

WELL: ALBERDING NO. 1 (NE 1/4 SE Sec. 3, T31N, R13E)

FIELD: Blanco

COUNTY: San Juan STATE: New Mexico

POD DATE: 10/12/59

LEVATIONS: 5770' Cd. 5782' KB

2/12/59 Drlg rat hole.

2/13/59 I.D. 50'. Formation solid rock. Present operation packing solvent. 17 hrs drlg rat hole. 1 hr hooking up gas line. 4 hrs drlg. 2 hrs working on pump.

2/14/59 I.D. 22'. Now running surface pump.

2/15/59 I.D. 22'. W.O.C.

2/16/59 I.D. 22'. 3/4" - 32.75' - 100' 100' 100'. Drilling mud to surface 1/2" 50'.

2/17/59 I.D. 22'. 100' 100' 100'.

2/18/59 I.D. 25'. 100' 100' 100'.

2/19/59 I.D. 22'. 100' 100' 100'.

2/20/59 I.D. 22'. Sand and shale. Present operation coming out of hole w/fish. Vis 45; mud wt 9.7.

2/21/59 I.D. 3435'. Made 100' sand and shale. Vis 43. Mud wt 9.3; vis 5.6; deviation 0.1" at 3430'.

WELL: ALBERDING NO. 1 CONTINUED

2/22/59 I.D. 3556'. Made 172' sd and sh. Making trip bit #12. Mud wt 9.4; vis 53; Dev 3/4" at 3530'.

2/23/59 I.D. 3718'. Made 160' in sd. Bit #12. Vis 50; Mud wt 9.25.

2/24/59 Drlg at 3845'. Bit #13. Mud wt 9.5; Vis 57; Dev 3/4" at 3475'.

2/25/59 Drlg at 4061'. Bit #17. Drilled 217' sd and sh. Mud wt 9.5; Vis 55.

2/26/59 Drlg at 4075'. Made 105' w/vis 45. Mud wt 9.5; Vis 50; Dev 1/2" at 4000'.

2/27/59 Drlg at 4075'. Mud wt 9.5; Vis 50.

2/28/59 I.D. 4520'. Drilling. Mud wt 9.4; Vis 52; Dev 1/2" at 4500'.

2/29/59 I.D. 4775'. Drilled 115' in sd and sh. Drilling w/vis 40. Vis 70; Mud wt 9.5.

2/30/59 I.D. 4775'. Drilled 115' in sd and sh. Drilling w/vis 40. Vis 70; Mud wt 9.5.

2/31/59 I.D. 4775'. Drilled 115' in sd and sh. Drilling w/vis 40. Vis 70; Mud wt 9.5.

2/31/59 Drilling to final. Mud wt 9.5; Vis 57; Dev 3/4" at 4775'. Collar 4775' - could not get 4775' w/vis 50. Drilled 1/2" 100' per foot as follows:

4581' - 4590'	5'	4553' - 4570'	12'
4591' - 4600'	7'	4571' - 4579'	4'
4601' - 4610'	5'	4581' - 4594'	11'
4611' - 4620'	4'	4591' - 4601'	4'
4621' - 4630'	7'	4601' - 4608'	16'
4631' - 4640'	7'	4611' - 4617'	16'
4641' - 4650'	12'	4621' - 4624'	12'

ALBERTO NO. 1 Continued:

11/10/59 cont'd:

Displaced 300 gals 15% HCl -- pumped to bottom at 5 PM at 600 psig.

11/10/59

Picking up 1 1/2" tubing to clean out to bottom in preparation for refrac. Attempted to frac yesterday as follows: Pumped in at 35 BPM at 2300 psig -- started 3/4" -- pressure began increasing at rate of about 100 psig/min -- when pressure at 3000 psig went to 1 1/2" but pressure continued increasing at same rate -- sand stopped. Attempted to flush but pumped at only 1 BPM at 3000-3500 psig. Set rate injected 3000 gals of sand at 1/2" -- sand formation. Ceased pumping and pressure bled to 1000 psig. Found top of sand at 4230' by wire line.

11/10/59

Attempting to wash sand at 4230'.

11/10/59

Washing sand and perforation junk at 4270'.

11/10/59

Attempting to frac stuck log at 4230'. Pumped out to 4000' -- essentially all frac sand but lined it was solid perforation junk. Ceased log to 4230' -- fractured log. In 10' -- log sand 1 1/2" -- when sand was perforation junk. When pressure began increasing at rate of about 100 psig/min -- when pressure at 3000 psig went to 1 1/2" but pressure continued increasing at same rate -- sand stopped. Attempted to flush but pumped at only 1 BPM at 3000-3500 psig. Set rate injected 3000 gals of sand at 1/2" -- sand formation. Ceased pumping and pressure bled to 1000 psig. Found top of sand at 4230' by wire line.

11/10/59

Preparing to spot 1000 gals 15% HCl. When pressure at about 4000'. Spotted log down to another breaking pressure indication -- in process lost 4000' in 100' -- returned 4000'. 1000' of frac. Will come out of hole and refrac.

11/10/59

Fishing for 1 1/2" log. 1 1/2" log lost in hole. Displaced through perforations the 1000 gals acid spotted yesterday.

11/10/59

Raising down and moving off rotary rig. Retrieved 5 lbs 1 1/2" log fish.

11/10/59

Preparing to move on wire line service rig to continue fishing.

ALBERTO NO. 1 Continued:

11/10/59

Fishing. Having difficulty latching on to fish. Moved what is believed to be 1 or 2 lbs 1 1/2" up the hole. Expression block indicates top of fish even with tool bit and off to one side. Re-maining fish now ante to 15 lbs (approximately 3500') 1 1/2" regular tubg.

11/11/59

Fishing. Indications are that sand goes 15' by fish and expression not going over fish. Will run in with several lbs of log or wire line above overbore to provide sand-down with 15'. Top of fish at 4270' W.

11/12/59

Fishing for 5 lbs - 1 1/2" log remaining in hole. Recovered 5 lbs tubg.

11/13/59

Fishing for remaining 5 lbs 1 1/2" log. Top of fish now at 4270'. Recovered 2 lbs 1 1/2" fish yesterday.

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11/13/59

Dropped 30 balls after 25,000 gals. 20 balls after 30,000 gals. 20 balls after 35,000 gals. 20 balls after 40,000 gals. 20 balls after 45,000 gals.

WELL: ALBANY #1

11/18/59 - Stage 41 - Continued

Dropped 20 balls after 45,000 gallons,
20 balls after 50,000 gallons.

Pressure gradually declined to 2550 psig.

TOTAL FIRST STAGE: 60,000 gallons water, 100 balls, 2550 to 2300 psig, 27 bpm.

Shut down to change pump trucks because of equipment failure. Well sealed approximately 100 barrels from natural standing pressure of 200 psig.

Stage 42: began injecting at 2550 psig, 15. sand per gallon at 20 bpm. After five minutes, pressure dropped. Shut down to repair by balling. The well flowed about 100 barrels per day.

Stage 43: began injecting at 2550 psig, 15. sand per gallon at 20 bpm. After five minutes, pressure dropped. Shut down to repair by balling. The well flowed about 100 barrels per day.

Stage 44: began injecting at 2550 psig, 15. sand per gallon at 20 bpm. After five minutes, pressure dropped. Shut down to repair by balling. The well flowed about 100 barrels per day.

TOTAL SECOND STAGE: 50,000 gallons water, 100 balls, 45,000 lbs. sand, 2000 to 2000 psig, 20 bpm. Used with additional 4000 gallons water. Standing pressure 300 psig. Immediately, well flowed back a heavy stream of water, (slimy and air cut toward the end) with some sand, almost dead after one hour.

STAGE 45: 100,000 gallons water, 5,000 lbs. sand (+0-0) - 2000, 2000 balls, (100 first stage, 100 second stage), 2550 to 3000 psig, and 20 bpm.

Shut down to 4500 psig. by (see page 4) pressure.

WELL: ALBANY #1

11/17/59

Running completion tubing. Also run supply as 20 hours with tubing setting in interval 1000' to 2200'.

Well making lots of frac water with little sign of natural flow until 6:00 a.m. this morning, when well began unloading through tubing on its own.

11/13/59

Preparing to pull pipe, after successful attempt to bring well in, as per report of 11/13/59. Well made tubing to about 2000' and installed natural production flow with the aid of supply gas.

11/13/59

Well making lots of frac water with little sign of natural flow until 6:00 a.m. this morning, when well began unloading through tubing on its own.

11/20/59

Shut in for initial 7 day buildup and subsequent potential testing. Landed 1 1/2" tubing to 4392 K.S. Will continue to blow and clean up frac water with relatively settled indication of gas flow with small water mist of 1250 WCFD. Casing pressure rose gradually to 420 psig.

11/21/59

Shut-in.

Tbg. Pres. - 1080 psig.
Csg. Pres. - 1080 psig.

11/29/59

Shut in for pipeline connections. - Initial Potential Test 11/28/59. Three hour test, 3/4" choke.

Time	Temp.	Tub. Press.	Csg. Press.	Rate
9:50 a.m.		1103	1102	Shut in
10:00 a.m.		1103	1102	Open
10:15 a.m.	40	222	885	
10:30 a.m.	39	183	815	
10:45 a.m.	44	145	705	
11:00 a.m.	46	98	672	
12:00	49	94	592	
1:00 p.m.	49	74	564	1,000 MCF/D

OPEN FLOW TEST DATA

DATE November 27, 1959

Operator Consolidated Oil & Gas, Inc.		Lease Alberding	
Location NE NE Sec. 3, T31N, R13W		County San Juan	State New Mexico
Formation Mesa Verde		Pool Blanco Mesa Verde	
Casing: Diameter 4 1/2 F.H.D.	Set At: Feet 4829 KB	Tubing: Diameter 1 1/4	Set At: Feet 4392
Pay Zone: From 4388	To 4664	Total Depth: 4796 PB	
Stimulation Method Sand-water frac		Flow Through Casing	Flow Through Tubing X

Choke Size, Inches 3/4		Choke Constant: C 12,3650			
Shut-In Pressure, Casing, PSIG 1102	+ 12 = PSIA 1114	Days Shut-In 7	Shut-In Pressure, Tubing PSIG 1103	+ 12 = PSIA 1115	
Flowing Pressure: P PSIG 74	- 12 = PSIA 86		Working Pressure: Pw PSIG 564	+ 12 = PSIA 576	
Temperature: T °F 49	n = 0.75		Fpv (From Tables) 1.008	Gravity 0.70 est.	

$$\text{CHOKE VOLUME} = Q = C \times P_r \times F_t \times F_g \times F_{pv}$$

$$Q = 12.365 \times 86 \times 1.0108 \times 0.9258 \times 1.008 = 1000 \text{ MCF/D}$$

$$\text{OPEN FLOW} = Aof = Q \left(\frac{P_c^2}{P_c^2 - P_w^2} \right)^n$$

$$Aof = \left(\frac{1240996}{909220} \right)^n = 1367^n$$

$$Aof = 1264 \text{ MCF/D}$$

TESTED BY Teverson

WITNESSED BY _____

George E. Janner