NEW MEXICO 20.2.72 NMAC APPLICATION FOR A SIGNIFICANT PERMIT REVISION TO PSD-NSR PERMIT 1031-M9 (Rev 1)

31-6 CENTRAL DELIVERY POINT (CDP)

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June 2023

Introduction

Application Summary

The Harvest 31-6 CDP is currently authorized under Construction Permit 1031-M9, dated October 30, 2011 as administratively revised through -R13. The facility also operates under Title V Operating permit P027-R5, dated December 15, 2022. Equipment currently approved for construction and use at the facility is listed in Tables 2-A, 'Regulated Sources' and Table 2-B, 'Insignificant Activities1 (20.2.70 NMAC) OR Exempted Equipment (20.2.72 NMAC') of Section 2 of this application. This application incorporates any technical and/or administrative revisions to the construction permit that have occurred since construction permit issuance.

As of August 5, 2022, certain existing and previously unregulated emission sources are now subject to the requirements of 20.2.50 NMAC. The newly-regulated equipment are included in Table 2-A regardless of whether 20.2.50 NMAC imposes emission limits on the source.

Currently, there are sixteen permitted Waukesha 7042 GL engines at the facility, eight (8) of which are equipped with emission controls. The facility is permitted for five (5) 12 million cubic feet per day (MMCFD) triethylene glycol (TEG) dehydrators and one (1) 30 MMCFD TEG dehydrator to remove moisture from the pipeline natural gas.

Revision 0 of this application included the following modifications:

- Replace four (4) of the facility's permitted four-stroke, lean burn (4SLB) engines with 4 four-stroke, rich burn (4SRB) engines, each equipped with a three-way catalyst for emissions control. The purpose of the controls is to meet the emission requirements of 20.2.50 NMAC;
- In addition to the currently controlled 4SLB RICE, add oxidation catalyst emission controls to the remaining permitted 4SLB RICE that are not already required to be equipped with a catalyst; and
- Add three (3) 30MMCFD TEG dehydrators, which will handle a different gas stream than those currently handled at the facility. The new dehydrators may each operate at up to 50 MMCFD.

Revision 1 of this application includes the following additional modifications:

- Reduce startup and shutdown emissions (Unit SSM) from 12.0 tons per year (tpy) to 7.81 tpy.
- Remove malfunction emissions from the permit.
- Update pigging emissions.

The controlled 4SRB RICE and the newly-controlled 4SLB RICE will emit air pollutants below the current permitted emissions for the RICE.

Table 2-A: Regulated Emission Sources

Unit and stack numbering must correspond throughout the application package. If applying for a NOI under 20.2.73 NMAC, equipment exemptions under 2.72.202 NMAC do not apply.

Unit Number[1]	Source Description	Make	Model #	Serial #	Manufacturer's Rated Capacity[3] (Specify Units)	Requested Permitted Capacity[3] (Specify Units)	Date of Manufacture[2] / Date of Construction/ Reconstruction[2]	Controlled by Unit # / Emissions vented to Stack #	Source Classification Code (SCC)	For Each Piece of Equipment, Check One	RICE Ignition Type (CI, SI, 4SLB, 4SRB, 2SLB)[4]	Replacing Unit No.
1	Reciprocating I.C. Engine	Waukesha	7042 GL	C-10999/2A (Pkg. 77051)	1,478 hp	1,371 hp	09/27/1993 5/11/2017	1 1	20200202	☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☑ **To Be Modified** ☐ To be Replaced	4SLB	N/A
3	Reciprocating I.C. Engine	Waukesha	7042 GL	296981 (Pkg. 804334)	1,478 hp	1,371 hp	3/2/1976 10/1/1992	3 3	20200202	☑ **Existing (unchanged)** ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	4SLB	N/A
4	Reciprocating I.C. Engine	Waukesha	7042 GL	TBD	1,478 hp	1,371 hp	TBD TBD	N/A 4	20200202	☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☑ **To be Replaced**	4SLB	N/A
4	Reciprocating I.C. Engine	Waukesha	7042 GSI	TBD	1,480 hp	1,371 hp	TBD TBD	4 4	20200202	☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☑ **Replacement Unit** ☐ To Be Modified ☐ To be Replaced	4SRB	4
5	Reciprocating I.C. Engine	Waukesha	7042 GL	400911 (Pkg. 804368)	1,478 hp	1,371 hp	7/28/1998 12/30/1993	5 5	20200202	☑ **Existing (unchanged)** ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	4SLB	N/A
6	Reciprocating I.C. Engine	Waukesha	7042 GL	TBD	1,478 hp	1,371 hp	TBD TBD	6 6	20200202	☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☑ **To be Replaced**	4SLB	N/A
6	Reciprocating I.C. Engine	Waukesha	7042 GSI	TBD	1,480 hp	1,373 hp	TBD TBD	6 6	20200202	☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☑ **Replacement Unit** ☐ To Be Modified ☐ To be Replaced	4SRB	6
7	Reciprocating I.C. Engine	Waukesha	7042 GL	C-126591 (Pkg. 804389)	1,478 hp	1,371 hp	11/10/1998 7/21/2016	7 7	20200202	☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☑ **To Be Modified** ☐ To be Replaced	4SLB	N/A
8	Reciprocating I.C. Engine	Waukesha	7042 GL	C-12677/2 (Pkg. x00002)	1,478 hp	1,371 hp	10/21/1998 11/10/2004	8 8	20200202	☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☑ **To Be Modified** ☐ To be Replaced	4SLB	N/A
9	Reciprocating I.C. Engine	Waukesha	7042 GL	C-11657/3 (Pkg. X00240)	1,478 hp	1,371 hp	2/8/1995 10/10/1995	9 9	20200202	☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☑ **To Be Modified** ☐ To be Replaced	4SLB	N/A
10	Reciprocating I.C. Engine	Waukesha	7042 GL	C-12572/1 (Pkg. 77583)	1,478 hp	1,371 hp	2/27/1998 11/5/1997	10 10	20200202	☑ **Existing (unchanged)** ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	4SLB	N/A
11	Reciprocating I.C. Engine	Waukesha	7042 GL	C-12554/2 (Pkg. 76490)	1,478 hp	1,371 hp	02/03/1998 7/19/1995	11 11	20200202	☑ **Existing (unchanged)** ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	4SLB	N/A
12	Reciprocating I.C. Engine	Waukesha	7042 GL	C-13154/1 (Pkg. 77582)	1,478 hp	1,371 hp	11/12/1993 1/25/1993	12 12	20200202	☑ **Existing (unchanged)** ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	4SLB	N/A
13	Reciprocating I.C. Engine	Waukesha	7042 GL	TBD	1,478 hp	1,371 hp	TBD TBD	N/A 13	20200202	☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☑ **To be Replaced**	4SLB	N/A
13	Reciprocating I.C. Engine	Waukesha	7042 GSI	TBD	1,480 hp	1,373 hp	TBD TBD	13 13	20200202	☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☑ **Replacement Unit** ☐ To Be Modified ☐ To be Replaced	4SRB	13
14	Reciprocating I.C. Engine	Waukesha	7042 GL	TBD	1,478 hp	1,371 hp	TBD TBD	N/A 14	20200202	☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☑ **To be Replaced**	4SLB	N/A
14	Reciprocating I.C. Engine	Waukesha	7042 GSI	TBD	1,480 hp	1,373 hp	TBD TBD	14 14	20200202	☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☑ **Replacement Unit** ☐ To Be Modified ☐ To be Replaced	4SRB	14

Table 2-A: Regulated Emission Sources

Unit and stack numbering must correspond throughout the application package. If applying for a NOI under 20.2.73 NMAC, equipment exemptions under 2.72.202 NMAC do not apply.

Unit Number[1]	Source Description	Make	Model #	Serial #	Manufacturer's Rated Capacity[3] (Specify Units)	Requested Permitted Capacity[3] (Specify Units)	Date of Manufacture[2] / Date of Construction/ Reconstruction[2]	Controlled by Unit # / Emissions vented to Stack #	Source Classification Code (SCC)	For Each Piece of Equipment, Check One	RICE Ignition Type (CI, SI, 4SLB, 4SRB, 2SLB)[4]	Replacing Unit No.
15	Reciprocating I.C. Engine	Waukesha	7042 GL	C-12554/4 (Pkg. 77052)	1,478 hp	1,371 hp	2/25/1998 2/25/1998	15 15	20200202	☑ **Existing (unchanged)** ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	4SLB	N/A
16	Reciprocating I.C. Engine	Waukesha	7042 GL	208656 (Pkg. 76798)	1,478 hp	1,371 hp	7/30/1971 8/18/2005	16 16	20200202	☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☑ **To Be Modified** ☐ To be Replaced	4SLB	N/A
33	Reciprocating I.C. Engine	Waukesha	7042 GL	317965 (Pkg. 804367)	1,478 hp	1,371 hp	12/1/1978 4/5/2017	33 33	20200202	☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☑ **To Be Modified** ☐ To be Replaced	4SLB	N/A
SSM	Compressors & Associated Piping	N/A	N/A	N/A	N/A	N/A	N/A N/A	N/A N/A	--	☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☑ **To Be Modified** ☐ To be Replaced	N/A	N/A
17a	TEG Dehydrator Still Vent	Enertek	J2P12M74 9 TEG	41997	12 mmscfd	12 mmscfd	1992 1/1/1992	N/A 17a	31000227	☑ **Existing (unchanged)** ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A
17b	TEG Dehydrator Reboiler	Enertek	429 scfh	N/A	429 scfh	429 scfh	1992 1/1/1992	NA 17b	31000228	☑ **Existing (unchanged)** ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A
18a	TEG Dehydrator Still Vent	Enertek	J2P12M74 9 TEG	41733	12 mmscfd	12 mmscfd	1992 1/1/1992	N/A 18a	31000227	☑ **Existing (unchanged)** ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A
18b	TEG Dehydrator Reboiler	Enertek	429 scfh	N/A	429 scfh	429 scfh	1992 1/1/1992	N/A 18b	31000228	☑ **Existing (unchanged)** ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A
19a	TEG Dehydrator Still Vent	Enertek	J2P12M74 9 TEG	41688	12 mmscfd	12 mmscfd	1992 1/1/1992	N/A 19a	31000227	☑ **Existing (unchanged)** ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A
19b	TEG Dehydrator Reboiler	Enertek	429 scfh	N/A	429 scfh	429 scfh	1992 1/1/1992	N/A 19b	31000228	☑ **Existing (unchanged)** ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A
20a	TEG Dehydrator Still Vent	Enertek	J2P12M74 9 TEG	41747	12 mmscfd	12 mmscfd	1993 1/1/1993	N/A 20a	31000227	☑ **Existing (unchanged)** ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A
20b	TEG Dehydrator Reboiler	Enertek	429 scfh	N/A	429 scfh	429 scfh	1993 1/1/1993	N/A 20b	31000228	☑ **Existing (unchanged)** ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A
21a	TEG Dehydrator Still Vent	Enertek	J2P12M74 9 TEG	42380	12 mmscfd	12 mmscfd	1993 1/1/1993	N/A 21a	31000227	☑ **Existing (unchanged)** ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A
21b	TEG Dehydrator Reboiler	Enertek	429 scfh	N/A	429 scfh	429 scfh	1993 1/1/1993	N/A 21b	31000228	☑ **Existing (unchanged)** ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A
22a	TEG Dehydrator Still Vent	Enertek	J2P12M74 9 TEG	43250	12 mmscfd	12 mmscfd	1993 1/1/1993	N/A 22a	31000227	☑ **Existing (unchanged)** ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A
22b	TEG Dehydrator Reboiler	Enertek	429 scfh	N/A	429 scfh	429 scfh	1992 1/1/1992	NA 22b	31000228	☑ **Existing (unchanged)** ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A
31a	TEG Dehydrator Still Vent	Enertek	J2P30M74 9TEG	42857	30 mmscfd	30 mmscfd	2004 12/17/2004	N/A 31a	31000227	☑ **Existing (unchanged)** ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A

Table 2-A: Regulated Emission Sources

Unit and stack numbering must correspond throughout the application package. If applying for a NOI under 20.2.73 NMAC, equipment exemptions under 2.72.202 NMAC do not apply.

Unit Number[1]	Source Description	Make	Model #	Serial #	Manufacturer's Rated Capacity[3] (Specify Units)	Requested Permitted Capacity[3] (Specify Units)	Date of Manufacture[2] / Date of Construction/ Reconstruction[2]	Controlled by Unit # / Emissions vented to Stack #	Source Classification Code (SCC)	For Each Piece of Equipment, Check One	RICE Ignition Type (CI, SI, 4SLB, 4SRB, 2SLB)[4]	Replacing Unit No.
31b	TEG Dehydrator Reboiler	Enertek	444 scfh	N/A	444 scfh	444 scfh	2004 12/17/2004	NA 31b	31000228	☑ **Existing (unchanged)** ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A
32a	TEG Dehydrator Still Vent	Enertek	TBD	TBD	30 mmscfd	50 mmscfd	TBD TBD	N/A 32a	31000227	☐ Existing (unchanged) ☐ To be Removed ☑ **New/Additional** ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A
32b	TEG Dehydrator Reboiler	Enertek	TBD	TBD	550 MBtu	550 MBtu	TBD TBD	N/A 32b	31000228	☐ Existing (unchanged) ☐ To be Removed ☑ **New/Additional** ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A
33a	TEG Dehydrator Still Vent	Enertek	TBD	TBD	30 mmscfd	50 mmscfd	TBD TBD	N/A 33a	31000227	☐ Existing (unchanged) ☐ To be Removed ☑ **New/Additional** ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A
33b	TEG Dehydrator Reboiler	Enertek	TBD	TBD	550 MBtu	550 MBtu	TBD TBD	N/A 33b	31000228	☐ Existing (unchanged) ☐ To be Removed ☑ **New/Additional** ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A
34a	TEG Dehydrator Still Vent	Enertek	TBD	TBD	30 mmscfd	50 mmscfd	TBD TBD	N/A 34a	31000227	☐ Existing (unchanged) ☐ To be Removed ☑ **New/Additional** ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A
34b	TEG Dehydrator Reboiler	Enertek	TBD	TBD	550 MBtu	550 MBtu	TBD TBD	N/A 34b	31000228	☐ Existing (unchanged) ☐ To be Removed ☑ **New/Additional** ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A
T25, T43, T55, T56	Produced Water Storage Tanks (each)	N/A	N/A	N/A	12,600 gal	12,600 gal	N/A N/A	N/A N/A	40400315	☑ **Existing (unchanged)** ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A
T44	Produced Water Storage Tank	N/A	N/A	N/A	1,680 gal	1,680 gal	N/A N/A	N/A N/A	40400315	☑ **Existing (unchanged)** ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A
F1	Fugitive Emissions	N/A	N/A	N/A	N/A	N/A	N/A N/A	N/A N/A	31088811	☑ **Existing (unchanged)** ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A
PC1-PC144	Pneumatic Controllers	N/A	N/A	N/A	N/A	N/A	N/A N/A	N/A N/A	31000299	☑ **Existing (unchanged)** ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A
C1, C3-C16, C33	Reciprocating Compressor Venting	N/A	N/A	N/A	N/A	N/A	N/A N/A	N/A N/A	31000299	☑ **Existing (unchanged)** ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A

[1] Unit numbers must correspond to unit numbers in the previous permit unless a complete cross reference table of all units in both permits is provided.

[2] Specify dates required to determine regulatory applicability.

[3] To properly account for power conversion efficiencies, generator set rated capacity shall be reported as the rated capacity of the engine in horsepower, not the kilowatt capacity of the generator set.

[4] "4SLB" means four stroke lean burn engine, "4SRB" means four stroke rich burn engine, "2SLB" means two stroke lean burn engine, "CI" means compression ignition, and "SI" means spark ignition

Table 2-B: Insignificant Activities[1] (20.2.70 NMAC) OR Exempted Equipment (20.2.72 NMAC)

All 20.2.70 NMAC (Title V) applications must list all Insignificant Activities in this table. All 20.2.72 NMAC applications must list Exempted Equipment in this table. If equipment listed on this table is exempt under 20.2.72.202.B.5, include emissions calculations and emissions totals for 202.B.5 "similar functions" units, operations, and activities in Section 6, Calculations. Equipment and activities exempted under 20.2.72.202 NMAC may not necessarily be Insignificant under 20.2.70 NMAC (and vice versa). Unit & stack numbering must be consistent throughout the application package. Per Exemptions Policy 02-012.00 (see http://www.env.nm.gov/aqb/permit/aqb_pol.html), 20.2.72.202.B NMAC Exemptions do not apply, but 20.2.72.202.A NMAC exemptions do apply to NOI facilities under 20.2.73 NMAC. List 20.2.72.301.D.4 NMAC Auxiliary Equipment for Streamline applications in Table 2-A. The List of Insignificant Activities (for TV) can be found online at http://www.env.nm.gov/aqb/forms/InsignificantListTitleV.pdf . TV sources may elect to enter both TV Insignificant Activities and Part 72 Exemptions on this form.

Unit Number	Source Description	Manufacturer	Model No. / Serial No.	Max Capacity / Capacity Units	List Specific 20.2.72.202 NMAC Exemption (e.g. 20.2.72.202.B.5) / Insignificant Activity citation (e.g. IA List Item #1.a)	Date of Manufacture /Reconstruction[2] / Date of Installation /Construction[2]	For Each Piece of Equipment, Check Onc
T-1 thru T-14	Lubrication (Lube) Oil Storage Tank (each)			500 gal	20.2.72.202.B(2) NMAC		☑ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
				500 gal	Insignificant Activity List Item #5		
T-15	Lube Oil Storage Tank			4,200 gal	20.2.72.202.B(2) NMAC		☑ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
				4,200 gal	Insignificant Activity List Item #5		
T-16	Antifreeze Storage Tank			500 gal	20.2.72.202.B(2) NMAC		☑ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
				500 gal	Insignificant Activity List Item #5		
T-17	Corrosion Inhibitor Storage Tank			500 gal	20.2.72.202.B(5) NMAC		☑ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
				500 gal	Insignificant Activity List Item #1		
T-18 thru T-23	Glycol Storage Tank (each)			100 gal	20.2.72.202.B(2) NMAC		☑ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
				100 gal	Insignificant Activity List Item #5		
T-24	Solvent Storage Tank			500 gal	20.2.72.202.B(2) NMAC		☑ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
				500 gal	Insignificant Activity List Item #5		
T-26	Used Oil Storage Tank			6,930 gal	20.2.72.202.B(2) NMAC		☑ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
				6,930 gal	Insignificant Activity List Item #5		
T-27	Wastewater Storage Tank			6,930 gal	20.2.72.202.B(2) NMAC		☑ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
				6,930 gal	Insignificant Activity List Item #5		
T-28 & T-29	Lube Oil Storage Tank (each)			500 gal	20.2.72.202.B(2) NMAC		☑ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
				500 gal	Insignificant Activity List Item #5		
T-30	Glycol Storage Tank			100 gal	20.2.72.202.B(2) NMAC		☑ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
				100 gal	Insignificant Activity List Item #5		
T-34 thru T-40	Glycol Storage Tank (each)			50 gal	20.2.72.202.B(2) NMAC		☑ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
				50 gal	Insignificant Activity List Item #5		
T-42	Wastewater Storage Tank			740 gal	20.2.72.202.B(2) NMAC		☑ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
				740 gal	Insignificant Activity List Item #5		
T-45 & T-46	Used Oil Storage Tank			500 gal	20.2.72.202.B(2) NMAC		☑ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
				500 gal	Insignificant Activity List Item #5		
T-47 & T-48	Glycol Storage Tank (each)			125 gal	20.2.72.202.B(2) NMAC		☑ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
				125 gal	Insignificant Activity List Item #5		

Table 2-B: Insignificant Activities[1] (20.2.70 NMAC) OR Exempted Equipment (20.2.72 NMAC)

All 20.2.70 NMAC (Title V) applications must list all Insignificant Activities in this table. All 20.2.72 NMAC applications must list Exempted Equipment in this table. If equipment listed on this table is exempt under 20.2.72.202.B.5, include emissions calculations and emissions totals for 202.B.5 "similar functions" units, operations, and activities in Section 6, Calculations. Equipment and activities exempted under 20.2.72.202 NMAC may not necessarily be Insignificant under 20.2.70 NMAC (and vice versa). Unit & stack numbering must be consistent throughout the application package. Per Exemptions Policy 02-012.00 (see http://www.env.nm.gov/aqb/permit/aqb_pol.html), 20.2.72.202.B NMAC Exemptions do not apply, but 20.2.72.202.A NMAC exemptions do apply to NOI facilities under 20.2.73 NMAC. List 20.2.72.301.D.4 NMAC Auxiliary Equipment for Streamline applications in Table 2-A. The List of Insignificant Activities (for TV) can be found online at http://www.env.nm.gov/aqb/forms/InsignificantListTitleV.pdf . TV sources may elect to enter both TV Insignificant Activities and Part 72 Exemptions on this form.

Unit Number	Source Description	Manufacturer	Model No. / Serial No.	Max Capacity / Capacity Units	List Specific 20.2.72.202 NMAC Exemption (e.g. 20.2.72.202.B.5) / Insignificant Activity citation (e.g. IA List Item #1.a)	Date of Manufacture /Reconstruction[2] / Date of Installation /Construction[2]	For Each Piece of Equipment, Check Onc
T-49	Glycol Storage Tank			2,100 gal	20.2.72.202.B(2) NMAC		☑ **Existing (unchanged)** ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
				2,100 gal	Insignificant Activity List Item #5		
T-50	Methanol Storage Tank			500 gal	20.2.72.202.B(5) NMAC		☑ **Existing (unchanged)** ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
				500 gal	Insignificant Activity List Item #1		
T-51 & T-52	Lube Oil Storage Tank (each)			500 gal	20.2.72.202.B(2) NMAC		☑ **Existing (unchanged)** ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
				500 gal	Insignificant Activity List Item #5		
L1	Truck Loading Emissions (Produced water)			N/A	20.2.72.202.B(5) NMAC		☑ **Existing (unchanged)** ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
				N/A	Insignificant Activity List Item #1		
PL1, PR1 & PR2	Pig Launching & Receiving			N/A	20.2.72.202.B(5) NMAC		☑ **Existing (unchanged)** ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
				N/A	Insignificant Activity List Item #1		

[1] Insignificant activities exempted due to size or production rate are defined in 20.2.70.300.D.6, 20.2.70.7.Q NMAC, and the NMED/AQB List of Insignificant Activities, dated September 15, 2008. Emissions from these insignificant activities do not need to be reported, unless specifically requested.

[2] Specify date(s) required to determine regulatory applicability.

Table 2-D: Maximum Emissions (under normal operating conditions)

☐ **This Table was intentionally left blank because it would be identical to Table 2-E.**

Maximum Emissions are the emissions at maximum capacity and prior to (in the absence of) pollution control, emission-reducing process equipment, or any other emission reduction. Calculate the hourly emissions using the worst case hourly emissions for each pollutant. For each pollutant, calculate the annual emissions as if the facility were operating at maximum plant capacity without pollution controls for 8760 hours per year, unless otherwise approved by the Department. List Hazardous Air Pollutants

Unit No.	NOx		CO		VOC		SOx		PM[1]		PM10[1]		PM2.5[1]		H_2S		Lead	
	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr
1	2.72	11.92	8.01	35.09	3.02	13.24	5.9E-03	2.6E-02	1.01E-01	4.42E-01	1.01E-01	4.42E-01	1.01E-01	4.42E-01	-	-	-	-
3	2.72	11.92	8.01	35.09	3.02	13.24	5.9E-03	2.6E-02	1.01E-01	4.42E-01	1.01E-01	4.42E-01	1.01E-01	4.42E-01	-	-	-	-
4	42.07	184.26	29.12	127.57	0.49	2.13	6.8E-03	3.0E-02	2.23E-01	9.77E-01	2.23E-01	9.77E-01	2.23E-01	9.77E-01	-	-	-	-
5	2.72	11.92	8.01	35.09	3.02	13.24	5.9E-03	2.6E-02	1.01E-01	4.42E-01	1.01E-01	4.42E-01	1.01E-01	4.42E-01	-	-	-	-
6	42.07	184.26	29.12	127.57	0.49	2.13	6.8E-03	3.0E-02	2.23E-01	9.77E-01	2.23E-01	9.77E-01	2.23E-01	9.77E-01	-	-	-	-
7	2.72	11.92	8.01	35.09	3.02	13.24	5.9E-03	2.6E-02	1.01E-01	4.42E-01	1.01E-01	4.42E-01	1.01E-01	4.42E-01	-	-	-	-
8	2.72	11.92	8.01	35.09	3.02	13.24	5.9E-03	2.6E-02	1.01E-01	4.42E-01	1.01E-01	4.42E-01	1.01E-01	4.42E-01	-	-	-	-
9	2.72	11.92	8.01	35.09	3.02	13.24	5.9E-03	2.6E-02	1.01E-01	4.42E-01	1.01E-01	4.42E-01	1.01E-01	4.42E-01	-	-	-	-
10	2.72	11.92	8.01	35.09	3.02	13.24	5.9E-03	2.6E-02	1.01E-01	4.42E-01	1.01E-01	4.42E-01	1.01E-01	4.42E-01	-	-	-	-
11	2.72	11.92	8.01	35.09	3.02	13.24	5.9E-03	2.6E-02	1.01E-01	4.42E-01	1.01E-01	4.42E-01	1.01E-01	4.42E-01	-	-	-	-
12	2.72	11.92	8.01	35.09	3.02	13.24	5.9E-03	2.6E-02	1.01E-01	4.42E-01	1.01E-01	4.42E-01	1.01E-01	4.42E-01	-	-	-	-
13	42.07	184.26	29.12	127.57	0.49	2.13	6.8E-03	3.0E-02	2.23E-01	9.77E-01	2.23E-01	9.77E-01	2.23E-01	9.77E-01	-	-	-	-
14	42.07	184.26	29.12	127.57	0.49	2.13	6.8E-03	3.0E-02	2.23E-01	9.77E-01	2.23E-01	9.77E-01	2.23E-01	9.77E-01	-	-	-	-
15	2.72	11.92	8.01	35.09	3.02	13.24	5.9E-03	2.6E-02	1.01E-01	4.42E-01	1.01E-01	4.42E-01	1.01E-01	4.42E-01	-	-	-	-
16	2.72	11.92	8.01	35.09	3.02	13.24	5.9E-03	2.6E-02	1.01E-01	4.42E-01	1.01E-01	4.42E-01	1.01E-01	4.42E-01	-	-	-	-
33	2.72	11.92	8.01	35.09	3.02	13.24	5.9E-03	2.6E-02	1.01E-01	4.42E-01	1.01E-01	4.42E-01	1.01E-01	4.42E-01	-	-	-	-
SSM	-	-	-	-	unspecified	7.81	-	-	-	-	-	-	-	-	-	-	-	-
17a	-	-	-	-	2.12	9.30	-	-	-	-	-	-	-	-	-	-	-	-
17b	4.29E-02	1.88E-01	3.25E-02	1.42E-01	4.79E-03	2.10E-02	8.33E-04	3.65E-03	3.26E-03	1.43E-02	3.26E-03	1.43E-02	3.26E-03	1.43E-02	-	-	2.15E-07	9.40E-07
18a	-	-	-	-	2.12	9.30	-	-	-	-	-	-	-	-	-	-	-	-
18b	4.29E-02	1.88E-01	3.25E-02	1.42E-01	4.79E-03	2.10E-02	8.33E-04	3.65E-03	3.26E-03	1.43E-02	3.26E-03	1.43E-02	3.26E-03	1.43E-02	-	-	2.15E-07	9.40E-07
19a	-	-	-	-	2.12	9.30	-	-	-	-	-	-	-	-	-	-	-	-
19b	4.29E-02	1.88E-01	3.25E-02	1.42E-01	4.79E-03	2.10E-02	8.33E-04	3.65E-03	3.26E-03	1.43E-02	3.26E-03	1.43E-02	3.26E-03	1.43E-02	-	-	2.15E-07	9.40E-07
20a	-	-	-	-	2.12	9.30	-	-	-	-	-	-	-	-	-	-	-	-
20b	4.29E-02	1.88E-01	3.25E-02	1.42E-01	4.79E-03	2.10E-02	8.33E-04	3.65E-03	3.26E-03	1.43E-02	3.26E-03	1.43E-02	3.26E-03	1.43E-02	-	-	2.15E-07	9.40E-07
21a	-	-	-	-	2.12	9.30	-	-	-	-	-	-	-	-	-	-	-	-

Table 2-D: Maximum Emissions (under normal operating conditions)

☐ **This Table was intentionally left blank because it would be identical to Table 2-E.**

Maximum Emissions are the emissions at maximum capacity and prior to (in the absence of) pollution control, emission-reducing process equipment, or any other emission reduction. Calculate the hourly emissions using the worst case hourly emissions for each pollutant. For each pollutant, calculate the annual emissions as if the facility were operating at maximum plant capacity without pollution controls for 8760 hours per year, unless otherwise approved by the Department. List Hazardous Air Pollutants

Unit No.	NOx		CO		VOC		SOx		PM[1]		PM10[1]		PM2.5[1]		H_2S		Lead	
	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr
21b	4.29E-02	1.88E-01	3.25E-02	1.42E-01	4.79E-03	2.10E-02	8.33E-04	3.65E-03	3.26E-03	1.43E-02	3.26E-03	1.43E-02	3.26E-03	1.43E-02	-	-	2.15E-07	9.40E-07
22a	-	-	-	-	2.12	9.30	-	-	-	-	-	-	-	-	-	-	-	-
22b	4.29E-02	1.88E-01	3.25E-02	1.42E-01	4.79E-03	2.10E-02	8.33E-04	3.65E-03	3.26E-03	1.43E-02	3.26E-03	1.43E-02	3.26E-03	1.43E-02	-	-	2.15E-07	9.40E-07
31a	-	-	-	-	2.10	9.20	-	-	-	-	-	-	-	-	-	-	-	-
31b	4.29E-02	1.88E-01	4.46E-02	1.95E-01	6.46E-03	2.83E-02	8.33E-04	3.65E-03	4.69E-03	2.05E-02	4.69E-03	2.05E-02	4.69E-03	2.05E-02	-	-	3.08E-07	1.35E-06
32a	-	-	-	-	2.28E-01	1.00	-	-	-	-	-	-	-	-	-	-	-	-
32b	4.29E-02	1.88E-01	4.46E-02	1.95E-01	6.5E-03	2.8E-02	8.3E-04	3.7E-03	4.7E-03	2.1E-02	4.7E-03	2.1E-02	4.7E-03	2.1E-02	-	-	3.08E-07	1.35E-06
33a	-	-	-	-	2.28E-01	1.00	-	-	-	-	-	-	-	-	-	-	-	-
33b	4.29E-02	1.88E-01	4.46E-02	1.95E-01	6.5E-03	2.8E-02	8.3E-04	3.7E-03	4.7E-03	2.1E-02	4.7E-03	2.1E-02	4.7E-03	2.1E-02	-	-	3.08E-07	1.35E-06
34a	-	-	-	-	2.28E-01	1.00	-	-	-	-	-	-	-	-	-	-	-	-
34b	4.29E-02	1.88E-01	4.46E-02	1.95E-01	6.5E-03	2.83E-02	8.3E-04	3.7E-03	4.7E-03	2.1E-02	4.7E-03	2.1E-02	4.7E-03	2.1E-02	-	-	3.08E-07	1.35E-06
T25, T43, T44, T55,	-	-	-	-	unspecified	9.52E-01	-	-	-	-	-	-	-	-	-	-	-	-
F1	-	-	-	-	1.39E-01	6.08E-01	-	-	-	-	-	-	-	-	-	-	-	-
Totals	201.35	881.93	213.00	932.94	53.93	245.00	0.11	0.47	2.14	9.38	2.14	9.38	2.14	9.38	-	-	2.52E-06	1.1E-05

[1]**Condensable Particulate Matter:** Include condensable particulate matter emissions for PM10 and PM2.5 if the source is a combustion source. Do not include condensable particulate matter for PM unless PM is set equal to PM10 and PM2.5. Particulate matter (PM) is not subject to an ambient air quality standard, but PM is a regulated air pollutant under PSD (20.2.74 NMAC) and Title V (20.2.70 NMAC).

Table 2-E: Requested Allowable Emissions

Unit & stack numbering must be consistent throughout the application package. Fill all cells in this table with the emission numbers or a "-" symbol. A "-" symbol indicates that emissions of this pollutant are not expected. Numbers shall be expressed to at least 2 decimal points (e.g. 0.41, 1.41, or $1.41E^{-4}$).

Unit No.	NOx		CO		VOC		SOx		PM[1]		PM10[1]		PM2.5[1]		H_2S		Lead	
	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr
1	2.72	11.92	5.61E-01	2.46	6.05E-01	2.65	5.94E-03	2.60E-02	1.01E-01	4.42E-01	1.01E-01	4.42E-01	1.01E-01	4.42E-01	-	-	-	-
3	2.72	11.92	5.61E-01	2.46	6.05E-01	2.65	5.94E-03	2.60E-02	1.01E-01	4.42E-01	1.01E-01	4.42E-01	1.01E-01	4.42E-01	-	-	-	-
4	1.62	7.09	1.94	8.50	4.85E-01	2.13	6.76E-03	2.96E-02	2.23E-01	9.77E-01	2.23E-01	9.77E-01	2.23E-01	9.77E-01	-	-	-	-
5	2.72	11.92	5.61E-01	2.46	6.05E-01	2.65	5.94E-03	2.60E-02	1.01E-01	4.42E-01	1.01E-01	4.42E-01	1.01E-01	4.42E-01	-	-	-	-
6	1.62	7.09	1.94	8.50	4.85E-01	2.13	6.76E-03	2.96E-02	2.23E-01	9.77E-01	2.23E-01	9.77E-01	2.23E-01	9.77E-01	-	-	-	-
7	2.72	11.92	5.61E-01	2.46	6.05E-01	2.65	5.94E-03	2.60E-02	1.01E-01	4.42E-01	1.01E-01	4.42E-01	1.01E-01	4.42E-01	-	-	-	-
8	2.72	11.92	5.61E-01	2.46	6.05E-01	2.65	5.94E-03	2.60E-02	1.01E-01	4.42E-01	1.01E-01	4.42E-01	1.01E-01	4.42E-01	-	-	-	-
9	2.72	11.92	5.61E-01	2.46	6.05E-01	2.65	5.94E-03	2.60E-02	1.01E-01	4.42E-01	1.01E-01	4.42E-01	1.01E-01	4.42E-01	-	-	-	-
10	2.72	11.92	5.61E-01	2.46	6.05E-01	2.65	5.94E-03	2.60E-02	1.01E-01	4.42E-01	1.01E-01	4.42E-01	1.01E-01	4.42E-01	-	-	-	-
11	2.72	11.92	5.61E-01	2.46	6.05E-01	2.65	5.94E-03	2.60E-02	1.01E-01	4.42E-01	1.01E-01	4.42E-01	1.01E-01	4.42E-01	-	-	-	-
12	2.72	11.92	5.61E-01	2.46	6.05E-01	2.65	5.94E-03	2.60E-02	1.01E-01	4.42E-01	1.01E-01	4.42E-01	1.01E-01	4.42E-01	-	-	-	-
13	1.62	7.09	1.94	8.50	4.85E-01	2.13	6.76E-03	2.96E-02	2.23E-01	9.77E-01	2.23E-01	9.77E-01	2.23E-01	9.77E-01	-	-	-	-
14	1.62	7.09	1.94	8.50	4.85E-01	2.13	6.76E-03	2.96E-02	2.23E-01	9.77E-01	2.23E-01	9.77E-01	2.23E-01	9.77E-01	-	-	-	-
15	2.72	11.92	5.61E-01	2.46	6.05E-01	2.65	5.94E-03	2.60E-02	1.01E-01	4.42E-01	1.01E-01	4.42E-01	1.01E-01	4.42E-01	-	-	-	-
16	2.72	11.92	5.61E-01	2.46	6.05E-01	2.65	5.94E-03	2.60E-02	1.01E-01	4.42E-01	1.01E-01	4.42E-01	1.01E-01	4.42E-01	-	-	-	-
33	2.72	11.92	5.61E-01	2.46	6.05E-01	2.65	5.94E-03	2.60E-02	1.01E-01	4.42E-01	1.01E-01	4.42E-01	1.01E-01	4.42E-01	-	-	-	-
SSM	-	-	-	-	unspecified	7.81	-	-	-	-	-	-	-	-	-	-	-	-
17a	-	-	-	-	2.12	9.30	-	-	-	-	-	-	-	-	-	-	-	-
17b	4.29E-02	1.88E-01	3.25E-02	1.42E-01	4.79E-03	2.10E-02	8.33E-04	3.65E-03	3.26E-03	1.43E-02	3.26E-03	1.43E-02	3.26E-03	1.43E-02	-	-	2.15E-07	9.40E-07
18a	-	-	-	-	2.12	9.30	-	-	-	-	-	-	-	-	-	-	-	-
18b	4.29E-02	1.88E-01	3.25E-02	1.42E-01	4.79E-03	2.10E-02	8.33E-04	3.65E-03	3.26E-03	1.43E-02	3.26E-03	1.43E-02	3.26E-03	1.43E-02	-	-	2.15E-07	9.40E-07
19a	-	-	-	-	2.12	9.30	-	-	-	-	-	-	-	-	-	-	-	-
19b	4.29E-02	1.88E-01	3.25E-02	1.42E-01	4.79E-03	2.10E-02	8.33E-04	3.65E-03	3.26E-03	1.43E-02	3.26E-03	1.43E-02	3.26E-03	1.43E-02	-	-	2.15E-07	9.40E-07
20a	-	-	-	-	2.12	9.30	-	-	-	-	-	-	-	-	-	-	-	-
20b	4.29E-02	1.88E-01	3.25E-02	1.42E-01	4.79E-03	2.10E-02	8.33E-04	3.65E-03	3.26E-03	1.43E-02	3.26E-03	1.43E-02	3.26E-03	1.43E-02	-	-	2.15E-07	9.40E-07
21a	-	-	-	-	2.12	9.30	-	-	-	-	-	-	-	-	-	-	-	-

Table 2-E: Requested Allowable Emissions

Unit & stack numbering must be consistent throughout the application package. Fill all cells in this table with the emission numbers or a "-" symbol. A "-" symbol indicates that emissions of this pollutant are not expected. Numbers shall be expressed to at least 2 decimal points (e.g. 0.41, 1.41, or $1.41E^{-4}$).

Unit No.	NOx		CO		VOC		SOx		PM[1]		PM10[1]		PM2.5[1]		H_2S		Lead	
	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr
21b	4.29E-02	1.88E-01	3.25E-02	1.42E-01	4.79E-03	2.10E-02	8.33E-04	3.65E-03	3.26E-03	1.43E-02	3.26E-03	1.43E-02	3.26E-03	1.43E-02	-	-	2.15E-07	9.40E-07
22a	-	-	-	-	2.12	9.30	-	-	-	-	-	-	-	-	-	-	-	-
22b	4.29E-02	1.88E-01	3.25E-02	1.42E-01	4.79E-03	2.10E-02	8.33E-04	3.65E-03	3.26E-03	1.43E-02	3.26E-03	1.43E-02	3.26E-03	1.43E-02	-	-	2.15E-07	9.40E-07
31a	-	-	-	-	2.10	9.20	-	-	-	-	-	-	-	-	-	-	-	-
31b	4.29E-02	1.88E-01	4.46E-02	1.95E-01	6.46E-03	2.83E-02	8.33E-04	3.65E-03	4.69E-03	2.05E-02	4.69E-03	2.05E-02	4.69E-03	2.05E-02	-	-	3.08E-07	1.35E-06
32a	-	-	-	-	2.28E-01	1.00	-	-	-	-	-	-	-	-	-	-	-	-
32b	4.29E-02	1.88E-01	4.46E-02	1.95E-01	6.5E-03	2.8E-02	8.3E-04	3.7E-03	4.7E-03	2.1E-02	4.7E-03	2.1E-02	4.7E-03	2.1E-02	-	-	3.08E-07	1.35E-06
33a	-	-	-	-	2.28E-01	1.00	-	-	-	-	-	-	-	-	-	-	-	-
33b	4.29E-02	1.88E-01	4.46E-02	1.95E-01	6.5E-03	2.8E-02	8.3E-04	3.7E-03	4.7E-03	2.1E-02	4.7E-03	2.1E-02	4.7E-03	2.1E-02	-	-	3.08E-07	1.35E-06
34a	-	-	-	-	2.28E-01	1.00	-	-	-	-	-	-	-	-	-	-	-	-
34b	4.29E-02	1.88E-01	4.46E-02	1.95E-01	6.5E-03	2.83E-02	8.3E-04	3.7E-03	4.7E-03	2.1E-02	4.7E-03	2.1E-02	4.7E-03	2.1E-02	-	-	3.08E-07	1.35E-06
T25, T43, T44, T55, T56	-	-	-	-	unspecified	9.52E-01	-	-	-	-	-	-	-	-	-	-	-	-
F1	-	-	-	-	1.39E-01	6.08E-01	-	-	-	-	-	-	-	-	-	-	-	-
Totals	39.55	173.22	14.87	65.13	24.92	117.89	1.07E-01	4.67E-01	2.14	9.38	2.14	9.38	2.14	9.38	-	-	2.52E-06	1.10E-05

[1] **Condensable Particulate Matter:** Include condensable particulate matter emissions for PM10 and PM2.5 if the source is a combustion source. Do not include condensable particulate matter for PM unless PM is set equal to PM10 and PM2.5. Particulate matter (PM) is not subject to an ambient air quality standard, but it is a regulated air pollutant under PSD (20.2.74 NMAC) and Title V (20.2.70 NMAC).

Table 2-F: Additional Emissions during Startup, Shutdown, and Routine Maintenance (SSM)

☐ This table is intentionally left blank since all emissions at this facility due to routine or predictable startup, shutdown, or scehduled maintenance are no higher than those listed in Table 2-E and a malfunction emission limit is not already permitted or requested. If you are required to report GHG emissions as described in Section 6a, include any GHG emissions during Startup, Shutdown, and/or Scheduled Maintenance (SSM) in Table 2-P. Provide an explanations of SSM emissions in Section 6 and 6a.

All applications for facilities that have emissions during routine our predictable startup, shutdown or scheduled maintenance (SSM)[1], including NOI applications, must include in this table the Maximum Emissions during routine or predictable startup, shutdown and scheduled maintenance (20.2.7 NMAC, 20.2.72.203.A.3 NMAC, 20.2.73.200.D.2 NMAC). In Section 6 and 6a, provide emissions calculations for all SSM emissions reported in this table. Refer to "Guidance for Submittal of Startup, Shutdown, Maintenance Emissions in Permit Applications (https://www.env.nm.gov/aqb/permit/aqb_pol.html) for more detailed instructions. Numbers shall be expressed to at least 2 decimal points (e.g. 0.41, 1.41, or 1.41E-4).

Unit No.	NOx		CO		VOC		SOx		PM[2]		PM10[2]		PM2.5[2]		H_2S		Lead	
	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr
SSM	-	-	-	-	unspecified	7.81	-	-	-	-	-	-	-	-	-	-	-	-
Totals	-	-	-	-	unspecified	7.81	-	-	-	-	-	-	-	-	-	-	-	-

[1] **For instance**, if the short term steady-state Table 2-E emissions are 5 lb/hr and the SSM rate is 12 lb/hr, enter 7 lb/hr in this table. If the annual steady-state Table 2-E emissions are 21.9 TPY, and the number of scheduled SSM events result in annual emissions of 31.9 TPY, enter 10.0 TPY in the table below.

[2] **Condensable Particulate Matter:** Include condensable particulate matter emissions for PM10 and PM2.5 if the source is a combustion source. Do not include condensable particulate matter for PM unless PM is set equal to PM10 and PM2.5. Particulate matter (PM) is not subject to an ambient air quality standard, but it is a regulated air pollutant under PSD (20.2.74 NMAC) and Title V (20.2.70 NMAC).

Table 2-I: Stack Exit and Fugitive Emission Rates for HAPs and TAPs

In the table below, report the Potential to Emit for each HAP from each regulated emission unit listed in Table 2-A, only if the entire facility emits the HAP at a rate greater than or equal to one (1) ton per year For each such emission unit, HAPs shall be reported to the nearest 0.1 tpy. Each facility-wide Individual HAP total and the facility-wide Total HAPs shall be the sum of all HAP sources calculated to the nearest 0.1 ton per year. Per 20.2.72.403.A.1 NMAC, facilities not exempt [see 20.2.72.402.C NMAC] from TAP permitting shall report each TAP that has an uncontrolled emission rate in excess of its pounds per hour screening level specified in 20.2.72.502 NMAC. TAPs shall be reported using one more significant figure than the number of significant figures shown in the pound per hour threshold corresponding to the substance. Use the HAP nomenclature as it appears in Section 112 (b) of the 1990 CAAA and the TAP nomenclature as it listed in 20.2.72.502 NMAC. Include tank-flashing emissions estimates of HAPs in this table. For each HAP or TAP listed, fill all cells in this table with the emission numbers or a "-" symbol. A "-" symbol indicates that emissions of this pollutant are not expected or the pollutant is emitted in a quantity less than the threshold amounts described above.

Stack No.	Unit No.(s)	Total HAPs		Benzene X HAP or ☐ TAP		Ethylbenzene X HAP or ☐ TAP		Formaldehyde X HAP or ☐ TAP		Toluene X HAP or ☐ TAP		Xylene X HAP or ☐ TAP		Provide Pollutant Name Here ☐ HAP or ☐ TAP		Provide Pollutant Name Here ☐ HAP or ☐ TAP		Provide Pollutant Name Here ☐ HAP or ☐ TAP	
		lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr
1	1	0.1	0.5	-	0.1	-	-	0.5	2.2	-	-	-	-						
3	3	0.1	0.5	-	-	-	-	0.1	0.4	-	-	-	-						
4	4	0.0	0.0	-	0.1	-	-	0.5	2.2	-	-	-	-						
5	5	0.1	0.5	-	-	-	-	0.1	0.4	-	-	-	-						
6	6	0.0	0.0	-	-	-	-	0.1	0.4	-	-	-	-						
7	7	0.1	0.5	-	0.1	-	-	0.5	2.2	-	-	-	-						
8	8	0.1	0.5	-	0.1	-	-	0.5	2.2	-	-	-	-						
9	9	0.1	0.5	-	0.1	-	-	0.5	2.2	-	-	-	-						
10	10	0.1	0.5	-	-	-	-	0.1	0.4	-	-	-	-						
11	11	0.1	0.5	-	-	-	-	0.1	0.4	-	-	-	-						
12	12	0.1	0.5	-	-	-	-	0.1	0.4	-	-	-	-						
13	13	0.0	0.0	-	-	-	-	0.1	0.4	-	-	-	-						
14	14	0.0	0.0	-	0.1	-	-	0.5	2.2	-	-	-	-						
15	15	0.1	0.5	-	-	-	-	0.1	0.4	-	-	-	-						
16	16	0.1	0.5	-	0.1	-	-	0.5	2.2	-	-	-	-						
33	33	0.1	0.5	-	0.1	-	-	0.5	2.2	-	-	-	-						
SSM	SSM	-	-	-	-	-	-	-	-	-	-	-	-						
17a	17a	0.2	1.1	-	0.2	0.1	0.3	-	-	0.1	0.4	-	0.1						
17b	17b	-	-	-	-	-	-	-	-	-	-	-	-						
18a	18a	0.2	1.1	-	0.2	0.1	0.3	-	-	0.1	0.4	-	0.1						
18b	18b	-	-	-	-	-	-	-	-	-	-	-	-						
19a	19a	0.2	1.1	-	0.2	0.1	0.3	-	-	0.1	0.4	-	0.1						
19b	19b	-	-	-	-	-	-	-	-	-	-	-	-						

Table 2-I: Stack Exit and Fugitive Emission Rates for HAPs and TAPs

In the table below, report the Potential to Emit for each HAP from each regulated emission unit listed in Table 2-A, only if the entire facility emits the HAP at a rate greater than or equal to one (1) ton per year For each such emission unit, HAPs shall be reported to the nearest 0.1 tpy. Each facility-wide Individual HAP total and the facility-wide Total HAPs shall be the sum of all HAP sources calculated to the nearest 0.1 ton per year. Per 20.2.72.403.A.1 NMAC, facilities not exempt [see 20.2.72.402.C NMAC] from TAP permitting shall report each TAP that has an uncontrolled emission rate in excess of its pounds per hour screening level specified in 20.2.72.502 NMAC. TAPs shall be reported using one more significant figure than the number of significant figures shown in the pound per hour threshold corresponding to the substance. Use the HAP nomenclature as it appears in Section 112 (b) of the 1990 CAAA and the TAP nomenclature as it listed in 20.2.72.502 NMAC. Include tank-flashing emissions estimates of HAPs in this table. For each HAP or TAP listed, fill all cells in this table with the emission numbers or a "-" symbol. A "-" symbol indicates that emissions of this pollutant are not expected or the pollutant is emitted in a quantity less than the threshold amounts described above.

Stack No.	Unit No.(s)	Total HAPs		Benzene X HAP or ☐ TAP		Ethylbenzene X HAP or ☐ TAP		Formaldehyde X HAP or ☐ TAP		Toluene X HAP or ☐ TAP		Xylene X HAP or ☐ TAP		Provide Pollutant Name Here ☐ HAP or ☐ TAP		Provide Pollutant Name Here ☐ HAP or ☐ TAP		Provide Pollutant Name Here ☐ HAP or ☐ TAP	
		lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr
20a	20a	0.2	1.1	-	0.2	0.1	0.3	-	-	0.1	0.4	-	0.1						
20b	20b	-	-	-	-	-	-	-	-	-	-	-	-						
21a	21a	0.2	1.1	-	0.2	0.1	0.3	-	-	0.1	0.4	-	0.1						
21b	21b	-	-	-	-	-	-	-	-	-	-	-	-						
22a	22a	0.2	1.1	-	0.2	0.1	0.3	-	-	0.1	0.4	-	0.1						
22b	22b	-	-	-	-	-	-	-	-	-	-	-	-						
31a	31a	0.2	1.0	-	0.2	0.1	0.3	-	-	0.1	0.4	-	0.2						
31b	31b	-	-	-	-	-	-	-	-	-	-	-	-						
32a	32a	-	-	-	-	-	-	-	-	-	-	-	-						
32b	32b	-	-	-	-	-	-	-	-	-	-	-	-						
33a	33a	-	-	-	-	-	-	-	-	-	-	-	-						
33b	33b	-	-	-	-	-	-	-	-	-	-	-	-						
34a	34a	-	-	-	-	-	-	-	-	-	-	-	-						
34b	34b	-	-	-	-	-	-	-	-	-	-	-	-						
T25, T43, T44, T55,	T25, T43, T44, T55,	-	0.2	-	-	-	-	-	-	-	-	-	-						
F1	F1	-	-	-	-	-	-	-	-	-	-	-	-						
Totals:		2.9	12.8	0.3	1.6	0.5	2.1	1.0	4.5	0.7	3.2	0.2	1.0						

Table 2-P: Green House Gas Emissions

Applications submitted under 20.2.70, 20.2.72, & 20.2.74 NMAC are required to complete this Table. Power plants, Title V major sources, and PSD major sources must report and calculate all GHG emissions for each unit. Applicants must report potential emission rates in short tons per year (see Section 6.a for assistance). Include GHG emissions during Startup, Shutdown, and Scheduled Maintenance in this table. For minor source facilities that are not power plants, are not Title V, or are not PSD, there are three options for reporting GHGs 1) report GHGs for each individual piece of equipment; 2) report all GHGs from a group of unit types, for example report all combustion source GHGs as a single unit and all venting GHG as a second separate unit; OR 3) check the following box:
☐ By checking this box, the applicant acknowledges the total CO2e emissions are less than 75,000 tons per year.

Unit No.		CO_2 ton/yr	N_2O ton/yr	CH_4 ton/yr	SF_6 ton/yr	PFC/HFC ton/yr[2]					Total GHG Mass Basis ton/yr[4]	Total CO_2e ton/yr[5]
Unit No.	**GWPs [1]**	**1**	**298**	**25**	**22,800**	**footnote 3**						
1	**mass GHG**	6,185.1	0.0117	0.1166							6185.3	-
	CO_2e	6,185.1	3.5	2.9							-	6191.53
3	**mass GHG**	6,185.1	0.0117	0.1166							6185.3	-
	CO_2e	6,185.1	3.5	2.9							-	6191.5
4	**mass GHG**	6,581.4	0.0124	0.1240							6581.5	-
	CO_2e	6,581.4	3.7	3.1							-	6588.18
5	**mass GHG**	6,185.1	0.0117	0.1166							6185.27	-
	CO_2e	6,185.1	3.5	2.9							-	6191.5
6	**mass GHG**	6,581.4	0.0124	0.1240							6581.52	-
	CO_2e	6,581.4	3.7	3.1							-	6588.2
7	**mass GHG**	6,185.1	0.0117	0.1166							6185.27	-
	CO_2e	6,185.1	3.5	2.9							-	6191.5
8	**mass GHG**	6,185.1	0.0117	0.1166							6185.27	-
	CO_2e	6,185.1	3.5	2.9							-	6191.5
9	**mass GHG**	6,185.1	0.0117	0.1166							6185.3	-
	CO2e	6,185.1	3.5	2.9							-	6191.5
10	**mass GHG**	6,185.1	0.0117	0.1166							6185.3	-
	CO_2e	6,185.1	3.5	2.9							-	6191.5
11	**mass GHG**	6,185.1	0.0117	0.1166							6185.3	-
	CO2e	6,185.1	3.5	2.9							-	6191.5
12	**mass GHG**	6,185.1	0.0117	0.1166							6185.3	-
	CO_2e	6,185.1	3.5	2.9							-	6191.5
13	**mass GHG**	6,581.4	0.0124	0.1240							6581.5	-
	CO2e	6,581.4	3.7	3.1							-	6588.2

Table 2-P: Green House Gas Emissions

Applications submitted under 20.2.70, 20.2.72, & 20.2.74 NMAC are required to complete this Table. Power plants, Title V major sources, and PSD major sources must report and calculate all GHG emissions for each unit. Applicants must report potential emission rates in short tons per year (see Section 6.a for assistance). Include GHG emissions during Startup, Shutdown, and Scheduled Maintenance in this table. For minor source facilities that are not power plants, are not Title V, or are not PSD, there are three options for reporting GHGs 1) report GHGs for each individual piece of equipment; 2) report all GHGs from a group of unit types, for example report all combustion source GHGs as a single unit and all venting GHG as a second separate unit; OR 3) check the following box:
☐ By checking this box, the applicant acknowledges the total CO2e emissions are less than 75,000 tons per year.

Unit No.		CO_2 ton/yr	N_2O ton/yr	CH_4 ton/yr	SF_6 ton/yr	PFC/HFC ton/yr[2]					Total GHG Mass Basis ton/yr[4]	Total CO_2e ton/yr[5]
Unit No.	**GWPs [1]**	**1**	**298**	**25**	**22,800**	**footnote 3**						
14	**mass GHG**	6,581.4	0.0124	0.1240							6581.5	-
	CO_2e	6,581.4	3.7	3.1							-	6588.2
15	**mass GHG**	6,185.1	0.0117	0.1166							6185.3	-
	CO2e	6,185.1	3.5	2.9							-	6191.5
16	**mass GHG**	6,185.1	0.0117	0.1166							6185.3	-
	CO_2e	6,185.1	3.5	2.9							-	6191.5
33	**mass GHG**	6,185.1	0.0117	0.1166							6185.3	-
	CO2e	6,185.1	3.5	2.9							-	6191.5
SSM	**mass GHG**	77.7	-	372.2	SSM includes compressor and pipeline blowdown emissions and [exempt] pigging emissions.						449.9	-
	CO_2e	77.7	-	9,304.3							-	9382.0
17a	**mass GHG**	57.82	-	1.22							59.0	-
	CO2e	57.82	-	30.43							-	88.2
17b	**mass GHG**	219.3	4.13E-04	4.13E-03							219.3	-
	CO_2e	219.3	0.12	0.10							-	219.6
18a	**mass GHG**	57.82	-	1.22							59.0	-
	CO2e	57.82	-	30.43							-	88.2
18b	**mass GHG**	219.3	4.13E-04	4.13E-03							219.3	-
	CO2e	219.3	0.12	0.10							-	219.6
19a	**mass GHG**	57.82	-	1.22							59.0	-
	CO2e	57.82	-	30.43							-	88.2
19b	**mass GHG**	219.3	4.13E-04	4.13E-03							219.3	-
	CO2e	219.3	0.12	0.10							-	219.6
20a	**mass GHG**	57.82	-	1.22							59.0	-
	CO2e	57.82	-	30.43							-	88.2
20b	**mass GHG**	219.3	4.13E-04	4.13E-03							219.3	-
	CO2e	219.3	0.12	0.10							-	219.6

Table 2-P: Green House Gas Emissions

Applications submitted under 20.2.70, 20.2.72, & 20.2.74 NMAC are required to complete this Table. Power plants, Title V major sources, and PSD major sources must report and calculate all GHG emissions for each unit. Applicants must report potential emission rates in short tons per year (see Section 6.a for assistance). Include GHG emissions during Startup, Shutdown, and Scheduled Maintenance in this table. For minor source facilities that are not power plants, are not Title V, or are not PSD, there are three options for reporting GHGs 1) report GHGs for each individual piece of equipment; 2) report all GHGs from a group of unit types, for example report all combustion source GHGs as a single unit and all venting GHG as a second separate unit; OR 3) check the following box:
☐ By checking this box, the applicant acknowledges the total CO2e emissions are less than 75,000 tons per year.

Unit No.		CO_2 ton/yr	N_2O ton/yr	CH_4 ton/yr	SF_6 ton/yr	PFC/HFC ton/yr[2]					Total GHG Mass Basis ton/yr[4]	Total CO_2e ton/yr[5]
Unit No.	**GWPs [1]**	**1**	**298**	**25**	**22,800**	**footnote 3**						
21a	**mass GHG**	57.82	-	1.22							59.0	-
	CO2e	57.82	-	30.43							-	88.2
21b	**mass GHG**	219.3	4.13E-04	4.13E-03							219.3	-
	CO2e	219.3	0.12	0.10							-	219.6
22a	**mass GHG**	57.82	-	1.22							59.03	-
	CO2e	57.82	-	30.43							-	88.2
22b	**mass GHG**	219.3	4.13E-04	4.13E-03							219.3	-
	CO2e	219.3	0.12	0.10							-	219.6
31a	**mass GHG**	56.3	-	1.18							57.51	-
	CO2e	56.3	-	29.6							-	85.9
31b	**mass GHG**	315.3	5.94E-04	5.94E-03							315.30	-
	CO2e	315.3	0.18	0.15							-	315.6
32a	**mass GHG**	29.1	-	1.23							30.32	-
	CO2e	29.1	-	30.8							-	59.9
32b	**mass GHG**	315.3	5.94E-04	5.94E-03							315.30	-
	CO2e	315.3	0.18	0.15							-	315.6
33a	**mass GHG**	29.1	-	1.23							30.32	-
	CO2e	29.1	-	30.8							-	59.9
33b	**mass GHG**	315.3	5.94E-04	5.94E-03							315.30	-
	CO2e	315.3	0.18	0.15							-	315.6
34a	**mass GHG**	29.1	-	1.23							30.32	-
	CO2e	29.1	-	30.8							-	59.9
34b	**mass GHG**	315.3	5.94E-04	5.94E-03							315.30	-
	CO2e	315.3	0.18	0.15							-	315.6
T43, T44, T55, T56	**mass GHG**	-	-	-							0.0	-
	CO2e	-	-	-							-	0.0

Table 2-P: Green House Gas Emissions

Applications submitted under 20.2.70, 20.2.72, & 20.2.74 NMAC are required to complete this Table. Power plants, Title V major sources, and PSD major sources must report and calculate all GHG emissions for each unit. Applicants must report potential emission rates in short tons per year (see Section 6.a for assistance). Include GHG emissions during Startup, Shutdown, and Scheduled Maintenance in this table. For minor source facilities that are not power plants, are not Title V, or are not PSD, there are three options for reporting GHGs 1) report GHGs for each individual piece of equipment; 2) report all GHGs from a group of unit types, for example report all combustion source GHGs as a single unit and all venting GHG as a second separate unit; OR 3) check the following box:
☐ By checking this box, the applicant acknowledges the total CO2e emissions are less than 75,000 tons per year.

Unit No.		CO_2 ton/yr	N_2O ton/yr	CH_4 ton/yr	SF_6 ton/yr	PFC/HFC ton/yr[2]					Total GHG Mass Basis ton/yr[4]	Total CO_2e ton/yr[5]
Unit No.	**GWPs [1]**	**1**	**298**	**25**	**22,800**	**footnote 3**						
F1	**mass GHG**	221.4	-	1,061.7	F1 includes reciprocating compressor venting, centrifugal compressor venting, pneumatic devices, and pneumatic pumps.						1283.1	-
	CO2e	221.4	-	26,542.3							-	26763.7
	mass GHG											
	CO2e											
Total[6]	**mass GHG**	103,914.0	1.94E-01	1,448.0							105,362.2	-
	CO_2e	103,914.0	57.9	36,199.6							-	140,171.6

[1] **GWP** (Global Warming Potential): Applicants must use the most current GWPs codified in Table A-1 of 40 CFR part 98. GWPs are subject to change, therefore, applicants need to check 40 CFR 98 to confirm GWP values.

[2] For **HFCs** or **PFCs** describe the specific HFC or PFC compound and use a separate column for each individual compound.

[3] For each new compound, enter the appropriate GWP for each HFC or PFC compound from Table A-1 in 40 CFR 98.

[4] Green house gas emissions on a **mass basis** is the ton per year green house gas emission before adjustment with its GWP.

[5] **CO_2e** means Carbon Dioxide Equivalent and is calculated by multiplying the TPY mass emissions of the green house gas by its GWP.

Section 3

Application Summary

The **Application Summary** shall include a brief description of the facility and its process, the type of permit application, the applicable regulation (i.e. 20.2.72.200.A.X, or 20.2.73 NMAC) under which the application is being submitted, and any air quality permit numbers associated with this site. If this facility is to be collocated with another facility, provide details of the other facility including permit number(s). In case of a revision or modification to a facility, provide the lowest level regulatory citation (i.e. 20.2.72.219.B.1.d NMAC) under which the revision or modification is being requested. Also describe the proposed changes from the original permit, how the proposed modification will affect the facility's operations and emissions, de-bottlenecking impacts, and changes to the facility's major/minor status (both PSD & Title V).

The **Process Summary** shall include a brief description of the facility and its processes.

Startup, Shutdown, and Maintenance (SSM) routine or predictable emissions: Provide an overview of how SSM emissions are accounted for in this application. Refer to "Guidance for Submittal of Startup, Shutdown, Maintenance Emissions in Permit Applications (http://www.env.nm.gov/aqb/permit/app_form.html) for more detailed instructions on SSM emissions.

Application Summary

The Harvest 31-6 CDP is currently authorized under Construction Permit 1031-M9, dated October 30, 2011 as administratively revised through -R13. The facility also operates under Title V Operating permit P027-R5, dated December 15, 2022.

Equipment currently approved for construction and use at the facility is listed in Tables 2-A, 'Regulated Sources' and Table 2-B, 'Insignificant Activities1 (20.2.70 NMAC) OR Exempted Equipment (20.2.72 NMAC') of Section 2 of this application. Unless noted, all regulated emissions from the currently permitted equipment and sources are brought forward from the most current Construction and/or Title V permit. A calculated emission rate that is lower than the currently permitted emission rate in Table 2-E is a demonstration of compliance with the permitted emission rate.

As of August 5, 2022, certain existing and previously unregulated emission sources are now subject to the requirements of 20.2.50 NMAC. The newly-regulated equipment are included in Table 2-A regardless of whether 20.2.50 NMAC imposes emission limits on the source.

Currently, there are sixteen permitted Waukesha 7042 GL engines at the facility, eight (8) of which are equipped with emission controls. The facility is permitted for five (5) 12 million cubic feet per day (MMCFD) triethylene glycol (TEG) dehydrators and one (1) 30 MMCFD TEG dehydrator to remove moisture from the pipeline natural gas.

Revision 0 of this application included the following modifications:

- Replace four (4) of the facility's permitted four-stroke, lean burn (4SLB) engines with 4 four-stroke, rich burn (4SRB) engines, each equipped with a three-way catalyst for emissions control (units 4, 6, 13 and 14). The purpose of the controls is to meet the emission requirements of 20.2.50 NMAC;

- In addition to the currently controlled 4SLB RICE, add oxidation catalyst emission controls to the remaining permitted 4SLB RICE that are not already required to be equipped with a catalyst; and

- Add three (3) 30MMCFD TEG dehydrators (units 32, 33, and 34). The 3 new dehydrators will handle a different gas stream than those currently handled at the facility. The new dehydrators may each operate at up to 50 MMCFD of natural gas throughput.

Revision 1 of this application includes the following additional modifications:

- Reduce startup and shutdown emissions (Unit SSM) from 12.0 tpy to 7.81 tpy. Emissions were calculated assuming each engine will experience a maximum average of 100 startup and shutdown events per year. These maximum average 100 events per engine include all engine startups and shutdowns, including both predictable events, standby events and malfunction events.

  To ensure compliance with the new ozone rule, Harvest engineering has carefully reviewed and updated the blowdown volumes associated with each of the engines at the facility. The blowdown volume calculations are included the updated calculations workbook. Also, to ensure an adequate margin of safety, SSM emissions were calculated using the richest gas analyses sampled during the last five years (dated 12/26/2018).

- Remove malfunction emissions from the permit.

- Update pigging emissions. Revision 0 of the application identified a pig receiver. The facility has one pig launcher and two pig receivers within ¼ mile of the facility. They are all insignificant sources. Note that the equations used to calculate emissions have been updated to more accurately identify purging emissions.

The controlled 4SRB RICE and the newly-controlled 4SLB RICE will emit air pollutants below the current permitted emissions for the RICE.

This application is being submitted under 20.2.72.219.D(1) NMAC for a Significant Revision to the facility's construction permit,

An air quality dispersion modeling analysis is included in the application, and demonstrates the emissions resulting from the proposed modifications will not exceed air quality standards.

There are no revisions or modifications to the permit contained in this application that de-bottleneck impacts or change the facility's major/minor status under the Title V Operating Permits program. However, the proposed modifications *do* result in reductions of criteria pollutant emissions that change the facility's status from a major source under the Prevention of Significant Deterioration (PSD) permitting program to a Synthetic Minor source under PSD.

Process Description

A brief summary of facility operations is outlined in Section 10 of this application.

Startup, Shutdown and Maintenance Emissions

Except for the emissions from blowdown events (described below), it is concluded there are no SSM emissions in excess of those identified for steady-state operation as seen in Table 2-E of Section 2. Discussions justifying this conclusion are provided in Section 6.

Section 6

All Calculations

Show all calculations used to determine both the hourly and annual controlled and uncontrolled emission rates. All calculations shall be performed keeping a minimum of three significant figures. Document the source of each emission factor used (if an emission rate is carried forward and not revised, then a statement to that effect is required). If identical units are being permitted and will be subject to the same operating conditions, submit calculations for only one unit and a note specifying what other units to which the calculations apply. All formulas and calculations used to calculate emissions must be submitted. The "Calculations" tab in the UA2 has been provided to allow calculations to be linked to the emissions tables. Add additional "Calc" tabs as needed. If the UA2 or other spread sheets are used, all calculation spread sheet(s) shall be submitted electronically in Microsoft Excel compatible format so that formulas and input values can be checked. Format all spread sheets and calculations such that the reviewer can follow the logic and verify the input values. Define all variables. If calculation spread sheets are not used, provide the original formulas with defined variables. Additionally, provide subsequent formulas showing the input values for each variable in the formula. All calculations, including those calculations are imbedded in the Calc tab of the UA2 portion of the application, the printed Calc tab(s), should be submitted under this section.

Tank Flashing Calculations: The information provided to the AQB shall include a discussion of the method used to estimate tank-flashing emissions, relative thresholds (i.e., NOI, permit, or major source (NSPS, PSD or Title V)), accuracy of the model, the input and output from simulation models and software, all calculations, documentation of any assumptions used, descriptions of sampling methods and conditions, copies of any lab sample analysis. If Hysis is used, all relevant input parameters shall be reported, including separator pressure, gas throughput, and all other relevant parameters necessary for flashing calculation.

SSM Calculations: It is the applicant's responsibility to provide an estimate of SSM emissions or to provide justification for not doing so. In this Section, provide emissions calculations for Startup, Shutdown, and Routine Maintenance (SSM) emissions listed in the Section 2 SSM and/or Section 22 GHG Tables and the rational for why the others are reported as zero (or left blank in the SSM/GHG Tables). Refer to "Guidance for Submittal of Startup, Shutdown, Maintenance Emissions in Permit Applications (http://www.env.nm.gov/aqb/permit/app_form.html) for more detailed instructions on calculating SSM emissions. If SSM emissions are greater than those reported in the Section 2, Requested Allowables Table, modeling may be required to ensure compliance with the standards whether the application is NSR or Title V. Refer to the Modeling Section of this application for more guidance on modeling requirements.

Glycol Dehydrator Calculations: The information provided to the AQB shall include the manufacturer's maximum design recirculation rate for the glycol pump. If GRI-Glycalc is used, the full input summary report shall be included as well as a copy of the gas analysis that was used.

Road Calculations: Calculate fugitive particulate emissions and enter haul road fugitives in Tables 2-A, 2-D and 2-E for:

1. If you transport raw material, process material and/or product into or out of or within the facility and have PER emissions greater than 0.5 tpy.
2. If you transport raw material, process material and/or product into or out of the facility more frequently than one round trip per day.

Significant Figures:

A. All emissions standards are deemed to have at least two significant figures, but not more than three significant figures.

B. At least 5 significant figures shall be retained in all intermediate calculations.

C. In calculating emissions to determine compliance with an emission standard, the following rounding off procedures shall be used:

(1) If the first digit to be discarded is less than the number 5, the last digit retained shall not be changed;

(2) If the first digit discarded is greater than the number 5, or if it is the number 5 followed by at least one digit other than the number zero, the last figure retained shall be increased by one unit; **and**

(3) If the first digit discarded is exactly the number 5, followed only by zeros, the last digit retained shall be rounded upward if it is an odd number, but no adjustment shall be made if it is an even number.

(4) The final result of the calculation shall be expressed in the units of the standard.

Control Devices: In accordance with 20.2.72.203.A(3) and (8) NMAC, 20.2.70.300.D(5)(b) and (e) NMAC, and 20.2.73.200.B(7) NMAC, the permittee shall report all control devices and list each pollutant controlled by the control device

regardless if the applicant takes credit for the reduction in emissions. The applicant can indicate in this section of the application if they chose to not take credit for the reduction in emission rates. For notices of intent submitted under 20.2.73 NMAC, only uncontrolled emission rates can be considered to determine applicability unless the state or federal Acts require the control. This information is necessary to determine if federally enforceable conditions are necessary for the control device, and/or if the control device produces its own regulated pollutants or increases emission rates of other pollutants.

Engines

The NO_2, CO, and VOC emissions from the uncontrolled 4-stroke, lean burn (4SLB) engines were calculated from manufacturer's data. The controlled CO and VOC emission calculations for 4SLB engines equipped with catalytic converters apply the representative manufacturer's catalyst CO and VOC control efficiencies to the uncontrolled emissions. NO_X emissions are not controlled by catalytic converters on 4SLB engines. The SO_2 and particulate emissions were calculated using AP-42 emission factors from Table 3.2-2.

The NO_2, CO, and VOC emissions from the uncontrolled 4-stroke, rich burn (4SRB) engines were calculated from manufacturer's data. Controlled NO_2 and CO are calculated from 20.2.50.113 NMAC Table 2 maximum allowed emission factors for new 4SRB engines greater than 500 bhp-hr. The controlled VOC emissions were calculated from a representative three-way catalyst manufacturer's emission factor for controlled engines. The control efficiencies of the controlled emissions were back-calculated relative to the uncontrolled emissions.

HAP emissions for all of the engines were calculated using GRI-HAPCalc 3.1. The emissions were calculated assuming each engine operates at full site capacity for 8,760 hours per year. The back-calculated control efficiencies were applied to the uncontrolled HAP emissions.

Each engine starts up with no load and a rich fuel mixture. As a result, emissions are minimized. Because the engine takes only minutes to reach the operating temperature of the engine and effective temperature of the emission control catalyst, emissions during startup are not expected to exceed the steady-state allowable limits. Similarly, emissions during shutdown do not exceed the steady-state allowable limits, because fuel and air flow cease within seconds of shutdown. Emissions due to scheduled maintenance are negligible as the engines are not in operation during maintenance.

SSM from Compressors and Piping Blowdowns

SSM blowdown emissions from the compressors and piping associated with the facility occur when high pressure gas is used to purge air from the system prior to startup. Also, after shutdowns, high pressure gas is released to atmosphere as a safety precaution.

VOC and HAP emissions from blowdowns of the compressors and piping associated with the station were calculated from the quantity of gas vented during each event, the composition of the gas, and the number of events. The quantity of gas vented during each event was determined by Harvest engineering. The

composition of the gas was determined from a recent extended gas analysis. For each unit, the annual number of blowdown events were estimated based on historical operations. A safety factor was incorporated because emissions from each blowdown event are dependent on the composition of the gas in the pipeline and because the number of blowdowns in a year may vary.

The SSM emissions identified in this application are routine or predictable startup/shutdown and scheduled maintenance, and do not include malfunctions or upsets.

Dehydrator Still Vents

VOC and HAP emissions from the dehydrator still vents were calculated using GRI-GLYCalc 4.0. All emissions were calculated assuming each dehydrator operates at full capacity for 8,760 hours per year. To allow for variability in the composition of the inlet gas stream, the dehydrator still vent VOC emission rates identified on the application forms (Table 2-E) are higher than the calculated emission rates in this section.

The still vent emissions of each existing dehydrator (units 17 - 22, and 31) are routed to one of four centralized condensers at the facility that handles still vent emissions from multiple dehydrators. The condensers collect the vented regenerator vapors and function as a "knock-out drum" to allow condensable water and hydrocarbon liquids to drop out of the non-condensable still vent emissions stream. The liquid is then routed to a tank for storage and subsequent removal. The non-condensable still vent emissions are released directly to atmosphere. The efficacy of the system for emission control is considered relatively low and is therefore represented as "uncontrolled" still vent emissions in the GLYCalc emission calculations.

The flash tank emissions from the dehydrators will be routed to the reboilers for combustion.

During startup, the dehydrator reboiler is brought up to temperature before allowing glycol into the absorber. This prevents excess VOC and HAP from collecting in the glycol stream and there are no excess startup emissions above those expected during steady-state operation. During shutdown, the reboiler is shut down in conjunction with the gas flow and glycol circulation. Again, this prevents excess VOC and HAP from collecting in the glycol stream and there are no excess shutdown emissions above those expected during steady-state operation. Emissions due to scheduled maintenance are negligible; either the unit will not be in operation during maintenance or maintenance is limited to tasks for which there are no excess emissions.

The emission calculations for the three (3) new 30 mmcfd TEG dehydrators (units 32a, 33a, and 34a) are based on a representative gas (with a separate gas inlet relative to the remainder of the facility) at a 50 mmcfd processing rate. The emission rates in Table 2-E (Requested Allowable Emissions) are greater than the calculated emission rates as they include a safety factor to allow for fluctuations in the composition of the natural gas stream that handled by the three new dehydrators.

Dehydrator Reboilers

The NO_X and CO emission factors for the reboilers were identified from an Enertek letter dated August 19, 1994. The VOC and SO_2 emission factors were identified from an InFab letter dated July 22, 1998. The particulate and lead emissions were calculated using AP-42 emission factors from Table 1.4-2. HAP emissions were calculated using GRI-HAPCalc 3.1. All emissions were calculated assuming each reboiler operates 8,760 hours per year.

The dehydrator reboilers (uncontrolled) startup with less fuel input than during steady-state operation, so emissions are lower than during steady-state operation. During shutdown, the fuel supply stops quickly, but air flow may not, causing the continued formation of NO_X. Even so, with no fuel, NO_X formation should be less than during steady-state operation. Emissions due to scheduled maintenance are negligible as the units are not in operation.

As previously indicated, three (3) new 30 mmcfd TEG dehydrators are proposed including their associated reboilers. The new reboilers are each rated at 550 MBtu/hr. No modifications are proposed for the permitted seven (7) existing dehydrator reboilers or their operation.

Storage Tanks

VOC and HAP emissions from the four (4) produced water storage tanks were calculated using emission factors from the Colorado Department of Public Health and Environment (CDPHE) and the Texas Commission on Environmental Quality (TCEQ) applied to the total maximum annual facility throughput of produced water. Using this calculation method, the VOC emission rate is now estimated at more than 0.5 tpy; therefore, the produced water storage tank(s) are no longer an NSR exempt source under 20.2.72.202.B(5) NMAC, and have been included in Table 2-A, Regulated Equipment. (However, it is noted the calculated VOC emissions are less than 1 tpy and therefore remain insignificant under the Title V Insignificant Activities List, Item #1 for Title V permitting purposes.) The facility is not a "Produced Water Management Unit" as defined under 20.2.50 NMAC.

As needed to demonstrate exemption based on 20.2.72.202.B(5) NMAC (and/or the Insignificant emissions criterion of the Title V Insignificant Activities List, Item #1), storage tank working/breathing losses were calculated using TANKS 4.0.d.9. Exemption and/or insignificance based on low vapor pressure of the stored contents (20.2.72.202.B(2) NMAC and/or Title V Insignificant Activities List, Item #5) does not require an emission calculation.

The following assumptions were applied:

- Residual oil #6 was used as an estimate for lubrication oil. As the vapor pressure of residual oil #6 is less than 0.2 psia, tanks containing lubrication oil are NSR exempt sources under

20.2.72.202.B(2) NMAC and Title V insignificant sources in accordance with Insignificant Activity Item #5.

- The anti-freeze is an inhibited ethylene glycol (EG) coolant containing 50% EG and 50% water. As the vapor pressure of EG is less than 0.2 psia, tanks containing antifreeze are exempt sources under 20.2.72.202.B(2) NMAC and Title V insignificant sources in accordance with Insignificant Activity List Item #5.

- Ambitrol (corrosion inhibitor) is an inhibited ethylene or propylene glycol coolant containing ethylene or propylene glycol, water and less than 5% dipotassium hydrogen phosphate. As the vapor pressures of ethylene glycol and propylene glycol are less than 0.2 psia, tanks containing Ambitrol are exempt sources under 20.2.72.202.B(2) NMAC and insignificant sources in accordance with Insignificant Activity List Item #5.

- As the vapor pressure of TEG is less than 0.2 psia, tanks containing TEG are exempt sources under 20.2.72.202.B(2) NMAC and Title V insignificant sources in accordance with Insignificant Activity List Item #5.

- Jet kerosene was used as an estimate for the solvent. As the vapor pressure of jet kerosene is less than 0.2 psia, tanks containing solvent are exempt sources under 20.2.72.202.B(2) NMAC and Title V insignificant sources in accordance with Insignificant Activity List Item #5.

- The wastewater captured and stored at the facility is assumed to be 1% residual oil and 99% water. As the vapor pressure of residual oil is less than 0.2 psia, tanks containing wastewater are exempt sources under 20.2.72.202.B(2) NMAC and Title V insignificant sources in accordance with Insignificant Activity List Item #5;

- The composition of methanol from the TANKS chemical database was used to calculate the VOC emissions from methanol storage tank. The methanol tank is exempt under 20.2.72.202.B(5) NMAC and insignificant in accordance with Title V Insignificant Activity List Item #1.a.

Due to the nature of operations, startup and shutdown emissions from the storage tanks are assumed to be accounted for in the calculations discussed above. Emissions due to maintenance are negligible as the units are not in operation during maintenance.

Aside from the possible addition of TEG storage for the new dehydrators, no other changes are being made to the storage tanks or their operation.

Truck Loading (Produced Water)

The VOC emissions from produced water truck loading were calculated using the AP-42 emissions factors identified in Section 5.2-1. The data used to calculate the emission factor was obtained assuming the liquid was pure water.

Due to the nature of the source, it is estimated that SSM emissions from truck loading are accounted for in the calculations.

The produced water truck loading is an exempt source in accordance with 20.2.72.202.B(5) NMAC (VOC emissions are less than 0.5 tons per year) and a Title V insignificant source in accordance with Insignificant Activity Item #1.

Pig Receivers

VOC and HAP emissions from the pig receivers were calculated from the quantity of gas vented during each event, the composition of the gas, and the number of events. The quantity of gas vented during each event was determined by Harvest engineering. The composition of the gas was determined from a recent extended gas analysis. The annual number of blowdown events were estimated based on historical operations. A safety factor was added because VOC and HAP emissions from each blowdown event are dependent on the composition of the gas in the pipeline and because the number of blowdowns in a year may vary. Experience indicates there will be a nominal variation in the composition of the gas.

Due to the nature of the source, it is estimated that SSM emissions from the pig launchers and receivers are already accounted for in the calculations.

Based on calculated VOC emissions of less than 0.5 tpy, the pig receivers are exempt under 20.2.72.202.B(5) NMAC and insignificant in accordance with Title V Insignificant Activity List Item #1.a.

Equipment Leak Emissions

VOC and HAP emissions from equipment leaks were calculated using emission factors from Table 2.4 of the 1995 Protocol for Equipment Leak Emission Estimates published by the Environmental Protection Agency (EPA) and the gas stream composition obtained from a recent extended gas analysis. Emissions were calculated assuming the equipment operates 8,760 hours per year.

Due to the nature of the source, it is estimated that SSM emissions from the equipment are accounted for in the calculations.

Section 6.a

Green House Gas Emissions

(Submitting under 20.2.70, 20.2.72 20.2.74 NMAC)

Title V (20.2.70 NMAC), Minor NSR (20.2.72 NMAC), and PSD (20.2.74 NMAC) applicants must estimate and report greenhouse gas (GHG) emissions to verify the emission rates reported in the public notice, determine applicability to 40 CFR 60 Subparts, and to evaluate Prevention of Significant Deterioration (PSD) applicability. GHG emissions that are subject to air permit regulations consist of the sum of an aggregate group of these six greenhouse gases: carbon dioxide (CO_2), nitrous oxide (N_2O), methane (CH_4), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6).

Calculating GHG Emissions:

1. Calculate the ton per year (tpy) GHG mass emissions and GHG CO_2e emissions from your facility.
2. GHG mass emissions are the sum of the total annual tons of greenhouse gases without adjusting with the global warming potentials (GWPs). GHG CO_2e emissions are the sum of the mass emissions of each individual GHG multiplied by its GWP found in Table A-1 in 40 CFR 98 Mandatory Greenhouse Gas Reporting.
3. Emissions from routine or predictable start up, shut down, and maintenance must be included.
4. Report GHG mass and GHG CO_2e emissions in Table 2-P of this application. Emissions are reported in **short** tons per year and represent each emission unit's Potential to Emit (PTE).
5. All Title V major sources, PSD major sources, and all power plants, whether major or not, must calculate and report GHG mass and CO2e emissions for each unit in Table 2-P.
6. For minor source facilities that are not power plants, are not Title V, and are not PSD there are three options for reporting GHGs in Table 2-P: 1) report GHGs for each individual piece of equipment; 2) report all GHGs from a group of unit types, for example report all combustion source GHGs as a single unit and all venting GHGs as a second separate unit; 3) or check the following ☐ By checking this box, the applicant acknowledges the total CO2e emissions are less than 75,000 tons per year.

Sources for Calculating GHG Emissions:

- Manufacturer's Data
- AP-42 Compilation of Air Pollutant Emission Factors at http://www.epa.gov/ttn/chief/ap42/index.html
- EPA's Internet emission factor database WebFIRE at http://cfpub.epa.gov/webfire/
- 40 CFR 98 Mandatory Green House Gas Reporting except that tons should be reported in short tons rather than in metric tons for the purpose of PSD applicability.
- API Compendium of Greenhouse Gas Emissions Methodologies for the Oil and Natural Gas Industry. August 2009 or most recent version.
- Sources listed on EPA's NSR Resources for Estimating GHG Emissions at http://www.epa.gov/nsr/clean-air-act-permitting-greenhouse-gases:

Global Warming Potentials (GWP):
Applicants must use the Global Warming Potentials codified in Table A-1 of the most recent version of 40 CFR 98 Mandatory Greenhouse Gas Reporting. The GWP for a particular GHG is the ratio of heat trapped by one unit mass of the GHG to that of one unit mass of CO_2 over a specified time period.

"Greenhouse gas" for the purpose of air permit regulations is defined as the aggregate group of the following six gases: carbon dioxide, nitrous oxide, methane, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. **(20.2.70.7 NMAC, 20.2.74.7 NMAC).** You may also find GHGs defined in 40 CFR 86.1818-12(a).

Metric to Short Ton Conversion:
Short tons for GHGs and other regulated pollutants are the standard unit of measure for PSD and title V permitting programs. 40 CFR 98 Mandatory Greenhouse Reporting requires metric tons.
1 metric ton = 1.10231 short tons (per Table A-2 to Subpart A of Part 98 – Units of Measure Conversions)

CO_2, CH_4, and N_2O stack exhaust emissions were calculated using emission factors from 40 Code of Federal Regulations (CFR), Part C, Tables C-1 & C-2 and the combustion source higher heating value (HHV) design heat rates.

The SSM CO_2 and CH_4 emissions from blowdown events were calculated from the annual blowdown volumes and natural gas composition.

The reciprocating CO_2 and CH_4 emissions were calculated using a combination of equations W-26 & W-36 (from Subpart W).

Dehydrator CO_2 and CH_4 emissions were calculated using GRI-GLYCalc.

CO_2 and CH_4 from emission sources including equipment leaks (fugitive emissions), gas-driven pneumatic devices, and gas-driven pneumatic pumps were calculated using the gas stream composition, component counts, and the applicable Subpart W methodology.

There are no appreciable GHG emissions associated with the storage tanks and/or truck loading operations.

Compressor Blowdown Emissions Calculations

Unit Number: SSM
Description: Compressor & Piping Associated With Station (for Units 3-14)

Throughput

12	# of units	Number of units	Harvest Four Corners, LLC
100	events/yr/unit	Blowdowns per year per unit	Harvest Four Corners, LLC
12,370	scf/event	Gas loss per blowdown	Harvest Four Corners, LLC
14,844,000	scf/yr	Annual gas loss	# of units x events/yr/unit x scf/ever

Emission Rates

Pollutants	Emission Factors, lb/scf	Uncontrolled, Emission Rates, tpy
VOC	8.138E-04	6.04
Benzene	6.176E-07	4.58E-03
Ethylbenzene	0.000E+00	0.00E+00
n-Hexane	1.817E-06	1.35E-02
2,2,4-Trimethlypentane (Isooctane)	2.641E-07	1.96E-03
Toluene	9.714E-07	7.21E-03
Xylene	8.395E-07	6.23E-03

Emission factors calculated from gas composition (see table below)
Uncontrolled Emission Rates (tpy) = scf/yr x lb/scf / 2,000 lb/ton

Gas Composition

Components	Mole Percents, %	Molecular Weights, lb/lb-mole	Emission Factors, lb/scf
Carbon dioxide	6.4897	44.01	7.528E-03
Hydrogen sulfide	0.0000	34.07	0.000E+00
Nitrogen	0.1209	28.01	8.926E-05
Methane	91.5699	16.04	3.871E-02
Ethane	1.2389	30.07	9.819E-04
Propane	0.2443	44.09	2.839E-04
Isobutane	0.0402	58.12	6.158E-05
n-Butane	0.2671	58.12	4.092E-04
Isopentane	0.0130	72.15	2.472E-05
n-Pentane	0.0085	72.15	1.616E-05
Cyclopentane	0.0001	70.14	1.849E-07
n-Hexane	0.0008	86.17	1.817E-06
Cyclohexane	0.0003	84.16	6.655E-07
Other hexanes	0.0018	86.18	4.089E-06
Heptanes	0.0008	100.20	2.113E-06
Methylcyclohexane	0.0009	98.19	2.329E-06
2,2,4-Trimethlypentane (Isooctane)	0.0001	100.21	2.641E-07
Benzene	0.0003	78.11	6.176E-07
Toluene	0.0004	92.14	9.714E-07
Ethylbenzene	0.0000	106.17	0.000E+00
Xylenes	0.0003	106.17	8.395E-07
C8+ Heavies	0.0015	110.00	4.349E-06
Total	99.9998		
Total VOC			8.138E-04

The gas stream composition is based on the blended 31-6 CDP & 31-6 Straddle Suction gas analyses sampled 12/26/20
Emission Factors (lb/scf) = (% / 100) x lb/lb-mole / 379.4 scf/lb-mole

Compressor Blowdown Emissions Calculations

Unit Number: SSM
Description: Compressor & Piping Associated With Station (for Units 1, 15, 16 & 33)

Throughput

4	# of units	Number of units	Harvest Four Corners, LLC
100	events/yr/unit	Blowdowns per year per unit	Harvest Four Corners, LLC
10,850	scf/event	Gas loss per blowdown	Harvest Four Corners, LLC
4,340,000	scf/yr	Annual gas loss	# of units x events/yr/unit x scf/ever

Emission Rates

Pollutants	Emission Factors, lb/scf	Uncontrolled, Emission Rates, tpy
VOC	8.138E-04	1.77
Benzene	6.176E-07	1.34E-03
Ethylbenzene	0.000E+00	0.00E+00
n-Hexane	1.817E-06	3.94E-03
2,2,4-Trimethlypentane (Isooctane)	2.641E-07	5.73E-04
Toluene	9.714E-07	2.11E-03
Xylene	8.395E-07	1.82E-03

Emission factors calculated from gas composition (see table below)
Uncontrolled Emission Rates (tpy) = scf/yr x lb/scf / 2,000 lb/ton

Gas Composition

Components	Mole Percents, %	Molecular Weights, lb/lb-mole	Emission Factors, lb/scf
Carbon dioxide	6.4897	44.01	7.528E-03
Hydrogen sulfide	0.0000	34.07	0.000E+00
Nitrogen	0.1209	28.01	8.926E-05
Methane	91.5699	16.04	3.871E-02
Ethane	1.2389	30.07	9.819E-04
Propane	0.2443	44.09	2.839E-04
Isobutane	0.0402	58.12	6.158E-05
n-Butane	0.2671	58.12	4.092E-04
Isopentane	0.0130	72.15	2.472E-05
n-Pentane	0.0085	72.15	1.616E-05
Cyclopentane	0.0001	70.14	1.849E-07
n-Hexane	0.0008	86.17	1.817E-06
Cyclohexane	0.0003	84.16	6.655E-07
Other hexanes	0.0018	86.18	4.089E-06
Heptanes	0.0008	100.20	2.113E-06
Methylcyclohexane	0.0009	98.19	2.329E-06
2,2,4-Trimethlypentane (Isooctane)	0.0001	100.21	2.641E-07
Benzene	0.0003	78.11	6.176E-07
Toluene	0.0004	92.14	9.714E-07
Ethylbenzene	0.0000	106.17	0.000E+00
Xylenes	0.0003	106.17	8.395E-07
C8+ Heavies	0.0015	110.00	4.349E-06
Total	99.9998		
Total VOC			8.138E-04

The gas stream composition is based on the blended 31-6 CDP & 31-6 Straddle Suction gas analyses sampled 12/26/20
Emission Factors (lb/scf) = (% / 100) x lb/lb-mole / 379.4 scf/lb-mole

Pig Launcher Emissions Calculations

Unit Number: PL1
Description: Pig Receiver

Pipe Volume

Outside Diameter, in	Wall Thickness, in	Pipe Length, ft	Pipe Volume, ft^3
20	0.375	6	12.127

Pipe Volume
3.1416 x (((Outside Diameter - (2 x Wall Thickness)) / 12 / 2) ^2) x Pipeline Length

Blowdown Volume (Per Event)

Blowdown Pressure, psig	Atmospheric Pressure, psi	Blowdown Gas Loss, scf	Number of Purges, #	Purge Pressure, psig	Purge Gas Loss, mscf	Total Gas Loss, scf
390	11.66	331	2	30	69	400

Blowdown Gas Loss
Pipe Volume x ((Blowdown Pressure + Atmospheric Pressure) / 14.7)
Purge Gas Loss
Number of Purges x Pipe Volume x ((Purge Pressure + Atmospheric Pressure) / 14.7)

Throughput

26	events/yr	Blowdowns per year	Harvest Four Corners, LLC
400	scf/event	Gas loss per blowdown	Calculated (see table above)
10,402	scf/yr	Annual gas loss	events/yr x scf/event

Emission Rates

Pollutants	Emission Factors, lb/scf	Uncontrolled, Emission Rates, tpy
VOC	3.269E-04	1.70E-03
Benzene	6.682E-07	3.48E-06
Ethylbenzene	1.362E-06	7.09E-06
n-Hexane	2.396E-06	1.25E-05
Isooctane	2.143E-07	1.11E-06
Toluene	1.774E-06	9.22E-06
Xylene	4.541E-07	2.36E-06

Emission factors calculated from gas composition (see table below)
Uncontrolled Emission Rates (tpy) = scf/yr x lb/scf / 2,000 lb/ton

Pig Launcher Emissions Calculations

Unit Number: PL1
Description: Pig Receiver

Gas Composition

Components	Mole Percents, %	Molecular Weights, lb/lb-mole	Emission Factors, lb/scf
Carbon dioxide	6.9735	44.01	8.089E-03
Hydrogen sulfide	0.0000	34.07	0.000E+00
Nitrogen	0.1239	28.01	9.150E-05
Methane	91.6392	16.04	3.874E-02
Ethane	1.0173	30.07	8.063E-04
Propane	0.1748	44.09	2.032E-04
Isobutane	0.0243	58.12	3.729E-05
n-Butane	0.0236	58.12	3.612E-05
Isopentane	0.0092	72.15	1.744E-05
n-Pentane	0.0040	72.15	7.561E-06
Cyclopentane	0.0002	70.14	3.000E-07
n-Hexane	0.0011	86.17	2.396E-06
Cyclohexane	0.0004	84.16	9.000E-07
Other hexanes	0.0023	86.18	5.161E-06
Heptanes	0.0011	100.20	2.786E-06
Methylcyclohexane	0.0011	98.19	2.940E-06
Isooctane	0.0001	100.21	2.143E-07
Benzene	0.0003	78.11	6.682E-07
Toluene	0.0007	92.14	1.774E-06
Ethylbenzene	0.0005	106.17	1.362E-06
Xylenes	0.0002	106.17	4.541E-07
C8+ Heavies	0.0022	110.00	6.352E-06
Total	99.9999		
Total VOC			3.269E-04

The gas stream composition is based on the blended 31-6 CDP & 31-6 Straddle Suction gas analyses sampled 11/30/2022.
Emission Factors (lb/scf) = (% / 100) x lb/lb-mole / 379.4 scf/lb-mole

Pig Receiver Emissions Calculations

Unit Number: PR1 & PR2
Description: Pig Receiver

Note: The data on this worksheet applies to each individual emissions unit identified above.

Pipe Volume

Outside Diameter, in	Wall Thickness, in	Pipe Length, ft	Pipe Volume, ft^3
20	0.375	10	20.211

Pipe Volume
3.1416 x (((Outside Diameter - (2 x Wall Thickness)) / 12 / 2) ^2) x Pipeline Length

Blowdown Volume (Per Event)

Blowdown Pressure, psig	Atmospheric Pressure, psi	Blowdown Gas Loss, scf	Number of Purges, #	Purge Pressure, psig	Purge Gas Loss, mscf	Total Gas Loss, scf
30	11.66	57	2	30	115	172

Blowdown Gas Loss
Pipe Volume x ((Blowdown Pressure + Atmospheric Pressure) / 14.7)
Purge Gas Loss
Number of Purges x Pipe Volume x ((Purge Pressure + Atmospheric Pressure) / 14.7)

Throughput

52	events/yr	Blowdowns per year	Harvest Four Corners, LLC
172	scf/event	Gas loss per blowdown	Calculated (see table above)
8,935	scf/yr	Annual gas loss	events/yr x scf/event

Emission Rates

Pollutants	Emission Factors, lb/scf	Uncontrolled, Emission Rates, tpy
VOC	3.269E-04	1.46E-03
Benzene	6.682E-07	2.99E-06
Ethylbenzene	1.362E-06	6.09E-06
n-Hexane	2.396E-06	1.07E-05
Isooctane	2.143E-07	9.58E-07
Toluene	1.774E-06	7.92E-06
Xylene	4.541E-07	2.03E-06

Emission factors calculated from gas composition (see table below)
Uncontrolled Emission Rates (tpy) = scf/yr x lb/scf / 2,000 lb/ton

Pig Receiver Emissions Calculations

Unit Number: PR1 & PR2
Description: Pig Receiver

Gas Composition

Components	Mole Percents, %	Molecular Weights, lb/lb-mole	Emission Factors, lb/scf
Carbon dioxide	6.9735	44.01	8.089E-03
Hydrogen sulfide	0.0000	34.07	0.000E+00
Nitrogen	0.1239	28.01	9.150E-05
Methane	91.6392	16.04	3.874E-02
Ethane	1.0173	30.07	8.063E-04
Propane	0.1748	44.09	2.032E-04
Isobutane	0.0243	58.12	3.729E-05
n-Butane	0.0236	58.12	3.612E-05
Isopentane	0.0092	72.15	1.744E-05
n-Pentane	0.0040	72.15	7.561E-06
Cyclopentane	0.0002	70.14	3.000E-07
n-Hexane	0.0011	86.17	2.396E-06
Cyclohexane	0.0004	84.16	9.000E-07
Other hexanes	0.0023	86.18	5.161E-06
Heptanes	0.0011	100.20	2.786E-06
Methylcyclohexane	0.0011	98.19	2.940E-06
Isooctane	0.0001	100.21	2.143E-07
Benzene	0.0003	78.11	6.682E-07
Toluene	0.0007	92.14	1.774E-06
Ethylbenzene	0.0005	106.17	1.362E-06
Xylenes	0.0002	106.17	4.541E-07
C8+ Heavies	0.0022	110.00	6.352E-06
Total	99.9999		
Total VOC			3.269E-04

The gas stream composition is based on the blended 31-6 CDP & 31-6 Straddle Suction gas analyses sampled 11/30/2022.
Emission Factors (lb/scf) = (% / 100) x lb/lb-mole / 379.4 scf/lb-mole

Green House Gas Emissions Data and Calculations

Sources	Facility Total Emissions				
	CO2, tpy	N2O, tpy	CH4, tpy	GHG, tpy	CO2e, tpy
Engine & Turbine Exhaust	100,547.25	1.89E-01	1.89	100,549.34	100,651.10
SSM Blowdowns	77.59	--	371.62	449.21	9,368.05
Reciprocating Compressor Venting	198.75	--	953.33	1,152.07	24,031.93
Dehydrators	490.50	--	12.18	502.68	794.95
Reboiler Exhaust	2,577.22	4.86E-03	0.05	2,577.28	2,579.88
Pig Launchers & Receivers	0.11	--	0.55	0.66	13.81
Equipment Leaks	8.16	--	39.12	47.28	986.22
Natural Gas Pneumatic Device Venting	13.53	--	64.73	78.26	1,631.86
Natural Gas Driven Pneumatic Pump Venting	0.94	--	4.51	5.45	113.69
Total	103,914.05	1.94E-01	1,447.98	105,362.23	140,171.49

Engine & Turbine Exhaust Emissions

Unit Numbers	Description	Emission Factors			Emission Rates		
		CO2, kg/MMBtu	N2O, kg/MMBtu	CH4, kg/MMBtu	CO2, tpy	N2O, tpy	CH4, tpy
1	Waukesha 7042 GL	53.06	1.00E-04	1.00E-03	6,185.14	1.17E-02	1.17E-01
3	Waukesha 7042 GL	53.06	1.00E-04	1.00E-03	6,185.14	1.17E-02	1.17E-01
4	Waukesha 7042 **GSI**	53.06	1.00E-04	1.00E-03	6,581.39	1.24E-02	1.24E-01
5	Waukesha 7042 GL	53.06	1.00E-04	1.00E-03	6,185.14	1.17E-02	1.17E-01
6	Waukesha 7042 **GSI**	53.06	1.00E-04	1.00E-03	6,581.39	1.24E-02	1.24E-01
7	Waukesha 7042 GL	53.06	1.00E-04	1.00E-03	6,185.14	1.17E-02	1.17E-01
8	Waukesha 7042 GL	53.06	1.00E-04	1.00E-03	6,185.14	1.17E-02	1.17E-01
9	Waukesha 7042 GL	53.06	1.00E-04	1.00E-03	6,185.14	1.17E-02	1.17E-01
10	Waukesha 7042 GL	53.06	1.00E-04	1.00E-03	6,185.14	1.17E-02	1.17E-01
11	Waukesha 7042 GL	53.06	1.00E-04	1.00E-03	6,185.14	1.17E-02	1.17E-01
12	Waukesha 7042 GL	53.06	1.00E-04	1.00E-03	6,185.14	1.17E-02	1.17E-01
13	Waukesha 7042 **GSI**	53.06	1.00E-04	1.00E-03	6,581.39	1.24E-02	1.24E-01
14	Waukesha 7042 **GSI**	53.06	1.00E-04	1.00E-03	6,581.39	1.24E-02	1.24E-01
15	Waukesha 7042 GL	53.06	1.00E-04	1.00E-03	6,185.14	1.17E-02	1.17E-01
16	Waukesha 7042 GL	53.06	1.00E-04	1.00E-03	6,185.14	1.17E-02	1.17E-01
33	Waukesha 7042 GL	53.06	1.00E-04	1.00E-03	6,185.14	1.17E-02	1.17E-01
	Total				100,547.25	1.89E-01	1.89

The emissions factors are taken from 40 CFR 98, Subpart C, Tables C-1 & C-2
Emission Rates (tpy) = kg/MMBtu x 2.2 lb/kg x MMBtu/yr / 2,000 lb/ton

Unit Numbers	Description	Fuel Types	Operating Times, hr/yr	LHV Design Heat Rates, MMBtu/hr	HHV	
					Design Heat Rates, MMBtu/hr	Fuel Usages, MMBtu/yr
1	Waukesha 7042 GL	Nat. Gas	8,760	10.89	12.10	105,972
3	Waukesha 7042 GL	Nat. Gas	8,760	10.89	12.10	105,972
4	Waukesha 7042 **GSI**	Nat. Gas	8,760	11.58	12.87	112,761
5	Waukesha 7042 GL	Nat. Gas	8,760	10.89	12.10	105,972
6	Waukesha 7042 **GSI**	Nat. Gas	8,760	11.58	12.87	112,761
7	Waukesha 7042 GL	Nat. Gas	8,760	10.89	12.10	105,972
8	Waukesha 7042 GL	Nat. Gas	8,760	10.89	12.10	105,972
9	Waukesha 7042 GL	Nat. Gas	8,760	10.89	12.10	105,972
10	Waukesha 7042 GL	Nat. Gas	8,760	10.89	12.10	105,972
11	Waukesha 7042 GL	Nat. Gas	8,760	10.89	12.10	105,972
12	Waukesha 7042 GL	Nat. Gas	8,760	10.89	12.10	105,972
13	Waukesha 7042 **GSI**	Nat. Gas	8,760	11.58	12.87	112,761
14	Waukesha 7042 **GSI**	Nat. Gas	8,760	11.58	12.87	112,761
15	Waukesha 7042 GL	Nat. Gas	8,760	10.89	12.10	105,972
16	Waukesha 7042 GL	Nat. Gas	8,760	10.89	12.10	105,972
33	Waukesha 7042 GL	Nat. Gas	8,760	10.89	12.10	105,972

The fuel types and operating times are provided by Harvest
The LHV design heat rates are taken from manufacturers data
HHV Design Heat Rates (MMBtu/hr) = LHV Design Heat Rates (MMBtu/hr) / 0.9 LHV/HHV
HHV Fuel Usages (MMBtu/yr) = HHV Design Heat Rates (MMBtu/hr) x hr/yr

Green House Gas Emissions Data and Calculations

SSM Blowdown Emissions

Unit Numbers	Description	Total Gas Losses, scf/yr	CO2 Emission Factors, lb/scf	CH4 Emission Factors, lb/scf	Emission Rates		
					CO2, tpy	N2O, tpy	CH4, tpy
SSM (Eng)	SSM Blowdowns	19,184,000	0.0081	0.0387	77.59	-	371.62
	Total	19,184,000	0.0081	0.0387	77.59	-	371.62

The annual blowdown volumes are calculated from data provided by Harvest
The CO2 and CH4 emission factors are calculated from the facility extended gas analysis
Emission Rates (tpy) = scf/yr x lb/scf / 2,000 lb/ton

Reciprocating Compressor Venting Emissions

Unit Numbers	Description	Emission Rates		
		CO2, tpy	N2O, tpy	CH4, tpy
NA	Blowdown Valve Leakage	18.98	-	91.06
NA	Rod Packing Emissions	179.76	-	862.26
NA	Isolation Valve Leakage	0.00	-	0.00
	Total	198.75	-	953.33

Operating or standby mode - includes blowdown valve leakage through blowdown vent stack
Operating mode - includes rod packing emissions
Non-operating depressurized mode - includes isolation valve leakage through open blowdown vents (without blind flanges)
Rod packing gas emissions assume 4 cylinders per compressor
A combination of equations W-26 & W-36 (Subpart W) is used to calculate reciprocating compressor emissions
As the NMED requires CO2 & CH4 emissions rather than CO2e emissions, it is not necessary to include the global warming potential from equation W-36
CO2 Emission Rates (tpy) = # x scf/hr x hr/yr x (CO2 Mole Percent (%) / 100) x CO2 Density (kg/scf)
x (2,204.6 lb/tonne / 2,000 lb/ton) / 1,000 kg/tonne
CH4 Emission Rates (tpy) = # x scf/hr x hr/yr x (CH4 Mole Percent (%) / 100) x CH4 Density (kg/scf)
x (2,204.6 lb/tonne / 2,000 lb/ton) / 1,000 kg/tonne

Unit Numbers	Description	Number of Compressors #	Gas Emissions, scf/hr	Operating Times, hr/yr	CO2 Mole Percents, %	CH4 Mole Percents, %	CO2 Density, kg/scf	CH4 Density, kg/scf
NA	Blowdown Valve Leakage	16	33.5	8,760	6.97	91.64	0.0526	0.0192
NA	Rod Packing Emissions	16	317.2	8,760	6.97	91.64	0.0526	0.0192
NA	Isolation Valve Leakage	16	10.5	0	6.97	91.64	0.0526	0.0192

The number of compressors is provided by Harvest
Blowdown valve leakage (33.5 scf/hr) and rod packing emissions occur in operating mode
Blowdown valve leakage (10.5 scf/hr) occurs in standby pressurized mode
Emission factors are the three year rolling average (2012-2014) of all measurements in the Williams Field Services, LLC compressor fleet located at natural gas processing plants
The operating times (the average operating times for all station compressors combined) are provided by Harvest
The facility CO2 and CH4 contents are taken from the facility extended gas analysis
The CO2 & CH4 densities (kg/scf) are taken from Subpart W, Paragraph 98.233(v)

Green House Gas Emissions Data and Calculations

Dehydrator Emissions

Unit Numbers	Description	Emission Rates		
		CO2, tpy	N2O, tpy	CH4, tpy
17a	Dehydrator (12 MMSCFD)	57.82	-	1.22
18a	Dehydrator (12 MMSCFD)	57.82	-	1.22
19a	Dehydrator (12 MMSCFD)	57.82	-	1.22
20a	Dehydrator (12 MMSCFD)	57.82	-	1.22
21a	Dehydrator (12 MMSCFD)	57.82	-	1.22
22a	Dehydrator (12 MMSCFD)	57.82	-	1.22
31a	Dehydrator (30 MMSCFD)	56.33	-	1.18
32a	Dehydrator (30/50 MMSCFD)	29.09	-	1.23
33a	Dehydrator (30/50 MMSCFD)	29.09	-	1.23
34a	Dehydrator (30/50 MMSCFD)	29.09	-	1.23
	Total	490.50	-	12.18

The emission rates are taken from the GRI-GLYCalc output file

Reboiler Exhaust Emissions

Unit Numbers	Description	Emission Factors			Emission Rates		
		CO2, kg/MMBtu	N2O, kg/MMBtu	CH4, kg/MMBtu	CO2, tpy	N2O, tpy	CH4, tpy
17b	Reboiler (12 MMSCFD)	53.06	1.00E-04	1.00E-03	219.34	4.13E-04	4.13E-03
18b	Reboiler (12 MMSCFD)	53.06	1.00E-04	1.00E-03	219.34	4.13E-04	4.13E-03
19b	Reboiler (12 MMSCFD)	53.06	1.00E-04	1.00E-03	219.34	4.13E-04	4.13E-03
20b	Reboiler (12 MMSCFD)	53.06	1.00E-04	1.00E-03	219.34	4.13E-04	4.13E-03
21b	Reboiler (12 MMSCFD)	53.06	1.00E-04	1.00E-03	219.34	4.13E-04	4.13E-03
22b	Reboiler (12 MMSCFD)	53.06	1.00E-04	1.00E-03	219.34	4.13E-04	4.13E-03
31b	Reboiler (30 MMSCFD)	53.06	1.00E-04	1.00E-03	315.29	5.94E-04	5.94E-03
32b	Reboiler (30/50 MMSCFD)	53.06	1.00E-04	1.00E-03	315.29	5.94E-04	5.94E-03
33b	Reboiler (30/50 MMSCFD)	53.06	1.00E-04	1.00E-03	315.29	5.94E-04	5.94E-03
34b	Reboiler (30/50 MMSCFD)	53.06	1.00E-04	1.00E-03	315.29	5.94E-04	5.94E-03
	Total				2,577.22	4.86E-03	4.86E-02

The emissions factors are taken from 40 CFR 98, Subpart C, Tables C-1 & C-2
Emission Rates (tpy) = kg/MMBtu x 2.2 lb/kg x MMBtu/yr / 2,000 lb/ton

Unit Numbers	Description	Fuel Types	Operating Times hr/yr	LHV			HHV	
				Fuel Usages, scf/hr	Fuel Heat Contents, Btu/scf	Fuel Usages, MMBtu/hr	Fuel Usages, MMBtu/hr	Fuel Usages, MMBtu/yr
17b	Reboiler (12 MMSCFD)	Nat. Gas	8,760	429	900	0.39	0.43	3,758
18b	Reboiler (12 MMSCFD)	Nat. Gas	8,760	429	900	0.39	0.43	3,758
19b	Reboiler (12 MMSCFD)	Nat. Gas	8,760	429	900	0.39	0.43	3,758
20b	Reboiler (12 MMSCFD)	Nat. Gas	8,760	429	900	0.39	0.43	3,758
21b	Reboiler (12 MMSCFD)	Nat. Gas	8,760	429	900	0.39	0.43	3,758
22b	Reboiler (12 MMSCFD)	Nat. Gas	8,760	429	900	0.39	0.43	3,758
31b	Reboiler (30 MMSCFD)	Nat. Gas	8,760	617	900	0.56	0.62	5,402
32b	Reboiler (30/50 MMSCFD)	Nat. Gas	8,760	617	900	0.56	0.62	5,402
33b	Reboiler (30/50 MMSCFD)	Nat. Gas	8,760	617	900	0.56	0.62	5,402
34b	Reboiler (30/50 MMSCFD)	Nat. Gas	8,760	617	900	0.56	0.62	5,402

The fuel types and operating times are provided by Harvest
The LHV fuel usages (scf/hr) are taken from manufacturer's data
The LHV fuel heat contents are estimated based on the value typically used by manufacturers
LHV Fuel Usages (MMBtu/hr) = LHV Fuel Usages (scf/hr) x Btu/scf / 1,000,000 Btu/MMBtu
HHV Fuel Usages (MMBtu/hr) = LHV Fuel Usages (MMBtu/hr) / 0.9 LHV/HHV
HHV Fuel Usages (MMBtu/yr) = HHV Fuel Usages (MMBtu/hr) x hr/yr

Green House Gas Emissions Data and Calculations

Pig Launcher & Receiver Emissions

Unit Numbers	Description	Total Gas Losses, scf/yr	CO2 Emission Factors, lb/scf	CH4 Emission Factors, lb/scf	Emission Rates		
					CO2, tpy	N2O, tpy	CH4, tpy
PL1	Pig Launching	10,402	0.0081	0.0387	0.04	-	0.20
PR1	Pig Receiving	8,935	0.0081	0.0387	0.04	-	0.17
PR2	Pig Receiving	8,935	0.0081	0.0387	0.04	-	0.17
	Total				0.11	-	0.55

The annual blowdown volumes are calculated from data provided by Harvest
The CO2 and CH4 emission factors are calculated from the facility extended gas analysis
Emission Rates (tpy) = scf/yr x lb/scf / 2,000 lb/ton

Equipment Leaks Emissions

Unit Numbers	Description	Emission Rates		
		CO2, tpy	N2O, tpy	CH4, tpy
NA	Valves	5.9	-	28.3
NA	Connectors	0.9	-	4.4
NA	Open-Ended Lines	0.4	-	2.0
NA	Pressure Relief Valves	0.9	-	4.4
	Total	8.2	-	39.1

A combination of equations W-31 & W-36 (Subpart W) is used to calculate uncombusted CO2 & CH4 emissions
As the NMED requires CO2 & CH4 emissions rather than CO2e emissions, it is not necessary to include the global warming potential from equation W-36
CO2 Emission Rate (tpy) = # x scf/hr/component x (CO2 Content (mole %) / 100) x hr/yr x CO2 Density (kg/scf) x (2,204.6 lb/tonne / 2,000 lb/ton) / 1,000 kg/tonne
CH4 Emission Rate (tpy) = # x scf/hr/component x (CH4 Content (mole %) / 100) x hr/yr x CH4 Density (kg/scf) x (2,204.6 lb/tonne / 2,000 lb/ton) / 1,000 kg/tonne

Unit Numbers	Description	Number of Components, #	Emission Factors, scf/hr /component	CO2 Contents, mole %	CH4 Contents, mole %	Operating Times, hr/yr	CO2 Density, kg/scf	CH4 Density, kg/scf
NA	Valves	1377	0.121	6.97	91.64	8,760	0.0526	0.0192
NA	Connectors	1527	0.017	6.97	91.64	8,760	0.0526	0.0192
NA	Open-Ended Lines	388	0.031	6.97	91.64	8,760	0.0526	0.0192
NA	Pressure Relief Valves	133	0.193	6.97	91.64	8,760	0.0526	0.0192

The number of sources are calculated based on the number of compressors and dehydrators at the station (see criteria pollutant and HAP equipment leaks calculations)
The emission factors are taken from Subpart W, Table W-1A (Western U.S. - Gas Service)
The facility CO2 and CH4 contents are taken from the facility extended gas analysis
The operating times are provided by Harvest (default is the entire year)
The CO2 & CH4 densities are taken from Subpart W, Paragraph 98.233(v)

Green House Gas Emissions Data and Calculations

Natural Gas Pneumatic Device Venting Emissions

Unit Numbers	Description	Number of Devices, #	Emission Factors, scf/hr/device	Operating Times, hr/yr	Emission Rates		
					CO2, tpy	N2O, tpy	CH4, tpy
NA	Continuous High Bleed Pneumatic Devices	0	37.3	8,760	0.00	-	0.00
NA	Intermittent Bleed Pneumatic Devices	15	13.5	8,760	7.18	-	34.33
NA	Continuous Low Bleed Pneumatic Devices	129	1.39	8,760	6.35	-	30.40
	Total				13.53	-	64.73

The number of devices and operating times are provided by Harvest
The emission factors are taken from Subpart W, Table W-1A (Western U.S. - Gas Service)
Equation W-1 (Subpart W) is used to calculate CO2 & CH4 emissions
As the NMED requires CO2 & CH4 emissions in addition to CO2e emissions, it is necessary to divide by the global warming potentials
CO2 Emission Rates (tpy) = # x scf/hr/device x (CO2 Content (mole %) / 100) x CO2 Conversion Factors (tonne CO2e/scf) x hr/yr
x (2,204.6 lb/tonne / 2,000 lb/ton) / CO2 Global Warming Potentials (tonne CO2e/tonne CO2)
CH4 Emission Rates (tpy) = # x scf/hr/device x (CH4 Contents (mole %) / 100) x CH4 Conversion Factors (tonne CO2e/scf) x hr/yr
x (2,204.6 lb/tonne / 2,000 lb/ton) / CH4 Global Warming Potentials (tonne CO2e/tonne CH4)

Unit Numbers	Description	CO2 Contents, mole %	CH4 Contents, mole %	CO2 Conversion Factors, tonne CO2e /scf	CH4 Conversion Factors, tonne CO2e /scf	CO2 Global Warming Potentials, tonne CO2e /tonne CO2	CH4 Global Warming Potentials, tonne CO2e /tonne CH4
NA	Continuous High Bleed Pneumatic Devices	6.97	91.64	5.262E-05	4.790E-04	1	25
NA	Continuous Low Bleed Pneumatic Devices	6.97	91.64	5.262E-05	4.790E-04	1	25
NA	Intermittent Bleed Pneumatic Devices	6.97	91.64	5.262E-05	4.790E-04	1	25

The facility CO2 and CH4 contents are taken from the facility extended gas analysis
The conversion factors are taken from Subpart W, Paragraph 98.233(a)
The global warming potentials are taken from 40 CFR Part 98, Table A-1

Natural Gas Driven Pneumatic Pump Venting Emissions

Emission Rates

Unit Number	Description	Number of Pumps, #	Emission Factor, scf/hr/pump	Operating Time, hr/yr	Emission Rates		
					CO2, tpy	N2O, tpy	CH4, tpy
NA	Pneumatic Pump Venting	2	13.3	8,760	0.94	-	4.51

The number of pumps is provided by Harvest
The emission factor is taken from Subpart W, Table W-1A (Western U.S. - Gas Service)
The operating time is provided by Harvest (default is the entire year)
Equation W-2 (Subpart W) is used to calculate CO2 & CH4 emissions
As the NMED requires CO2 & CH4 emissions in addition to CO2e emissions, it is necessary to divide by the global warming potentials
CO2 Emission Rate (tpy) = # x scf/hr/pump x (CO2 Content (mole %) / 100) x CO2 Conversion Factor (tonne CO2e/scf) x hr/yr
x (2,204.6 lb/tonne / 2,000 lb/ton) / CO2 Global Warming Potentials (tonne CO2e/tonne CO2)
CH4 Emission Rate (tpy) = # x scf/hr/pump x (CH4 Content (mole %) / 100) x CH4 Conversion Factor (tonne CO2e/scf) x hr/yr
x (2,204.6 lb/tonne / 2,000 lb/ton) / CH4 Global Warming Potentials (tonne CO2e/tonne CH4)

Unit Number	Description	CO2 Content, mole %	CH4 Content, mole %	CO2 Conversion Factor, tonne CO2e /scf	CH4 Conversion Factor, tonne CO2e /scf	CO2 Global Warming Potential, tonne CO2e /tonne CO2	CH4 Global Warming Potential, tonne CO2e /tonne CH4
NA	Pneumatic Pump Venting	6.97	91.64	5.262E-05	4.790E-04	1	25

The facility CO2 and CH4 contents are taken from the facility extended gas analysis
The conversion factors are taken from Subpart W, Paragraph 98.233(a)
The operating time is provided by Harvest (the default is the entire year)
The global warming potentials are taken from 40 CFR Part 98, Table A-1

Green House Gas Emissions Data and Calculations

Gas Stream Composition

Components	Mole Percents, %	Molecular Weights, lb/lb-mole	Component Weights, lb/lb-mole	Weight Percent of Total, %	Emission Factors, lb/scf
Carbon Dioxide	6.9735	44.01	3.07	16.8327	0.0081
Hydrogen Sulfide	0.0000	34.07	0.00	0.0000	0.0000
Nitrogen	0.1239	28.01	0.03	0.1904	0.0001
Methane	91.6392	16.04	14.70	80.6189	0.0387
Ethane	1.0173	30.07	0.31	1.6778	0.0008
Propane	0.1748	44.09	0.08	0.4228	0.0002
IsoButane	0.0243	58.12	0.01	0.0776	0.0000
Normal Butane	0.0236	58.12	0.01	0.0752	0.0000
IsoPentane	0.0092	72.15	0.01	0.0363	0.0000
Normal Pentane	0.0040	72.15	0.00	0.0157	0.0000
Cyclopentane	0.0002	70.14	0.00	0.0006	0.0000
n-Hexane	0.0011	86.17	0.00	0.0050	0.0000
Cyclohexane	0.0004	84.16	0.00	0.0019	0.0000
Other Hexanes	0.0023	86.18	0.00	0.0107	0.0000
Heptanes	0.0011	100.20	0.00	0.0058	0.0000
Methylcyclohexane	0.0011	98.19	0.00	0.0061	0.0000
2,2,4-Trimethylpentane	0.0001	100.21	0.00	0.0004	0.0000
Benzene	0.0003	78.11	0.00	0.0014	0.0000
Toluene	0.0007	92.14	0.00	0.0037	0.0000
Ethylbenzene	0.0005	106.17	0.00	0.0028	0.0000
Xylenes	0.0002	106.17	0.00	0.0009	0.0000
C8+ heavies	0.0022	110.00	0.00	0.0132	0.0000
Total	99.9999		18.23	100.0000	0.0481
VOC			0.12	--	0.0003

The gas stream composition is based on the blended 31-6 CDP & 31-6 Straddle Suction gas analyses sampled 11/30/2022.
Component Weights (lb/lb-mole) = [Mole Percents (%) / 100] x Molecular Weights (lb/lb-mole)
Weight Percent of Total (%) = 100 x Component Weights (lb/lb-mole) / Total Component Weight (lb/lb-mole)
Emission Factors (lb/scf) = [Mole Percents (%) / 100] x Molecular Weights (lb/lb-mole) / 379.4 scf/lb-mole

31-6 Combined Inlet Stream Gas Composition

	31-6 Suction		31-6 Straddle		**Mixed Inlet**				
Meter # / Sample Date	60017-01/03	12/26/2018	02017-01	12/26/2018			blowdown lb based on	1000	scf/blowdown
Component	mol%	12-month flow, mmcf	mol%	12-month flow, mmcf	mol%	12-month flow, mmcf	MW (lb/lb-mole)	Mole% * MW (lb/lb-mole)	blowdown (lb/blowdown)
Carbon Dioxide	13.9884	691.02	4.2055	2268.52	6.4897	2959.54	44.01	2.86	7.53
Hydrogen Sulfide	0		0		0		34.07	0	0
Nitrogen	0.2159		0.092		0.1209		28.01	0.03	0.09
Methane	84.4428		93.7409		91.5699		16.04	14.69	38.71
Ethane	0.6331		1.4234		1.2389		30.07	0.37	0.98
Propane	0.1085		0.2857		0.2443		44.09	0.11	0.28
Isobutane	0.0102		0.0493		0.0402		58.12	0.02	0.06
n-Butane	0.5923		0.1681		0.2671		58.12	0.16	0.41
Isopentane	0.0032		0.016		0.0130		72.15	0.01	0.02
n-Pentane	0.0023		0.0104		0.0085		72.15	0.01	0.02
Cyclopentane	0		0.0001		0.0001		70.14	0.00	0.00
n-Hexane, C6	0.0003		0.001		0.0008		86.17	0.00	0.00
Cyclohexane	0.0001		0.0004		0.0003		84.16	0.00	0.00
Other Hexanes	0.0003		0.0023		0.0018		86.18	0.00	0.00
Heptanes	0.0003		0.001		0.0008		100.20	0.00	0.00
Methylcyclohexane	0.0004		0.001		0.0009		98.19	0.00	0.00
2,2,4 Trimethylpentane	0		0.0001		0.0001		100.21	0.00	0.00
Benzene, C6	0.0001		0.0003		0.0003		78.11	0.00	0.00
Toluene, C7	0.0003		0.0004		0.0004		92.14	0	0
Ethylbenzene, C8	0		0		0		106.17	0.00	0.00
Xylenes, C8	0.0002		0.0003		0.0003		106.17	0.00	0.00
C8+ Heavies	0.0011		0.0016		0.0015		110.00	0.00	0.00
Total	99.9998		99.9998		100.00				48.13
Total VOC					**0.5804**		**lb VOC per blowdown**		**0.81**

gas flows from monthly bob3 gas measurement report

Mass (lb/blowdown) = Gas Volume (scf/blowdown) / 379.4 (scf/mol) * Mol% * MW (lb/lb-mol)

	31-6 Suction	31-6 Straddle
	60017-01	02017-01
	Gas Flow (mmcf)	Gas Flow (mmcf)
January-18	344.613	1,290.954
February-18	315.621	1,040.283
March-18	340.790	1,170.770
April-18	329.653	1,098.338
May-18	350.890	1,255.904
June-18	336.138	1,193.491
July-18	341.530	1,237.896
August-18	342.424	1,212.805
September-18	329.760	1,167.696
October-18	323.031	1,254.090
November-18	323.304	1,141.257
December-18	367.720	1,127.258
12-Month Total	691.02	2,268.52

2030 Afton Place
Farmington, NM 87401
(505) 325-6622

Analysis No: HM180021
Cust No: 33700-10100

Well/Lease Information

Customer Name:	HARVEST MIDSTREAM	Source:	SUCTION
Well Name:	31-6 SUCTION	Well Flowing:	Y
County/State:		Pressure:	95 PSIG
Location:		Flow Temp:	51 DEG. F
Field:		Ambient Temp:	DEG. F
Formation:		Flow Rate:	MCF/D
Cust. Stn. No.:		Sample Method:	SPOT
		Sample Date:	12/26/2018
		Sample Time:	12.00 AM
		Sampled By:	D. VALENCIA
Heat Trace:		Sampled by (CO):	HARVEST
Remarks:	CALCULATED MOLECULAR WEIGHT = 20.3595		

Analysis

Component:	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.2159	0.2120	0.0240	0.00	0.0021
CO2	13.9884	13.7360	2.3930	0.00	0.2126
Methane	84.4428	82.9193	14.3480	852.87	0.4677
Ethane	0.6331	0.6217	0.1700	11.20	0.0066
Propane	0.1085	0.1065	0.0300	2.73	0.0017
Iso-Butane	0.0102	0.0100	0.0030	0.33	0.0002
N-Butane	0.0150	0.0147	0.0050	0.49	0.0003
Neopentane 2,2 dmc3	0.5773	0.5669	0.2220	23.00	0.0144
I-Pentane	0.0032	0.0031	0.0010	0.13	0.0001
N-Pentane	0.0023	0.0023	0.0010	0.09	0.0001
Neohexane	0.0000	N/R	0.0000	0.00	0.0000
2-3-Dimethylbutane	0.0000	N/R	0.0000	0.00	0.0000
Cyclopentane	0.0000	N/R	0.0000	0.00	0.0000
2-Methylpentane	0.0001	N/R	0.0000	0.00	0.0000
3-Methylpentane	0.0000	N/R	0.0000	0.00	0.0000
C6	0.0003	0.0033	0.0000	0.01	0.0000
Methylcyclopentane	0.0002	N/R	0.0000	0.01	0.0000
Benzene	0.0001	N/R	0.0000	0.00	0.0000
Cyclohexane	0.0001	N/R	0.0000	0.00	0.0000
2-Methylhexane	0.0000	N/R	0.0000	0.00	0.0000
3-Methylhexane	0.0001	N/R	0.0000	0.01	0.0000
2-2-4-Trimethylpentane	0.0000	N/R	0.0000	0.00	0.0000
i-heptanes	0.0000	N/R	0.0000	0.00	0.0000
Heptane	0.0002	N/R	0.0000	0.01	0.0000

Methylcyclohexane	0.0004	N/R	0.0000	0.02	0.0000
Toluene	0.0003	N/R	0.0000	0.01	0.0000
2-Methylheptane	0.0001	N/R	0.0000	0.01	0.0000
4-Methylheptane	0.0001	N/R	0.0000	0.01	0.0000
i-Octanes	0.0002	N/R	0.0000	0.01	0.0000
Octane	0.0002	N/R	0.0000	0.01	0.0000
Ethylbenzene	0.0000	N/R	0.0000	0.00	0.0000
m, p Xylene	0.0002	N/R	0.0000	0.01	0.0000
o Xylene (& 2,2,4 tmc7)	0.0000	N/R	0.0000	0.00	0.0000
i-C9	0.0002	N/R	0.0000	0.01	0.0000
C9	0.0001	N/R	0.0000	0.01	0.0000
i-C10	0.0001	N/R	0.0000	0.01	0.0000
C10	0.0001	N/R	0.0000	0.01	0.0000
i-C11	0.0000	N/R	0.0000	0.00	0.0000
C11	0.0000	N/R	0.0000	0.00	0.0000
C12P	0.0000	N/R	0.0000	0.00	0.0000
Total	100.00	98.196	17.197	891.02	0.7057

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY
**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBLITY FACTOR (1/Z):	1.0025	CYLINDER #:	1072
BTU/CU.FT IDEAL:	893.1	CYLINDER PRESSURE:	89 PSIG
BTU/CU.FT (DRY) CORRECTED FOR (1/Z):	895.3	ANALYSIS DATE:	12/28/2018
BTU/CU.FT (WET) CORRECTED FOR (1/Z):	879.7	ANALYIS TIME:	03:20:43 AM
DRY BTU @ 15.025:	913.2	ANALYSIS RUN BY:	CAMERON MANGAN
REAL SPECIFIC GRAVITY:	0.7072		

GPM, BTU, and SPG calculations as shown above are based on current GPA constants.
GPA Standard: GPA 2286-14
GC: SRI Instruments 8610 **Last Cal/Verify: 01/02/2019**
GC Method: C12+BTEX Gas

GAS ANALYSIS SERVICE

2030 Afton Place
Farmington, NM 87401
(505) 325-6622

Analysis No: HM180020
Cust No: 33700-10095

Well/Lease Information

Customer Name:	HARVEST MIDSTREAM	Source:	INLET
Well Name:	31-6 STRADDLE SUCTION	Well Flowing:	Y
County/State:		Pressure:	40 PSIG
Location:		Flow Temp:	47 DEG. F
Field:		Ambient Temp:	DEG. F
Formation:		Flow Rate:	MCF/D
Cust. Stn. No.:		Sample Method:	SPOT
		Sample Date:	12/26/2018
		Sample Time:	12.00 AM
		Sampled By:	D. VALENCIA
Heat Trace:		Sampled by (CO):	HARVEST
Remarks:	TOTAL MOLECULAR WEIGHT = 17.6233		

Analysis

Component:	Mole%:	Unormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.0920	0.0916	0.0100	0.00	0.0009
CO2	4.2055	4.1860	0.7190	0.00	0.0639
Methane	93.7409	93.3052	15.9230	946.78	0.5192
Ethane	1.4234	1.4168	0.3810	25.19	0.0148
Propane	0.2857	0.2844	0.0790	7.19	0.0044
Iso-Butane	0.0493	0.0491	0.0160	1.60	0.0010
N-Butane	0.0483	0.0481	0.0150	1.58	0.0010
Neopentane 2,2 dmc3	0.1198	0.1192	0.0460	4.77	0.0030
I-Pentane	0.0160	0.0159	0.0060	0.64	0.0004
N-Pentane	0.0104	0.0104	0.0040	0.42	0.0003
Neohexane	0.0001	N/R	0.0000	0.00	0.0000
2-3-Dimethylbutane	0.0001	N/R	0.0000	0.00	0.0000
Cyclopentane	0.0001	N/R	0.0000	0.00	0.0000
2-Methylpentane	0.0010	N/R	0.0000	0.05	0.0000
3-Methylpentane	0.0003	N/R	0.0000	0.01	0.0000
C6	0.0010	0.0085	0.0000	0.05	0.0000
Methylcyclopentane	0.0008	N/R	0.0000	0.04	0.0000
Benzene	0.0003	N/R	0.0000	0.01	0.0000
Cyclohexane	0.0004	N/R	0.0000	0.02	0.0000
2-Methylhexane	0.0002	N/R	0.0000	0.01	0.0000
3-Methylhexane	0.0002	N/R	0.0000	0.01	0.0000
2-2-4-Trimethylpentane	0.0001	N/R	0.0000	0.01	0.0000
i-heptanes	0.0001	N/R	0.0000	0.01	0.0000
Heptane	0.0005	N/R	0.0000	0.03	0.0000

Methylcyclohexane	0.0010	N/R	0.0000	0.05	0.0000
Toluene	0.0004	N/R	0.0000	0.02	0.0000
2-Methylheptane	0.0003	N/R	0.0000	0.02	0.0000
4-Methylheptane	0.0001	N/R	0.0000	0.01	0.0000
i-Octanes	0.0003	N/R	0.0000	0.02	0.0000
Octane	0.0004	N/R	0.0000	0.02	0.0000
Ethylbenzene	0.0000	N/R	0.0000	0.00	0.0000
m, p Xylene	0.0003	N/R	0.0000	0.02	0.0000
o Xylene (& 2,2,4 tmc7)	0.0000	N/R	0.0000	0.00	0.0000
i-C9	0.0002	N/R	0.0000	0.01	0.0000
C9	0.0002	N/R	0.0000	0.01	0.0000
i-C10	0.0000	N/R	0.0000	0.00	0.0000
C10	0.0001	N/R	0.0000	0.01	0.0000
i-C11	0.0000	N/R	0.0000	0.00	0.0000
C11	0.0000	N/R	0.0000	0.00	0.0000
C12P	0.0000	N/R	0.0000	0.00	0.0000
Total	100.00	99.535	17.199	988.61	0.6090

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY
**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBLITY FACTOR (1/Z):	1.0022	CYLINDER #:	1068
BTU/CU.FT IDEAL:	990.9	CYLINDER PRESSURE:	29 PSIG
BTU/CU.FT (DRY) CORRECTED FOR (1/Z):	993.1	ANALYSIS DATE:	12/28/2018
BTU/CU.FT (WET) CORRECTED FOR (1/Z):	975.8	ANALYIS TIME:	02:45:41 AM
DRY BTU @ 15.025:	1013.0	ANALYSIS RUN BY:	CAMERON MANGAN
REAL SPECIFIC GRAVITY:	0.6101		

GPM, BTU, and SPG calculations as shown above are based on current GPA constants.
GPA Standard: GPA 2286-14
GC: SRI Instruments 8610 **Last Cal/Verify: 01/02/2019**
GC Method: C12+BTEX Gas