

## Williams 14-20

- 1 Level location for base beam equipped rig.
- 2 Call Foreman or Field Coordinator before rig up to catch plunger, isolate production equipment, and ask if replacement parts/equipment are requested. Operations need to hook up the Bradenhead through hardline to a tank and bleed off the pressure before the rig gets on location.
- 3 Check and report surface casing pressure prior to bleeding off. If surface casing is not accessible at ground level, re-plumb so valve is at ground level.
- 4 If the tubing head is not rated to 5000 psi then replace the wellhead and all the valves and fittings to make the tubinghead good to 5000 psi.
- 5 Spot a minimum of **12** jts of **2-3/8"**, **4.7#**, **J-55**, **EUE tbg** and **149** jts 1-1/4", 2.33#/ft, J-55, 10rd IJ for annular cement job.
- 6 MIRU WO rig. Kill well, as necessary, with freshwater treated with biocide. ND wellhead. NU BOP.
- 7 MIRU slickline. Fish plunger if necessary and tag for PBSD (should be at **7866'**). RDMO slickline.
- 8 PUH with tubing string to break any possible sand bridges, unseat landing joint and lay down. Do not exceed 80% of tubing tensile strength or **57,384** lbs.
- 9 MIRU "EMI". TOOH with **2-3/8"** tubing. EMI tubing while TOOH. Lay down joints with wall loss or penetrations >35%. Replace joints as necessary. \*\*Keep yellow & blue band tubing. Note joint number and depth of tubing leak(s) on PRODUCTION EQUIPMENT FAILURE REPORT IN OPEN WELLS. Clearly mark all junk (red band) tubing sent to the yard.
- 10 TIH with **2-3/8"** tbg and 4.5" RBP, (**4.5" csg 11.6#,I-80**). Set RBP @ **+/-3280'**, (collars are at **3266'** and **±3296'**). Pressure test the RBP and casing to (**3000** psi for 15 minutes. Spot 2 sx of sand on top of RBP and TOOH.
- 11 ND BOP's. ND wellhead. Un-land 4 1/2" casing string. NU double entry flange. NU BOP.
- 12 PU 1-1/4" 2.3#/ft J-55 10rd IJ tubing, and TIH outside 4-1/2" casing in open hole to **3070'** (Just above TOC @ **3100'**). MIRU cement services and water truck containing fresh water for cementing. Circulate on bottom with freshwater treated with biocide until returns clean up with rig pump.
- 13 Rig up cement trucks.
- 14 Circulate **130** bbl of drilling mud. Commence pumping cement job consisting of 20 Bbls Sodium Metasilicate followed by **675** sx 15.8 ppg neat Class G cement with 1/4 #/sx cello-flake. The cement to be retarded for 125 degree Fahrenheit for six hour pump time. (Attempt to cement from **3070'** to **775'** or surface casing)
- 15 TOH with **86** joints to **500'** and reverse circulate 2 times the tubing volume with drilling mud or until the cement cleans up.
- 16 Rig down cementing company.
- 17 Trip out of the hole with 1-1/4" tubing and shut well in overnight.
- 18 Rig up wireline truck and run a CCL-GR-CBL-VDL from **3200'** to **100'** or the top of cement. If cement isn't above **775'** then get with the Engineer on further cement work.
- 19 ND BOP. ND double entry flange and crossover. Pick up and land 4-1/2" casing in slips. NU tubing head. NU BOP SDFN to WOC.
- 20 PU and TIH with 2-3/8" tbg and retrieving head. Circulate sand off RBP at @ **+/-3280'**. TOOH with RBP and standing back tubing.

- 21 Bail if sand tagged at 7770' or higher.
- 22 TIH 2-3/8" SN, and 2-3/8" 6.5# J-55 EUE 8rd tubing. Land tubing at +/- **7707'** or 1 joint above the top **Codell perforation (7745'-7765')**.
- 23 Broach tubing to seating. ND BOPs. NU master valve and tubing head adaptor and install 3' pup joint above master valve. Hydrotest tubinghead assembly to **5000** psi for 15 mins.
- 24 RDMO WO Rig.
- 25 Clean location and swab well back to production, if necessary. Notify Foreman/Field Coordinator of finished work and turn well over to production team.



KERR-MCGEE OIL AND GAS ONSHORE LP

WILLIAMS 14-20

NE NW 20 2N 68W 683' FNL 1,950' FWL

WELD, COLORADO

09/16/2013

AREA: S2

ROUTE: S21 Spud: 03/28/2009

WINS No.: 00730

AFE/WO#: 2014273

API#: 0512328068

GL: 4910

KB: 4924

MTD: 7905

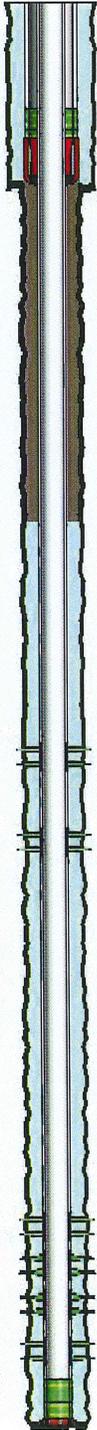
TVD: 7678

LOG MD: 7910

PBMD: 7866

PBTVD: 7639

Directions: WCR 3-1/4 & 16-1/2; W 1/4; NE INTO



<u>HOLE SECTIONS</u>		<u>Size</u>	<u>Top</u>	<u>Btm</u>	<u>TD Date</u>				
SURFACE		12.25	14	785	03/28/2009				
PRODUCTION		7.88	785	7905	03/31/2009				
<u>TUBULARS</u>		<u>Tool Type</u>	<u>Joints</u>	<u>Size</u>	<u>Weight</u>	<u>Grade</u>	<u>Thread</u>	<u>Top D</u>	<u>Bottom D</u>
<b>SURFACE CASING</b>									
	Casing		17	8.63	24.00	J-55	STC	14	737
	Baffle		1	8.63				737	737
	Shoe Joint		1	8.63	24.00	J-55	STC	737	774
	Casing Guide Shoe		1	9.00				774	775
<b>PRODUCTION CASING</b>									
	Casing		189	4.50	11.60	I-80	LTC	14	7866
	Latch Down Baffle		1	4.50				7866	7866
	Shoe Joint		1	4.50	11.60	I-80	LTC	7866	7894
	Casing Float Shoe		1	5.00				7894	7896
<b>PRODUCTION TUBING</b>									
	Tubing		244	2.38	4.70	J-55	8RD EUE	14	7705
	Seating Nipple		1	2.38				7705	7706
	Notched Collar		1	2.38				7706	7707
<u>CEMENT JOBS</u>		<u>Stage</u>	<u>Sacks</u>	<u>Cement Jobs</u>		<u>Top D</u>	<u>Btm D</u>	<u>cbf</u>	
<b>SURFACE CASING</b>									
	PRIM CMT 1ST STAGE		490	LEAD	TYPE 3	14	785	No	
<b>PRODUCTION CASING</b>									
	PRIM CMT 1ST STAGE		520	LEAD	PREMIUM LITE	3590	7050	Yes	
	PRIM CMT 1ST STAGE		130	TAIL	50/50 POZ-MIX	7050	7910	Yes	
<u>PERFORATIONS</u>		<u>Formation</u>	<u>Zone</u>	<u>Top</u>	<u>Btm</u>	<u>Date</u>	<u>Reason</u>	<u>Comments</u>	
		SUSSEX		4584	4610	10/01/2009	PRODUCTION		
		SHANNON		5000	5020	09/30/2009	PRODUCTION		
		NIORARA	A	7454	7458	06/26/2009	PRODUCTION		
		NIORARA	B	7528	7538	06/26/2009	PRODUCTION		
		NIORARA	C	7612	7622	06/26/2009	PRODUCTION		
		CODELL		7745	7765	06/25/2009	PRODUCTION		

Comments: