

GWDC #1 QUAIL FEDERAL
CHAVES CO., NM

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AFE 983

LOCATION: 1980' FEL, 660' FSL, Section 3, T6S, R25E, Chaves County, New Mexico
DEPTH: 4100' Abo - Wildcat
CONTRACTOR: Wex Tex Rig #3
DEAL: 64.476% WI and 56.42% NRI

- 1-23-81 Staked location. Location looks good flat as a floor
- 3-18-81 Location & road & cellar bid by Armstrong & Armstrong
- 4-06-81 Will start location today
- 4-07-81 Cut & leveled road into location
- 7-01-81 Redug rat hole to fit pattern for Tex Mex Rig #3
- 7-02-81 Started digging pits, bulldozer broke down
- 7-03-81 Dug pits, moving in rig
- 7-04-81 Day 1. 108'. Drlg. Surface rock & red beds. MW 9.1. Bit 1 17½" Security M4NJ, in @ 0'. WOB All #'s @ 80-130 rpm, PP 600 psi @ 32 spm. Drlg 6½ hrs, Trip ½ hr, WO water 3 hrs, MI&RU 14 hrs, Spud 17½" hole @ 9:50 PM 7-3-81. Trip @ 77' to check bit-was not making hole, bit was OK, reran & resumed drlg. Used 15 sx gel, 3 sx hulls, 5 sx paper, 2 sx soda ash. Progress 108'. Cost \$19,776
- 7-05-81 Day 2. 494'. WOC. Anhy & Red beds. MW 9.2, Vis 30, ST 494' @ ½°, Bit 1 17½" Security M4NJ, in @ 0' out @ 494'. WOB All #'s @ 70-100 rpm, PP 600 psi @ 34 spm, Drlg 9¼ hrs, ST ½ hr, Trip 1½ hrs, RR ¾ hr, Circ 1½ hrs, Run csg 2½ hrs, Cmtg 1 ¾ hrs, WOC & test csg 6 ¾ hrs. TD 17½" hole @ 3:30 pm, ran 11 jts 13 3/8" 48# H40 ST&C Lone Star csg, set @ 485.65' @ 494.40'. Cmtd w/480 sx Class C + 2% CaCl + ½# flocele per sx @ 14.8#/gal. PD @ 11:15 PM 7-4-81. Circ 25 sx good cement. USGS Notified, Mr. Coke, they did not witness. WOC 6 ¾ hrs & tested csg 600 psi 30" held OK. SLM 2.06 no corr. 48 sx gel, 3 sx soda ash, 2 sx paper. Progress 386'. Cost \$34,099.58
- 7-06-81 Day 3. 870'. Drlg. Anhy & Dolo. MW 8.9, Bit 2 12¼" Security M84F, in @ 498'. WOB 32,000# @ 75 rpm, PP 800 psi @ 50 spm. Drlg 16½ hrs, Trip 1½ hrs, Mud pump 3 hrs, Break off 17½" bit sub 1 hr, mouse hole ¼ hr, cut off csg & NU 1 hr, drl cmt & plug 1 hr. Cut off csg & NU ran 12¼" bit & tagged cement @ 448'. Drld cement plug & drld formation. 5 sx gel, 2 sx paper, 1 sx hulls, 2 sx soda ash, have lost 3' mud below surface (probably no fluid loss). Mud loggers on loc @ 1PM 7-5-81, Progress 376'. Cost \$40,224.58
- 7-07-81 Day 4. 1281'. Drlg. Lime & Dolo. MW 8.8, Vis 30, ST 1033' @ 1°, Bit 2 12¼" Security M84F, in @ 494'. WOB 35,000# @ 75 rpm, PP 900 psi @ 48 spm. Drlg 23½ hrs, ST ½ hr, Show 1216-26', fair oil stain & cut, poor porosity 155 units log hot wire C1-C4, no drlg break, have blanket (film) of black oil on suction pit. 40 sx gel, 8 sx paper, 7 sx hulls, 8 sx soda ash. Est. 90 bbls mud loss/24 hrs, Progress 411'. Cost \$48,491.32

- 7-08-81 Day 5. 1566'. Drlg. Sand. MW 8.6, Vis 29. Slids 1.7%. ST 1529' @ 3/4^o, Bit 2 12 1/2" Security M84F, in @ 494'. WOB 35,000# @ 75 rpm, PP 900 psi @ 51 spm. Drlg 21 1/2 hrs, ST 3/4 hr, Pump motor wet 1 1/2 hrs, Jet shate pit 1/2 hr. 6 sx soda ash, 6 sx paper, 38 sx gel, fluid loss 105 bbls mud past 24 hrs. Progress 285'. Cost \$54,739.32
- 7-09-81 Day 6. 1868'. Drilling. 60% Anhy, 30% Shale, 10% Dolo. MW 9.1, Vis 30, Slids 5.3%, ST 1623' misrun, Bit 2 12 1/2" Security M84F, in @ 494 out @ 1623', Bit 3 7 7/8" Reed HPSM, in @ 1623'. WOB 32,000# @ 53 rpm, PP 800 psi @ 56 spm. Drlg 13 hrs, Trip 6 3/4 hrs, RS 1/2 hr, Circ 3 hrs, Jet pits 1 hr, 36 sx gel, 2 sx soda ash, 1 sx paper, Bit 2 fair shape, SLM was 2' long to board, no corr., reduced hole size from 12 1/2" to 7 7/8" @ 1623'. Progress 302'. Cost \$62,558.69
- 7-10-81 Day 7. 2473'. Drilling. 30% Shale, 30% Dolo. 40% Anhy. MW 9.2, Vis 30, ST 2029' @ 3/4^o. Bit 3 7 7/8" Reed HPSM, in @ 1623'. WOB 35,000# @ 52 rpm, PP 800 psi @ 54 spm. Drlg 22 1/2 hrs, ST 1/2 hr, Pump repair 1 hr, 3 sx paper, drilling 2-3"/ft, Progress 605'. Cost \$79,518.08
- 7-11-81 Day 8. 2900'. Drilling. Anhy & Dolo. MW 10.1, Vis 36, WL NC, FC 3/32, pH 8.5, Cl 160,000, Slids 2.6%, ST 2529' @ 1/2^o. Bit 3 7 7/8" Reed HPSM in @ 1623'. WOB 35,000# @ 60 rpm, PP 850 psi @ 50 spm, Drlg 21 1/2 hrs, ST 3/4 hr, Pump repair 1 1/2 hrs, Jet shale pit 1/2 hr, Added 85 xx sea mud, 36 sx brine gel, 35% butane. Progress 427'. Cost \$86,240.18
- 7-12-81 Day 9. 3197'. Trip to NU. 60% Anhy, 40% Dolo. MW 10.5, Vis 35, WL NC, FC 3/32, pH 7.5, Cl 160,000, Slids 6 1/2%, ST 3030' @ 3/4^o. Bit 3 7 7/8" Reed HPSM, in @ 1623'. WOB 32,000# @ 60 rpm, PP 900 psi @ 50 spm, Drlg 21 1/2 hrs, ST 1 1/2 hr, Trip 1 hr, Circ 1/2 hr, Added 3 sx paper, 1 sx caustic, 19 sx starch, 75% butane. Progress 263'. Cost \$91,637.34
- 7-13-81 Day 10. 3370'. Drlg. 60% Anhy & 40% Dolo. MW 10.7, Vis 37, WL 11, FC 1/32, pH 7, CL 185,000, Slids 6.3%. ST 3197' @ 1/2^o Bit 3 7 7/8" Reed HPSM, in @ 1623' out @ 3197'. Bit 4 7 7/8" HTC J44C, in @ 3197'. WOB 32,000# @ 60 rpm, PP 800 psi @ 50 spm. Drlg 9 3/4 hrs, Trip 5 hrs, RR 1/2 hr, Unplugging bit 1 hr, Jet cellar 1/2 hr, NU 7 1/2 hrs. Bit that was pulled looked good. NU & installed BOP. No correction on strap. Attempted to level sub-structure w/out success, only had 1 truck. Drlg 3"/ft @ report time. After going back in hole, had 100 bbls loss, formation sealed off after getting back on btm & establishing circ. Mixed 2 sx paper, 60 sx starch & 5 sx KCL.. Depth reported yesterday should have been 3197'. instead of 3164'. Had 60% butane. Progress 173'. Cost \$98,079.84
- 7-14-81 Day 11. 3623'. Drilling. 50% Dolo, 50% Anhy, MW 10.7, Vis 33, WL 11, FC 1/32, pH 7.0, Cl 185,000, Slids 6.3%, Bit 4 7 7/8" HTC J44C, In @ 3197'. WOB 32,000# @ 54 rpm, PP 900 psi @ 36 spm, Drlg 23 3/4 hrs, Pump repair 1/2 hr, Added 2 sx paper, 12 sx gel, 4 sx starch, 58% LPG, have possibly 1 bit jet plugged & running pump @ 36 spm, still have adequate volume to clean hole. Progress 253'. Cost \$104,522.34

- 7-15-81 Day 12. 3809'. Drilling. Shale & Trace Sand. MW 10.5, Vis 37, WL 6, WC 3/32, pH 8.5, CL 170,000, Slds 5.5%. ST 3697' @ 3/4", Bit 4 7 7/8" HTC J44C, in @ 3197'. WOB 35,000# @ 60 rpm, PP 900 psi @ 34 spm. Drlg 22½ hrs, ST 3/4 hr, Pump repair ½ hr, RS ½ hr, Added 23 sx starch, 13 sx sea mud, 13 sx gel, 1 sx KCL, 1 sx caustic, 4 sx paper, 30 bbls brine. Progress 186'. Cost \$112,837.40
- 7-16-81 Day 13. 3959'. Drilling. Shale & Sand. MW 10.5, Vis 36, WL 8, FC 1/32, pH 8, Cl 158,000, Slds 6.5%. Bit 4 7 7/8" HTC J44C, in @ 3197'. WOB 45,000# @ 55 rpm, PP 900 psi @ 52 spm. Drlg 16 hrs, Trip 7½ hrs, RR ½ hr, Bit plugged @ 3828' & lost returns @ that time. TOH & cleaned bit jets (pump packing & black tape & cuttings) ran back in hole & resumed pumping, established circulation in 30". Total loss 250 bbls mud. 38 sx starch, 61 sx sea mud, 2 sx gel, 4 sx caustic, 2 sx KCL, 9 sx paper, 3 sx hulls, no loss of fluid after getting returns. Larger light plant set & hooked up. Electrical capacity is adequate. Progress 150'. Cost \$119,733.40
- 7-17-81 Day 14. 4242'. Drilling. 70% Sh, 10% Sd, 20% lime. MW 10.4, Vis 35, WL 8.0, FC 1/32, pH 9.0, Cl 155,000, Slds 6.0%, ST 4203' @ 3/4". Bit 4 7 7/8" HTC J55C, in @ 3197'. WOB 35,000# @ 60 rpm, PP 1000 psi @ 43 spm, Drlg 22½ hrs, ST 1½ hrs, Added 15 sx starch, 6 KCL, 3 sx caustic, 3 sx paper, drlg 4-5"/ft @ report time, no fluid loss/24 hrs Progress 283'. Cost \$129,176.17
- 7-18-81 Day 15. 4401'. Trip in Hole. 40% Lime 60% Shale. MW 10.7, Vis 37, WL 10, FC 1/32, pH 8.5, CL 160,000, Slds 7.5%, ST 4401' @ 3/4". Bit 5 7 7/8" HTC J44C, in @ 3197' out @ 4401', Bit 5 7 7/8" HTC J44C, in @ 4401'. WOB 32,000# @ 60 rpm, PP 1000 psi @ 42 spm. Drlg 14 3/4 hrs, ST ¼ hr, Trip 8½ hrs, Repair air lines ½ hr, Bit 4 locked up, TOH w/tight spot @ 3820'. Circ & rotated & pulled through spot. Bit had 1 cone locked w/some buttons missing. Added 5 sx starch, 1 sx caustic, 2 sx KCL, 25 bbls brine, 65% butane. Received 128 jts 4½" J55 10.5# ST&C csg. Progress 159'. Cost \$135,485.97
- 7-19-81 Day 16. 4526'. Drilling. Shale, Lime & Sand. MW 10.4, Vis 37, WL 12, FC 1/32, pH 9.0, Cl 148,000, Slds 6.2%, Bit 5 7 7/8" HTC J44C, in @ 4401', WOB 32,000# @ 52-60 rpm, PP 900 psi @ 50 spm, Drlg 18 hrs, Trip 5 3/4 hrs, Pump Ser. ¼ hr, On trip in hole, took weight @ 3820' Circ through tight spot. Ran 2 stands & washed down 30'. Ran 3 stds & had to wash down 30'. Ran 4 stds & washed 30' & then went to btm Lost 140 bbls mud after resuming drilling. 16 sx starch, 2 sx KCL, 2 sx casutic, 4 sx paper, 12 units gas, 60% butane, ruff coated 324 jts csg, 8 jts. Progress 125'. Cost \$142,520.46
- 7-20-81 Day 17. 4761'. Drilling. 20% Shale, 80% Lime. MW 10.4, Vis 38, WL 6.0, FC 1/32, pH 9.0, CL 145,000, Slds 6.5%. Bit 5 7 7/8" HTC J44C, in @ 4401'. WOB 32,000# @ 52-60 rpm, PP 1000 psi @ 42 spm. Drlg 23 3/4 hrs, RS ¼ hr, 10 sx sea mud, 5 sx gel, 1 sx caustic, 5 sx starch, 2 sx KCL. Drilling 4"-6"/ft, 4 -6 units background gas, no fluid loss last 24 hrs. Progress 235'. Cost \$151,942.37

- 7-21-81 Day 18. 4963'. Drilling. Lime & Granite. MW 10.4, Vis 37, WL 12, FC 1/32, pH 9.0, KCL 1 3/4%, CL 148,000, Slids 6 1/2%. Bit 5 7 7/8" HTG J44C, in @ 4401'. WOB 32,000# @ 60 rpm, PP 1000 psi @ 48 rpm Drlg 23 1/2 hrs, Chg Kelly Xover sub 3/4 hr. Drlg @ 7-8"/ft, 12 units background gas. Drlg break 4950-61' @ 2"/ft, samples not up @ report time. 15 sx starch, 4 sx caustic, 6 sx KCL, No fluid loss/24 hrs Progress 202' Cost \$160,009.65
- 7-22-81 Day 19. 5133'. Drlg. Limestone. MW 10.3, Vis 40, WL 8.0, FC 1/32, pH 8.5, KCL 1 1/2%, Cl 135,000, Slids 6.5%. ST 4982' @ 1/2". WOB 32,000# @ 55 rpm, PP 850 psi @ 50 spm, Drlg 23 1/2 hrs, ST 1/2 hr. Drlg @ 6" to 8"/ft, 12-14 units background gas, 22 starch, 5 caustic 5 sea mud, 1 paper, Progress 170', Cost \$171,548.28
- 7-23-81 Day 20. 5200'. Preparing to Run Logs. Shale & Sand. MW 10.4, Vis 51, WL 5, FC 1/32, pH 9.0, KCL 2.2%, Slids 6.5%. Bit 5 7 7/8" HTG J44C, in @ 4401' out @ 5200'. WOB 32,000# @ 55 rpm, PP 900 psi @ 52 spm. Drlg 9 1/2 hrs, ST 1/2 hr, Trip 5 hrs, RU loggers 1 hr, Short trip 3 hrs, Circ & condit hole 5 hrs. TD 7 7/8" hole @ 3:30 PM 7-22-81 MDST. Made short tip to 3700' & ran back to TD. Circ & condit hole & POH f/logs, did not lose any fluid. 18 sx sea mud, 12 sx brine gel, 33 sx starch, 6 sx caustic, 12 sx KCL, Progress 67'. Cost \$177,806.28
- 7-24-81 Day 21. 5200'. RU casers. Sand & Shale. MW 10.3, Vis 46, WL 6, FC 1/32, pH 9.0, KCL 2.2%, Cl 150,000, Slids 6.0%. ST 5200' @ 3/4". Trip 4 hrs, logging 7 3/4 hrs, RU to run csg 3/4 hrs, Circ 3 hrs, lay down drill pipe & collar 8 1/2 hrs. No mud loss or additives to system, RU & ran Go Services logs, ran DIL, Comp Neutron, Density, Gamma Ray, Caliper log. TD 5188'. SLM on trip f/logs 5204'. Ran back in hole & POH & laid down drill pipe & drill collars. RU casers. Cost \$194,944.72
- 7-25-81 Day 22. 5200'. Rig Released. Set slips 1 1/2 hrs, Run csg 4 1/2 hrs, Cmtg 3 hrs, circ between stages 4 1/2 hrs, RDR 11 hrs. Ran 126 jts 4 1/2" 10.5# K55 ST&C Range 3 csg set 517.26' @ 5181.01. Cement 1st stage 850 sx 50-50 Poz mix, Class C + 8# salt + 3/10% CFR2 @ 14.3#/gal. PD @ 12 Noon. Opened parts on DV tool & circulated, circ 200 sx cement. Circ & WOC 4 hrs & cemented 2nd stage 1400 sx 50-50 poz mix, cut 8# salt + 10# gilsonite & 2# gel + 3/10% CFR2 + 1/4# flocele @ 13.8#/gal. Followed w/600 sx Halliburton lite + 18% salt @ 13.2#/gal. Circ 400 sx cmt. Both stages witnessed by Mr. Coke USGS, Artesia. PD @ 5:45 PM 7-24-81. Set slips, released rig @ 7PM 7-24-81. Released butane & diesel tanks. Cost \$232,235.40
- 7-26-81 Day 23. WO rig to move. All rig moved out except mud pump, fenced 3 sides of pits.
- 8-11-81 Received 171 jts 2 3/8" J55 tbg on location, will RU completion rig today
- 8-12-81 Move in reverse rig, WOPU, bad weather can't get pulling unit to loc.

- 8-13-81 Started unit to location & ran out of diesel 3 miles from location (raining) order tbg (2 3/8") to Jacobson #30
- 8-14-81 Pulling unit on location & RU, ran 3 7/8" bit & 4 3 1/8" drill collars on 2 3/8" tbg, drill plug & cement & 2 stage collar, drill 4' cement below tool, pressure test csg & 2 stage tool to 1500 for 1/2 hr, held OK SIFN
- 8-15-81 Ran bit & tbg to 5144, circ hole w/2% KCL fresh wtr, POH
- 8-16-81 Ran 4 1/2" baker mode R pkr w/hydraulic hold down (GWD pkr) on 156 jts 2 3/8" J55 tbg w/1 jt of tail pipe, Packer @ 4795' & tail pipe @ 4825'-115' above perms. Spotted 15 bbls acid set pkr & acidized w/ 3000 gals 15% NE HCL w/inhibitors, iron & clay stabilizers & 30 7/8" RCN ball sealers. Formation broke @ 2500 psi, max pressure 5000 psi, min 2500 psi, avg 3000 psi, Injection rate max 6 BPM, minimum 2 BPM & avg 5 BPM. Balled out w/18 bbls acid under job, surged balls off perms, resumed treatment @ 3200 psi, ISDP 2000 psi, 15" 1800 psi, 60" 1800 psi, load 94 bbls, opened to reverse tank, flowed back 20 bbls load wtr & swbd 53 bbls load & acid wtr, SD w/21 BUL, no oil or gas shows
- 8-17-81 SDFS
- 8-18-81 Had sl. puff when opened, fluid @ 500', Swbd down to 4700', no gas or oil, closed in 1 hr & resumed swabbing, fluid rose to 3700' Made 1 swb run per 30" & fluid would raise 200', recovered 30 bbls very salty water. Water has slightly musky cloudy appearance. 9 BWOL
- 8-19-81 SITP 30 psi, no volume, ran swab & fluid @ 1000', made 4 swb runs & swbd down. Commenced making 1 swab run per 30" & fluid was raising 250' during down periods. Fluid was salty, no change in appearance. No gas or oil, Recovery was 18 bbls salt water in 8 hrs. Total recovery 27 BWOL, released pkr, POH, SD. Preparing to plug lower zone.
- 8-20-81 Ran Halliburton EZ drill cement retainer on 2" tbg to 4913'. 26' above top perf, set tool & pumped in perforations @ 2 1/2 BPM @ 2000 psi, squeezed perms w/25 sx class H cement 4939-4954 perforations, pumping pressure 2000 psi, pulled out tool & left cement on top of tool, pulled 1 jt of tbg & reversed out 1/2 bbls cement. Pulled tbg & RU loggers. Tagged @ 4902' wire line. Perfed w/3 1/8" csg gun, posijet .40" dia 16.7" penetration, select fire, 3995-3982', 13 holes, 3945-51 6 holes 3840-56 16 holes, 3769-80 11 holes, 3675-92 17 holes, total 63 holes RD loggers & SD
- 8-21-81 SD, WO equipment for stimulation

- 8-22-81 Ran Baker model R pkr w/1 jt of tailpipe on 2 3/8" tbg. Ran tbg w/tailpipe to 3995'. Circ hole w/2% KCL wtr. Spotted 5 bbls acid. Pulled pkr & set pkr @ 3775' w/tailpipe @ 3805'. Pressured up on backside to 500 psi. Treated w/3000 gals 7 1/2% MSK acid & inhibitors & 80,000 CF nitrogen & 112 7/8" NCR ball sealers. Formation broke @ 2900 psi, treated @ an average rate of 4.1 CF nitrogen & 3.36 bbls acid per min @ est avg pressure of 4000 psi, max 4900, min 3000, balled out @ 4900 psi, dropped balls & finished treatment. ISIP 3000 psi, 15 mins 1650 psi, 45 mins 1550 psi. Total load to recovery 145 bbls. opened choke to 32/64", pressure dropped to 1050 psi in 30 mins, took 3 hrs to open choke wide open. Flowed back acid gas & wtr in slugs. Left flowing on 32/64" choke overnight.
- 8-23-81 8:30 AM, FTP 40 psig on 32/64" choke, Est rate 280,000 CFPD. Opened bypass on pkr w/2% KCL wtr on backside, killed well. Started out of hole w/2 3/8" tbg, lacked 36 jts being out & well unloaded. Closed BOP & stabbed valve, secured well, re-opened well on 32/64" choke, SDFN, left well flowing to pit
- 8-24-81 Pumped 68 bbls 2% KCL wtr down csg, circ out tbg, finished pulling tbg, ran tbg back in hole. Started to pack off head-had gas bubble trying to blow out again, pumped 24 bbls 2% KCL fresh wtr, secured well head & shut well in. Took 1 hr test prior to killing well, well flowing on 1/2" choke w/300 psig, est rate 420,000 CFGPD, prep to frac.
- 8-25-81 Fraced in 4 stages w/200,000 gals 75% quality foam + 292,000# of 20-40 mesh sand + 10,500# 100 mesh salt + 32,810 standard CF nitrogen & 60 7/8" NCR ball sealers. 1st stage: 6000 gals w/1#/gal + 4,000 gals foam w/2 1/2# sand/gal + 11,000 gals foam w/3# sd/gal, 2nd & 3rd & 4th stage same as 1st stage except ball sealers & 100 mesh salt. treated @ average rate of 21 BPM down tbg & csg @ avg press of 3000 psi, max 3220 psi & min 2600 psi. ISIP 1880 psi, 15 mins 1680 psi Total fluid to recover 912 bbls. Opened well 30 mins after treatment w/1775 psi on 1/2" choke @ 2PM, from 4PM to 5:30 pm 1/2" choke w/80 psi FP, choke cut out completely. Took readings until 8PM @ 60 psi on 3/4" choke. 10PM FP 50 psi, 3:45 AM 8-25-81, well stabilized @ 50 psig on 3/4" choke, well cleaning up good, rate est 530,000 CFPD. Left well flowing to clean up.
- 8-26-81 FTP @ 10AM 50 psig, wide opened choke, rate 530 MCFPD, Shut well in @ 10AM, will install new choke today. RDPU moved to QUAIL #2
- 8-27-81 Did not get choke installed, will install today, SITP 900 psi
- 8-28-81 SITP 990 psi

8-29-81 SITP 1000 psi, installed new choke, Opened choke on 20/64", flowed well 2½ hrs, at end of 2½ hrs well flowing w/800 psig. Reopened choke to 24/64" flowed well 1½ hrs w/FTP of 710 psig @ end of flow period. Shut well in. Est. flow rate @ end of 1½ hr flow period based on 723.2 psig 2480 MCF/D. Pressure was still declining @ end of period.

9-01-81 SITP 1000 psi

9-02-81 1010 psi/96 hrs SI

9-04-81 Preparing to 4pt

9-05-81 Ran 4pt test w/2" critical flow prover over flange tap 10AM 9-4-81 after 154 hrs SI DWT 998 psi

1. FTP 980 psi	1/8" chk	1 hr	170700 SCF
2. FTP 926 psi	7/32" chk	1 hr	511300 SCF
3. FTP 817 psi	5/16" chk	1 hr	898300 SCF
4. FTP 712 psi	3/8" chk	1 hr	1,051,500 SCF

Have bomb in hole f/pressure bld up

9-10-81 Pulled BHP bomb 9-8-81

9-12-81 AOF 4322.6 MCFD, has 46.6% N2