

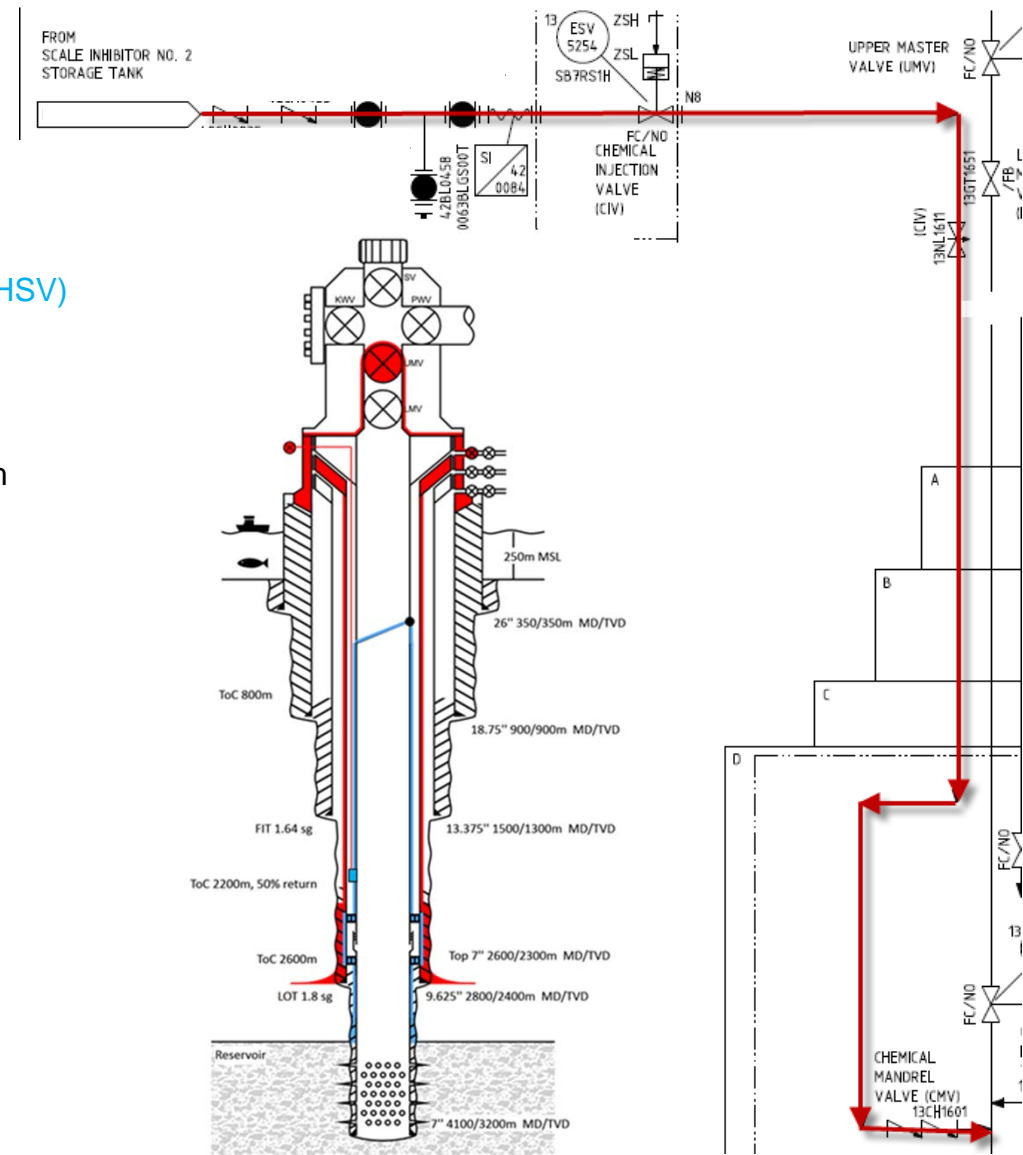
Generic case: Chemical injection system

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Lead Well Integrity Eng.

Chemical injection system

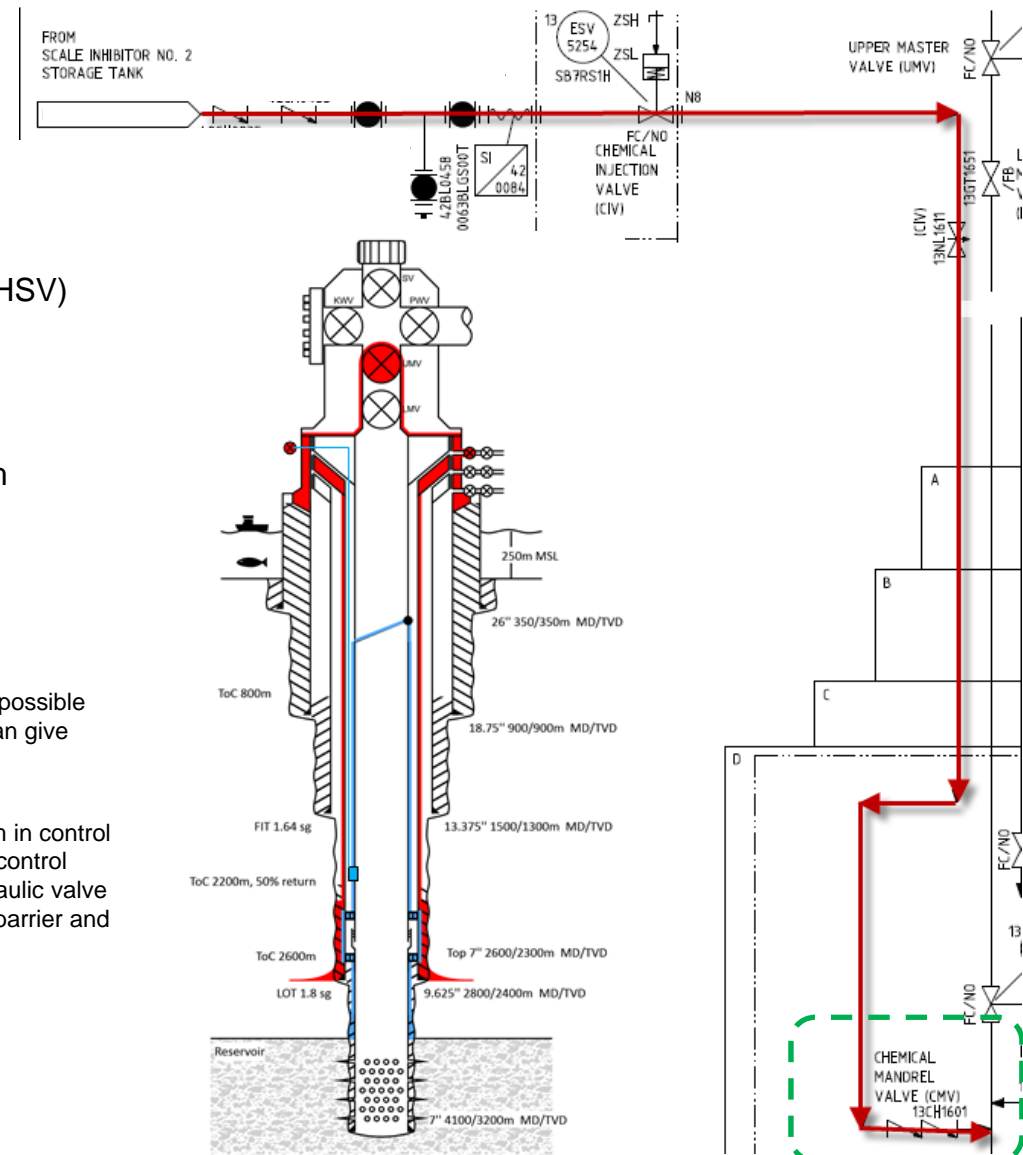
- Oil producers fixed platform
- Chemical injection system build up:
 - Down hole U-tube valve/ check valves (below DHSV)
 - Control line to WH/ Exit block
 - Manual valve on WH/Exit block
 - Hydraulic valve on WH
 - Surface line with check valves in process system

What if?



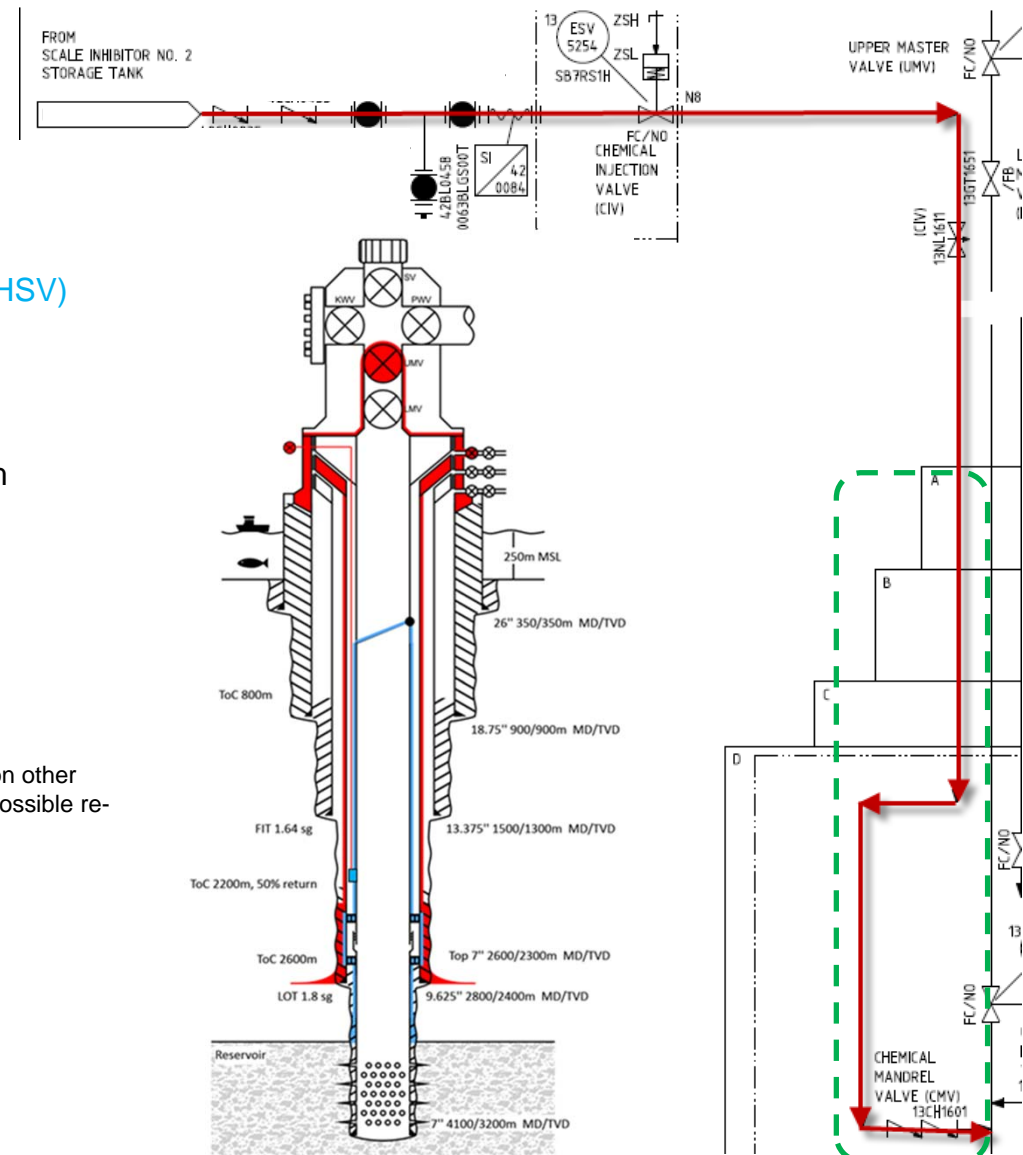
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- What if
 - Downhole U-tube /check valve leaking?
 - Short term (close in or continue producing)
 - Most likely continue producing but be aware of possible vacuum in control line when shut in. Vacuum can give corrosive situation!
 - Long term (fix or not fix with deviation)
 - Continue producing with deviation if not vacuum in control line when shut in give high risk of corrosion on control line. Risk evaluate weak design in case of hydraulic valve start leaking – require intervention to establish barrier and exposure to control line outside WH/XT.



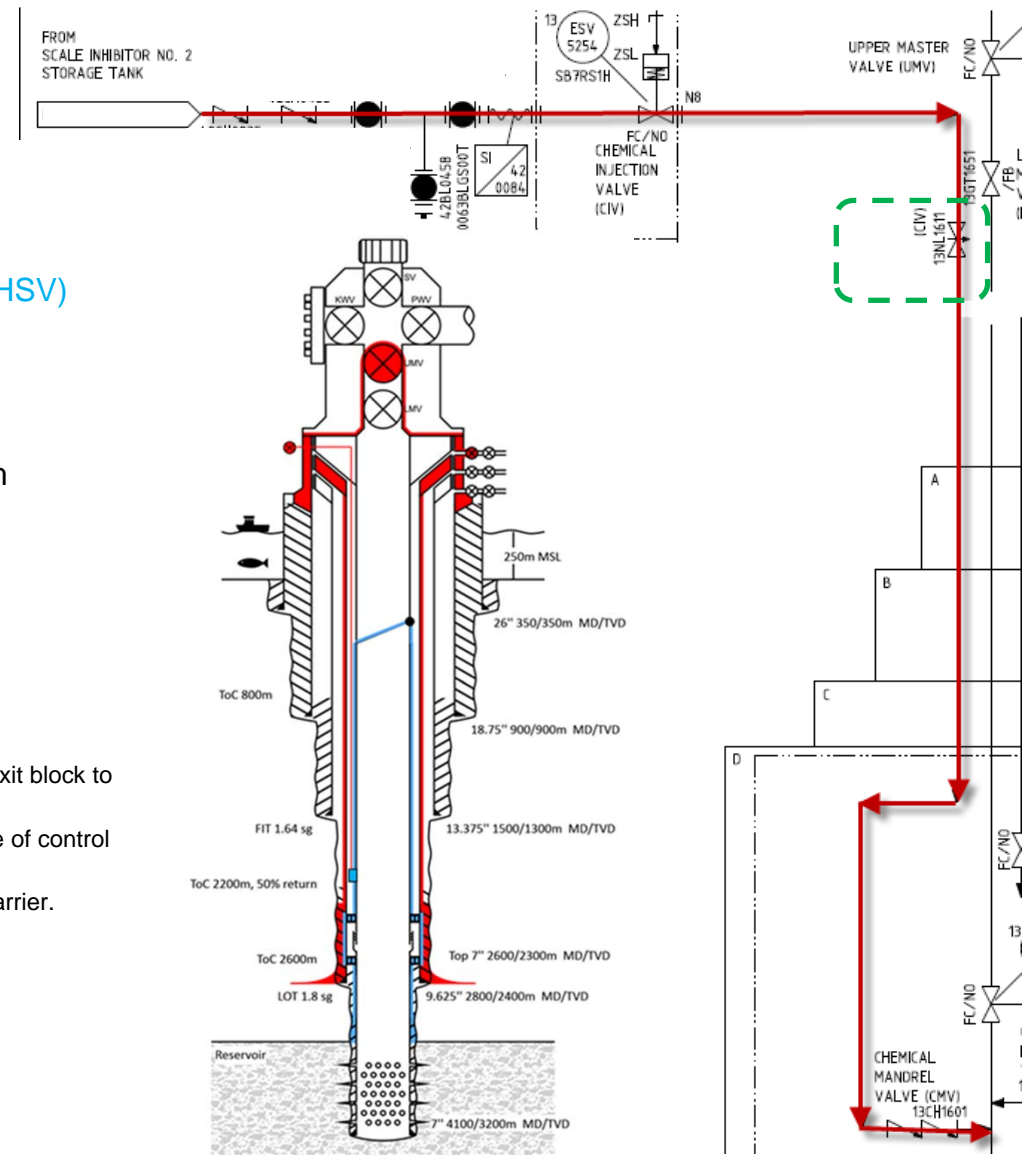
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 - Down hole U-tube valve/ check valves (below DHSV)
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- What if
 - Control line in A-annulus leaking?
 - Short term (close in or continue producing)
 - Shut in chemical injection.
 - Long term (fix or not fix with deviation)
 - Shut in chemical injection, risk evaluate effect on other well barriers do to lack of chemical injection – possible re-completion.



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 - Surface line with check valves in process system
- What if
 - Manual valve on WH/Exit block leaking?
 - Short term (close in or continue producing)
 - Continue chemical injection.
 - Long term (fix or not fix with deviation)
 - Continue and evaluate if manual valve in WH/Exit block to be changed out. Ask you self; what if!
 - » Hydraulic valve start leaking, exposure of control line outside WH/XT.
 - » Change manual valve with only one barrier.
 - » Down hole check calves start leaking.



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 - Surface line with check valves in process system
- What if
 - Hydraulic valve on WH leaking?
 - Short term (close in or continue producing)
 - Continue chemical injection, start plan for changing out hydraulic valve
 - Long term (fix or not fix with deviation)
 - Continue ch. Injection with deviation and a plan for changing out hydraulic valve.

