

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

Carlsbad Field (FORM APPROVED)
OMB NO. 1004-0137
Expires: January 31, 2018

SUNDRY NOTICES AND REPORTS ON WELLS
Do not use this form for proposals to drill or to re-enter an abandoned well. Use form 3160-3 (APD) for such proposals.

SUBMIT IN TRIPLICATE - Other instructions on page 2		NOV 28 2018	7. If Unit or CA/Agreement, Name and/or No. 73888U3160
1. Type of Well ☐ Oil Well ☐ Gas Well ☒ Other: INJECTION	2. Name of Operator APACHE CORPORATION		8. Well Name and No. NEDU 407W
3a. Address 303 VETERANS AIRPARK LANE SUITE 3000 MIDLAND, TX 79705		3b. Phone No. (include area code) Ph: 432-818-1062	9. API Well No. 30-025-06456-00-S1
4. Location of Well (Footage, Sec., T., R., M., or Survey Description) Sec 10 T21S R37E SWNE 1980FNL 2310FEL			10. Field and Pool or Exploratory Area EUNICE
			11. County or Parish, State LEA COUNTY, NM

12. CHECK THE APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
☒ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off
☐ Subsequent Report	☐ Alter Casing	☐ Hydraulic Fracturing	☐ Reclamation	☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☒ Other Workover Operations
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	
	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	

13. Describe Proposed or Completed Operation: Clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleat horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports must be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleat in a new interval, a Form 3160-4 must be filed once testing has been completed. Final Abandonment Notices must be filed only after all requirements, including reclamation, have been completed and the operator has determined that the site is ready for final inspection.

Apache intends to isolate the Drinkard for injection, per the attached procedure and WBD's. (R-8541)

14. I hereby certify that the foregoing is true and correct. Electronic Submission #442696 verified by the BLM Well Information System For APACHE CORPORATION, sent to the Hobbs Committed to AFMSS for processing by PRISCILLA PEREZ on 11/06/2018 (19PP0308SE)	
Name (Printed/Typed) REESA FISHER	Title SR STAFF REGULATORY ANALYST
Signature (Electronic Submission)	Date 11/05/2018

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By <u>JONATHON SHEPARD</u>	Title <u>PETROELUM ENGINEER</u>	Date <u>11/19/2018</u>
Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.		Office Hobbs

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

(Instructions on page 2)

**** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ****

MIS/OCD
11/29/2018

NEDU 407W: (API: 30-025-06456)

OBJECTIVE: ISOLATE DRINKARD FOR INJECTION

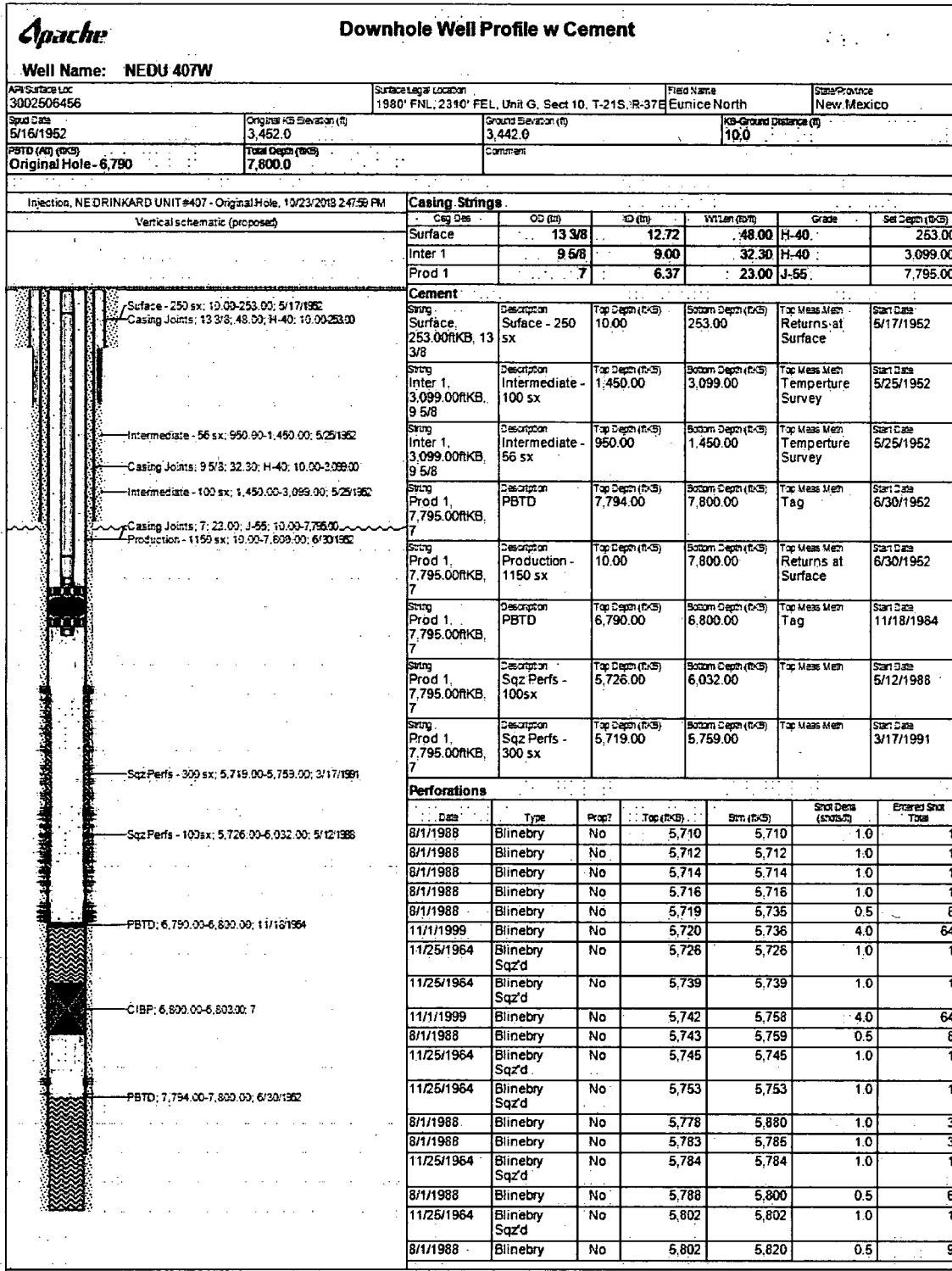
Scenario 1: Dual Packer Isolation

1. POOH w 2-3/8" injection tubing and 7" injection packer (@ 5621')
2. PU workstring and RIH w bit and clean out well to PBTD at ~6790'.
3. Make casing scraper run to around 6790'. POOH
4. Run casing inspection log and cement bond log from top of Drinkard to surface. POOH.
5. RIH to perforate Drinkard formation f/ 6600-6710'. POOH.
6. RIH w/ workstring and treating packer to acid stimulate Drinkard formation w/ 5000 gals 15% HCl using rock salt for diversion. POOH.
7. MIRU wireline. RIH w/ 7" permanent packer and set in good casing between Blinebry and Drinkard (Depth dependent on casing inspection log)
8. PU 700-800' of 2-3/8" IPC externally coated tubing w/ 7" hydraulic packer on top and tie into permanent packer. Ensure hydraulic packer is set at ~5621. Pressure up tubing to set hydraulic packer. Test casing to 500 psi.
9. Perform MIT for NMOCD and return well on injection.

Scenario 2: Cement 5.5" Casing from Blinebry to TD

1. POOH w 2-3/8" injection tubing and 7" injection packer
2. PU workstring and RIH w/ bit and clean out well to PBTD at ~6790'.
3. MIRU cement and casing crew and PU 1500' of 5.5" casing (including float shoe, float collar, landing collar and liner hanger) using 2-7/8" L-80 workstring.
4. RIH and tag TD. PU and set 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/6600'-6710'. POOH
10. PU 5.5" treating packer 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 5.5" injection packer and ~6500' of 2-3/8" IPC tubing. Set packer within 20' of top perf. Circulate packer fluid and test backside to 500 psi
13. Perform MIT for NMOCD

**Condition of Approval: notify
OCD Hobbs office 24 hours
prior of running MIT Test & Chart**



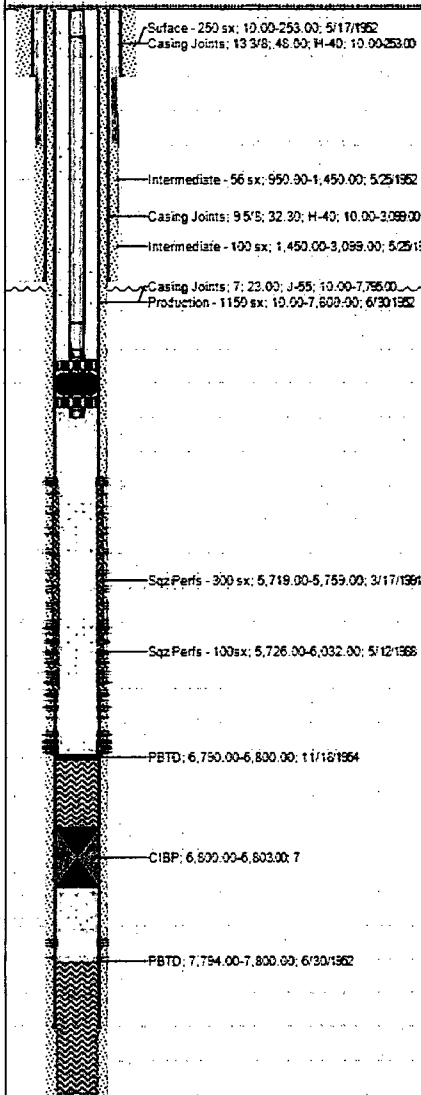


Downhole Well Profile w Cement

Well Name: NEDU 407W

Injection, NEDRINKARD UNIT #407 - Original Hole, 10/23/2018 2:43:17 PM

Vertical schematic (proposed)



Perforations

Date	Type	Prop?	Top (ftGS)	Bot. (ftGS)	Shot Dens (shots/ft)	Entered Shot Total
8/1/1988	Blinebry	No	5,836	5,841	1.0	6
11/25/1964	Blinebry Sqz'd	No	5,837	5,837	1.0	1
8/1/1988	Blinebry	No	5,843	5,848	1.0	4
8/1/1988	Blinebry	No	5,880	5,880	1.0	1
8/1/1988	Blinebry	No	5,882	5,882	1.0	1
8/1/1988	Blinebry	No	5,884	5,912	0.5	14
11/25/1964	Blinebry Sqz'd	No	5,891	5,891	1.0	1
11/25/1964	Blinebry Sqz'd	No	5,906	5,906	1.0	1
8/1/1988	Blinebry	No	5,918	5,920	1.0	3
8/1/1988	Blinebry	No	5,924	5,952	0.5	14
11/25/1964	Blinebry Sqz'd	No	5,926	5,926	1.0	1
11/25/1964	Blinebry Sqz'd	No	5,940	5,940	1.0	1
8/1/1988	Blinebry	No	5,958	5,962	1.0	5
11/25/1964	Blinebry Sqz'd	No	5,962	5,962	1.0	1
8/1/1988	Blinebry	No	5,971	5,975	1.0	5
8/1/1988	Blinebry	No	5,983	5,995	0.5	6
8/1/1988	Blinebry	No	6,002	6,002	1.0	1
8/1/1988	Blinebry	No	6,003	6,003	1.0	1
8/1/1988	Blinebry	No	6,005	6,033	0.5	14
11/25/1964	Blinebry Sqz'd	No	6,007	6,007	1.0	1
11/25/1964	Blinebry Sqz'd	No	6,032	6,032	1.0	1
5/23/1988	Tubb	No	6,073	6,085	0.5	6
5/23/1988	Tubb	No	6,091	6,099	0.5	4
5/23/1988	Tubb	No	6,105	6,145	0.5	20
8/1/1988	Tubb	No	6,155	6,159	1.0	5
8/1/1988	Tubb	No	6,224	6,226	1.0	3
8/1/1988	Tubb	No	6,232	6,234	1.0	3
8/1/1988	Tubb	No	6,237	6,242	1.0	6
8/1/1988	Tubb	No	6,279	6,297	0.5	9
8/1/1988	Tubb	No	6,347	6,349	1.0	3
11/19/1964	Drinkard	No	6,516	6,516	1.0	1
8/1/1988	Drinkard	No	6,538	6,542	1.0	5
11/19/1964	Drinkard	No	6,540	6,540	1.0	1
8/1/1988	Drinkard	No	6,547	6,555	1.0	9
11/19/1964	Drinkard	No	6,551	6,551	1.0	1
8/1/1988	Drinkard	No	6,608	6,609	1.0	2
8/1/1988	Drinkard	No	6,612	6,621	1.0	10
11/19/1964	Drinkard	No	6,614	6,614	1.0	1
11/19/1964	Drinkard	No	6,621	6,621	1.0	1
8/1/1988	Drinkard	No	6,639	6,642	1.0	4
11/19/1964	Drinkard	No	6,641	6,641	1.0	1
8/1/1988	Drinkard	No	6,644	6,648	1.0	5
11/19/1964	Drinkard	No	6,671	6,671	1.0	1
8/1/1988	Drinkard	No	6,671	6,679	1.0	9
11/19/1964	Drinkard	No	6,678	6,678	1.0	1
8/1/1988	Drinkard	No	6,691	6,693	1.0	3
8/1/1988	Drinkard	No	6,696	6,714	0.5	9

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7/1/1952: perf Hare 7520-7782' - az w/ 1000 gal acid 12/1/1959: az Hare 7520-7782' w/ 500 gal - frac w/ 10,000 gal lse crude, 10,000# sand, 500# adomite 12/16/1959: perf 7520-7782' - az 7520-7782' w/ 500 gal w/ 10,000 gal crude, 10,000# sand, 500# adomite 11/19/1964: perf Drinkard 6516-6708' w/ 1 JSPF - az 6516-6708' w/ 2000 gal 15% LSTNE acid - frac 6516-6708' w/ 40,000 gal crude, 22,500# sand, 2000# adomite - perf Blinebry 5726-6032' w/ 1 JSPF - az perfs 5726-6032' w/ 5000 gal 15% LSTNE 5/10/1988: sqz Blinebry perfs 5726-6032' w/ 100 sx CL C cmt - perf Tubb 6073-6145' w/ 1 JSP2F - az 6073-6145' w/ 80 bbl 15% NEFE acid 8/1/1988: perf 5719-6746' w/ 1 JSP2F & 5778-6652' w/ 1 JSPF - az Drinkard w/ 3150 gal 15% HCL acid - az Blinebry & Tubb w/ 4200 gal 15% HCL acid 3/17/1991: sqz Blinebry perfs 5719-5759' w/ 300 sx CL C cmt 10/16/1991: az Drinkard 6475-6770' w/ 4200 gal 15% NEFE HCL acid 11/1/1999: perf 5742-5736' w/ 4 JSPF - az Drinakrd w/ 3000 gal 15% - az Blinebry w/ 3000 gal 15%																																																																									

Scenario 1: Dual Packer Proposed WBD (Proposed/Unapproved Yellow)

Apache

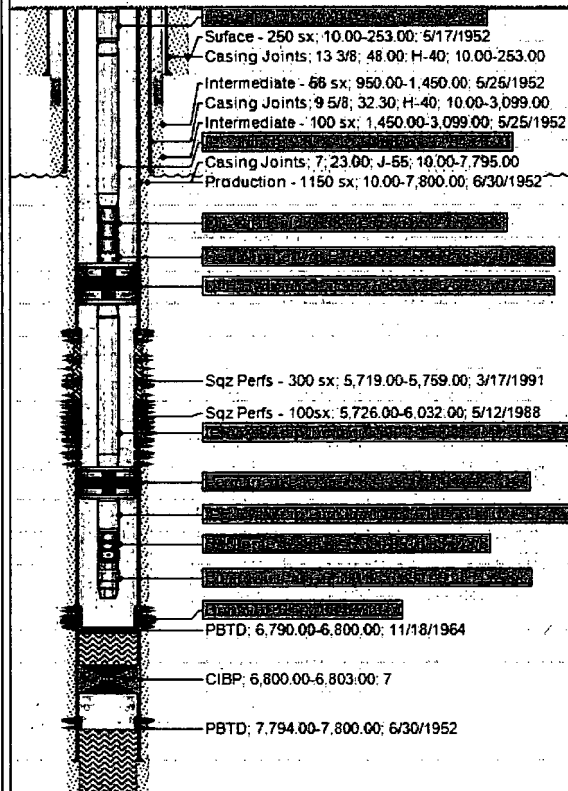
Proposed

Well Name: NEDU 407W

Legal Well Name NORTHEAST DRINKARD UNIT 407W	Common Well Name NEDU 407W	API Surface Loc 3002506456
Ground Elevation (ft) 3,442.0	Original XS Elevation (ft) 3,452.0	Surface Lag at Location 1980' FNL, 2310' FEL, Unit G, Sect 10, T-21S, R-37E
PTSD (ft) (ft/s) Original Hole- 6,790		Total Depth (ft/s) 7,800.0

Injection, NE DRINKARD UNIT #407 - Original Hole, 10/23/2018 2:55:25 PM

Vertical schematic (proposed)



Current Wellbore Sections

Section Des	Size (in)	Act Top (ft/s)	Act Btm (ft/s)	Start Date
Surface	17 1/2	10.0	253.0	5/16/1952
Inter 1	12 1/4	253.0	3,099.0	5/18/1952
Prod 1	8 3/4	3,099.0	7,800.0	5/28/1952

Casing Strings

Casing Description	String Nominal OD (in)	Weight/Length (lb/ft)	String Grade	Set Depth (ft/s)
Surface	13 3/8	48.00	H-40	253.00
Inter 1	9 5/8	32.30	H-40	3,099.00
Prod 1	7	23.00	J-55	7,795.00

Proposed Casing Strings

Casing Description	String Nominal OD (in)	Weight/Length (lb/ft)	String Grade	Set Depth (ft/s)
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Existing Cement

String	Des	Top (ft/s)	Btm (ft/s)	Top Mass Meth
Surface, 253.00ftKB, 13 3/8	Primary Cement	10.00	253.00	Returns at Surface
Inter 1, 3,099.00ftKB, 9 5/8	Primary Cement	1,450.00	3,099.00	Temperature Survey
Prod 1, 7,795.00ftKB, 7	Primary Cement	10.00	7,800.00	Returns at Surface
Prod 1, 7,795.00ftKB, 7	Cement Plug	7,794.00	7,800.00	Tag
Prod 1, 7,795.00ftKB, 7	Cement Plug	6,790.00	6,800.00	Tag
Prod 1, 7,795.00ftKB, 7	Cement Squeeze	5,726.00	6,032.00	
Prod 1, 7,795.00ftKB, 7	Cement Squeeze	5,719.00	5,759.00	
Inter 1, 3,099.00ftKB, 9 5/8	Primary Cement	950.00	1,450.00	Temperature Survey

Proposed Tubing String

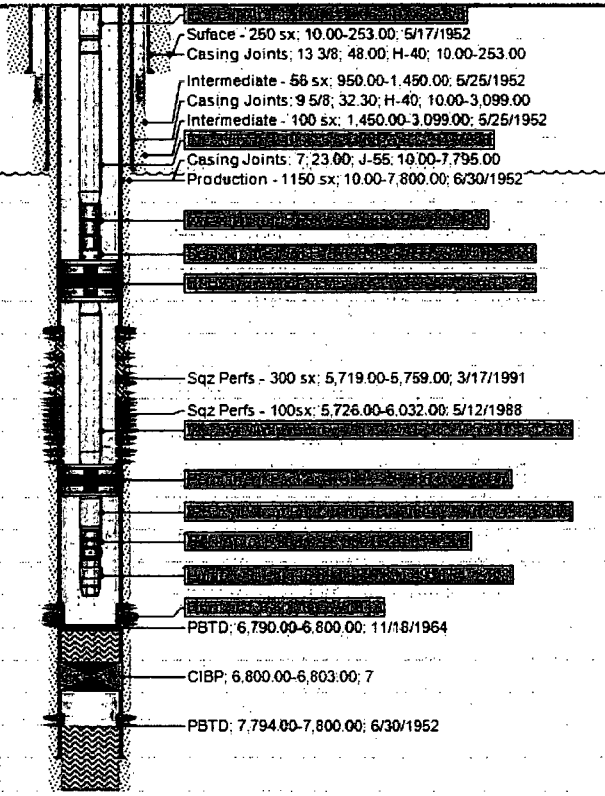
Tubing Description	Length (ft)	Set Depth (ft/s)
Tubing - Injection	10.06	6,391.5
IPC Pup Joint	2 3/8	1
IPC Tubing	5,632.94	174
On-Off Tool	2.65	1
Seal Nipple 1.78 F	0.10	1
DLH Hydraulic Packer	6.52	7

Scenario 1: Dual Packer Proposed WBD (Proposed Changes in Yellow)



Well Name: NEDU 407W

Proposed

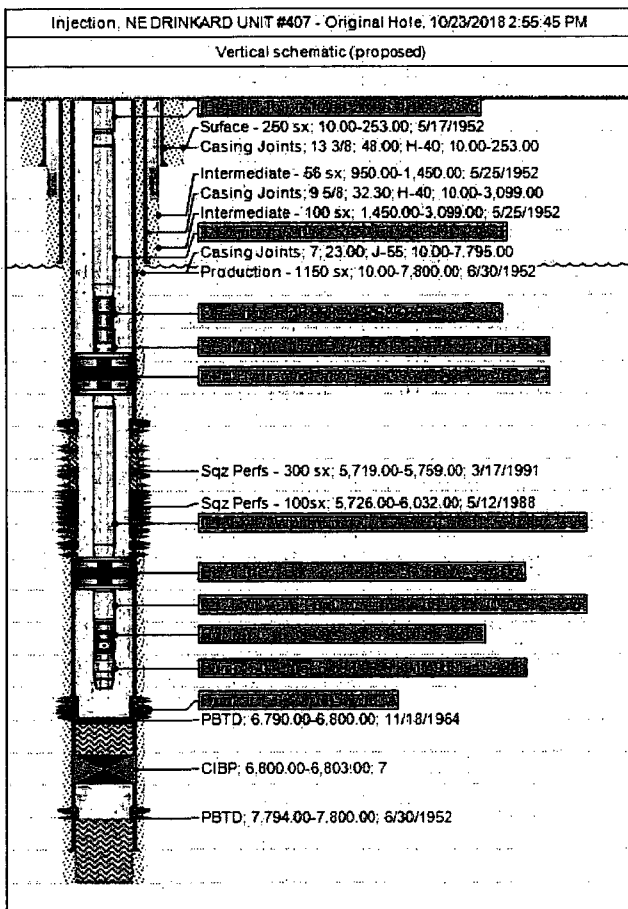
Injection, NE DRINKARD UNIT #407 - Original Hole, 10/23/2018 2:55:39 PM		Item Description		Length (ft)	OD Nominal (in)	Joints
Vertical schematic (proposed)		IPC Ryt Wrap Tubing		720.85	2 3/8	22
		Seal Assembly		0.10	2 3/8	1
		Permanent Packer		2.78	7	1
		IPC Ryt Wrap Pup Joint		4.02	2 3/8	1
		R Nipple		0.93	2 3/8	1
		Pump Out Plug		0.54	2 3/8	1
Existing Perforations						
	Type	Top Depth (ftCS)	Bottom Depth (ftCS)	Shot Density (shots/ft)	Entered Shot Total	
	Blinebry	5,710	5,710	1.0	1	
	Blinebry	5,712	5,712	1.0	1	
	Blinebry	5,714	5,714	1.0	1	
	Blinebry	5,716	5,716	1.0	1	
	Blinebry	5,719	5,735	0.5	8	
	Blinebry	5,720	5,736	4.0	64	
	Blinebry Sqz'd	5,726	5,726	1.0	1	
	Blinebry Sqz'd	5,739	5,739	1.0	1	
	Blinebry	5,742	5,758	4.0	64	
	Blinebry	5,743	5,759	0.5	8	
	Blinebry Sqz'd	5,745	5,745	1.0	1	
	Blinebry Sqz'd	5,753	5,753	1.0	1	
	Blinebry	5,778	5,880	1.0	3	
	Blinebry	5,783	5,785	1.0	3	
	Blinebry Sqz'd	5,784	5,784	1.0	1	
	Blinebry	5,788	5,800	0.5	6	
	Blinebry Sqz'd	5,802	5,802	1.0	1	
	Blinebry	5,802	5,820	0.5	9	
	Blinebry	5,836	5,841	1.0	6	

Scenario 1: Dual Packer Proposed WBD



Well Name: NEDU 407W

Proposed



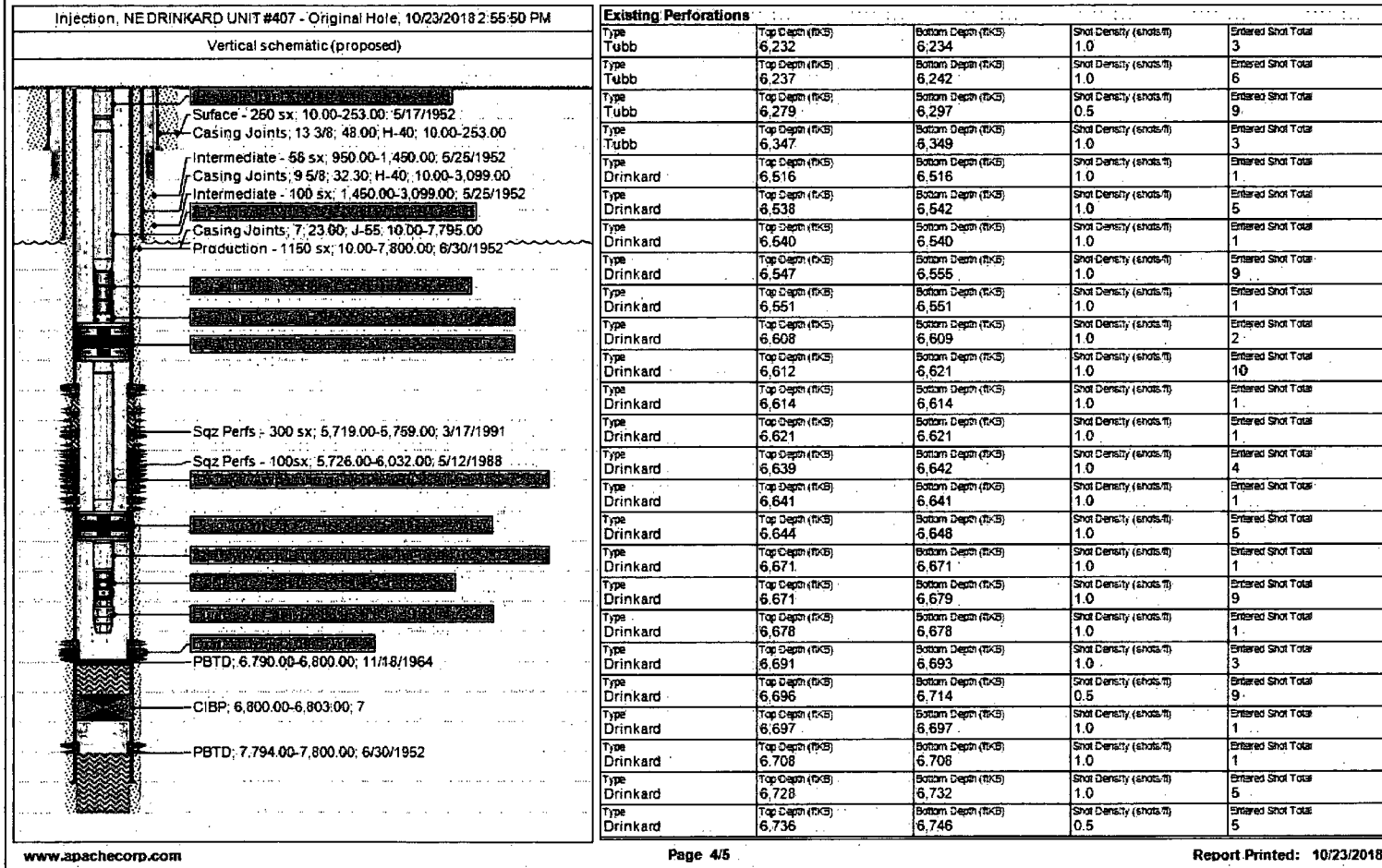
Existing Perforations				
Type	Top Depth (ftCB)	Bottom Depth (ftCB)	Shot Density (shots/ft)	Entered Shot Total
Blinebry Sqz'd	5,837	5,837	1.0	1
Type	Top Depth (ftCB)	Bottom Depth (ftCB)	Shot Density (shots/ft)	Entered Shot Total
Blinebry	5,843	5,846	1.0	4
Type	Top Depth (ftCB)	Bottom Depth (ftCB)	Shot Density (shots/ft)	Entered Shot Total
Blinebry	5,880	5,880	1.0	1
Type	Top Depth (ftCB)	Bottom Depth (ftCB)	Shot Density (shots/ft)	Entered Shot Total
Blinebry	5,882	5,882	1.0	1
Type	Top Depth (ftCB)	Bottom Depth (ftCB)	Shot Density (shots/ft)	Entered Shot Total
Blinebry	5,884	5,912	0.5	14
Type	Top Depth (ftCB)	Bottom Depth (ftCB)	Shot Density (shots/ft)	Entered Shot Total
Blinebry Sqz'd	5,891	5,891	1.0	1
Type	Top Depth (ftCB)	Bottom Depth (ftCB)	Shot Density (shots/ft)	Entered Shot Total
Blinebry Sqz'd	5,906	5,906	1.0	1
Type	Top Depth (ftCB)	Bottom Depth (ftCB)	Shot Density (shots/ft)	Entered Shot Total
Blinebry	5,918	5,920	1.0	3
Type	Top Depth (ftCB)	Bottom Depth (ftCB)	Shot Density (shots/ft)	Entered Shot Total
Blinebry	5,924	5,952	0.5	14
Type	Top Depth (ftCB)	Bottom Depth (ftCB)	Shot Density (shots/ft)	Entered Shot Total
Blinebry Sqz'd	5,926	5,926	1.0	1
Type	Top Depth (ftCB)	Bottom Depth (ftCB)	Shot Density (shots/ft)	Entered Shot Total
Blinebry Sqz'd	5,940	5,940	1.0	1
Type	Top Depth (ftCB)	Bottom Depth (ftCB)	Shot Density (shots/ft)	Entered Shot Total
Blinebry	5,958	5,962	1.0	5
Type	Top Depth (ftCB)	Bottom Depth (ftCB)	Shot Density (shots/ft)	Entered Shot Total
Blinebry Sqz'd	5,962	5,962	1.0	1
Type	Top Depth (ftCB)	Bottom Depth (ftCB)	Shot Density (shots/ft)	Entered Shot Total
Blinebry	5,971	5,975	1.0	5
Type	Top Depth (ftCB)	Bottom Depth (ftCB)	Shot Density (shots/ft)	Entered Shot Total
Blinebry	5,983	5,995	0.5	6
Type	Top Depth (ftCB)	Bottom Depth (ftCB)	Shot Density (shots/ft)	Entered Shot Total
Blinebry	6,002	6,002	1.0	1
Type	Top Depth (ftCB)	Bottom Depth (ftCB)	Shot Density (shots/ft)	Entered Shot Total
Blinebry	6,003	6,003	1.0	1
Type	Top Depth (ftCB)	Bottom Depth (ftCB)	Shot Density (shots/ft)	Entered Shot Total
Blinebry	6,005	6,033	0.5	14
Type	Top Depth (ftCB)	Bottom Depth (ftCB)	Shot Density (shots/ft)	Entered Shot Total
Blinebry Sqz'd	6,007	6,007	1.0	1
Type	Top Depth (ftCB)	Bottom Depth (ftCB)	Shot Density (shots/ft)	Entered Shot Total
Blinebry Sqz'd	6,032	6,032	1.0	1
Type	Top Depth (ftCB)	Bottom Depth (ftCB)	Shot Density (shots/ft)	Entered Shot Total
Tubb	6,073	6,085	0.5	6
Type	Top Depth (ftCB)	Bottom Depth (ftCB)	Shot Density (shots/ft)	Entered Shot Total
Tubb	6,091	6,099	0.5	4
Type	Top Depth (ftCB)	Bottom Depth (ftCB)	Shot Density (shots/ft)	Entered Shot Total
Tubb	6,105	6,145	0.5	20
Type	Top Depth (ftCB)	Bottom Depth (ftCB)	Shot Density (shots/ft)	Entered Shot Total
Tubb	6,155	6,159	1.0	5
Type	Top Depth (ftCB)	Bottom Depth (ftCB)	Shot Density (shots/ft)	Entered Shot Total
Tubb	6,224	6,226	1.0	3

Scenario 1: Dual Packer Proposed WBD

Apache

Well Name: NEDU 407W

Proposed

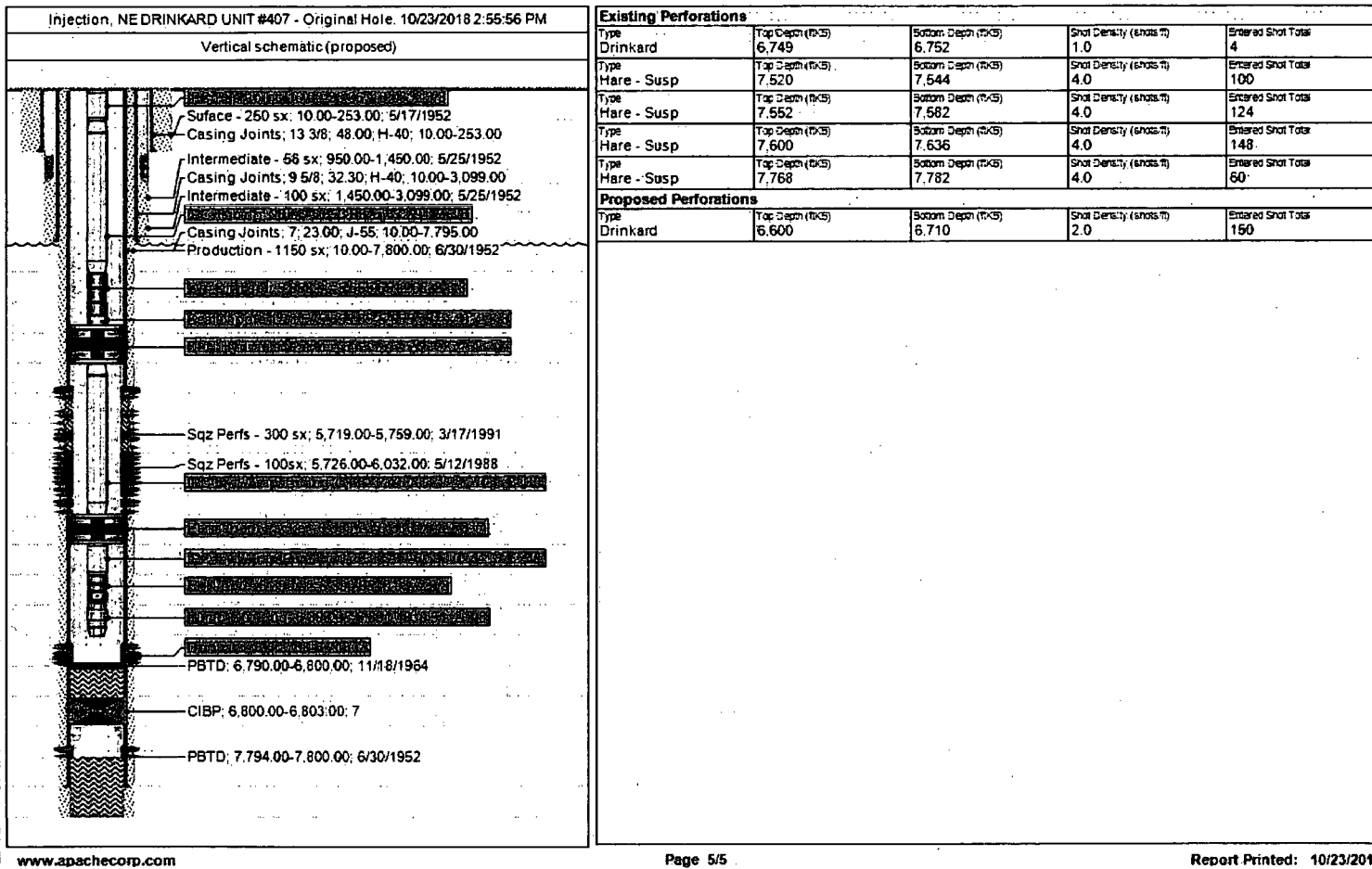


Scenario 1: Dual Packer Proposed WBD (Proposed Change in Yellow)



Well Name: NEDU 407W

Proposed



Scenario 2: FJ Liner Proposed WBD (Proposed Changes in Yellow)

Proposed					
Well Name: NEDU 407W					
Legal Well Name NORTHEAST DRINKARD UNIT 407W		Common Well Name NEDU 407W		API Surface Loc 3002506466	
Ground Elevation (ft) 3,442.0	Original KB Elevation (ft) 3,452.0	Surface Legal Location 1980' FNL, 2310' FEL, Unit G, Sect 10, T-21S, R-37E		PETD (API) (ftGS) Original Hole - 6,790	Total Depth (ftGS) 7,800.0

Injection, NEDRINKARD UNIT #407 - Original Hole, 10/23/2018 3:08:45 PM

Vertical schematic (proposed)

Current Wellbore Sections				
Section Des	Size (in)	Act Top (ftGS)	Act Btm (ftGS)	Start Date
Surface	17 1/2	10.0	253.0	5/16/1952
Inter 1	12 1/4	253.0	3,099.0	5/18/1952
Prod 1	8 3/4	3,099.0	7,800.0	5/28/1952

Casing Strings				
Casing Description	String Nominal OD (in)	Weight/Length (lb/ft)	String Grade	Set Depth (ftGS)
Surface	13 3/8	48.00	H-40	253.00
Inter 1	9 5/8	32.30	H-40	3,099.00
Prod 1	7	23.00	J-55	7,795.00

Proposed Casing Strings				
Casing Description	String Nominal OD (in)	Weight/Length (lb/ft)	String Grade	Set Depth (ftGS)
Prod Lnr 1	5 1/2	17.00	L-80	6,790.00

Existing Cement				
String	Cement	Top (ftGS)	Btm (ftGS)	Top Meas Meth
Surface, 253.00ftKB, 13 3/8	Primary Cement	10.00	253.00	Returns at Surface
Inter 1, 3,099.00ftKB, 9 5/8	Primary Cement	1,450.00	3,099.00	Temperature Survey
Prod 1, 7,795.00ftKB, 7	Primary Cement	10.00	7,800.00	Returns at Surface
Prod 1, 7,795.00ftKB, 7	Cement Plug	7,794.00	7,800.00	Tag
Prod 1, 7,795.00ftKB, 7	Cement Plug	6,790.00	6,800.00	Tag
Prod 1, 7,795.00ftKB, 7	Cement Squeeze	5,726.00	6,032.00	
Prod 1, 7,795.00ftKB, 7	Cement Squeeze	5,719.00	5,759.00	
Inter 1, 3,099.00ftKB, 9 5/8	Primary Cement	950.00	1,450.00	Temperature Survey

Proposed Cement				
String	Description	Top Depth (ftGS)	Bottom Depth (ftGS)	Top Measurement Method
Prod Lnr 1, 6,790.00ftKB, 5 1/2	Primary Liner Cement	5,435.00	6,790.00	Returns at Surface

Proposed Tubing String			
Tubing Description	Length (ft)	Set Depth (ftGS)	Joints
Tubing - Injection		6,580.0	
Item Description: 1605 IPC Lined Tubing	6,560.10	OD Nominal (in): 2 3/8	Joints: 203
Item Description: On/Off Tool w/ Profile Nipple	2.65	OD Nominal (in): 2 3/8	Joints: 1
Item Description: Lok-Set Injection Packer	7.25	OD Nominal (in): 5 1/2	Joints: 1

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Page 1/5

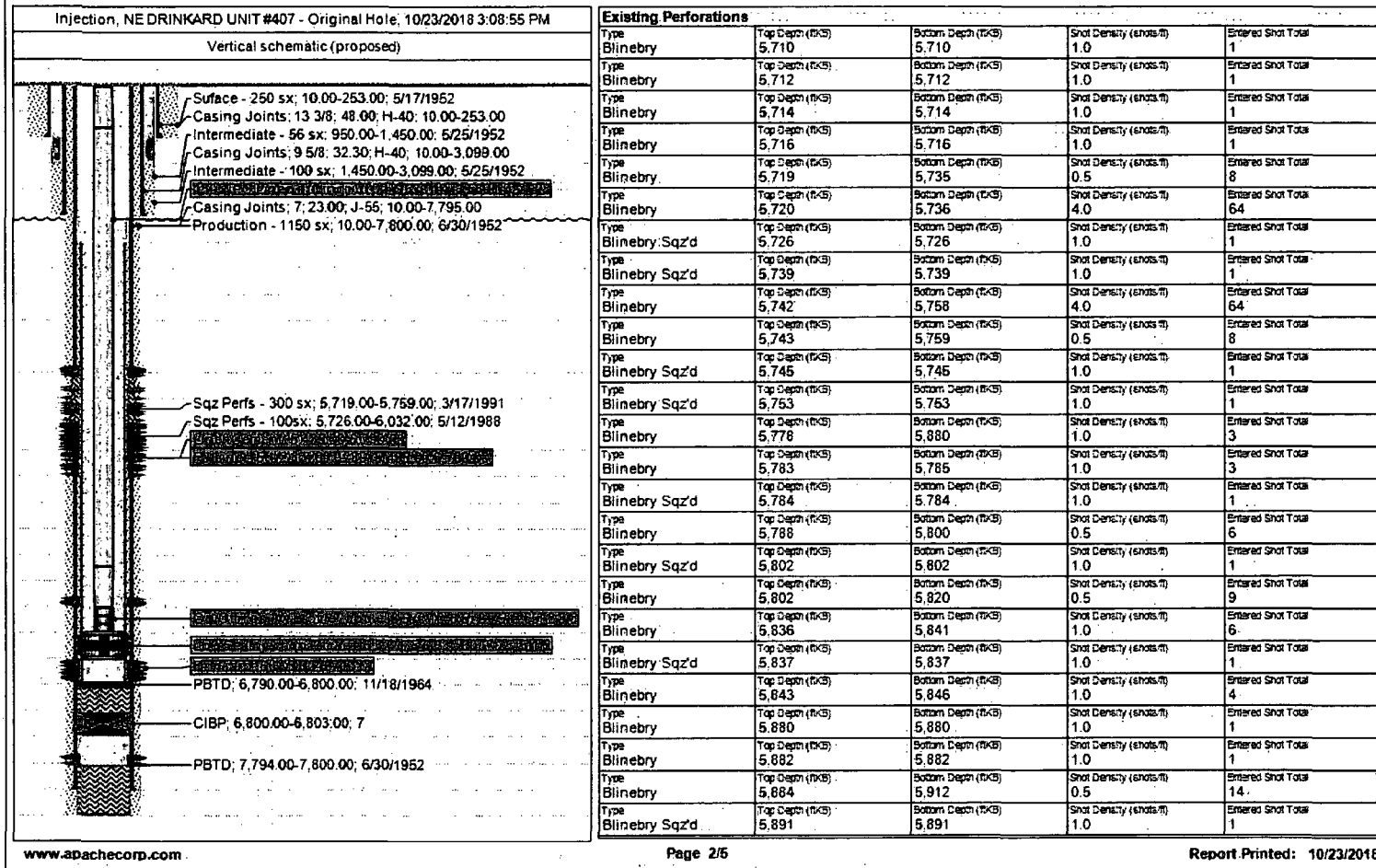
Report Printed: 10/23/2018

Scenario 2: FJ Liner Proposed WBD (Proposed Characteristic Values)

Apache

Well Name: NEDU 407W

Proposed

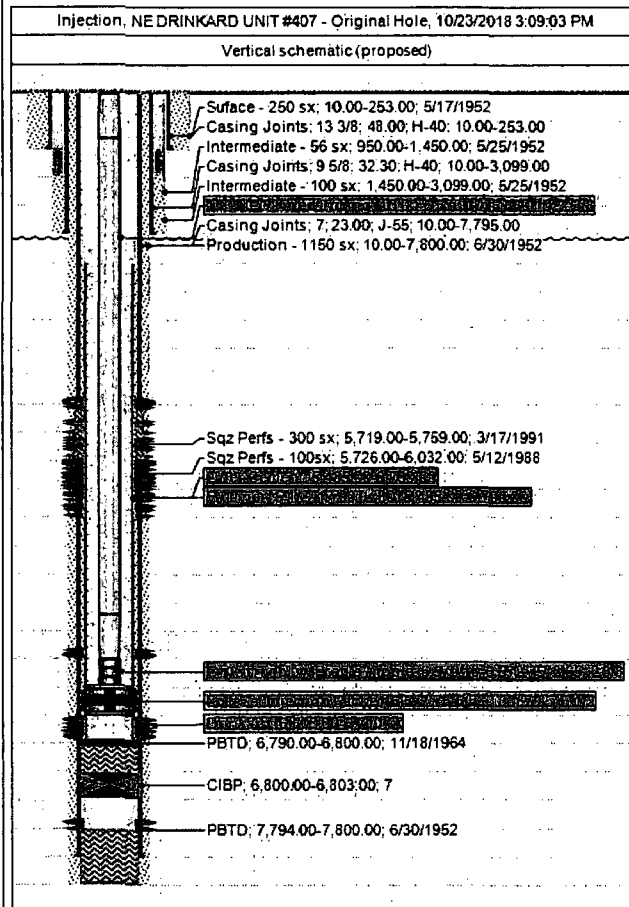


Scenario 2: FJ Liner Proposed WBD (Proposed Changes in Yellow)

Apache

Well Name: NEDU 407W

Proposed



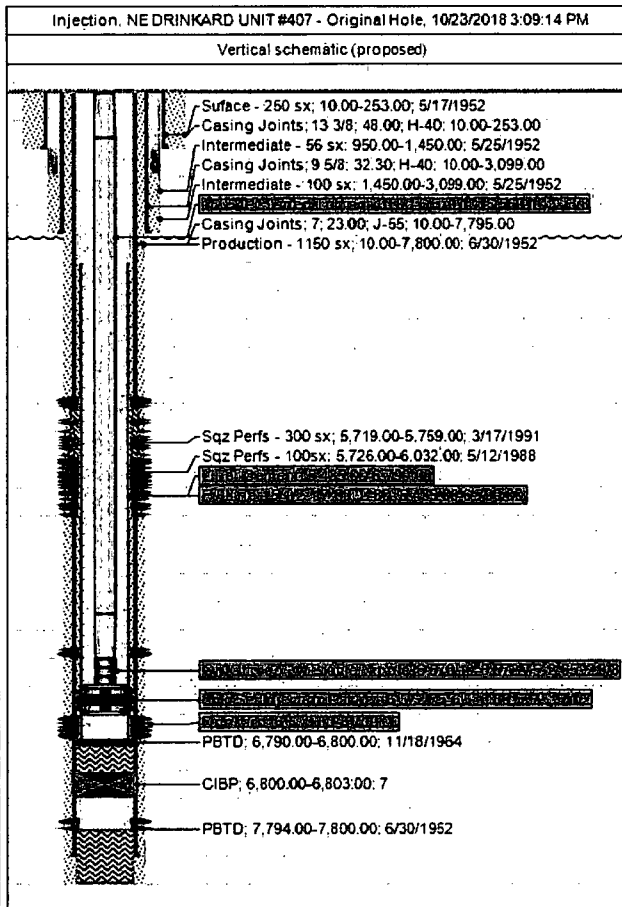
Existing Perforations				
Type	Top Depth (ftCB)	Bottom Depth (ftCB)	Shot Density (shots/ft)	Entered Shot Total
Blinebry Sqz'd	5.906	5.906	1.0	1
Blinebry	5.918	5.920	1.0	3
Blinebry	5.924	5.952	0.5	14
Blinebry Sqz'd	5.926	5.926	1.0	1
Blinebry Sqz'd	5.940	5.940	1.0	1
Blinebry	5.958	5.962	1.0	5
Blinebry Sqz'd	5.962	5.962	1.0	1
Blinebry	5.971	5.975	1.0	5
Blinebry	5.983	5.995	0.5	6
Blinebry	6.002	6.002	1.0	1
Blinebry	6.003	6.003	1.0	1
Blinebry	6.005	6.033	0.5	14
Blinebry Sqz'd	6.007	6.007	1.0	1
Blinebry Sqz'd	6.032	6.032	1.0	1
Tubb	6.073	6.085	0.5	6
Tubb	6.091	6.099	0.5	4
Tubb	6.105	6.145	0.5	20
Tubb	6.155	6.159	1.0	5
Tubb	6.224	6.226	1.0	3
Tubb	6.232	6.234	1.0	3
Tubb	6.237	6.242	1.0	6
Tubb	6.279	6.297	0.5	9
Tubb	6.347	6.349	1.0	3
Drinkard	6.516	6.516	1.0	1
Drinkard	6.538	6.542	1.0	5

Scenario 2: FJ Liner Proposed WBD (Proposed Drilled Hole)



Well Name: NEDU 407W

Proposed



Existing Perforations				
Type	Top Depth (ftCS)	Bottom Depth (ftCS)	Shot Density (shots/ft)	Entered Shot Total
Drinkard	6,540	6,540	1.0	1
Type	Top Depth (ftCS)	Bottom Depth (ftCS)	Shot Density (shots/ft)	Entered Shot Total
Drinkard	6,547	6,555	1.0	9
Type	Top Depth (ftCS)	Bottom Depth (ftCS)	Shot Density (shots/ft)	Entered Shot Total
Drinkard	6,551	6,551	1.0	1
Type	Top Depth (ftCS)	Bottom Depth (ftCS)	Shot Density (shots/ft)	Entered Shot Total
Drinkard	6,608	6,609	1.0	2
Type	Top Depth (ftCS)	Bottom Depth (ftCS)	Shot Density (shots/ft)	Entered Shot Total
Drinkard	6,612	6,621	1.0	10
Type	Top Depth (ftCS)	Bottom Depth (ftCS)	Shot Density (shots/ft)	Entered Shot Total
Drinkard	6,614	6,614	1.0	1
Type	Top Depth (ftCS)	Bottom Depth (ftCS)	Shot Density (shots/ft)	Entered Shot Total
Drinkard	6,621	6,621	1.0	1
Type	Top Depth (ftCS)	Bottom Depth (ftCS)	Shot Density (shots/ft)	Entered Shot Total
Drinkard	6,639	6,642	1.0	4
Type	Top Depth (ftCS)	Bottom Depth (ftCS)	Shot Density (shots/ft)	Entered Shot Total
Drinkard	6,641	6,641	1.0	1
Type	Top Depth (ftCS)	Bottom Depth (ftCS)	Shot Density (shots/ft)	Entered Shot Total
Drinkard	6,644	6,648	1.0	5
Type	Top Depth (ftCS)	Bottom Depth (ftCS)	Shot Density (shots/ft)	Entered Shot Total
Drinkard	6,671	6,671	1.0	1
Type	Top Depth (ftCS)	Bottom Depth (ftCS)	Shot Density (shots/ft)	Entered Shot Total
Drinkard	6,671	6,679	1.0	9
Type	Top Depth (ftCS)	Bottom Depth (ftCS)	Shot Density (shots/ft)	Entered Shot Total
Drinkard	6,678	6,678	1.0	1
Type	Top Depth (ftCS)	Bottom Depth (ftCS)	Shot Density (shots/ft)	Entered Shot Total
Drinkard	6,691	6,693	1.0	3
Type	Top Depth (ftCS)	Bottom Depth (ftCS)	Shot Density (shots/ft)	Entered Shot Total
Drinkard	6,696	6,714	0.5	9
Type	Top Depth (ftCS)	Bottom Depth (ftCS)	Shot Density (shots/ft)	Entered Shot Total
Drinkard	6,697	6,697	1.0	1
Type	Top Depth (ftCS)	Bottom Depth (ftCS)	Shot Density (shots/ft)	Entered Shot Total
Drinkard	6,708	6,708	1.0	1
Type	Top Depth (ftCS)	Bottom Depth (ftCS)	Shot Density (shots/ft)	Entered Shot Total
Drinkard	6,728	6,732	1.0	5
Type	Top Depth (ftCS)	Bottom Depth (ftCS)	Shot Density (shots/ft)	Entered Shot Total
Drinkard	6,736	6,746	0.5	5
Type	Top Depth (ftCS)	Bottom Depth (ftCS)	Shot Density (shots/ft)	Entered Shot Total
Drinkard	6,749	6,752	1.0	4
Type	Top Depth (ftCS)	Bottom Depth (ftCS)	Shot Density (shots/ft)	Entered Shot Total
Hare - Susp	7,520	7,544	4.0	100
Type	Top Depth (ftCS)	Bottom Depth (ftCS)	Shot Density (shots/ft)	Entered Shot Total
Hare - Susp	7,552	7,582	4.0	124
Type	Top Depth (ftCS)	Bottom Depth (ftCS)	Shot Density (shots/ft)	Entered Shot Total
Hare - Susp	7,600	7,636	4.0	148
Type	Top Depth (ftCS)	Bottom Depth (ftCS)	Shot Density (shots/ft)	Entered Shot Total
Hare - Susp	7,768	7,782	4.0	60

Scenario 2: FJ Liner Proposed WBD (Proposed Changes in Yellow)



Well Name: NEDU 407W

Proposed

