

District I  
1625 N. French Dr., Hobbs, NM 88240  
Phone: (575) 393-6161 Fax: (575) 393-0720  
District II  
811 S. First St., Artesia, NM 88210  
Phone: (575) 748-1283 Fax: (575) 748-9720  
District III  
1000 Rio Brazos Road, Aztec, NM 87410  
Phone: (505) 334-6178 Fax: (505) 334-6170  
District IV  
1220 S. St. Francis Dr., Santa Fe, NM 87505  
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico  
Energy Minerals and Natural Resources

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

AMENDED REPORT

APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN, PLUGBACK, OR ADD A ZONE

<sup>1.</sup> Operator Name and Address Harvard Petroleum Company, LLC P. O. Box 936 Roswell NM 88202 (575) 623-1851		<sup>2.</sup> OGRID Number 10155
		<sup>3.</sup> API Number 30-025-36942
<sup>4.</sup> Property Code 332754	<sup>5.</sup> Property Name Duncan 32 State Com	<sup>6.</sup> Well No. 1

<sup>7.</sup> Surface Location

UL - Lot H	Section 32	Township 17 S	Range 34 E	Lot Idn	Feet from 2245	N/S Line N	Feet From 660	E/W Line E	County Lea
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<sup>8.</sup> Proposed Bottom Hole Location

UL - Lot H	Section 32	Township 17 S	Range 34 E	Lot Idn	Feet from 2245	N/S Line N	Feet From 660	E/W Line E	County Lea
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<sup>9.</sup> Pool Information

Pool Name Vacuum; Abo, North CORBIN;WOLFCAMP, EAST	Pool Code 61760 13310
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<sup>11.</sup> Work Type A	<sup>12.</sup> Well Type O	<sup>13.</sup> Cable/Rotary R	<sup>14.</sup> Lease Type S	<sup>15.</sup> Ground Level Elevation 4078'
<sup>16.</sup> Multiple Y	<sup>17.</sup> Proposed Depth 13550'	<sup>18.</sup> Formation Mississippian	<sup>19.</sup> Contractor to be determined	<sup>20.</sup> Spud Date Oct. 1, 2022
Depth to Ground water 105' in L 07018		Distance from nearest fresh water well 1.14 mi north of L 07018		Distance to nearest surface water ≈400' SW of nameless draw

A closed-loop system will be used instead of lined pits.

<sup>21.</sup> Proposed Casing and Cement Program

Type	Hole Size	Casing Size	Casing Weight/ft	Setting Depth	Sacks of Cement	Estimated TOC
Surface	17.5"	13.375"	48# H-40	GL - 400'	500	GL
Intermediate	9.625"	12.25"	40# J-55	GL - 4802'	1800	GL
Production	8.75"	5.5#	17# P-110	GL - 13549'	1000	1730'

Casing/Cement Program: Additional Comments

Drill plugs with fresh water spud mud. Will downhole commingle Drinkard (existing perms), Abo, & Wolfcamp.

<sup>22.</sup> Proposed Blowout Prevention Program

Type	Working Pressure (psi)	Test Pressure (psi)	Manufacturer
annular & double rams	5000	5000	TBD

<sup>23.</sup> I hereby certify that the information given above is true and complete to the best of my knowledge and belief. <b>I further certify that I have complied with 19.15.14.9 (A) NMAC <input type="checkbox"/> and/or 19.15.14.9 (B) NMAC <input type="checkbox"/> , if applicable.</b> Signature:  Printed name: Brian Wood  Title: Consultant  E-mail Address: brian@permitswest.com  Date: 9-20-22      Phone: 505 466-8120	OIL CONSERVATION DIVISION	
	Approved By: <i>P. Kautz</i>	
	Title:	
	Approved Date: <b>10/03/2022</b>	Expiration Date: <b>10/03/2024</b>
	Conditions of Approval Attached	

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State of New Mexico  
Energy, Minerals & Natural Resources Department  
**OIL CONSERVATION DIVISION**  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

Form C-102  
Revised August 1, 2011  
Submit one copy to appropriate  
District Office

**X AMENDED REPORT**  
**(add Abo)**

**WELL LOCATION AND ACREAGE DEDICATION PLAT**

<sup>1</sup> API Number <b>30-25-36942</b>		<sup>2</sup> Pool Code <b>61760</b>		<sup>3</sup> Pool Name <b>VACUUM; ABO, NORTH</b>	
<sup>4</sup> Property Code <b>332754</b>		<sup>5</sup> Property Name <b>DUNCAN 32 STATE COM</b>			<sup>6</sup> Well Number <b>1</b>
<sup>7</sup> OGRID No. <b>10155</b>		<sup>8</sup> Operator Name <b>HARVARD PETROLEUM COMPANY, LLC</b>			<sup>9</sup> Elevation <b>4078'</b>

<sup>10</sup> Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
<b>H</b>	<b>32</b>	<b>17 S</b>	<b>34 E</b>		<b>2245</b>	<b>NORTH</b>	<b>660</b>	<b>EAST</b>	<b>LEA</b>

<sup>11</sup> Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County

<sup>12</sup> Dedicated Acres <b>80.00</b>	<sup>13</sup> Joint or Infill	<sup>14</sup> Consolidation Code	<sup>15</sup> Order No.
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No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.

	<p><b><sup>17</sup> OPERATOR CERTIFICATION</b></p> <p><i>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.</i></p> <p style="text-align: right;"><i>Brian Wood</i>      <b>10-2-22</b></p> <p>Signature _____ Date _____</p> <p style="text-align: center;"><b>BRIAN WOOD</b></p> <p>Printed Name _____</p> <p style="text-align: center;"><b>brian@permitswest.com</b></p> <p>E-mail Address _____</p> <p style="text-align: center;"><b>(505) 466-8120</b></p>
	<p><b><sup>18</sup> SURVEYOR CERTIFICATION</b></p> <p><i>I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.</i></p> <p style="text-align: center;"><b>11-3-04</b></p> <p>Date of Survey _____</p> <p>Signature and Seal of Professional Surveyor: _____</p> <p style="text-align: center;"><b>Original survey by Gary Eidson #12641 on file with NMOCD.</b></p> <p>Certificate Number _____</p>
	<p>_____</p>
	<p>_____</p>

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Revised August 1, 2011  
Submit one copy to appropriate  
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**X** AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

<sup>1</sup> API Number <b>30-25-36942</b>		<sup>2</sup> Pool Code <b>13310</b>		<sup>3</sup> Pool Name <b>CORBIN;WOLFCAMP, EAST</b>	
<sup>4</sup> Property Code <b>332754</b>		<sup>5</sup> Property Name <b>DUNCAN 32 STATE COM</b>			<sup>6</sup> Well Number <b>1</b>
<sup>7</sup> OGRID No. <b>10155</b>		<sup>8</sup> Operator Name <b>HARVARD PETROLEUM COMPANY, LLC</b>			<sup>9</sup> Elevation <b>4078'</b>

<sup>10</sup> Surface Location

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<sup>11</sup> Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County

<sup>12</sup> Dedicated Acres <b>40.00</b>	<sup>13</sup> Joint or Infill	<sup>14</sup> Consolidation Code	<sup>15</sup> Order No.
---	-------------------------------	----------------------------------	-------------------------

No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.

					<p><b><sup>17</sup> OPERATOR CERTIFICATION</b> I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.</p> <p style="text-align: right;"><b>9-20-22</b></p> <p>Signature <span style="float: right;">Date</span> <b>BRIAN WOOD</b></p> <p>Printed Name <b>brian@permitswest.com</b></p> <p>E-mail Address <b>(505) 466-8120</b></p>
				<p><b><sup>18</sup> SURVEYOR CERTIFICATION</b> I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.</p> <p style="text-align: right;"><b>11-3-04</b></p> <p>Date of Survey</p> <p>Signature and Seal of Professional Surveyor:</p> <p style="text-align: right;"><b>Original survey by Gary Eidson #12641 on file with NMOCD.</b></p>	
				<p>Certificate Number</p>	

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:** 09 / 20 / 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
DUNCAN 32 STATE COM 1	30-025-36942	H-32-17S-34E	2245 FNL	ZERO	200	100
			660 FEL			

**IV. Central Delivery Point Name:** EXISTING DCP PIPELINE ON SAME PAD [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
DUNCAN 32 STATE COM 1	30-025-36942	2-1-05	3-29-05	10-1-22	10-15-22	10-22-22

**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

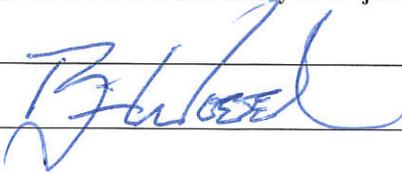
1. If, at any time after Operator submits this Natural Gas Management Plan and before the well is spud:

(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:	9-20-22
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 on-pad rental 3-phase separator will initially be used. Separated gas will then be piped into an existing DCP pipeline on the same pad.

## 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  $\geq 100$  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  $\leq 60$  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.

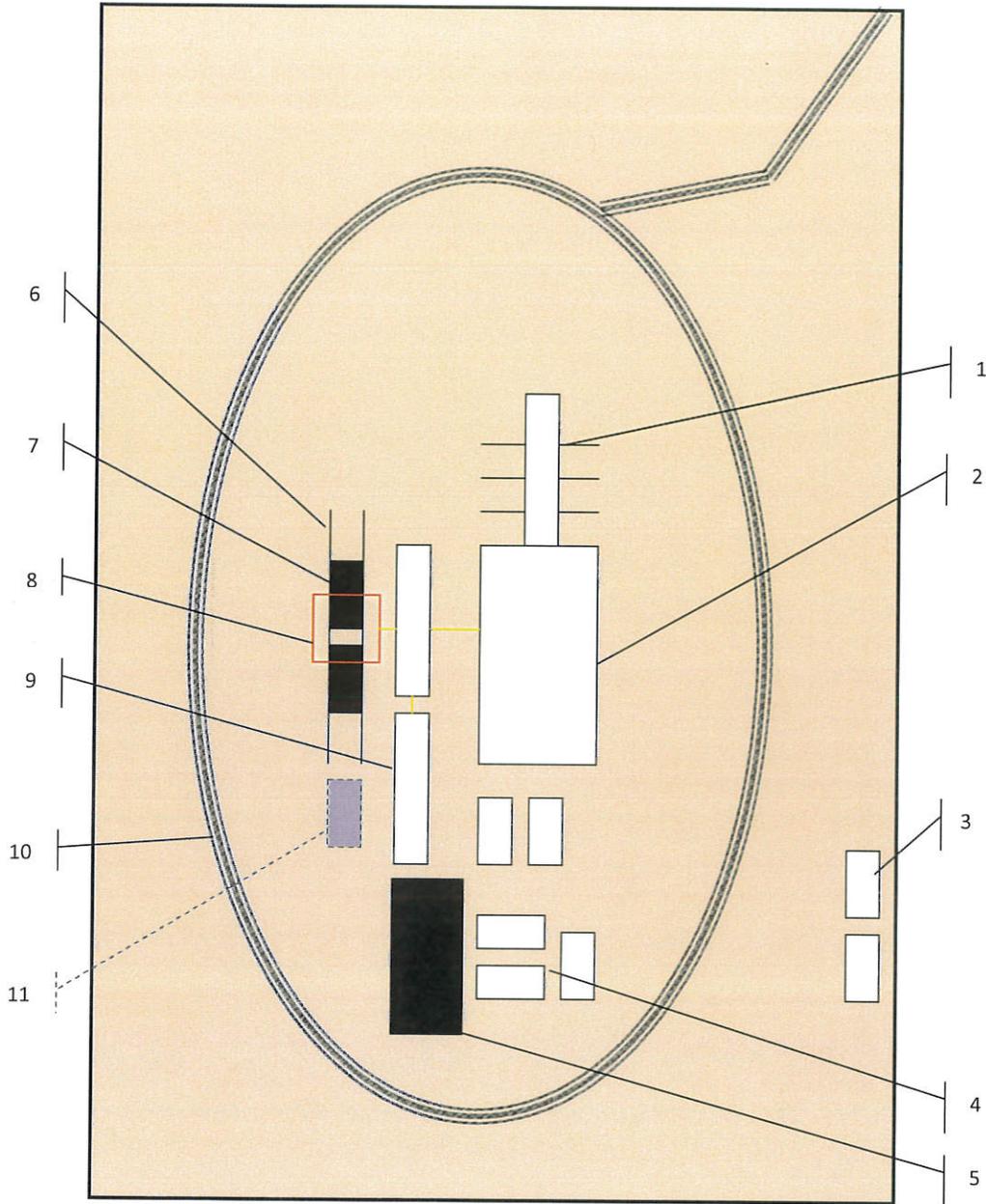
#### NMAC 19.15.27.8 (F) Measuring or Estimating Vented & Flared Natural Gas

- 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  $\geq 60$  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.



**Schematic Closed Loop Drilling Rig\***

1. Pipe Rack
2. Drill Rig
3. House Trailers/ Offices
4. Generator/Fuel/Storage
5. Overflow-Frac Tank
6. Skids
7. Roll Offs
8. Hopper or Centrifuge
9. Mud Tanks
10. Loop Drive
11. Generator (only for use with centrifuge)

\*Not drawn to scale: Closed loop system requires at least 30 feet beyond mud tanks. Ideally 60 feet would be available



Above: Centrifugal Closed Loop System

**PERMITS WEST, INC.**

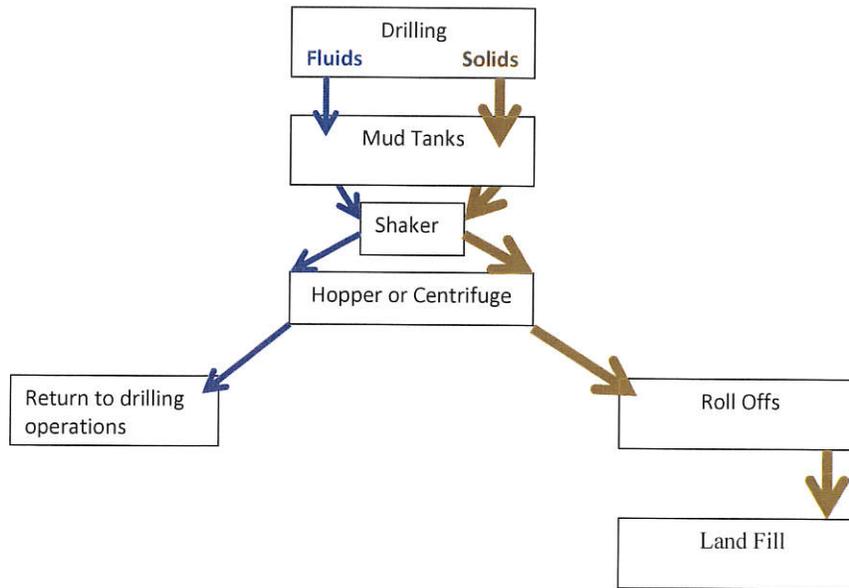
PROVIDING PERMITS for LAND USERS

37Verano Loop, Santa Fe, New Mexico 87508 (505) 466-8120



Closed Loop Drilling System: Mud tanks to right (1)  
Hopper in air to settle out solids (2)  
Water return pipe (3)  
Shaker between hopper and mud tanks (4)  
Roll offs on skids (5)

### Flow Chart for Drilling Fluids and Solids



Photos Courtesy of Gandy Corporation Oil Field Service

HARVARD PETROLEUM COMPANY, LLC

WELL BORE DIAGRAM

**PROPOSED WELL BORE AFTER  
WOLFCAMP AND ABO TESTS**

Duncan 32 State Com #1  
Date FUTURE CONFIGURATION  
API # 30-025-36942

13 3/8" 48# @ 400  
500 sx, Circulated

Top of cement 1730', CBL

9 5/8" 40# J-55 @ 4802'  
1800 sx, Circulated

237 jts 2 7/8" N-80, Arrowset 1X @7610'

Perforations: 7772-76, 7812-15, 25-35, 54-67, 7900-02

Drinkard (existing)

Perforations: Abo 8808 to 8966'

Abo (proposed)

Original TOC 8,900, CBL

Perforations: WC 10,464-10,520'

Wolfcamp (proposed)

Possible Tight Spot 11,645'

Cement Plug  
35 sx 11,700-12,012

CIBP +35' Cmt @ 13,040'

Casing Colapse @ 13,129-132'

Perfs: 13,138-44', 6 spf

Composit BP @ 13,300+20' Cmt

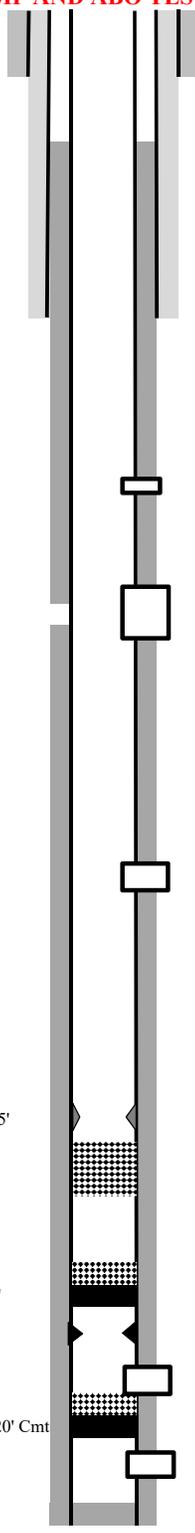
Perfs: 13,376-90', 6 SPF

PBTD 13,280'

5 1/2" 17# P-110 @ 13,549'

Cmt Stage 1 1000 sx

TD 13,550



HARVARD PETROLEUM COMPANY, LLC

WELL BORE DIAGRAM

CURRENT WELL BORE

Duncan 32 State Com #1

Date 6/6/2022

API # 30-025-36942

13 3/8" 48# @ 400  
500 sx, Circulated

Geologic Tops

Rustler	1,536
Yates	2,874
Queen	3,823
Abo	8,278
Wolfcamp	9,830
Strawn	12,228
Atoka	12,560
Morrow	12,870
Miss	13,438

Top of cement 1730', CBL

9 5/8" 40# J-55 @ 4802'  
1800 sx, Circulated

237 jts 2 7/8" N-80, Arrowset 1X @7610'

Perforations: 7772-76, 7812-15, 25-35, 54-67, 7900-02

Drinkard (existing)

Cement Plug  
35 sx @ 8600-8901'

**Zone of Interest: Abo 8808 to 8966'**

Squeeze Perfs: 8868-70  
Squeeze 900 sx behind 5 1/2"  
Original TOC 8,900, CBL

note: Possible gap in cement bond 8870-8900

Cement Plug  
35 sx 9,700-10,010

**Zone of Interest: WC 10,464-10,520'**

Possible Tight Spot 11,645'

Cement Plug  
35 sx 11,700-12,012

CIBP +35' Cmt @ 13,040'

Casing Colapse @ 13,129-132'

Perfs: 13,138-44', 6 spf

Composit BP @ 13,300+20' Cmt

Perfs: 13,376-90', 6 SPF

PBTD 13,280'  
5 1/2" 17# P-110 @ 13,549'

Cmt Stage 1 1000 sx

TD 13,550

**District I**  
 1625 N. French Dr., Hobbs, NM 88240  
 Phone:(575) 393-6161 Fax:(575) 393-0720  
**District II**  
 811 S. First St., Artesia, NM 88210  
 Phone:(575) 748-1283 Fax:(575) 748-9720  
**District III**  
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 Phone:(505) 334-6178 Fax:(505) 334-6170  
**District IV**  
 1220 S. St Francis Dr., Santa Fe, NM 87505  
 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 145144

**CONDITIONS**

Operator: HARVARD PETROLEUM COMPANY, LLC P.O. Box 936 Roswell, NM 88202	OGRID: 10155
	Action Number: 145144
	Action Type: [C-101] Drilling Non-Federal/Indian (APD)

**CONDITIONS**

Created By	Condition	Condition Date
pkautz	REQUIRES ADMINISTRATIVE ORDER FOR DHC	10/3/2022
pkautz	REQUIRES C-103E NOI RECOMPLETION WITH PROCEDURE.	10/3/2022