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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.
30-015-45743
5. Indicate Type of Lease
STATE [X] FEE []
6. State Oil & Gas Lease No.
NEO-5073-0005
7. Lease Name or Unit Agreement Name
NORTHCOTT 24 SWD
8. Well Number
001
9. OGRID Number
24010
10. Pool name or Wildcat
SWD;DEVONIAN
11. Elevation (Show whether DR, RKB, RT, GR, etc.)
3362' GL

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 SWD
2. Name of Operator
V-F PETROLEUM INC.
3. Address of Operator
P. O. BOX 1889, MIDLAND, TX 79702
4. Well Location
Unit Letter: G 2090 feet from the NORTH line and 2090 feet from the EAST line
Section 24 Township 19 S Range 28 E NMPM EDDY County

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: Change Tubing []
SUBSEQUENT REPORT OF:
REMEDIAL WORK [] ALTERING CASING []
COMMENCE DRILLING OPNS. [] P AND A []
CASING/CEMENT JOB []
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.

Propose to change existing 5.5" IPC tubing to 7" IPC 26# P-110 with CTSWD casing couplings.
New 9.625" Halliburton, or its equivalent, RTTS injection packer will be set at 12,105'.
No change in disposal interval.

See attached workplan, well bore diagram, and information addressing NMOCD Tubing Upsize Checklist

This would decrease injection pressure and allow the well to be more economically operated.
(V-F has not seen high injection pressure.)

Spud Date: 6-12-19

Rig Release Date: 7-19-19

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

SIGNATURE [Signature] TITLE CONSULTANT DATE 3-2-26

Type or print name BRIAN WOOD E-mail address: brian@permitswest.com PHONE: 505 466-8120
For State Use Only

APPROVED BY: TITLE DATE
Conditions of Approval (if any):

Northcott 24 SWD #1 – proposed workover plan upsize tubing from 5.5” to 7.0”

1. Flow back well to SWD battery until well tubing is no longer flowing. MIRU service unit. Pull existing 5.5” tubing out of latch of packer. Lay down 5.5” injection tubing.
2. Pick 8.5” mill tooth drill bit and 3.5” tubing with PH6 connection, collars and BHA for drill out of permanent packer at 12,120’. Drill out packer and circulate hole clean.
3. Lay down 3.5” work string.
4. Rig up wireline and set new permanent packer at 12,105’, 15ft-20ft above first packer using CBL/CCL from July 18, 2019, to get on depth. Packer will be installed with pump out plug.
5. Run in hole with 7.0” 26 lb./ft P110HC with EZGO connection with internal plastic coating. Run tubing to top of packer and circulate packer fluid with corrosion inhibitor.
6. Sting into packer and latch. Test casing/tubing annulus to verify seal and packer is holding. If packer test is good, RDMO service rig and schedule for official MIT with NM OCD.

TUBING UPSIZE CHECKLIST

Wellbore Details (Current and Proposed)

1

Provide detailed wellbore diagrams showing casing size, casing weight, casing grade, tubing details, landing nipples, packer details and setting depths for each tubing, casing and liner from surface to Total Depth. The diagrams must include the "Current" and "Proposed" tubing parameters (OD, weight, grade and setting depth(s)) to clearly illustrate pertinent details associated with the tubing upsize request. Applicant must also include an analysis of the anticipated reduction in tubing friction pressure that will result from installation of the larger diameter tubing.

1.1

What is the minimum Inside Diameter (ID) of the production casing in inches

8.535"

1.2

What is the minimum Inside Diameter (ID) of the liner (if applicable) in inches

N/A

1.3

What is the Outside Diameter (OD) of the proposed tubing in inches

7.0"

1.3.1

What is the minimum tensile strength of the tubing in pounds

830,000 Lbs.

1.4

What is the Outside Diameter (OD) of the proposed tubing couplings in inches

7.875"

1.4.1

What is the minimum tensile strength of the tubing coupling in pounds

644,200 lbs.

1.5

Provide details on the proposed packer and the running procedure, setting sequence, release sequence

1.5.1

Is the packer set via wireline or on pipe?

Wireline

1.5.2

Does the packer incorporate a Polished Bore Receptacle (PBR) with tubing seal assembly stung-in to the PBR?

Yes

1.5.3

Does the tubing/packer assembly incorporate an on/off tool? If yes, can the latch / release procedure be performed if the tubing is latched with and overshot or a spear after a tubing parting/ failure event?

No on/off Tool. but it can be released with an overshot or spear in the event of a tubing part/failure with a straight pull release.

1.6

Provide a copy of the deviation survey for the well.

Attached

1.6.1

What is the maximum deviation angle in the wellbore? At what depth?

2.37 degrees at 9,518'

1.6.2

What is the maximum Dogleg Severity in the wellbore? At what depth?

1.29 degrees/100ft at 6,888'

Clearance Parameters between Casing (or Liner) and Tubing Body

2

Does sufficient clearance exist between the Tubing OD and the applicable minimum ID of the Casing or Liner to latch the tubing body with an overshot? If yes, provide overshot details below.

Yes

2.1

Overshot manufacturer

Bowen type manufactured by inovex.

2.1.1

Overshot OD"

8 1/8"

2.1.2

Grapple type: Basket, Spiral, other

Spiral

2.1.3

Maximum catch size for basket grapple and spiral grapple (inches)

Basket 6 3/8" Spiral 7"

2.1.4

For variable (ie. tapered barrel) overshot, provide the minimum and maximum catch size, if applicable

N/A

2.1.5

What is the minimum tensile strength of the overshot(s) in units of pounds?

At 100% Tensile Strength Basket 429K Spiral 453K

2.1.6

In the event of stuck tubing, can washpipe be used to clean the annular space between the tubing and casing? If yes, provide washpipe specifications (OD, ID, tensile ratings)

Washpipe can only wash over tube not the coupling. 8-1/8" od 35.92# p-110, 7.185" id material. Thread is wp hydril thread. Tensile 972,000#

This tensile strength is at 100%

2.1.6.1

Can a latch mechanism (T-Dog Overshot or similar) be run with the washpipe to latch and recover the tubing and collars? Provide details as applicable (OD, ID, Tensile ratings) and an overview of the assembly setup and running procedures.

Can't latch collar but can latch tube.

2.1.6.2

Can washpipe be used to wash-over multiple joints of tubing/collars, and subsequently run a cutter on wireline to cut and retrieve the pipe that has been washed over? Provide specifications for washpipe and cutting tools as applicable. Can it be used in conjunction with a T-dog overshot or similar?

Wash pipe can be used for tubing body but not collars. Tubing can be cut internally by wireline or mechanical cutter. The only Mechanical cutter that could be used in an internal cutter.

2.1.6.3

Can an external cutter be run on the bottom of the washpipe to cut and recover the tubing? Provide tool specifications (OD, ID, tensile limits) and a brief overview of the procedure.

Yes on the pipe tube but not the collars.

3

Does sufficient clearance exist between the Tubing OD and the applicable minimum ID of the Casing or liner to latch the tubing couplings with an overshot? If yes, provide overshot detail below. **NO, would mill collar then latch tube with overshot.**

3.1

Overshot manufacturer N/A

3.1.1

Overshot OD

N/A

3.1.2

Grapple type: Basket, Spiral, other

N/A

3.1.3

Maximum catch size for basket grapple and spiral grapple (inches)

N/A

3.1.4

For variable (ie. tapered barrel) overshot, provide the minimum and maximum catch size, if applicable

N/A

3.1.5

What is the minimum tensile strength of each overshot in units of pounds? N/A

3.1.6

In the event of stuck tubing, can washpipe be used to clean the annular space between the tubing collars and casing/liner ? If yes, provide washpipe specifications (OD, ID, tensile ratings)

N/A

3.1.6.1

Can a latch mechanism (T-Dog Overshot or similar) be run with the washpipe to latch and recover the tubing and collars? Provide details as applicable (OD, ID, Tensile ratings) and an overview of the assembly setup and running procedures.

N/A

3.1.6.2

Can washpipe be used to wash-over multiple joints of tubing/collars, and subsequently run a cutter on wireline to cut and retrieve the pipe that has been washed over? Provide specifications for washpipe and cutting tools as applicable. Can it be used in conjunction with a T-dog overshot or similar?

N/A

3.1.6.3

Can an external cutter be run on the bottom of the washpipe to cut and recover the tubing? Provide tool specifications (OD, ID, tensile limits) and a brief overview of the procedure. NO. ONLY INTERNAL CUTTER, WIRELINE OR MECHANICAL

Internal Spear fishing options

4

As an alternative to fishing with overshot(s) the proponent is requested to provide details on the option to fish parted tubing using an internal spear. Please provide details on the following:

4.1

Spear manufacturer BOWEN

4.2

Provide details on the procedure for removal of the internal coating (ie. plastic coating or equivalent) from the tubing ID prior to latching with a spear.

It should not be a problem. The wickers on a spear grapple that size is very aggressive or a contingency procedure is to rig up wireline and shoot a string shot across the area where latch up is going to happen. Then pick up spear.

4.3

Spear parameters OD / ID required to latch and recover tubing after internal coating material is removed.

7' itco type spear using grapple #9268. 5-3/4" od fishing neck with 3-1/2" if connection. A cup type packoff can be run below spear to allow circulation around end of fish if desired. a collar stop with 3-1/2' if connections and od of 8.25" will be run above spear. the grapple size will 6.274". has a catch range of 6.14-6.407". this range will bite through plastic lining of tubing. Grapple 6220 the nominal catch is 6.020 and max is 6.423

4.4

Provide a general outline / procedure for latching and recovering the tubing using an internal spear.

Spear will be made up on fishing string with collar stop above spear and a cup type packoff below. Run spear in hole to just above circulate hole clean. Engage fish by setting down and rotating 1 round on bottom to engage grapple in the set position. Would recommend running bumper sub above collar to help facilitate release if fish does not come out of hole. Also, could run a jarring assembly above the bumper sub in case you can't move the casing.

4.4.1

Tensile limit of the spear in units of pounds.

972,000. This is at 100% tensile strength and does not include the swell factor on the grapple.

4.4.2

Procedure for unseating / releasing from the packer

Follow stinging out procedure or unlatching procedure if latch is used on packer. To pull out of latch: pull 10-15K lbs and rotate 9-10 rotations. Tongs would aid in rotating pipe.

4.5

Contingency procedure for recovering the tubing if the tubing cannot be released from the packer and/or if the packer does not unseat.

Run free point. Cut above stuck point with wireline. Lay down free pipe and start fishing operation using hydraulic jars. Determine stuck point with free point run and pick up perforating guns on wireline shoot circulating holes below stuck and free point to possibly free the tubing.

4.5.1

Does the spear ID allow for the use of mechanical or chemical cutters? (ie. pipe or wireline conveyed)?

No, the only wireline cutter is a severing tool to go through the 2" ID, And it would also cut the 9 5/8" pipe. Contingency plan is to run in on wireline and a shot rod loaded with primer cord and drop down to the next tubing collar holding left hand torque on the pipe, shoot across the collar and back it off.

4.5.2

If yes, clarify whether cutters are wireline conveyed, pipe conveyed or if both conveyance options exist.

N/A

Contingency Procedures

5.1

Tubing is latched with overshot, but tubing is stuck below the top-of- fish (eg stuck pipe, fill, cannot release from packer etc). What options are available in this scenario for free point diagnostics and tubing retrieval? N/A

Please reference 4.5.1

5.1.1

What is the OD of the free-point tool and applicable cutting tools? Can it run through the work-string, the overshot, and below the top of fish?

N/A (1 11/16")

5.1.2

Are there any constraints associated with well deviation or dogleg severity? Can wireline tools be conveyed by gravity? If not, is pump-down or wireline tractor-conveyance of the tools feasible?

This shouldn't be a problem with only very small amounts of deviation in the well.

5.2

Tubing is latched with a spear, but tubing is stuck below the top-of fish (eg stuck pipe, fill, cannot release from packer etc). What options are available in this scenario for diagnostics and tubing retrieval?

Run free point with wireline. With the use of magnetic tools or spring tools while free pointing with wireline.

5.2.1

What is the OD of the free-point tool and applicable cutting tools? Can it be run through the work-string, the fishing spear, and below the top of fish?

ID of spear is 2". Wireline tools will be 1-11/16"

5.2.2

Are there any constraints associated with well deviation or dogleg severity? Can wireline tools be conveyed by gravity? If not is pump-down or wireline tractor-conveyance of the tools feasible?

NO

Additional Considerations

6

If applicable, Proponent is encouraged to provide additional details in support of their tubing upsize request to demonstrate how parted tubing can be effectively recovered to facilitate continued operation of the well, and future Plug and Abandonment (P&A) operations in accordance with OCD plugging requirements.

Additional comments.

To circulated fill off packer top, it's possible to shoot holes in tubing above the packer if a profile is available.

md \ eng \ drilling \ history \ Northcott 24 SWD #1 WBS 190214

03/02/2026

Well: Northcott 24 SWD #1
 LOC: 2090' FNL & 2090' FEL
 G-24-19S-28E
 in Eddy Co., NM
 API# 30-015-45743

Operator: V-F Petroleum Inc.
 Field: SWD; Devonian
 Elevation: GL= 3,362
 KB-GL= 18
 KB= 3,380

TD	Hole Sz	Tops & Perfs	Casing & Cement
422'	26"		20" 94# CSG w/ 1000 sx CMT (circulated 256 sks)
		T San Andres @ 2,810'	9 5/8" DV Tool @ 6,667' w/ 1686 sx CMT
3,595'	17 1/2"		13 3/8" 61# & 68# CSG w/ 2289 sx CMT (circulated)
		T Bone Springs @ 3,442'	9-5/8" DV tool at 6,997'
		T Wolfcamp @ 8,910'	
		T Cisco @ 9,666'	
		T Strawn @ 10,118'	Tubing: 5.5" P110 20# EXGO connection internally plastic coated
		T Atoka @ 10,361'	9-5/8" 53.5#/ft casing is special drift to 8.5" Cement to surface on both stages
			Bottom 2 joints of 9 5/8" are Chrome Casing On/Off Tool, Profile Nipple
12,135'	12 1/4"	T Devonian @ 12,118'	Full Bore Packer @ 12,120' w/ 5 1/2" 20# P110 IPC tbg 9 5/8" 47# & 53.5# CSG w/ 1686 sx CMT (circulated)
12,900'	8 3/4"		Devonian Open Hole: 12,135' - 12,900'

REMARKS:



Operator: **VF Petroleum Inc.** Target KBTVD: **3800.00**
 Well Name: **Northcott 24 SWD #1** Target Dip Angle: **0.00**
 Job Number: **ND0031** Declination Correction: **6.92**
 Survey Company: **Intrepid Directional Drilling Specialists** KB Elevation:

Vertical Section Calculated Along Azimuth: **0.00°**

Survey Calculation Method: **Minimum Curvature**

TIE PT TYPE	SVY #	Survey Depth	INC deg.	Azm deg.	Course Length	TVD Ft.	V'Sect FT.	+N/-S Ft.	+E/-W Ft.	Dogleg %/100'
Tie In	0	0	0	0	0	0	0	0	0	0
MWD	1	463	2.37	128.82	463	462.87	-6.00	-6.00	7.46	0.51
MWD	2	589	1.76	109.31	126	588.79	-8.28	-8.28	11.32	0.73
MWD	3	683	0.70	99.38	94	682.76	-8.85	-8.85	13.24	1.15
MWD	4	776	0.62	91.73	93	775.76	-8.95	-8.95	14.31	0.13
MWD	5	868	0.79	108.17	92	867.75	-9.17	-9.17	15.41	0.29
MWD	6	962	0.09	135.68	94	961.75	-9.42	-9.42	16.08	0.76
MWD	7	1056	0.26	158.09	94	1055.75	-9.67	-9.67	16.21	0.19
MWD	8	1149	0.44	208.45	93	1148.75	-10.18	-10.18	16.12	0.37
MWD	9	1243	0.48	228.76	94	1242.74	-10.76	-10.76	15.65	0.18
MWD	10	1338	1.14	223.22	95	1337.73	-11.71	-11.71	14.70	0.70
MWD	11	1432	1.45	227.70	94	1431.71	-13.19	-13.19	13.18	0.35
MWD	12	1527	1.63	215.92	95	1526.67	-15.09	-15.09	11.50	0.38
MWD	13	1621	1.45	220.76	94	1620.64	-17.08	-17.08	9.94	0.24
MWD	14	1715	1.32	232.54	94	1714.61	-18.64	-18.64	8.30	0.33
MWD	15	1809	1.32	236.49	94	1808.59	-19.89	-19.89	6.54	0.10
MWD	16	1903	1.23	242.91	94	1902.57	-20.95	-20.95	4.74	0.18
MWD	17	1998	1.14	251.70	95	1997.54	-21.71	-21.71	2.93	0.21
MWD	18	2092	1.10	250.29	94	2091.53	-22.31	-22.31	1.20	0.05

MWD	19	2185	1.19	255.83	93	2184.51	-22.85	-22.85	-0.58	0.15
MWD	20	2279	1.14	258.90	94	2278.49	-23.27	-23.27	-2.44	0.09
MWD	21	2373	1.23	271.12	94	2372.47	-23.43	-23.43	-4.37	0.28
MWD	22	2467	1.45	259.87	94	2466.44	-23.62	-23.62	-6.55	0.36
MWD	23	2571	1.19	265.41	104	2570.42	-23.93	-23.93	-8.92	0.28
MWD	24	2665	1.01	274.46	94	2664.40	-23.95	-23.95	-10.72	0.27
MWD	25	2759	0.75	271.65	94	2758.39	-23.87	-23.87	-12.16	0.28
MWD	26	2854	0.75	290.63	95	2853.38	-23.63	-23.63	-13.36	0.26
MWD	27	2948	1.23	289.93	94	2947.37	-23.07	-23.07	-14.89	0.51
MWD	28	3043	1.63	287.12	95	3042.34	-22.32	-22.32	-17.14	0.43
MWD	29	3137	1.32	300.91	94	3136.30	-21.37	-21.37	-19.35	0.50
MWD	30	3230	1.93	304.96	93	3229.27	-19.93	-19.93	-21.55	0.67
MWD	31	3325	1.58	309.62	95	3324.22	-18.17	-18.17	-23.87	0.40
MWD	32	3419	1.54	312.60	94	3418.19	-16.49	-16.49	-25.80	0.10
MWD	33	3513	1.10	333.79	94	3512.16	-14.83	-14.83	-27.12	0.69
MWD	34	3599	1.19	344.16	86	3598.15	-13.23	-13.23	-27.73	0.26
MWD	35	3693	1.32	348.99	94	3692.12	-11.23	-11.23	-28.21	0.18
MWD	36	3787	1.27	353.38	94	3786.10	-9.13	-9.13	-28.53	0.12
MWD	37	3881	1.36	344.60	94	3880.07	-7.02	-7.02	-28.95	0.23
MWD	38	3974	1.23	346.00	93	3973.05	-4.99	-4.99	-29.48	0.14
MWD	39	4069	1.36	340.99	95	4068.03	-2.93	-2.93	-30.10	0.18
MWD	40	4163	1.45	331.32	94	4162.00	-0.83	-0.83	-31.03	0.27
MWD	41	4257	1.36	330.27	94	4255.97	1.18	1.18	-32.16	0.10
MWD	42	4350	1.54	330.27	93	4348.94	3.22	3.22	-33.32	0.19
MWD	43	4444	1.54	327.28	94	4442.91	5.38	5.38	-34.63	0.09
MWD	44	4538	1.54	328.16	94	4536.87	7.52	7.52	-35.98	0.03
MWD	45	4632	0.53	339.76	94	4630.86	9.00	9.00	-36.80	1.09
MWD	46	4726	0.31	6.92	94	4724.85	9.66	9.66	-36.92	0.31
MWD	47	4821	0.70	349.25	95	4819.85	10.48	10.48	-36.99	0.44
MWD	48	4915	0.88	336.60	94	4913.84	11.71	11.71	-37.39	0.27
MWD	49	5009	0.84	333.70	94	5007.83	12.99	12.99	-37.98	0.06
MWD	50	5104	0.79	333.52	95	5102.82	14.20	14.20	-38.58	0.05

MWD	51	5198	0.84	329.74	94	5196.81	15.38	15.38	-39.22	0.08
MWD	52	5293	0.88	324.56	95	5291.80	16.57	16.57	-39.99	0.09
MWD	53	5386	0.75	333.08	93	5384.79	17.70	17.70	-40.68	0.19
MWD	54	5481	0.88	328.16	95	5479.78	18.87	18.87	-41.35	0.16
MWD	55	5575	0.92	322.54	94	5573.77	20.08	20.08	-42.19	0.10
MWD	56	5668	0.97	328.69	93	5666.76	21.35	21.35	-43.05	0.12
MWD	57	5763	1.05	325.79	95	5761.74	22.76	22.76	-43.96	0.10
MWD	58	5856	1.14	320.87	93	5854.72	24.18	24.18	-45.02	0.14
MWD	59	5950	1.23	320.95	94	5948.70	25.69	25.69	-46.25	0.10
MWD	60	6045	1.27	306.45	95	6043.68	27.10	27.10	-47.73	0.33
MWD	61	6138	1.45	307.33	93	6136.66	28.43	28.43	-49.50	0.19
MWD	62	6233	1.27	292.04	95	6231.63	29.55	29.55	-51.43	0.42
MWD	63	6326	1.36	271.73	93	6324.61	29.97	29.97	-53.49	0.51
MWD	64	6420	1.36	263.12	94	6418.58	29.87	29.87	-55.71	0.22
MWD	65	6513	1.01	255.21	93	6511.56	29.53	29.53	-57.60	0.41
MWD	66	6606	1.05	238.25	93	6604.54	28.88	28.88	-59.12	0.33
MWD	67	6701	1.41	229.02	95	6699.52	27.65	27.65	-60.74	0.43
MWD	68	6794	1.41	212.32	93	6792.49	25.93	25.93	-62.22	0.44
MWD	69	6888	1.36	160.55	94	6886.47	23.90	23.90	-62.46	1.29
MWD	70	6982	1.58	134.89	94	6980.44	21.94	21.94	-61.17	0.73
MWD	71	7075	1.36	136.82	93	7073.41	20.23	20.23	-59.51	0.24
MWD	72	7169	1.23	146.67	94	7167.39	18.57	18.57	-58.19	0.27
MWD	73	7262	1.41	140.25	93	7260.36	16.86	16.86	-56.91	0.25
MWD	74	7356	1.80	127.86	94	7354.32	15.06	15.06	-55.01	0.55
MWD	75	7451	2.02	117.49	95	7449.27	13.37	13.37	-52.34	0.43
MWD	76	7545	1.98	112.48	94	7543.22	11.99	11.99	-49.37	0.19
MWD	77	7638	1.80	118.54	93	7636.16	10.68	10.68	-46.61	0.29
MWD	78	7732	1.67	117.93	94	7730.12	9.33	9.33	-44.10	0.14
MWD	79	7827	1.27	122.41	95	7825.09	8.12	8.12	-41.99	0.44
MWD	80	7921	1.01	125.92	94	7919.07	7.07	7.07	-40.44	0.29
MWD	81	8016	1.14	89.10	95	8014.06	6.60	6.60	-38.81	0.73
MWD	82	8110	1.41	75.04	94	8108.03	6.91	6.91	-36.76	0.44

MWD	83	8204	1.05	53.41	94	8202.01	7.72	7.72	-34.95	0.62
MWD	84	8298	0.88	51.57	94	8296.00	8.68	8.68	-33.70	0.18
MWD	85	8392	0.70	75.12	94	8389.99	9.28	9.28	-32.57	0.39
MWD	86	8487	0.53	70.99	95	8484.98	9.57	9.57	-31.60	0.18
MWD	87	8581	0.40	109.14	94	8578.98	9.61	9.61	-30.88	0.35
MWD	88	8676	0.35	146.84	95	8673.98	9.25	9.25	-30.41	0.26
MWD	89	8770	0.53	150.27	94	8767.98	8.64	8.64	-30.03	0.19
MWD	90	8863	0.53	175.58	93	8860.97	7.83	7.83	-29.79	0.25
MWD	91	8956	0.70	158.97	93	8953.97	6.87	6.87	-29.55	0.26
MWD	92	9050	0.75	129.97	94	9047.96	5.94	5.94	-28.87	0.39
MWD	93	9144	1.01	131.20	94	9141.95	5.00	5.00	-27.78	0.28
MWD	94	9237	0.97	153.43	93	9234.93	3.76	3.76	-26.81	0.41
MWD	95	9330	1.54	134.89	93	9327.91	2.17	2.17	-25.57	0.74
MWD	96	9424	1.71	129.79	94	9421.87	0.38	0.38	-23.60	0.24
MWD	97	9518	2.37	121.71	94	9515.81	-1.54	-1.54	-20.87	0.76
MWD	98	9612	1.89	128.38	94	9609.75	-3.52	-3.52	-18.00	0.57
MWD	99	9706	2.11	130.49	94	9703.69	-5.61	-5.61	-15.47	0.25
MWD	100	9800	1.41	145.35	94	9797.65	-7.68	-7.68	-13.49	0.88
MWD	101	9893	0.79	139.28	93	9890.63	-9.11	-9.11	-12.42	0.68
MWD	102	9987	0.62	206.78	94	9984.62	-10.05	-10.05	-12.23	0.85
MWD	103	10081	0.70	188.68	94	10078.62	-11.07	-11.07	-12.55	0.24
MWD	104	10174	0.57	240.97	93	10171.61	-11.86	-11.86	-13.04	0.61
MWD	105	10267	0.57	211.88	93	10264.61	-12.48	-12.48	-13.69	0.31
MWD	106	10361	0.57	274.28	94	10358.61	-12.84	-12.84	-14.40	0.63
MWD	107	10455	0.70	267.87	94	10452.60	-12.83	-12.83	-15.44	0.16
MWD	108	10549	0.26	305.22	94	10546.60	-12.72	-12.72	-16.19	0.55
MWD	109	10641	0.35	247.65	92	10638.60	-12.71	-12.71	-16.62	0.33
MWD	110	10735	0.26	273.14	94	10732.59	-12.81	-12.81	-17.10	0.17
MWD	111	10829	0.57	262.86	94	10826.59	-12.86	-12.86	-17.77	0.34
MWD	112	10922	0.48	261.89	93	10919.59	-12.97	-12.97	-18.62	0.10
MWD	113	11016	0.35	293.71	94	11013.59	-12.91	-12.91	-19.27	0.28
MWD	114	11109	1.10	282.28	93	11106.58	-12.60	-12.60	-20.40	0.82

MWD	115	11203	1.01	291.07	94	11200.56	-12.11	-12.11	-22.06	0.20
MWD	116	11296	0.84	300.56	93	11293.55	-11.47	-11.47	-23.41	0.25
MWD	117	11390	1.19	281.58	94	11387.53	-10.93	-10.93	-24.96	0.51
MWD	118	11484	0.84	283.51	94	11481.52	-10.57	-10.57	-26.58	0.37
MWD	119	11577	1.05	275.43	93	11574.51	-10.33	-10.33	-28.10	0.27
MWD	120	11671	1.36	276.39	94	11668.49	-10.12	-10.12	-30.06	0.33
MWD	121	11764	1.45	269.54	93	11761.46	-10.01	-10.01	-32.34	0.20
MWD	122	11857	1.54	266.69	93	11854.43	-10.09	-10.09	-34.76	0.13
MWD	123	11951	1.71	269.10	94	11948.39	-10.19	-10.19	-37.42	0.19
PTB	124	12011	1.71	269.10	60	12008.36	-10.22	-10.22	-39.21	0.00

md \ eng \ drilling \ history \ Northcott 24 SWD #1 WBS 190214

03/02/2026

Well: Northcott 24 SWD #1
 LOC: 2090' FNL & 2090' FEL
 G-24-19S-28E
 in Eddy Co., NM
 API# 30-015-45743

Operator: V-F Petroleum Inc.
 Field: SWD; Devonian
 Elevation: GL= 3,362
 KB-GL= 18
 KB= 3,380

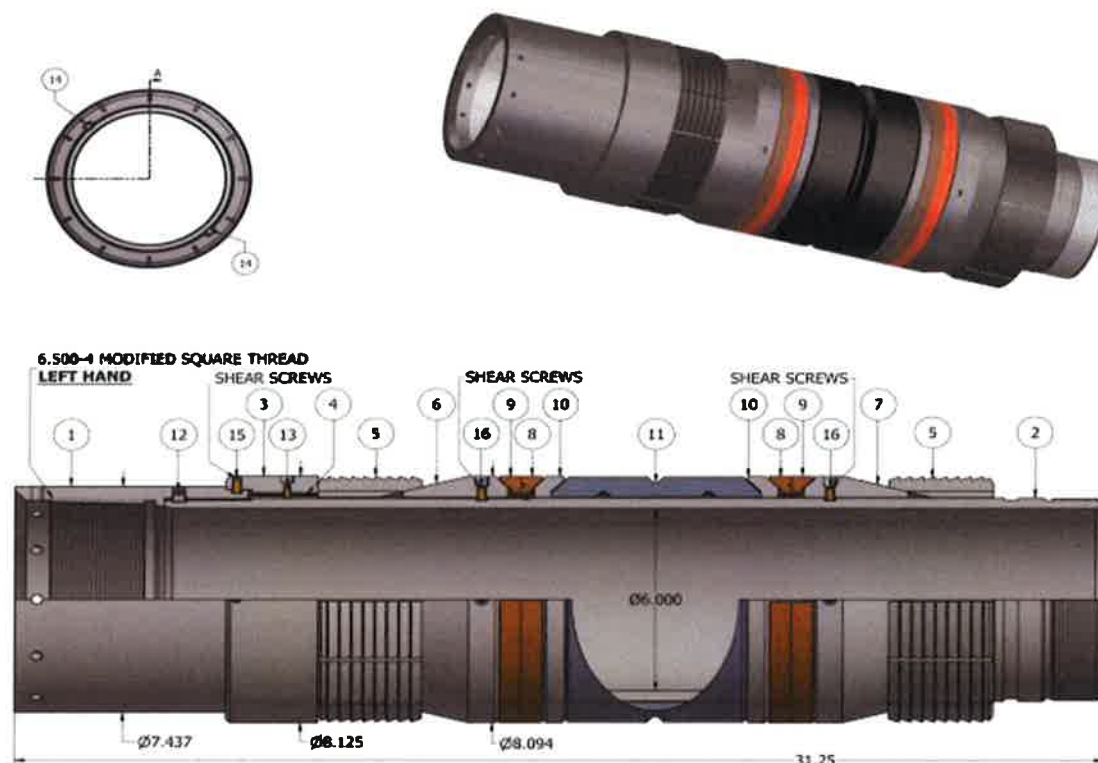
TD	Hole Sz	Tops & Perfs	Casing & Cement
422'	26"		20" 94# CSG w/ 1000 sx CMT (circulated 256 sks)
		T San Andres @ 2,810'	9 5/8" DV Tool @ 6,669' w/ 1686 sx CMT
3,595'	17 1/2"		13 3/8" 61# & 68# CSG w/ 2289 sx CMT (circulated)
		T Bone Springs @ 3,442'	9-5/8" DV tool at 6,997'
		T Wolfcamp @ 8,910'	
		T Cisco @ 9,666'	
		T Strawn @ 10,118'	Tubing: 7.0" P110HC 26# EXGO connection Internally Plastic Coated
		T Atoka @ 10,361'	9-5/8" 53.5#/ft casing is special drift to 8.5" Cement to surface on both stages Bottom 2 joints of 9 5/8" are Chrome Casing
12,135'	12 1/4"	T Devonian @ 12,118'	Full Bore Packer @ 12,105' w/ 7" P110HC 26# IPC tbg 9 5/8" 47# & 53.5# CSG w/ 1686 sx CMT (circulated)
12,900'	8 3/4"		Devonian Open Hole: 12,135' - 12,900'

REMARKS:

Permanent Seal Bore Packer 9 5/8" x 6.000"

Permanent production packers help you optimize your completion design and maximize the value from your reservoir in several key ways.

- Ensure long-term isolation. Get reliable annular sealing during production with rugged slip technology and advanced elastomers with few moving parts.
- Deploy with minimal risk and non-productive time. Easily and accurately set our permanent production packers either hydraulically or via wireline for maximum flexibility and minimum delay.
- Ensure performance under pressure. Run our plugs under pressure for use as a bridge plug and achieve long-term isolation in extreme HP/HT environments, thanks to pressure and temperature ratings that are higher than retrievable packers.
- Optimize your completion design. Select from the most widely-used, versatile, drillable production packers to maximize your well's production and reservoir performance.



Operational Procedure

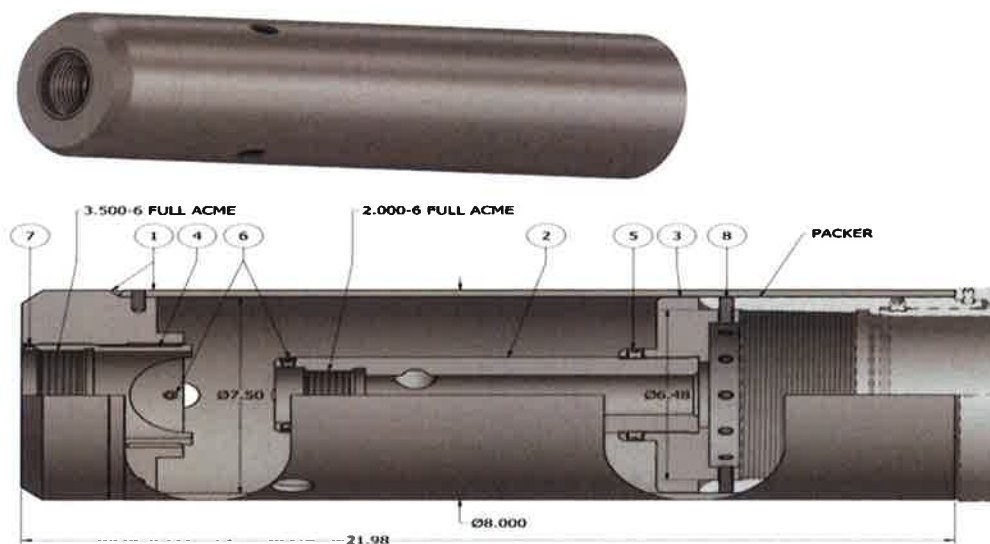
In setting the Permapak, the setting forces are transferred from the gun to the packer through the setting adapter kit. The lock ring housing is backed up while the top connection (and thus the inner mandrel) is pulled up. This movement causes the shear pins in the lock ring housing and the cones to shear and the slips to separate and set. Further stroke expands the back-up rings against the casing, packs off the element, and shears the adapter kit free of the packer.

The rubber pack-off is maintained by the slips and the inner mandrel movement is checked by the lock ring. When the packer is milled, there are two rotational locks; the lock ring and the key in the lower cone.

Permanent Seal Bore Packer 9 5/8" x 6.000"

Wireline Running Procedure

1. Install setting sleeve (1) over lower end of pressure setting assembly.
NOTE: Pressure setting assembly is not part of WLAK and is not shown.
2. With setting sleeve (1) slid up out-of-way, screw outer adapter (4) onto pressure setting assembly.
3. Screw set screws (7) into outer adapter (3).
4. Install and attach Permapak Packer to pressure setting assembly:
 - a. Grease seal bore of Permapak Packer.
 - b. Screw inner adapter flange (3) onto inner adapter mandrel (2).
 - c. Screw set screws (5) into inner adapter flange (3).
 - d. Screw inner adapter mandrel (2) onto pressure setting assembly.
 - e. Screw set screws (6) into inner adapter (2).
 - f. Install top sub on Permapak Packer onto inner adapter flange (3).
 - g. Align holes in top sub with holes in inner adapter flange (3). Install Driv-Lok pins(8) into top sub until flush with OD surface of top sub.
 - h. Slide setting sleeve (1) down over outer adapter (4). Screw setting sleeve (1) onto outer adapter (4) until setting sleeve (1) contacts lock ring housing on Permapak Packer (NOTE: Make up hand tight only).
 - i. Screw set screw (6) into setting sleeve (1). Threaded hole is accessible through hole in setting sleeve (1).
5. Pickup and guide the setting tool and permanent packer through lubricators, wellhead and blowout preventer.
6. Running speed should not exceed 150 feet per minute. Slow down when passing through fluid level (if any), liners, and other restrictions.
7. When desired depth is reached, run past the setting depth and then pick up back to remove slack in the line.
8. Once everyone agrees with the setting depth, fire the Baker 20 and wait for positive indication that the setting tool has sheared off. Then pick up and tag to verify the tool is in place and wireline is free. Start out of the hole.





PERMAPAK SEAL BORE PACKER

9-5/8" X 6.000"

Manual No:
DL-672-9625-1039

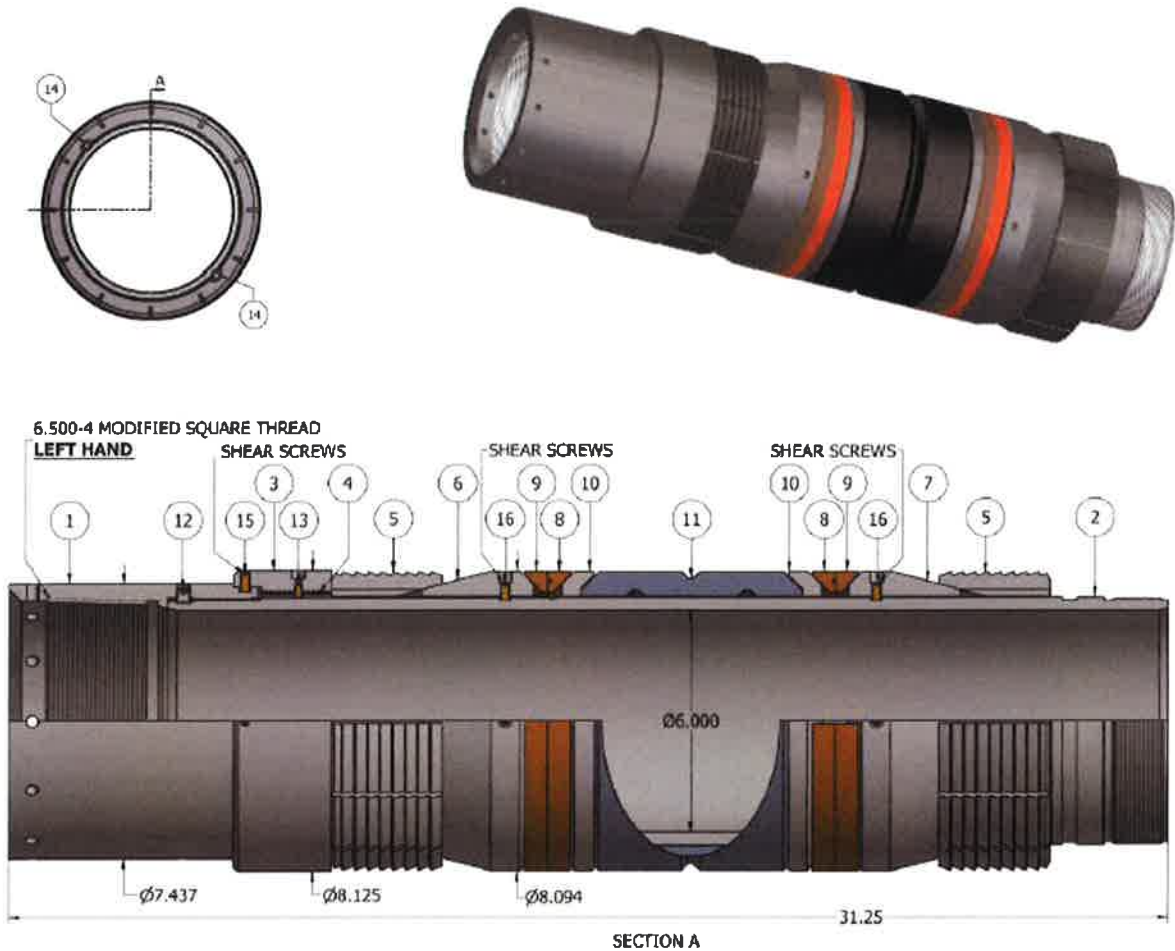
Revision: B

Revision Date:
08/14/2018

Authored by: J.Anderson

Approved by: N.Banker

M) TECHNICAL ILLUSTRATION



NOTE₁₁: Optional bottom sub not shown.

N) REVISION HISTORY

DATE	REVISION	DESCRIPTION OF CHANGES	REVISED BY	APPROVED BY
08/14/2018	B	Revised B-3 and B-4 in Related Tools, max. tool OD; Added General Screw Torque Recommendations	J.Anderson	K.Riggs
05/08/2017	A	Created new manual	-	-



VULCANLABS

Ferox-35 SPECIFICATIONS

Ferox-35 is a multi-layered epoxy coating system designed for oil and gas field applications. It has excellent chemical and corrosion resistance, especially in brine and organic fuel exposures, and maintains excellent adhesion. Additionally, it also has an added layer of primer which enhances adhesion and CO₂ and H₂S chemical resistance.

Specifications

Type	Epoxy/Novolac Top Coat with Primer Base Coat
Color	Black
Temperature	250°F (121°C)
Pressure	To yield strength of pipe
Applied Thickness	7-16 mils
Primary Pipe Size	2"-12", range 2-3
Primary Applications	New and used tubular
Primary Service	Production tubing, flow lines, casing, pup joints



Recommended Services:	Benefits:	Test Results:
<ul style="list-style-type: none"> Salt Water Disposal Wells Injection Wells (Water, CO₂) Gas Lift Production Wells Free Flowing Wells ESP Production Wells Casing 	<ul style="list-style-type: none"> Exceptional Adhesion Exceptional Flexibility Exceptional Acid Resistance Exceptional Fuel Resistance Exceptional Brine Resistance Good Abrasion Resistance Additional CO₂ and H₂S Protection 	<p>Hardness</p> <ul style="list-style-type: none"> Shore D Hardness = 90 per ASTM D2240 <p>Adhesion Rate</p> <ul style="list-style-type: none"> 47 mpa/6,800 psi per ASTM D4541 <p>Taber Abrasion Test</p> <ul style="list-style-type: none"> 45 mg per ASTM D4060—CS17 wheels, 1000 cycles, 1000 g <p>Impact Testing</p> <ul style="list-style-type: none"> Direct impact value = 54 in. lb. per ASTM D2794 Indirect impact value = 12 in. lb. per ASTM D2794

Vulcan Labs | PO Box 480343 | Kansas City, Missouri 64148
Phone: 816-809-6326 | E-Mail: Timbvulcanlabs@gmail.com

Note: Acidizing the tubing has no adverse affect to our coating if flushed in a reasonable amount of time. Failing to flush chemicals in a reasonable amount of time may jeopardize the life of the coating. Any questions regarding this matter should be directed to a Vulcan Labs representative.





VULCANLABS

Ferox-35 AUTOCLAVE TESTING

Autoclave tests were performed to duplicate reported well conditions in order to demonstrate Ferox-35's ability to resist a variety of conditions. The test coupons were subjected to various test conditions and the results are shown below. All test coupons passed the test conditions successfully with no evidence of concern in any area.

Autoclave Test Parameters

Test Conditions 1:

- 225°F (107°C)
- 11.7 Mpa (2000 psig)
- 3% H₂S, 6% CO₂, 91% CH₄
- 50:50 Toluene: Kerosene mixture
- 15% NaCl solution in deionized water
- 96 hour test phase

Test Conditions 2:

- 250°F (121°C)
- 25.5 Mpa (4000 psig)
- 4% H₂S, 9% CO₂, 90% CH₄
- 50:50 Toluene: Kerosene mixture
- 4% NaCl solution in deionized water
- 96 hour test phase

Test Results 1:

- No color change
- No softening
- No change in porosity
- No corrosion
- Adhesion retained
- No under creeping
- Coating integrity in gas, hydrocarbon and aqueous phases


Test Results 2:

- No color change
- No softening
- No change in porosity
- No corrosion
- Adhesion retained
- No under creeping
- Coating integrity in gas, hydrocarbon and aqueous phases

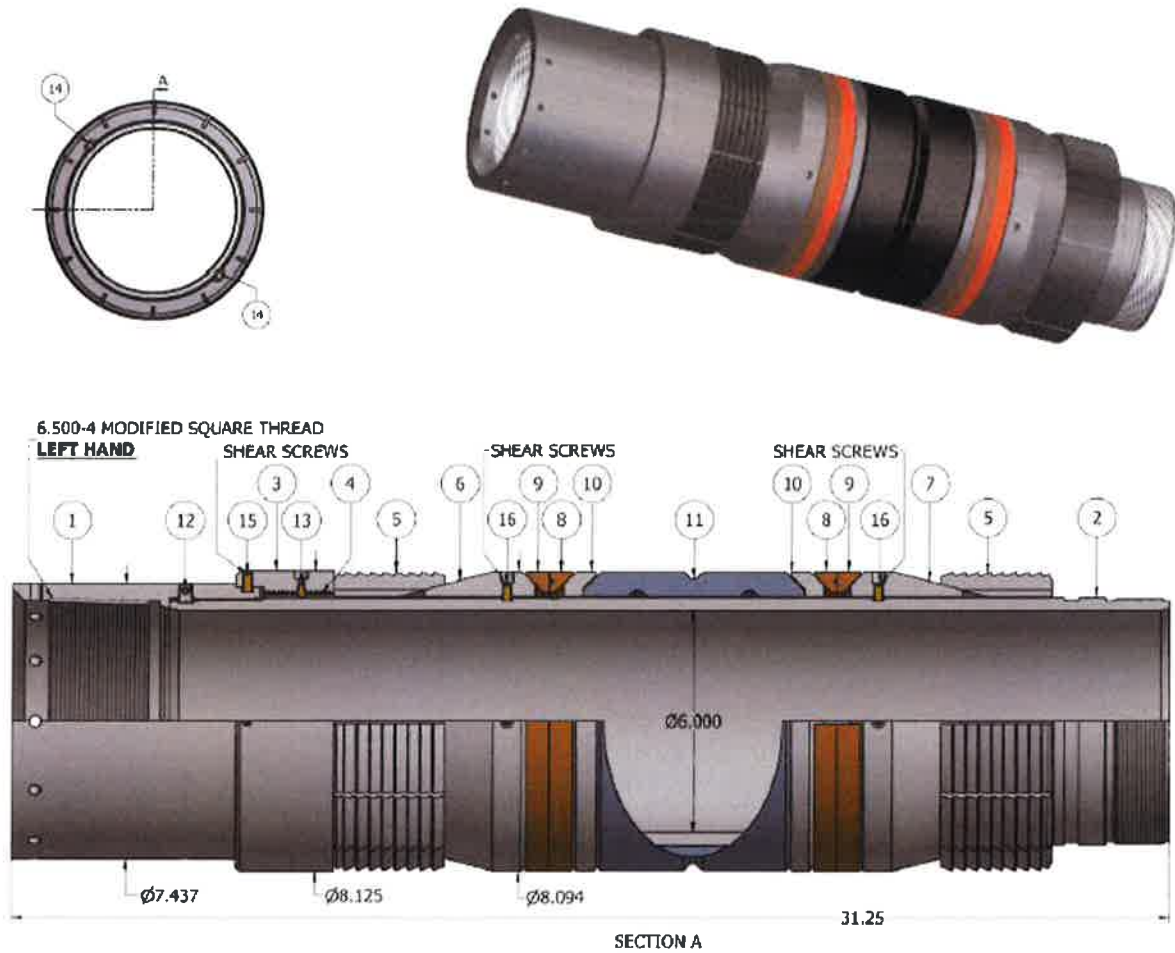
Vulcan Labs | PO Box 480343 | Kansas City, Missouri 64148
Phone: 816-809-6326 | E-Mail: Timbvulcanlabs@gmail.com



VULCANLABS

	PERMAPAK SEAL BORE PACKER	Manual No: DL-672-9625-1039
	9-5/8" X 6.000"	Revision: B
		Revision Date: 08/14/2018
Authored by: <i>J.Anderson</i>		Approved by: <i>N.Banker</i>

M) TECHNICAL ILLUSTRATION



NOTE11: Optional bottom sub not shown.

N) REVISION HISTORY

DATE	REVISION	DESCRIPTION OF CHANGES	REVISED BY	APPROVED BY
08/14/2018	B	Revised B-3 and B-4 in Related Tools, max. tool OD; Added General Screw Torque Recommendations	J.Anderson	K.Riggs
05/08/2017	A	Created new manual	-	-

EZGO™ Connection Data Sheet	
EZGO	
Your Requirements	
Pipe Size (OD): 7.0 in Weight: 26.00 lb/ft Grade: P-110 Connection: EZGO™ CTSWD	
Material	
Grade	P-110
Minimum Yield Strength	110,000 psi
Minimum Ultimate Strength	125,000 psi
Pipe Dimensions	
Nominal OD	7.0 in
Nominal ID	6.276 in
Nominal Wall Thickness	0.362 in
Nominal Weight	26.00 lbs/ft
Plain End Weight	25.69 lbs/ft
Nominal Pipe Body Area	7.549 sq in
EZGO™ Connection	
Connection OD	7.875 in
Connection ID	6.276 in
Connection Drift Diameter	6.151 in
Make-Up Loss	5.25 in
Pipe Body Performance	
Minimum Pipe Body Yield	830000 lbs
Minimum Collapse Pressure	6230 psi
Minimum Internal Yield	9960 psi
Hydrostatic Test Pressure	9100 psi
EZGO™ Connection	
Joint Strength	664,200 lbs
Compression Rating	664,200 lbs
Collapse Pressure Rating	6230 psi
Internal Pressure	9960 psi
Maximum Uniaxial Bend	33.2°/100 ft
Torque Values	
Minimum Final Torque	3500 ft-lbs
Maximum Final Torque	5250 ft-lbs
EZGO	
Discover How EZGO™ Connections Can Help Optimize Your Drilling. www.ezgoconnections.com	





Tarpon Pipe, LLC
 5211 Preston Dr.
 Midland, TX 79707
 tarponpipe.com

Friction loss calculations
Hazen Williams Equation

7" 26# IPC coated casing

$$Z(\text{ft}) = (0.015 \cdot Q^{1.85} \cdot L) / (D^{4.87} \cdot C^{1.85})$$

Z pressure loss ft(head)

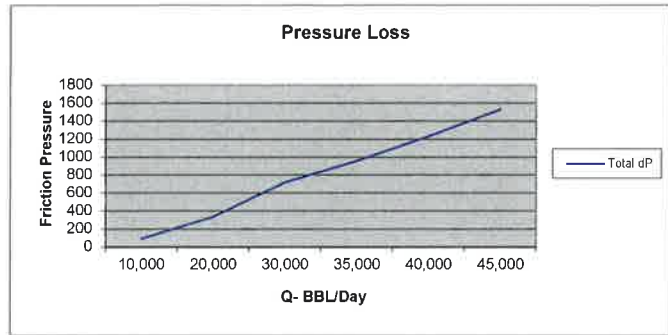
Q rate in BPD

C hazen williams roughness factor

d inside diameter of pipe inches (see table at right)

L length of line feet

Condition 1			
C=	150	Roughness Factor	
D=	6.236	Inches	
Fluid Grad=	0.43	psi/ft	
L=	12105	Feet	
Elev Hd.=	0	psi (+/_)	



Q - BPD	delta P (ft)	delta P (psi)	Elev Hd.	Tot. delta P
10,000	58	25	0	25
20,000	208	90	0	90
30,000	441	190	0	190
35,000	587	252	0	252
40,000	751	323	0	323
45,000	934	402	0	402
50,000	1136	488	0	488
60,000	1591	684	0	684
70,000	2116	910	0	910
80,000	2709	1165	0	1165
90,000	3369	1448	0	1448
100,000	4093	1760	0	1760

GlassBore Liner Dimensions

Pipe Size	Wt ppf	Liner ID
2 3/8	4.7	1.810
2 7/8	6.5	2.250
3 1/2	9.3	2.750
4 1/2	11.6/12.75	3.690
5 1/2	17/20	4.520
7	23/26	5.900

IPC Coating ID

Pipe Size	Wt ppf	Bare ID	Coated ID
2 3/8	4.7	1.995	1.955
2 7/8	6.5	2.441	2.401
3 1/2	9.3	2.992	2.952
4 1/2	11.6	4.000	3.960
5 1/2	20	4.778	4.738
7	26	6.276	6.236

Pipe Material	C-Value (Range)	C-Value (Design)
PVC / Plastic	140-150	150
Copper	130-150	140
New Steel	140-150	140
Cast Iron (New)	130-140	130
Concrete	100-140	120
Cast Iron (20+ yrs)	80-100	100

Tarpon Pipe, LLC
5211 Preston Dr.
Midland, TX 79707
tarponpipe.com

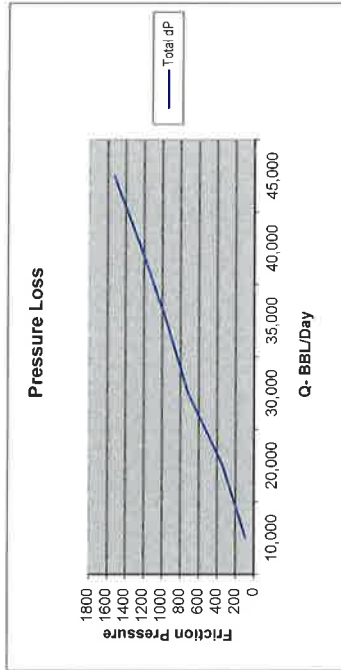


**Friction loss calculations
Hazen Williams Equation**

$$Z(f) = (0.015 * Q^{1.85} * L) / (D^{4.87} * C^{1.85})$$

- Z pressure loss ft(head)
- Q rate in BPD
- C hazen williams roughness factor
- d inside diameter of pipe inches (see table at right)
- L length of line feet

5-1/2" 20# IPC coated casing



Condition 1	C=	150	Roughness Factor
	D=	4.738	Inches
	Fluid Grad=	0.43	psi/ft
	L=	12105	Feet
	Elev Hd.=	0	psi (+/-)

Q - BPD	delta P (ft)	delta P (psi)	Elev Hd.	Tot. delta P
10,000	220	95	0	95
20,000	794	342	0	342
30,000	1682	723	0	723
35,000	2237	962	0	962
40,000	2864	1231	0	1231
45,000	3561	1531	0	1531
50,000	4327	1861	0	1861
60,000	6063	2607	0	2607
70,000	8064	3468	0	3468
80,000	10324	4439	0	4439
90,000	12838	5520	0	5520
100,000	15601	6708	0	6708

GlassBore Liner Dimensions

Pipe Size	Wt ppf	Liner ID
2 3/8	4.7	1.810
2 7/8	6.5	2.250
3 1/2	9.3	2.750
4 1/2	11.6/12.75	3.690
5 1/2	17/20	4.520
7	23/26	5.900

IPC Coating ID

Pipe Size	Wt ppf	Bare ID	Coated ID
2 3/8	4.7	1.995	1.955
2 7/8	6.5	2.441	2.401
3 1/2	9.3	2.992	2.952
4 1/2	11.6	4.000	3.960
5 1/2	20	4.778	4.738
7	26	6.276	6.236

Pipe Material	C-Value (Range)	C-Value (Design)
PVC / Plastic	140-150	150
Copper	130-150	140
New Steel	140-150	140
Cast Iron (New)	130-140	130
Concrete	100-140	120
Cast Iron (20+ yrs)	80-100	100

Current Fluid Velocity in 5.5" Tubing

Pipe ID Diameter	4.778 inches
Pipe ID Radius	2.389 inches
Length	12,105 feet
Area	17.93007773 inches ²
Flow Rate	35,000.00 bbls/day
Flow Rate	1,020.83 gal/min
Velocity	18.24 feet/second

Proposed Fluid Velocity in 7.0" Tubing

Pipe ID Diameter	6.276 inches
Pipe ID Radius	3.138 inches
Length	12,105 feet
Area	30.93540109 Inches ²
Flow Rate	35,000.00 bbls/day
Flow Rate	1,020.83 gal/min
Velocity	10.57 feet/second

Sante Fe Main Office
Phone: (505) 476-3441

General Information
Phone: (505) 629-6116

Online Phone Directory
<https://www.emnrd.nm.gov/ocd/contact-us>

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Action 559151

CONDITIONS

Operator: V-F PETROLEUM INC P.O. Box 1889 Midland, TX 79702	OGRID: 24010
	Action Number: 559151
	Action Type: [C-103] NOI General Sundry (C-103X)

CONDITIONS

Created By	Condition	Condition Date
pgoetze	None	3/11/2026