

Submit 1 Copy To Appropriate District Office.
District I - (575) 393-6161
1625 N. French Dr., Hobbs, NM 88240
District II - (575) 748-1283
811 S. First St., Artesia, NM 88210
District III - (505) 334-6178
1000 Rio Brazos Rd., Aztec, NM 87410
District IV - (505) 476-3460
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources

Form C-103
Revised July 18, 2013

OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

WELL API NO. 30-025-23696
5. Indicate Type of Lease STATE ☒ FEE ☐
6. State Oil & Gas Lease No. 312479
7. Lease Name or Unit Agreement Name NVAU
8. Well Number 156
9. OGRID Number 298299
10. Pool name or Wildcat VACUUM; ABO, NORTH
11. Elevation (Show whether DR, RKB, RT, GR, etc.) 4072 KB

SUNDRY NOTICES AND REPORTS ON WELLS
(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.)

1. Type of Well: Oil Well ☒ Gas Well ☐ Other ☐

2. Name of Operator
CROSS TIMBERS ENERGY, LLC

3. Address of Operator
400 WEST 7th STREET, FORT WORTH, TX 76102

4. Well Location
Unit Letter J : 1893 feet from the S line and 1800 feet from the E line
Section 23 Township 17S Range 34E NMPM County LEA

11. Elevation (Show whether DR, RKB, RT, GR, etc.)

4072 KB

12. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:

PERFORM REMEDIAL WORK ☐ PLUG AND ABANDON ☐
TEMPORARILY ABANDON ☐ CHANGE PLANS ☐
PULL OR ALTER CASING ☐ MULTIPLE COMPL ☐
DOWNHOLE COMMINGLE ☐
CLOSED-LOOP SYSTEM ☐
OTHER: ☐

SUBSEQUENT REPORT OF:

REMEDIAL WORK ☒ ALTERING CASING ☐
COMMENCE DRILLING OPNS. ☐ P AND A ☐
CASING/CEMENT JOB ☐
OTHER: MIT ☒

13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 19.15.7.14 NMAC. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

LUCKY PU 7-8-14/8-18-14
PULLED WELL
REPAIRED PACKER
PACKER DEPTH 8254'
RETURNED TO INJECTION
WELLBORE SCHEMATIC ATTACHED
MIT CHART ATTACHED
NO OCD WITNESS PRESENT

Spud Date: 11/14/1997

Rig Release Date: 12/01/1997

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNATURE Laura Stone TITLE REGULATORY COMPLIANCE DATE 8/26/14

Type or print name LAURA STONE E-mail address: rgrigg@mspartners.com PHONE: 817-334-7842
For State Use Only

APPROVED BY: Bellamah TITLE Staff Manager DATE 11/4/2014

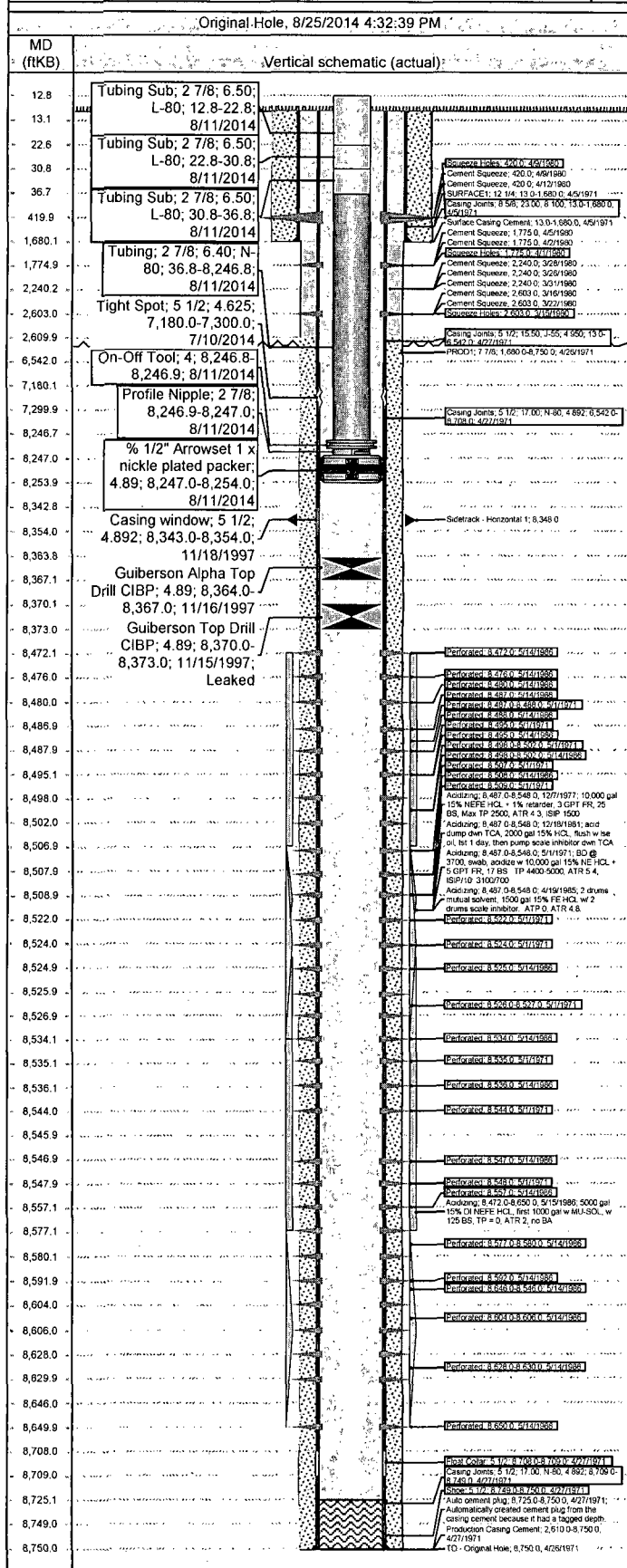
Conditions of Approval (if any):

FOR RECORD ONLY

NOV 05 2014

Schematic & History

Well Name NORTH VACUUM ABO UNIT 156		API/UWI 3002523696		County Lea		State/Province New Mexico		Field Name VACUUM N	
Location 1893 FSL & 1800 FEL				Township 17S	Range 34E	Section 23	Latitude (°) 32° 40' 9.66" N		Longitude (°) 103° 31' 41.052" W
Section	Survey					Block		Township	Abstract
Original KB Elevation (ft) 4,037.00		Ground/Corrected Ground Elevation (ft) 4,024.00		KB-Ground Distance (ft) 13.00			Spud Date		



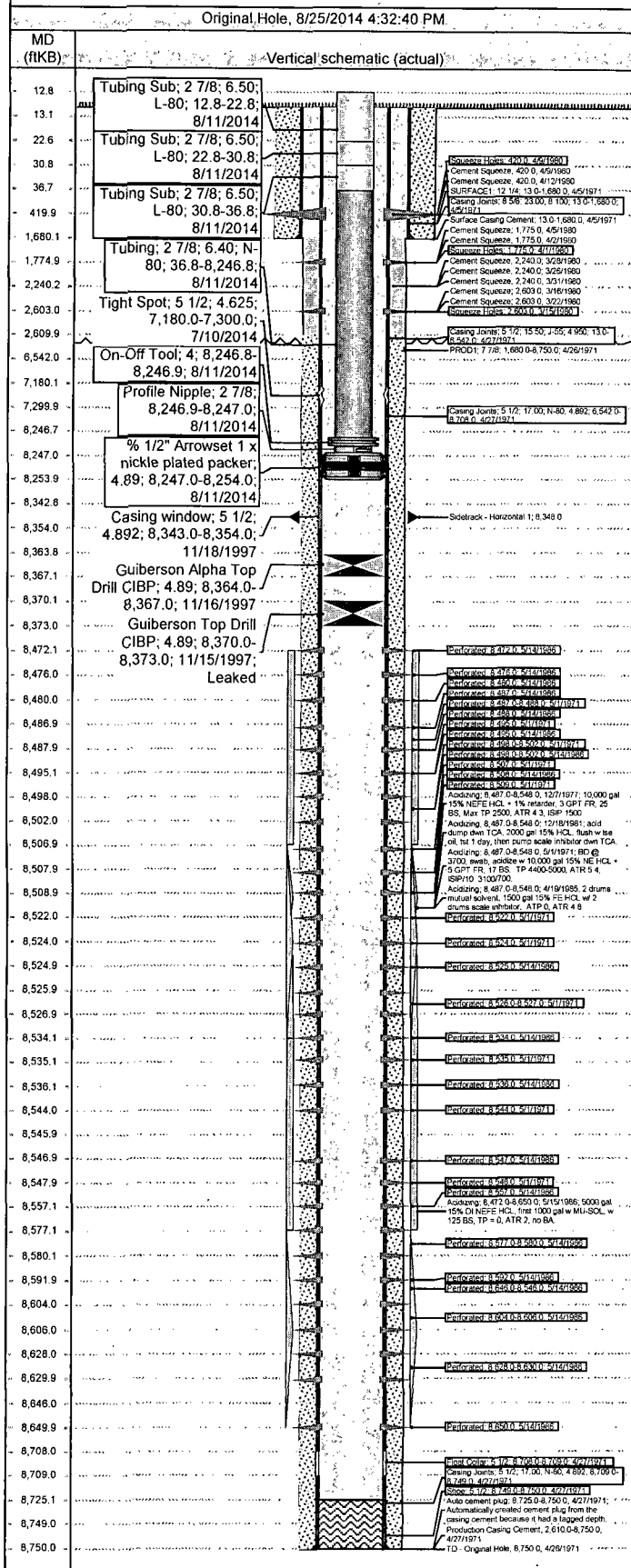
Jobs	Type	Start Date	Summary
Rod Part		11/29/1900	Unlisted year. Box brk 51 RFS, rplc 9 3/4 rods w 7/8, HO tbg, RTP.
Drilling Original & Initial Completion		4/3/1971	D&C Abo producer. Perf & acidize, swab, install prod equip, POP.
Pump Exchange		7/19/1973	pump chg
Rod Part		6/1/1974	7/8 box brk, chg pump, RTP
Pump Repair		5/4/1976	pull rod prt, fish, chg 60 3/4 boxes, 91 7/8 boxes, RTP.
Pump Exchange		10/4/1977	Pump chg
Pump Exchange		10/16/1977	Pump chg
Acidize		12/3/1977	Pump 400 gal Cedex dwn csg, SI 24', MIRU, pull rods, tbg, Dialog bore hole sound survey, no fluid movement detected, R/H pkr, acidize, RTP.
Rod Part		12/6/1977	7/8 pin brk below PR, pull rods, chg 25 3/4 boxes, 9 7/8 boxes, RTP.
Tubing Change		12/8/1977	Pull pump, tbg, tst tbg BIH, RTP.
Pump Exchange		12/12/1977	Pump chg
Rod Part		1/9/1978	Box brk 50 RFS, fish & hang.
Pump Exchange		5/30/1978	Pump chg
Rod Part		7/12/1978	box brk 900', RTP
Rod Part		1/29/1979	Pony rod part below PR, fish & hang.
Rod Part		8/20/1979	Pony rod part, fish, HO, chg pump, RTP.
Rod Part		9/10/1979	prt 51 RFS, strip out, chg pump RBIH, RTP.
Rod Part		9/25/1979	pony rod under PR part, fish & hang
Pump Exchange		12/6/1979	Pump chg twice in 2 days

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Schematic & History

Original Hole: 8/25/2014 4:32:39 PM		Jobs	
MD (ftKB)	Vertical: schematic (actual)	Type	Summary
12.8	Tubing Sub; 2 7/8; 6.50; L-80; 12.8-22.8; 8/11/2014	Casing Leak / Rpr	3/13/1980 Pull prod equip, set RBP, run CBL 2400-4400', perf csg @ 2603', att to bring dyed wtr dwn 5-1/2/up 8-5/8 inject 3 BPM @ 1500#, rtnn 1/2-3/4 BPM, no dye, sqz cmt; tbq vlv leaked - 35 jts cmt'd, temp svy shows no cmt behind 5 1/2". Mill on fish, RIH OS, rcvr all fish, DO cmt, tst inj at 2603: 1 BPM @ 600# no rtnns, 2 BPM @ 1000# w 2" rtnns, 3 BPM @ 1500# full rtnns, sqz cmt, temp svy showed cmt @ 2255', DO cmt, tst csg to 1000, lost 50 in 30", RIH pkr, tst csg below sqz good, sqz lost 30# in 40", perf @ 2240', flow up 8-5/8 stopped and began to flow up 5-1/2, RIH pkr @ 1966, good circ but no dye rtnrd. 3 BPM @ 1000#, sqz cmt no cmt rtnns, temp svy TOC 1785', DO cmt, well strtd to back flow, inj 3.5 BPM @ 200#. RIH pkr, inj 1.5 BPM @ 1700#, sqz cmt, hld psi, DO cmt, tst sqz hole @ 2603, hld good, inj 1 BPM @ 1700# in sqz hole @ 2240. Sqz cmt, hesitate, hld psi. WOC 36', DO, tst 1000#, 15", hld good, perf @ 1775', inj 5 BPM @ 500# full rtnns to surf. sqz cmt, DO, psi tst to 1000#, lost 500 in 2", set RBP blw 1775, inj 1 BPM @ 1000#, sqz cmt, braden head had 400# on it, bled off, att inj into BH, could not, DO, run CBL, showed fair to poor bond w slight channel 1620-1850', fair bond w channel 430-1620', poor bond w channel 150-430'. 150# on BH, perf @ 420', inj 1 BPM @ 800# no rtnns, sqz cmt, BH psi 370#, DO, BH came up to 250 in 3', psi tst sqz holes to 1100# lost 350# in 30", BH increase to 490#, att circ thru perfs, rtnrd 1/8" flow from BH. pressure tst sqz holes @ 1775' good, spot acid over 420', att brkdw, psi to 1000-1800# and lose 300# in 5" w slight flow from BH, rvs out acid, spot 20% acid @ 458', inj 1/2 BPM @ 1300#, slight circ @ surf, could not inj in BH, let acid soak 1', inj 3/4 BPM @ 1000#, rvs out acid, sqz Cal-seal dwn 5-1/2, max psi 2200. 420# on BH, DO, tst csg to 1100# 30" good, slight drip out 8-5/8, left 5-1/2x8-5/8 annulus open ON, no drips, retrieve RBP, trouble latching RBP @ 4500', rtnrd, install prod. equip, RTP.
13.1			
22.6	Tubing Sub; 2 7/8; 6.50; L-80; 22.8-30.8; 8/11/2014		
30.8			
36.7	Tubing Sub; 2 7/8; 6.50; L-80; 30.8-36.8; 8/11/2014		
419.9			
1,680.1	Tubing; 2 7/8; 6.40; N-80; 36.8-8,246.8; 8/11/2014		
1,774.9			
2,240.2	Tight Spot; 5 1/2; 4.625; 7,180.0-7,300.0; 7/10/2014		
2,603.0			
2,609.9	On-Off Tool; 4; 8,246.8-8,246.9; 8/11/2014		
6,542.0			
7,180.1	Profile Nipple; 2 7/8; 8,246.9-8,247.0; 8/11/2014		
7,299.9			
8,246.7	% 1/2" Arrowset 1 x nickle plated packer; 4.89; 8,247.0-8,254.0; 8/11/2014		
8,247.0			
8,253.9	Casing window; 5 1/2; 4.892; 8,343.0-8,354.0; 11/18/1997		
8,342.8			
8,354.0	Guiberson Alpha Top Drill CIBP; 4.89; 8,364.0-8,367.0; 11/16/1997		
8,363.8			
8,371.1	Guiberson Top Drill CIBP; 4.89; 8,370.0-8,373.0; 11/15/1997;		
8,370.1	Leaked		
8,373.0			
8,472.1			
8,478.0			
8,480.0			
8,486.9			
8,487.9			
8,495.1			
8,498.0			
8,502.0			
8,506.9			
8,507.9			
8,508.9			
8,522.0			
8,524.0			
8,524.9			
8,525.9			
8,526.9			
8,534.1			
8,535.1			
8,536.1			
8,544.0			
8,545.9			
8,546.9			
8,547.9			
8,557.1			
8,577.1			
8,580.1			
8,591.9			
8,604.0			
8,606.0			
8,628.0			
8,629.9			
8,646.0			
8,649.9			
8,708.0			
8,709.0			
8,725.1			
8,749.0			
8,750.0			
		Rod Part	5/25/1980 3/4" body brk, 343 RFS, chg pump, RTP.
		Pump Exchange	6/26/1980 Pull pmp, cups left in SN, att fish, pull tbq & cups, RBIH, RTP.
		Pump Exchange	12/11/1981 pump chg
		Acid Dump	12/18/1981 Pmp acid dwn TCA, flush w oil, test, pmp scale inhib dwn TCA.
		Rod Part	1/2/1982 3/4" body brk 339 RFS, chg pump, RTP.
		Rod Part	4/21/1982 Backed off at pump? Fished, chg pump, RBIH, LS, unseat & HO tbq, still no PA, pull tbq, RBIH tstg, RIH pump, RTP.
		Rod Part	5/19/1982 prt 343 RFS, 2' sub on top of pump, chg pump, RTP

Schematic & History



Jobs

Type	Start Date	Summary
Rod Part	5/18/1983	7/8" box brk 47 RFS, fish & hang
Rod Part	8/5/1983	175' FS, Fish & hang
Pump Exchange	8/29/1983	pump chg
Rod Part	10/19/1983	Pin brk, had trouble fishing, chg pump, chg TAC, RTP.
Rod Part	7/29/1984	PR box brk, fish & hang
Well Test	9/18/1984	PBU? or inj tst?
Rod Part	10/30/1984	box brk, chg pump, RTP
Acidize	4/18/1985	Pull rods & tbq, RIH trtg pkr @ 8357', pmp 2 drums Unichem 405 mutual solvent, 1500 gal 15% FE HCL w/ scale inhibitor. RTP.
Rod Part	7/2/1985	part @ 1300', fish & hang
Rod Part	8/14/1985	part 5500' FS, chg pump, RTP.
Rod Part	1/16/1986	3/4" body brk 2325' FS, chg pump, RTP.
Convert To Injection	5/13/1986	POOH & LD rods, RIH bit & scrpr, tag 8725', perf Abo, set RBP @ surf, weld on tbq adapter, rls RBP, RIH pkr, acidize Abo, install Otis TB perm pkr w j-catch seal ass'y on 2-7/8" 7.9# Atlas Bradford IJ-335 tbq, att set @ 8432', no setting action, set pkr @ 8401'. Circ pkr fluid, MIT.
Step-Rate Inj Test	3/25/1987	
Drilling Horizontal	11/14/1997	POOH & LD 2-7/8" IJ3S tbq, RIH WL GR, WL set Guiberson Top Drill CIBP @ 8370', psi tst @ 750#, leaking, set another CIBP, hld good, bit/mill trip, install whipstock, drill window (start @ 8348'), RDMO, chg rigs, MIRU, drill curve, drill lateral, TD @ 9413, condition, POOH&LD DP, RIH inflatable pkr w/ plug, on 2-7/8" N80 tbq, set @ 8604'. MIRU CT to fish plug. RDMO.
Acidize	12/12/1997	POOH inj equip. RIH tst pkr, tst csg 8280' to surf. tst good, N2 acidize, flow back, POOH WS, RIH inj equip, pkr keeps setting, well flowing, RDMO without finishing, leave well flowing, MIRU, finish RIH, set 15k comp, tstsd good, circ pkr fluid, RTI.
Casing Leak / Rpr	4/1/2009	POOH tbq, pkr, RIH RBP, pkr, set RBP @ 8213', tst RBP, tst TCA, ran out surf. vlv, hunt leak to between 9-12', dug out 18', cut all csg strgs, weld new extensions and WH's, tstsd all strgs good. POOH RBP's, install inj equip, MIT passed, RTI.
Repr Injection Well Failure	7/8/2014	

Wellbore Sections

Section Des	Wellbore Name	Size (in)	Act Top (ftKB)	Act Btm (ftKB)	Start Date
SURFACE1	Original Hole	12 1/4	13.0	1,680.0	4/3/1971
PROD1	Original Hole	7 7/8	1,680.0	8,750.0	4/5/1971
PROD2	Horizontal 1	4 3/4	8,348.0	9,413.0	11/19/1997
Surface 1,680.0 ftKB 4/5/1971					
Comment					
LB Foster type csg?					
OD (in)	Wt (lb/ft)	Grade	Top (ftKB)	Btm (ftKB)	Len (ft)
8 5/8	23.00		13.0	1,680.0	1,667.00
Casing Joints					
Production 8,750.0 ftKB 4/27/1971					
Comment					

Schematic & History

Original.Hole, 8/25/2014, 4:32:40 PM

Vertical schematic (actual)

Key data points from the schematic:

- Tubing Sub:** 2 7/8, 6.50, L-80; 12.8-22.8, 8/11/2014
- Tubing Sub:** 2 7/8, 6.50, L-80; 22.8-30.8, 8/11/2014
- Tubing:** 2 7/8, 6.40, N-80; 36.8-8,246.8, 8/11/2014
- Tight Spot:** 5 1/2, 4.625, 7,180.0-7,300.0, 7/10/2014
- On-Off Tool:** 4, 8,246.8-8,246.9, 8/11/2014
- Profile Nipple:** 2 7/8, 8,246.9-8,247.0, 8/11/2014
- % 1/2" Arrowset 1 x nickle plated packer:** 4.89; 8,247.0-8,254.0, 8/11/2014
- Casing window:** 5 1/2, 4.892; 8,343.0-8,354.0, 11/18/1997
- Guiberson Alpha Top Drill CIBP:** 4.89; 8,367.0, 8/11/1997
- Guiberson Top Drill CIBP:** 4.89; 8,370.0-8,373.0, 11/15/1997
- Leaked:** 8,373.0-8,374.0

OD (in)	Wt (lb/ft)	Grade	Top (ftKB)	Btm (ftKB)	Len (ft)	Item Des
5 1/2	15.50	J-55	13.0	6,542.0	6,529.00	Casing Joints
5 1/2	17.00	N-80	6,542.0	8,708.0	2,166.00	Casing Joints
5 1/2			8,708.0	8,709.0	1.00	Float Collar
5 1/2	17.00	N-80	8,709.0	8,749.0	40.00	Casing Joints
5 1/2			8,749.0	8,750.0	1.00	Shoe

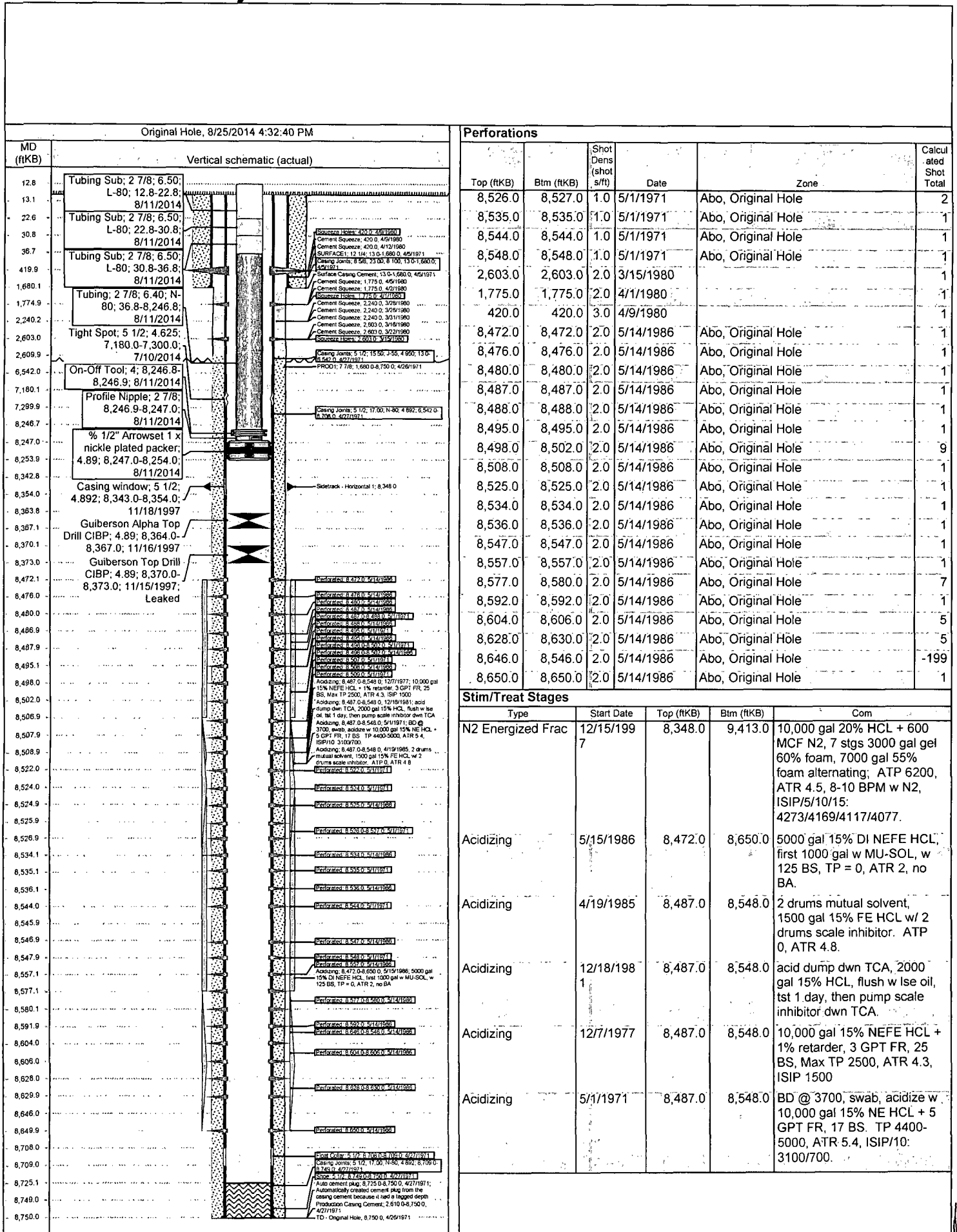
Cement Stages

Description	Top (ftKB)	Btm (ftKB)	Top Meas Meth	Comment
Surface Casing Cement	13.0	1,680.0	Cement Returns	Lead: 800 sx Class H + 2% CaCl, 8% gel; Tail: 200 sx Class H + 2% CaCl, circ. cmt.
Production Casing Cement	2,610.0	8,750.0	Temperature Survey	Lead: 2900 sx TLW + 1/4 pps floce in first 1000 sx; Tail: 200 sx Class C neat, no cmt circ.
Cement Squeeze	2,603.0	2,603.0	Temperature Survey	800 sx Class C + 2% CaCl, 1/4 pps FC
Cement Squeeze	2,603.0	2,603.0	Temperature Survey	Lead: 1300 sx Class C + 2% CaCl; Tail: 200 sx Class C thickset. Max inj psi 700, did not circ.
Cement Squeeze	2,240.0	2,240.0	Temperature Survey	2500 sx Class C + 3% CaCl, max psi 700, no cmt circ
Cement Squeeze	2,240.0	2,240.0	Temperature Survey	2 stgs of 1000 gal Flocheck + 178 sx Thickset + 2% CaCl, max psi 2100, left 3 bbls cmt above perfs. Held 1400# after 19'
Cement Squeeze	2,240.0	2,240.0	Temperature Survey	300 sx Class C thickset @ 1 BPM, 1500#, hesitate last 2 bbls, max psi 2400. WOC 36'
Cement Squeeze	1,775.0	1,775.0	Cement Returns	300 sx Class C + 2% CaCl, circ 70 bbls slurry, close 8-5/8, psi to 1000#, would not sqz, leave 100# on 5-1/2.
Cement Squeeze	1,775.0	1,775.0	Cement Returns	300 sx Thick-set + 2% CaCl, max psi 2300, SDOWE.
Cement Squeeze	420.0	420.0	Cement Returns	100 sx Class C + 2% CaCl.
Cement Squeeze	420.0	420.0	Cement Returns	85 sx CalSeal, 1/2 BPM @ 200#, max psi 2200.

Perforations

Top (ftKB)	Btm (ftKB)	Shot Dens (shot/sft)	Date	Zone	Calculated Shot Total
8,487.0	8,488.0	1.0	5/1/1971	Abo, Original Hole	2
8,495.0	8,495.0	1.0	5/1/1971	Abo, Original Hole	1
8,498.0	8,502.0	1.0	5/1/1971	Abo, Original Hole	5
8,507.0	8,507.0	1.0	5/1/1971	Abo, Original Hole	1
8,509.0	8,509.0	1.0	5/1/1971	Abo, Original Hole	1
8,522.0	8,522.0	1.0	5/1/1971	Abo, Original Hole	1
8,524.0	8,524.0	1.0	5/1/1971	Abo, Original Hole	1

Schematic & History



Schematic & History

