

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN DUPLICATE*

(See other in-
structions on
reverse side)Form approved.
Budget Bureau No. 42-R355.5.

WELL COMPLETION OR RECOMPLETION REPORT AND LOG *

1a. TYPE OF WELL:		OIL WELL <input checked="" type="checkbox"/>	GAS WELL <input type="checkbox"/>	DRY <input type="checkbox"/>	Other <input type="checkbox"/>		
b. TYPE OF COMPLETION:		NEW WELL <input checked="" type="checkbox"/>	WORK OVER <input type="checkbox"/>	DEEP-EN <input type="checkbox"/>	PLUG BACK <input type="checkbox"/>	DIFF. RESVR. <input type="checkbox"/>	Other <input type="checkbox"/>
2. NAME OF OPERATOR Kenai Oil and Gas Inc.						5. LEASE DESIGNATION AND SERIAL NO. NM-18463	
3. ADDRESS OF OPERATOR 717 17th Street, Ste. 2000, Denver, CO 80202						6. IF INDIAN, ALLOTTEE OR TRIBE NAME NONE	
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements) At surface 1760' FSL - 1785' FWL (NESW) At top prod. interval reported below At total depth						7. UNIT AGREEMENT NAME NONE	
14. PERMIT NO.						8. FARM OR LEASE NAME Federal-3	
DATE ISSUED 8/27/80						9. WELL NO. #23	
15. DATE SPUDDED 9/16/80						10. FIELD AND POOL, OR WILDCAT Nageezi-Gallup	
16. DATE T.D. REACHED 9/27/80						11. SEC., T., R., M., OR BLOCK AND SURVEY OR AREA Sec. 3, T23N-R8W	
17. DATE COMPL. (Ready to prod.) 3/18/81						12. COUNTY OR PARISH San Juan	
18. ELEVATIONS (DF, RKB, RT, GR, ETC.)* 6905' GL; 6918' KB						13. STATE New Mexico	
19. ELEV. CASINGHEAD ---		20. TOTAL DEPTH, MD & TVD 5400'		21. PLUG, BACK T.D., MD & TVD 5358'		22. IF MULTIPLE COMPL., HOW MANY* None	
23. INTERVALS DRILLED BY →		ROTARY TOOLS Yes		CABLE TOOLS No		24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)* 5345-4876' Upper & Lower Gallup	
25. WAS DIRECTIONAL SURVEY MADE No		26. TYPE ELECTRIC AND OTHER LOGS RUN DIL; CDL-CN-GR; CBL		27. WAS WELL CORED No		28. CASING RECORD (Report all strings set in well)	
29. LINER RECORD		30. TUBING RECORD		31. PERFORATION RECORD (Interval, size and number)		32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.	
SIZE NONE		SIZE 2-3/8"		Lower Gallup; 1jspf: 5340-45'; 5315-20'; 5308-10'; 5259-76'; 5231-33'; 5205-07'; 5190-97'; 5143-55'; 5130-33'; 5122-24'. Upper Gallup; 1jspf: 5081-83'; 5060-63'; 5048-50'; 5013-21'; 4970-72'; 4966-68'; 4921-23'; 4914-16'; 4892-94'; 4876-78'.		DEPTH INTERVAL (MD) (SEE ATTACHED COMPLETION REPORT)	
TOP (MD)		DEPTH SET (MD)		AMOUNT AND KIND OF MATERIAL USED		AMOUNT PULLED	
BOTTOM (MD)		HOLE SIZE		400 sxs regular cmt			
SACKS CEMENT*		12-1/4"		1st stage: 200 sxs			
SCREEN (MD)		7-7/8"		2nd stage: 700sxs + 50 sxs			
33. PRODUCTION		34. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.)		35. LIST OF ATTACHMENTS		36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records	
DATE FIRST PRODUCTION 3/5/81		PRODUCTION METHOD (Flowing, gas lift, pumping—size and type of pump) Flowing		Completion History Report; Wellsite Geologic Report		MAY 14 1981	
DATE OF TEST 3/17/81		HOURS TESTED 3 1/2		TEST WITNESSED BY Robert E. Byrd		5/4/81	
CHOKE SIZE 3/4"		PROD'N. FOR TEST PERIOD →		FARMINGTON DISTRICT		BY RB	
OIL—BBL. trace		GAS—MCF. 74					
WATER—BBL. trace		OIL GRAVITY-API (CORR.) 39.8°					
FLOW. TUBING PRESS. 54		CASING PRESSURE 300					
CALCULATED 24-HOUR RATE →		OIL—BBL. 3					
GAS—MCF. 507							
WATER—BBL. 2							

*(See Instructions and Spaces for Additional Data on Reverse Side)

INSTRUCTIONS

General: This form is designed for submitting a complete and correct well completion report and log on all types of lands and leases to either a Federal agency or a State agency, or both, pursuant to applicable Federal and/or State laws and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local, area, or regional procedures and practices, either are shown below or will be issued by, or may be obtained from, the local Federal and/or State office. See instructions on items 22 and 24, and 33, below regarding separate reports for separate completions.

If not filed prior to the time this summary record is submitted, copies of all currently available logs (drillers, geologists, sample and core analysis, all types electric, etc.), formation and pressure tests, and directional surveys, should be attached hereto, to the extent required by applicable Federal and/or State laws and regulations. All attachments should be listed on this form, see item 35.

Item 4: If there are no applicable State requirements, locations on Federal or Indian land should be described in accordance with Federal requirements. Consult local State or Federal office for specific instructions.

Item 18: Indicate which elevation is used as reference (where not otherwise shown) for depth measurements given in other spaces on this form and in any attachments. **Items 22 and 24:** If this well is completed for separate production from more than one interval zone (multiple completion), so state in item 22, and in item 24 show the producing interval, or intervals, top(s), bottom(s) and name(s) (if any) for only the interval reported in item 33. Submit a separate report (page) on this form, adequately identified, for each additional interval to be separately produced, showing the additional data pertinent to such interval.

Item 29: "Sacks Cement": Attached supplemental records for this well should show the details of any multiple stage cementing and the location of the cementing tool.

Item 33: Submit a separate completion report on this form for each interval to be separately produced. (See instruction for items 22 and 24 above.)

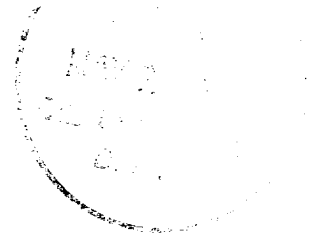
37. SUMMARY OF POROUS ZONES: SHOW ALL IMPORTANT ZONES OF POROSITY AND CONTENTS THEREOF; CORED INTERVALS; AND ALL DRILL-STEM TESTS, INCLUDING DEPTH INTERVAL TESTED, CUSHION USED, TIME TOOL OPEN, FLOWING AND SHUT-IN PRESSURES, AND RECOVERIES			38. GEOLOGIC MARKERS		
FORMATION	DEPTH	ELEVATION	NAME	MEAS. DEPTH	TRUE VERT. DEPTH
Ojo Alamo	1024'	+5894			
Pictured Cliffs	1736'	+5182			
Cliffhouse	3175'	+3743			
Point Lookout	3992'	+2926			
Mancos	4270'	+2648			
Gallup	5142'	+1776			

dick harnly
Consulting petroleum geologist
1932 eastlawn ave, durango colorado, 81301, 303-247-1518

WELLSITE GEOLOGIC REPORT

KENAI OIL & GAS INC.
Federal 3-23
ne sw 3-T23N-R8W
San Juan County, New Mexico

Prepared By: Dick Harnly



(dick harnly (consulting petroleum geologist
1932 eastlawn ave, durango colorado, 81301, 303-247-1518

OPERATOR: Kenai Oil & Gas Inc.

WELL: Federal 3-23

PROSPECT: San Rio Prospect/Nageezi Gallup

LOCATION: ne sw 3-T23N-R8W, San Juan County, New Mexico
Federal Lease #NM-18463

DRILLING CONTRACTOR: Westwind Drilling; Rig 51
Pusher: Porter

WELLSITE ENGINEERING: Elledge Consulting & Production Co.
J. Presley

MUD LOGGING: Durango Well Logging
Dick Harnly

WELLSITE GEOLOGY: Dick Harnly

MUD: American Mud Co.
J. Coursey

LOGGING: Dresser Atlas
R. Hughes

TESTING: No Tests

dick harnly
 Consulting petroleum geologist
 1932 eastlawn ave, durango colorado, 81301, 303-247-1518

SUMMARY OF MUD PROPERTIES (American Mud)

<u>DEPTH</u>	<u>WEIGHT</u>	<u>VISCOSITY</u>	<u>WATER LOSS</u>	<u>CAKE</u>	<u>ph</u>	<u>CHLORIDES</u>	<u>% SOLIDS</u>
560	8.7	30	8.6	1	8.5	200	3.0
2176	9.1	36	6.0	1	8.5	200	6.0
2858	9.0	36	6.4	2	9.0	200	5.0
3292	9.0	35	6.6	1	9.0	200	5.0
4058	9.1	36	5.6	2	9.0	200	5.0
4405	9.0	39	6.0	2	9.0	200	5.0
4741	9.1+	39	6.4	2	9.0	200	5.75
5085	9.1	40	6.0	2	9.0	200	5.75
5335	9.2	40	6.4	2	9.5	250	6.0
5360	9.2	52	5.6	3	9.5	250	6.0
5400	9.2	68	5.6	3	9.5	250	6.0

BIT RECORD

<u>BIT NO.</u>	<u>SIZE</u>	<u>MANUFACTURER</u>	<u>TYPE</u>	<u>IN</u>	<u>OUT</u>	<u>FOOTAGE</u>	<u>ROTATING HOURS</u>
2	7 7/8"	Hughes	J-1	565	2176	1581	23½
3	7 7/8"	Hughes	J-3	2176	2985	809	20½
4	7 7/8"	Hughes	J-22	2935	5400	2415	124½

DEVIATION

1 @ 1046' ½ @ 1554' ½ @ 2072' ½ @ 2176' 1¼ @ 2663' 1 @ 3539'
 ½ @ 4092' 1½ @ 4512' 2 @ 5022'

dick harnly
consulting petroleum geologist
1932 eastlawn ave, durango colorado, 81301, 303-247-1518

FORMATION TOPS (From "E" logs)

<u>FORMATION</u>	<u>DEPTH</u>	<u>ELEVATION</u>
Ojo Alamo	1024	+5894
Pictured Cliffs	1736	+5182
Cliffhouse	3175	+3743
Point Lookout	3992	+2926
Mancos	4270	+2648
Gallup	5142	+1776

MUD LOGGING

Mud logging services were performed by Dick Harnly, owner/operator, Durango Well Logging of Durango, Colorado, on a one man unit basis. The services started at 2250 feet and were continued to the drilled total depth of 5400 feet. The one man logging unit monitored and analysed gas, examined and preserved cutting samples, and prepared the mud log record.

GEOLOGIC SERVICES

Wellsite geologic services were conducted by Dick Harnly from 2250 feet to total depth, including witnessing of and field interpretation of the electric logging.

MUD ENGINEERING

The mud program was supervised by John Coursey of American Mud Co. A satisfactory rate of penetration and lack of difficulty in logging can at least in part be credited to the efforts of Mr. Coursey. The utilization of a low water loss at the time of "drilling out" apparently controlled the invasion of the soft formations and permitted the logging process to proceed without encountering the bridging problems that have plagued the operation in the past.

SAMPLE QUALITY

The quality of the samples, in general, was satisfactory with the exception of those samples that were not caught by the crew members. Several instances of missed samples will be noted by referring to the mud logging record; while the missing of samples is always a bad situation there can be no excuse for forgetting to catch them while drilling the

primary zone of interest.

HYDROCARBON SHOWS

No shows of oil and or gas were encountered above the Point Lookout formation.

The initial indication of oil or gas was noted in the samples in the Point Lookout formation 4085-4120 feet. Samples in this interval consisted of a fine to medium grained sandstone exhibiting about 10% yellow-white fluorescence with a very slow milky white bleeding cut fluorescence. No visible porosity or permeability was observed in this white clay infilled sandstone. A small total gas reading of 8 units was recorded by the logging unit...consisting of predominantly methane gas. A second zone was encountered in a very fine grained, non-calcareous tightly infilled sandstone which produced a total gas reading of 20 units...10 units of methane, 6 of ethane and a trace of propane. Ten percent of the sandstone possessed fluorescence and cut as the zone above. The final interval of interest was encountered between 4255 and 4265 feet where a light gray, very fine grained, clay filled, very slightly calcareous sandstone was found to exhibit approximately 20% fair to good blue-white fluorescence with a fair blue-white cut fluorescence. A total gas reading of 10 units was recorded...primarily methane.

Four zones of hydrocarbon shows were encountered in the Gallup formation. The first interval 5145-55 feet, contained a very fine grained silty sandstone with approximately 70% bright yellow-white fluorescence which gave a very slow milky white cut fluorescence. This calcareous sandstone produced a total gas reading of 28 units..

dick harnly
Consulting petroleum geologist
1932 eastlawn ave, durango colorado, 81301, 303-247-1518

16 units of methane, 6 unit ethane, 2 units of propanes and a trace of butanes. The second zone, and the zone of the best gas reading was between 5260 and 5280 feet where a total gas reading of 100 units was recorded...a chromatograph reading was not available due to a temporary malfunction. No samples were caught throughout this interval by the drilling crew. This condition developed due to the fact of utilizing a one man logging unit...had a two man unit been used the samples would have been caught by the logging unit, with 24 hour surveillance of the logging equipment and sample collection. The third interval 5335-50 feet consisted of a very fine grained silty sandstone being slightly calcareous and exhibiting a fair dull yellow fluorescence with a very poor slow milky cut fluorescence. No gas was encountered in this zone. The final interval of shows was found between 5365 and 5380 feet containing a very fine to fine grained sandstone which was slightly oil stained in part. This calcareous sandstone exhibited a bright yellow fluorescence in about 60% of the sample, yielding a fair to poor slow streaming milky cut fluorescence...gas readings in this interval were; 44 units of total gas, 26 of methane, 10 ethane, 4 propane and a trace of butanes.

SUMMATION

As was anticipated the utilization of a low water loss characteristic before drilling out from under the surface casing must have been beneficial in allowing a smooth electric logging operation, as bridging of the hole in this area is a known hazard.

Kenai Oil & Gas Inc.
Federal 3-23
SW/4 Section 3, T23N, R8W
San Juan County, New Mexico

Elledge Consulting & Production Company

COMPLETION HISTORY

- 2-23-81 MI & RU Action Well Service Rig #4.
- 2-24-81 MI & RU circulating equipment. RIH with Homco 3 7/8" mill and bit sub (3.80') and 132 jts tubing (4260.13') and tag at 4264' KB. Drilling cement 4264' to 4368' KB and tag DV tool at 4368' KB. Drilled same in 4 hrs. Circulate hole clean. RIH with 166 jts tubing (5357.64') and tag at 5336' KB. Drilling 18' hard cement to 5354' KB. Circulate hole clean. POOH 10 jts to place EOT at 5013' KB. SD for night.
- 2-25-81 Lowered tubing 10 jts and drilled $\frac{1}{2}$ hr and made no hole. Rig up National Cementers and pressured casing to 2500 psi and bled to 2000 psi in 5 min and 1500 psi in 10 min and held 1200 psi for 14 minutes. POOH and found that we had 1 less jt of casing in hole than we thought. TD now 5319 instead of 5354 and DV tool at 4336' KB. RIH with Smith 3 7/8" bit and bit sub (2.28') and 165 jts tubing (5325/18') and tag at 5319' KB. Drilling out to 5357' KB at 2 to 2 $\frac{1}{2}$ min/ft. Circulate hole clean. POOH. Ready to log in the a.m. Fabricated a lock for gate to location. Have lost at least 3 loads of frack water.
- 2-26-81 Well on slight vacuum. Rig up Dresser Atlas and ran CBL-VDL log 5357 to 550'. Satisfactory bond log. TOC 1st stage 4680. TOC 2nd stage above 550' (FL). Rig up to run Spectra Log and logged 5357' to 4000' and realized tool was malfunctioning. Work on tool last 3 $\frac{1}{2}$ hrs. Tool working. Will resume in the a.m.
- 2-27-81 Casing on slight vacuum. With Dresser Atlas, ran Spectra log 5355' to surface at 9 to 10'/min. RIH with SN (.96'), 165 jts tubing (5325.19') and landed tubing at 5334.65' KB. Nipple down BOP and nipple up wellhead. SI for night. Will move to Federal 34-43 in the a.m.

Kenai Oil & Gas Inc.
Federal 3-23
SW/4 Section 3, T23N, R8W
San Juan County, New Mexico

Elledge Consulting Production Company

COMPLETION HISTORY

- 3-5-81 MI & RU Action Rig #4. Nipple up BOP. Rig up Newsco and displace fluid from hole to 5000'. POOH with tubing. Rig up Dresser Atlas and perforate 1 JSPF 5340-45, 5315-20, 5308-10, 5231-33, with no reaction at surface. Perf 5259-76 and CP built to 225 psi immediately. Gun was blow up hole. Worked gun to DV tool where it stuck and pulled out of rope socket. Flared gas through 2" for 45 min at 30 psi, 20' flare. SI for night.
- 3-6-81 SICP 1600 psi. Open well thru 2-2" lines for 2 hrs. Pressure stabilized at 35 psi. Open thru 3/4" choke for 2 hrs while waiting on 7" blooie line. After 2 hrs, FCP 120 psi, rate 1.632 MMCFPD. Install 7" blooie line and RIH with short skirted overshot with 1 3/4" grapple, string float, SN, all measuring 4.0', 165 jts tubing (5325.19'), and latch onto fish at 5335. POOH and laid down fish. SI for night.
- 3-7-81 SICP 1350 psi. Rig up Dresser Atlas and set wireline, set tubing retrievable BP at 5225' KB. Dump 8 gal sand on BP. Changeout valves on tree to WKM. Perforated 1 JSPF 5205-07, 5190-97, 5143-55 (4' flare of gas), 5130-33, and 5122-24. Ran Fullfore packer, SN, and 161 jts tubing and 6' sub and set packer at 5213' KB. With Newsco pressure test BP to 3500 psi, 5 min, no bleed off. Pull 7 jts and set packer at 4976' KB. Acidize with 1000 gal 15% HCL with claystabilizer and non emulsifying agent and 47 balls. Balled off to 3500 psi with 7 BA left in tubing. AIR 6 bpm at 2250 psi. ISIP 1200 psi, 15 min SIP 1100 psi. 117 BLW to be recovered. Release pressure and put remaining acid away. Flow well back 1/2 hr, recovered 25 BLW and died. POOH. Ran junk basker, recovered no balls. SI for night.
- 3-8-81 Sunday-Crew off
- 3-9-81 SICP 250 psi. Bled to pit and flared gas. Rig up Newsco and fracked with 48,762 gallons 30# crosslinked 2% KCL water with NE agent, bactericide, and clay stabilizer, 400 SCF per bbl nitrogen, 6500# 20/40 sand and 15000 # 10/20 sand. AIR 40 bpm. Max trt pressure 2800 psi. Avg trt pressure 2700 psi. 1243 BLW to be recovered. ISIP 2000 psi, 15 min SIP 1600 psi. Open well thru 2-2" lines for 1/4 hr and ten open thru 7" and left overnight. Unloading good.
- 3-10-81 Well dead on arrival, vapors out 7" only. Rig down Blooie line with 2-2" open, kicked off flowing out 2-2" at 20 psi, trace of oil. Rig up Dresser Atlas and set BP at 5100' KB. Dump 8 gal SN on BP. Perforated upper Gallup 5081-83, 5060-63, 5048-50, 5013-21, (200 psi on casing), 4970-72, 4966-68, 4921-23, 4914-16, 4892-94, and 4876-78, all 1 JSPF. CP now 290 psi. Rig up Blooie line and blew well down. RIH Baker fullbore packer, SN (7.69'), and 158 jts tubing (5097.72') and set packer at 5093' KB, test BP 3400 psi, 5 min, OK. POOH 12 jts and set packer at 4720' KB. Acidize with 1000 gal 15% HCL with NE acid, clay stabilizer, and 57 balls. BPP 2500 psi. AIR 5 bpm at 1000 psi. Balled off with 2 BA left in tubing. Bled pressure and put away remaining acid. ISIP 1000 psi, 5-400 psi, 10-300 psi, 15-200 psi. 57 BLW to be recovered. Release packer and POOH. Ran junk basket thru all perfs and recovered 2 balls. SI for night.

Kenai Oil & Gas Inc.
Federal 3-23
SW/4 Section 3, T23N, R8W
San Juan County, New Mexico

Elledge Consulting(Production Company

COMPLETION HISTORY CONTINUED

3-11-81 SICP 200 psi. Bled off instantly. Rig up Nowsco and frack with 49,896 gallons 30# cross linked 2% KCL water, 400 SCFPB nitrogen, and 65000 lbs 20/40 sand, and 15000# 10/20 sand. AIR 46 bpm. Avg trt pressure 2500 psi. ISIP 1600, 15 min SIP 1500 psi. Total LW 1244 bbls. Open well thru 2-2" lines for ½ hr and then thru 7". Unloading good. Left open thru 7" overnight.

3-12-81 Well making vapors only out 7" blooie line. Closed blooie line and well kicked out 2-2" lines. RIH with Baker hydrostatic bailer and cleaned out sand 5081' KB to 5100' KB. POOH. RIH and tagged SN at 5085 and CO to 5100, latch onto BP, POOH. RIH with bailer and 161 jts tubing (5195.13') and tag at 5207' KB. CO 18' of sand. POOH. SD for night.

3-13-81 SICP 500 psi. Bled to pit thru 2" in 15 min. Ran retrieving head and bailer and latch onto BP at 5225' KB. POOH with BP. Ran production tubing as follows:

1	jt	2 3/8" tubing	32.50'
		Standard Seating Nipple	1.10'
162	jts	2 3/8" tubing	5227.43'
163	jts		5261.03'
		landed below KB	9.80'

tubing landed at 5270.83' KB
Nipple down BOP and nipple up Larkin wellhead. Install Demco Master valve. Rig up National Cementers and pump out plug in tubing with 25 bbls water. Made 7 swab runs in 2 hrs and recovered 49 BLW. Final CP 25 psi. SI for night.

3-14-81 SICP 480 psi. TP 120 psi. Open tubing to pit and bled off in 1 min. Ran swab. IFL 1000'. Made 15 runs in 4½ hrs and recovered 105 BW with trace of oil, CP 725 psi, and well kicked off flowing. Flowed 4½ hrs with initial FTP 80 psi decreasing to 10 psi and CP decreasing to 300 psi, flowed 43 BW. Good gas while flowing. Recovered 148 BLW for day. SI for weekend.

3-15-81 Sunday-Crew off

3-16-81 SICP 1320 psi, TP 1350 psi. Open thru 2" and flared gas to pit for 10 min and fluid hit. Turned to frack tank with FTP 400 psi, CP 1250 psi. Flow 3 hrs thru 2" at FTP 26 psi, and ECP 350 psi. 10% oil after 3 hrs. Installed 3/4" positive choke and after 4 hrs thru choke, FTP 51 psi, FCP 330 psi, gas rate 779 MCFPD, recovered 11 BF, 10% oil. Left open on choke overnight. For day flowed 35 BLW and 3 BO.

3-16-81 SICP 1320 psi, TP 1350 psi. Open thru 2" and flared gas to pit for 10 min and fluid hit. Turned to frack tank with FTP 400 psi, CP 1250 psi. Flow 3 hrs thru 2" at FTP 26 psi, and ECP 350 psi. 10% oil after 3 hrs. Installed 3/4" positive choke and after 4 hrs thru choke, FTP 51 psi, FCP 330 psi, gas rate 779 MCFPD, recovered 11 BF, 10% oil. Left open on choke overnight. For day flowed 35 BLW and 3 BO.

3-17-81 After flowing 23½ hrs thru 2", FTP 20 psi, FCP 320 psi. Recovered 43

Kenai Oil & Gas Inc.
Federal 3-23
SW/4 Section 3, T23N, R8W
San Juan County, New Mexico

Elledge Consulting & (duction Company

COMPLETION HISTORY CONTINUED

BLW and no BO. Took grind out, trace of oil. At noon, FTP 20 psi, FCP 300 psi. Installed 3/4" choke to measure gas. After 3½ hrs thru choke, FTP 54 psi, FCP 300 psi, rate 816 MCFPD. Left well open on 2" overnight. Will rig down in the a.m.