

Well History

DILLY #1  
Roosevelt County, New Mexico

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- 5-5-81 4700' TD (0') RU and RIH w/114 jts 4-1/2" OD 10.5 #/ft K-55 ST&C csg. set and cmt'd at 4700' w/100 sx Class "C" 50-50 poz with 0.3% Halad-4 and 5 #/sk salt. Plgd down at 1:15 pm. Nippled down BOP, cut csg and set slips. Released Baber Rig #54 at 3:00 pm 5-4-81. Now MORT.
- 5-7-81 thru 6-12-81  
4700' TD. Waiting on Completion Unit.
- 6-13-81 to 6-15-81  
Corrected TD 4708'. Moving in to rig up Clarke Well Service. SD for weekend.
- 6-16-81 4708' TD. Unloaded and tallied 2-3/8" tbg. PU and RIH w/bit, DC and tbg. Drld out float shoe and cmt'd to 4708'. Now prep to log and perf.
- 6-17-81 4708' TD. Prep to acidize San Andres (4651'-4678') RU & RIH w/GR-CCL log. Perf San Andres @ 4651', 4652', 4653', 4657', 4659', 4666', 4667' 4675' & 4678'. Started RIH w/pkr and tbg. SION.
- 6-18-81 4708' TD, 4688' PBT'D. Swab testing San Andres. Finished RIH w/tbg & pkr. Unable to set pkr. Dropped standing valve in attempt to pressure up tbg. Valve would not hold pressure. Tried to fish standing valve. Could not get below 900'. POH and LD 7 jts tbg w/bad couplings. RIH w/pkr & set @ 4591'. RU & acidized San Andres w/2000 gal 15% NEA & 18 BS. Form started taking fluid at 3400 psi. AIR 2.7 bbls per minute at 3000 psi. Balled out perfs to 3800 psi. ISIP 2200 psi, 15 min SIP 1750 psi. Bled off pressure. SION. This AM prep to swab back acid load.
- 6-19-81 4708' TD, 4688' PBT'D. San Andres (4651'-78') Swabbed back all of load wtr. Had slight skim oil on last swab. Prep to frac today.
- 6-20-81 4708' TD, 4688' PBT'D. San Andres. POH w/tbg and pkr. Frac down csg w/ 30,000 gal gelled KCL wtr w/12,500# of 20-40 sd and 30,000# of 10-20 sd. AIR 10.9 bbls per minute, ATP 1500 psi, Started pad at 3600 psi and 10 bbls per min. Press started decreasing w/sand on perfs and continued to decrease to end of job. Final pumping press 1100 psi at 19 bbls per min. SI for frac placement. ISDP 750 psi, 15 min SIP 750 psi.
- 6-21-81 Opened up well, Started RIH w/pkr and tbg. Set down on sand at 3549'. POH w/pkr. RIH w/sand pump. Pumped 15 ft of sand in 3 hrs. SION.
- 6-22-81 SD for Sunday. Prep to RU reverse unit & wash sand off perfs.
- 6-23-81 RU reverse unit. RIH w/bit. Circ out sand bridge from 3564' to 3609'. RIH and tagged sand at 4080'. Drld sand to 4250'. SION.
- 6-24-81 Finished drlg sand to 4688'. Circ to clean hole. POH w/reversing equip. Started RIH w/pkr and tbg. Power slips failed and drpd 4 jts tbg & pkr in hole. TIH and screwed into tbg in attempt to set pkr. Pkr would not set. POH and LD pkr. Prep to run new pkr this am.
- 6-25-81 Started in hole w/pkr and tbg. Pkr hung up at 4596'. Worked loose. Could not go down. POH w/pkr dragging. LD pkr. Pkr was sanded up. SION. This am prep to run tbg open ended and circ out sand.

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- 4-9-81 Drlg 110' (6')
- 4-10-81 Drlg 110' (0') MIRU Rotary Tools. RD and released CAble Tool Rig. Lined pits, MIRT.
- 4-11-81 Drlg 110' (0') RU rotary tools, MI Baber Rig #54, prep to drill w/rotary tools.
- 4-12-81 Drlg 240' (120') MW 8.4, Vis 38, pH 10
- 4-13-81 Drlg 454' (0') WOC, MW 8.5, Vis 29, Ran 8-5/8" csg as follows: saw-toothed Texas Pattern Shoe (1.10"), 10 jts 8-5/8" csg 23#/ft, XL42, ST&C (418.90') w/insert jt in top of first collar, CSA 420', cement csg w/225 sx Class "C" + 2% CaCl<sub>2</sub>. Good returns thruout. Bumped plug 2/300#, checked float, held ok. PD 4:15 pm 4-12-81
- 4-14-81 Drlg 608' (188') Redbeds. MW 8.5, Vis 29
- 4-15-81 @ 1095' (487') red beds. FW gel 8.6 ppg, Vis 30, pH 9.5
- 4-16-81 @ 1550' (455') redbeds and anhy. FW gel 8.8 ppg, Vis 30, pH 7. Dev 1/2 deg at 1100'. 3 hr repair pump. 3 hr round trip for washout in drill pipe.
- 4-17-81 thru 4-20-81 @ 3189' (1639') anhy. SW gel 10.1 ppg, Vis 33, pH 9. Drld to 1583', POH and LD 4 washed out drill collars. RIH w/new collar string. Washed 1400' to bottom. Now drlg w/bit #3.
- 4-21-81 @ 3392' (203') lime, anhy. SW native 10.2 ppg, Vis 33, pH 9. Worked on pump 8-1/2 hrs.
- 4-22-81 @ 3562' (170') lime. SW native 10.3 ppg, Vis 36, pH 9. Worked on pump 13 hrs..
- 4-23-81 @ 3704' (146') lime and anhy. SW gel 10.4 ppg, Vis 41, pH 9, WL 22 cc. 3 hrs repaired pump. RIH w/ bit #4.
- 4-24-81 @ 3838' (130') lime. Drlg w/SW gel 10.4 ppg, Vis 45, pH 9, WL 19.8 cc. chlorides 161,000.
- 4-27-81 @ 4140' (302') Dolo and lime. SW gel 10.5 ppg, Vis 40, pH 9.8, WL 18.8 cc. Had more pump trouble and DC washouts. Now POH to repair DC washout.
- 4-28-81 @ 4189' (49') dolo. SW gel 10.4 ppg, Vis 41, pH 8.5, WL 18.2 cc. Repaired rig. Now repairing stand pipe.
- 4-29-81 @ 4331' (142') dolo. SW gel 10.2 ppg, Vis 40, pH 9.9, WL 10.4. Now drlg w/bit #6.
- 4-30-81 @ 4411' (80') dolo. SW gel 10.2 ppg, Vis 40, pH 9, WL 18. Drld 16 hrs, trip for bit, Now drlg with bit #7.
- 5-1-81 @ 4493' (82') dolo. SW gel 10.3 ppg, Vis 40, pH 9, WL 24. Trip for bit. Now drlg with bit #8.
- 5-2-81 to 5-4-81 4700' TD (207') Dolo. SW gel 10.3 ppg, Vis 56, pH 8.5, WL 16. TD hole 11:45 a.m. 5-2-81 Circ and POH. RU loggers. Prep to RIH w/4-1/2" csg.

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- 6-26-81 RIH w/tbg open ended and tagged sand fill at 4150'. Circ to 4688' w/kill truck. Returns include sd, cmt, and chunks of form. Suspect csg has split. Prep to run csg caliper log to verify condition of csg.
- 6-27-81 Ran csg caliper log. No holes indicated except just above shoe at 4687'. Suspect shoe had come off csg.
- 6-28 thru 6-29-81 SI over weekend.
- 6-30-81 RIH w/tbg to TD and circ hole clean. POH w/tbg. RIH and set CIBP at 4686'. Ran tbg and pkr in hole and set pkr at 4591'. Started swabbing. Beg fluid level at surf, rec 45 bbls load wtr. End fluid level at 2100'. 743 bbls load wtr to rec. SION.
- 7-1-81 SITP 35 psi. RU to swab. Beg FL at 1000'. Swbd 10 hrs. Rec 110 BLW w/trace of gas. Swbd well down. Fluid entry 1800-2000' per hr. 633 bbls LW to rec. SION.
- 7-2-81 SITP 15 psi. RU to swab. Beg FL at 1800'. Swbd well down, had 1800' fluid entry per hr. Rec 68 BW. Wtr analy indicates wtr is San Andres wtr.
- 7-3-81 Swbd 10 hrs. Rec 65 bbls form wtr. Beg FL at 1800' Swbd down.
- 7-4-81 Swbd 10 hrs. Rec 70 bbls form wtr. Beg FL at 1800'. Swbd down. 1800'-2000' fluid entry per hr.
- 7-5-81 to 7-6-81 SI over weekend.
- 7-7-81 Swbd 65 bbls form wtr. FL at 1800'. Prep to run tracer survey.
- 7-8-81 Ran tracer survey. Indicated fluid being injected thru perf at 4651' and channeling up around csg to 4590'. POH w/tbg and pkr. Prep to squeeze perfs.
- 7-9-81 RIH w/Howco cmt retainer. Set at 4627'. Established injection rate. Squeezed perfs from 4651'-78' w/200 sx Class "C" w/0.3% Halad-4 to 3500 psi. PO of retainer and reversed out 3 bbls cmt. POH w/tbg. SION.
- 7-10-81 Had delays in RU drlg equip due to bad weather. RU and RIH w/bit and DC. Tagged retainer. SION.
- 7-11-81 Attempt to circ hole. Could not circ. Suspect hole in csg. POH w/drlg equip. Started RIH w/tbg and pkr to isolate hole in csg. SION.
- 7-12-81 Continued to search for hole in csg. Found hole between 3554'-86'
- 7-13-81 Prep to squeeze csg leak at 3554' - 86'.
- 7-14-81 RIH w/cmt retainer set at 3500'. Tested csg to 1000 psi and tbg to 2000 psi. Squeezed 150 sx Class "C" with 0.3% Halad-4 thru holes in csg. Max press 1600 psi. POH w/tbg. SION. Prep to RIH w/drlg equip this am.
- 7-15-81 RIH w/drlg equip. Tagged retainer at 3500'. Started drlg on retainer at 2:00 pm. Retainer is turning under bit. Prep to attempt to break up retainer.
- 7-16-81 Finished drlg cmt retainer and cmt to 3527'. Bit is dragging as if csg has been reduced in diameter. SION.

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- 7-17-81 Fin drlg out cmt on top squeeze job. RIH and tgd 2nd cmt retainer at 4627'. Started drlg on retainer. SION.
- 7-18-81 Fin drlg retainer and cmt from 4627'-86'. Circ hole clean and POH LD DC and bit. SION.
- 7-19-81 SI over weekend.
- 7-21-81 RU and RIH w/perf gun. Perf'd at 4651', 52', 53', 57', 59', 66', 67', 75' and 78'. with one jet shot per ft. (9 holes) RIH w/tbg and pkr to 4623'. Spot acid. PU and set pkr at 4591'. Acid w/2000 gals 15% NEA. Flush w/2% KCL wtr. ATP 3500 psi at 1.5 bbls per min. ISDP 2900 psi, 5 min SIP 2650 psi, started swbing, beg FL at surf. Rec 20 BLW. Have 56 BLW to rec. SION.
- 7-22-81 Swbd 10 hrs. Beg FL at 2000'. Rec 45 BLW. No oil or gas show. Fluid entry at end of day 200' per hr. 10 BLW to rec.
- 7-23-81 Swbd 10 hrs. Beg FL at 3800'. Rec 15 BLW w/trace gas behind each swab run. End FL at 4590'. All of load recovered.
- 7-24-81 14 hr SITP 12 psi. Swbd 8 hrs. Beg FL at 3000'. Rec 5 BW w/trace gas after each swab run. End FL at SN. Now prep to frac.
- 7-25-81 RU Western Co. Frac well down tbg w/5000 gal gelled KCL wtr at 4-1/2 BPM and 3800 psi, 2000 gal w/ 1/4 ppg 20-40- sd at 4.4 BPM and 3700 psi. Increased sd to 1/2 ppg w no increase in press. Increase sd to 1 ppg. Perfs screened out to 5000 psi. Pmpd total of 9000 gals frac fluid and 2200# 20-40 sd. AIR 4.4 bpm, ATP 3700 psi, ISDP 3100 psi, 5 min SIP 2400 psi, SI for frac placement.
- 7-26-81 RU and swbd back 115 BL in 10 hrs. 100 BLW to rec.
- 7-27-81 SI over weekend.
- 7-28-81 Swbd 10 hrs. Beg fluid level at 2500' , rec 60 BLW, no oil or gas. Fluid entry at end of day 300' per hr. 25 BLW to rec.
- 7-29-81 Beg FL at 3200'. Swbd 7 hrs. Rec 10 BLW . End FL at SN. Fluid entry 200' every 2-3 hrs w/no show oil or gas.
- 7-30-81 SI due to rain and bad weather.
- 7-31-81 RIH w/tbg to 4686'. Spot 20 sx Class "C" neat cmt. POH and LD 5 jts tbg. Rverse circ cmt out of tbg. TOC plug at 4500'. POH w/ tbg. RIH w/pkr, SN and tbg to 4419'. left pkr swinging. SION. Prep to perf.
- 8-1-81 RIH and tgd cmt at 4602'. PU and spot 500 gals 15% NEA at 4430'. PU and set pkr at 4398'. RIH w/tbg gun and perf from 4426'-30'. with one jet shot per foot (5 holes). Pmpd acid into perfs. SI 30 min. Started swbing back load. Rec 45 BF w/10% oil cut. SION.
- 8-2-81 14 hr SITP 42 psi. Beg FL at 2800'. Swbd 8 hrs. Rec 23 BF w/5-10% oil cut. End FL at SN.
- 8-3-81 SI over weekend.

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8-4-81 Swbd 9 hrs, rec 20 bbls fluid w/5% oil cut. End FL at SN. SION.  
Prep to FD and release comp unit.

8-5-81 RD and released Clarke Well Service. Evaluating for P&A.

8-6-81 thru 9-18-81 Evaluating for P&A.

9-19-81 thru 10-20-81

4708' TD, 4602' PBTD. San Andres (4426'-30')  
Waiting on Plugging Unit.

10-21-81 POH w/tubing. RIH w/perf nipple on tbg to 4448'. Pmpd 20 sx cmt plug.  
Pulled 30 stands tbg and SION.

10-22-81 RIH w/tbg. Tagged plug at 4183'. Displaced hole w/brine and salt gel.  
POH w/tbg. Cleaned out cellar. Welded on 4-1/2" lift nipple to 4-1/2" csg.  
Removed slips. Shot csg at 3196'. Could not pull free. Left 90,000 lbs pull  
on csg. SION.

10-23-81 Csg did not come loose. Re-shot csg at 2794'. Could not work loose.  
SD for rig repairs.

10-24-81 Shot csg at 2589', 2383' and 2185' respectively and attempt to pull loose.  
Re-shot csg at 1914'. POH w/37 jts and SION.

10-25-81 Fin POH w/csg. Rec 48 jts 4-1/2" OD 9.5 #/ft J-55 ST&C csg. (1982.43')  
RIH w/tbg to 2020'. Circ hole w/salt mud. Spotted 55 sx cmt plug. POH  
w/tbg. RIH and tgd plug at 1700'. Prep to spot plug at 468'. SION.

10-26-81 SI over weekend.

10-27-81 thru 11-3-81 . Plugging. SD for rig repairs.

11-4-81 4708' TD, 4602' PBTD. San Andres (4426'-30') Plugging, SD for rig repairs.  
Should be back in operation by noon today.

11-5-81 Set 50 sx cmt plug at 468'. Pulled uphole. WOC, RIH and tagged plug  
at 351'. POH w/tubing. Set 10 sx cmt plug at surface with dry hole marker.  
RD and released rig. Well P&A'd 11-4-81. FINAL REPORT.

Total days 241