

10-22-80 5,601[±] MADE 0[±] IN MANCOS FORMATION. MW WTR. BIT NO 6, 6-1/4", HTC, J55, JETS OPEN, DEPTH IN 5,601[±]. OPER TRIP.

COMPONENT	LENGTH	O.D.	I.D.
BIT	0.65 [±]	6-1/4"	
FIRE FLOAT	4.00 [±]	4-3/4"	2-1/4"
2 DC [±] S	61.81 [±]	5"	2-1/4"
FIRE STOP	1.70 [±]	4-3/4"	2-1/4"
16 DC [±] S	463.34 [±]	5"	2-1/4"

TOTAL BHA 533.50. FINISHED RUNNING 51 JTS 7". CSG RAN AS FOLLOWS:

NO. JTS	SIZE	OVERALL LENGTH	EFFECTIVE LENGTH	SETTING FROM	DEPTH TO
1	RECTOR GUIDE SHOE	1.05	1.05	5,600.85	5,599.83
1	7" 23# 8RD K-55	41.68	41.38	5,599.83	5,558.45
1	ST&C R-3 C-1 BAKER DIFF FILL	2.20	1.90	5,558.45.	5,556.55
36	7" 23# 8RD K-55	1,496.25	1,485.45	5,556.55	4,071.10
1	ST&C R-3 C-1 RECTOR STAGE COLLAR	2.35	2.05	4,071.10	4,069.05
14	7" 23# 8RD K-55	575.50	571.30	4,069.05	3,497.75
84	ST&C R-3 C-1 7" 20# 8RD K-55	3,525.85	3,500.65	3,497.75	2.90 KB
135	ST&C R-3 C-1	5,639.28	5,598.78		

NO CENTRALIZERS: 5; DEPTHS OR JTS: ON JTS #1,#3,#5,#36,#38. LANDED SHOE @ 5,601[±] KB. 1ST STAGE: CMTD CSG W/200 SKS OF BJ LIGHT W/.8% D-19, 1/4#/SK CELLOFLAKE, FOLLOWED BY 100 SKS OF CLASS "B" W/.8% D-19, 1/4#/SK CELLOFLAKE. USED 20% EXCESS VOLUME. PMPD 800 GAL, THEN 5 BBLS WTR AHEAD. MIXING TIME 14 MIN, PMPG TIME 25 MIN, TOTAL TIME 39 MINS. CIRC PRESS 300 PSI, DISPLACEMENT PRESS 500 PSI, MAX PRESS 1,000 PSI. DISPLACED CMT W/58/164 BBLS WTR/MUD W/BJ PMP. BUMPED PLUG W/500 PSI. PLUG DOWN @ 11:15 AM 10-21-80. GOOD RETURNS WHILE CMTG. 2ND STAGE: CMTD CSG W/200 CSKS OF BJ LIGHT W/.8% D-19, 1/4#/SKS CELLOFLAKE, FOLLOWED BY 100 SKS OF CLASS "B" W/.8% D-19, 1/4#/SK CELLOFLAKE. USED 20% ESCCESS VOLUME. PMPD 800 GAL, THEN 5 BBLS WTR AHEAD. MIXING TIME 14 MINS, PUMP TIME 23 MINS, TOTAL TIME 37 MINS. CIRC PRESS 100 PSI, DISPLACEMENT PRESS 300 PSI, MAX PRESS 2,000 PSI. DISPLACED CMT W/164 BBLS OF WTR W/MB PUMP. BUMPED PLUG W/1,700 PSI. PLUG DOWN @ 4:15 PM 10-21-80. GOOD RETURNS WHILE CMTG. FLOAT EQUIP CHECKED OK. WOC 6 HRS. LANDED CSG ON SLIPS W/32,000 LBS. EST[±]D CMT TOP IN ANNULUS 2,700 FT. CMT BAKSETS @ 3,435[±].

12-23-80 5,601[±] MADE 0[±] IN MANCOS FORMATION. MW WTR. BIT NO 6, 6-1/4", HTC, J55, JETS OPEN, DEPTH IN 5,601[±]. OPER DRY HOLE. TOTAL BHA 533.50[±]. TAG DV @ 4,069[±], DRLD OUT, TEST CSG & BOPS TO 1,200 PSI OK, TAG FLOAT COLLAR @ 5,540[±], SHOE @ 5,600[±], PRESENTLY DRYING HOLE TO BEGIN DUSTING.

12-24-80 6,614[±] MADE 563[±] IN MANCOS FORMATION. MW WTR. PUMP PRES 150. BIT NO 6, 6-1/4", HTC, J55, JETS OPEN, DEPTH IN 5,601[±], 563 FT, 13-1/2 HRS, 41.7 FT/HR. OPER DRLG. RPM 60, WT ON BIT 16,000#. DEV DEPTH 5,913[±] INC 1°. TOTAL BHA 533.50[±]. DRLD FROM 5,601[±]-6,164[±] (563[±]), PRESENTLY DRLG AHEAD W/NO PROBLEMS.

12-25-80 7,029[±] MADE 865[±] IN SANASTEE FORMATION. MW AIR. PUMP PRESS 150. BIT NO 6, HTC, J55, JETS OPEN, DEPTH IN 5,601[±], 1,428 FT, 35-1/2 HRS, 40.2 FT/HR. OPER DRLG. RPM 60, WT ON BIT 14,000#. DEV DEPTH 6,196[±] INC 1°, DEV DEPTH 6,590[±] INC 1-1/4°, DEV DEPTH 6,854[±] INC 1-1/2°. TOTAL BHA 533.50[±]. DRLD 6,169[±]-7,029[±] (865[±]), PRESENTLY DRLG AHEAD NO PROBLEMS.

12-26-80 7,525[±] MADE 496[±] IN DAKOTA FORMATION. MW AIR. PUMP PRESS 150. BIT NO 6, 6-1/4", HTC, J55, JETS OPEN, DEPTH IN 5,601[±], DEPTH OUT 7,525[±], 1,925 FT, 54-3/4 HRS, 35.5 FT/HR. OPER POH. RPM 45, WT ON BIT 14,000#. DEV DEPTH 7,525[±] INC 1°. TOTAL BHA 533.50[±]. DRLD 7,027[±]-7,525[±] (496[±]), TD @ 7,525[±], BLEW WELL DOWN, POH TO RUN LOGS.

10-27-80 7,525[±] MADE 0[±] IN DAKOTA FORMATION. POH, LOGGED W/DRESSER ATLAS, RAN DIL, GR, FDC, CAL, SNP, L/D 25 STDS BOP & BHA, LDDP, PRESENTLY N/D (30 FLARE WHILE RUNNING CSG & CMTG) RIG UP.

NO. JTS	SIZE	OVERALL LENGTH	EFFECTIVE LENGTH	SETTING FROM	DEPTH TO
1	4-1/2" GUIDE SHOE	0.60	0.60	7,524.00	7,523.40
1	4-1/2" 10.5# 8RD K-55 ST&C R-3 C-1	41.30	41.00	7,523.40	7,482.40
1	4-1/2" FLOAT COLLAR	2.80	2.50	7,482.40	7,479.90
50	4-1/2" 10.5# 8RD K-55 ST&C R-3 C-1	2,071.68	2,056.68	7,479.90	5,923.22
<u>1</u>	4-1/2 X 7" LINER HANGER	<u>10.00</u>	<u>10.00</u>	5,423.22	5,413.22
51		2,112.96	2,097.68		

NO CENTRALIZERS: 0; SEPTHS OR JTS: LANDED SHOE @ 7,524[±] KB. 1ST STAGE: CMTD CSG W/200 SKS OF 50/50 POZ W/6% D-20, 0.8% D-60, FOLLOWED BY 50 SKS OF CLASS "B" W/0.8% D-60. USED 10% EXCESS VOLUME. PMPD 30 BBLS KCL AHEAD, 3 BBLS BEHIND. MIXING TIME 8 MIN, PMPG TIME 6 MINS, TOTAL TIME 14 MINS. CIRC PRESS 100 PSI, DISPLACEMENT PRESS 1,300 PSI, MAX PRESS 1,800 PSI. DISPLACED CMT W/73 BBLS OF WTR W/DOWELL PUMP. BUMPED PLUG W/1,800 PSI. PLUG DOWN @ 11:15 PM 10-26-80. GOOD RETURNS WHILE CMG. CIRC 10 BBLS CMT TO SURFACE. AFTER RELEASING FROM LINER, REVERSED 10 BBLS CMT TO RESERVE PIT.

10-28-80 7,524[±] MADE 0[±] IN DAKOTA FORMATION. RELEASED RIG @ 7:00 AM 10-27-80, PRESENTLY MOVING RIG TO JICARILLA APACHE #13E - ROADS MUDDY & SLICK.

10-29-80/
12-8-80 WAITING ON COMPLETION UNIT.

- 12-9-80 Moved rig. RIH w/6-1/8" bit.
- 12-10-80 Tagged liner top @ 5413'. COH. RIH w/csg scraper. COH. RIH w/3-3/4" bit. Tagged collar @ 7481'. Started drlg thru collar.
- 12-11-80 Drld cmt to 7523'. COH. RIH w/csg scraper. COH. Run cased logs w/o press & w/1000# press. RIH w/tbg. Started to press test. Western Co.'s check valves leaking. Will try again to press test.
- 12-12-80 RIH w/4½" pkr set in liner @ 5450' KB. Annulus held 3500#. 4½" liner leaked off 200# in 15 min. Reset 4½" pkr @ 7470' KB. Annulus held ok. Press leaked out btm of liner. COH. Ran & set Baker CIBP on wireline @ 7525' KB. Total csg held 3500#. SDN.
- 12-13-80 Loaded Vann guns. Perf'd 7480' - 7504' w/2 shots/ft. Correlated depth w/McCullough Gamma ray. No flow back. SI 1 hr, no press buildup.
- 12-14-80 TP 0. Acidized perfs w/1000 gal 15% HCL w/Fe inhibitor, followed w/11 BW to displace in tbg. SWI for 70 min, TP 340 psi. Swabbed back wtr & acid. SI. *Rig down*
- 12-15-80 SITP 400 psi.
- 12-16-80 SITP 440 psi. Opened well to pit @ 11:40 a.m. Will leave well open overnight. Will hang bombs & begin 7 day buildup test 12/16 a.m.
- 12-17-80 Hung press bombs in a.m. 1st day of buildup test.
- 12-18-80 Well SI. 2nd day of press buildup test.
- 12-23-80 - SI for press test.
12-25-80
- 12-26-80 - Static.
12-29-80
- 12-31-80 Press survey results of Morrison Test. BHP initial 2930 psi building to 2980 psi in 167 hours. Hole full of wtr. Well presently SI.
- 1-1-81 - static*
1-7-81
- 1-13-81 RU Drake rig #21 & begin swabbing. TP 5 psi before swabbing. Swabbed 15 BW. FL was @ 1000' before swabbing & dropped to 2000' after swabbing.
- 1-14-81 TP 150. FL 1000'. Swabbed 50 BW. FL dropped to 4000' by end of day. 1st 2 runs recovered all wtr. Then recovered small amt of gas w/each run. Final 8 runs small gas blow after each run.
- 1-15-81 SITP 780 psi. Swabbing Morrison zone. Initial FL @ 2000'. Swabbed 61 BW in 26 runs. FL holding @ 1000' after 16th run. Pulling fluid from 7000'. Heavy gas blow after 4th run to end of day.
- 1-16-81 Swabbing Morrison zone. SITP 1100 psi. Initial FL @ 2000'. Swabbed a total of 17 BW in 12 runs w/a strong gas blow after each run. 1 run/hr approx. Gas blow then tapers off to a faint blow before the next run. FL holding @ 5000'; pulling swab from 7400'. A small amt, less than 1 pint, of an asphalt substance recovered on swab during 4th & 5th runs. No evidence of this material on later runs.
- 1-17-81 SITP 1400 psi. Swabbing Morrison zone 7480' - 7504'. Initial FL @ 2200'. Swabbed 26 BW in 13 runs w/strong gas blow after each run. FL holding @ 3500' & pulling swab from 6000'. Tar substance recovered on 1-16-81 was cosmolene from sand line. SDN.
- 1-18-81 SITP 1500 psi. Initial FL @ 4500'. Made 1 swab run for wtr sample. Released pkr & COH w/Vann guns. McCullough RU & set Baker Model "S" drillable BP @ 7463' KB to isolate Morrison zone. McCullough RIH w/3½" X20' dump bailer & dumped 1½ sx of redi-mix concrete on BP. Est top of cmt @ 7350' KB (PBSD). SDN.
- 1-19-81 Static/Sunday.

- 1-20-81 Press tested csg to 1000 psi for 15 min, held ok. RIH w/MOC Baker Model "R" double grip pkr & 2 profile nipples on 2-3/8" tbg. Tagged solid PBDT @ 7463' KB. Set pkr @ 7282' KB w/11,000# compression. Baker 1.81" "F" nipple @ 7247' KB & Baker 1.78" "R" nipple @ 7279' KB. Press tested annulus to 1000 psi for 15 min, held ok. Press tested X-mas tree to 1000 psi for 15 min, held ok. Swabbed tbg dry to 2000'. GO Wireline unable to perforate due to bad collar locator. SDN.
- 1-21-81 Waited 4 hrs for parts for GO Wireline's perforating gun. GO attempted to perforate Dakota zone: 7,330' - 44'; gun misfired on 3 runs. Released GO. SDN.
- 1-22-81 Released pkr. ND tree & NU BOP. Press tested BOP to 1000 psi for 15 min, held ok. RIH w/pkr to 7440' KB. Western RU & spotted 300 gal of 7½% inhibited HCl down tbg w/29 BW. COH w/tbg & pkr. GO Wireline RU & RIH w/3-1/8" dia. select-fire perforating gun & fired one 9-gram, .32" dia shot/ft @ the following depths: Graneros - 7200', 04', & 10'; Dakota - 7330', 34', 39', 44', 61', 64', 67', 72', 78', 7418', 24', & 30' KB. RD GO Wireline. All shots fired. SDN.
- 1-23-81 Graneros 7200 - 10' KB & Dakota 7330 - 7430' KB. Csg on vacuum. Western RU for breakdown & acidize above zones. Caught fluid after pmpg 7 BW. Perfs broke down @ 8.3 bpm & 1600 psi. Pmpd total of 50 BW to est a rate of 8.3 bpm @ 1400 psi. SD. ISIP 1000 psi. Pmpd 1500 gal of 15% HCl w/30 7/8" RCN sealer balls & 200 BW @ 7.8 BPM & 2200 psi. Dropped 1st ball after 6 bbl of acid then 1 ball after each bbl of acid thereafter. Seen ball action 17 times w/press ranging from 2700 to 1900 psi @ 7.8 bpm. Flushed w/15 BW @ 7.8 BPM & 1800 psi. SD pumps. Well flowed back app 15 BW. RIH w/csg scraper, MOC Baker model "R" double grip pkr & 2 profile nipples on 2-3/8" tbg to 7444' KB to knock off sealer balls. COH w/pkr to 7152' KB. Pmpd 20 BW down annulus to displace any acid. Set pkr @ 7152' KB w/10,000# compression. Press tested annulus to 1000 psi, held ok. Pmpd 20 BW down tbg to est a rate of 6.2 BPM @ 3200 psi. ISIP 900 psi, 1 min 750 psi, 5 min 550 psi, 10 min 400 psi, & 15 min 300 psi. Western RD. Total load fluid into formation 354 bbls. Swabbed back 17 BW, FL @ 900'. SDN.
- 1-24-81 Friday 7 a.m. SITP 700 psi. Made 2 swab runs. Well started flowing back @ 10:00 a.m. Let well flow to mud tanks, total fluid swabbed & flow back from 7 a.m. to 3 p.m. was 52 bbls, acid, wtr, & cond. Total load fluid was 354 bbls. Total load fluid to date recovered is 69 bbls. Strong gas blow now coming w/flowback fluids. Drained mud tanks to reserve pits. Left well flowing to mud tank overnight. Moved in 8 500-bbl Western frac tanks, & 1 sand master unit. SDN.
- 1-25-81 Sat 8 a.m. Well continues to flow from tbg to mud tank, acid, wtr, cond, & strong gas blow. Total overnight flowback was 88 bbls. Drained mud tank to reserve pit. Pmpd down tbg 35 bbl KCl 2% wtr & killed well. Checked well for positive kill. Released Baker 4½" Model R pkr @ 7152' KB & COH standing back 230 jts 2-3/8" J-55 upset tbg. Broke out & laid down pkr & scraper. Closed well in. SDN. LAD Trucking hauled wtr for Monday frac job. Total load fluid 354 bbls, total load fluid recovered to date 157 bbls.
- 1-26-81 LAD Water Service finished filling 8 500-bbl tanks w/wtr. Rig SD due to Sunday. Frac job set up for 11 a.m. Monday.
- 1-27-81 Monday 7:30 a.m. SICP over weekend was 1125 psi. Blew down CP to flare pit. RU Western Fracturing Services & pressured all systems to 4000 psi. Formation & footages of fracture:
 Graneros: 7200' - 7204' - 7210' KB
 Dakota A: 7330' - 7334' - 7339' - 7344' KB
 7361' - 7364' - 7367' - 7372' - 7378' KB
 Dakota B: 7418' - 7424' - 7430' KB
 Fraced down csg w/130,000 gal Mini-Max III-40/2% HC gel containing 260,000# 20-40 sand. All gel contained 2% KCl, 2% diesel, ½ gal/1000 X-Cide 102W, ½ gal/1000 Claymaster III, & 1 gal/1000 Aquaflo. CO₂ = 400 scf/bbl for frac fluid & flush KCl wtr.
 Stage #1: Prepad + Rate 25 bbl/min, 2000 psi. Pmpd 98 bbl pad & developed leak in CO₂ connections. SD prepad, repaired connection & cont prepad pmpg. Finished prepad @ 25 bbl/min - 2150 psi. Additive + .1#/1000 B-5

- 1-27-81 Stage #2: 1 ppg 20-40 sand pmpd 619 bbls, 25 bbl/min, 2100 psi
Additive ÷ .25#/1000 B-5
- Stage #3: 2 ppg 20-40 sand. Pmpd 619 bbl, 25 bbl/min, 2100 psi.
Additive + .5#/1000 B-5
- Stage #4: 3 ppg 20-40 sand. Pmpd 619 bbl, 25 bbl/min, 2000 psi.
Additive ÷ 1#/1000 B-5 (hit formation face @ 1950 psi)
- Stage #5: 4 ppg 20-40 sand. Pmpd 619 bbl, 25 bbl/min, 1900 psi
Additive + 2#/1000 B-5 (hit formation face @ 1850 psi)
All sand in @ 25 bbl/min; 1800 psi, 260,000# 20-40
- Stage #6: Flush went as follows: Pmpd 238 bbl (KCl 2% 208 BW plug
30 bbl CO₂) @ 25 bbl/min @ 1800 psi. This was displacement
to 7000' KB, 200' short of top perfs.
- SD frac job @ 4:05 p.m. ISIP 1700 psi. Held press 20 min 1300 psi.
RD & released Western. Frac designed for 3 hr breakdown of gel &
healing of fracture. Left well closed in for 3 hrs, 15 min.
7:20 p.m. 750 psi CP. Installed blow down line & choke. Started
blowing down well to pits thru 19/64" choke & 650 casing psi. Heavy
volume of fracture, foamy fluid to pits. Blowdown observance to be
watched by (well tender) thru night. 8:00 p.m.
Good frac job by Western Services.
- Frac fluid pmpd:
- | | |
|------------------------|-----------|
| Prepad | 619 bbls |
| Treating fluid | 2476 bbls |
| Flush | 208 bbls |
| Total fluid to recover | 3303 bbls |
- 1-28-81 Monday pm. Left well blowing back to pits, 650 psi csg, 19/64 choke.
Well flowed back 800 bbl frac fluid & sand. CP decreasing @ 2:00 a.m.
Tuesday 7:00 a.m. Well blowing to pits, gas & small amts of frac fluid
& sand. Casing psi now decreased to 30 psi, 24/64" choke. Tuesday
2:30 p.m. Well now releasing small amt of gas, no frac fluid or sand.
Started in hole w/prod equip - 10' mule shoe, 1.81 profile nipple
(without plug) & 2-3/8" tbg string. Ran 34 jts = 1000' 2-3/8" tbg
& well started unloading thru tbg. Stabbed & shut off tbg valve.
Blew excessive psi to pits. Pulled & stood back 34 jts tbg, nipple &
mule shoe. Turned csg psi to pits. SDN. Total fluid flowed back =
1000 bbls.
- Wednesday proposed schedule - Run 2-3/8" tbg, w/circulating plug &
profile nipple, 10' mule shoe. Tag frac sand fillup w/tbg string. If
not excessive, retrieve circ plug w/wireline, land production string w/
profile nipple @ 7170' KB & flowback frac fluid & sand. If well has
excessive sand buildup & will not blow down from tbg, nitrogen cleanout
will be set up for Thursday.
- 1-29-81 Wed a.m. No frac fluid coming from well. Small amt of gas from
blowdown line @ pits. Counted pipe in derrick & on location. Tallied
tbg. WIH w/10' mule shoe, Baker 1.81 F profile nipple, circulating
blanking plug & 237 jts 2-3/8" upset tbg. Tagged top of frac sand
fillup @ 7356' KB. PBTd cmt top 7450' KB. Indicating 94' frac sand
fillup & 8 of 15 fraced perforations covered w/frac sand. COH w/6
jts & landed end of mule shoe @ 7192.45' above top perfs. Profile
nipple now @ 7181.45' KB. Installed blown down valve & line from tbg
to pits. Pmpd KCl wtr to equalize tbg w/csg. RU B & R Wireline
Services to retrieve circulating blanking plug. WIH w/wireline &
retrieved plug @ 7180' KB wireline measurement. FL was tagged @
750'. Released plug from profile nipple & COH. No fluid or gas to
surface after plug release. RU swab equipment & made 3 swab runs.
Lowered tbg & csg levels from 750' to 1350' = 24 bbl. Still no returns
of frac fluid. SDN.
- Thursday Proposed Schedule: nitrogen cleanout lined up w/Newsco @
10 a.m.

- 1-30-81 Well was SION. Csg psi 0. Tbg psi 300. Gas only, no fluid. WIH & set circulating blank plug in profile nipple @ 7580' KB. Tagged FL @ 1100' KB. COH & RD wire service. Tagged top of frac sand fillup @ 7336' KB. An addition of 20' overnight. We now have 114' frac sand to nitrogen out. RU Nowsco & pmpd down tbg 116,000 SCF @ 3100 psi & cleaned out 4½" liner from 7336' to 7450' KB. RD Nowsco. Tagged soled cmt top w/tbg @ 7450' KB. Pulled up hole & landed tbg in donut. Removed BOP & installed tree & blown down line. Production string consist of the following:
- | | |
|-----------------------|---------------------|
| 231 jts tbg | 7,191.53' KB |
| 1.81 F Profile Nipple | .92 |
| Mule Shoe Jt | 10.00 |
| | <u>7,202.45' KB</u> |
- Retrieved circulating plug from 7180' & RU Nowsco. Well didn't kick off. Pmpd remainder of nitrogen 54,000 SCF @ 1000 psi down csg & tbg started to unload. CP 750 psi & good gas blow w/frac fluid. Returns will flare at pits. ¾" choke.
Friday 8:00 a.m. CP 400, tbg 80, ¾" choke. Medium to light mist. Approx 1000 bbl frac fluid return. 2,000 bbls total to date. Trace of oil now in returns. Rigging down & moving rig.
- 1-31-81 RD Drake Well Service Rig #21 & moved all equipment from location. Cleaned mud pit. Well report 10:00 p.m.
Casing 390 psi, tbg 80-100 psi rocking press, heavy mist - frac fluid, trace of oil, flare has burnt all day.
- 2-1-81 Saturday: Csg 350 psi, ¾" choke, tbg 50 psi steady, lots of gas to pit - Barn Burner, medium mist frac fluid, trace of oil, approx 30 bbl frac fluid back each day, flaring @ pits.
- 2-2-81 Sunday: Csg 325 psi, ¾" choke, tbg 60 psi, light mist frac fluid, trace of oil, flaring @ pits.
- 2-3-81 Csg 310 psi, tbg 50 psi, choke ½ to ¾, seat may be washed out. Light mist, wtr & oil. Flaring @ pit 8' - 10'. Flaring approx 12 to 15 bbl wtr & oil/day.
- 2-4-81 Csg 300 psi, tbg 55 psi. Choke ½", seat may be washed out. Light mist wtr & oil. Flaring to pit 10 - 12' flame. Flaring approx 12 bbl wtr & oil/day. Ted's field service setting up test equipment @ well. Plan to have test tomorrow.
- 2-5-81 Wed: Finished hooking up portable tester & condensate tank. Started testing well @ 1:00 p.m. Flaring @ pit. Test hrs 17. Temp 70°. CP 400, TP 225, oil 21, wtr 11, choke 48/64, 466 MCF.
- 2-6-81 Thursday: csg 400 psi, 24 hr test; tbg 230 psi, 20 B0, 10 BW, 42/64" choke, 75° temp, 466 MCF, 10-12' flare @ pits.
- 2-7-81 Friday: Csg 425 psi, tbg 230 psi, 20 B0, 9½ BW, 48/64" choke, 75° temp, 466 MCF, 24 hr test, static 6.3, diff 3.5.
- 2-8-81 Saturday: Csg 420 psi, tbg 230 psi, 19 B0, 9 BW, 48/64" choke, 75° temp, 466 MCF, 24 hr test, static 6.3, diff 3.5.
- 2-9-81 Sunday: Csg 425 psi, tbg 230 psi, 19 B0, 8½ BW, 48/64" choke, 75° temp, 466 MCF, 24 hr test, static 6.3, diff 3.5. To be SI Monday or Tuesday for flow & BHP tests by Tefeller, Inc.

- 2-10-81 Csg 430 psi, tbg 230 psi, 19 BO, 8 BW, 48/64" choke, 6.3 static, 3.5 diff, 75° temp, 466 MCF, 24 hr test. Tefteller not on location today to run BHP & tests on well. Well flaring to pits.
- 2-11-81 Csg 430, tbg 230, 7 BO, 2 BW, 48/64" choke, static 6.3, diff 3.6, 60° temp, 472 MCF, 9 hr test. Tefteller running BHP on well as of 4:30 p.m. today.
- 2-12-81 Dakota (7330-7378'), Graneros (7200'-7210'). Well SI. Tefteller running press bomb tests. Observed CP. 1600 psi.
- 2-13-81 Well SI by Tefteller for BHP tests. Didn't observe csg psi today.
- 2-14-81 Tefteller running BHP tests. Well SI, observed CP 1725 psi.
- 2-15-81 Tefteller running BHP tests. Observed CP 1750 psi.
- 2-16-81 SI
- 2-17-81 No report.
- 2-18-81 SI w/press bomb in hole.
- 2-20-81 Static *waiting on rig.*
- 2-25-81 RU B&R Wireline unit. RIH & set FWP blanking plug in "F" nipple @ 7192.45' KB. Blew tbg down. Moved completion unit on location. RU. Installed BOP & began stripping tbg out of hole. Pulled 25 stds. SDN.
- 2-26-81 Finished stripping out of hole w/tbg. RU McCullough & set Baker retrieva "DB" 4½" pkr w/tail assembly @ 7150' KB. Shear pin on setting tool release did not shear but pkr did set. Pulled out of rope socket leaving setting tool on pkr to be fished out later. Loaded hole w/2% KCl wtr. Set Baker RBP (7") @ 5330' KB. Press tested to 1000#. Held for 15 min. RIH w/McCullough csg guns (3 runs) & perforated Point Lookout 5,148', 49', 50'; 5,229', 30', 31', 32', 33', 34', 36', 38', 40', 41'; 5,251', 52', 53', 75', 76', 77', 78'. Holes are .32" dia. RD McCullough. SWI, SDN.
- 2-27-81 SICP 190 psi. Thursday: Finished GIH w/2-3/8" 8R tbg. Landed tbg w/btm @ 5106' KB. RU Western to acidize. Circ hole clean w/50 bbl 2% KCl wtr. Pmpd 48 bbl 7½% HCl inhibited acid dropping 30 RCN 7/8" ball sealers throughout job. Displaced acid w/30 bbl 2% KCl. Very little ball action observed.
- | | | | |
|-----------------------|---------|----------|----------|
| Treating Press | Min 500 | Max 2500 | Avg 1900 |
| Treating Rate bbl/min | 3.5 | 5.5 | 4.0 |
- ISIP 400 psi, 5 min 300, 10 min 250, 15 min 200.
RD Western. Flowed back tbg to pit. Flowed back 4 bbl 2% KCl in 15 min. Died. Rigged to swab. Initial FL 1000'. Final FL 2500'. Swabbing from 5000'. Swabbed back total of 71½ bbl 2% KCl in 10 runs. Total fluid pmpd 128 bbl. Total fluid in hole 197 bbls. Fluid to recover from formation 78 bbl. TF to recover from csg & formation = 197 + 78 - 71½ = 203½ bbl KCl & acid. Note: Recovered approx 4 bbl cond @ beginning of circulation cleanup.
- 2-28-81 SICP 150. Initial FL 2200'. Swab 10 runs from 5000', swabbed 51 BF contained 2% KCl, acid, & gas. Approx 38 bbl acid. Final FL 2800'. TF recovered = 71½ + 51 = 122½ bbl. Total fluid to recover from formation & csg = 152½ bbl. SDN.
- 3-1-81 SICP 150. Opened w/slight puff of gas. RU Western frac equip. Tested lines to 4400 psi. Fraced Point Lookout perfs 5148' - 50', & 5,229', 30', 31', 32', 33', 34', 36', 38', 40', 41', 51', 52', 53', 75', 76', 77', 78' w/foam frac. Fraced w/70 quality foam, 2% KCl wtr, 1 gal/1000 Aquaflo, 23,100 SCFM N₂, 14 gal/1000 221 Addfoam, 89,000# 10-20 mesh sand. Fraced down annulus as follows: 33 bbl foam pad to circ out KCl wtr & fill tbg, 146 bbl remaining pad, 30 BPM @ 2200 psi, 192 bbl, 30 BPM, 2300 psi, 10-20 sand, 1.67 ppg
206 bbl, 30 BPM, 2300 psi, 10-20 sand, 3.33 ppg
220 bbl, 30 BPM, 2300 psi, 10-20 sand, 5.0 ppg
39 bbl, 30 BPM, 2600 psi, 10-20 sand, 6.67 ppg
Had to cut 6.67 ppg sand @ 3300 psi; slowed rate to 23 BPM till press reached 4000 psi after pmpg 12 bbl foam, SD pump. ISIP 4000, 5 min 3800, 10 min 3600, 15 min 3500. RD Western frac equip, RU blowdown line. SICP after 1 hr 2300 psi. Open well to pit for cleanup.

- 3-1-81 Had approx 18 bbl of sand in annulus to flow back @ SD. All of 5.0
Cont ppg 10-20 sand into formation excluding last 693#. No 6.67 ppg 10-20 sand reached formation. Well flowed back sand & foam. FCP dropped from 2300 to 600 in 5 hrs. Sand cutting bull plugs & connections, could not put flow on choke, tried to use 3/4" choke nipple but was eaten out to about 1". SWI @ 6:20 p.m. to allow CP to build. Opened well @ 9 p.m. SICP 945. Flowed well to 11:45 p.m. & then SI. FCP 340 psi.
- 3-2-81 Open well to pit @ 3 a.m. SICP 515 psi. Still unloading foam & sand. Press dropped to 240 psi in 4 hrs. SWI @ 7 a.m. Open well @ 9 a.m. SICP 450. Sand decreasing, still foaming. Flow @ 2:30 p.m. FCP 240, @ 4 p.m. FCP 150 psi. SI well to install 3/8" choke. Nipple press built to 190 in 1 hr. Well would flare, but too much foam to maintain flare. Sand nearly all shut off. Used ball valve to help choke flow. Well would slug foam almost dying between slugs, then surge gas & foam approx 10' blow for 5 min. Had trouble maintaining CP w/choke nipple. Removed choke nipple. 6 a.m. 3-2-81: Used ball valve to choke flow. Flaring w/constant stream frac fluid. FCP 410 and increasing.
- 3-3-81 Flow well to pit. Installed adjustable line choke & TP gauge. Attempted to establish stabilized flow rate & maintain pressures. @ 6 p.m. FTP = 150, FCP 225, 18/64" choke, 5-10' blow making frac fluid every couple minutes. Approx 68 MCFD. 6:00 a.m. 3-3-81 FTP 170, FCP 250, 18/64" choke, 5' flare, misting every 5 min. Approx 240 MCFD.
- 3-4-81 Flowing tbg to pits. FCP 250 psi, FTP 170 psi. Flaring gas w/mist & small stream frac fluid. Released csg & tbg press from well head. Broke out connections, valves & tree. PU tbg & LD donut jt & well used blast jt. PU & WIH w/2-3/8" tbg & tagged top of 10-20 frac sand @ 5,231' KB. PBDT is 5330' KB indicating 99' frac sand fillup. Lower 15 perfs of Point Lookout formation covered w/frac sand. Top 5 perfs open 5148' - 5149' - 5150' - 5229' - 5230'. Decision made to nitrogen out sand. All nitrogen crews @ Farmington busy this a.m. Western unable to reach location this p.m. due to adverse weather conditions & bad roads. SDN. Flowing csg to pits & flaring.
- 3-5-81 RU Western nitrogen trucks. Clean out sand from 5231' to 5320' down tbg & out annulus. Use nitrogen to kick well off, down the annulus & out the tbg to pit. Blow well to pit w/occasional misting. Quit misting after 1½ hr. Flare to pit w/no choke for ½ hr. FTP 75, FCP 125. Place on choke to establish stabilized flow & press. Flare on 25/64" choke, FTP 40, FCP 130, 201 MCFD. 6:00 a.m. 3-5-81: Flaring w/light mist 25/64" choke, FCP 140, FTP 70, 261 MCFD. WITT run gamma ray tracer for frac this a.m.
- 3-6-81 Pt. Lookout Fmtn. Flare to pit, FTP 70, FCP 140, 18/64" choke, 164 MCFD.
- 3-7-81 Began flowing well to pit thru csg. FCP 70, FTP 125, 14/64" choke, 6' flare. All gas no liquids. RD unit to move to Jic. Apache #13-E.
- 3-8-81 FCP 80, FTP 160, 14/64" choke, 5'-6' flare. All gas no liquids. Finished RD Unit. Cleaned pit, etc, for move to JA 13-E.
- 3-9-81 FCP 360, FTP 480, 14/64" choke, 10' flare, no liquids.
- 3-10-81 FTP 880, FCP 840, 14/64" choke, 6'-10' flare, freezing in choke.
- 3-11-81 Turned thru test separator (Point Lookout Formation). FTP 360, FCP 300, 16/64" choke, 0 wtr, 0 cond, 507 MCF, 15 hrs.
- 3-12-81 FTP 320, FCP 290, 16/64" choke, 0 BW, 0 BC, 452 MCF, 24 hrs.
- 3-13-81 FCP 230, FTP 360, 16/64" choke, 0 wtr, 0 cond, 453 MCF, 24 hrs.
- 3-14-81 FCP 280, FTP 380, 16/64" choke, 0 wtr, 0 cond, 453 MCF, 24 hrs.
- 3-15-81 FCP 260, FTP 400, 16/64" choke, 0 wtr, 0 cond, 453 MCF, 24 hrs.
- 3-16-81 FCP 200, FTP 400, 16/64" choke, 0 wtr, 0 cond, 453 MCF, 24 hrs.
- 3-17-81 FCP 260, FTP 380, 16/64" choke, 0 wtr, 0 cond, 453 MCF, 24 hrs.

- 3-18-81 FCP 260, FTP 420, 16/64" choke, 0 wtr, 0 cond, 440 MCF, 24 hrs.
- 3-19-81 Present operation RU completion unit.
- 3-20-81 Csg 750 psi, Tbg 720 psi. Finished RU Drake Well Service. Broke out Christmas tree connections. RU B&R Wireline Service & set circ blanking plug in 1.81 F nipple @ 5172.50' KB. COH w/wireline setting tool. Installed BOP. COH & broke out donut jt. PU 6 jts 2-3/8" tbg & tagged top of frac sand. COH w/tbg & tallied pipe. Tally indicated frac sand fillup to be @ 5277' KB, 53' frac sand above bridge plug @ 5330' KB & 2 btm perms @ 5277' & 5278' covered w/frac sand. 2:00 p.m. RIH w/bridge plug retrieving head, 1 jt 2-3/8" tbg, 1.81 F nipple & circ blanking plug, 163 jts 2-3/8" tbg. Btm of retrieving head @ 5100' KB, 48' above top perf @ 5148' KB. Closed tbg rams. Prod gas up csg & venting & flaring to pits. SDN. Proposed work (Fri): nitrogen out 53' frac sand up tbg. Retrieve BP @ 5330'. COH. GIH & fish McCullough rope socket, locator, & pkr setting tool, w/Dotco overshot - 2 1/2" grapples & jars @ 7150'.
- 3-21-81 Ran 2-3/8" tbg & retrieving head in 7" csg to top of frac sand fillup @ 5277' KB. 53' frac sand fillup. If nitrogen was pmpd down csg & up tbg, blanking plug would have to be pulled & 1 tbg connection made under press as tbg was being lowered down thru sand to top of BP @ 5330' KB. Also Kelly hose would not stand cutting action of returning sand. Decided to pump nitrogen down tbg & sand up csg to clean out the bulk of frac sand fillup & then pull blanking plug & reverse nitrogen down csg & up tbg for final cleanup, thus eliminating one tbg connection & damage to Kelly hose on discharge line. RU Nowsco & pmpd nitrogen @ rate of 1500 scf/min down tbg. Nitrogen & small amt of fluid to surface in 12 min. Lowered tbg slowly to 5320', 10' above BP. Waited. Pmpd 90,000 scf/nitrogen & no sand showed @ surface. SD Nowsco to reverse nitrogen & pull circ plug. Before connections could be completed, tbg was getting stuck w/frac sand on top of retrieving head. Hooked up Nowsco & pmpd down tbg w/nitrogen & worked tbg loose. Pulled tbg above perms & SD Nowsco. Out of nitrogen. Ordered out more nitrogen. RU B&R Wireline Service. Equalized press on tbg & csg w/nitrogen. Retrieved circ plug from profile nipple. RD B&R Wireline Service. RU Nowsco 2nd truck & pmpd nitrogen down csg & up tbg cleaning out 53' frac sand from 5277' to 5330' KB. Hooked on to BP & released plug. Pulled & stood back 20 jts tbg, leaving BP above perms. SD due to darkness.
- 3-22-81 Finished COH w/2-3/8" tbg, retrieving head & 7" retrievable BP. Broke out & LD Baker retrievable plug & retrieving head. PU & WIH w/overshot, 2 1/2" grapple, oil jars, intensifier, sub, 1 jt 2-3/8" tbg, F nipple w/circ blanking plug, & 229 jts 2-3/8" tbg. Tagged top of sand fillup in 4 1/2" csg @ 7119' KB. Top of 4 1/2" prod pkr @ 7150' KB. Indicating 31' fillup minus 11' of McCullough retrieving tool, locator, & rope socket. Pulled & stood back 33 stds 2-3/8" tbg to 5034' KB, 100' + above Point Lookout perms. PU tools. Cleaned location. SD for weekend.
- 3-23-81 Most work static. Csg flowing to pits. Met w/Nowsco & ordered out nitrogen for sand cleanout @ 8 a.m. 3-23-81. Ordered out Baker for 3-23-81 production equip run. SD.
- 3-24-81 RIH w/33 stds from derrick & tagged sand fillup top @ 7117' KB. Increase by 2' from Sat's tag. RU B&R Wireline Service & pulled circ blanking plug loose @ 7051'. Once again didn't have CP equalized w/tbg & blew plug up hole. Broke off wireline, leaving 15 line & plug in tbg. WIH w/wireline cutter & cut line off the top of rope socket. WIH w/wireline spear. COH w/spear & no line. WIH w/overshot for plug. COH w/overshot & no plug. Made 2nd run w/overshot & COH w/nothing. Made another run w/wireline spear, nothing. RD B&R. FL tagged during wireline runs was 4500' FTF. COH w/tbg & fishing tools. Retrieved wireline fishing tools from tbg. Ran back in hole w/tbg & fishing tools to 5107' KB. Stopped short of perms & 4 1/2" liner. 33 stds left in derrick to run tomorrow. SDN. Hope to clean out frac sand above prod pkr & fish pkr setting tools tomorrow.

- 3-25-81 RIH w/33 stds from derrick. Tagged frac sand fillup @ 7117' KB. Same as yesterday. RU Nowsco to nitrogen out fluid & frac sand fillup. Pmpd 170,000 scf nitrogen at a final rate of 3000/scf/min @ 1400 psi surface press. Used 1 truck loac. Was unable to raise fluid & frac sand due to high fluid level in well of approx 4500' to fluid. SD Nowsco. COH w/2-3/8" tbg & fishing tools. LD fishing tools & WIH w/mule shoe jt, F nipple & 164 jts 2-3/8" tbg, 33 stds left in derrick. Stopped tbg above perfs & 4½" csg liner. Preparing to nitrogen foam & swab out fluid & sand fillup from well bore. SDN. Unable to locate TIW valve or Kelly cock 2-3/8" that will run thru stripping rubber. Body too big @ 4-7/16".
- 3-26-81 Ran tbg from derrick in hole & tagged fillup over fish @ 7117' KB. Pulled & LD 3 jts tbg. Rigged to swab tbg. Made 4 swab runs from 5500' & 7000'. Fluid in tbg was very gas cut. 2 BF, total swabbed back. PU 3 jts tbg & landed end of mule shoe @ 7110'. RU blowdown line, kelly hose, & Nowsco to nitrogen foam out fluid & frac sand. RU fluid pump to faom & nitrogen. Pmpd nitrogen foam 70 quality down csg & up tbg to clean out frac sand above & around neck of McCullough rope socket & circ nitrogen foam @ this point for 45 min. Max volumes were 2500/scf nitrogen, 2½ BF @ 2500-3000 surface press. Cleaned up till there was no sand returns @ surface. SD Nowsco. Bled down surface & CP. COH w/tbg & mule shoe. WIH w/overshot & jars & tools. Tagged top of rope socket w/overshot, but not enough bite to POH. Jarred overshot in hole several times but couldn't get down to neck of rope socket @ 7137'. Pulled 66 jts tbg out of hole, leaving tbg & jars above perfs. SD due to darkness. End of mule shoe showed impression that top of rope socket had been tagged. Ruined 1 kelly hole for Drake Well Service. Hose blistered on outside.
- 3-27-81 RIH w/66 jts from derrick & once again setting down on rope socket neck @ 7137' KB. Worked overshot up & down hole in sand & hooked on to overshot & rope socket neck. Pulled 58,000 including string wt & sheared setting pin. Started up hole using jars 3 times, due to frac sand behind setting tool, locator & rope socket. Pulled fish free & COH w/tbg & tools. Nowsco on location RU but didn't use any nitrogen. LD fishing tools. Put production seal assembly together & WIH w/seal assembly tbg & blast jts. Tagged top of sand fillup @ 7149' w/btm of mule shoe guide @ this point. Approx 8'-10' to go to land seal assembly. Preparing to nitrogen foam out sand from prod pkr w/Nowsco Services. Pulled & laid down 3 jts tbg. SDN.
- 3-28-81 Finished COH w/tubing and seal assembly. Laid down blast joints. Built 25.46' 1" pipe stinger to circulate frac sand from production packer. WIH w/tubing and 1" pipe stinger and tagged top of packer at 7147.50' KB. Rigged up Nowsco. Started pumping nitrogen-foam down 7" casing and up 1" stinger and 2" landed at 7141' KB. Starting time 3:20 pm when foam surface out tubing, 1" stinger pipe was lowered 25.46' and no-go stopped on top of packer. Picked up 6" to 7147' KB and circulated production packer for 45 minutes with nitrogen-foam. Cut out foam. Then cut out nitrogen. Well continued to blow down till 6:20 pm. Pulled and laid down 3 jts 2-3/8" tubing. Baker took seal assembly to twon to wash frac sand from sealing cups. Will run seal assembly and production equipment Saturday 3/28/81. SDON.
- Pumped 2000 SCF/min. with 2 bbls/min. fluid at final max. pressure of 1600 psi.
- 3-29-81 Picked up 3 jts. 2-3/8" tubing that was laid down Friday pm and went in hole to retag top of packer and check for overnight fillup. Lost 16" overnight due to frac sand falling back into packer. Tried to work 1" stinger pipe thru possible bridge, but lost ground as sand continued to fall in from packer top. Frac sand top now indicates 1' sand over packer top at 7147.50' KB. Pulled and laid down 6 jts. tubing, stood 224 jts in derrick. Laid down 6' sub and 1" stinger. SDON was unable to get nitrogen on location early enough to do any good. Wet heavy snow storm in Jicarilla today.
- 3-30-81 6:00 am rebuild 1" stinger. GIH and clean out frac sand once again with nitrogen-foam. Blow down casing pressure thru tubing. COH w/tubing and stinger. Pickup seal assembly and run production equipment into packer. Trying not to leave packer open overnight.

- 3-31-81 Built 1" stinger to go into packer and WIH with stinger and 229 jts 2-3/8" tubing and tagged sand fillup on packer top and inside packer. Rigged up Nowsco and nitrogen-foamed sand from packer top and 25-1/2" from inside of packer. Shut down Nowsco. Bled casing pressure down thru 1" stinger and 2" tubing. Rigged down Nowsco. COH with tubing and stinger. Laid down 1" stinger and picked up seal assembly balst joints and tubing and went in hole. Usual luck. Jule shoe of seal assembly stopped on top of packer. Turned tubing to right and string down 1" and stopped, 8' short of landing seal assembly. Packer full of sand again. Rigged up Nowsco to fluff up sand, down tubing. Gained 1' more. Shut down Nowsco. Bled down tubing. Pulled and laid down 6 jts 2-3/8" tubing. Shut down overnight. Didn't run circulating blanking plug. Didn't open sliding sleeve. Wet snowy day.
- 4-1-81 Picked up 6 jts of 2-3/8" tubing and WIH. Tagged sand again on top of packer, and inside packer. Seal assembly and mule shoe would not go inside packer. Filled tubing with water, KCL 2%, and pumped 15 bbls additional trying to fluff up sand from packer top. Gained only 8" to 1'. Stopped pumping water. Set tubing weight of 15,000 down on mule shoe. Didn't go. Turned tubing going down. Sand will not let seal assembly in. Pulled and laid down 6 jts of 2-3/8" tubing. Shut casing in and tied tubing line to pit line to flare.
- 4-2-81 Casing pressure 625 psi. Light blow at pits from tubing line. Released casing pressure to pits. Picked up 6 jts tubing and tagged top of sand fillup 1' above packer. Worked with production string but couldn't get mule shoe and seat assembly to enter packer. Started out of hole with tubing. Received instructions to swab back water KCL 2% put in well Tuesday. Ran 120 jts tubing back in hole and stopped short of packer at 7,120'. Rigged to swab. Tubing was gas cut and fluid level hard to define. Made 3 swab runs from 7,000', swabbing back total of 11 bbls. Rigged up Western nitrogen truck and pressured casing to 900 psi and made swab run from 7,000' kicking off tubing. Recovered total of 34 bbls KCL 2% water. Added one more joint of tubing and reverse circulated water and sand to top of packer. Entered packer 2' and continued to circulate sand and mist of water. Worked mule shoe and seal assembly into packer and landed collar locator in no-go of packer. Pulled out of packer, spaced out with tubing subs and worked way back into packer. Opened BOP to land production string with 300 psi casing pressure. Nitrogen and frac sand now blowing out BOP from Point Look Out formation. Landed donut with production string 13,000# compression. Removed BOP and installed tree. Installed pressure gauges to casing and tubing. Casing showing more pressure but tubing pressure is also increasing. Probably damarage seals on seal assembly causing communications thru packer. Will check pressures Thursday AM. Possible sliding sleeve leakage.
-
- 4-3-81 Rigging down comp unit to move to 13E.
- 4-4-81 Unable to rig down unit due to high winds and storm. All other rig components moved to 13E.
- 4-5-81 Static. Both zoned shut in. DK zone has expendable check in bottom of packer assembly.
- 4-6-81 Both zones shut in.
- 4/7/81 Static. Both zones shut in. Dk zone has expendable check in bottom of packer assembly. SITP = less. SICP = 895
- 4/8/81 12:30 pm, Static. Observed wellhead pressures. Casing 980 psi, Tubing 2030 psi.
- 4/9/81 Static. Both zones shut in.
- 4/10/81 Static. Both zones shut in. Tbg 2130, csg 1250, set them for Point Lookout zone.
- 4/11/81 Observed pressures 1:30 pm. Casing 1050 psi, Tubing 2280 psi.
- 4/12/81 Observed pressures 4:00 pm. Casing 1050 psi, Tubing 2300 psi.
- 4/13/81 Static. Sunday no pressures observed.

4/14/81 Shut in, no pressures observed.

4/15/81 Observed pressures 12:00 noon. Tubing 2365 psi, Casing 1050 psi.

4/16/81 Observed pressures. Casing 1050 psi, tubing 2185 psi.

4/18/81 Both zones shut in. Observed pressures with christmas tree gauges. Tbg 2210, csg 1040.

4/21/81 Both zones shut in. Observe press with christmas tree gauges. Tbg 2300 csg 1090.

4/22/81 Static. Both zones shut in.

4/23/81 Both zones shut in. Plan to have Western acid master on location, also wireline unit. Will try to clean sand out of tbg. Knock out or pump out expendable check - shift sliding sleeve - set seapration sleeve in sliding sleeve & flow P.L. formation up tbg.

4/25/81 Static. Both zones shut in.

4/28/81 Tefteller resv. eng. ran in hole with hydrostatic sand bailer trying to clean out sand off top of expendable check. Cleaned out several ft of sand. Will continue operation until able to knock out expendable check.

5/1/81 Static. Waiting on wireline tools.

5/3/81 Static.