

A - PLUS WELL SERVICE, INC.

P.O. BOX 1979
FARMINGTON, NM 87499
505-325-2627 • FAX: 505-325-1211

Tiffany Gas Company
USG Sec 19 #17 (Hogback Entrada)
1850' FSL, 790' FEL, Sec. 19, T-29-N, R-16-W
San Juan County, NM
I-89 IND - 58

August 21, 1996

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Plug & Abandonment Report

Cementing Summary:

July 1996

- Plug #1** with 1-1/4" coiled tubing at 2125', Howco mixed and pumped 98 sxs Class B cement, displaced to Model D at 2000'; pulled tubing and shut in well.
- Plug #2** Howco pumped 100 sxs Class B cement down 3-1/2" tubing; squeezed into Entrada perforations, displaced to 2000'; shut in well and WOC.

August 1996

- Plug #1** with retainer at 1260', mix 70 sxs Class B, 130 sxs cement with 3% SMC (sodium metasilicate, yield 2.6 cf/sx) and 70 sxs Class B Neat; mixed and pumped 70 sxs Neat cement below retainer and Model "D" packer at 2000' into Entrada perforations; then 130 sxs cement 3% SMC from 2000' to 1320' and 25 sxs Class B Neat from 1320' to 1260'; sting out of retainer and leave 25 sxs cement above retainer to 1193'.
- Plug #2** with packer at 1070', mix and pump 140 sxs Class B cement, squeeze 121 sxs cement below retainer and outside 9-5/8" casing and spot 19 sxs cement inside casing to 1108'.
- Plug #3** with retainer at 729', mix and pump 110 sxs Class B cement, squeeze 81 sxs cement outside 9-5/8" casing from 803' to 703' and leave 29 sxs cement inside casing to 652' to cover Dakota top.
- Plug #4** with 146 sxs Class B cement from 367' to surface inside 9-5/8" casing, circulate good cement out casing valve.
- Plug #4b** with 169 sxs Class B cement, squeezed 11 sxs into bradenhead valve (9-5/8" x 13-3/8" casing annulus) pressured up to 1000#, shut in; squeezed 158 sxs down 9-5/8" casing to combine with plug #4.

Mix 99 sxs Class B cement, fill 9-5/8" casing annulus with 16 sxs and install P&A marker with 83sxs, very deep cellar.

Plugging Summary:

Notified BLM on 6-11-96

Navajo EPA on 6-6-96

- 7-10-96 MO and RU Halliburton coiled tubing unit. RIH with 1-1/4" coiled tubing and tagged bottom at 2125'. Plug #1 with 1-1/4" coiled tubing at 2125', mixed and pumped 98 sxs Class B cement, displaced below Model D at 2000'; pulled tubing and shut in well.
- 7-13-96 Ran wireline down 3-1/2" tubing and tagged cement at 2016'. Small water flow up tubing. Plug #2 Howco pumped 100 sxs Class B cement down 3-1/2" tubing, squeezed cement into Entrada perforations, displaced rubber plug to 2000'; shut in well and WOC.

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Notified BLM on 8/13/96

Navajo EPA on 8/12/96

- 8-13-96 Road rig and equipment to location. Level location for pads. Spot rig in. RU rig and equipment. Layout relief line to pit. Check well pressures: tubing 360# and casing 150#. Bleed well down to pit; well flowing water out casing. Unload BOP and flanges; spot float on location. Hammer and cut bolts off wellhead and ND wellhead. Screw swedge into donut. PU on 3-1/2" plastic coated tubing approximately 6" pulling 35,000#. Set tubing down and NU wellhead. Shut in well. SDFD.
- 8-14-96 Safety meeting. Open up well, no pressure. ND wellhead. Changeover for 3-1/2" tubing. RU A-Plus wireline truck. Attempt to RIH with 2-7/8" gauge ring; unable to go below 14". Attempt to run 2-3/4" cutter; same result. RIH with 2-1/4" gauge ring to 2018'; set down on cement. POH. PU on tubing approximately 10" pulling 45,000#; not free. Set tubing back in wellhead. Wait on smaller tubing cutters from town. Attempt to pull packer seal assembly free; pull 60,000# on tubing, set down then pull 75,000#. Seal assembly free from Model "D" packer. NU BOP and flange. POH and tally 65 joints 3-1/2" plastic coated tubing. Procedure change approved D. Spencer, BLM. PU and RIH with 9-5/8" wireline cement retainer; set at 1260'. POH with wireline. RIH with tubing and stinger; sting into retainer at 1260'. Establish rate into Entrada perforations 1/2 bpm at 1500#. Shut in well. Lock rams in. SDFD.
- 8-15-96 Safety meeting. Open up well, casing flowing water. Pump 4 bbls water below retainer 3/4 bpm at 1800#; formation broke down pumping; rate increased to 1-3/4 bpm at 1200#. Plug #1 with retainer at 1260', mix 70 sxs Class B, 130 sxs cement with 3% SMC (sodium metasilicate, yield 2.6 cf/sx) and 70 sxs Class B Neat; mixed and pumped 70 sxs Neat cement below retainer and Model "D" packer at 2000' into Entrada perforations; then 130 sxs cement 3% SMC from 2000' to 1320' and 25 sxs Class B Neat from 1320' to 1260'; sting out of retainer and leave 25 sxs cement above retainer to 1193'. POH with tubing and LD stinger. Change ring out on flange below BOP. Shut in well and WOC. SDFD.
- 8-16-96 Safety Meeting. Open up well, casing flowing water. PU and RIH with 9-5/8" packer to 485'. Pressure test casing to 500#, held OK. RIH with packer to 730'. Pressure test casing to 500#, held OK. RIH with packer to 971'. Pressure test casing to 500#, held OK. Locate hole in casing at 1160'. PU packer and set at

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- 8-16-96 Continued: 1070'. Pressure test casing annulus to 500#. Establish rate into casing leak 1-1/2 bpm at 300#. Plug #2 with packer at 1070', mix and pump 140 sxs Class B cement, squeeze 121 sxs cement below retainer and outside 9-5/8" casing and spot 19 sxs cement inside casing to 1108'. Release packer. POH and LD tubing and packer. Load hole with water and pressure up on casing to 150#. Shut in well and WOC overnight. Lock rams. SDFD.
- 8-19-96 Safety meeting. Open up well, casing not flowing water. Pressure test casing to 500# for 5 min, held OK. RU A-Plus wireline truck. RIH and tag cement at 1105'. Perforate 4 HSC squeeze holes at 803'. Establish rate into squeeze holes 1-3/4 bpm at 600#. RIH with 9-5/8" wireline cement retainer; set at 729'. RIH with stinger and sting into retainer. Establish rate into squeeze holes 2 bpm at 700#. Plug #3 with retainer at 729', mix and pump 110 sxs Class B cement, squeeze 81 sxs cement outside 9-5/8" casing from 803' to 703' and leave 29 sxs cement inside casing to 652' to cover Dakota top. POH and LD tubing and stinger. Perforate 4 HSC squeeze holes at 301'. Pump 50 bbls water down 9-5/8" casing; slight blow on bradenhead at 3/4 bpm at 800#. Pump 16 bbls water into bradenhead valve 1/4 bpm at 900# with no blow on casing. Procedure changes to perforate at 245' and 190' required by S. Mason, BLM. Perforate 3 HSC squeeze holes at 245'. Pump 20 bbls water down casing 3/4 bpm at 800#; slight blow on bradenhead. Perforate 3 HSC squeeze holes at 190'. Pump 20 bbls water down casing; no circulation out bradenhead. PU and RIH with open ended tubing to 367'. Plug #4 with 146 sxs Class B cement from 367' to surface inside 9-5/8" casing, circulate good cement out casing valve. POH and LD tubing. Plug #4b with 169 sxs Class B cement, squeezed 11 sxs into bradenhead valve (9-5/8" x 13-3/8" casing annulus) pressured up to 1000#, shut in; squeezed 158 sxs down 9-5/8" casing to combine with plug #4. Shut in well and WOC overnight. SDFD.
- 8-20-96 Safety Meeting. RD tubing equipment. ND BOP and flanges. Dig out wellhead. Cut wellhead off. Found cement down 40' in 9-5/8" casing and at surface in 9-5/8" x 13-3/8" casing annulus. Mix 99 sxs Class B cement, fill 9-5/8" casing annulus with 16 sxs and install P&A marker with 83sxs, very deep cellar. RD rig and equipment. Move off location.
Marlin Deaton, BLM was on location.