

Dickinson #2 Remedial Cement Plan

Citation Oil and Gas Corp. would like to perforated the O sand unitized interval for water injection. The well is currently actively injecting in the J sand interval.

A review of all well that are within one quarter mile of the Dickinson #2 salt water injection well has been completed. There are seven wells that exist within the area of review. Of these seven wells three well are currently have good wellbore integrity and are in production. These wells are the Dickinson #1(05-075-06625), Dickinson #6(05-075-09342) & Dubois #5(05-075-09326). One active injection well exist within the one quarter mile area of review, the Arco-Sindt 6-15(05-075-09115). The Arco-Sindt 6-15 is currently injecting into the J sand and is of good wellbore integrity. There are also three plugged well that are within the one quarter mile area of review. The W.E. Dickinson #5(05-075-08620), Dubois #1(05-075-06607) and Sindt #3(05-075-40001). The three plugged wells are the focus of this remedial cement plan evaluation and there plugging procedure outline are as follows.

Dickinson #5 (05-075-08620) was drilled and abandoned in November of 1976. The well was drilled to a total depth of 5,139' to access the O sand. The well was determined to be dry after TD was reached and production casing was never set. A 35 sack cement plug is placed across the J sand, isolating the J sand from the O sand and isolating both sands from the shallow water aquifers and the surface. Another 20 sack cement plug is placed across the surface casing shoe set at 330', the plug is from 360' to 300'. There is also a 10 sack surface plug set.

Dubois #1(05-075-06607) was abandoned in october 2003. The well was drilled to a depth of 5,070'. 5 ½" production casing was set at a depth of 5,069' and cemented in place with 300 sacks of cement with the top of cement calculated at 3,823'and perforated in the O sand from 5,000'-5,008'. When the well was being abandoned a 2 ¾" workstring was not able to get below a depth of 2,900' while attempting to set a CIBP above the perfs. Permission was granted from the State to disregard setting the CIBP above the perfs and allowed for 30 sack cement plug to be set from 2,800' to 2,560'. Another 40 sack cement plug is set from 700' to 620' along with a 40 sack cement plug set from 300' to 220' across the surface casing shoe at 269' and finally a 10 sack surface plug. The four cement plugs set in this well effectively isolate the oil production and water injection zones form the shallow water aquifers and the surface.

Sindt #3(05-075-40001) was abandoned in February of 1996. The well was drilled to a depth of 5,090'. 5 ½" production casing was set at a depth of 5,088' and cemented in place with 125 sacks of cement with the top of cement calculated at 4,200', the well was perforated in the O sand from 4,997'-5,002'. A CIBP is set 4,852' with two sacks of cement set on top. A 40 sack plug is set from 750' to 650'. Another 40 sack cement plug is set at 195' to 75', this plug is set across the surface casing shoe which is set at 135', There is also a ten sack surface plug set in this well. During the abandonment process 1,500' of 5 ½" casing was pulled out and salvaged from this well. The CIBP in this well along with the three cement plugs isolate the O sand and other oil bearing formation from the shallow freshwater aquifers and the surface.

After a review of all well that are located within one quarter mile of the Dickinson #2, Citation Oil & Gas Corp. has determined that no remedial action is required on any of these wells. All well located within the area of review or either actively producing oil, injecting water and of sound wellbore integrity or the well have been abandoned in a way the effectively isolates the O sand from shallow water aquifers.