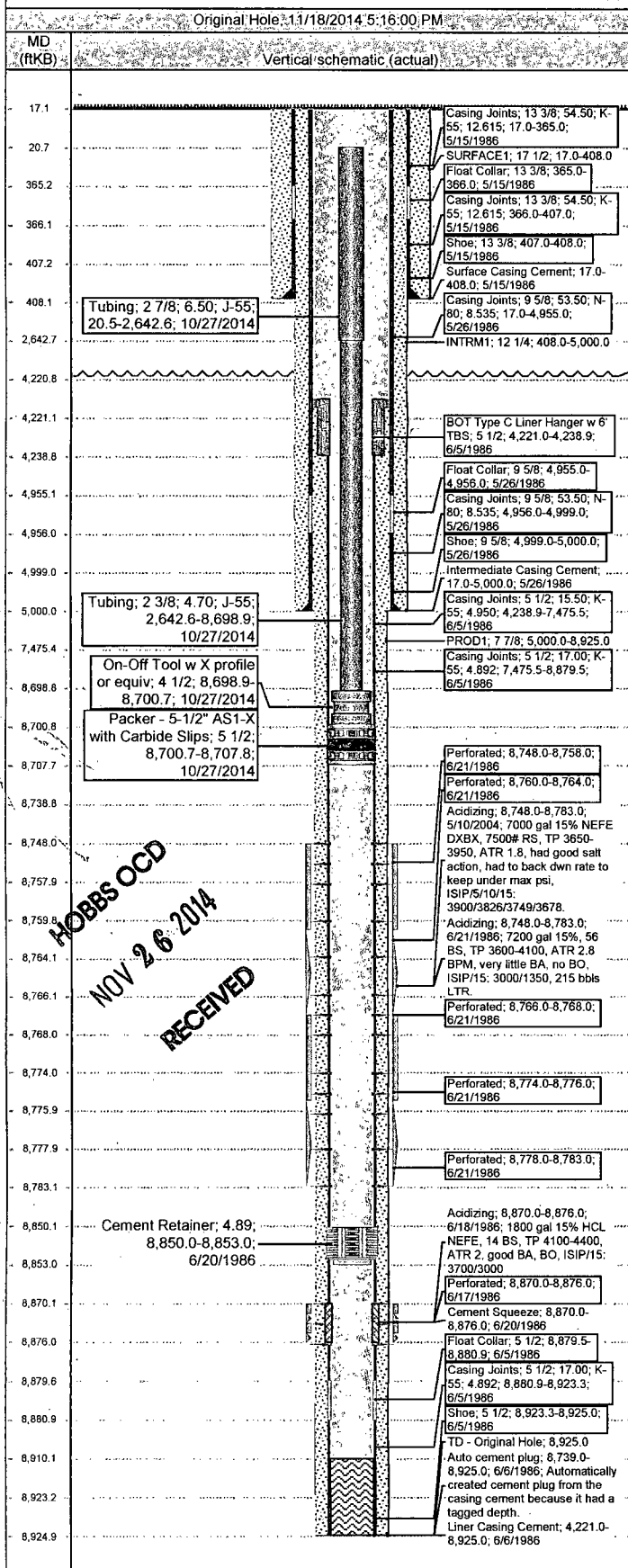


Injector Schematic & History

Well Name NORTH VACUUM ABO UNIT 300		API/UWI 3002529610		County Lea		State/Province New Mexico		Field Name VACUUM N	
Location 1980 FSL & 1980 FWL				Township 17S	Range 34E	Section 10	Latitude (°) 32° 35' 18.606" N		Longitude (°) 103° 33' 0.936" W
Section	Survey					Block	Township	Abstract	
Original KB Elevation (ft) 4,072.00		Ground/Corrected Ground Elevation (ft) 4,055.00		KB-Ground Distance (ft) 17.00		Spud Date			



Jobs

Type	Start Date	Summary
Workover	1/1/1900	No pull records in FW nor BKE well files for 1986 to 2000
Drilling Original & Initial Completion	5/15/1986	D&C in Abo. Perf, acidize, swab 100% wtr, no gas, sqz perfs, add new perfs, acidize, swab, 90% OC, PTA w bombs, sqz scale inhibitor, POP.
Repair Pump Failure	2/2/2000	PI rds, pl rd prt, attempt fish, pl tbq, chg pmp, RTP.
Acidize	5/4/2004	PI rds, pmp, & tbq, tbq clr prtd @ 5933', fishd, split clr, hydrotest tbq BIH w bit & DC, 5 bad jts, tag 8852', circ well, POOH, RIH w TP & pkr, tst bksd to 500 psi, good, set pkr @ 8503', acidize, RTP.
Repair Parted Rods	8/5/2004	PI rds, box brk?, rplc pmp, pl tbq, RTP.
Pump Exchange	4/19/2006	PI pmp, chg pmp, RTP.
Pump Exchange	4/19/2006	PI pmp, chg pmp, RTP.
Pump Exchange	11/6/2007	PI pmp, chg pmp, RTP.
Replace Equipment	7/1/2010	
Replace Equipment	8/11/2010	Attempt pl rds, BO, pl rds. Strip out, RIH tbq & rds, re-torquing every break, RTP.
Convert To Injection	10/22/2014	

Wellbore Sections

Section Des	Wellbore Name	Size (in)	Act Top (ftKB)	Act Btm (ftKB)	Start Date
SURFACE1	Original Hole	17 1/2	17.0	408.0	5/15/1986
INTRM1	Wellbore Name	Size (in)	Act Top (ftKB)	Act Btm (ftKB)	Start Date
INTRM1	Original Hole	12 1/4	408.0	5,000.0	5/16/1986
PROD1	Wellbore Name	Size (in)	Act Top (ftKB)	Act Btm (ftKB)	Start Date
PROD1	Original Hole	7 7/8	5,000.0	8,925.0	5/28/1986

Surface 408.0 ftKB 5/15/1986

Comment

OD (in)	Wt (lb/ft)	Grade	Top (ftKB)	Btm (ftKB)	Len (ft)	Item Des
13 3/8	54.50	K-55	17.0	365.0	348.00	Casing Joints
13 3/8			365.0	366.0	1.00	Float Collar
13 3/8	54.50	K-55	366.0	407.0	41.00	Casing Joints
13 3/8			407.0	408.0	1.00	Shoe

Intermediate 5,000.0 ftKB 5/26/1986

Comment

OD (in)	Wt (lb/ft)	Grade	Top (ftKB)	Btm (ftKB)	Len (ft)	Item Des
9 5/8	53.50	N-80	17.0	4,955.0	4,938.00	Casing Joints
9 5/8			4,955.0	4,956.0	1.00	Float Collar
9 5/8	53.50	N-80	4,956.0	4,999.0	43.00	Casing Joints
9 5/8			4,999.0	5,000.0	1.00	Shoe

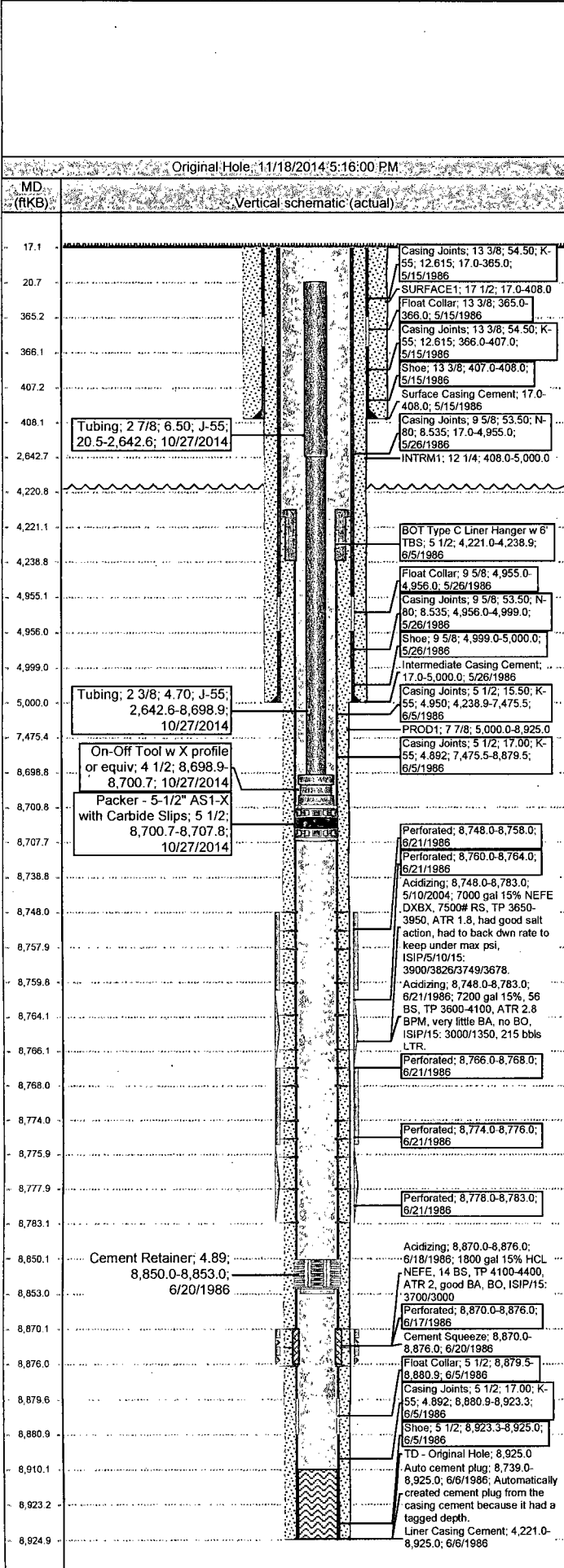
Liner 8,925.0 ftKB 6/5/1986

Comment

OD (in)	Wt (lb/ft)	Grade	Top (ftKB)	Btm (ftKB)	Len (ft)	Item Des
5 1/2			4,221.0	4,238.9	17.96	BOT Type C Liner Hanger w 6' TBS
5 1/2	15.50	K-55	4,238.9	7,475.5	3,236.56	Casing Joints
5 1/2	17.00	K-55	7,475.5	8,879.5	1,404.04	Casing Joints
5 1/2			8,879.5	8,880.9	1.38	Float Collar
5 1/2	17.00	K-55	8,880.9	8,923.3	42.35	Casing Joints
5 1/2			8,923.3	8,925.0	1.75	Shoe

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Injector Schematic & History



Cement Stages

Description	Top (ftKB)	Btm (ftKB)	Top Meas Meth	Comment
Surface Casing Cement	17.0	408.0	Cement Returns	500 sx Class C + 2% CaCl, 1/4 pps FC, 14.8 ppg, 1.32 cuft/sk, circ 180 sx
Intermediate Casing Cement	17.0	5,000.0	Cement Returns	2000 sx Class C neat + 75 scf/bbl N2, 13.2 ppg, 1.32 cuft/sk, circ 160 sx. Cap 9 -5/8x13-3/8 annulus w 100 sx Class C + 2% CaCl, 14.8 ppg, 1.32 cuft/sk.
Liner Casing Cement	4,221.0	8,925.0	Bit Tag	Lead: 700 sx Class C + 18 -1/2 pps FDP 375, 18-1/2 pps poz, 12.0 ppg, 1.94 cuft/sk; Tail: 300 sx Class H + 1/4 pps FC, 15.6 ppg, 1.18 cuft/sk.
Cement Squeeze	8,870.0	8,876.0		Sqz perms under ret w 40 sx Class H neat, 15.6 ppg, 1.18 cuft/sk, TP 4200,

Perforations

Top (ftKB)	Btm (ftKB)	Shot Dens (shot/sft)	Date	Zone	Calculated Shot Total
8,748.0	8,758.0	1.0	6/21/1986	ABO, <idrecwellbore>	11
8,760.0	8,764.0	1.0	6/21/1986	ABO, <idrecwellbore>	5
8,766.0	8,768.0	1.0	6/21/1986	ABO, <idrecwellbore>	3
8,774.0	8,776.0	1.0	6/21/1986	ABO, <idrecwellbore>	3
8,778.0	8,783.0	1.0	6/21/1986	ABO, <idrecwellbore>	6
8,870.0	8,876.0	1.0	6/17/1986	ABO, <idrecwellbore>	7

Stim/Treat Stages

Type	Start Date	Top (ftKB)	Btm (ftKB)	Com
Acidizing	6/18/1986	8,870.0	8,876.0	1800 gal 15% HCL NEFE, 14 BS, TP 4100-4400, ATR 2, good BA, BO, ISIP/15: 3700/3000
Acidizing	6/21/1986	8,748.0	8,783.0	7200 gal 15%, 56 BS, TP 3600-4100, ATR 2.8 BPM, very little BA, no BO, ISIP/15: 3000/1350, 215 bbis LTR
Acidizing	5/10/2004	8,748.0	8,783.0	7000 gal 15% NEFE DXBX, 7500# RS, TP 3650-3950, ATR 1.8, had good salt action, had to back down rate to keep under max psi, ISIP/5/10/15: 3900/3826/3749/3678

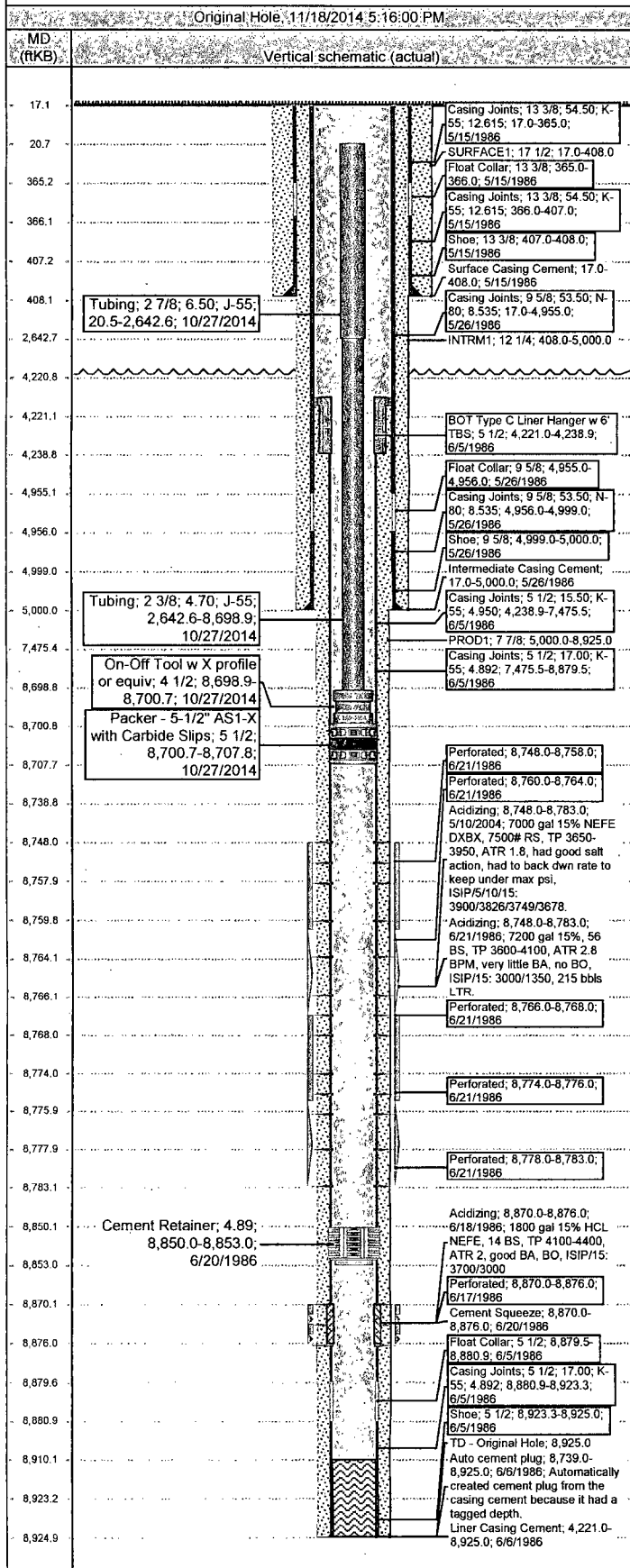
Other In Hole

Des	Com	OD (in)	Run Date	Top (ftKB)	Btm (ftKB)
Cement Retainer		4.892	6/20/1986	8,850.0	8,853.0

Tubing - Injection (IPC) set at 8,707.8ftKB on 10/27/2014 00:00

Set Depth (ftKB)		Comment		Run Date		Pull Date	
8,707.8				10/27/2014			
Item Des	OD (in)	Wt (lb/ft)	Grade	Len (ft)	Jts	Top (ftKB)	Btm (ftKB)
Tubing	2 7/8	6.50	J-55	2,622.11	271	20.5	2,642.6
Tubing	2 3/8	4.70	J-55	6,056.30		2,642.6	8,698.9

Injector Schematic & History



Item Des	OD (in)	Wt (lb/ft)	Grade	Len (ft)	Jts	Top (ftKB)	Btm (ftKB)
On-Off Tool w X profile or equiv	4 1/2			1.74	1	8,698.9	8,700.7
Packer - 5 1/2" AS1-X with Carbide Slips	5 1/2			7.15	1	8,700.7	8,707.8