Submit 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. 30-025-34924

5. Indicate Type of Lease STATE [X] FEE [ ]

6. State Oil & Gas Lease No. V0-4340-0004

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.)

7. Lease Name or Unit Agreement Name: Tomcat 16 State

1. Type of Well: Oil Well [X] Gas Well [ ] Other

8. Well Number 8

2. Name of Operator: Harvard Petroleum Company, LLC

9. OGRID Number 10155

3. Address of Operator: P.O. Box 936 Roswell, NM 88202

10. Pool name or Wildcat: Diamondtail; Delaware, Southwest

4. Well Location
Unit Letter N : 660' feet from the South line and 1830' feet from the West line
Section 16 Township 23S Range 32E NMPM County LEA

11. Elevation *(Show whether DR, RKB, RT, GR, etc.)* 3692' GR

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: Recomplete Add'l Delaware Perforations [X]		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.

RIH w/ Perf guns. Perforate 8548'-8550' 3 SPF (6 shots). Perforate 8531'-8534' 3 SPF (9 shots). Perforate 8438'-8442' 3 SPF (12 shots). Perforate 7236'-7240' 3 SPF (12 shots).
(Existing perfs 8132'-8140' (17 shots) & 8488'-8508' (41 shots). TOC @ 5440'.)

RIH w/ 2 7/8" tubing and packers. Isolate perf clusters and pump 2000 gal of 15% HCl into each of the 6 zones. Swab test each perf cluster to determine productivity and oil cut.
Frac bottom 2 perf clusters (8548'-8550' & 8531'-8534') w/ 20,000 gal gel w/ 35,000# 20/40 Ottawa & 10,000# 20/40 RC.
Frac next perf cluster (8438'-8442') w/ 15,000 gal gel w/ 25,000# 20/40 Ottawa & 10,000# 20/40 RC.
Frac top perf cluster (7236'-7240') w/ 15,000 gal gel w/ 25,000# 20/40 Ottawa & 10,000# 20/40 RC.

No change in pool or TD.

Spud Date: 4/22/2000 Rig Release Date: 5/11/2000

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

SIGNATURE [signature] TITLE Petroleum Engineer DATE 7/10/2022

Type or print name Jason Harms E-mail address: jharms@hpcnm.com PHONE: 303-330-1921

For State Use Only

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

MD (ftKB)	TVD (ftKB)	Incl (°)	DLS DLS (°/100ft)
0.0			
1.0			
25.9	<coordinates>		
26.9			
660.1			
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2,727.0			
4,833.0			
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7,801.8			
8,040.4			
8,043.3			
8,044.3			
8,131.9			
8,140.1			
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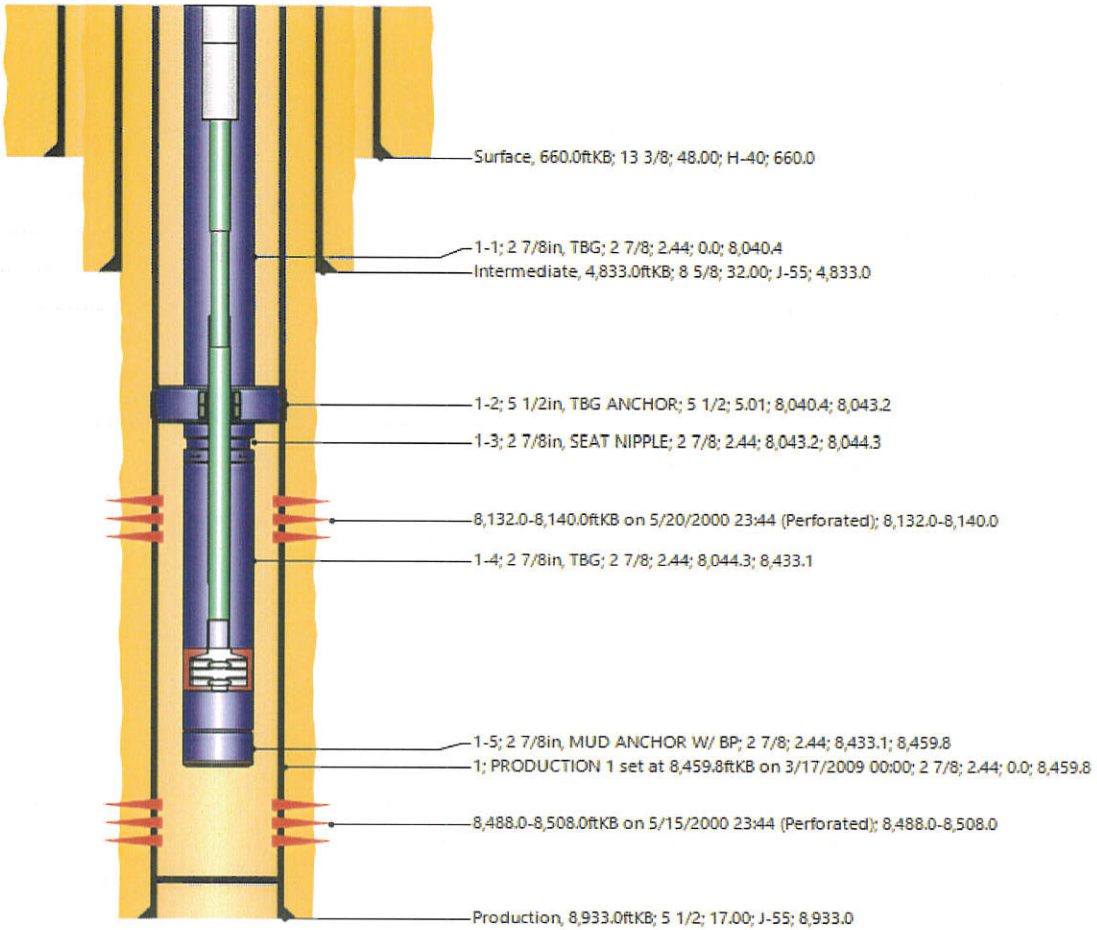
8,301.8			
8,303.1			
8,327.1			
8,433.1			
8,460.0			
8,487.9			
8,507.9			
8,889.1			
8,933.1			

Vertical schematic (actual)



EXISTING

MD (ftKB)	TVD (ftKB)	Incl (°)	DLS	Vertical schematic (actual)
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660.1	<coordinates>			
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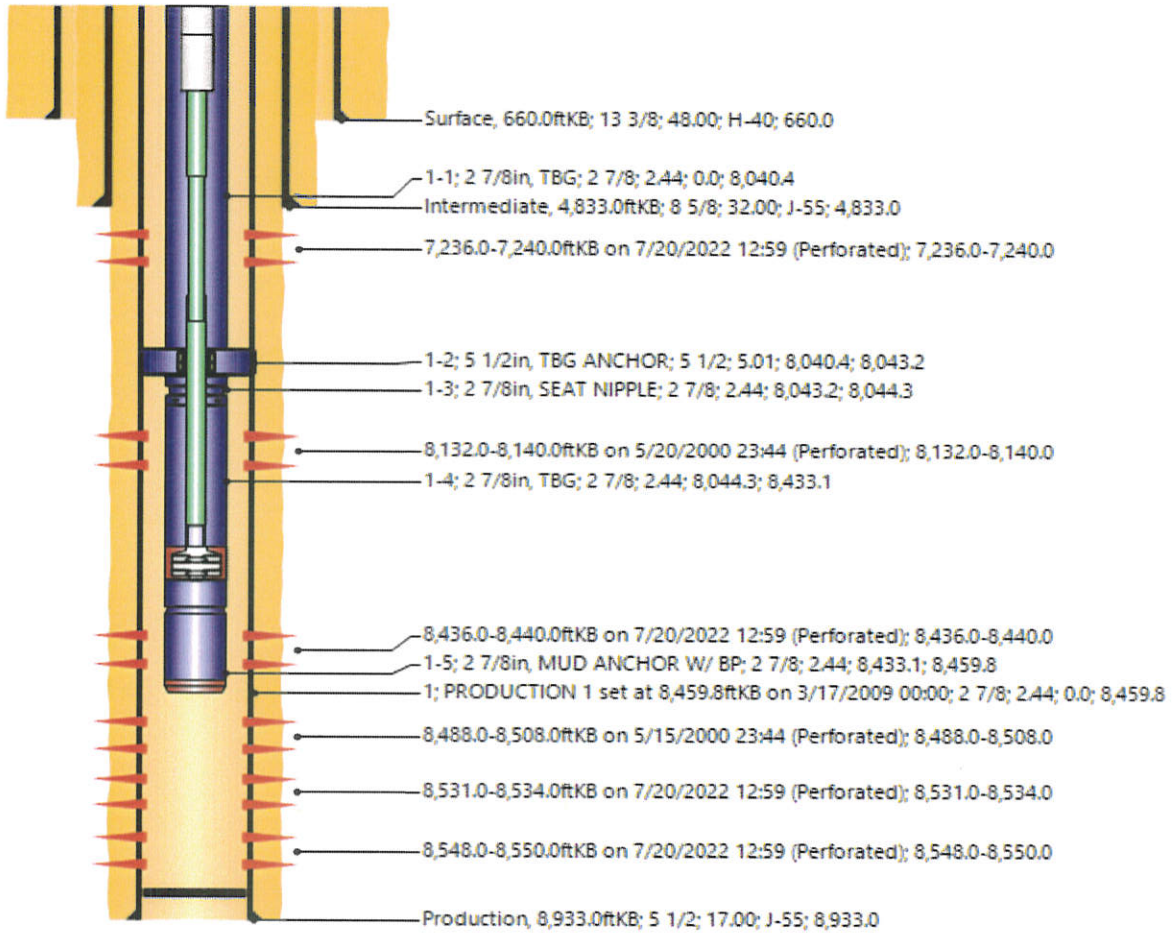
8,327.1				
8,436.0				
8,460.0				
8,507.9				
8,534.1				
8,549.9				
8,933.1				



PROPOSED

State of New Mexico
Energy, Minerals and Natural Resources Department

Submit Electronically
Via E-permitting

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

NATURAL GAS MANAGEMENT PLAN

This Natural Gas Management Plan must be submitted with each Application for Permit to Drill (APD) for a new or recompleted well.

Section 1 – Plan Description
Effective May 25, 2021

I. Operator: HARVARD PETROLEUM COMPANY, LLC **OGRID:** 10155 **Date:** 07 / 10 / 22

II. Type: ☑ Original ☐ Amendment due to ☐ 19.15.27.9.D(6)(a) NMAC ☐ 19.15.27.9.D(6)(b) NMAC ☐ Other.

If Other, please describe: _____

III. Well(s): Provide the following information for each new or recompleted well or set of wells proposed to be drilled or proposed to be recompleted from a single well pad or connected to a central delivery point.

Well Name	API	ULSTR	Footages	Anticipated Oil BBL/D	Anticipated Gas MCF/D	Anticipated Produced Water BBL/D
TOMCAT 16 STATE 8	30-025-34924	N-16-23S-32E	660 FSL	25	50	150
			1830 FWL			

IV. Central Delivery Point Name: VIA EXISITNG PIPE TO DCP IN P-17-23S-32E [See 19.15.27.9(D)(1) NMAC]

V. Anticipated Schedule: Provide the following information for each new or recompleted well or set of wells proposed to be drilled or proposed to be recompleted from a single well pad or connected to a central delivery point.

Well Name	API	Spud Date	TD Reached Date	Completion Commencement Date	Initial Flow Back Date	First Production Date
TOMCAT 16 STATE 8	30-025-34924	4-22-00	5-10-00	7-21-22	7-24-22	7-24-22

VI. Separation Equipment: ☑ Attach a complete description of how Operator will size separation equipment to optimize gas capture.

VII. Operational Practices: ☑ Attach a complete description of the actions Operator will take to comply with the requirements of Subsection A through F of 19.15.27.8 NMAC.

VIII. Best Management Practices: ☑ Attach a complete description of Operator's best management practices to minimize venting during active and planned maintenance.

Section 2 – Enhanced Plan
EFFECTIVE APRIL 1, 2022

Beginning April 1, 2022, an operator that is not in compliance with its statewide natural gas capture requirement for the applicable reporting area must complete this section.

☑ Operator certifies that it is not required to complete this section because Operator is in compliance with its statewide natural gas capture requirement for the applicable reporting area.

IX. Anticipated Natural Gas Production:

Well	API	Anticipated Average Natural Gas Rate MCF/D	Anticipated Volume of Natural Gas for the First Year MCF

X. Natural Gas Gathering System (NGGS):

Operator	System	ULSTR of Tie-in	Anticipated Gathering Start Date	Available Maximum Daily Capacity of System Segment Tie-in

XI. Map. ☐ Attach an accurate and legible map depicting the location of the well(s), the anticipated pipeline route(s) connecting the production operations to the existing or planned interconnect of the natural gas gathering system(s), and the maximum daily capacity of the segment or portion of the natural gas gathering system(s) to which the well(s) will be connected.

XII. Line Capacity. The natural gas gathering system ☐ will ☐ will not have capacity to gather 100% of the anticipated natural gas production volume from the well prior to the date of first production.

XIII. Line Pressure. Operator ☐ does ☐ does not anticipate that its existing well(s) connected to the same segment, or portion, of the natural gas gathering system(s) described above will continue to meet anticipated increases in line pressure caused by the new well(s).

☐ Attach Operator's plan to manage production in response to the increased line pressure.

XIV. Confidentiality: ☐ Operator asserts confidentiality pursuant to Section 71-2-8 NMSA 1978 for the information provided in Section 2 as provided in Paragraph (2) of Subsection D of 19.15.27.9 NMAC, and attaches a full description of the specific information for which confidentiality is asserted and the basis for such assertion.

Section 3 - Certifications

Effective May 25, 2021

Operator certifies that, after reasonable inquiry and based on the available information at the time of submittal:

☑ Operator will be able to connect the well(s) to a natural gas gathering system in the general area with sufficient capacity to transport one hundred percent of the anticipated volume of natural gas produced from the well(s) commencing on the date of first production, taking into account the current and anticipated volumes of produced natural gas from other wells connected to the pipeline gathering system; or

☐ Operator will not be able to connect to a natural gas gathering system in the general area with sufficient capacity to transport one hundred percent of the anticipated volume of natural gas produced from the well(s) commencing on the date of first production, taking into account the current and anticipated volumes of produced natural gas from other wells connected to the pipeline gathering system. ***If Operator checks this box, Operator will select one of the following:***

Well Shut-In. ☐ Operator will shut-in and not produce the well until it submits the certification required by Paragraph (4) of Subsection D of 19.15.27.9 NMAC; or

Venting and Flaring Plan. ☐ Operator has attached a venting and flaring plan that evaluates and selects one or more of the potential alternative beneficial uses for the natural gas until a natural gas gathering system is available, including:

- **(a)** power generation on lease;
- **(b)** power generation for grid;
- **(c)** compression on lease;
- **(d)** liquids removal on lease;
- **(e)** reinjection for underground storage;
- **(f)** reinjection for temporary storage;
- **(g)** reinjection for enhanced oil recovery;
- **(h)** fuel cell production; and
- **(i)** other alternative beneficial uses approved by the division.

Section 4 - Notices

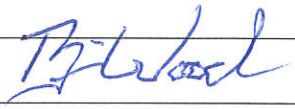
1. If, at any time after Operator submits this Natural Gas Management Plan and before the well is spud:

(a) Operator becomes aware that the natural gas gathering system it planned to connect the well(s) to has become unavailable or will not have capacity to transport one hundred percent of the production from the well(s), no later than 20 days after becoming aware of such information, Operator shall submit for OCD's approval a new or revised venting and flaring plan containing the information specified in Paragraph (5) of Subsection D of 19.15.27.9 NMAC; or

(b) Operator becomes aware that it has, cumulatively for the year, become out of compliance with its baseline natural gas capture rate or natural gas capture requirement, no later than 20 days after becoming aware of such information, Operator shall submit for OCD's approval a new or revised Natural Gas Management Plan for each well it plans to spud during the next 90 days containing the information specified in Paragraph (2) of Subsection D of 19.15.27.9 NMAC, and shall file an update for each Natural Gas Management Plan until Operator is back in compliance with its baseline natural gas capture rate or natural gas capture requirement.

2. OCD may deny or conditionally approve an APD if Operator does not make a certification, fails to submit an adequate venting and flaring plan which includes alternative beneficial uses for the anticipated volume of natural gas produced, or if OCD determines that Operator will not have adequate natural gas takeaway capacity at the time a well will be spud.

I certify that, after reasonable inquiry, the statements in and attached to this Natural Gas Management Plan are true and correct to the best of my knowledge and acknowledge that a false statement may be subject to civil and criminal penalties under the Oil and Gas Act.

Signature:	
Printed Name:	BRIAN WOOD
Title:	Consultant
E-mail Address:	brian@permitswest.com
Date:	7-10-22
Phone:	505 466-8120

OIL CONSERVATION DIVISION **(Only applicable when submitted as a standalone form)**
Approved By:
Title:
Approval Date:
Conditions of Approval:

VI. Separation Equipment

An existing 3-phase separator on Harvard's Tomcat 17 Federal 1 pad in P-17-23s-32e will be used. Separated gas will then be piped into an existing DCP pipeline on the same pad. Tomcat 16 State 7, Tomcat 16 State 8, and Tomcat 17 Federal 1 pads are connected by existing flowlines.

VII. Operational Practices

NMAC 19.15.27.8 (A) Venting & Flaring of Natural Gas

1. Harvard Petroleum Company, LLC will comply with NMAC 19.15.27.8 – venting and flaring of gas during drilling, completion, or production that constitutes waste as defined in 19.15.2 is banned.

NMAC 19.15.27.8 (B) Venting & Flaring During Drilling

1. Harvard Petroleum Company, LLC will capture or combust gas if technically feasible during drilling operations using best industry practices.
2. A flare stack with a 100% capacity for expected volume will be set on the pad ≥100 feet from the nearest well head and storage tank.
3. In an emergency, Harvard Petroleum Company, LLC will vent gas in order to avoid substantial impact. Harvard Petroleum Company, LLC will report vented or flared gas to the NMOCD.

NMAC 19.15.27.8 (C) Venting & Flaring During Completion or Recompletion

1. Facilities will be built and ready from the first day of flowback
2. Test separator will be properly separate gas and liquids. Temporary test separator will be used initially to process volumes. In addition, separator will be tied into flowback tanks which will be tied into the gas processing equipment for sale down a pipeline.
3. Should the facility not be ready to process gas, or the gas does not meet quality standards, then storage tanks will be set that are tied into gas busters or a temporary flare to manage all gas. This flare would meet the following requirements:
    a) An appropriately sized flare stack with an automatic igniter
    b) Harvard Petroleum Company, LLC analyzes gas samples twice a week
    c) Harvard Petroleum Company, LLC flows the gas into a gathering line as soon as the line specifications are met
    d) Harvard Petroleum Company, LLC provides the NMOCD with pipeline specifications and natural gas data.

NMAC 19.15.27.8 (D) Venting & Flaring During Production

Harvard Petroleum Company, LLC will not vent or flare natural gas except:

1. During an emergency or malfunction
2. To unload or clean-up liquid holdup in a well to atmospheric pressure, provided
    a) Harvard Petroleum Company, LLC does not vent after the well achieves a stabilized rate and pressure
    b) Harvard Petroleum Company, LLC will be on-site while unloading liquids by manual purging and take all reasonable actions to achieve a stabilized rate and pressure as soon as possible
    c) Harvard Petroleum Company, LLC will optimize the system to minimize gas venting if the well is equipped with a plunger lift or auto control system
    d) Best management practices will be used during downhole well maintenance.
3. During the first year of production from an exploratory well provided
    a) Harvard Petroleum Company, LLC receives approval from the NMOCD
    b) Harvard Petroleum Company, LLC stays in compliance with NMOCD gas capture requirements
    c) Harvard Petroleum Company, LLC submits an updated C-129 form to the NMOCD
4. During the following activities unless prohibited
    a) Gauging or sampling a storage tank or low-pressure production vessel
    b) Loading out liquids from a storage tank
    c) Repair and maintenance
    d) Normal operation of a gas-activated pneumatic controller or pump
    e) Normal operation of a storage tank but not including venting from a thief hatch
    f) Normal operation of dehydration units
    g) Normal operations of compressors, engines, turbines, valves, flanges, & connectors
    h) During a bradenhead, packer leakage test, or production test lasting <24 hours
    i) When natural gas does not meet the gathering line specifications
    j) Commissioning of pipes, equipment, or facilities only for as long as necessary to purge introduced impurities.

NMAC 19.15.27.8 (E) Performance Standards

1. Harvard Petroleum Company, LLC will use a safety factor to design the separation and storage equipment. The equipment will be routed to a vapor recovery system and use a flare as back up for startup, shutdown, maintenance, or malfunction of the VRU system.
2. Harvard Petroleum Company, LLC will install a flare that will handle the full volume of vapors from the facility in case of VRU failure. It will have an auto-ignition system.
3. Flare stacks will be appropriately sized and designed to ensure proper combustion efficiency
    a) Flare stacks installed or replaced will be equipped with an automatic ignitor or continuous pilot.

b) Previously installed flare stacks will be retrofitted within 18 months of May 25, 2021, with an automatic ignitor, continuous pilot, or technology that alerts Harvard Petroleum Company, LLC to flare malfunction.
c) Flare stacks replaced after May 25, 2021, will be equipped with an automatic ignitor or continuous pilot if at a well or facility with an average production of ≤60 Mcfd of natural gas.
d) Flare stacks will be located >100 feet from well head and tanks and securely anchored.

4. Harvard Petroleum Company, LLC will conduct an AVO inspection on all components for leaks and defects every week.
5. Harvard Petroleum Company, LLC will make and keep records of AVO inspections available to the NMOCD for at least 5 years.
6. Harvard Petroleum Company, LLC may use a remote or automated monitoring technology to detect leaks and releases in lieu of AVO inspections with prior NMOCD approval.
7. Facilities will be designed to minimize waste.
8. Harvard Petroleum Company, LLC will resolve emergencies as promptly as possible.

NMAC 19.15.27.8 (F) Measuring or Estimating Vented & Flared Natural Gas

1. Harvard Petroleum Company, LLC will have meters on both the low and high-pressure sides of the flares. Volumes will be recorded in the SCADA system.
2. Harvard Petroleum Company, LLC will install equipment to measure the volume of flared natural gas that has an average production of ≥60 Mcfd.
3. Harvard Petroleum Company, LLC's measuring equipment will conform to industry standards.
4. Measurement system will be designed such that it cannot be bypassed except for inspections and servicing the meters.
5. Harvard Petroleum Company, LLC will estimate the volume of vented or flared gas using a methodology that can be independently verified if metering is not practicable due to low flow rate or pressure.
6. Harvard Petroleum Company, LLC will estimate the volume of vented and flared gas based on the results of an annual GOR test for wells that do not require measuring equipment reported on form C-116.
7. Harvard Petroleum Company, LLC will install measuring equipment whenever the NMOCD determines that metering is necessary.

VIII. Best Management Practices

Harvard Petroleum Company, LLC will minimize venting during maintenance by:

1. System will be designed and operated to route storage tank and process equipment emissions to the VRU. If the VRU is not operable, then vapors will be routed to the flare.
2. Scheduling maintenance for multiple tasks to minimize the need for blowdowns.
3. After completion of maintenance, gas will be flared until it meets pipeline specifications.

District I
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Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Action 124162

CONDITIONS

Operator: HARVARD PETROLEUM COMPANY, LLC P.O. Box 936 Roswell, NM 88202	OGRID: 10155
	Action Number: 124162
	Action Type: [C-103] NOI Change of Plans (C-103A)

CONDITIONS

Created By	Condition	Condition Date
pkautz	None	7/28/2022