with agreed upon weight. Pressure test. All cement jobs must be designed to abide by regulation 250.420.c.(1) and (2) |
| :---: | :---: | :---: |




| Plug (4) BSE: 250.1715(a)(8) A well with casing: A cement surface plug at least 150 feet long set in the smallest casing that extends to the mud line with the top of the plug no more than 150 feet below the mudline. | wellore to seaflor | Allow for sufficient WOC, tag up with agreed upon weight. Pressure test. All cement jobs must be designed to abide by regulation 250.420.c. (1) and (2) |
| :---: | :---: | :---: |
| Plug (4) <br> Cut and pull of 10-3/4" <br> BSEE: 250.1715(a)(4) A casing stub where the stub end is within the casing <br> (iii) A cement plug at least 200 feet long with the bottom of the plug set no more than 100 feet above the stub end. | $10 \cdot 3 / 44^{4} \times 16^{\text {a }}$ annus | Allow for sufficient woc, tag up with agreed upon weight. Pressure test. <br> All cement jobs must be designed to abide by reguation 250.420.c.(1) and (2) |

## PLUG 4 IS A COMBINATION BARRIER FOR.

250.1715.a.(8) A well with casing
250.1715.a (4) A casing stub where the stub end is within



$i \quad i \mathrm{i}$ i 11 1



## A-3 P\&A Scenario:

MD TVD
Pull Completion. EZSV previously set as barrier above M-Sands. Setting dep does not abide by 250.1715 .a(3). EZSV is set 184 ft above upper perf. Reguatory depth for bridge plug is no oore than 100 ft above upper-most
perf. 15 bbls of cement squeezed below EZSV. Does EZSV need to be reset? As-built schematic shows permanent packer @ 8388 ft and production packer @ 8247 ft . No indication of manufacturer. These will likely have to be milled.

## Assumptions: See embedded Notes



MD TVD
$9.5 \mathrm{ppg} \mathrm{CaCl2}$ left in hole


|  | wellbore to seafloor | Allow for sufficient WOC, tag up with agreed upon weight. Pressure test. All cement jobs must be designed to abide by regulation 250.420.c.(1) and (2) |
| :---: | :---: | :---: |
| Plug (3) <br> Cut and pull 10-3/4 <br> BSEE: 250.1715(a)(4) A casing stub where the stub end is within the casing <br> (iii) A cement plug at least 200 feet long with the bottom | $10-3 / 4$ " $\times 16^{\text {" }}$ annulus |  |
| Possible Alt. Compliance - Set plug deeper, may leave excessive cement in BOP stack |  |  |

PLUG 3 IS A COMBINATION BARRIER FOR:
${ }^{250.1}$
250.1715.a (4) A casing stub where the stub end is within the
casing

| Plug (2) <br> Cut and pull 7" <br> BSEE: 250.1715(a)(4) A casing stub where the stub end is within the casing: <br> (ii) A cement retainer or bridge plug set at least 50 to 100 feet above the stub end with at least 50 feet of cement on top of the retainer or bridge plug; | $7{ }^{\prime \prime} \times 10-3 / 44^{\text {a annulus }}$ | Allow for sufficient woc, tag up with agreed upon weight. Pressure test. All cement jobs must be designed to abide by regulation 250.420.c.(1) and (2) |
| :---: | :---: | :---: |


| Plug (1) <br> BSEE: 250.1715(a)(3) A perforated zone that is currently open and not previously squeezed or isolated <br> (iii) If perforated zones are isolated from the hole below, <br> you may use plugs specified <br> (B) A bridge plug set 50 to 100 ft aove the top of the perforated interval and at least 50 feet of cement on top of the bridge plug | Isolation of perforations | Allow for sufficient WOC, tag up with agreed upon weight. Pressure test. All cement jobs must be designed to abide by regulation 250.420.c. (1) and (2) |
| :---: | :---: | :---: |

MC 20 Well A 003 Option


Reguirement: BSSE Leak Path Addressed
This option does not consider 10.3/4" $\times 16^{\prime \prime}$ " possible leak path.
Testing/Verification Requirements



 A dual float valve, by itself, is not considiered a mechanical barrier. Thes
bariers cannot be modifed prior to or during competion
barriers cannot be modified prior to or during completion or

|  | N/A |  |
| :---: | :---: | :---: |
|  | "Wellbore | Allow for sufficient WOC, tag up with agreed upon weight. Pressure test. All cement jobs must be designed to abide by regulation $250.420 . c .(1)$ and (2) |


| Plug (2) Perforate $7^{\prime \prime}$ casing, squeeze cement to B annulus BSEE: 250.1715(a)(6) An annular space that communicates with open hole and extends to the | $7^{7 \times \times 10.3 / 44 . a m u l s ~(8 a n u l u s) ~}$ | Allow forsufficent woc |
| :---: | :---: | :---: |


|  |  |
| :--- | :--- |
| S.and Top Peff | 8348 |
| Ssand ase eeff | 8355 |


| Perm Packer | 8388 |
| :--- | :--- |


| $\times N$ Nipple | 10261 |
| :--- | :--- |


| EZSV | 10880 |
| :--- | :--- |


| Baker $5 \mathrm{C}-1$ packer | 10104 |
| :--- | :--- |


| Top of screen | 10253 |
| :--- | :--- |
| Msand Top | 10254 |
| MSand Base | 10327 |


| Baker F-1 packer | 10330 |
| :--- | :--- | :--- |




| $\begin{aligned} & \text { A-3 As Built well schematic indicates: } \\ & 20 \mathrm{ft} \text { of cement pumped above tubing plug } \\ & 4 \text { bbls above EZSV } \\ & 15 \text { bbls below EZSV } \end{aligned}$ | M sand perst thoug $2.7788^{\text {ctubing }}$ |
| :---: | :---: |


| Squere cement through S Snand efrotations | Ssand perts towellibre |  |
| :--- | :--- | :--- |




Requirement: BSS
Leak Path Addressed
Testing/Verification Requirements

| Plug (4) <br> BSEE: 250.1715(a)(8) A well with casing A cement surface plug at least 150 feet long set in the smallest casing that extends to the mud line with the to of the plug no more than 150 feet below the mudline. | wellore to seafloor | Allow for sufficient wOC, tag up with agreed upon weight. Pressure test. All cement jobs must be designed to abide by regulation 250.420.c.(1) and (2) regulation 250.420.c.(1) and (2) |
| :---: | :---: | :---: |
| Plug (4) <br> Cut and pull of 13-3/8" <br> BSEE: 250.1715(a)(4) A casing stub where the stub end is within the casing <br> (iii) A cement plug at least 200 feet long with the bottom of the plug set no more than 100 feet above the stub end | $3 \cdot 3 / 88^{\prime \prime} \times 20^{\prime \prime}$ annus |  |
| Possitil At. Complance- set plug deeper, may leave excesive cement in Bop stack |  |  |

PLUG 4 IS A COMBINATION BARRIER FOR
250.1715.a.(8) A well with casin

AND
250.1715.a (4) A cassing stub where the stub end is within

| Plug (3) <br> Cut and pull of 9-5/8" <br> BSEE: 250.1715(a)(4) A casing stub where the stub end is within the casing: <br> (ii) A cement retainer or bridge plug set at least 50 to 100 feet above the stub end with at least 50 feet of cement on | 9.5/8" $\times 13.3 / 88^{\text {" anulus }}$ | Allow for sufficient WOC, tag up with agreed upo weight. Pressure test <br> All cement jobs must be designed to abide by regulation 250.420.c.(1) and (2) |
| :---: | :---: | :---: |


| Plug (2) BSEE: 250.1715(a)(3) A perforated zone that is currently open and not previously squeezed or isolated (iii) If perforated zones are isolated from the hole below, you may use plugs specified | Isolation of perforatio | Allow for sufficient woc, tag up with agreed upon weight. Pressure test. All cement tobs must bedesigned to abide by regulation 250.420.c.(1) and (2) |
| :---: | :---: | :---: |
| BSEE: 250.420.b.(3) |  |  |
|  |  | Allow for sufficient woc, tag up with agreed upon |
| string), you must install one mechanical barrier in addition | Ossble fature of wellbore cement below float collar | weight. Pressure test. |
| cement. Adual foat valve, by iseff, is not considered a |  | All cement jobs must be designed to abide by |
| anical barier. These bariers cannot be modified |  | regulation 250.420.c.(1) and (2) |
| , |  |  |
|  |  |  |
| ${ }_{\text {BSEE: }}$ 250.1715(a)(2) Open hole below cas |  |  |
| (iii) A bridge plus set 50 ft to 10 oft above the shoe with |  |  |
| 50 ft of cement on top of the bridge plug, for expected or known lost circulation. |  |  |

```
PLUG IIS A COMBINATION BARRIER FOR.
250.1715.a.(2) Open hole below casing:
50.420.b.(3) Final ceasing string with mechanical and
cement
```



```
Requirement: BSSE Leak Path Addressed
This option does not consider 10-3/4" }\times1\mp@subsup{6}{}{\prime\prime}\mathrm{ "possible leak path.
This option does not address 250.420.b(3)...For the final casing string (or
l
l
A dual float valve, by itself, is not considered a mechanical barrier. Thes
barriers cannot be modified prior to or during completion or
```

| 250.1716.(a) To what depth must I remove wellheads and casings? <br> Unless the District Manager approves an alternate depth under paragraph (b) of this section, you must remove all wellheads and casings to at least 15 feet below the mud line. | N/A | Allow for sufficient woC, tag up with agreed upon weight. Pressure test. All cement jobs must be designed to abide by regulation $250.420 . \mathrm{c}$. (1) and (2) |
| :---: | :---: | :---: |
| Plug (3) <br> BSEE: 250.1715(a)(8) A well with casing <br> A cement surface plug at least 150 feet long set in the smallest casing that extends to the mud line with the top of the plug no more than 150 feet below the mudline | 7 " Wellore | Allow for sufficient WOC, tag up with agreed upon weight. Pressure test <br> All cement jobs must be designed to abide by regulation 250.420 .c.(1) and (2) |


| Plug (2) <br> ate 7 " casing, squeeze cement to $B$ annulus BSEE: 250.1715(a)(6) An annular space that communicates with open hole and extends to the mudline: | $7{ }^{\text {" } \times 10-3 / 4 " ~ a n n u l u s ~(B a ~ a n u l u s) ~}$ | Allow for sufficient woC, tag up with agreed upon weight. Pressure test. All cement jobs must be designed to abide by regulation 250.420.c. (1) and (2) |
| :---: | :---: | :---: |


|  | M - sand perfs through 2 -7/8" tuing | Alow tor sufficient woc. Pres |
| :---: | :---: | :---: |

$\qquad$


Requirement: BSSE
Leak Path Addressed
Requirement: BSSE $\quad$ Leak Path Addressed
This option does not address 250.420.b(3)....For the final casing string (or liner if it is your final string), you must install one mechanical barrier in A dual float valve, by itself, is not considered a mechanical barrier. These barriers cannot be modified prior to or during completion or abandonment

| $30 " \times 20 " \times 13-3 / 8 " \times 9-5 / 8$ " Sever <br> 250.1716.(a) To what depth must I remove wellheads and casings? <br> Unless the District Manager approves an alternate depth under paragraph (b) of this section, you must remove all wellheads and casings to at least 15 feet below the mud line. |  |  |
| :---: | :---: | :---: |
| Plug (3) BSEE: 250.1715(a)(8) A well with casing A cement surface plug at least 150 feet long set in the smallest casing that extends to the mud line with the top of the plug no more than 150 feet below the mudline. | W | Allow for sufficient woc, tag up with agreed upon weight. Pressure test. All cement jobs must be designee to abide by regulation 250.420.c.(1) and (2) |
| Plug (3) <br> Cut and pull 7" \& 10-3/4" <br> BSEE: 250.1715(a)(4) A casing stub where the stub end is within the casing <br> (iii) A cement plug at least 200 feet long with the bottom of the plug set no more than 100 feet above the stub end. | $13-3 / 8^{\prime \prime} \times 20^{\prime \prime}$ annulus (C annulus) and $9-5 / 8^{\prime \prime} \times 13-3 / 8^{\prime \prime}$ annulus ( B annulus) | Allow for sufficient woc, tag up with agreed upon weight. Pressure test. All cement jobs must be designed to abide by - 1 tion 250 a20 C (1) and (2) |


| Plug (2) <br> Perforate 7 " casing, squeeze cement to $B$ annulus <br> BSEE: 250.1715(a)(6) An annula space that communicates <br> with open hole and extends to the mudine: <br> A cement plug at least 200 ft long set in the annular space. | 7" $\times 10-3 / 4$ " anulus (Ba anulus) | Allow for sufficient woC, tag up with agreed upon weight. Pressure test. All cement jobs must be designed to abide by regulation 250.420.c.(1) and (2) |
| :---: | :---: | :---: |


| Pug (1) <br> Tubing plug in XN Nipple @ 9521ft MD. | $M$ - sand perfs through 2 -7/78" tubing | Alow for sufficient woc time. Pressure test. |
| :--- | :--- | :--- |

$\qquad$

MC 20 Well A 005 P\&A

```
A-5 P&A:
The A-5 well was abandoned as per BSEE regulations.The well was drilled
to a TD of 8813 ft MD/7478 ft TVD, however 7" production casing was
never set.)
```

| Requirement: BSSE | Addressed via: | Notes: |
| :---: | :---: | :---: |
| 250.1715 How must I permanently plug a well? <br> (a)(2) Open hole below casing: You must... <br> (iii) A bridge plug set 50 feet to 100 feet above the shoe with 50 feet of cement on top of the bridge plug, for expected or known lost circulation conditions | EZSV set in 10-3/4" casing @ 3612 ft MD ~99ft of cement pumped on top of bridge plug |  |
| (a) (3) A perforated zone that is currently open and not previously squeezed or isolated: You must.... <br> (B) A casing bridge plug set 50 to 100 feet above the top of the perforated interval and at least 50 feet of cement on top of the bridge plug; | Perforations in 10-3/4" casing (996ft 1000ft) <br> Retainer set @ 989 ft , $\sim 7 \mathrm{ft}$ above uppermost perf, with 259 ft of cement pumped on top of retainer |  |
| (8) A well with casing: You must... <br> A cement surface plug at least 150 feet long set in the smallest casing that extends to the mud line with the top of the plug no more than 150 feet below the mud line. | 259 ft of cement pumped on top of retainer in 10-3/4" casing (smallest casing string) |  |
| 250.1716.a. (a) Unless the District Manager approves an alternate depth under paragraph (b) of this section, you must remove all wellheads and casings to at least 15 feet below the mud line. | $10-3 / 4 " \times 16^{\prime \prime} \times 30$ " cut at 60 ft BML | *According to A-5 As Built schematic, casings could not be pulled after cut. |




 |  |  |
| :--- | :--- |
| Wrage Plug | 11029 |
|  |  |


equirement: BSS
Leak Path Addressed
Testing/Verification Requirements

| Plug (4) <br> BSEE: 250.1715(a)(8) A well with casing: A cement surface plug at least 150 feet long set in the smallest casing that extends to the mud line with the top of the plug no more than 150 feet below the mudline. | wellbore to seafloor | Allow for sufficient WOC, tag up with agreed upon weight. Pressure test. All cement jobs must be designed to abide by regulation 250.420 .(1) and (2) and (2) |
| :---: | :---: | :---: |
| Plug (4) <br> Cut and pull 10-3/4" BSEE: 250.1715(a)(4) A casing stub where the stub end is within the casing <br> (iii) A cement plug at least 200 feet long with the bottom of the plug set no more than 100 feet above the stub end. | $10.3 / 44^{4 \times 16}$ " annulus |  |
| excessive cement in BOP stack (historical West Auriga BHP to BP) |  |  |

PLUG 4 IS A COMBINATION BARRIER FOR:
250.1715.a. (8) A well with casing

AND
250.17
the casing
(4) A casing stub where the stub end is within

| Plug (3) |  |  |
| :---: | :---: | :---: |
| Cut and pull 7 " |  |  |
| 解: | $7{ }^{\prime \prime} \times 10.3 / 44^{\text {annulus }}$ | Pressure test. |
| (ii) A cement retainer or bridge plug set at least 50 to | - |  |
| feet above the stub end with at least 50 feet of cement on |  | regulation 250.42.c.c.1) and (2) |
| of the eretiner or I |  |  |


| Plug (2) <br> BSEE: 250.1715(a)(3) A perforated zone that is currently open and not previously squeezed or isolated (iii) If perforated zones are isolated from the hole below you may use plugs specified <br> (B) A bridge plug set 50 to 100 ft aove the top of the perforated interval and at least 50 feet of cement on top of the bridge plug | solation of perforatio | Allow for sufficient woC, tag up with agreed upon weight. Pressure test. All cement jobs must be designed to abide by regulation 250.42.a. (1) and (2) |
| :---: | :---: | :---: |


| Plug (1) <br> BSEE: 250.1715(a)(3) A perforated zone that is currently <br> open and not previously squeezed or isolated <br> (iii) If perforated zones are isolated from the hole below, <br> you may use plugs specified <br> (B) A bridge plug set 50 to 100 ft aove the top of the perforated interval and at least 50 feet of cement on top of the bridge plug | Isolation of perforatio | Allow for sufficient woc, tag up with agreed upon weight. Pressure test. All cement jobs must be designed to abide by regulation 250.420.c.(1) and (2) |
| :---: | :---: | :---: |


|  |  |  |
| :---: | :---: | :---: |
| BSEE: 250.420.b.(3) |  | Hlow for sufficient WoC, tag up with agreed upon |
| …For the final casing string (or liner ifit is your final string | Possible failure of wellbore cement below float collar | weight. Pressure test. <br> All cement jobs must be designed to abide by |
| nent to prevent flow in the event of a failure in the |  | regulation 250.420.c. (1) and (2) |
|  |  |  |
| mechanical barrier. These barriers cannot be modified |  |  |
|  |  |  |

Squeeze N-sand perfs.
Squeeze N-sand perfs.
stall tubing plus in XN landing niople @ 10542 tt MD
stall tubing plus in XN landing niople @ 10542 tt MD
Cut and pull 2-7/8" tubing 100 ft above tubing plug.
Cut and pull 2-7/8" tubing 100 ft above tubing plug.
Assumptions: See embedded Notes
Assumptions: See embedded Notes


liner ifit is your final stringl, you must install one mechanical barrier in
addition to cement toprevent flow in the vent of a failure in the cement.
A dual float valve, by itself, is not considered a mechanical barrier. These



| N Sand Top Perf | 10770 |
| :--- | :--- |
| N Sand Base Perf | 10839 |

Eaker F-1 Sump Packel 10854

| Bridge plug | 11025 |
| :--- | :--- |
| PBTT/TOF | 12497 |
| $7^{7 \prime}$ shoe/TD | 12580 |

Requirement: BSSE Leak Path Addressed

This option does not address 250.420. .b(3)...For the final casing string lor line r ifit is your final string), you must install one mechanical barrier in
add addition to cement to prevent flow in the event of a failure in the cement.
A dual float valve, by itself, is not considered a mechanical barrier. These barriers cannot be modified prior to or during completion or

| and casings? <br> Unless the District Manager approves an alternate depth under paragraph (b) of this section, you must remove all wellheads and casings to at least 15 feet below the mud line. | N/A |  |
| :---: | :---: | :---: |
|  | $7{ }^{\text {" Wellbore }}$ | Allow for sufficient WOC, tag up with agreed upon weight. Pressure test. <br> All cement jobs must be designed to abide by regulation 250.420.c.(1) and (2) |



Squeeze cement through N Sand Perforations $\quad \mid$ Ssolation of $N$ sands. $\quad 1 \quad$ _
A.- PRA Scenario:
Pull completion:
Cut and pull $27 / \mathrm{s}^{2}$
no TV
M,
M,
Cut whing bove sump packer seteq949 9% M M
Cut whing bove sump packer seteq949 9% M M




TvD
Requirement: BSSE
Leak Path Addressed
Testing/Verification Requirements

| Plug (5) <br> BSEE: 250.1715(a)(8) A well with casing: <br> A cement surface plug at least 150 feet long set in the smallest casing that <br> extends to the <br> the mudline. | wellb | Allow for sufficient woc, tag up with agreed upon weight. Pressure test. All cement jobs must be designed to abide by regulation 250.420 .c.(1) and (2) |
| :---: | :---: | :---: |
| Pug (5) <br> Cut and pul of of $13.3 / 8^{\circ}$ | $10.3 / 44^{4} \times 16^{\prime \prime}$ annulus |  |
|  |  |  |
| ${ }^{\text {max }}$ |  |  |
|  |  |  |

Plug 5 Is a comsination barrier fors:
250.1715.a.(8) A well with casing:

AND
250.1715.a. (4) A A casing stub where the stub end is within the casing


| Plug (3) <br> (a)(3) A perforated zone that is currently open and not previously squeezed or isolated <br> (iii) If perforated zones are isolated from the hole below, you may use plugs specified <br> (B) A bridge plug set 50 to 100 ft aove the top of the perforated interval and at least 50 feet of cement on top of the bridge plug | Isoliton of perforations | Allow for sufficient WOC, tag up with agreed upon weight. Pressure test. <br> All cement jobs must be designed to abide by regulation 250.420.c.(1) and (2) |
| :---: | :---: | :---: |


| Plug (2) <br> BSEE. 250.1715 (a)(3) A perforated zone that is currently open and not <br> previously squeezed or isolated <br> (iii) If perforated zones are isolated from the hole below, you may use <br> plugs specified <br> (B) A bridge plug set 50 to 100 ft aove the top of the perforated interval and <br> at least 50 feet of cement on top of the bridge plug | Ion of eefratations | Allow for sufficient WOC, tag up with agreed upon weight. Pressure test. <br> Alr cement jobs must be designed to abide by <br> c.(1) and (2) |
| :---: | :---: | :---: |
| Plug (1) BSEE: 250.420.b.(3 <br> ....For the final casing string (or liner if it is your final string), you must install one mechanical barrier in addition to cement to prevent flow in the event of a failure in the cement. A dual float valve, by itself, is not considered a mechanical barrier. These barriers cannot be modified prior to or during completion or abandonment operations. | Posisile falure of wellbre cement below float collar (PBTD) | Allow for sufficient wOC, tag up with agreed upon weight. Pressure test <br> All cement jobs must be designed to abide by regulation 250.420.c.(1) and (2) |

```
PLUG 1IS A COMBINATION BARRIER FO
250.1715.a.(2) Open hole below casing
250.420.0.(3) Final casing string with mechanical and cement
```



Requirement: BSSE
Leak Path Addressed

This option does not address 250.420. .b(3)...For the final casing string (or line ifit is your final string), you must install one mechanical barrier in addition to cement to prevent flow in the event of a failure in the cement.
A dual float valve, by itself, is not considered a mechanical barrier. These barriers cannot be modified prior to or during completion or

| 250.1716.(a) To what depth must I remove wellheads and casings? <br> Unless the District Manager approves an alternate depth under paragraph (b) of this section, you must remove all wellheads and casings to at least 15 feet below the mud line. | N/A |  |
| :---: | :---: | :---: |
| Plug (3) <br> 45:. $250.1715(\mathrm{a})(8) \mathrm{A}$ well with casing: <br> A cement surface plug at least 150 feet long set in the smalest casing that extends to the mud line with the top of the plug no more than 150 feet below the mudline. | $7{ }^{\text {7 Wellbore }}$ | Allow for sufficient woc, tag up with agreed upon weight. Pressure test All cement jobs must be designed to abide by egulation 250.420.c.(1) and (2) |



```
MD TVD
M Sands previvuslv abandoned with CIBP and cement.
Retriev//drill out Baker DB packe
    Set bridge plug with 50 ft of cement above L-1 Sand perfs.
    Assumptions: See embedded Notes
```



мо
tvo


Perforate 7 " casing, squeeze cement to $B$ annulus | TOC (annulus) | 3100 |
| :--- | ---: |
| $10-3 / 4$ " shoe | 3600 |

| TOC (annulus) | 8508 |
| :--- | :--- |



| Sump Packer | 9491 |
| :--- | :--- |


| 7 " shoe/TD | 11290 |
| :--- | :--- |

Requirement: BSS
Leak Path Addresse

This option does not address $\mathbf{2 5 0 . 4 2 0 . b} \mathbf{6}$ (3)...For the final casing string (or lineri ifit is your final string), vou must install one mechanical barrier in addition to cement to prevent flow in the event of a failure in the cemen. Adual float valve, by itself, is not considered a mechanical barrier. These
$30^{1 " x 16^{1 "} \times 10-3 / 44^{4} \times 77^{"} \text { Seve }}$
250.1716.(a) TT what depth must I remove
wellheads and casings? wellheads and casings?
Unless the District Mana
Unless the District Manager approves an
alternate depth under paragraph (b) of the
section, you must remove all wellheads and
s.
casings to at least 15 feet below the mud line

| Pug (3) BSE. 250.1715(a)(8) A well with casing: A cement surface plug at least 150 feet long set in the smallest casing that extends to the mud line with the top of the plug no more than 150 feet below the mudline. | 7" Wellore | Allow for sufficient WOC, tag up with agreed upon weight. Pressure test. All cement jobs must be designed to abide by regulation 250.420.c..(1) and (2) |
| :---: | :---: | :---: |
| Plug (3) <br> Cut and pull $7^{\prime \prime}$ \& 10-3/4" <br> BSEE: 250.1715(a)(4) A casing stub where the stub end is within the casing <br> (iii) A cement plug at least 200 feet long with the bottom of the plug set no more than 100 feet above the stub end | $10-3 / 4^{\prime \prime} \times 16^{\prime \prime}$ annulus (C annulus) <br> and <br> $7^{\prime \prime} \times 10-3 / 4^{\prime \prime}$ annulus ( B annulus) | Allow for sufficient WOC, tag up with agreed upon weight. Pressure test. All cement jobs must be designed to abide by regulation 250.420.c.(1) and (2) |


| Plug (2) <br> BSEE: 250.1715(a)(6) An annular space that communicates with open hole and extends to the mudline: | $7{ }^{\prime \prime} \times 10 \cdot 3 / 44^{\text {a annulus }}$ (Ba ann | Allow for sufficient woc |
| :---: | :---: | :---: |




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TvD


i i i i 1 | 1


| A-8 As Built Schematic indicates L-1 sand was watered out It also indicates that 31 sacks of class H cement were squeezed below the bridge plug set @ 9089 ft MD | Lsand perst through 2.7/8" wuing |
| :---: | :---: |



|  |  |
| :--- | :--- |
| 7 |  |
| 7 Th she | 10875 |
| To | 10885 |


| Trubin Plug | 8075 |
| :--- | :--- |
| WN Nopope | 8075 |
| Baker SC-1 packer | 8086 |


| Top of screen | 820 |
| :--- | :--- |


| Ssand Top Pef | 8220 |
| :--- | :--- |
| Sand Base eeft | 8260 |


| 8275 |  |
| :--- | :--- |
| aneref.1 paster | 8 |


| TOC | 8930 |
| :--- | :--- |
| CIBP | 9089 |


| Baker 5C-1 packer |
| :--- | :--- |




41 est Ease Part

| 7 T Shoe | 10875 |
| :--- | :--- |
| TV | 1088 |

Requirement: BSSE $\qquad$
This option does not address $250.420 . \mathrm{b}(3)$ )
 addition to cement top operent flow withe event of fatiarue it the cement A dual float valve, by itself, is not considererd a mechanical barrie.
bariers cannot be modified prior to or ofuring completion or

|  | N/A |  |
| :---: | :---: | :---: |
|  | ${ }^{\text {W Wellore }}$ | Allow for sufficient WOC, tag up with agreed upon weight. Pressure test. All cement jobs must be designed to abide by regulation $250.420 . c .(1)$ and (2) |










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| S Sand Top Perf | 7930 |
| :--- | :--- |
| Sand Base Perf | 7969 |


| 8 BHF. S Sump Packer | 7986 |
| :--- | :--- |



Requirement: BSSE
Leak Path Addresse
This option does not consider $10-3 / 4^{\prime \prime} \times 16^{\prime \prime}$ possible leak path.
This option does not address 250.420 .6 (3)...For the final casing string (or liner if it is your final string), vou must install one mechanical barrier in addition to cement to prevent flow in the event of a failure in the cement.
A dual float valve, by itself, is not considered a mechanical barrier. These barriers cannot be modified prior to or during completion or

|  | N/A |  |
| :---: | :---: | :---: |
| Pug( 3 ( <br> BSEE: 250.1715(a)(8) A well with casing <br> A cement surface plug at least 150 feet long set in the smalest casing that extends to the mud line with the to of the plug no more than 150 feet below the mudline. | $7{ }^{7}$ Wellore | Allow for sufficient WOC, tag up with agreed upon weight. Pressure test. All cement jobs must be designed to abide by regulation 250.420.c.(1) and (2) |


| Plug (2) <br> Perforate $7^{\prime \prime}$ casing, squeeze cement to $B$ annulus BSEE: 250.1715(a)(6) An annular space that communicates with open hole and extends to the | $7{ }^{\prime \prime} \times 10 \cdot 3 / 4$ a anulus $(\mathrm{Bannulus)}$ | Allow for sufficient woc |
| :---: | :---: | :---: |


| Plug (1) <br> Tubing plug set in $\times N$ landing nipple. | 1 -sand perfs through $2-7 / 88^{" t u b i n g}$ | Allow for sufficient woc. Pressure test. |
| :--- | :--- | :--- |


| Squeeze cement through $\backslash$ Sand Perforations | \|solation of S Sand Perfs |  |
| :--- | :--- | :--- |




Requirement: BSSE
This option does not address 250.420.b(3). For the final acaing string or


A dual float value, by itself, is not conside ered a mechanical barier. These
barriers cannot te modified prior to or during completion or abandonment


| (Mug (1) | 1-sand eerst through $2.7 / 88^{\prime \prime}$ tubing | Pressure test |
| :---: | :---: | :---: |


| 5 Sand Top Peeff | 7930 |
| :--- | :--- | :--- |
| 1 Sand Base Perf | 7969 |


| BHFF: 1 Sump Packer | 7986 |
| :--- | :--- | :--- |


| Squeeze cement through S Sand Pefforations | \|solation of S Sand perts | Allow for sufficient woc. Pressure test. |
| :--- | :--- | :--- |


| Retainer | 8015 |
| :--- | :--- |
| S Sand Test Top Per | 8040 |
|  | 8040 |


SSand Test Peffis indicited WEt Ts ser A.9 as built well |solation of S Sand Test perts

| PBTV/TOF | 8560 |
| :--- | :--- |
| T" $^{\text {shoe }}$ | 8840 |
| TO | 8647 |



Requirement: BSSE Leak Path Addressed Testing/Verification Requirements

|  | vellore to seafloor | Allow for sufficient WOC, tag up with agreed upon weight. Pressure test. All cement jobs must be designed to abide by regulation 250.420 .c.. (1) and (2) |
| :---: | :---: | :---: |
| Plug (4) <br> Cut and pull of 10-3/4 <br> BSEE: 250.1715(a)(4) A casing stub where the stub end is within the casing <br> (iii) A cement plug at least 200 feet long with the bottom of the plug set no more than 100 feet above the stub end. | $10.3 / 4^{4 \prime} \times 16^{\text {a annulus }}$ |  |
| $\begin{array}{l}\text { Possible Alt. Compliance - set plug deeper, may leave } \\ \text { excessive cement in BOP stack }\end{array}$ |  |  |


| PLUG 4 IS A COMBINATION BARRIER FOR: |
| :--- |
| 250.1715.a.(8) A well with casing: |
| AND |
| 250.1715.a (4) A casing stub where the stub end is within |


| Plug (3) <br> Cut and pull of $7^{\prime \prime}$ <br> BSEE: 250.1715(a)(4) A casing stub where the stub end is within the casing: <br> (ii) A cement retainer or bridge plug set at least 50 to 100 feet above the stub end with at least 50 feet of cement on top of the retainer or bridge plug; or | $7{ }^{7 \times 10.3 / 4 "}$ | Allow for sufficient WOC, tag up with agreed upon weight. Pressure test. <br> All cement jobs must be designed to abide by regulation 250.420.c.(1) and (2) |
| :---: | :---: | :---: |


| BSEE: 250.1715(a)(3) A perforated zone that is currently open and not previously squeezed or isolated (iii) If perforated zones are isolated from the hole below you may use plugs specified <br> (B) A bridge plug set 50 to 100 ft aove the top of the perforated interval and at least 50 feet of cement on top | solation of perforations | Allow for sufficient WOC, tag up with agreed upon weight. Pressure test. All cement jobs must be designed to abide by regulation 250.420.c.(1) and (2) |
| :---: | :---: | :---: |


| Plug (1) BSEE: 250.1715(a)(2) Open hole below casing: <br> (iii) A bridge plug set 50 ft to 100 ft above the shoe with 50 ft of cement on top of the bridge plug, for expected or known lost circulation. | Oosible failure of wellore cement below flat collar | Allow for sufficient WOC, tag up with agreed upon weight. Pressure test. All cement jobs must be designed to abide by regulation 250.420 .c.(1) and (2) |
| :---: | :---: | :---: |
|  |  |  |
|  |  |  |
| -..For the final casing string lor liner ifitit spur final |  |  |
| addition to cement to prevent flow in the event of a <br> failure in the cement. A dual float valve, by itself, is not$\quad$ Possible failure of wellbore cement below float collar |  |  |
|  |  |  |
|  |  |  |
| be modified prior to or during completion or |  |  |
| abandonment operations. |  |  |

plug 1 Is a comanation maners for
250.1715.a.(2) Open hole below casing

AND
250.420.b.(3) Final casing string with mechanical and


м
TVD
Requirement: BSSE
Leak Path Addressed
This option does not consider $10-3 / 4$ " $\times 16^{\text {" }}$ possible leak path.
This option does not address 250.420. b(3)...For the final casing string (or
liner ifit is your final string), you must install one mechanical barrier in
$\begin{aligned} & \text { addition to cement to prevent flow in the event of a failure in the } \\ & \text { cement. A dual float valve, } \mathrm{t} \text { itself, is not considered a mechanical }\end{aligned}$
$\begin{aligned} & \text { cement. A dual float valve, by itself, is not considered a mechanical } \\ & \text { barrier. These barriers cannot be modified prior to or during completion }\end{aligned}$

Testing/Verification Requirements

| 250.1716.(a) To what depth must I remove wellheads and casings? <br> Unless the District Manager approves an alternate depth under paragraph (b) of this section, you must remove all wellheads and casings to at least 15 feet below the mud line. | N/A | Allow for sufficient woc, tag up with agreed upon weight. Pressure test. <br> All cement jobs must be designed to abide by regulation 250.420.c.(1) and (2) |
| :---: | :---: | :---: |
| Plug (3) <br> BSEE: 250.1715(a)(8) A well with casing <br> a cement surface plug at least 150 feet long set in the mallest casing that extends to the mud line with the top of the plug no more than 150 feet below the mudline. | 7 Wellore | Allow for sufficient WOC, tag up with agreed upon weight. Pressure test. <br> All cement jobs must be designed to abide by reguation 250.420.c. (1) and (2) |


| Plug (2) <br> Perforate $7^{\prime \prime}$ casing, squeeze cement to $B$ annulus BSEE: 250.1715(a)(6) An annular space that communicates with open hole and extends to the mudline: <br> A cement plug at least 200 ft long set in the annular space. | $7^{\prime \prime} \times 10-3 / 4 \mathrm{aranulus}$ (B annulus) | Allow for sufficient wOC, tag up with agreed upon weight. Pressure test <br> All cement jobs must be designed to abide by <br> regulation 250.420.c.(1) and (2) |
| :---: | :---: | :---: |


| Plug (1) |  |  |
| :--- | :--- | :--- |
| Tubing plug in n Nipple @ 9706ft MD. | L-3 sand perfs through 2 -7/8" tubing | Pressure test |


| ToC (annulus) | 9400 |  |
| :---: | :---: | :---: |
| L-3 Sand Top Perf | 9900 | 29 |
| $L-3$ Sand Base Perf | 9980 | 8799 |


| Squeeze cement through L-3 Sand Perforations | $\mid$ ssolation of L-3 perforations | Allow for sufficient woC time. Pressure test. |
| :--- | :--- | :--- |

Baker F-1 sump packe 9999

equirement: BSSE

## bSSE



$\qquad$

Baker F-1 sump packee 9999


This option does not address $250.420 . \mathrm{b}(3)$ )...For the final casing string (or liner if it is your final string), ,you must install one mechanical barrier in liner if it is your final string), you must install one mechanical barrier in
addition to cement to prevent flow in the event of a failure in the cement. addition to cement to prevent flow in the event of a failure in the cement
A dual float valve, by itself, is not considered a mechanical barrier. These Adual float valve, by itself, is not considered a mechanical bar
barriers cannot be modified prior to or during completion or


|  | $7{ }^{\text {" Wellbore }}$ | Allow for sufficient woc, tag up with agreed upon weight. Pressure test. All cement jobs must be designed to abide by regulation 250.420 .c. (1) and (2) |
| :---: | :---: | :---: |
| Plug (3) <br> Cut and pull 7" \& 10-3/4" <br> BSEE: 250.1715(a)(4) A casing stub where the stub end is within the casing <br> (iii) A cement plug at least 200 feet long with the bottom of <br> the plug set no more than 100 feet above the stub end. | $10-3 / 4^{\prime \prime} \times 16^{\text {" }}$ annulus (C annulus) and $7{ }^{7 \prime} \times 10-3 / 4$ " annulus (B annulus) | Allow for sufficient woc, tag up with agreed upon weight. Pressure test. All cement jobs must be designed to abide by regulation 250.420.c.(1) and (2) |


| Plug (2) <br> Perforate $7^{\prime \prime}$ casing, squeeze cement to $B$ annulus BSEE: 250.1715(a)(6) An annular space that communicates with open hole and extends to the mudline: <br> A cement plug at least 200 ft long set in the annular space | $7{ }^{\text {" } \times 10-3 / 4 " ~ a n n u l u s ~(B ~ a n n u l u s) ~}$ | Allow for sufficient woc, tag up with agreed upon weight. Pressure test. All cement jobs must be designed to abide by reguation 250.42.... (1) and (2) |
| :---: | :---: | :---: |


| Plug (1) <br> Tubing plug in $\times$ Nipple @ @ 9706 ft MD. | L-3 sand perfs through $2-7 / 8$ " tubing | Pressure test |
| :--- | :--- | :--- |



MC 20 Well A 011 Option

```
A-3 PRA Scenario option 2:
Squeleusano peris? laning niplee s204t mD
*)
Pa|ltubing.
```





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TvD
Requirement: BSSE
Plug (4)
BSEE: $250.1715($ al) 8$) ~ A ~$
A well with casing:
A cement surface plub a tel east 15 so feret Iong set in the
Testing/Verification Requirements


| Plug (3) |  |  |
| :---: | :---: | :---: |
| E: ${ }^{\text {and puil }}$ |  | c, tag up with agred upo |
| Din the easing: | $7{ }^{7 \times 1} \times 10.3 / 4 \mathrm{annu}$ as |  |
| cement retain |  |  |
| bove the stub en |  |  |
| of the ereainer or bridge plus |  |  |




| euirement : | Leak Path Addressed |
| :---: | :---: |
| This option does | ble lea |
| This option does no liner if it is your fina addition to cement | the final casing string ( e mechanical barrier in anical barria. |




$\qquad$



Leak Path Addressed
Testing/Verification Requirements


| TOC (annulus) | 532 |
| :--- | ---: |
| $16^{\prime \prime}$ shoe | 1590 |



|  | eafloor |  |
| :---: | :---: | :---: |
| Puse (4) <br> Cut and pull 10-3/4 <br> Bhe 250.1715(a)(4) A casing stub where the stub end is within <br> asing <br> (iii) A cement plug at least 200 feet long with the bottom of the <br> plug set no more than 100 feet above the stub end | 4" $\times 16$ "annus | Allow for sufficient WOC, tag up with agreed upon weight. Pressure test. All cement jobs must be designed to abide by regulation 250.420 .c.(1) and (2) |
| Possible Alt. Compliance - set plug deeper, may leave excessive cement in BOP stack |  |  |

PLUG 4 IS A COMBINATION BARRIER FOR:
250.1715.a.(8) A well with casing:
AND
250.1715.a (4) A casing stub where the stub end is within
250.1711
AND
the casing

Cut tubing above Baker D Model packer @ 6680ft MD
Pull tubing
Retrieve Baker $D$ Model packer, pull tubing.
Install bridge plug with cement above upper most $H$ perf.
Assumptions: See embedded Notes


| TOC (annulus) | 9472 |
| :--- | :--- |


| $N$ Sand Top Perf | 9972 |
| :--- | :--- | :--- |


| N Sand Base Perf | 10040 |
| :--- | :--- |


| Bakersump packer | 10056 |
| :--- | :--- |

PBTD/TOF 7 " shoe/TD

Requirement: BSSE
Leak Path Addressed
This option does not consider $10-3 / 4^{\prime \prime} \times 16^{\prime \prime}$ possible leak path.
This option does not address 250.420 .6 (3)...For the final casing string (or
liner if it is your final string) , you must instal liner ift it your final string), you must install one mechanical barrier in addition to cement to prevent flow in the event of a failure in the cement.
Adual float valve, by itself, is not considered a A dual float valve, by itself, is not considered a mechanical barrier. These
barriers cannot be modified prior to or during completion or abandonmet

| 250.1716.(a) To what depth must I remove wellheads and casings? <br> Unless the District Manager approves an alternate depth under paragraph (b) of this section, you must remove all wellheads and casings to at least 15 feet below the mud line. | N/A | Allow for sufficient woc, tag up with agreed upon weight. Pressure test All cement jobs must be designed to abide by regulation 250.42.a. (1) and (2) |
| :---: | :---: | :---: |
| Plug (3) <br> BSEE: 250.1715(a)(8) A well with casing: <br> A cement surface plug at least 150 feet long set in the smallest casing that extends to the mud line with the top of <br> . | $7^{\text {² Wellbore }}$ | Allow for sufficient woc, tag up with agreed upon weight. Pressure test. <br> All cement jobs must be designee to abide by regulation 250.420.c.(1) and (2) |


| Plug (2) <br> Perforate $7^{\prime \prime}$ casing, squeeze cement to $B$ annulus BSEE: 250.1715(a)(6) An annular space that communicates with open hole and extends to the mudline: | 7" $\times 10.3 / 44^{\text {a anulus (B annuss) }}$ | Allow for sufficient WOC, tag up with agreed upon weight. Pressure test <br> All cement jobs must be designed to abide by regulation 250.420 .c.(1) and (2) |
| :---: | :---: | :---: |



MD TVD

```
Cut tubing above Baker D Model packer @ 6680ft MD
Mpullubing
Retrieve B
Retrieve Baker DNovel packer, pull tubin
Assumptions: See embedded Nots
```



Ineritit is your final string), you must install one mechanical barrier in
Adual float valve, by itself, is is fot considered $a$ mechanical barrier These

250.1746.(a) To That depth must I remove wellheads
and casinss
Unless the District Manager approves an atternate dept


| N Sand Top Perf | 9972 |
| :--- | ---: |
| N Sand Base Perf | 10040 |


| Bakersump packer | 10056 |
| :--- | :--- |


| PBTD/TOF | 10069 |
| :--- | :--- |
| 7 " shoe/TD | 10169 |

under paragraph $($ b) of this section, you must remove all
welleeads and casings to to teast 15 feet below the mud
wellinea
line.

| BSEE: 250.1715(a)(8) A well with casing: <br> A. ent surface plug at least 150 feet long set in the smallest casing that extends to the mud line with the top of the plug no more than 150 feet below the mudline. | 7 " Wellore | Allow for sufficient woc, tag up with agreed ypon weight. Pressure test <br> All cement jobs must be designed to abide by <br> regulation 250.420.c.(1) and (2) |
| :---: | :---: | :---: |
| Plug (3) <br> Cut and pull $7^{\prime \prime}$ \& 10-3/4 <br> BSEE: 250.1715(a)(4) A casing stub where the stub end is within the casing <br> (iii) A cement plug at least 200 feet long with the bottom of the plug set no more than 100 feet above the stub end | $10-3 / 4^{\prime \prime} \times 16^{\prime \prime}$ annulus ( C annulus) <br> and <br> $7-5 / 8^{\prime \prime} \times 10-3 / 4^{\prime \prime}$ (B annulus) | Allow for sufficient WOC, tag up with agreed upon weight. Pressure test. <br> All cement jobs must be designed to abide by <br> regulation 250.420.c.(1) and (2) |



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| :--- | ---: |
| AMSL | 53 |}


|  | $7^{\prime \prime} \times 10.3 / 4^{\text {a anulus (Ba anulus) }}$ | Allow for sufficient WOC, tag up with agreed upon weight. Pressure test. <br> All cement jobs must be designed to abide by regulation 250.420.c.(1) and (2) |
| :---: | :---: | :---: |


| Plug (1) <br> BSEE: 250.1715(a)(3) A perforated zone that is currently <br> open and not previously squeezed or isolated <br> (iii) If perforated zones are isolated from the hole below, <br> you may use plugs specified <br> (B) A bridge plug set 50 to 100 ft aove the top of the <br> perforated interval and at least 50 feet of cement on top | solation of eerforations | Allow for sufficient WOC, tag up with agreed upon weight. Pressure test. <br> All cement jobs must be designed to abide by regulation 250.420 .c.(1) and (2) |
| :---: | :---: | :---: |




Plug 1
PBTD/ToF

## Plug 3

| Plug (3) <br> Cut and pull 7" <br> BSEE: 250.1715(a)(4) A casing stub where the stub end is within the casing <br> (ii) A cement retainer or bridge plug set at least 50 to 100 feet above the stub end with at least 50 feet of cement on top of the retainer or bridge plug; | $7{ }^{1 \times \times 10-3 / 4 " ~ a n n u l u s ~}$ | Allow for sufficient woc, tag up with agreed upon weight. Pressure test. Al cement jobs must be designed to abide by regulation 250.420.c. (1) and (2) |
| :---: | :---: | :---: |


|  | Isolation of perforations |  |
| :---: | :---: | :---: |
| Plug (1) <br> BSEE: 250.420.b.(3) <br> ...For the final casing string (or liner if it is your final string), you must install one mechanical barrier in addition to cement to prevent flow in the event of a failure in the cement. A dual float valve, by itself, is not considered a mechanical barrier. These barriers cannot modified prior to or during completion or abandonment operations | Possible failure of wellore cement below float collar | Allow for sufficient WOC, tag up with agreed upon weight. Pressure test. <br> All cement jobs must be designed to abide by <br> regulation 250.420.c.(1) and (2) |
| Plug (1) <br> BSEE: 250.1715(a)(2) Open hole below casing <br> (iii) A bridge plug set 50 ft to 100 ft above the shoe with 50 ft of cement on top of the bridge plug, for expected or nown lost circulation. |  | Allow for sufficient WOC, tag up with agreed upon weight. Pressure test <br> All cement jobs must be designed to abide by <br> regulation 250.420.c.(1) and (2) |

[^0]
Squeeze L-sand perfs.
Squeeze L-sand perfs.
instail tubing plug@ XN Nipple (8272 ft MD)
instail tubing plug@ XN Nipple (8272 ft MD)
Pull tubing e $\quad 8,172 \mathrm{ft}$ MD (r 100 ft above tubing plug,
Pull tubing e $\quad 8,172 \mathrm{ft}$ MD (r 100 ft above tubing plug,
Assumptions: See embedded Notes
Assumptions: See embedded Notes

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TvD


| TOC (annulus) | 8046 |
| :--- | :--- |


| LSand Top Perf | 8546 |
| :--- | :--- |


| Sand Base Perf | 8656 |
| :--- | :--- |

Pull tubing
Assumptions: See embedded Notes


| TOC (annulus) | 8046 |
| :--- | :--- |


| Sand Top Perf | 8546 |
| :--- | :--- |
| SOnd |  |


| $L$ Sand Base Perf | 8656 |
| :--- | :--- |


| Sump Packer | 8670 |
| :--- | :--- |



Leak Path Addressed
Testing/Verification Requirements
This option does not address 250.420.b(3)... For the final casing string (or liner if it is your final string), you must install one mechanical barrier in addition to cement to prevent flow in the event of a failure in the cemen. addition to cement to prevent flow in the event of a failure in the cement
A dual float valve, by itself, is not considered a mechanical barrier. These barriers cannot be modified prior to or during completion or
abandonment
abandonment operation


| Plug (3) <br> BSEE: 250.1715(a)(8) A well with casing: <br> A cement surface plug at least 150 feet long set in the smallest casing that extends to the mud line with the top of the plug no more than 150 feet below the mudline. | wellbre to seafloor |  |
| :---: | :---: | :---: |
| Plug (3) <br> Cut and pull 7" \& 10-3/4" <br> BSEE: 250.1715(a)(4) A casing stub where the stub end is within the casing <br> (iii) A cement plug at least 200 feet long with the bottom of the plug set no more than 100 feet above the stub end. | $10-3 / 4^{\prime \prime} \times 16^{\prime \prime}$ annulus (C annulus) and <br> $7^{\prime \prime} \times 10-3 / 4^{\prime \prime}$ annulus ( B annulus) | Allow for sufficient WOC, tag up with agreed upon weight. Pressure test. <br> All cement jobs must be designed to abide by regulation 250.420.c.(1) and (2) |



Squeeze cement through L Sand Perforations $\quad \mid$ Isolation of L Sand perfs Allow for sufficient WOC. Pressure test, $\square$


Requirement: BSS
Leak Path Addressed
Testing/Verification Requirements

PLUG 2 IS A COMBINATION BARRIER FOR:
250.1715.a.(8) A well with casing:
AND
250.1715. a (4) A casing stub where the stub end is within
the casing
PLUG 2 IS A COMBINATION BARRIER FOR:
250.1715.a.(8) A well with casing:
AND
250.1715. a (4) A casing stub where the stub end is within
the casing
PLUG 2 IS A COMBINATION BARRIER FOR:
250.1715.a.(8) A well with casing:
AND
250.1715. a (4) A casing stub where the stub end is within
the casing
PLUG 2 IS A COMBINATION BARRIER FOR:
250.1715.a.(8) A well with casing:
AND
250.1715. a (4) A casing stub where the stub end is within
the casing

| Plug (1) |  |  |
| :---: | :---: | :---: |
| BSEE: 250.420.b.(3) | Possibl faiure of wellore cement below flaat collar | Allow for sufficient WoC, tag up with agreed upon |
| you must install one mechanical barrier in addition to | Possile efare of welbore cement belwnoatcolar | All cement iobs must be designed to abide |
| ent to prevent flow in the event of fafilure in the |  | reguation 250.420.c.(1) and (2) |
| cement. A dual float valve, by itself, is ont considered a |  |  |
| mechanical barrier. These barriers cannot be modified prior to or during completion or abandonment operations |  |  |
| Plug (1) |  |  |
| BSEE: 250.1715 (a)(2) Open hole below casing: |  | Allow for sufficient woc, tag up with agreed |
| (iii) $A$ bridge plug set 50 ftt to 100 ft above the shoe with 50 |  | upon weight. Pressure test. |
| It of cement on top of the bridge plug, for expected or |  | All cement jobs must be designed to abide by |
| known lost tircuation. |  | regulation 250.420.c.(1) and (2) |

PLUG 1 IS A COMBINATION BARRIER FOR:
250.1715.a. (2) Open hole below casing

AND
250.420.b.(3) Final casing string with mechanical and
cement

| 30 " $\times 16^{1 " x} 10-3 / 4^{\prime \prime} \times 7^{\prime \prime}$ Sever 250.1716.(a) To what depth must I remove wellheads and casings? <br> Unless the District Manager approves an alternate depth under paragraph (b) of this section, you must remove all wellheads and casings to at least 15 feet below the mud line. | N/A |  |
| :---: | :---: | :---: |
|  | $7{ }^{7}$ wellbore | Allow for sufficient WOC, tag up with agreed upon weight. <br> All cement jobs must be designee to abide by regulation 250.420.c.(1) and (2) |
| Plug (2) <br> Cut and pull $7^{\prime \prime} \& 10-3 / 4^{\prime \prime}$ <br> BSEE: 250.1715(a)(4) A casing stub where the stub end is within the casing <br> (iii) A cement plug at least 200 feet long with the bottom of the plug set no more than 100 feet above the stub end. | 7" $10-3 / 4$ " annulus 10-3/4" $\times 16^{2}$ annulus | Allow for sufficient Woc, tag up with agreed upon weight. <br> All cement jobs must be designed to abide by regulation 250.420.c.(1) and (2) |

- 



Drill out sump packer.
puil tubing below packer.
Pull tubing below packer.
Drill out deep-set sump packer @ 11385 ft mD.
Assumptions: See embedded Notes


| Requirement: BSSE | Leak Path Addressed | Testing/verification Requirements |
| :---: | :---: | :---: |
|  | wellore to seaflor |  |
| Plug (6) Cut and pull 10-3/4" <br> BSEE: 250.1715(a)(4) A casing stub where the stub end is within the casing <br> (iii) A cement plug at least 200 feet long with the bottom of the plug set no more than 100 feet above the stub end. end. | $10.3 / 44^{\prime \prime} \times 16^{\text {a }}$ anulus |  |
| Possible Alt. Compliance - set plug deeper, may leave excessive cement in BOP stack |  |  |

```
Plug 6IS A Combination BARRIER FOR:
250.1715.a.(8) A well with casine
AND.
M)
```

| Plug (5) <br> Cut and pull 7" <br> BSEE: 250.1715(a)(4) A casing stub where the stub end is <br> within the casing: <br> (ii) A cement retainer or bridge plug set at least 50 to 100 <br> feet above the stub end with at least 50 feet of cement <br> on top of the retainer or bridge plug; | 20.3/4 ann | Allow for sufficient WOC, tag up with agreed upon weight. Pressure test <br> All cement jobs must be designed to abide by regulation 250.420.c.(1) and (2) |
| :---: | :---: | :---: |


| Plug (4) <br> BSEE: 250.1715(a)(3) A perforated zone that is currently <br> open and not previously squeezed or isolated <br> (iii) If perforated zones are isolated from the hole below, <br> you may use plugs specified <br> (B) A bridge plug set 50 to 100 ft aove the top of the <br> perforated interval and at least 50 feet of cement on top <br> of the bridge plug | on of perforatio | Allow for sufficient WOC, tag up with agreed upon weight. Pressure test. <br> All cement jobs must be designed to abide by <br> regulation 250.420.c.(1) and (2) |
| :---: | :---: | :---: |
|  | of eeforatio | Allow for sufficient WOC, tag up with agreed upon wejght. Pressure test <br> Pesigned to abide by regulation 250.420.c.(1) and (2) |
|  | Solatio | Allow for sufficient WOC, tag up with agreed upon weight. Pressure test <br> All cement jobs must be designed to abide by regulation 250.420.c.(1) and (2) |


| BSEE: 250.420.b.(3) <br> string), you must ing sting (or liner if it is your final string), you must install one mechanical barrier in addition to cement to prevent flow in the failure in the cement. A dual float valve, by itself, is not considered a mechanical barrier. These barriers cannot be modified prior to or during completion or abandonment operations. | le falure of wellbre cement below flat collar |  |
| :---: | :---: | :---: |

## Pand osand parkgre heve been previosys suvered, <br>  <br> 

Requirement: BSE Leak Path Addressed
Leak Faln Aadresse
Testing/verification Requirement
This option does not consider $10.3 / 44^{4} \times 16^{" p}$ possible leak path.

lideritis svor fina stringe, vou must instal one mechanica barrie in


|  | N/A | Allow for sufficient WOC, tag up with agreed upon weight. Pressure test. All cement jobs must be designed to abide by regulation 250.420 .c.(1) and (2) |
| :---: | :---: | :---: |
|  | 1.5/8 wellore | Allow for sufficient WOC, tag up with agreed upon weight. Pressure test. All cement jobs must be designed to abide by regulation 250.420.c.(1) and (2) |









i $\quad$


MD
TVD


| TOC (annulus) | 5628 |
| :--- | :--- |




| Plug (3) <br> BSEE: 250.1715(a)(8) A well with casing: <br> A cement surface plug at least 150 feet long set in the smallest casing that extends to the mud line with the top of the plug no more than 150 feet below the mudline | wellbore to seafloor | Allow for sufficient WOC, tag up with agreed upon weight. <br> All cement jobs must be designed to abide by reguation 250.420.c.(1) and (2) |
| :---: | :---: | :---: |
| Plug (3) <br> Cut and pull 7-5/8" \& 10-3/4" <br> BSEE: 250.1715(a)(4) A casing stub where the stub end is within the casing <br> (iii) A cement plug at least 200 feet long with the bottom of the plug set no more than 100 feet above the stub end. | $10-3 / 4$ " $\times 16^{\prime \prime}$ annulus $7-5 / 8^{\prime \prime} \times 10-3 / 4$ " annulus | Allow for sufficient woc, tag up with agreed upon weight. <br> All cement jobs must be designed to abide by reguation 250.420.c.(1) and (2) |
| Possible Alt. Compliance - set plug deeper, may leave excessive cement in BOP stack |  |  |

```
PLUG 3 IS A COMBINATION BARRIER FOR:
250.1715.a.:(8) A well with casing.
AND
250.1715.a (4) A casing stub where the stub end is within
the casing
250.1715.a(7) A subsea well with unsealed annulus
```

| Plug (2) <br> BSEE: 250.1715(a)(3) A perforated zone that is currently open and not previously squeezed or isolated (iii) If perforated zones are isolated from the hole below, you may use plugs specified <br> (B) A bridge plug set 50 to 100 ft aove the top of the perforated interval and at least 50 feet of cement on top of the bridge plug | ion of | Allow for sufficient woc, tag up with agreed upon weight. Pressure test. <br> All cement jobs must be designed to abide by reguation 250.420.c.(1) and (2) |
| :---: | :---: | :---: |


| Plug (1) <br> BSEE: 250.420.b.(3) <br> ...For the final casing string (or liner if it is your final string), you must install one mechanical barrier in addition to cement to prevent flow in the event of a failure in the cement. A dual float valve, by itself, is not considered a mechanical barrier. These barriers cannot be modified prior to or during completion or abandonment operations. | Possible failure of wellbore cement below float collar | Allow for sufficient woc, tag up with agreed upon weight. Pressure test. <br> All cement jobs must be designed to abide by regulation 250.420.c.(1) and (2) |
| :---: | :---: | :---: |



Requirement: BSSE
Leak Path Addressed
Requirement: BSSE
This option does not consider $10-3 / 4$ " $\times 16$ " possible leak path.
This option does not address 250.420. .(3)...For the final casing string (or liner if it is your final string), you must install one mechanical barrier in addition to cement to prevent flow in the event of a failure in the cemen. A dual float valve, by itself, is not considered a mechanical barrier. These barriers cannot be modified prior to or during completion or

| 250.1716.(a) To what depth must I remove wellheads and casings? <br> Unless the District Manager approves an alternate depth under paragraph (b) of this section, you must remove all wellheads and casings to at least 15 feet below the mud line. | N/A |  |
| :---: | :---: | :---: |
| Plug (3) <br> BSEE: 250.1715(a)(8) A well with casing: <br> A cement surface plug at least 150 feet long set in the smallest casing that extends to the mud line with the top of the plug no more than 150 feet below the mudline. | 7-5/8" Wellore | Allow for sufficient woc, tag up with agreed upon weight. Pressure test. <br> Al cement jobs must be designed to abide by regulation 250.42. . . (1) and (2) |


| Plug (2) <br> Perforate 7 " casing, squeeze cement to B annulus BSEE: 250.1715(a)(6) An annular space that communicates with open hole and extends to the mudline: <br> A cement plug at least 200 ft long set in the annular | $7.5 / 8^{\prime \prime} \times 10.3 / 4^{\text {" annulus (Ba annus) }}$ | Allow for sufficient WOC. |
| :---: | :---: | :---: |


| Tubing plug 100 oft below retrieved FH packer | F-sand perfs through 2-3/8" tubing | Allow for sufficient WOC time. Pres |
| :---: | :---: | :---: |


| FSand Top Perf | 7259 | 5795 |
| :--- | :--- | ---: |
| E Sand Base Perf | 7269 | 5802 |


| Squeeze cement through LSand Perforations | \|solation of F Sand Perfs | Allow for sufficient WOC time. Pressure test. |
| :--- | :--- | :--- |

## Testing/Verification Requirements



| TOC (annulus) | 532 |
| :--- | ---: |
| $10-3 / 4 / 4$ shoe | 3283 |


| TOC (annulus) | 56 |
| :---: | :---: |
| $\int_{\text {pinit }}^{2-3 / 8^{" t} \text { ubing cut }}$ | 6480 |
| Baker FH packer | 6580 |



| Production packer | 7139 |
| :--- | :--- |


| Sump Packer | 7274 |  |
| :---: | :---: | :---: |
| PBTD/TOF | 45 |  |
| $7.5 / 8 \mathrm{~s}$ " hoe/TD | 8966 | 6948 |

Squeare F.snd perfs
Squeare F.snd perfs
*)
*)
Pulltubing.
Pulltubing.
ASsumptions: See embedded Notes
ASsumptions: See embedded Notes
mD tvo




| Fsand Top Perf | 7259 | 5795 |
| :--- | :--- | :--- |
| Fsand Base Perf | 7269 | 5802 |


| sw Nipple | 7094 |
| :--- | :--- |


| Production packer | 7139 |
| :--- | :--- |



Requirement: BSSE
Tis option does not address 250.420. .b (3). .For the final casing string (or




wellheads and and casingsto to tot teast 15 feet teelelow the mud

|  | 7-5/8" Wellbore |  |
| :---: | :---: | :---: |
| Plug (3) <br> Cut and pull $7^{\prime \prime}$ \& 10-3/4 <br> BSEE: 250.1715(a) within the casing <br> (iii) A cement plug at least 200 feet long with the bottom of <br> the plug set no more than 100 feet above the stub end. | $10-3 / 4^{\prime \prime} \times 16^{\prime \prime}$ annulus (C annulus) and $7-5 / 8^{\prime \prime} \times 10-3 / 4^{\prime \prime}$ annulus (B annulus) |  |




Squeere e cenent through $F$ Sand Perforations $\mid$ Soation of sand deal
|Allow for sufficient Woc time. Pressure test.

```
Pull entire completion above L-3 Test peris,
Pull 2-7/8"tubing from Baker SC-1 packer@ @ 988.
Retrieve SC-1 packer
Pul
```

Assumptions: See embedded Notes


This option does not address 250.420. .b(3)...For the final casing string (or
liner if it is your final string), you must install one mechanical barrier in liner if it is your final string), you must install one mechanical barrier in
addition to cement to prevent flow in the event of a failure in the cement. addition to cement to prevent flow in the event of a failure in the cement
A dual float valve, by itself, is not considered a mechanical barrier. These barriers cannot be modified prior to or during completion or


$|$| EZSV | 10084 |
| :--- | ---: |
| L-3 Test Top Perf | 10088 |
| L-3 Test Base Perf | 10100 |
|  |  |
|  |  |
| Cement above | 10935 |
| EZSV | 11040 |
| Cement below | 11462 |
| N-3 Sand Top | 11080 |
| N-3 Sand Base | 11126 |


| A-18 As Suilt well schematic indicates that L-3 Test sand is. |  |  |  |
| :---: | :---: | :---: | :---: |
| A-18 As Built well schematic indicates: 25 sks of cement pumped above EZSV 100 sks of cement were pumped below EZSV Assumptions: Class H cement ( $1.05 \mathrm{ft}^{\wedge} 3 / \mathrm{sk}$ ), $7-5 / 8^{\prime \prime}$ casing with avg $.435^{\prime \prime} \mathrm{WT}=.249 \mathrm{ft}^{\wedge} 3 / \mathrm{ft}$ capacity Depths asssociated with calculations |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |


|  | N/A |  |
| :---: | :---: | :---: |
| Plug (2) <br> Cut and pull 7-5/8" \& 10-3/4" <br> BSEE: 250.1715(a)(4) A casing stub where the stub end is within the casing <br> (iii) A cement plug at least 200 feet long with the bottom of the plug set no more than 100 feet above the stub end. | $\begin{aligned} & 10-3 / 4^{\prime \prime} \times 16^{\prime \prime}(C) \text { annulus } \\ & 7-5 / 8^{\prime \prime} \times 10-3 / 4^{\prime \prime}(B) \text { annulus } \end{aligned}$ | Allow for sufficient woc, tag up with agreed upon weight. Pressure test. All cement jobs must be designed to abide by regulation 250.420.c.(1) and (2) |

PLUG 2 IS A COMBINATION BARRIER FOR:
250.1715.a.(8) A well with casing:
AND
250.1715.a (4) A casing stub where the stub end is within
the casing
AND
250.1715.a(7) A subsea well with unsealed annulus


may use plugs specifie
(B) A brige plug set 50 to 100 ft aove the top of the
of the bridge plug
ent iobs must be designed to

| PBTD/TOF | 10084 | 8817 |
| :--- | :--- | :--- |
| $7-5 / 8$ " shoe/TD | 11219 | 9950 |


$i>i$


мо tvD

Requirement: BSSE
Leak Path Addressed
Leak Path Addressed
This option does not consider $10-3 / 44^{4} \times 16^{\prime \prime}$ possible leak path
 lineri ifit is sour final stringl, vou must instal one mechanical barrier in
addition to cement to oprevent flow in the event of a a ailure in the cemen. addition to cement to prevent flow in the event of a faliure in the cemen.
A dual float valve, by itself, is not considered a mechanical barrier. These A dual floa vavive, by tseffi, is not considered a mechanical on
barriers cannot be modified prior to or during completion or

|  | N/A |  |
| :---: | :---: | :---: |
|  | ${ }^{7.5 / 889}$ Wellore |  |



| TOC (annulus) | 9510 |
| :--- | :--- |


| $\begin{array}{l}2-3 / 88^{2} \text { tubing cut } \\ \text { point }\end{array}$ | 9772 |
| :--- | :--- |


| Tubing Plug | 9872 |
| :--- | :--- |
| XNNiple | 9872 |
| BH SC-- packer | 97139 |



\section*{| L-3 Sand Top Perf | 10010 |  |
| :--- | :--- | :--- |
| -3 Sand Base eref | 10056 | 8759 |}

Squeeze cement through Lsand Peforations |solation of LSand Perts
${ }^{\text {Allow for sufficient woc time. Pressure test. }}$

| BHFF S Sump Packer | 10066 |
| :--- | :--- | :--- |




| PBTD/TOF | 10084 | 8817 |
| :--- | :--- | :--- |
| $7.5 / 8$ s shoe/TD | 11219 | 9950 |

```
Squeeze F:Sand perfs.
IN
Assumptions: See embedded Notes
```




A dual float vave, by yistelf, is not considereda a mechanicial barier. These
barries cannot be modified prior to or during completion or obandonment

| $30^{00 \times 16 \times \times 10: 3 / 4 \times \times 7}$ " sever |  |  |
| :---: | :---: | :---: |
|  | Seala | Allow for sufficient WOC, tag up with agreed upon weight. Pressure test. All cement jobs must be designed to abide by regulation 250.420. c.(1) and (2) |
|  | $10-3 / 4^{\text {" }} \times 16^{\prime \prime}$ annulus (C annulus) <br> Also addresses $7-5 / 8^{\prime \prime} \times 10-3 / 4^{\text {" }}$ annulus (this could eliminate 200ft cement squeeze behind 7 " casing) | Allow for sufficient woC, tag up with agreed upon weight. Pressure test. All cement jobs must be designed to abide by regulation 250.420.c.(1) and (2) |



TOC (annulus)



| Plug (1) <br> Tubing plug set in XN landing nipple. |  | fors sfficient Woct ime. Pessure est |
| :---: | :---: | :---: |






|  |  |  |
| :---: | :---: | :---: |
|  |  |  |
| ${ }^{\text {a }}$ |  |  |
| 100 sssof tementwere pumped biolow ESVV | V.3 Snand thu2.3/8/8 wubing |  |
| with avg $.435^{\prime \prime} \mathrm{WT}=.249 \mathrm{ft}^{\wedge} 3 / \mathrm{ft}$ capacity. |  |  |





| Plug (3) <br> BSEE: 250.1715(a)(8) A well with casing: A cement surface plug at least 150 feet long set in the mallest casing that extends to the mud line with the top of the plug no more than 150 feet below the mudline | ellbore to seaflor | Allow for sufficient woc, tag up with agreed upon weight. <br> All cement jobs must be designed to abide by reguation 250.420.c(1) and (2 |
| :---: | :---: | :---: |
| Plug (3) <br> Cut and pull 7-" \& 10-3/4" <br> BSEE: 250.1715(a)(4) A casing stub where the stub end is within the casing <br> (iii) A cement plug at least 200 feet long with the bottom of the plug set no more than 100 feet above the stub end |  | Allow for sufficient Woc, tag up with agreed upon weight. <br> All cement jobs must be designed to abide by regulation 250.420.c.(1) and (2) |
| Possible Aft. Compliance - set plug deeper, may leave exesesive cement in Bop stack |  |  |

PLUG 3 IS A COMBINATION BARRIER FOR
PLUG 3 IS A COMBINATION BARRIER FOR
250.1745.a.:(8) A well with casing:
250.1745.a.:(8) A well with casing:
250.1715.a (4) A casing stub where the stub end is within
250.1715.a (4) A casing stub where the stub end is within
the casing
the casing
250.1715.a(7) A subsea well with unsealed annulus
250.1715.a(7) A subsea well with unsealed annulus

|  |  |  |
| :---: | :---: | :---: |
| BSEE: 250.1715(a)(3) A perforated zone that is currently <br> queezed or isolated |  |  |
| (iii) f perforated zones are isolated from the hole below, | Isolation of eerforations |  |
|  |  | cement jobs must be designed to abide by |
| perforated interval and at least 50 feet of cement on top |  | Eguation 250.420.c.(1) and (2) |
| bridge plug |  |  |



Requirement: BSSE Leak Path Addressed
This option does not consider $10-3 / 4^{\prime \prime} \times 16^{\text {" possible leak path. }}$


This option does not address $250.420 . \mathrm{b}(3)$...For the final casing string (or
liner if it is your final string), you must install one mechanical barrier in addition to cement to prevent flow in instal one mechanica b the ceme adirition to cement to prevent flow in the event of a failure in the cement.
A dual float valve, by itself, is not considered a mechanical barrier. These Adual loat valve, by itself, is not considered a mechanical barrier. These
barriers cannot be modified prior to or during completion or abandonment


| Pug (1) <br> Land tubing plug in X landing nipple, 100 ft below production packer 49' ft above 8" gauge screen | 1 -5sand perfs through $2-7 / 88^{\text {tubing }}$ | Allow for sufficient WOC time. Pressure test. |
| :---: | :---: | :---: |

Squeeze cement through L Sand Perforations $\quad \mid$ solation of L Sand perfs
Allow for sufficient Woct time. Pressure test.

| I Sand Top Perf | 10481 | 7504 |
| :--- | :--- | :--- |
| I Sand Base Perf | 10514 | $752 \epsilon$ |


| Sump Packer | 10519 |
| :--- | :--- |




MD
TVD

| Sump Packer | 10519 |
| :--- | :--- |


Requirement: BSSE Leak Path Addressed
This option does not address $250.420 .6(3)$....For the final casing string (or
liner ifit is your final string), you must install one mechanical barrier in
liner if it is your final string), you must install one mechanical barrier in
addition to cement to prevent flow in the event of a failure in the cement.
addition to cement to prevent flow in the event of a failure in the cement.
A dual float valve, by itself, is not considered a mechanical barrier. These
A dual foat valve, by itsel, is not considered a mechanical bartier. Hese
barriers cannot be modified prior to or during completion or abandonment


|  | wellbre to seaflorr | Allow for sufficient WOC, tag up with agreed upon weight. Pressure test. All cement jobs must be designed to abide by regulation 250.420.c.(1) and (2) |
| :---: | :---: | :---: |
| Plug (3) <br> Cut and pull $7^{\prime \prime}$ \& 10-3/4" <br> BSEE: 250.1715(a)(4) A casing stub where the stub end is within the casing <br> (iii) A cement plug at least 200 feet long with the bottom of the plug set no more than 100 feet above the stub end. | $10-3 / 4^{\prime \prime} \times 16^{\prime \prime}$ annulus (C annulus) <br> Also addresses 7-5/8" $\times 10-3 / 4^{\prime \prime}$ annulus (this could eliminate 200 ft cement squeeze behind $7^{\prime \prime}$ casing) | Allow for sufficient WOC, tag up with agreed upon weight. Pressure test. <br> All cement jobs must be designed to abide by <br> regulation 250.420.c.(1) and (2) |


| Plug (2) <br> Perforate 7 " casing, squeeze cement to $B$ annulus BSEE: 250.1715(a)(6) An annular space that communicates with open hole and extends to the mudline: <br> A cement plug at least 200 ft long set in the annular space. | 7" $10-3 / 44^{\text {a anulus (Ba anulus) }}$ | Allow for sufficient woct time. |
| :---: | :---: | :---: |


| Plug (1) <br> Land tubing plug in X landing nipple, 100 ft below production packer. $49^{\prime} \mathrm{ft}$ above $8^{\prime \prime}$ gauge screen |  | Allow for sufficient woct time. Pressure test. |
| :---: | :---: | :---: |

Squeeze cement through $L$ Sand Pefororations $\mid$ solation of $L$ Sand Perfs
Allow for sufficient WoC time. Pressure test.

## A-20 P\&A Scenario Optio

Pull $2-3 / 8^{" t}$ tubing @ © 14091 ft (SLB Quantum packer). Retrieve packer.
Cut tubing above sumppacker @ $14,214 \mathrm{ft}$.
Drill out sump packer
Assumptions: See embedded Notes
$!$
$!\quad 1$



| Plug (3) <br> BSE. 250.1715(a)(8) A well with casing <br> A cement surface plug at least 150 feet long set in the smalles <br> casing that extends to the mud line with the top of the plug <br> feet below the mudline. | wellbore to saflior | Allow for sufficient woc, tag up with agreed upon weight. <br> All cement jobs must be designed to abide by regulation 250.420 .c.(1) and (2 |
| :---: | :---: | :---: |
| Plug (3) <br> Cut and pull 7-" \& 10-3/4" <br> BSEE: 250.1715(a)(4) A casing stub where the stub end is within the casing <br> (iii) A cement plug at least 200 feet long with the bottom of the plug set no more than 100 feet above the stub end. | $10.3 / 4^{\prime \prime} \times 16^{\prime \prime}$ annuus $7{ }^{\prime \prime} \times 10-3 / 44^{\text {annulus }}$ | Allow for sufficient Woc, tag up with agreed upon weight. <br> All cement jobs must be designed to abide by regulation 250.420.c.(1) and (2) |



PLUG 3 IS A COMBINATION BARRIER FOR:


```
AND
250.1715.a (4) A casing stub where the stub end is within
the casing
AND (
```

| Plug |  |  |
| :---: | :---: | :---: |
|  | Isolation of perforations | Allow for sufficient woc, tag up with agreed upon weight. Pressure test All cement jobs must be designed to abide by regulation 250.42.a. (1) and (2) |
| (ii) ff perforated zones are isolated from the hole belo |  |  |
| voum use ous seacified |  |  |
|  |  |  |
| perforated interval and at least 50 feet of cement on top |  |  |
|  |  |  |


| Pug (1) <br> BSEE: 250.420.b.(3) <br> .....For the final casing string (or liner if it is your final string), you must install one mechanical barrier in addition to cement to prevent flow in the event of a failure in the cement. A dual float valve, by itself, is not considered a mechanical barrier. These barriers cannot be modified prior to or during completion or abandonment operations. | Possible failure of wellore cement below float collar | Allow for sufficient woC, tag up with agreed upon weight. Pressure test. All cement jobs must be designed to abide by regulation 250.420.c.(1) and (2) |
| :---: | :---: | :---: |

## A-20 PRA Scenario option

## Squeere K -sand pert Install tubing oplue in

stall tubing plug in X Nipple @ $14.106 \mathrm{ft}, \sim_{15} \mathrm{ft}$ below production packer @ 14091 Pull tubing @ $\sim 14091 \mathrm{ft}$ MD (utilize upward force)

Assumptions: See embedded Notes


Requirement: BSSE
Leak Path Addressed
This option does not consider $10-3 / 4$ " $\times 16^{\prime \prime}$ possible leak path.
This option does not address $250.420 .6(3)$...For the final casing string (or
liner ifit is your final string), you must install one mechanical barrier in
liner ifit is vour final strings, you must install one mechanical barrier in
addition to cement to prevent flow in the event of afailure in the cement. addition to cement to prevent flow in the event of a failure in the cement.
A dual float valve, by itself, is not considered a mechanical barrier. These barriers cannot be modified prior to or during completion or

| 250.1716.(a) To what depth must I remove wellheads and casings? <br> Unless the District Manager approves an alternate depth under paragraph (b) of this section, you must remove all wellheads and casings to at least 15 feet below the mud line. | N/A |  |
| :---: | :---: | :---: |
| Plug (3) <br> BSEE: 250.1715(a)(8) A well with casing: A cement surface plug at least 150 feet long set in the smallest casing that extends to the mud line with the top of the plug no more than 150 feet below the mudline. | 7.5/8" Wellbore | Allow for sufficient WOC, tag up with agreed upon weight. Pressure test. <br> cement jobs must be designed to abide by regulation 250.420.c.(1) and (2) |



| $K$ S Sand Top Peef | 14156 | 7570 |
| :--- | :--- | :--- |
| $K$ Sand Base Perf | 14209 | 7599 |

Squeeze cement through $K$ Sand Perfortions
|Allow for sufficient Woc time. Pressure test.

| Sump Packer | 14214 |
| :--- | :--- |


| PBT//TOF | 14272 |  |
| :--- | :--- | :--- |
| $7.5 / 8$ " 5 shoe/TD | 14370 | 7689 |

```
A-20 PRA Scenario opt
Installutung plus in X Nipple @ 14,106 tt, ~15 ft below production packer @ 14091
*)
Assumptions: See embedded Notes
```

Shis opment: BSSE Leak Path Addressed

 barriers cannot be bodifified prior to to or durining mempleteition or
abandonment operations.


| K Sand Top Peff | 14156 |  |
| :--- | :--- | :--- |
| KSand Base Perf |  | 14570 |



| Sump Packer | 1424 |
| :--- | :--- |


| P8TV/TOF | 14272 |  |
| :--- | :--- | :--- |
| $7.5 / 8^{85}$ shoe/TD | 14370 | 7689 |


|  | ret toeafo | eight. Pressure test All cement jobs must be designed to abide by regulation 250.420.c.(1) and (2) |
| :---: | :---: | :---: |
|  | $10-3 / 4^{\prime \prime} \times 16^{\prime \prime}$ annulus ( C annulus) <br> and <br> $7-5 / 8^{\prime \prime} \times 10-3 / 4^{\prime \prime}$ (B annulus) | weight. Pressure test <br> All cement jobs must be designed to abide by regulation 250.420.c.(1) and (2) |



| Pug (1) <br> Land tubing plug in X landing nipple, 15 ft below | Sand pefts thu $2.7 / 8^{2}$ tubing | Allow for suticient woct time. Pressur test. |
| :---: | :---: | :---: |



| ToC (annulus) | 607 |
| :--- | ---: |
| $16{ }^{16}$ shoe | 1632 |


|  |  |
| :--- | :--- |
| ToC (annulus) | 4565 |
| $10.3 / 4{ }^{2}$ shoe | 5065 |

ToC (annulus) 113556

| Top of tubing | 14091 |
| :--- | ---: |
| Production packer | 14091 |


| Tuting Plug | 14106 |
| :--- | :--- |
| XNNiple | 14106 |

i i
Retrieve Hydrow packer.
Retrieve Hydrow packer.
*
*
Assumptions: See embedded Note
Assumptions: See embedded Note


Requirement: BSSE
Leak Path Addressed

## Testing/Verification Requirements



| Plug (3) <br> Ste: 250.175(a)(8) A well with casing Cesinent surface plug at least 150 f eet tong set in the smallest more than 150 feet below the mudline | ore to seafloor | Allow for sufficient WOC, tag up with agreed upon weight. <br> All cement jobs must be designed to abide by regulation 250.420.c.(1) and (2 |
| :---: | :---: | :---: |
|  | $10-3 / 44^{4} \times 16^{4}$ annulus and $\times 10-3 / 44^{4}$ annuus | Allow for sufficient WOC, tag up with agreed upon weight. <br> All cement jobs must be designed to abide by regulation 250.420.c.(1) and (2) |
| Possibie Att. Compliance - set plug deeper, may leave excessive cement in BOP stack |  |  |

PLUG 3 IS A COMBINATION BARRIER FOR:
250.1715.a.(8) A well with casing:
AND
250.0715.a (4) A casing stub where the stub end is within the
casing
AND
250.1715.a(7) A subsea well with unsealed annulus




мо
TvD
$!\quad!\quad!\quad 1 \quad 1$

| Sump Packer | 8630 |
| :--- | :--- |



Requirement: BSSE
Leak Path Addressed
Testing/Verification Requirements
This option does not address 250.420. .b3)...For the final casing string (or liner ifit is your final string), you must install one mechanical barrier in addition to cement to prevent flow in the event of a failure in the cement. A dual float valve, by itself, is not considered a mechanical barrier. Thes barriers cannot be modified prior to or during completion or

Unless the District Managera caproves an antermate dep under parargaph (b) of this section, vou must temove all
wellheads and casings to to teast 15 feet below the mud
wellheads and casings to to lea. line.

| BSEE: 250.1715(a)(8) A well with casing: A cement surface plug at least 150 feet long set in the smallest casing that extends to the mud line with the to of the plug no more than 150 feet below the mudline. | e to seaf | Allow for sufficient woc, tag up with agreed upon weight. Pressure test. All cement jobs must be designed to abide by egulation 250.420.c. (1) and (2) |
| :---: | :---: | :---: |
| Plug (3) |  |  |
| Cut and pul $177^{\prime \prime}$ 10-3/4" |  |  |
| BEEE: $50.1775(2)(4)$ A A casing stub where the stub end is within the casing | 10.3/4" $\times 16^{\prime \prime} \mathrm{annulus}$ (Cannulus) | Allow for sufficient WOC, tag up with agreed upon weight. Pressure test. |
| (ii) A cement plug at least 200 feet long with the bottom |  |  |
|  |  |  |


| Pug (2) <br> Perforate 7" casing, squeeze cement to $B$ annulus BSEE: 250.1715(a)(6) An annular space that communicates with open hole and extends to the mudline: A cement plug at least 200 ft long set in the annular space. | $7{ }^{\prime \prime} \times 10.3 / 44^{\text {a annulus (B annuss) }}$ | Alow for sufficient woc time. |
| :---: | :---: | :---: |



## A-22 P\&A Scenario Optio <br> Pull entire Completion

~ 995 ft MD (Quantum packer) Tubing can be unstung with upward force Cut and pull tubing and sere packer @ 9495 ft MD.
Cut and puil tubing and
Drill out sump packer
Assumptions: See embedded Notes
$!$
I



```
250.17.5.a.(())A wellwith casing:
AND
250.1715: (4) A casing stub where the stub end is within
the casi!
AND (250.1715.a(7) A subsea well with unsealed annulus
```



mD
TvD

| ToC (annulus) | 9122 |
| :--- | :--- |


| ISand Top Perf | 9622 | 7462 |
| :--- | :--- | :--- |
| Sand Base Perf | 9638 | 7473 |


| Sump Packer | 9644 |
| :--- | :--- |



| Requ | Leak Path Addressed | Testing/Verification Requirements |
| :---: | :---: | :---: |
| This option does not consider 10-3/4" $\times 16$ " pos <br> This option does not address 250.420.b(3)...For liner if it is your final string), you must install on addition to cement to prevent flow in the event A dual float valve, by itself, is not considered a m barriers cannot be modified prior to or during co | sible leak path. <br> the final casing string (or e mechanical barrier in of a failure in the cement mechanical barrier. These ompletion or |  |
| 250.1716.(a) To what depth must I remove wellheads and casings? <br> Unless the District Manager approves an alternate depth under paragraph (b) of this section, you must remove all weliheads and casings to at least 15 feet below the mud line. | N/A |  |
|  | $7^{7}$ Wellbore | Allow for sufficient woC, tag up with agreed upon weight. Pressure test. All cement jobs must be designed to abide by regulation 250.420.c. (1) and (2) |




| Requirement: BSEE Leak Path Addressed |  | Testing/Verification Requirements |
| :---: | :---: | :---: |
|  | the final casing string (or e mechanical barrier in of a failure in the cement. mechanical barrier. These ompletion or |  |
| $30^{11} \times 16^{\prime \prime} \times 10-3 / 4^{\prime \prime} \times 7^{\prime \prime}$ Sever <br> 250-1716.(a) To what depth must I remove wellheads and casings? <br> Unless the District Manager approves an alternate depth under paragraph (b) of this section, you must remove all wellheads and casings to at least 15 feet below the mud line. line. |  |  |
| Plug (3) BSEE: 25 <br> BSEE: $\mathbf{2 5 0 . 1 7 1 5 ( a ) ( 8 )}$ A well with casing: A cement surface plug at least 150 feet long set in the smallest casing that extends to the mud line with the top of the plug no more than 150 feet below the mud | 7 Wellbore | Allow for sufficient WOC, tag up with agreed upon weight. Pressure test <br> All cement jobs must be designed to abide by regulation 250.420.c.(1) and (2) |
|  | $10-3 / 4^{\prime \prime} \times 16^{\prime \prime}$ annulus ( C annulus) <br> 7" $\times 10-3 / 4$ " annulus (B annulus) | Allow for sufficient WOC, tag up with agreed upon weight. Pressure test. All cement jobs must be designed to abide by regulation 250.420.c.(1) and (2) |



| TOC (annulus) | 9122 |
| :--- | :--- |



| Top of screen | 9614 |
| :--- | :--- |



|  |  |  |
| :--- | :--- | :--- |
| Sand Top Perf | 9622 | 7462 |
| Sand Base Perf | 9638 | 7473 |



| Sump Packer | 9664 |
| :--- | :--- |


| PBTD/TOF | 9708 |  |
| :--- | :--- | :--- |
| 7 Thoe/TD | 9790 | 7582 |

MD TVD
*all entire completion above M-1 and N-1 peris
*all entire completion above M-1 and N-1 peris
Mutan
Mutan
Ma|ls' gauge screen.
Ma|ls' gauge screen.
dril out sump packe
dril out sump packe
Retrieve Quantum packer @ 10375 ft MD.
Retrieve Quantum packer @ 10375 ft MD.
D,
D,
Assumptions:Seeembedded Notes
Assumptions:Seeembedded Notes

mD TVD

| $30 " x 16^{\prime \prime} x 10-3 / 4^{\prime \prime} x 7-5 / 8^{\prime \prime}$ Sever 250.1716.(a) To what depth must I remove wellheads and casings? <br> Unless the District Manager approves an alternate depth under paragraph (b) of this section, you must remove all wineads and casings to at least 15 feet below the mud line. |  |
| :---: | :---: |
|  |  |
|  |  |
|  |  |
|  |  |


| Plug (4) <br> (a)(8) A well with casing <br> A cement surface plug at least 150 feet long set in the smallest casing that extends to the mud line with the top o the plug no more than 150 feet below the mudline. | wellbore to seallo | Allow for sufficient WOC, tag up with agreed upon weight. <br> All cement jobs must be designed to abide by regulation 250.420.c.(1) and (2) |
| :---: | :---: | :---: |

Plug (4) pull 7 \& $10 \cdot 3 / 4^{\prime \prime}$
BSEE: $250.1715(2) / 4)$ A ca
BSEE: 250.1715(a)|4) A casing stub where the stub end is




```
PLUG 4 IS A COMBINATION BARRIER FO
250.1715.a.(8) A well with casing
250.1715.a (4) A casing stub where the stub end is within the
casing
250.1715.a(7) A subsea well with unsealed annulus
```



| Plug (2) <br> BSEE: 250.1715(a)(3) A perforated zone that is currently open and not previously squeezed or isolated (iii) If perforated zones are isolated from the hole below, you may use plugs specified <br> (B) A bridge plug set 50 to 100 ft aove the top of the perforated interval and at least 50 feet of cement on top of | solation of perforations | Allow for sufficient WOC, tag up with agreed upon weight. Pressure test. <br> All cement jobs must be designed to abide by regulation 250.420.c.(1) and (2) |
| :---: | :---: | :---: |
|  | Possibl failure of wellbore cement below float collar | Test as per bridge plug service company |

MC 20 Well A 023 Option 2



MD TVD



| TOC (annulus) | 3683 |
| :--- | :--- |


| TOC (annulus) | 7650 |
| :--- | :--- |




| Plug (3) <br> BSEE: 250.1715(a)(8) A well with casing: <br> A cement surface plug at least 150 feet long set in the <br> smallest casing that extends to the mud line with the top of <br> the plug no more than 150 feet below the mudline. | wellbore to seaflor | Alow for sufficient woc, tag up with agreed upon weight. <br> All cement jobs must be designed to abide by regulation 250.420.c.(1) and (2) |
| :---: | :---: | :---: |
| Plug (3) <br> Cut and pull 7" \& 10-3/4" <br> BSEE: 250.1715(a)(4) A casing stub where the stub end is within the casing <br> (iii) A cement plug at least 200 feet long with the bottom of the plug set no more than 100 feet above the stub end. | ${ }^{10-3 / 4^{\prime \prime} \times 16^{\prime \prime} \text { " }(C) \text { annulus }}$ | Allow for sufficient woc, tag up with agreed upon weight. Pressure test. All cement jobs must be designed to abide by regulation 250.420.c.(1) and (2) |

```
plug 3 IS A COMBINATION BARRIER FOR
250.1715.a.(8) A well with casing
AND
.a.lo.1715.a (4) A casing stub where the stub end is within
the casing
250.1715.a(7) A subsea well with unsealed annulus
```



| Plug (1) |
| :--- | :--- |
| BSEE: 250.420.b |

BSEE: 250.42.b.(3)
For the final casing string (or liner ifit is your final string)
… ou unt instal one mechanical barie stis your final
ement to prevent flow in the event of fa failicre in the
ement. A dual float vave, byi itseff is not consided
ement. Adual float valve, by itself. is not considered a
nechanical barier. These barriers cannot be modifie
mechanical barier. These barriers cannot be moditied
prior to or during completion or abandonment operations

```
Squeeze 1-sand perfs.
```

Install tubing plug in $\times$ landing nipple @ 8032 ft MD just above Comp-set II HP production
Cut and pull tubing above Comp-set II HP packer @ $\sim 7589 \mathrm{ft}$ MD
Retreive Comp-set II HP packer and pull tubing attached
Assumptions: See embedded Notes

| TOC (annulus) |
| :--- |
| 7 |

Requirement: BSSE Leak Path Addressed
This option does not consider 10-3/4" $\times 16^{\prime \prime}$ possible leak path.

This option does not address 250.420.b(3)...For the final casing string (or liner if it is your final string), you must install one mechanical barrier in addition to cement to prevent flow in the event of a failure in the cemen. A dual float valve, by itself, is not considered a mechanical barrier. These barriers cannot be modified prior to or during completion or

| 250.1716.(a) To what depth must I remove wellheads and casings? <br> Unless the District Manager approves an alternate depth under paragraph (b) of this section, you must remove all wellheads and casings to at least 15 feet below the mud line. | N/A |  |
| :---: | :---: | :---: |
| Plug (3) <br> BSEE: 250.1715(a)(8) A well with casing: A cement surface plug at least 150 feet long set in the smallest casing that extends to the mud line with the top of the plug no more than 150 feet below the mudline | $7{ }^{\text {" Wellb }}$ | Allow for sufficient woc, tag up with agreed upon weight. Pressure test. <br> All cement jobs must be designed to abide by regulation 250.420.c.(1) and (2) |


| Plug (2) <br> Pefforate 7 " casing, squeeze cement to $B$ annulus Sti: 250.1715(a)\|(6) An annular space that communicates with open hole and eliend to the mudline: | $7{ }^{\text {7" } \times 10-3 / 4 " ~ a n n u l u s ~(B ~ a n n u l u s) ~}$ | Allow for sufficient woc |
| :---: | :---: | :---: |


| Plug (1) <br> Land tubing plug in $\times$ landing nipple, just above production packer. 113 'ft above 8 " gauge screen | 1 -sand perfs through 2-7/8" twing | Allow for sufficient Woct time. Pressur |
| :---: | :---: | :---: |


| 1 Sand Top Perf | 8150 | 6278 |
| :--- | :--- | :--- |
| 1 Sand Base Perf | 8232 | 6339 |


| Squeeze cement through Sand Perforations | Isolation of Sand Perfs | Allow for sufficient WOC time. Pressure test. |
| :--- | :--- | :--- |


| Comp.Perm II packer | 8240 |
| :--- | :--- |



MD TVD
м tvD

```
Squezei I-snang peris.
Cut and pull tubing above Comp-set||HP packer @ ~ 7589 ft MD
Retreive Comp-set II HP packer and pull tubing attached
Assumptions: See embedded Notes
```

$$
i \quad i \quad i \quad 1 \quad 11
$$

i
」

Plug 1

| TOC (annulus) | 7650 |
| :--- | :--- |


| Tubing Plug | 8032 |
| :--- | :--- |
| Prodution packer | 8033 |
|  |  |

Requirement: BSSE
This option does not address $250.420 .6(3)$...For the final casing string (or Ineer ifit is your final string), you must install one mechanical barrier in addition to cement top prevent flow in the event of a failure in the cement.
A dual float valve, by itself, is not considered a mechanical barrier. These

| 30 " $\times 16^{16 \times 10-3 / 4 " x 7 " ~ S e v e r ~}$ and casings? <br> Unless the District Manager approves an alternate depth under paragraph (b) of this section, you must remove all wellheads and casings to at least 15 feet below the mud line. |  |  |
| :---: | :---: | :---: |
| Plug (3) <br> BSEE: 250.1715(a)(8) A well with casing <br> surface plug at least 150 feet long set in the smallest casing that extends to the mud line with the top of the plug no more than 150 feet below the mudline. | 7 " Wellbore | Allow for sufficient WOC, tag up with agreed upon weight. Pressure test. All cement jobs must be designed to abide by regulation 250.420.c.(1) and (2) |
| Plug (3) <br> Cut and pull $7^{\prime \prime}$ \& 10-3/4" <br> BSEE: 250.1715(a)(4) A casing stub where the stub end is within the casing <br> (iii) A cement plug at least 200 feet long with the bottom of the plug set no more than 100 feet above the stub end. | $10.3 / 44^{4} \times 16^{2}$ annulus (C annulus) and 7 " $\times 10-3 / 4$ " annulus ( $B$ annulus) | Allow for sufficient WOC, tag up with agreed upon weight. Pressure test. All cement jobs must be designed to abide by regulation 250.420.c.(1) and (2) |


| Plug (2) <br> Perforate 7 " casing, squeeze cement to $B$ annulus BSEE: 250.1715(a)(6) An annular space that nicates with open hole and extends to the mudline: $\qquad$ |  | Allow for sufficient woc |
| :---: | :---: | :---: |


| Top of screen | 8145 |
| :--- | :--- |


| Pug (1) <br> Land tubing plug in X landing nipple, just above production packer. $113^{\prime} \mathrm{ft}$ above $8^{\prime \prime}$ gauge screen | I-sand perfs through 2-7/8" tubing | Allow for sufficient WOC time. Pressure test. |
| :---: | :---: | :---: | | Sand Top Perf | 8150 | 6278 |
| :--- | :--- | :--- |
| S Sand Base Perf | 8232 | 6339 |



Comp-Perm II packer_ 8240


```
A-25 P&A Scenario option 1:
Retrieve Quantum Packer.
Cut tubing above sump packer @ 11708 ft MD.
Drill out sump packer if necessary.
Assumptions: See embedded Notes
```




| Plug (3) <br> BSEE: 250.1715(a)(8) A well with casing: <br> A cement surface plug at least 150 feet long set in the smallest casing that extends to the mud line with the top of the plug no more than 150 feet below the mudline. | wellore to seafloor | Allow for sufficient woc, tag up with agreed upon weight. <br> All cement jobs must be designed to abide by regulation 250.420.c.(1) and (2) |
| :---: | :---: | :---: |
| Plug (3) <br> Cut and pull 7" \& 10-3/4" <br> BSEE: 250.1715(a)(4) A casing stub where the stub end is within the casing <br> (iii) A cement plug at least 200 feet long with the bottom of the plug set no more than 100 feet above the stub end. | $10-3 / 4^{4} \times 16^{" ~}$ (C) annulus $7 " \times 10-3 / 4$ " (B)annulus | Allow for sufficient woc, tag up with agreed upon weight. Pressure test. All cement jobs must be designed to abide by reguation 250.420.c.(1) and (2) |

```
LUG 3 IS A COMBINATION BARRIER FOR:
1715a (8) A well with casing
AND (1715.a (4) A casing stub where the stub end is withir
the casing
250.1715.a(7) A subsea well with unsealed annuls
```



MD TVD


```
```

Squeeze L-sand perfs.

```
```

Squeeze L-sand perfs.
Mssall tubing plug in X landing nipple @ 11444 At MD, 40 ft above packe.
Mssall tubing plug in X landing nipple @ 11444 At MD, 40 ft above packe.
Cut and pull tubing @ 100 ff above tubing plu
Cut and pull tubing @ 100 ff above tubing plu
Assumptions: See embedded Notes

```
```

Assumptions: See embedded Notes

```
```




| Sand Top Perf | 11580 | 7598 |
| :--- | :--- | :--- |
| Sand Base eerf | 11702 | 7676 |


| Sump Packer | 11708 |
| :--- | :--- |


| PBTD/TOF | 11755 |
| :--- | :--- |
| $77^{\text {nhoe/TD }}$ | 11845 |



This option does not address $250.420 .6(3)$...For the final casing string (or line if it is sour final strings, $\mathbf{\text { vou unst instal one mechanical barrier in }}$
addition to cement to o prevent flow in the event of a failure in the ement. addition to cement to prevent flow in the event of a failure in the cement.
A dual float valve, by itself, is not considered a mechanical barrier. These Adual float value, by itseff, is not considered a mechanical barrier
barriers cannot be modified prior to or during completion or
barriers cannot be modififed
abandonment operations.

| 30 " $\times 16^{\text {" }} \times 10-3 / 4^{1 " x 7 " ~ S e v e r ~}$ 250.1716.(a) To what depth must I remove wellheads and casings? <br> Unless the District Manager approves an alternate depth under paragraph (b) of this section, you must remove all line. |  |  |
| :---: | :---: | :---: |
| Plug (3) <br> ASE.250.1715(a)(8) A well with casing. face plug at least 150 feet long set in the the plug nosing that extends to the mud line with the the plug no more than 150 feet below the mudline. | $7{ }^{\text {" Wellbore }}$ | Allow for sufficient WOC, tag up with agreed upon weight. Pressure test <br> All cement jobs must be designed to abide by regulation 250.420.c.(1) and (2) |
| Plug (3) <br> Cut and pull $7^{\prime \prime} \& 10-3 / 4^{\prime \prime}$ <br> BSEE: 250.1715(a)(4) A casing stub where the stub end is <br> within the casing <br> (iii) A cement plug at least 200 feet long with the bottom o <br> the plug set no more than 100 feet above the stub end. | $10-3 / 4^{\prime \prime} \times 16^{\prime \prime}$ annulus ( C annulus) and $7^{\prime \prime} \times 10-3 / 4^{\prime \prime}$ annulus ( B annulus) | Allow for sufficient WOC, tag up with agreed upon weight. Pressure test. <br> All cement jobs must be designed to abide by regulation 250.420.c.(1) and (2) |


| Pug (2) <br> Perforate 7 " casing, squeeze cement to 8 anulus BSEE: 250.1715(a)(6) An annular space that communicates with open hole and extends to the mudine: mudline: | $7{ }^{\prime \prime} \times 10.3 / 44^{\text {a annulus ( }}$ ( a anulus) | Allow for sufficient woc |
| :---: | :---: | :---: |



$i \quad i \mathrm{i} i \mathrm{\mid} \mid 1$


Plug 2


| PBTD/TOF | 12383 |  |
| :--- | :--- | :--- | :--- |
| $7{ }^{7}$ shoe/TD | 12494 | 8589 |



```
PLUG 4IS A COMBINATION BARRIER FOR.
250.175.a.(o)
AND
the casing
AND
AND 
```



| Pug (2) <br> BSEE: 250.1715(a)(3) A perforated zone that is currently open and not previously squeezed or isolated (iii) If perforated zones are isolated from the hole below, you may use plugs specified <br> (B) A bridge plug set 50 to 100 ft aove the top of the perforated interval and at least 50 feet of cement on top of the bridge plug | on of perfor | Allow for sufficient wOC, tag up with agreed upon weight. Pressure test. <br> All cement jobs must be designed to abide by regulation 250.420.c.(1) and (2) |
| :---: | :---: | :---: |
| Plug (1) <br> BSEE: 250.420.b.(3) <br> ...For the final casing string (or liner if it is your fina string), you must install one mechanical barrier in addition to cement to prevent flow in the event of a failure in the cement. A dual float valve, by itself, is not considered a mechanical barrier. These barriers cannot be modified prior to or during completion or abandonment operation | Possibl faliure of wellore cement below float collar | Test as per bridge plug service company recommendations |

MD TVD

```
A-26 P&A Scenario option 2:
As built indicates there is no completion across M-1 sand peris.
EOT is @~ 11970 ft MD.
Sut 2-7/8"tubing above Hydrow 1 Packer @11950ft MD.
Pull tubing
Retreive Hydrow 1 packeI.
Assumptions: See embedded Notes
```



Requirement: BSSE
Leak Path Addressed
Testing/Verification Requirements
This option does not address 250.420.b(3)...For the final casing string (or
This option does not address 250.420 .6 (3)...For the final casing string (or
liner if it is your final string), you must install one mechanical barrier in
liner if it is your final string, you must install one mechanical barrier in
addition to cement to prevent flow in the event of a failure in the cement. A dual float valve, by itself, is not considered a mechanical barrier. These barriers cannot be modified prior to or during completion or


| Plug (2) <br> BSEE: 250.1715(a)(8) A well with casing: <br> A cement surface plug at least 150 feet long set in the smallest casing that extends to the mud line with the top of the plug no more than 150 feet below the mudline. | N/A |  |
| :---: | :---: | :---: |
| Plug (2) <br> Cut and pull $7-5 / 8^{" ~ \& ~ 10-3 / 4 " ~}$ <br> BSEE: 250.1715(a)(4) A casing stub where the stub end is within the casing <br> (iii) A cement plug at least 200 feet long with the bottom of the plug set no more than 100 feet above the stub end. | $10-3 / 4^{4} \times 16^{\prime \prime}$ (C) annulus $7 \times 10-3 / 4^{\prime \prime}(B)$ annulus | Allow for sufficient Woc, tag up with agreed upon weight. Pressure test. <br> All cement jobs must be designed to abide by regulation 250.420.c.(1) and (2) |

```
PLUG 2IS A COMBINATION BARRIER FOR
250.1715.a.(8)A A well with casing
AND
250.1715.a (4) A casing stub where the stub end is within
the casin
250.1715.a(7) A subsea well with unsealed annulus
```



| Cement above | 12160 |
| :--- | ---: |
| Bridge plug | 12180 |
| $N$ Sand Top 12194 <br> $N$ Sand Base 12278 |  |



MC 20 Well A 027 Option 1

A-27 P\&A:

The A-27 well was not abandoned as per all BSEE regulations. See below.
The well was drilled to a TD of 13170 ft MD/9021 ft TVD and 7" production
casing was never set.

| Requirement: BSSE | Addressed via: | Notes: |
| :---: | :---: | :---: |
| 250.1715 How must I permanently plug a well? <br> (a)(2) Open hole below casing: You must... <br> (iii) A bridge plug set 50 feet to 100 feet above the shoe with 50 feet of cement on top of the bridge plug, for expected or known lost circulation conditions | Cement retainer set in 10-3/4" casing @ <br> 4317 ft MD <br> ~93ft of cement pumped on top of bridge plug <br> (see schematic for additional 4 balanced cement plugs set below the retainer) |  |
| (8) A well with casing: You must... <br> A cement surface plug at least 150 feet long set in the smallest casing that extends to the mud line with the top of the plug no more than 150 feet below the mud line. | 150 ft balanced cement plug pumped in 10 3/4" casing (smallest casing string) @ ~118 ft to 268 ft BML |  |
| 250.1716.a. (a) Unless the District Manager approves an alternate depth under paragraph (b) of this section, you must remove all wellheads and casings to at least 15 feet below the mud line. | This requirement has not been addressed | *According to A-27 As Built schematic, and operational steps, the casings were not removed. |

MD TVD

A-28 P\&A Scenario option 1:

Retrieve Quantum packer 012000 ft
Retrieve Quantum packer @ 13797 ft MD.
cut tubing above sump packer @ 13948 ft MD .
Assumptions: See embedded Notes


```
|TOC(annulus) 
\begin{tabular}{|l|l}
\hline TOC (annulus) & 5493 \\
\hline
\end{tabular}
```

```
PLUG 3 IS A COMBINATION BARRIER FOR:
```

PLUG 3 IS A COMBINATION BARRIER FOR:
250.1715.a.(8)A A well with casing
250.1715.a.(8)A A well with casing
AND
AND
250.1715.a (4) A casing stub where the stub end is within
250.1715.a (4) A casing stub where the stub end is within
the casing
the casing
250.1715.a(7) A subsea well with unsealed annulus

```
250.1715.a(7) A subsea well with unsealed annulus
```

| $10-3 / 44^{\prime \prime}$ shoe | 5993 |
| :--- | :--- | :--- |


| TOC (annulus) | 13424 |
| :--- | :--- |




MD TVD
мо
Cut and pull tubing above Quantum packer @ 12900 ft M
Cut and pull tubing above Quantum packer @ 12900 ft M
Retrieve Quantum packer.
Retrieve Quantum packer.


| Top of screen | 13918 |
| :--- | :--- |


| -.3 Sand Top Perf | 13924 | 6397 |
| :--- | :--- | :--- |
| -3 Sand Pase ereft | 13043 | 6910 |


| Sump Packer | 13948 |
| :--- | :--- |



Requirement: BSSE
Leak Path Addressed addition to cement to prevent flow in the event of a failure in the cement.
A dual float valve, by itself, is not considered a mechanical barrier. These barriers cannot be modified prior to or during completion or

|  | N/A |  |
| :---: | :---: | :---: |
| Plug (3) <br> (a)(8) A well with casing <br> en plug at least 150 feet long set in the of the plug no more thands to the mud line with the to of the plug no more than 150 feet below the mudline | 7.5/8" Well | Allow for sufficient WOC, tag up with agreed upon weight. Pressure test. <br> All cement jobs must be designed to abide by <br> regulation 250.420.c.(1) and (2) |


| Plug (2) <br> Perforate $7^{\prime \prime}$ casing, squeeze cement to $B$ annulus BSEE: 250.1715(a)(6) An annular space that communicates with open hole and extends to the mudline: <br> A cement plug at least 200 ft long set in the annular | 75/8 | Alow for sufficient woc |
| :---: | :---: | :---: |


| Plug (1) <br> Land tubing plug in $\times$ landing nipple, just tabove <br> production packer. 106' ft above 8 " gauge screen | L-3 sand perfs through 2 2-7/8" tubing | Allow for sufficient woc time. Pressure test. |
| :--- | :--- | :--- | Squeeze cement through $L-3$ Sand Perforations AAlow for sufficient woc time. Pressure test.

```
A-28 P&A Scenario opt,
Install tubing plug in X landing nipple @ 13812 ft MD, 15 ft below pack.
Cut and pull tubing above Quantum packer@ 12900 ft MD.
Retrieve Quantum packe
Assumptions: See embedded Notes
```



| TOC (annulus) | 13424 |
| :--- | ---: |
| $\begin{array}{l}\text { Top of } 2.7 / 8^{\prime \prime} \\ \text { tubing } \sim\end{array}$ 13807 |  |


| Tubing Plug | $\mathbf{1 3 8 1 2}$ |
| :--- | :--- |
| XLanding Nipple | 13812 |


|  |  |
| :--- | :--- |
| Production packer | 13797 |


| Top of screen | 13918 |
| :--- | :--- |


| $L-3$ Sand Top Peerf | 13924 | 6397 |
| :--- | :--- | :--- |


| Sump Packer | 13948 |
| :--- | :--- |



## Requirement: BSSE

Leak Path Addressed
This option does not address 250.420.b(3)...For the final casing string (or line if it it sour final string), you must install one mechanical barrier in
addition to cement to prevent flow in the event of afailure in the cement addition to cement to prevent flow in the event of f failure in hhe cement.
A dual float valve, by itself, is not considered $m$ mechanical barrier. These
A dual float valve, by itself, is not considered a mechanical barrier. These

| 16"x0:3/4 |  |  |
| :---: | :---: | :---: |
| 250.171.(a) 1 To what depth must I remove wellheads and casings? |  |  |
| Unless the District Manager approves an aternate depth |  |  |
| under pargraph (b) of this section, vou must remove all |  |  |
|  |  |  |


|  | 7.5/8" Wellore | Allow for sufficient WOC, tag up with agreed upon weight. Pressure test. <br> All cement jobs must be designed to abide by <br> regulation 250.420.c.(1) and (2) |
| :---: | :---: | :---: |
|  |  |  |
|  |  |  |
|  |  |  |
| (iii) A cement plug a t least 200 feet long with the bottom |  | Liobs must be esesinned to abi |
| Of the plus set no more than 100 feet above the stub |  | egulation 250.420.c(1) and (2) |



$\qquad$


[^0]:    PLUG 1 IS A COMBINATION BARRIER FOF.
    250.1715.a.(2) Open hole below casing
    250.420.b.(3) Final casing string with mechanical anc

