



Summary Report

Major Rig Work Over (MRWO)
Tubing Repair
Job Start Date: 8/10/2011
Job End Date: 9/16/2011

| | | | | |
|-----------------------------------|---|--|---------------------------------------|------------------|
| Well Name McLaughlin AC 32 | Lease McLaughlin, A.C. Unit | Field Name Rangely | Business Unit Mid-Continent/Alaska | |
| Ground Elevation (ft) 5,434.00 | Original RKB Elevation (ft) 5,446.00 | Current RKB Elevation (ft) 5,446.00 | Mud Line Elevation (ft) | Water Depth (ft) |

Report Start Date: 8/10/2011

Comment

Safety MTG JSA review. Tenet #10, Mechanical, motion and gravity hazards. Review rig move check list and Route.
 Move in AESC Rig #6 and equipment
 Build grave pad for rig foundation.
 Spot tanks and rig pump. Build containment and RU pump lines.
 Check SIWP. SICP 0 psi SITP 0 psi. Call plant and attempt to roll out PKR fluid with source water circulating down annulus. Unable to circulate PKR fluid out with probable high hole in TBG. Shut in well and attempt to test CSG with no test. Confirm ability to inject into CSG at 600 psi. Start blowing well down to rig tank. CSG bled down to 0 psi in 2.5 hrs however TBG flowing. Shut well in to equalize. SDFN

Report Start Date: 8/11/2011

Comment

Safety MTG and JSA review. Tenet #7 & Propper planning. Gravity and pressure hazards.
 SITP 50 psi, SICP 50 psi. Blow well down to Rig tank. Pump 40 bbls of 10 PPG brine down tbg to kill well.
 ND 2-9/16" injection tree and LD plug bushing, Install TBG hanger and land TBG in TBG head to NU BOP.
 NU class III BOPE
 RU floor and tools.
 PU power swivel, work and release 7" PS1 PKR @ 6168'. LD swivel.
 TOOH and LD 70 JTS 2-7/8" FL TBG to 4034'.
 MIRU Double Jack testing and test Pipe, blind, annular preventer and choke & kill valves to 250 psi low test for 5 minutes. 1400 psi high test for 10 minutes.(2M TBG head) all tested good. Test TIW and floor valves the same low pressure tast and 2200 high pressure test.All tested good. RDMO Double Jack testing.
 TOOH and LD 127 JTS 2-7/8" FL TBG and 7' PS1 PKR W/slick skirt. **note last 60 jts of TBG had heavy external scale**
 Load out and move off 2-7/8" FL TBG pulled from well. Move in, rack and tally 2-7/8" J-55 6.5# work string.
 PU C/O BHA (6-1/8" shoe, 5-3/4" extention, 7" CSG scrapper, Top sub and 2-7/8" tbg sub. total length 24.70') TIH W/BHA on 100 JTS of 2-7/8" workstring to 3220'. Secure well and SDFN

Report Start Date: 8/12/2011

Comment

SAFETY mtg. AND jsa REVIEW. Tenet # 2, state of mind, SWA, Mechanical and gravity hazards.
 Check SIWP = 0 psi. PU and TIH with 2-7/8" J-55 work string F/3220' T/6151'.
 PU power svivel and 2-7/8" work string. Circulate with fresh water and C/O over profile on 7" LOCSET PKR @ 6211'. Circulate bottoms up and test CSG. **CSG taking 3 bbls/min @ 450psi** SD and record ISIP of 400 psi. CSG bleed down to 325psi in 5 minutes.
 TOOH with C/O BHA F/6151' T/3248'. Secure well and shut down for week end.

Report Start Date: 8/15/2011

Comment

Safety MTG & JSA review. Tenet # 5, motion & gravity hazards. SWA
 SIWP 0 psi. TOOH F/3248' and LD C/O BHA.
 TIH with 7" test PKR and set @ 3624'. Test CSG F/lokset PKR @ 6211' to 720 psi. tested good.
 Release test PKR and TOOH T/2980'. Set PKR and test to CSG to 750 psi. with good test. Release PKR and PUH to 2336'. Set PKR and test to 750 psi with good test. TOOH and LD test PKR.
 PU 7" full bore PKR and TIH below CSG patch to 660' test CSG F/660' to surface @ 800 psi. tested good. Release PKR and TIH T/1306' and set PKR. Test CSG F/1306' T/6211' @ 800 psi all tested good. Test CSG F/1306' to surface with no test. PUH with PKR and isolate CSG leak from 1277' to 1206'. Notify production engineer of details.
 Notify plant. Open 10-3/4" X 7" annulus and use source water to establish circulation up 10-3/4" X 7" annulus. Good circulation to surface @ 450 psi.
 TOOH and LD 7" FB/PKR.
 PU release tool and TIH with 30 stands of work string to 1950'. secure well and SDFN

Report Start Date: 8/16/2011

Comment

Safety MTG & JSA review. Gravity and motion hazards. Tenet # 6 and proper tools.
 Check SIWP) psi. TOOH F/1950' and LD release tool.
 MIRU Weatherford wire line.
 RIH W/Weatherford MSC 60 arm CSG inspection tool. Log F/6177' - T/surface. Note bad CSG areas (5912'-5926', 5856'-5873', 5508'-5598', 5007'-5013', 4437'-4472', 4106'-4116', 4058'-4066', 3810'-3974', 3639'-3726', 3542'-3580', 3245'-3292', 3000'-3064', 2885'-2898', 2818'-2850', 2554'-2572', 2438'-2460', 2347'-2354', 2210'-2232', 1840'-1914', 1354'-1388', 1136'-1278', 626'-1040') noticable hole @ 1253' & 1255'.
 RDMO Weatherford.
 PU and TIH with 7" RBP and set @ 2595'
 Release off RBP, PUH T/2563 and dump 450 lbs (26') of sand on top RBP. TOOH with work string.
 PU and TIH W/7" CICR and set @ 1110'. Sting out and test to 500 psi. Tested good. Secure well and SDFN

Report Start Date: 8/17/2011

Comment

Safety MTG, JSA review. Motion, mechanical, pressure hazards. Tenet #7 and training. Spotting equipment and good communication.
 MIRU Halliburton cementing. Review JOB scope and wait on water truck.



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Comment

Pressure test lines to 3000 psi. Pressure up on 7" X 2-7/8" annulus to 400 psi. Pump 5 bbls of city water ahead, mix and pump 120 sacks (48.3 bbls) of 12.5 ppg "Squeezecem" lead cement @ 3 bbls/min. max pressure 102 psi. Mix and pump 70 sacks (14.6 bbls) of 15.8 ppg class G tail cement W/2% Calcium chloride @ 3 bbls/min with max pressure of 190 psi. Displace with 6.4 bbls of city water @ 3 bbls/min with max pressure of 330 psi. Full returns up 10-3/4" X 7" annulus during entire job with no cement circulated surface. Shut down with ISIP 0 psi.

RDMO Halliburton cementers

Service rig. Off load and tally BHA and wait on cement curing time. Well secured. shut down for thickening time.

Report Start Date: 8/18/2011

Comment

Safety MTG and JSA review. Gravity, motion, and proper lifting. Training and Tenet #8

PU and MU BHA #2 (6-1/8" shoe, top sub, bowen Z JAR, XO, 4 4-3/4" DC's, XO, 3' 2-7/8" TBG sub. total length 139.51')

TIH with BHA T/1085'.

PU power swivel and 1 JT of 2-7/8" work string and break Circulation with source water. RIH and tag top of CICR @ 1106'. Mill over CICR T/1110'.

TOOH LD 6-1/8" shoe with CICR.

PU and MU BHA (6-1/8" OFM bit ser. no. 1C0456, BIT/SUB, 4 4-3/4" DC's, XO & 2-7/8" TBG SUB TOTAL LENGTH 128.08') TIH and tag CMT @ 1110'.

PU swivel, break circulation and drill on hard CMT F/1110' T/1138'.

Circulate 1-1/2 btms up with clean returns. PUH, LD 1 JT of work string and power swivel. Secure well and SDFN

Report Start Date: 8/19/2011

Comment

No Activity on location. Crew scheduled for "Colors" diversity training. Operations to resume on Monday 8-22-11.

Report Start Date: 8/22/2011

Comment

Complete Weekly Drills; Fire, Emergency Evacuation, Spill, Bope

Safety Meeting; Discuss job plan, Discuss E-Colors, Cleanout operations, Tif, Ppe

Ru Power swivel. Drill HARD Cement from 1129' to 1242'.

Circ Clean, RD power swivel, Ld 1 jt.

SWIFN

Report Start Date: 8/23/2011

Comment

Safety Meeting; Discussed job plan, Cleanout operations, Jsa's and using E-Colors to De-Brief, Tif, Ppe

Csg press 0 psi. Pu swivel and jt, Drill Cmt. from 1242' & fell out cmt @ 1290'.

Circulate Clean.

Pressure TEST CSG to 800 psi. NO Press LOSS Good Test.

Pooh LD Collars & Bit. Fill hole with fresh water.

Rd Tbg equipment & Rig Floor

Nd Bope

NU Wellhead top flange

Prep Area for wellhead changeout. Load out Collars & fishing tools

SDFD

Report Start Date: 8/24/2011

Comment

Safety Meeting; discussed job plan, Running tools, pulling tools, well conditions, Jsa's using e-colors de-briefing, Tif, Ppe

ND 2k tbg head

NU 3k tbg head

NU Bope

RU Floor & Tbg Equipment

Pu Retrieving head Tih Circulate sand off Ret Bridge Plug, Release same.

Pooh LD RBP,

Pu 7" cleanout assy.

Tih hole Tag @ 6172' (39' high Packer @ 6211')

RU power swivel rotate dn to packer @ 6211'. recovering cmt pieces,

Circulate clean.

Pull 1 jt.. Ru and Test Csg. from 6179' to surface. Pressured to 800 psi lost 170 psi in 2 minutes repeated test 2 more times same results.

SWIFN

Report Start Date: 8/25/2011

Comment

Safety Meeting; Discuss job plan, Jsa's tripping tbg, laying dn & picking up tools, De-Brief using e-colors, Tif, Ppe

Ru & test csg again to 800 psi, LOST 300 psi in 10 min.

Pooh lay dn Cleanout assy.

Pu Full bore packer Tih to 1290' Set.

Test Csg 1290 Dn to 6211'. TEST to 800 psi Good Test ! Ru test csg from Surface to 1290' Lost 300 psi in 5 min. NO Test !

Release Packer Pooh Ld packer.

PU MU Left hand release skirt.

Tih Engage profile space with pups @ floor level to role hole with 10 # brine.



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Comment

MI Badger Hydro vac. Review jsa's Cleanout Flat Tank, RDMO Badger
 Role hole with 10# Brine
 MI Pls Review jsa's, RU Pls Rih pull tbg plug @ 6194'. RDMO Pls
 RU power swivel
 Release Loc-set Packer @ 6211'
 Rd Swivel. Pooh LD 2 jts & stand back 10 stands
 SWIFN
Report Start Date: 8/26/2011

Comment

Safety Meeting; Discussed job plan, Picking up BHA, Heat Stress, Watch Fellow workers, Cleanout operations, De-Brief using e-colors, Tif, PPe
 Pooh with Loc-Set packer Ld Same
 Pu 6 1/8 bit, 4-4 3/4 Drill collars, 2 Jts 2 7/8 Drill pipe,
 Tih with workstring. Tag @ 6308'
 Ru Power Swivel
 Establish Circulation
 Cleanout from 6308' to 6360'. Returns are scale, metal (csg), Fiberglass
 Reverse Clean
 Rd Swivel Pull up to 6242'
 SWIFN
Report Start Date: 8/29/2011

Comment

Safety Meeting; complete Weekly Drills, Fire, Bope, Emer. Res., Spill
 Safety Meeting; Discussed job plan, Cleanout operations, Weather conditions, HEAT, Tripping pipe, Laying dn collars, JSA's, De-brief using e-colors, Tif, Ppe
 Csg & Tbg) psi. Tih Tag @ 6331'. 29 ft high from Friday.
 Ru power swivel
 Est Circulation
 Clean out from 6331' to 6465' KB. Notified Jamie
 Circulate Clean
 Swivel Dn & POOH LD 4 jts & Stand back 10 Stands
 SWIFN
Report Start Date: 8/30/2011

Comment

Safety Meeting; Discussed job plan, Wireline operations, Tripping tbg, Loading out equipment, Testing, De-Brief using e-colors, Tif, PPe
 Tbg & Csg 0 psi. Pooh LD Drill Collars. Load out same. RD Catwalk
 MI PLS Wireline, Safety Meeting; Discussed job plan, Wireline operations, Cell phone usage, Rigging up & Dn, Tif, Ppe
 Ru PLS. PU & MU Composite BP for 7" 23#, RIH set CBP @ 6194'. POOH RDMO PLS
 PU Miller Tools packer TIH Set Packer @ 6156'
 Test CBP to 800 psi. GOOD TEST no bleed off
 Circulate hole cleanl with 300 bbls clean fresh water
 Pooh with 40 stands
 SWIFN
Report Start Date: 8/31/2011

Comment

Safety Meeting; Discuss job plan, Rigging dn Bope, Tbg equipment, Ru Wellhead, tbg, Bope, Confined space permit, Tif, Ppe
 Pooh & LD packer.
 PU & MU Miller RBP.
 Tih to 1035 ft. Set RBP.
 Pooh with Tbg
 Rd Tbg Equipment.
 Complete Connfined space permit.
 ND 7 1/16 x 5k BPOE
 MI Vetco Gray. Review Jsa's, Discuss job plan, Jsa's, Tif, PPe
 ND 7 1/16x3k tbg head
 NU Csg hanger spool with 2" flanged outlets. 11"x3k X11"x3k
 NU 11"x5k Knight oil tools bope
 RU Floor & Tbg Equipment.
 Pu Ret head Tih release RBP
 Pooh with tbg LD RBP
 Remove 2 7/8" Rams & install 5 1/2" rams
 MI RU new pipe wrangler, Set pipe racks for csg.
 SDFD
Report Start Date: 9/1/2011



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Comment

Safety Meeting; Discussed Learning From Incidents 2010, Discussed Job plan, unloading 5 1/2" csg racking & preping for running, De-breif using e-colors, Tif, Ppe.

Mi off load 145 jts 5 1/2" csg

Prep csg on racks, Drift, Clean threads, tally, install bags on pin & collar ends.

SDFD

Report Start Date: 9/2/2011

Comment

Safety Meeting; Discuss job plan for day, Slip & cut Drilling line, Tif, PPe

Move Csg to pick up rack Re-Tally Slip & Cutt drilling line,

IFO Celebration Lunch

SDFD

Report Start Date: 9/6/2011

Comment

Safety MTG and JSA review. Review JSA from AESC, Miller PKR & Franks Weststates. Tenet #6, State of mind and proper tools, Gravity and motion hazards. Complete safety drills and hazard hunt.

MIRU and rig up Franks CSG tools.

PU and MU Float shoe, 1 JT 5-1/2" 17# LTC CSG W/turned down coupling, Float collar and 1 additional JT of CSG. Using thread lock on connections. Continue to PU and run 144 additional JTS of 5-1/2" 17# LTC CSG W/turned down couplings. Filling @ 604', 2767', 4681', 5628' and surface. CSG shoe @ 6177' **NOTE 135 JTS of J-55 & 10 JTS of K-55**

RD Franks CSG tools and prep location for cementing. SDFN

Report Start Date: 9/7/2011

Comment

Safety MTG and JSA review. Tenet #7, Planning and pressure hazards. Complete pipe wrangler specific hazard hunt.

MIRU Halliburton Cementing and pressure test lines to 3000 psi.

Pump and break circulation with 30 bbls of fresh water (river water) Mix and pump 270 sks (70.1 bbls) of 13.5 ppg class G cement mixed with fresh water (city) 1.46 yield, 6.99 gallon/sack mix water. W/3% bentonite, .3% HR-800 & 5% Microbond. Pump rate @ 5 bbls/min with max pressure of 950 psi. Shut down, drop plug and displace with 142.25 bbls of fresh water (river). Initial rate of 6 bbls/min. final rate 1.5 bbls/min. Bumped plug @ 3200 psi, 250 psi over final pump pressure of 2950 psi. Hold pressure for 5 minutes bleed down to check floats. Floats held good. **full circulation through out job with +- 4 bbls of good cement returned to surface.

RDMO Halliburton cementers.

Set CSG in slips with 30M tenton.

Rig down floor and tools. Cut of CSG and ND/11" 5M BOP.

Finish cut CSG and NU/ 11" 3M X 7-1/16" 3M TBG head assembly W/5-1/2" pack off and test to 3000 psi.

NU 7-1/16" Class III bop.

Rig up floor and tools. Secure well and SDFN

Report Start Date: 9/8/2011

Comment

Safety MTG and JSA review. Tenet #8, Proper tools, SWA. Motion, mechanical, gravity and pressure hazards.

Off load Tally and PU BHA. (4-3/4" bit, 6 3-1/2" DC's & XO. total length 190.85')

LD 15 JTS of work string. TIH with BHA and 2-7/8" work string to bridge @ 6081'.

MIRU Double Jack testers and test BOPE. Test Pipe rams, Blind rams, annular preventer, TIW's, floor valve, choke & kill valves. 5 minute low pressure test @ 250 psi and 10 minute high pressure test @ 2100 psi. Outside choke valve did not test all others tested good. RDMO tester.

Install washington head element, RU power swivel, break circulation with fresh water and drill through stringer @ 6081' PU tbg TIH to top of float collar @ 6134'. Break circulation, Drill out float collar and CMT to 6149'.

Circulate clean. RD swivel and PUH to 6117'. Secure well and SDFN

Report Start Date: 9/9/2011

Comment

Safety MTG and JSA review. Tenet #9, "We always have time to do it right" Proper tools and pressure hazards.

PU power swivel and 1 JT of 2-7/8" work string. Break circulation and Dill CMT F/6149' through float shoe @ 6176'. Tag top of Composit bridge plug @ 6194'.

Circulate 2 BTMs up.

LD power swivel and TOOH W/BHA. **Note tight spot @ 5955'

load hole with fresh water for logging.

MIRU BWWC wire line. PU and RIH W/1-11/16" GR/CCL/CBL. Log from top of CBP @ 6194' to surface. **note good CMT bond on 5-1/2" liner**

RDMO BWWC, Secure well and SDFN

Report Start Date: 9/12/2011

Comment

Safety mtg and JSA review. Tenet #2, state of mind, motion and mechanical hazards. Complete weekly safety drills.

check SIWP = 0 psi. PU BHA, 4.75" string mill with mule shoe, 6 3-1/2" DC's & XO total length 194.89'

TIH with work string and BHA to 5985'

Rotate and mill tight spot @ 5955'. TOOH and LD 4-3/4" string mill.

PU and MU 4-3/4" skirted bit SN 68k6549 and bit sub on BHA (6 3-1/2" DC's & XO. total length 188.40') TIH T/6194'

Break circulation W/fresh water and Drill out CBP @ 6194'. Push remaining CBP down to 6334', Drill and C/O to 6440'. Circulate Bottoms up and LD power swivel.



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Comment

LD 1 Jt of TBg and TOO H with 5 stands T/6114'. Secure well and SDFN

Report Start Date: 9/13/2011

Comment

Safety MTG and JSA review. Tenet #3, Planning, SWA and pressure.

Check SIWP= 0 psi.TIH F/6114' T/6440' W/BHA. (4-3/4" skirted bit SN 68k6549, BS, 6 3-1/2" DC's & XO. total length 188.40')

PU 1 Jt of 2-7/8" work string and power swivel. Break circulation W/fresh water and Drill on remaining CBP/Fill F/6440' T/6468'. **note unable to make additional depth. Heavy formation, CSG shards and metal possibly from old CICR** Circulate hole clean, rig down power swivel and prepare to TOO H.

TOOH and LD BHA. secure well and SDFN

Report Start Date: 9/14/2011

Comment

Safety MTG and JSA review. Tenet # 4, proper tools and motion hazard.

PU 2-7/8" X 2' sub W/mule shoe, 4 JTS 2-7/8" FGW TBG, XO, 5-1/2" Locset PKR, 6' 2-7/8" FGW TBG sub and extended neck on/off with 1.875" profile. TIH on 2-7/8" work string and set top of 5-1/2" PKR @ 6160.21' with EOT @ 6292.43'

MIRU PLS wire line. RIH and set plug in on/off profile. POOH RDMO PLS

TEST CSG, plug and 5-1/2" PKR to 800 psi with fresh water for 5 minutes with no leak off. Tested good

TOOH and LD 2-7/8" work string.

RU tong torque system for running Fiber lined TBG. Off load, prep threads and tally new 2-7/8" FL TBG. PU and TIH W/extended neck slick skirt, 1 JT new 2-7/8" FGW TBG, 5-1/2" PS1 PKR and 30 JTS of new 2-7/8" FL TBG. Secure well and SDFN

Report Start Date: 9/15/2011

Comment

Safety MTG and JSA review. Tenet # 5, Planing, Communication and pressure hazards

PU and TIH with 161 JTS of new 2-7/8" FL TBG. tag up on Extended neck on/off tool and calculate space out. Space out with 1-6' & 1-4' 2-7/8" new FL tbg subs. PU 1 JT 2-7/8" new FL PXP.

Circulate hole with 150 bbls of fresh water mixed with KW-132 for PKR fluid. Add 15 gallons of diesel for freeze blanket.

Set 5-1/2" PS1 PKR @ 6110' and land with center fire TBG Hanger in 12k compression.

Rig down floor and tools. ND Class III BOPE.

NU 7-1/16"5K X 2-9/16"5K well head.

RD pump and lines. SDFN

Report Start Date: 9/16/2011

Comment

Safety MTG and JSA review.Tenet #6, stated of mind and mechanical hazards

Wait on R&M test truck. RU R&M test truck. Test TBG to 1500 psi.Test CSG, and isolation PKR to 810 psi. for 10 minutes. Tested good ***Note COGCC & BLM not available to witness**

MIRU PLS wire line. RIH and pull plug from on/off profile @ 6150'. POOH, RDMO PLS

Rig down AESC rig #6

Road rig and spot on JE Coltharp 6X. SDFN