

Patch

How the oilpatch works

WORKS

Casing and Cementing a Well

November 2012

As the last few editions of *PatchWorks* have explained, there are many steps in the lifecycle of a well which includes moving a rig onto a well site and drilling a well. A critical step involved in completing a well includes casing and cementing. So what is casing and cementing? And what does it do?

After a well has been drilled and it has been determined that it will produce oil or gas, the well will be cased. Casing or setting pipe is inserting pipe into a well and setting it into place permanently with cement. Casing itself is large diameter pipe and there are several different types used in the completion of every well.

Casing tubes are fabricated in sections that are usually about 40 feet long and screwed together to form longer lengths of casing called casing strings. Casing is inserted into the well from the rig floor and is in place or "landed" when the weight of the casing string is transferred to casing hangers, which are located at the top of the well and use slips or threads to suspend the casing in the well. (Source: Rigzone)

A type of cement known as cement slurry is then pumped into the well and allowed to harden permanently to fix the casing in place. The wellhead is usually installed on top of the first casing string after it has been cemented in place. (Source: Rigzone)

So why is casing and cementing critical to completing a well? Inserting casing provides stability to the well, protects any fresh water reservoirs from contamination, prevents unstable formations from caving-in, and seals off high pressure zones, which avoids the potential for a blowout.

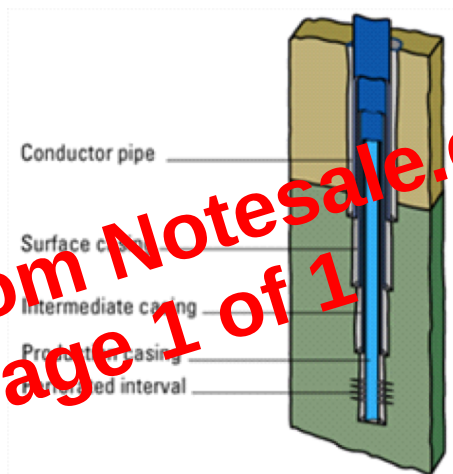
Oil and Gas Well Casings:

Conductor casing - serves as a support during drilling operations and prevents the collapse of the loose soil near the surface.

Surface casing - isolates freshwater zones, so that they are not contaminated during drilling and completion.

Intermediate casing - these casing strings may have higher pressure integrity than the prior casing strings, and are used when formations are expected to have abnormally high pressure. (Source: Schlumberger Oilfield Glossary)

Production casing or Production tubing - the last casing inserted into the well. It is through this pipe that oil and gas can be brought to the surface. Production tubing is designed for efficient and safe installation, as well as removal.



(Source: Schlumberger Oilfield Glossary)

In the WORKS...

PatchWorks explains how the oilpatch works in a series of short, monthly articles.

PatchWorks is part of PSAC's Public Outreach Program, designed to strengthen the partnership between the oil and gas industry and the communities where we operate.

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