

Pertinent Data Sheet - Schumacher #1A

Location: NW/4 870' FNL, 1430' FWL, Unit C, Section 17, T30N, R10W,
Lat. 36.816483, Long. 107.910507 by TDG
San Juan County, New

Field: Blanco Mesaverde

Elevation: 6379' GL
KB: 12'

TD: 5711'
PBTD: 5694'

Completed: 01-09-86

Spud Date: 12-22-85

DP No: 54441A

Prop. No: 01288103

Fed. No: SF 077764

Casing/Liner Record:

<u>Hole Size</u>	<u>Csq Size</u>	<u>Wt. & Grade</u>	<u>Depth Set</u>	<u>Cement</u>	<u>Top/Cement</u>
12 1/4"	9 5/8"	36# K-40	225'	140 SX	to surface
8 3/4"	7"	20# K-55	3311'	312 SX	1710' (CBL)
		Squeezed @	1700'	150 SX	1300' (TS)
6 1/4"	4 1/2" Liner	10.5# K-55	3132'-5710'	331 SX	Reversed out 18 bbl cmt

Tubing Record: 2 3/8" 4.7 # J-55 tubing set at 5562'. Seating Nipple @ 5528'

Formation Tops:

Ojo Alamo:	1540'	Chacra:	3958'
Kirtland:	E1680'	Mesaverde:	4474'
Fruitland:	E2640'	Menefee:	4562'
Pictured Cliffs:	E2950'	Point Lookout:	5224'
Lewis:	E3110'		

Logging Record: CBL (in 7" before squeeze work), GR, CCL, FDC, Neutron, DI, SFL, Temp. Survey

Stimulation: Sand water fractured Lower Point Lookout 5402'-5606' with 115,450 gallons of water and 52,000# of sand.

Sand water fractured Massive Point Lookout 5232'-5361' with 210,050 gallons of water and 92,000# of sand.

Workover History:

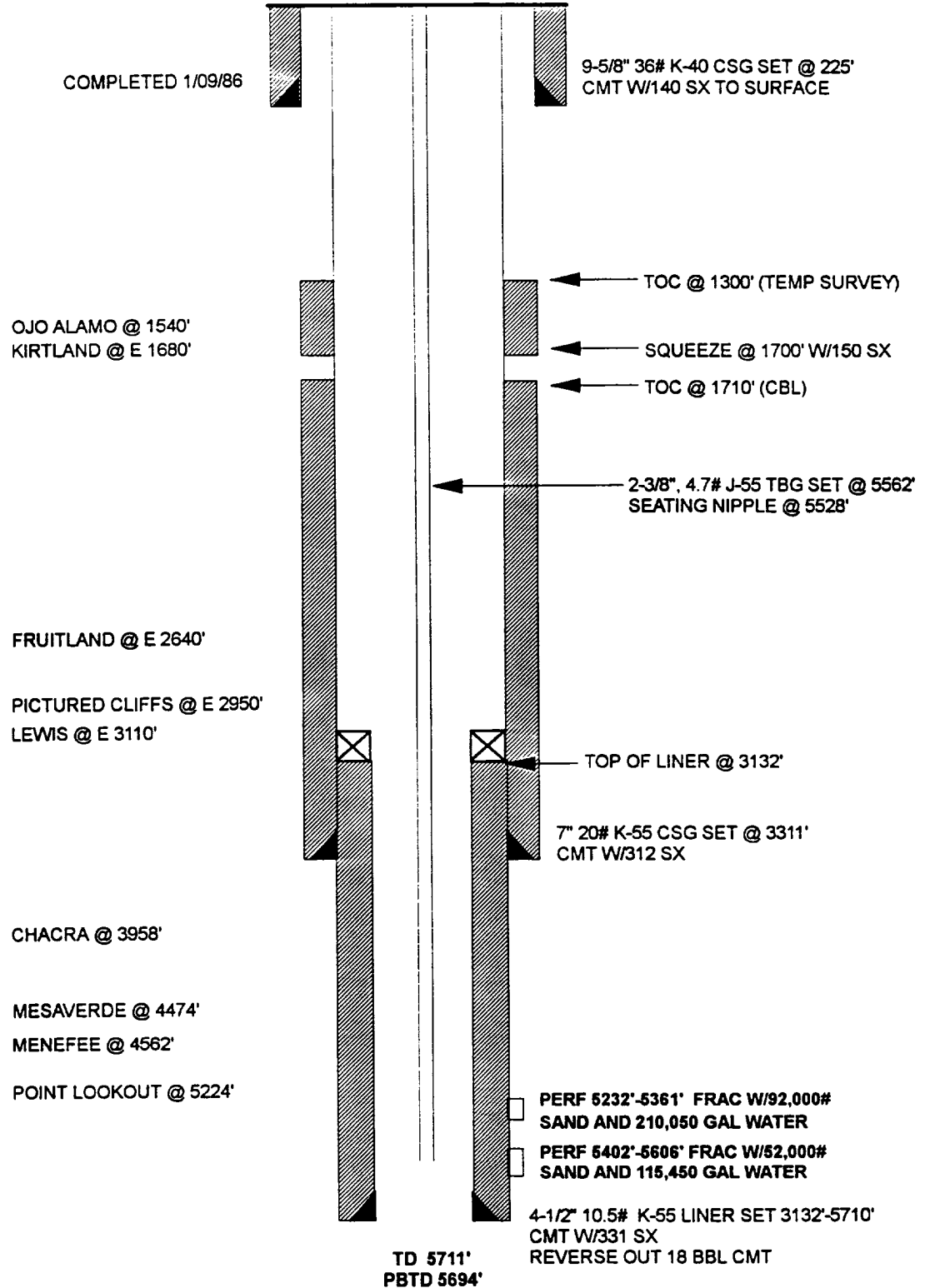
None

SCHUMACHER #1A

BLANCO MESAVERDE

AS OF 7/17/89

UNIT C, SEC 17, T30N, R10W, SAN JUAN COUNTY, NM




Schumacher #1A - Mesaverde
Cliffhouse and Menefee Payadd
Lat-Long by TDG: 36.816483 - 107.910507
NW/4 Section 17, T30N-R10W
August 4, 1995

1. Hold safety meeting. MIRU. Comply with all MOI, BLM and NMOCD rules and regulations. Install 13 frac tanks and 1x400 bbl rig tank. Fill each frac tank with 5#s of biocide and filtered (25 micron) 1% KCl water.
2. Obtain and record all wellhead pressures. ND WH, NU BOP. TOOH w/ 2-3/8" tubing set at 5562'. Replace bad tubing as necessary.
3. PU 7" (20#) casing scraper. TIH and run casing scraper to 3130'. TOOH.
4. TIH with 2-3/8" tubing, 4-1/2" (10.5#) casing scraper and 3-7/8" bit. CO to PBTD of 5694'. TOOH.
5. TIH w/ 4-1/2" CIBP and set CIBP @ 5200'. Load hole w/ 1% KCL water and pressure test to 1000 psi. Spot Menefee interval ($\pm 4800'$ - $\pm 5200'$) w/ 270 gallons of inhibited 15% HCL acid. TOOH.
6. RU wireline and run CBL-GR-CCL from $\pm 5200'$ to TOC in 7" casing (run CBL to find TOC in liner and 7" casing) under 1000 psi surface pressure. Run CNL from 5200' to 4400'. Send copy of logs to engineering and perforation intervals will be provided.
7. Perforate the Menefee interval ($\pm 4800'$ - $\pm 5100'$) top down using 3-1/8" HSC guns with 12 gram charges and 0.31" diameter holes. (Intervals will be provided after reviewing logs.) Inspect guns to ensure all perforations fired. RD wireline.
8. TIH w/ 4-1/2" fullbore packer, $\pm 200'$ of 2-3/8" tubing and 2-7/8" N-80 frac string. Set packer @ $\pm 5175'$. Load hole w/ water and pressure test casing and CIBP to 3800 psi. Release packer, PUH to $\pm 150'$ above top perforation and reset packer. Set 500 psi on backside during balloff and monitor throughout the job.
9. **Maximum allowable treating pressure is 3800 psi during acid job.** Pump 1500 gallons of 15% HCL acid @ 8 Bbls/min dropping 7/8" diameter RCN ball sealers spaced evenly throughout the job (2 balls per perforation hole). Release packer, TIH and knock balls off. TOOH to $\pm 3200'$ and reset packer.
10. Hold safety meeting. Set 500 psi on backside during stimulation and monitor throughout the job. **Maximum allowable surface treating pressure is 6000 psi @ 25 Bbls/min.** If rate is reduced, the maximum pressure will be lower. (See stimulation schedule for maximum pressures for various rates.)
11. Pressure test surface lines to 7000 psi. (1000 psi over maximum treating pressure but less than the working pressure of the lines.) Fracture stimulate the Menefee interval @ 30 BPM using 30# linear gel and 80m lbs of sand tagged w/ Iridium. (Final stimulation procedure will be attached after reviewing logs.) Do not over displace during flush. Shut in well immediately after completion of the stimulation until pressure falls to zero.
12. Release packer and TOOH standing back frac string. Check and inspect packer. RU wireline and set a 4-1/2" RBP @ $\pm 4750'$. Dump sand on top of RBP w/ dump bailer.
13. Perforate Cliffhouse interval ($\pm 4470'$ - $\pm 4700'$) top down using 3-1/8" HSC guns with 12 gram charges and 0.31" diameter holes. (Perforation interval will be provided after reviewing logs.) Inspect guns to ensure all perforations fired. RD wireline.

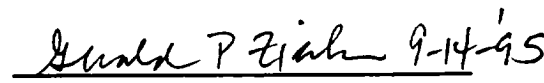
Schumacher #1A
Mesaverde Payadd
August 4, 1995

14. TIH w/ 4-1/2" fullbore packer, $\pm 200'$ of 2-3/8" tubing and 2-7/8" N-80 frac string. Set packer @ $\pm 4725'$. Load hole w/ water and pressure test RBP to 3800 psi. Release packer, PUH to $\pm 150'$ above top perforation and reset packer. Set 500 psi on backside during balloff and monitor throughout the job.
15. **Maximum allowable treating pressure is 3800 psi during acid job.** Pump 1500 gallons of 15% HCL acid @ 8 Bbls/min dropping 7/8" diameter RCN ball sealers spaced evenly throughout the job (2 balls per perforation hole). Release packer, TIH and knock balls off. TOOH to 3200' and reset packer.
16. Hold safety meeting. Set 500 psi on backside during stimulation and monitor throughout the job. **Maximum allowable surface treating pressure is 6000 psi @ 25 Bbls/min.** If rate is reduced, the maximum pressure will be lower. (See stimulation schedule for maximum pressures for various rates.)
17. Pressure test surface lines to 7000 psi. (1000 psi over maximum treating pressure but less than the working pressure of the lines.) Fracture stimulate the Cliffhouse interval @ 30 BPM using 30# linear gel and 105m lbs of sand tagged w/ Iridium. (Final stimulation procedure will be attached after reviewing logs.) Do not over displace during flush. Shut in well immediately after completion of the stimulation until pressure falls to zero.
18. Release packer and TOOH laying down frac string.
19. TIH w/ retrieving head and CO to RBP @ $\pm 4750'$ until sand production is minimal. Obtain pitot gauge for Cliffhouse interval. Release RBP @ 4750' and TOOH.
20. TIH w/ 3-7/8" bit and drill up CIBP set @ 5200'. CO to PBTD (5694'). PU above the Mesaverde perforations and flow the well naturally, making short trips for clean up when necessary. Obtain pitot gauge for Mesaverde after clean up.
21. When sand has diminished, TOOH.
22. RU wireline company. Run After Frac GR from 5606' to top of tracer activity. RD wireline.
23. TIH with one joint of 2-3/8", 4.7#, J-55 tubing w/ expendable check, an F-nipple, then the remaining 2-3/8" production tubing. CO to PBTD ($\pm 5694'$). Land tubing near bottom perforation (5606').
24. ND BOP's, NU WH. Pump off expendable check. Obtain final pitot. RD and MOL. Return well to production.

Approval:

 8/31
Drilling Superintendent

Approval:

 9-14-95
Northwest Basin Team Leader