

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

Form C-103
Revised July 18, 2013

WELL API NO. 30-025-30913	
5. Indicate Type of Lease STATE ☒ FEE ☐	
6. State Oil & Gas Lease No. B1-1349	
7. Lease Name or Unit Agreement Name Northeast Drinkard Unit (NEDU) [22503]	
8. Well Number 514	
9. OGRID Number 873	
10. Pool name or Wildcat Eunice; B-T-D, North [22900]	
11. Elevation (Show whether DR, RKB, RT, GR, etc.) 3868' GL	

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

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
PERFORM REMEDIAL WORK ☐	PLUG AND ABANDON ☐	REMEDIAL WORK ☐	ALTERING CASING ☐
TEMPORARILY ABANDON ☐	CHANGE PLANS ☐	COMMENCE DRILLING OPNS. ☐	P AND A ☐
PULL OR ALTER CASING ☐	MULTIPLE COMPL ☐	CASING/CEMENT JOB ☐	
DOWNHOLE COMMINGLE ☐			
CLOSED-LOOP SYSTEM ☐			
OTHER: CTI ☒		OTHER: ☐	

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.

Apache intends to convert this well to injection, per the attached procedure. We are still evaluating which scenario will be the most operational and cost effective.

We are concurrently submitting an Application for Injection to Santa Fe.

Spud Date:

12/27/1990

Rig Release Date:

2/03/1991

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

SIGNATURE

Reesa Fisher

TITLE Sr. Staff Reg Analyst

DATE 12/18/2018

Type or print name Reesa Fisher

E-mail address: Reesa.Fisher@apachecorp.com

PHONE: (432) 818-1062

For State Use Only

APPROVED BY:

[Signature]

TITLE

Petroleum Engineer

DATE

12/27/18

Conditions of Approval (if any):

May not inject prior to C-108 approval
Must notify CD HOAH prior to MTR

NEDU 514: (API: 30-025-30913)

OBJECTIVE: CONVERT TO DRINKARD INJECTOR

Scenario 1: Dual Packer Isolation

1. POOH w rods and 2-7/8" production tubing.
2. PU workstring and RIH w/ bit or mill clean out well to CIBP/PBTD at 6060'. Continue cleaning out well to 6800' POOH.
3. RIH w RBP and packer and set RBP at 5590'. Test RBP then test casing.
4. RIH w/ wireline and perforate Drinkard formation f/ 6570'-6690' (actual depths TBD). POOH.
5. RIH w/ 2-7/8" workstring and dual packer isolation string consisting of:
 - 5-1/2" hydraulic packer landed between 6420'-6450'.
 - 5-1/2" mechanical packer landed between 6160-6180'.
 - Approx 250' of 2-7/8" tubing between each packer.
6. Pressure up on tubing to set hydraulic packer
7. Acid stimulate Drinkard formation w/ 5000 gals 15% HCl using rock salt for diversion. POOH.
8. MIRU wireline. RIH w/ 5-1/2" permanent packer and set around 6430'.
9. PU 850' of 2-3/8" IPC externally coated tubing w/ 5-1/2" hydraulic packer on top and tie into permanent packer. Pressure up tubing to set hydraulic packer at 5580'. Test casing to 500 psi.
10. Perform MIT for NMOCD.
11. Open well up for injection.

Scenario 2: Cement 4" Liner Hanger from Blinebry to TD

1. POOH w rods and 2-7/8" production tubing.
2. PU workstring and RIH w/ bit or mill clean out well to CIBP/PBTD at 6060'. Continue cleaning out well to 6800' POOH.
3. MIRU cement and casing crew and PU ~1500' of 4" casing (including float shoe, float collar and landing collar) using 2-7/8" L-80 workstring.
4. RIH and tag TD. Land TOL around 250-300' above top Blinebry perf. Pump spacer followed by 50-100 SX of cement. Flush with fresh water.
5. Release workstring from liner. Reverse circulate to clean hole. POOH.
6. If no cement circulated to surface, PU packer and attempt to squeeze liner top or RIH w/ liner packer and sting into tie back tool. Set liner packer and test casing.
7. PU bit and drill out cement to float collar. Pressure test casing. Continue drilling out cement if needed to perforate. POOH.
8. MIRU wireline. Run CBL from PBTD to surface.
9. PU wireline guns and perforate Drinkard formation f/6560'—6800' (Depths TBD). POOH.
10. PU 4" treating packer w/ ~40 jts of 2-3/8" followed by remaining 2-7/8" workstring to surface. Set packer ~100' above top perf and load backside.

11. Acid stimulate Drinkard formation w/ 5000 gals 15% HCl using 1.1 SG ball sealers for diversion. Release packer and knock off balls. POOH.
12. RIH w 4" injection packer and ~6500' of 2-3/8" IPC tubing. Set packer within 20' of top perf.
13. Circulate packer fluid and test backside to 500 psi.
14. Perform MIT for NMOCD.

Apache		Downhole Well Profile w Cement																																																																																																																																																																																																																																																															
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6/28/1991	Blinetry	No	5,702	5,702	2.0	2																																																																																																																																																																																																																																																											
6/28/1991	Blinetry	No	5,704	5,704	2.0	2																																																																																																																																																																																																																																																											
6/28/1991	Blinetry	No	5,717	5,717	2.0	2																																																																																																																																																																																																																																																											
6/28/1991	Blinetry	No	5,720	5,720	2.0	2																																																																																																																																																																																																																																																											
6/28/1991	Blinetry	No	5,733	5,733	2.0	2																																																																																																																																																																																																																																																											
6/28/1991	Blinetry	No	5,735	5,735	2.0	2																																																																																																																																																																																																																																																											
6/28/1991	Blinetry	No	5,738	5,738	2.0	2																																																																																																																																																																																																																																																											
6/28/1991	Blinetry	No	5,742	5,742	2.0	2																																																																																																																																																																																																																																																											
6/28/1991	Blinetry	No	5,747	5,747	2.0	2																																																																																																																																																																																																																																																											
6/28/1991	Blinetry	No	5,753	5,753	2.0	2																																																																																																																																																																																																																																																											
6/28/1991	Blinetry	No	5,756	5,756	2.0	2																																																																																																																																																																																																																																																											
6/28/1991	Blinetry	No	5,762	5,762	2.0	2																																																																																																																																																																																																																																																											
6/28/1991	Blinetry	No	5,765	5,765	2.0	2																																																																																																																																																																																																																																																											
6/28/1991	Blinetry	No	5,772	5,772	2.0	2																																																																																																																																																																																																																																																											
6/28/1991	Blinetry	No	5,776	5,776	2.0	2																																																																																																																																																																																																																																																											
6/28/1991	Blinetry	No	5,778	5,778	2.0	2																																																																																																																																																																																																																																																											



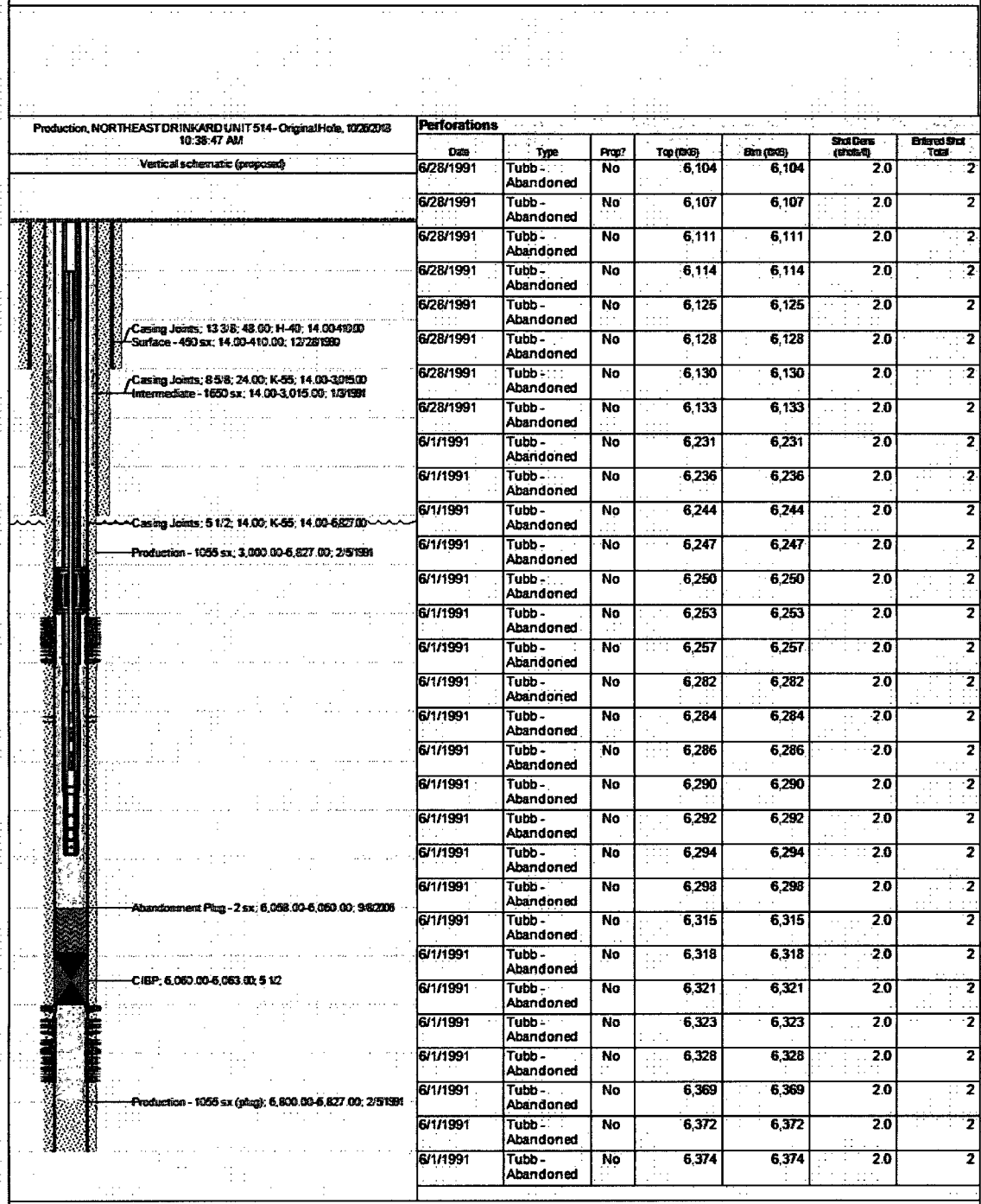
Downhole Well Profile w Cement

Well Name: NEDU 514

Production, NORTHEAST DRINKARD UNIT 514 - Original Hole, 12/28/2003 10:38:40 AM		Perforations						
Vertical schematic (proposed)		Date	Type	Prop?	Top (ft)	Bot (ft)	Shot Dens (shots/ft)	Entered Shot Total
Casing Joints: 13 3/8, 48.00; H-43; 14.00-410.00 Surface - 450 sx; 14.00-410.00; 12/28/1990 Casing Joints: 6 5/8; 24.00; K-55; 14.00-3015.00 Intermediate - 1650 sx; 14.00-3,015.00; 1/3/1991 Casing Joints: 5 1/2; 14.00; K-55; 14.00-6,827.00 Production - 1055 sx; 3,000.00-6,827.00; 2/5/1991 Abandonment Plug - 2 sx; 6,058.00-6,063.00; 9/6/2006 CIBP: 6,060.00-6,063.00; 5 1/2 Production - 1055 sx (plug): 6,600.00-6,827.00; 2/5/1991		6/26/1991	Blinebry	No	5,782	5,782	2.0	2
		6/26/1991	Blinebry	No	5,785	5,785	2.0	2
		6/26/1991	Blinebry	No	5,788	5,788	2.0	2
		6/26/1991	Blinebry	No	5,790	5,790	2.0	2
		6/28/1991	Blinebry	No	5,794	5,794	2.0	2
		6/28/1991	Blinebry	No	5,797	5,797	2.0	2
		6/28/1991	Blinebry	No	5,800	5,800	2.0	2
		6/28/1991	Blinebry	No	5,804	5,804	2.0	2
		6/28/1991	Blinebry	No	5,806	5,806	2.0	2
		6/28/1991	Blinebry	No	5,818	5,818	2.0	2
		6/28/1991	Blinebry	No	5,820	5,820	2.0	2
		6/28/1991	Blinebry	No	5,824	5,824	2.0	2
		6/28/1991	Blinebry	No	5,832	5,832	2.0	2
		6/28/1991	Blinebry	No	5,834	5,834	2.0	2
		6/28/1991	Blinebry	No	5,836	5,836	2.0	2
		6/28/1991	Blinebry	No	5,838	5,838	2.0	2
		6/28/1991	Blinebry	No	5,845	5,845	2.0	2
		6/28/1991	Blinebry	No	5,847	5,847	2.0	2
		6/28/1991	Blinebry	No	5,850	5,850	2.0	2
		6/28/1991	Blinebry	No	5,861	5,861	2.0	2
		6/28/1991	Blinebry	No	5,864	5,864	2.0	2
		6/28/1991	Blinebry	No	5,866	5,866	2.0	2
		6/28/1991	Blinebry	No	5,878	5,878	2.0	2
		6/28/1991	Blinebry	No	5,880	5,880	2.0	2
		6/28/1991	Blinebry	No	5,883	5,993	2.0	2
		6/28/1991	Blinebry	No	5,899	5,899	2.0	2
		6/28/1991	Blinebry	No	5,904	5,904	2.0	2
		6/28/1991	Blinebry	No	5,913	5,913	2.0	2
		6/28/1991	Blinebry	No	5,915	5,915	2.0	2
		6/28/1991	Blinebry	No	5,918	5,918	2.0	2
		6/28/1991	Blinebry	No	5,939	5,939	2.0	2
		6/28/1991	Blinebry	No	5,944	5,944	2.0	2
		6/28/1991	Blinebry	No	5,947	5,947	2.0	2
		6/28/1991	Blinebry	No	5,981	5,981	2.0	2
		6/28/1991	Blinebry	No	5,984	5,984	2.0	2
		6/28/1991	Blinebry	No	5,989	5,989	2.0	2
		6/28/1991	Blinebry	No	5,995	5,995	2.0	2
		6/28/1991	Blinebry	No	6,002	6,002	2.0	2
		6/28/1991	Blinebry	No	6,004	6,004	2.0	2
		6/28/1991	Blinebry	No	6,008	6,008	2.0	2
		6/28/1991	Tubb	No	6,023	6,023	2.0	2
		6/28/1991	Tubb	No	6,025	6,025	2.0	2
		6/28/1991	Tubb - Abandoned	No	6,077	6,077	2.0	2
		6/28/1991	Tubb - Abandoned	No	6,082	6,082	2.0	2
		6/28/1991	Tubb - Abandoned	No	6,093	6,093	2.0	2
		6/28/1991	Tubb - Abandoned	No	6,095	6,095	2.0	2
		6/28/1991	Tubb - Abandoned	No	6,097	6,097	2.0	2
		6/28/1991	Tubb - Abandoned	No	6,101	6,101	2.0	2

Downhole Well Profile w Cement

Well Name: NEDU 514





Downhole Well Profile w Cement

Well Name: NEDU 514

Production, NORTHEAST DRINKARD UNIT 514 - Original Hole, 10/26/2018 10:38:56 AM		Perforations						
Vertical schematic (proposed)		Date	Type	Prop?	Top (SSS)	Bot (SSS)	Shot Dens (shots/ft)	Entered Shot Total
 Casing Joints: 13 3/8, 48.00; H-40; 14.00-410.00 Surface - 450 sx; 14.00-410.00; 12/28/1990 Casing Joints: 6 5/8; 24.00; K-65; 14.00-3,015.00 Intermediate - 1650 sx; 14.00-3,015.00; 1/3/1991 Casing Joints: 5 1/2; 14.00; K-65; 14.00-6,827.00 Production - 1055 sx; 3,000.00-6,827.00; 2/5/1991 Abandonment Plug - 2 sx; 6,058.00-6,060.00; 9/8/2006 CIBP: 6,060.00-6,063.00; 5 1/2 Production - 1055 sx (plug); 6,800.00-6,827.00; 2/5/1991		6/1/1991	Tubb - Abandoned	No	6,376	6,376	2.0	2
		6/1/1991	Tubb - Abandoned	No	6,384	6,384	2.0	2
		6/1/1991	Tubb - Abandoned	No	6,393	6,393	2.0	2
		6/1/1991	Tubb - Abandoned	No	6,397	6,397	2.0	2
		5/1/1991	Tubb - Abandoned	No	6,467	6,467	2.0	2
		5/1/1991	Drinkard - Abandoned	No	6,470	6,470	2.0	2
		5/1/1991	Drinkard - Abandoned	No	6,486	6,486	2.0	2
		5/1/1991	Drinkard - Abandoned	No	6,489	6,489	2.0	2
		5/1/1991	Drinkard - Abandoned	No	6,500	6,500	2.0	2
		5/1/1991	Drinkard - Abandoned	No	6,503	6,503	2.0	2
		5/1/1991	Drinkard - Abandoned	No	6,505	6,505	2.0	2
		5/1/1991	Drinkard - Abandoned	No	6,510	6,510	2.0	2
		5/1/1991	Drinkard - Abandoned	No	6,514	6,514	2.0	2
		5/1/1991	Drinkard - Abandoned	No	6,523	6,523	2.0	2
		5/1/1991	Drinkard - Abandoned	No	6,525	6,525	2.0	2
		5/1/1991	Drinkard - Abandoned	No	6,546	6,546	2.0	2
		5/1/1991	Drinkard - Abandoned	No	6,565	6,565	2.0	2
		5/1/1991	Drinkard - Abandoned	No	6,574	6,574	2.0	2
		5/1/1991	Drinkard - Abandoned	No	6,578	6,578	2.0	2
		5/1/1991	Drinkard - Abandoned	No	6,583	6,583	2.0	2
		5/1/1991	Drinkard - Abandoned	No	6,586	6,586	2.0	2
		5/1/1991	Drinkard - Abandoned	No	6,591	6,591	2.0	2
		5/1/1991	Drinkard - Abandoned	No	6,594	6,594	2.0	2
		5/1/1991	Drinkard - Abandoned	No	6,604	6,604	2.0	2
		5/1/1991	Drinkard - Abandoned	No	6,607	6,607	2.0	2
		5/1/1991	Drinkard - Abandoned	No	6,610	6,610	2.0	2
		5/1/1991	Drinkard - Abandoned	No	6,613	6,613	2.0	2
		4/29/1991	Drinkard - Abandoned	No	6,620	6,620	2.0	2
		4/29/1991	Drinkard - Abandoned	No	6,622	6,622	2.0	2
		4/29/1991	Drinkard - Abandoned	No	6,624	6,624	2.0	2



Downhole Well Profile w Cement

Well Name: NEDU 514

Production, NORTHEAST DRINKARD UNIT 514- Original Hole, 10/26/2018
10:39:02 AM

Vertical schematic (proposed)

Casing Joints: 13 3/8; 48.00; H-40; 14.00-410.00
Surface - 450 sx; 14.00-410.00; 12/28/1990

Intermediate - 1650 sx; 14.00-3,015.00; 1/3/1991

Casing Joints: 5 1/2: 14.00; K-55: 14.00-5,27.00

—Production - 1055 sx; 3,000.00-6,827.00; 2/5/1991

~~Abandonment Plug - 2 sz; 6,058.00-6,060.00; 9/8/2006~~

—CIBP: 6,069.00-6,063.00; 5 12

~~Production - 1055 SX (plug): 6,800.00-6,827.00; 2/5/1991~~

Perforations

Date	Type	Prog?	Top (200)	Bin (200)	Shot Dens (shots/ft)	Entered Shot Total
5/1/1991	Drinkard - Abandoned	No	6,633	6,633	2.0	2
5/1/1991	Drinkard - Abandoned	No	6,637	6,637	2.0	2
5/1/1991	Drinkard - Abandoned	No	6,640	6,640	2.0	2
5/1/1991	Drinkard - Abandoned	No	6,643	6,643	2.0	2
5/1/1991	Drinkard - Abandoned	No	6,646	6,646	2.0	2
5/1/1991	Drinkard - Abandoned	No	6,652	6,652	2.0	2
5/1/1991	Drinkard - Abandoned	No	6,656	6,656	2.0	2
5/1/1991	Drinkard - Abandoned	No	6,658	6,658	2.0	2
5/1/1991	Drinkard - Abandoned	No	6,661	6,661	2.0	2
5/1/1991	Drinkard - Abandoned	No	6,670	6,670	2.0	2
5/1/1991	Drinkard - Abandoned	No	6,672	6,672	2.0	2
5/1/1991	Drinkard - Abandoned	No	6,674	6,674	2.0	2
5/1/1991	Drinkard - Abandoned	No	6,678	6,678	2.0	2
5/1/1991	Drinkard - Abandoned	No	6,680	6,680	2.0	2
5/1/1991	Drinkard - Abandoned	No	6,683	6,683	2.0	2
5/1/1991	Drinkard - Abandoned	No	6,686	6,686	2.0	2
5/1/1991	Drinkard - Abandoned	No	6,688	6,688	2.0	2
5/1/1991	Drinkard - Abandoned	No	6,696	6,696	2.0	2
5/1/1991	Drinkard - Abandoned	No	6,698	6,698	2.0	2
5/1/1991	Drinkard - Abandoned	No	6,704	6,704	2.0	2
5/1/1991	Drinkard - Abandoned	No	6,707	6,707	2.0	2
5/1/1991	Drinkard - Abandoned	No	6,711	6,711	2.0	2
5/1/1991	Drinkard - Abandoned	No	6,713	6,713	2.0	2
5/1/1991	Drinkard - Abandoned	No	6,719	6,719	2.0	2
5/1/1991	Drinkard - Abandoned	No	6,722	6,722	2.0	2
5/1/1991	Drinkard - Abandoned	No	6,725	6,725	2.0	2

Tubing Strings

Logging Description	Run Date	Stop Length (ft)	Set Depth (ft)				
Tubing	1/25/2012	6,033 - 47	6,046.5				
Item Desc	Jct	Make	Model	OD (in)	WT (lb/ft)	Grade	Len (ft)
Tubing	17 9		T&C Upset	2 7/8	6.50	J-55	5,557. 35
Anchor/catcher	1		Baker	5 1/2	23.00	N-80	2.70



Downhole Well Profile w Cement

Well Name: NEDU 514

Production, NORTHEAST DRINKARD UNIT 514 - Original Hole, 10/25/2015 10:39:10 AM		Item Desc	Jls	Make	Model	OD (in)	WT (lb/ft)	Grade	Len (ft)
Vertical schematic (proposed)		Tubing	14		T&C Upset	2 7/8	6.50	J-55	439.85
		Blast Joint	1		Keystone	2 7/8			31.47
		Seat Nipple	1			2 3/8			1.10
Rod Strings									
Rod Description		Run Date	String Length (ft)		Set Depth (ft)				
Rod		1/26/2012	6,031.0		6,045.0				
Item Desc	Jls	Make	Model	OD (in)	WT (lb/ft)	Grade	Len (ft)		
Polished Rod	1		Sprayloy	1 1/2	6.10	PRS	26.00		
Pony Rod	2		Slim	7/8	2.90	HS	6.00		
Sucker Rod	10		S88 W/T CPLG/FULL	3/4	1.60	HS	2,600.00		
Pony Rod	13		Slim	7/8	2.90	HS	3,375.00		
Rod Pump	1			7/8			24.00		
Other In Hole									
Description		OD (in)	Top (ft)	Run Date					
CIBP		5 1/2	6,060	12/21/2006					
Plug Back Total Depths									
Date	Type	Depth (ft)	Depth (ft) (BTD)						
12/21/2006	Bridge Plug/Packer	6,060							
Failed Component Links & Details									
Category	Description	Failure Depth (ft)	Casing Dist	Failure Date					
Comments									
Comment 4/29/1991: Drinkard Completion: perf 6620-6624' w/ 2 JSPF - pump 50 bbl 28% NEFE HCL acid - az limited entry perms w/ 6300 gal 28% NEFE HCL acid - perf 6467-6726' w/ 2 JSPF - az w/ 4410 gal 28% NEFE HCL Comment 6/31/1991: Tubb Completion: perf 6231-6297' w/ 2 JSPF - az w/ 3150 gal 28% NEFE HCL Comment 6/26/1991: Blinbry Completion: perf 5782-5790' w/ 2 JSPF - az w/ 8400 gal 28% NEFE HCL - perf 5604-6133' w/ 2 JSPF - az Tubb & Drinkard zones w/ 8400 gal 28% NEFE HCL - az Blinbry w/ 9240 gal 28% NEFE HCL Comment 5/13/1992: pump 840 gal 15% NEFE HCL + 110 gal T-131 Comment 8/9/2001: pump 2000 gal 15% HCL down backside - mill through scale 5882-PBTD - az w/ 1000 gal 15% NEFE HCL DXBX - az Blinbry & Tubb w/ 1000 gal 15% HCL in each zone - sqz each zone w/ 165 gal scale inhibitor Comment 9/8/2006: az each zone (BTD) w/ 2000 gal 15% HCL NEFE BXDX - pump 165 gal scale inhibitor into each zone - set CIBP @ 6060' - dump 2 sx cmt on top - PRODUCING FROM BLINBRY ONLY Comment 7/22/2011: pump 30 bbl 2% KCL + 1000 gal HCL									

Casing Joints: 13 3/8; 48.00; H-40; 14.00-410.00
Surface - 450 sx; 14.00-410.00; 12/28/1990

Casing Joints: 8 5/8; 24.00; K-55; 14.00-3015.00
Intermediate - 1650 sx; 14.00-3,015.00; 1/3/1991

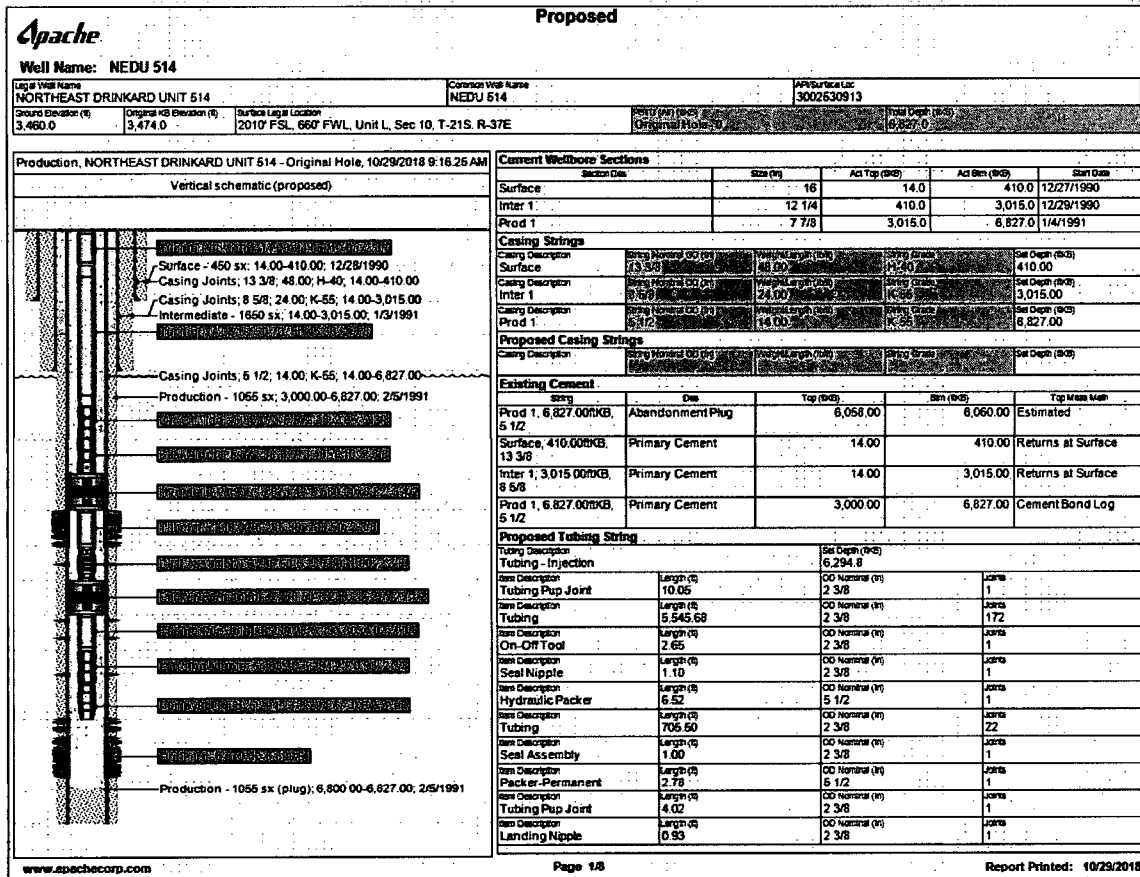
Casing Joints: 5 1/2; 14.00; K-55; 14.00-6,827.00
Production - 1055 sx; 3,000.00-6,827.00; 2/5/1991

Abandonment Plug - 2 sx; 6,058.00-6,060.00; 9/8/2006

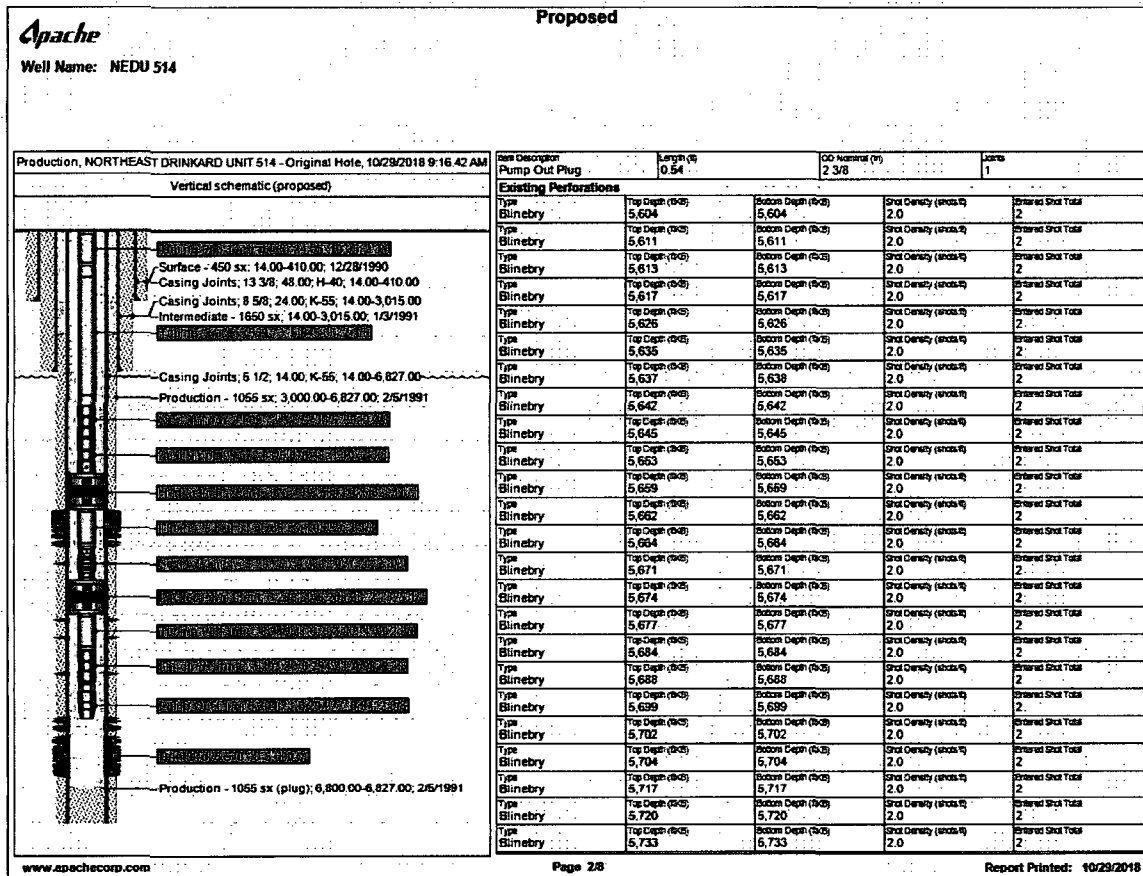
CIBP: 6,060.00-6,063.00; 5 1/2

Production - 1055 sx (plug); 6,800.00-6,827.00; 2/5/1991

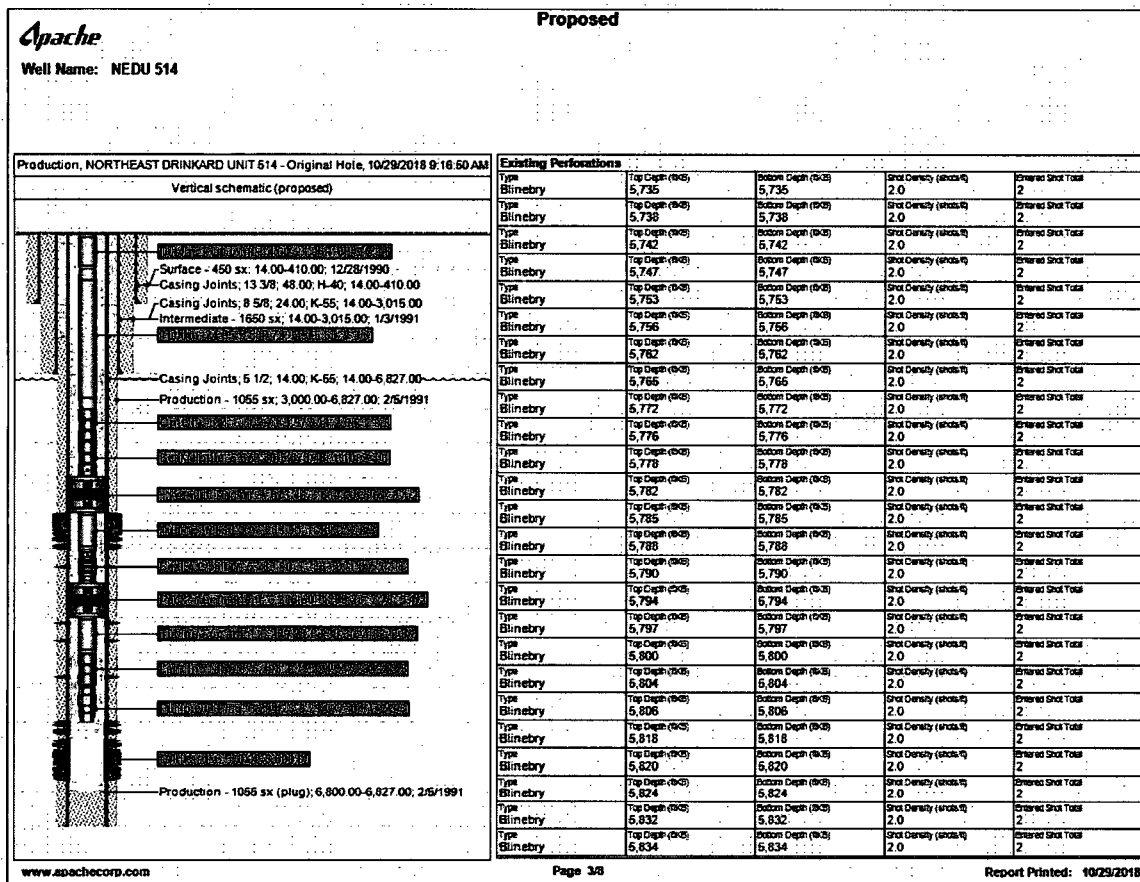
Scenario 1: Dual Packer Proposed WBD



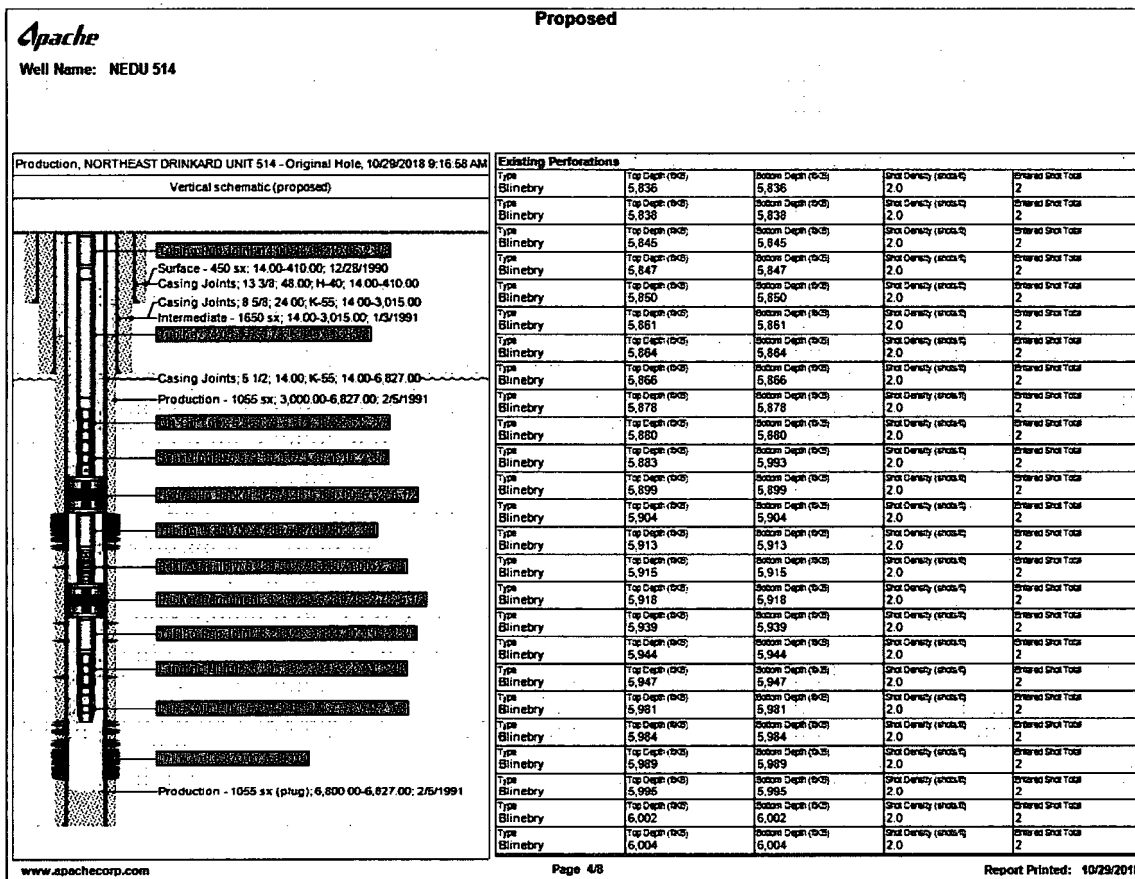
Scenario 1: Dual Packer Proposed WBD ()



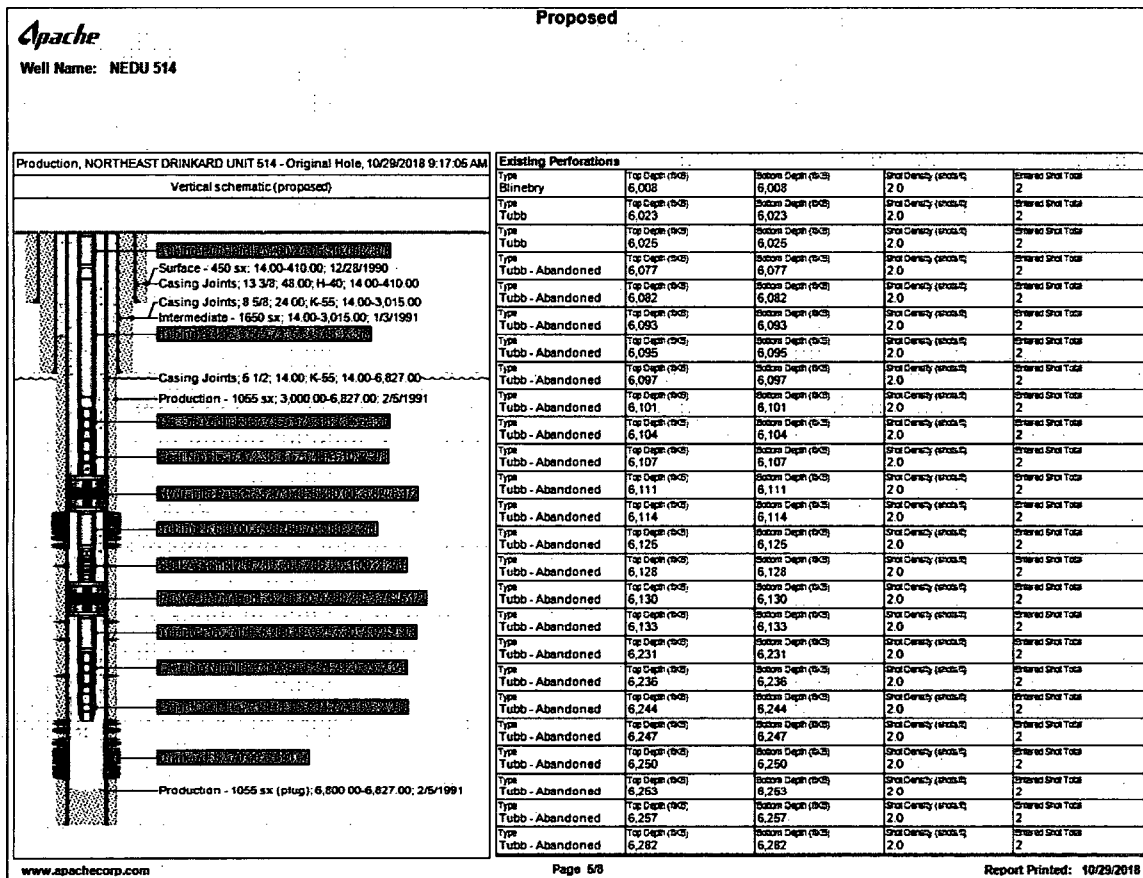
Scenario 1: Dual Packer Proposed WBD



Scenario 1: Dual Packer Proposed WBD



Scenario 1: Dual Packer Proposed WBD (Proposed Casing Interval)



Scenario 1: Dual Packer Proposed WBD (Approved On 10/23/2018)

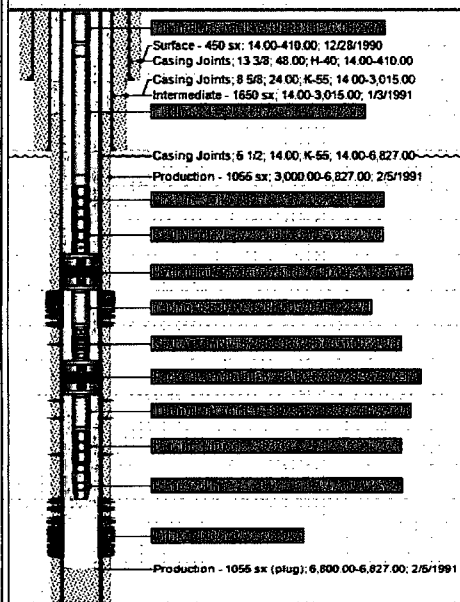


Well Name: NEDU 514

Proposed

Production, NORTHEAST DRINKARD UNIT 514 - Original Hole, 10/29/2018 9:17:12 AM

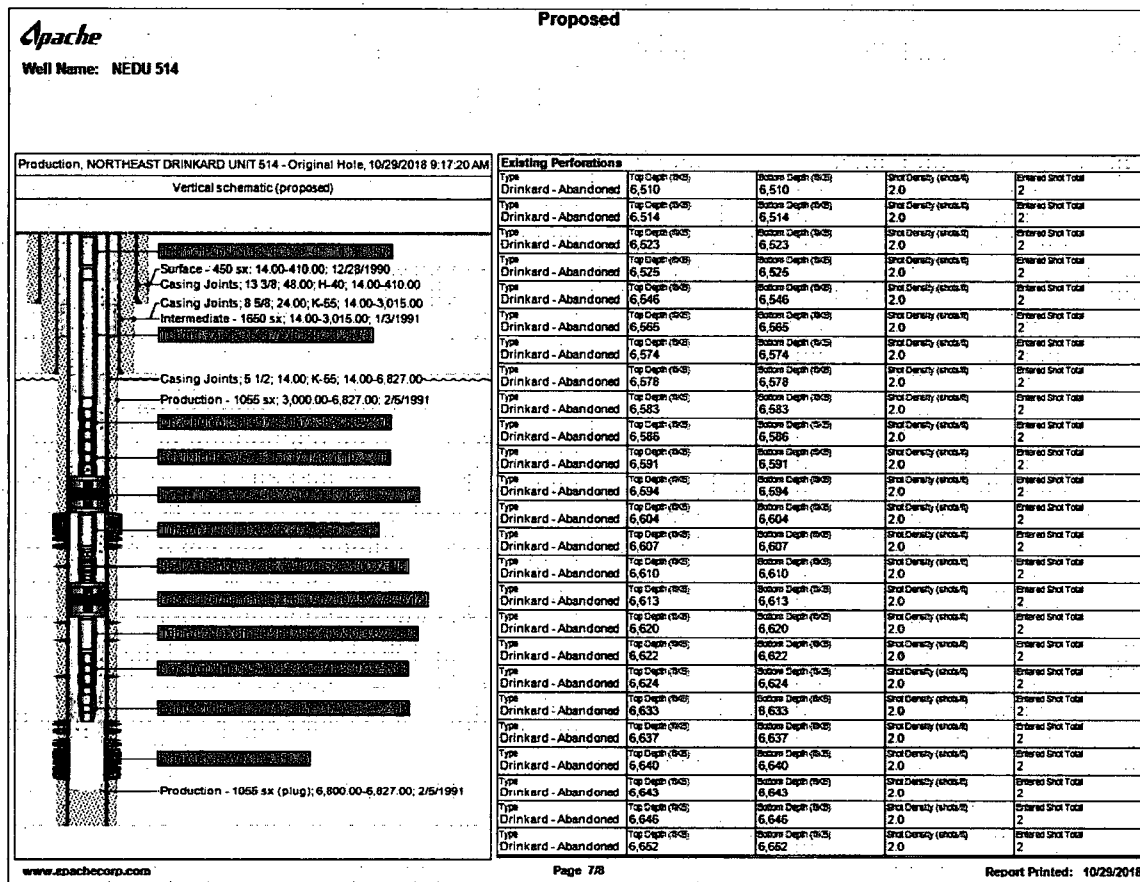
Vertical schematic (proposed)



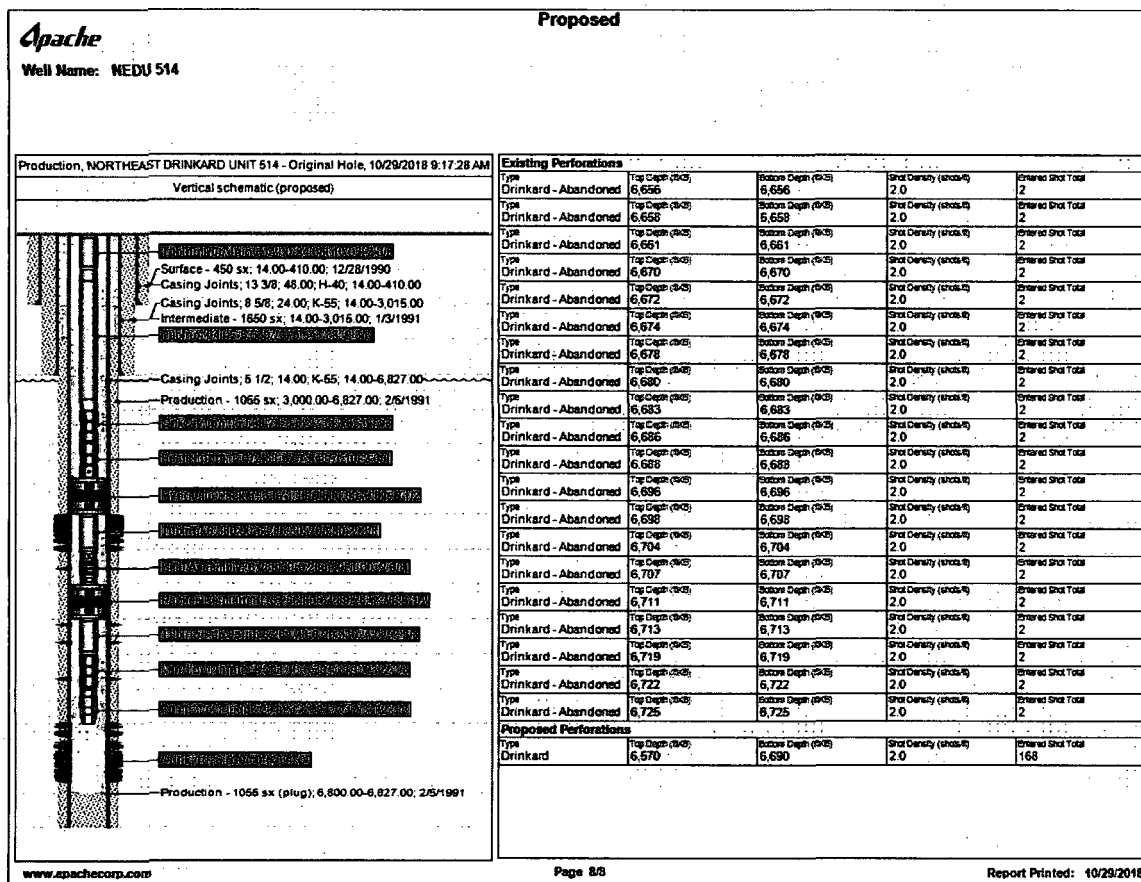
Existing Perforations

Type	Top Depth (ft)	Bottom Depth (ft)	Shut Density (psi/ft)	Entered Shot Total
Tubb - Abandoned	6,284	6,284	2.0	2
Tubb - Abandoned	6,286	6,286	2.0	2
Tubb - Abandoned	6,290	6,290	2.0	2
Tubb - Abandoned	6,292	6,292	2.0	2
Tubb - Abandoned	6,294	6,294	2.0	2
Tubb - Abandoned	6,298	6,298	2.0	2
Tubb - Abandoned	6,315	6,315	2.0	2
Tubb - Abandoned	6,318	6,318	2.0	2
Tubb - Abandoned	6,321	6,321	2.0	2
Tubb - Abandoned	6,323	6,323	2.0	2
Tubb - Abandoned	6,328	6,328	2.0	2
Tubb - Abandoned	6,339	6,339	2.0	2
Tubb - Abandoned	6,372	6,372	2.0	2
Tubb - Abandoned	6,374	6,374	2.0	2
Tubb - Abandoned	6,376	6,376	2.0	2
Tubb - Abandoned	6,384	6,384	2.0	2
Tubb - Abandoned	6,393	6,393	2.0	2
Tubb - Abandoned	6,397	6,397	2.0	2
Tubb - Abandoned	6,467	6,467	2.0	2
Drinkard - Abandoned	6,470	6,470	2.0	2
Drinkard - Abandoned	6,486	6,486	2.0	2
Drinkard - Abandoned	6,489	6,489	2.0	2
Drinkard - Abandoned	6,500	6,500	2.0	2
Drinkard - Abandoned	6,503	6,503	2.0	2
Drinkard - Abandoned	6,505	6,505	2.0	2

Scenario 1: Dual Packer Proposed WBD



Scenario 1: Dual Packer Proposed WBD ()



Scenario 2: FJ Liner Proposed WBD

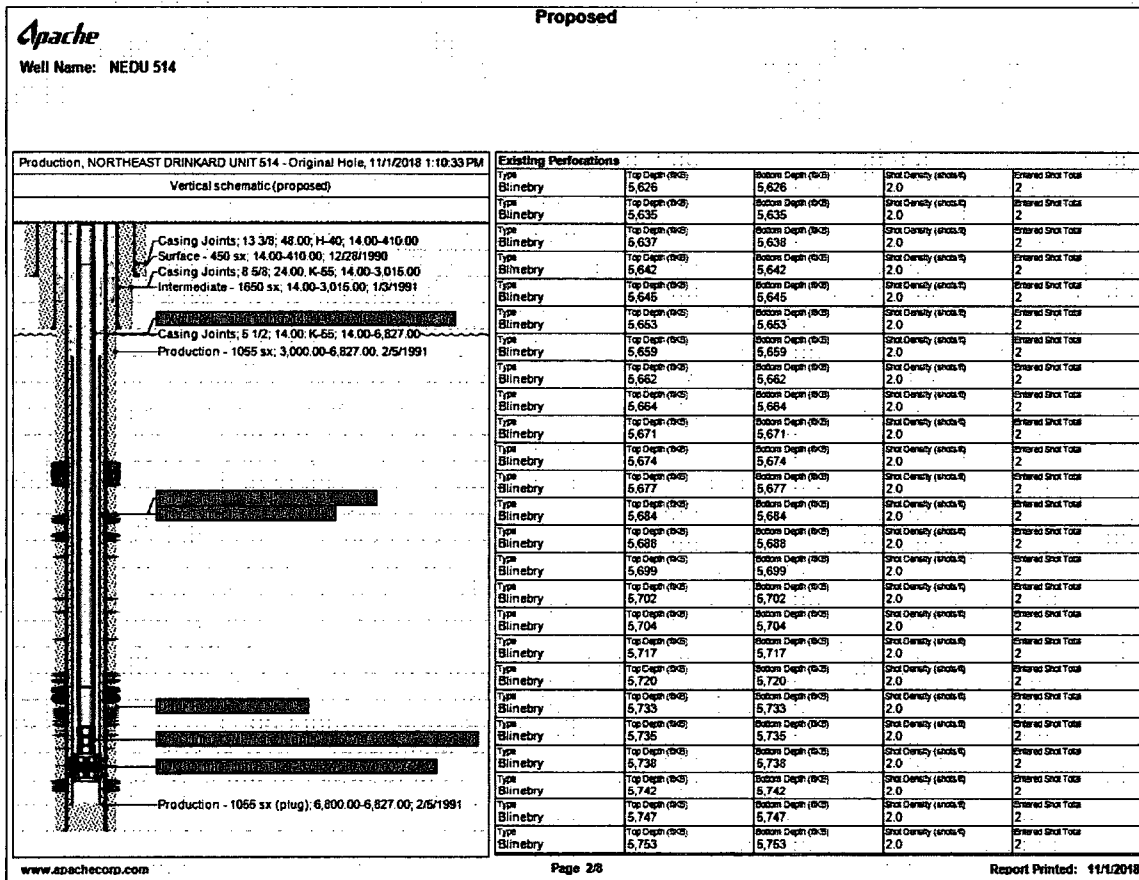
Apache		Proposed																																																																																																																
Well Name: NEDU 514		APL Surface Loc: 3002530913																																																																																																																
Legal Well Name: NORTHEAST DRINKARD UNIT 514		Common Well Name: NEDU 514																																																																																																																
Ground Elevation (ft): 3,460.0	Original KB Elevation (ft): 3,474.0	Surface Log # Location: 2010 FSL, 660' FWL, Unit L, Sec 10, T-21S, R-37E	APL Surface Loc: 3002530913																																																																																																															
Production, NORTHEAST DRINKARD UNIT 514 - Original Hole, 11/1/2018 1:09:59 PM		Current Wellbore Sections																																																																																																																
Vertical schematic (proposed)		<table border="1"> <thead> <tr> <th>Section Data</th> <th>Size (in)</th> <th>Act Top (ft)</th> <th>Act Bot (ft)</th> <th>Start Date</th> </tr> </thead> <tbody> <tr> <td>Surface</td> <td>16</td> <td>14.0</td> <td>410.0</td> <td>12/27/1990</td> </tr> <tr> <td>Inter 1</td> <td>12 1/4</td> <td>410.0</td> <td>3,015.0</td> <td>12/29/1990</td> </tr> <tr> <td>Prod 1</td> <td>7 7/8</td> <td>3,015.0</td> <td>6,827.0</td> <td>1/4/1991</td> </tr> </tbody> </table>		Section Data	Size (in)	Act Top (ft)	Act Bot (ft)	Start Date	Surface	16	14.0	410.0	12/27/1990	Inter 1	12 1/4	410.0	3,015.0	12/29/1990	Prod 1	7 7/8	3,015.0	6,827.0	1/4/1991																																																																																											
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Report Printed: 11/1/2018

Scenario 2: FJ Liner Proposed WBD



Scenario 2: FJ Liner Proposed WBD ()

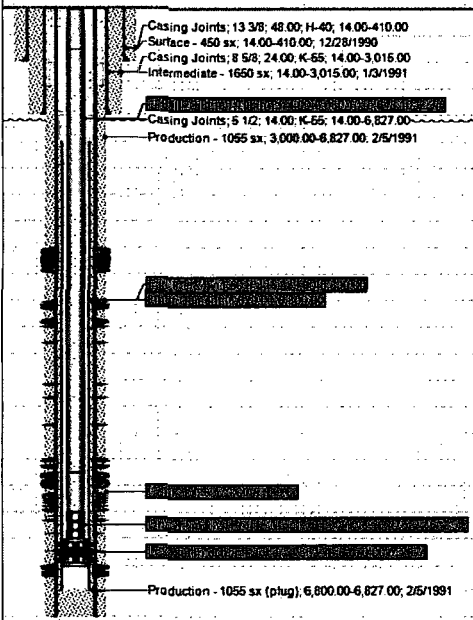
Apache

Well Name: NEDU 514

Proposed

Production, NORTHEAST DRINKARD UNIT 514 - Original Hole, 11/1/2018 1:10:40 PM

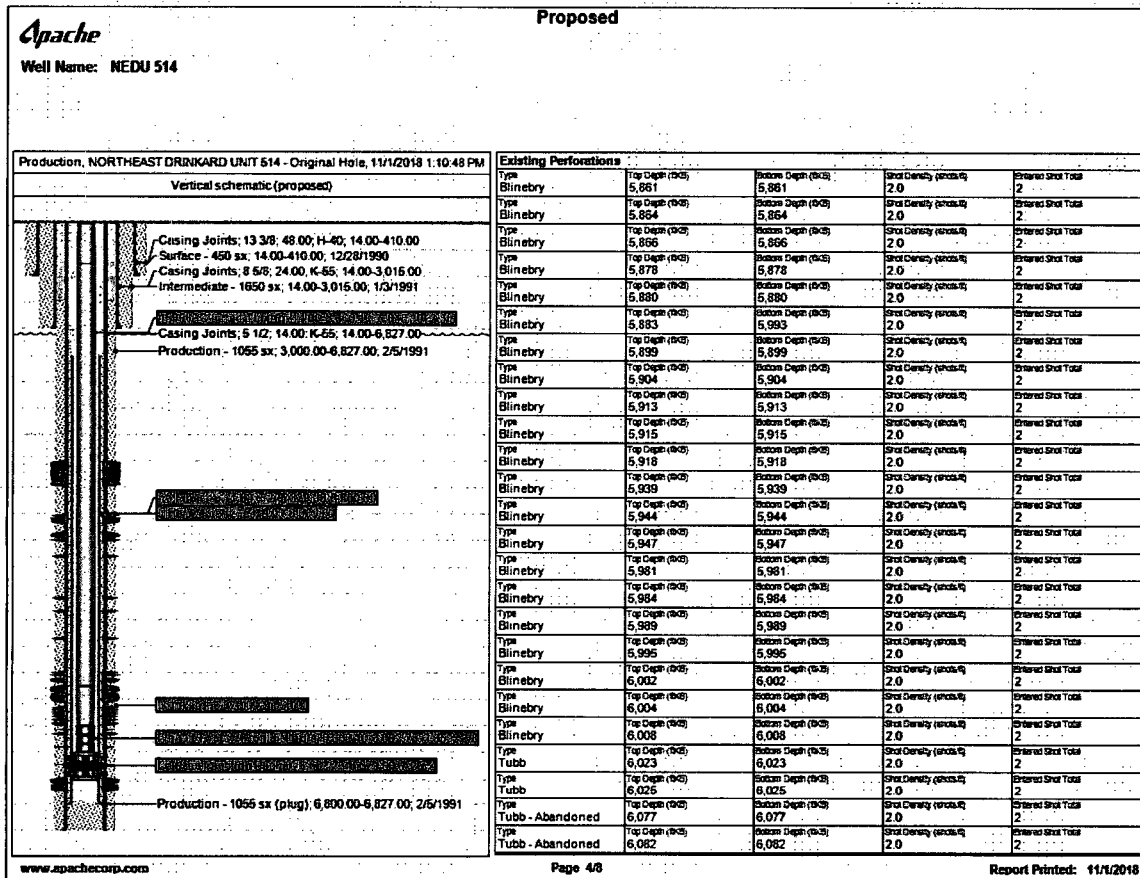
Vertical schematic (proposed)



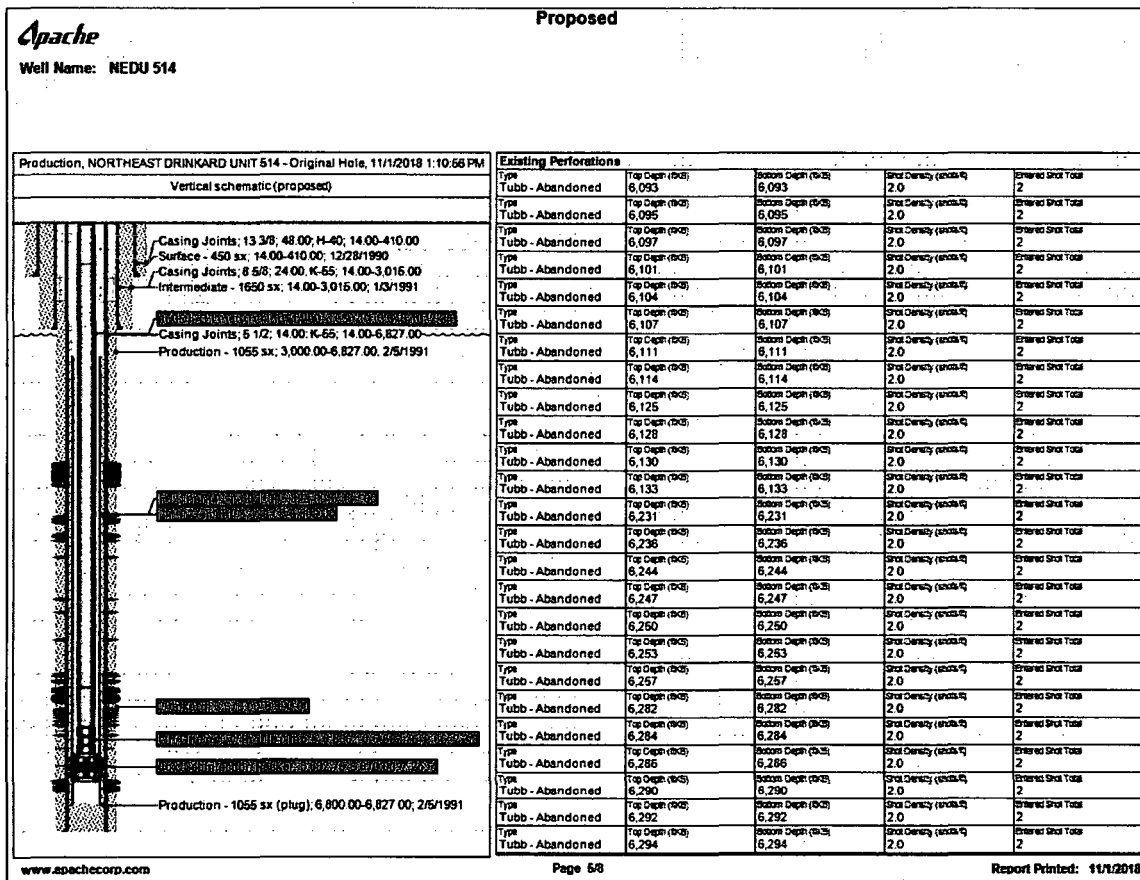
Existing Performances

Type	Top Depth (ft)	Bottom Depth (ft)	Shot Density (shots/ft)	Entered Shot Total
Blinberry	5,756	5,756	2.0	2
Type	Top Depth (ft)	Bottom Depth (ft)	Shot Density (shots/ft)	Entered Shot Total
Blinberry	5,762	5,762	2.0	2
Type	Top Depth (ft)	Bottom Depth (ft)	Shot Density (shots/ft)	Entered Shot Total
Blinberry	5,765	5,765	2.0	2
Type	Top Depth (ft)	Bottom Depth (ft)	Shot Density (shots/ft)	Entered Shot Total
Blinberry	5,772	5,772	2.0	2
Type	Top Depth (ft)	Bottom Depth (ft)	Shot Density (shots/ft)	Entered Shot Total
Blinberry	5,776	5,776	2.0	2
Type	Top Depth (ft)	Bottom Depth (ft)	Shot Density (shots/ft)	Entered Shot Total
Blinberry	5,778	5,778	2.0	2
Type	Top Depth (ft)	Bottom Depth (ft)	Shot Density (shots/ft)	Entered Shot Total
Blinberry	5,782	5,782	2.0	2
Type	Top Depth (ft)	Bottom Depth (ft)	Shot Density (shots/ft)	Entered Shot Total
Blinberry	5,785	5,785	2.0	2
Type	Top Depth (ft)	Bottom Depth (ft)	Shot Density (shots/ft)	Entered Shot Total
Blinberry	5,788	5,788	2.0	2
Type	Top Depth (ft)	Bottom Depth (ft)	Shot Density (shots/ft)	Entered Shot Total
Blinberry	5,790	5,790	2.0	2
Type	Top Depth (ft)	Bottom Depth (ft)	Shot Density (shots/ft)	Entered Shot Total
Blinberry	5,794	5,794	2.0	2
Type	Top Depth (ft)	Bottom Depth (ft)	Shot Density (shots/ft)	Entered Shot Total
Blinberry	5,797	5,797	2.0	2
Type	Top Depth (ft)	Bottom Depth (ft)	Shot Density (shots/ft)	Entered Shot Total
Blinberry	5,800	5,800	2.0	2
Type	Top Depth (ft)	Bottom Depth (ft)	Shot Density (shots/ft)	Entered Shot Total
Blinberry	5,804	5,804	2.0	2
Type	Top Depth (ft)	Bottom Depth (ft)	Shot Density (shots/ft)	Entered Shot Total
Blinberry	5,806	5,806	2.0	2
Type	Top Depth (ft)	Bottom Depth (ft)	Shot Density (shots/ft)	Entered Shot Total
Blinberry	5,818	5,818	2.0	2
Type	Top Depth (ft)	Bottom Depth (ft)	Shot Density (shots/ft)	Entered Shot Total
Blinberry	5,820	5,820	2.0	2
Type	Top Depth (ft)	Bottom Depth (ft)	Shot Density (shots/ft)	Entered Shot Total
Blinberry	5,824	5,824	2.0	2
Type	Top Depth (ft)	Bottom Depth (ft)	Shot Density (shots/ft)	Entered Shot Total
Blinberry	5,832	5,832	2.0	2
Type	Top Depth (ft)	Bottom Depth (ft)	Shot Density (shots/ft)	Entered Shot Total
Blinberry	5,834	5,834	2.0	2
Type	Top Depth (ft)	Bottom Depth (ft)	Shot Density (shots/ft)	Entered Shot Total
Blinberry	5,836	5,836	2.0	2
Type	Top Depth (ft)	Bottom Depth (ft)	Shot Density (shots/ft)	Entered Shot Total
Blinberry	5,838	5,838	2.0	2
Type	Top Depth (ft)	Bottom Depth (ft)	Shot Density (shots/ft)	Entered Shot Total
Blinberry	5,845	5,845	2.0	2
Type	Top Depth (ft)	Bottom Depth (ft)	Shot Density (shots/ft)	Entered Shot Total
Blinberry	5,847	5,847	2.0	2
Type	Top Depth (ft)	Bottom Depth (ft)	Shot Density (shots/ft)	Entered Shot Total
Blinberry	5,850	5,850	2.0	2

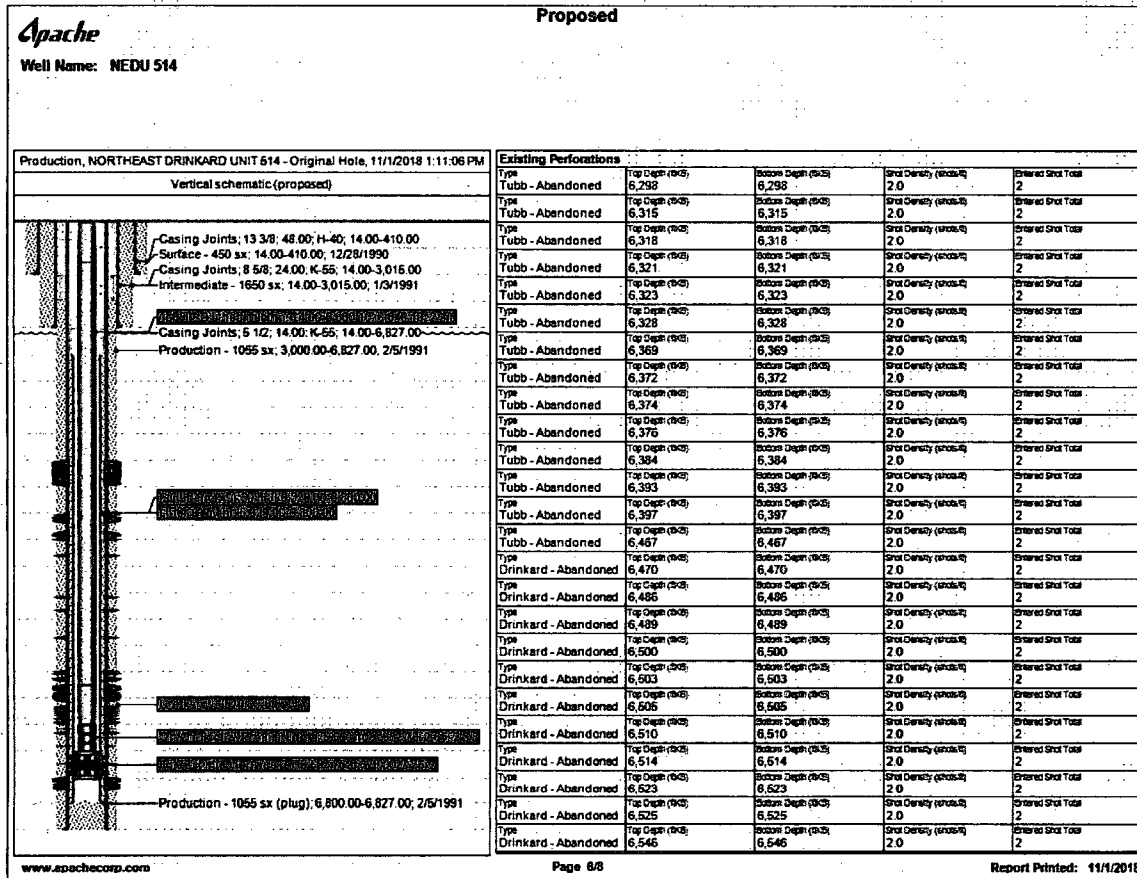
Scenario 2: FJ Liner Proposed WBD ()



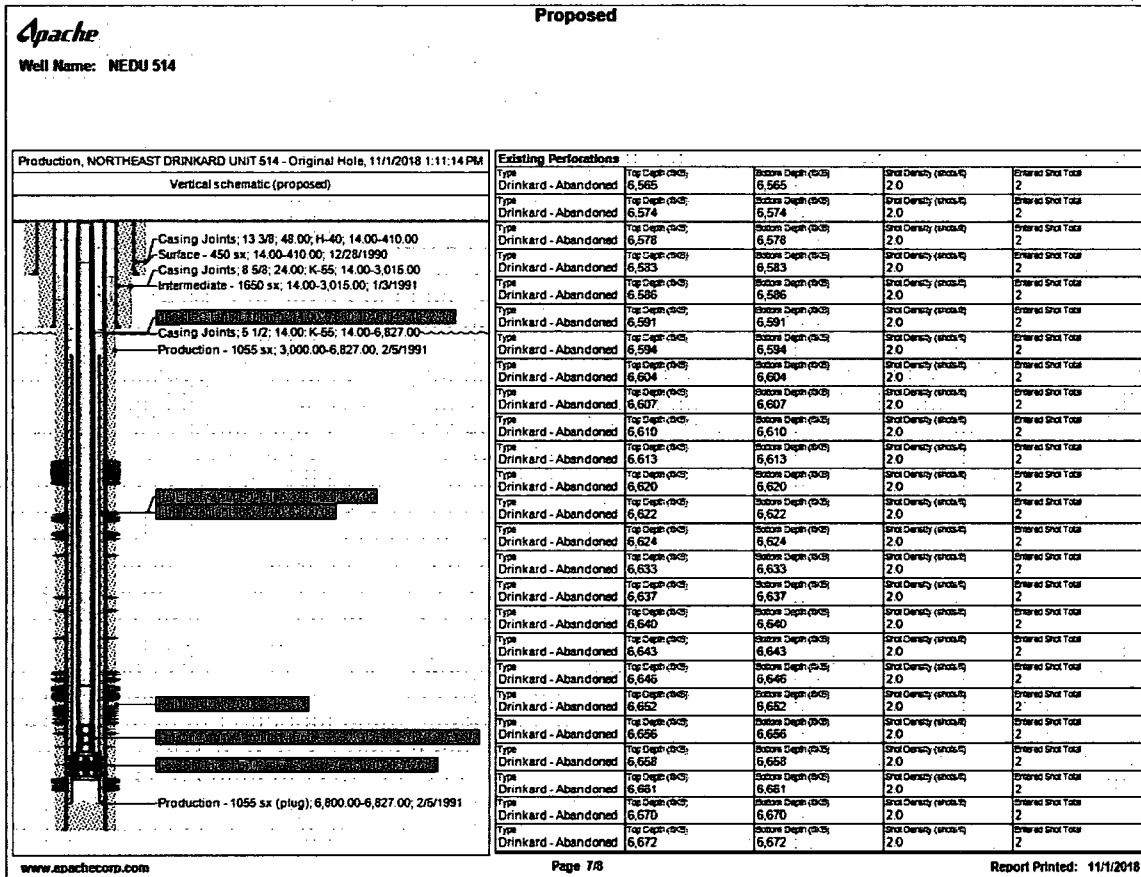
Scenario 2: FJ Liner Proposed WBD



Scenario 2: FJ Liner Proposed WBD ([REDACTED])



Scenario 2: FJ Liner Proposed WBD



Scenario 2: FJ Liner Proposed WBD (REDACTED)

