Form 3160-5
(June 2015)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

OCD Artesia

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***

5. Lease Serial No.
Multiple--See Attached

6. If Indian, Allottee or Tribe Name

7. If Unit or CA/Agreement, Name and/or No.
NMNM138618

1. Type of Well
☐ Oil Well ☒ Gas Well ☐ Other

8. Well Name and No.
Multiple--See Attached

2. Name of Operator
CHEVRON USA INCORPORATED
Contact: LAURA BECERRA
E-Mail: LBECERRA@CHEVRON.COM

9. API Well No.
Multiple--See Attached

3a. Address
6301 DEAUVILLE BLVD
MIDLAND, TX 79706

3b. Phone No. (include area code)
Ph: 432-687-7655

10. Field and Pool or Exploratory Area
Multiple--See Attached

4. Location of Well *(Footage, Sec., T., R., M., or Survey Description)*
Multiple--See Attached

11. County or Parish, State
EDDY 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 Venting and/or Flaring |
| | ☐ 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 recomplete 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 recompletion 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.

Chevron respectfully submits the attached Hayhurst Master Development Plan Annual Emissions Inventory for Year 2, NEPA No. DOI-BLM-NM-P020-2016-1434-EA, to demonstrate compliance with COAs.

All emissions during this 12-month period resulted from drilling and completion of the following wells:

HH CE 35 2 FED 006 1H 30-015-44347 – DRILLING
HH CE 35 2 FED 006 2H 30-015-44346 – DRILLING
HH CE 35 2 FED 006 3H 30-015-44350 – " "
HH CE 35 2 FED 006 4H 30-015-44349 – " "
HH CE 35 2 FED 006 5H 30-015-44345 – " " SHUT-IN 11/9/18

ONLY '8' ACTIVE WELLS, THE REST ARE DRILLING?

Accepted for record
NMOCD

**RECEIVED**
FEB 21 2019
**DISTRICT II-ARTESIA O.C.D.**

14. I hereby certify that the foregoing is true and correct.

**Electronic Submission #453110 verified by the BLM Well Information System**
**For CHEVRON USA INCORPORATED, sent to the Carlsbad**
**Committed to AFMSS for processing by PRISCILLA PEREZ on 02/06/2019 (19PP0977SE)**

Name *(Printed/Typed)* LAURA BECERRA — Title REGULATORY SPECIALIST

Signature (Electronic Submission) — Date 02/04/2019

**THIS SPACE FOR FEDERAL OR STATE OFFICE USE**

Approved By ACCEPTED — CHRISTOPHER WALLS / Title PETROLEUM ENGINEER — Date 02/15/2019

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 Carlsbad

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 ****

## Additional data for EC transaction #453110 that would not fit on the form

**5. Lease Serial No., continued**

NMNM107369
NMNM114968
NMNM121473

**Wells/Facilities, continued**

| Agreement | Lease | Well/Fac Name, Number | API Number | Location |
|---|---|---|---|---|
| NMNM121473 | NMNM121473 | HH SO 10 15 FED 002 2H | 30-015-44354-00-X1 | Sec 3 T26S R27E SWSW 214FSL 833FWL 32.064594 N Lat, 104.184273 W Lon |
| NMNM121473 | NMNM121473 | HH SO 10 15 FED 002 3H | 30-015-44351-00-X1 | Sec 3 T26S R27E SWSW 239FSL 833FWL 32.064663 N Lat, 104.184273 W Lon |
| NMNM121473 | NMNM121473 | HH SO 10 P3 7H | 30-015-43936-00-S1 | Sec 3 T26S R27E SESW 578FSL 2066FWL 32.065544 N Lat, 104.180272 W Lon |
| NMNM121473 | NMNM121473 | HH SO 10 15 FED 002 1H | 30-015-44352-00-X1 | Sec 3 T26S R27E NWNW 189FSL 833FWL 32.064526 N Lat, 104.184273 W Lon |
| NMNM121473 | NMNM121473 | HH SO 10 15 FED 002 4H | 30-015-44353-00-X1 | Sec 3 T26S R27E SWSW 264FSL 833FWL 32.064732 N Lat, 104.184265 W Lon |
| NMNM121473 | NMNM121473 | HH SO 10 15 FED 002 5H | 30-015-44371-00-X1 | Sec 3 T26S R27E SWSW 289FSL 833FWL 32.064800 N Lat, 104.184265 W Lon |
| NMNM121473 | NMNM121473 | HH SO 10 15 FED 002 6H | 30-015-44367-00-X1 | Sec 3 T26S R27E SWSW 314FSL 833FWL 32.064869 N Lat, 104.184265 W Lon |
| NMNM121473 | NMNM121473 | HH SO 10 P3 15H | 30-015-43930-00-X1 | Sec 3 T26S R27E SESW 628FSL 2066FWL 32.065681 N Lat, 104.180269 W Lon |
| NMNM121473 | NMNM121473 | HH SO 10 P3 16H | 30-015-43929-00-S1 | Sec 3 T26S R27E SESW 653FSL 2066FWL 32.065750 N Lat, 104.180268 W Lon |
| NMNM121473 | NMNM121473 | HH SO 10 P3 24H | 30-015-43926-00-X1 | Sec 3 T26S R37E SESW 553FSL 2066FWL |
| NMNM121473 | NMNM121473 | HH SO 10 P3 8H | 30-015-43937-00-X1 | Sec 3 T26S R27E SESW 603FSL 2066FWL 32.065613 N Lat, 104.180271 W Lon |
| NMNM107369 | NMNM107369 | HH CE 35 2 FED 006 1H | 30-015-44347-00-X1 | Sec 35 T25S R27E NESE 2514FSL 475FEL 32.085846 N Lat, 104.153755 W Lon |
| NMNM114968 | NMNM114968 | HH CE 35 2 FED 006 2H | 30-015-44346-00-X1 | Sec 35 T25S R27E NESE 2489FSL 475FEL 32.085777 N Lat, 104.153755 W Lon |
| NMNM114968 | NMNM114968 | HH CE 35 2 FED 006 5H | 30-015-44345-00-X1 | Sec 35 T25S R27E NESE 2414FSL 475FEL 32.085573 N Lat, 104.153763 W Lon |
| NMNM114968 | NMNM114968 | HH CE 35 2 FED COM 006 3H | 30-015-44350-00-X1 | Sec 35 T25S R27E NESE 2465FSL 475FEL 32.085710 N Lat, 104.153758 W Lon |
| NMNM114968 | NMNM114968 | HH CE 35 2 FED COM 006 4H | 30-015-44349-00-X1 | Sec 35 T25S R27E NESE 2440FSL 475FEL 32.085642 N Lat, 104.153761 W Lon |
| NMNM114968 | NMNM114968 | HH CE 35 2 FED COM 006 6H | 30-015-44348-00-X1 | Sec 35 T25S R27E NESE 2389FSL 475FEL 32.085504 N Lat, 104.153764 W Lon |
| NMNM138618 | NMNM118108 | HH SO 17 20 FED 001 1H | 30-015-45100-00-X1 | Sec 8 T26S R27E SESW 330FSL 1873FWL 32.050674 N Lat, 104.214859 W Lon |
| NMNM138618 | NMNM118108 | HH SO 17 20 FED 001 2H | 30-015-45101-00-X1 | Sec 8 T26S R27E SESW 305FSL 1873FWL 32.050606 N Lat, 104.214859 W Lon |
| NMNM138618 | NMNM118108 | HH SO 17 20 FED 001 3H | 30-015-45154-00-X1 | Sec 8 T26S R27E SESW 280FSL 1873FWL 32.050537 N Lat, 104.214859 W Lon |
| NMNM138618 | NMNM118108 | HH SO 17 20 FED 001 4H | 30-015-45155-00-X1 | Sec 8 T26S R27E SESW 255FSL 1873FWL 32.050468 N Lat, 104.214859 W Lon |
| NMNM138618 | NMNM118108 | HH SO 17 20 FED 001 5H | 30-015-45102-00-X1 | Sec 8 T26S R27E SESW 230FSL 1872FWL 32.050400 N Lat, 104.214867 W Lon |
| NMNM138618 | NMNM118108 | HH SO 17 20 FED 001 6H | 30-015-45103-00-X1 | Sec 8 T26S R27E SESW 205FSL 1872FWL 32.050331 N Lat, 104.214867 W Lon |
| NMNM138618 | NMNM100549 | HH SO 8 5 FED 003 1H | 30-015-45115-00-X1 | Sec 17 T26S R27E NENW 629FNL 2308FWL 32.048035 N Lat, 104.213425 W Lon |
| NMNM138618 | NMNM100549 | HH SO 8 5 FED 003 4H | 30-015-45118-00-X1 | Sec 17 T26S R27E NENW 554FNL 2309FWL 32.048241 N Lat, 104.213425 W Lon |
| NMNM138618 | NMNM100549 | HH SO 8 5 FED 003 5H | 30-015-45119-00-X1 | Sec 17 T26S R27E NENW 529FNL 2310FWL 32.048309 N Lat, 104.213417 W Lon |
| NMNM138618 | NMNM100549 | HH SO 8 5 FED 003 6H | 30-015-45120-00-X1 | Sec 17 T26S R27E NENW 504FNL 2310FWL 32.048378 N Lat, 104.213417 W Lon |
| NMNM138618 | NMNM118108 | HH SO 8 P2 21H | 30-015-43927-00-S1 | Sec 17 T26S R27E NWNW 205FNL 960FWL |
| NMNM138618 | NMNM118108 | HH SO 8 P2 22H | 30-015-43928-00-S1 | Sec 17 T26S R27E NWNW 230FNL 960FWL |
| NMNM138618 | NMNM118108 | HH SO 8 P2 5H | 30-015-43935-00-S1 | Sec 17 T26S R27E NWNW 255FNL 960FWL 32.049075 N Lat, 104.217789 W Lon |
| NMNM138618 | NMNM118108 | HH SO 8 P2 6H | 30-015-43934-00-S1 | Sec 17 T26S R27E NWNW 280FNL 960FWL |

**10. Field and Pool, continued**

WILDCAT

**32. Additional remarks, continued**

HH CE 35 2 FED 006 6H 30-015-44348
HH SO 10 15 FED 002 1H 30-015-44352
HH SO 10 15 FED 002 2H 30-015-44354
HH SO 10 15 FED 002 3H 30-015-44351
HH SO 10 15 FED 002 4H 30-015-44353
HH SO 10 15 FED 002 5H 30-015-44371
HH SO 10 15 FED 002 6H 30-015-44367
HH SO 10 P3 15H 30-015-43930
HH SO 10 P3 16H 30-015-43929
HH SO 10 P3 24H 30-015-43926
HH SO 10 P3 7H 30-015-43936

These already listed above?

**32. Additional remarks, continued**

HH SO 10 P3 8H 30-015-43937
HH SO 17 20 FED 001 1H 30-015-45100
HH SO 17 20 FED 001 2H 30-015-45101
HH SO 17 20 FED 001 3H 30-015-45154
HH SO 17 20 FED 001 4H 30-015-45155
HH SO 17 20 FED 001 5H 30-015-45102
HH SO 17 20 FED 001 6H 30-015-45103
HH SO 8 5 FED 003 1H 30-015-45115
HH SO 8 5 FED 003 4H 30-015-45118
HH SO 8 5 FED 003 5H 30-015-45119
HH SO 8 5 FED 003 6H 30-015-45120
HH SO 8 P2 21H 30-015-43927
HH SO 8 P2 22H 30-015-43928
HH SO 8 P2 5H 30-015-43935
HH SO 8 P2 6H 30-015-43934

Chevron

**Doug McIntyre**
**Environmental Air Team Lead**

**MidContinent Business Unit**
6301 Deauville Blvd.
Midland, TX 79706
Tel (432) 687-7429
dmcintyre@chevron.com

January 31st, 2019

United States Department of the Interior Bureau of Land Management
Pecos District
Carlsbad Field Office
620 East Greene Street
Carlsbad, NM 88220

RE: Hayhurst Master Development Plan Annual Emissions Inventory for Year 2
NEPA No. DOI-BLM-NM-P020-2016-1434-EA

Dear BLM Personnel,

Chevron U.S.A. Inc. (Chevron) received the above referenced Decision Record and Finding of No Significant Impact (FONSI) for oil and natural gas exploration and development within the Hayhurst Development Area (HAD), located in Eddy County, New Mexico on October 7, 2016. The following Conditions of Approval (COA) were specified in the FONSI:

- During the drilling phase, the operator will emit $NO_X$ emissions of 262.95 tons per year (tpy) or less from non-road (mobile sources) between Year 1 and Year 3 and 220.7 tpy or less from non-road (mobile sources) for the remainder of the drilling phase.
- The operator will emit 213.6 tpy or less of $NO_X$ emissions during production operations, as defined in the emission inventory analyzed in the Environmental Assessment. The operator will submit emissions and/or parameters with an Application for Permit to Drill or annual emissions inventory that show the $NO_X$ emissions are within the limits of the air quality analysis within the Environmental Assessment.

To demonstrate compliance with these COAs, Chevron hereby submits this annual emissions inventory of drilling, completion and production operations for Year 2. All emissions resulting from drilling and completion operations during for this 12 month period resulted from drilling and completion of the following wells:

- HH CE 35 2 FED 006 5H
- HH SO 17 20 FED 001 4H
- HH CE 35 2 FED 006 2H
- HH CE 35 2 FED 006 3H
- HH SO 17 20 FED 001 3H
- HH SO 10 P3 16H
- HH CE 35 2 FED 006 1H
- HH SO 10 15 FED 002 3H
- HH SO 17 20 FED 001 2H
- HH SO 8 P2 22H
- HH SO 8 P2 6H
- HH SO 10 P3 8H
- HH SO 10 P3 7H
- HH CE 35 2 FED 006 6H
- HH SO 10 15 FED 002 2H
- HH SO 17 20 FED 001 5H
- HH SO 10 15 FED 002 5H
- HH SO 17 20 FED 001 1H
- HH SO 8 P2 21H
- HH SO 10 15 FED 002 6H
- HH SO 8 P2 5H
- HH SO 10 P3 15H
- HH SO 10 15 FED 002 1H
- HH SO 10 15 FED 002 4H
- HH CE 35 2 FED 006 4H
- HH SO 17 20 FED 001 6H

- HH SO 8 5 FED 003 6H
- HH SO 8 5 FED 003 1H
- HH SO 10 P3 24H
- HH SO 8 5 FED 003 5H
- HH SO 8 5 FED 003 4H

The following production facilities commenced operation during Year 2:

- Hayhurst Gravitas SWD
- Hayhurst NM Section 10 Compressor Station and Central Tank Battery
- Hayhurst NM Section 9 Central Tank Battery

Hayhurst Master Development Plan Annual Emissions Inventory Year 2
Chevron U.S.A. Inc.
NOx Totals - Drilling Operations

**Source Description**
**Drill Rig**
**Diesel Fired Engine Emissions**

| | | |
|---|---|---|
| Drilling Rig Size [1] | 500 | (hp) |
| Number of Engines [1] | 3 | |
| Fuel Consumption [2] | 7,000 | (Btu/bhp-hr) |
| Drilling Rig Fuel Consumption [3] | 1,385,601 | (gal/yr) |
| Drill Rig Operating Hours [4] | 18,079 | (hr/yr) |
| Fuel Heating Value [5] | 137,000 | (Btu/gal) |

| Pollutant | Emission Factor [6,7] | Emission Rate | |
|---|---|---|---|
| | (g/bhp-hr) | (lb/hr) | (tpy) |
| NOx | 4.56 | 15.08 | 136.31 |

**Footnotes:**

[1] Based on Chevron's drill rigs in use within the development area

[2] Fuel consumption based on actual fuel consumption records.

[3] Based on actual fuel consumption records provided from actual consumption.

[4] Calculated based on total fuel use, engine size and brake-specific fuel consumption

[5] Fuel heating value based on AP-42 Appendix A, Typical Parameters of Various Fuels for diesel.

[6] Based on U.S. EPA Tier 2 emission standards for engines greater than or equal to 560 kW (750 hp) in units of g/bhp-hr. Tier 2 standards were developed in 2006.

[7] NOx emission factors are based on 95% of the NMHC+NOx emission standard; VOC emission factors are based on 5% of the NMHC+NOx standard. Based on California Air Resources Board (CARB) "Emission Factors for CI Diesel Engines - Percent HC in Relation to NMHC + NOx".

**Source Description**
**Hydraulic Fracturing Rig**
**Diesel Fired Engine Emissions**

| | | |
|---|---|---|
| Drilling Rig Size [1] | 2,250 | (hp) |
| Number of Engines [1] | 16 | |
| Fuel Consumption [2] | 7,051 | (Btu/bhp-hr) |
| Drilling Rig Fuel Consumption [3] | 1,223,200 | (gal/yr) |
| Drill Rig Operating Hours [4] | 660 | (hr/yr) |
| Fuel Heating Value [5] | 137,000 | (Btu/gal) |

| Pollutant | Emission Factor [6,7] | Emission Rate | |
|---|---|---|---|
| | (g/bhp-hr) | (lb/hr) | (tpy) |
| NOx | 2.60 | 206.35 | 68.11 |

**Footnotes:**

[1] Based on Chevron's drill rigs in use within the development area

[2] Fuel consumption based on actual fuel consumption records.

[3] Based on actual fuel consumption records.

[4] Calculated based on total fuel use, engine size and brake-specific fuel consumption

[5] Fuel heating value based on AP-42 Appendix A, Typical Parameters of Various Fuels for diesel.

[6] Based on U.S. EPA Tier 2 emission standards for engines greater than or equal to 560 kW (750 hp) in units of g/bhp-hr. Tier 2 standards were developed in 2006.

[7] NOx emission factors are based on 95% of the NMHC+NOx emission standard; VOC emission factors are based on 5% of the NMHC+NOx standard. Based on California Air Resources Board (CARB) "Emission Factors for CI Diesel Engines - Percent HC in Relation to NMHC + NOx".

Hayhurst Master Development Plan Annual Emissions Inventory Year 2
Chevron U.S.A. Inc.
NOx Totals - Drilling Operations

**Source Description**
**Glycol Dehydrator - Reboiler from Sales and Gas Lift Compression**

| | | |
|---|---|---|
| Maximum Design Heat Input [1] | 1.00 | (MMBtu/hr) |
| Fuel Gas Heating Value [2] | 1,306 | (Btu/scf) |
| Fuel Gas Consumption [3] | 0.77 | (Mscf/hr) |
| Operating Time | 4,824 | (hrs/year) |
| Number of Dehydrators | 7 | |

| Pollutant | Emission Factor [4] | Emission Rate | |
|---|---|---|---|
| | (lb/MMscf) | (lb/hr) | (tpy) |
| NOx [5] | 128 | 0.69 | 1.66 |

**Footnotes:**

[1] Maximum design heat input based on proposed design.

[2] Fuel gas heating value assumes that "Meter Run Gas" composition from the Cotton Hills gas analysis.

[3] Fuel gas consumption (Mscf/hr) = (1.0 MMBtu/hr x 1,000) / (1,306 Btu/scf)

[4] Emission factors based on AP-42 Section 1.4, "Natural Gas Combustion". NOx emission factors are based on Table 1.4-1 for "Small Boilers".

[5] Note that NOx emissions are only emitted from the Reboiler from Sales and Gas Lift Compression.

Hayhurst Master Development Plan Annual Emissions Inventory Year 2
Chevron U.S.A. Inc.
NOx Totals - Drilling Operations

**Source Description**
**Compressor Engines**

| | | |
|---|---|---|
| Small Compressors | | |
| Number of Compressors | 0 | |
| BHP [1] | 1,380 | (bhp/unit) |
| Brake Specific Fuel Consumption [1] | 6,537 | (Btu/bhp-hr) |
| Operating Time | 0 | (hrs/yr) |
| Large Compressors | | |
| Number of Compressors | 6 | |
| BHP [1] | 5,000 | (bhp/unit) |
| Operating Time | 4,608 | (hrs/yr) |
| Brake Specific Fuel Consumption [1] | 6,537 | (Btu/bhp-hr) |

| Pollutant | Unit | Emission Factor [2] | Emission Rate | |
|---|---|---|---|---|
| | | (g/bhp-hr) | (lb/hr) | (tpy) |
| NOx | Small Comp | 0.30 | 0.0 | 0.0 |
| | Large Comp | 0.30 | 19.8 | 45.7 |
| | Total | | 19.8 | 45.7 |

**Footnotes:**

[1] Bhp and design capacity for the small compressor based on specifications. Note that the design capacity for the small compressor is assumed to be the same as the large compressor.

[2] NOx emission factors based on manufactuer's specifications.

Hayhurst Master Development Plan Annual Emissions Inventory Year 2
Chevron U.S.A. Inc.
NOx Totals - Drilling Operations

**Source Description**
**Gas Fired Separator (Heater Treater) Emissions**

| | | |
|---|---|---|
| Maximum Design Heat Input | 4.0 | (MMBtu/hr) |
| Fuel Gas Heating Value | 1,306 | (Btu/scf) |
| Fuel Gas Consumption | 4.71E-03 | (MMscf/hr) |
| Operating Time | 4,824 | (hr/yr) |
| Number of Heater Treaters | 6 | |

| Pollutant | Emission Factor [1] | Emission Rate | |
|---|---|---|---|
| | (lb/MMscf) | (lb/hr) | (tpy) |
| NOx | 128.0 | 3.62 | 8.73 |

**Footnotes:**
[1] NOx emission factors are based on Table 1.4-1 for "Small Boilers".