

## **Definitions of the 34 Main Codes of the IADC DDR Plus™**

### **1. RIG UP / TEAR DOWN / RIG MOVE**

Rig up is the on-site erection and connection of rig components in preparation for drilling or well servicing operations. Rig up begins when the first rig components have arrived at the wellsite, and ends when the rig is ready to spud the well. "Tear Down" is the act of dismantling a rig at the completion of a well and preparing it for moving to the next location. Tear Down begins when the first portion of the drilling rig is dismantled, and ends when the entire rig when the last rig component has left the wellsite. This section also includes all offshore rig movements and activities around rig movements.

### **2. DRILLING**

Drilling is boring a hole into the earth with the purpose of finding and producing oil, natural gas, or other subsurface resource. Drilling can also be used for drilling out shoe tracks and dressing off cement plugs. Time starts once boring ("making new hole") begins, and time ends when boring ceases.

### **3. REAMING**

Reaming refers to the operations of smoothing the wellbore, enlarging the hole to the desired size, straightening dog legs, or assisting in directional drilling. Reaming begins when the rig begins rotating and circulating for any of the purposes described in the first sentence. Reaming ends when this rotation and circulation cease.

### **4. CORING**

Coring is the extraction from the wellbore of a cylindrical sample for geological analysis. Coring begins when rotation begins for the purpose of capturing a cylindrical sample of rock. Coring ends when the process of capturing the cylindrical sample ceases.

### **5. CIRCULATE & CONDITION MUD**

Conditioning is the process of preparing the drilling fluid ("mud") to modify fluid properties (such as weight, viscosity, etc) for use down hole, circulate means pumping the fluid through the drill pipe. Process begins when additives are blended into the drilling fluid. Process ends when circulation is complete, and pumps shut down.

### **6. TRIPS**

Tripping is the process of lowering or recovering the BHA to or from a desired depth. Operation begins with picking up the BHA on surface or retrieving the BHA from desired depth, and ends when the BHA has reaches the desired depth or is laid down on the surface. Occasionally, special trips are made to partially recover and lower the BHA to a desired depth to ensure the quality of the open hole, including hole cleaning efficiency, identifying tight zones or mud-weight sufficiency.

### **7. SERVICE/MAINTAIN RIG**

Rig Service and maintenance is the process of prolonging equipment life or maintain equipment efficiency. Generally classified as planned maintenance, but can be further sub-

classified into time-based, condition-based and usage-based. Process begins when the equipment is taken off line for remediation, and ends when the equipment is back in service.

#### **8. REPAIR RIG**

Rig repair is a reactive process to correct unknown or unanticipated equipment failure, resulting in operational downtime and impacts critical path. Rig repair begins when the equipment fails, and ends when the equipment is back in service.

#### **9. REPLACING DRILL LINE**

Replacing drill line begins when the drawworks is removed from service for this activity and ends when the drawworks is returned to service. Typically, this activity involves spooling in a new supply line and moving worn line toward the drawworks, where it is either severed or spooled onto a winch.

#### **10. DEVIATION SURVEY**

The deviation survey is the process of measuring borehole trajectory on the critical path.

#### **11. WIRELINE LOGS**

Wireline logging is the process of taking formation measurements or testing well integrity using a tool run into the hole on an electric wire. Process begins when the logging tools are assembled and run into the hole, and ends when the tools are fully retrieved.

#### **12. RUN CASING & CEMENT**

The operation includes all procedures necessary to run casing into the hole, make up the casing pipe, and pump cement around the pipe to secure the casing. Operation begins when casing equipment is rigged up, and ceases when the last of the cement is properly placed in the hole.

#### **13. WAIT ON CEMENT**

Waiting on Cement (WOC) is the time during which drilling or completion operations are suspended so that the cement in a well can harden sufficiently. Begins when cement pumps are shut down, and ends following tests to determine that the cement has hardened sufficiently.

#### **14. RIG UP/DOWN BOP**

This operation refers to dry BOP stacks, i.e., BOPs that are not subsea. Rigging up the BOP is begun when all BOP components are on site, and the crew begins assembling the unit. Rig up ceases when the complete BOP stack is installed and ready for use or testing at the wellsite.

#### **15. TEST BOP**

BOP testing begins when the process of checking the device for functionality begins, and ends after all relevant measurements are made and approved.

**16. DRILL STEM TEST**

The drill stem test begins with picking up temporary packers used to isolate the zone of interest. The test ends when all tools are fully tripped out of the hole.

**17. PLUG BACK**

Plugging back begins when the plug or cement head is run into the hole, and ends when the plugging tools are returned to the surface.

**18. SQUEEZE CEMENT**

Squeeze cementing begins when the process of rigging up squeeze cementing equipment begins, and ends when squeeze cement equipment is rigged down.

**19. FISHING**

Fishing begins when the fishing assembly is rigged up or picked up, and ceases when the fishing assembly has been returned to the surface.

**20. SPECIALIZED DIRECTIONAL WORK**

Specialized directional work begins when the drill bit and assembly begin deviating from the primary wellbore. Directional work ceases when the directional assembly and drill bit have been rigged down. Otherwise, this category is superseded by subcodes within Code 2 "Drilling."

**21. RUN/RETRIEVE RISER EQUIP.**

Running riser begins with the movement of the BOP from the BOP storage area, and ceases when first marine riser joint from the riser storage area to the well center. Retrieving riser equipment ceases when the last riser joint is returned to the riser storage area.

**22. SURFACE TESTING**

Testing of any well related equipment (such as the choke manifold, standpipe manifold, cement manifold, drillstring valves, etc.) that takes place on the critical path (i.e. preventing other well related work from going ahead). Begins with set up of equipment for the test, and ceases when all testing equipment is removed, and the equipment stored or returned to service.

**23. OTHER**

This refers to user-defined operations not covered under other IADC DDR Codes.

**24. NON-PRODUCTIVE TIME**

Non-Productive Time (NPT) is the reported time spent on activities that do not contribute to drilling the well. NPT in the IADC DDR does not refer to equipment repair (Code 8). Specific definitions of NPT are matters of policy by individual companies.

**25. OPERATING STATUS**

These codes become applicable when a rig is not performing well operations, beginning and ending with the change of status.

**26. SAFETY**

Activities to sustain safe operations include safety meetings, training, clean up, standdowns, Job Safety Analyses and drills.

**27. WELL CONTROL**

Well control constitutes remedial and containment actions taken to return the well to a safe state following a loss of hydrostatic control.

**28. COILED TUBING**

Coiled-tubing operations begins when the equipment is run into the hole, and ends when the tubing is fully retrieved.

**29. PERFORATING**

Perforating begins when the perforating gun/assembly are rigged up, and ceases when all tools have been rigged down.

**30. TUBING TRIPS**

Tubing trips begin with the movement of the first length of tubing to the rig floor, and ceases when the last length of tubing is permanently installed in the well. In cases of plug and abandonment, the tubing trip begins with when the pipe begins to be pulled from the well, and ceases upon completion of this process.

**31. TREATING & WELL COMPLETION**

These activities commence once drilling is complete, and casing is set.

**32. SWABBING**

Swabbing begins with the insertion of the tool into the hole, and ceases when the last tool is returned to the surface.

**33. TESTING**

Applies to a variety of situations.

**34. SUBSEA INSTALLATIONS**

Applies to a variety of situations.