

<p><b>Mail Application To:</b></p> <p>New Mexico Environment Department                  Air Quality Bureau                  Permits Section                  525 Camino de los Marquez, Suite 1                  Santa Fe, New Mexico, 87505</p> <p>Phone: (505) 476-4300                  Fax: (505) 476-4375  <a href="http://www.env.nm.gov/aqb">www.env.nm.gov/aqb</a></p>		<p><b>For Department use only:</b></p>     <p>AIRS No.:</p>
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## Universal Air Quality Permit Application

### Use this application for NOI, NSR, or Title V sources.

Use this application for: the initial application, modifications, technical revisions, and renewals. For technical revisions, complete Sections, 1-A, 1-B, 2-E, 3, 9 and any other sections that are relevant to the requested action; coordination with the Air Quality Bureau permit staff prior to submittal is encouraged to clarify submittal requirements and to determine if more or less than these sections of the application are needed. Use this application for streamline permits as well. See Section 1-I for submittal instructions for other permits.

**This application is submitted as** (check all that apply):  Request for a No Permit Required Determination (no fee)

**Updating** an application currently under NMED review. Include this page and all pages that are being updated (no fee required).

Construction Status:  Not Constructed  Existing Permitted (or NOI) Facility  Existing Non-permitted (or NOI) Facility

Minor Source:  a NOI 20.2.73 NMAC  20.2.72 NMAC application or revision  20.2.72.300 NMAC Streamline application

Title V Source:  Title V (new)  Title V renewal  TV minor mod.  TV significant mod. TV Acid Rain:  New  Renewal

PSD Major Source:  PSD major source (new)  minor modification to a PSD source  a PSD major modification

**Acknowledgements:**

I acknowledge that a pre-application meeting is available to me upon request.  Title V Operating, Title IV Acid Rain, and NPR applications have no fees.

\$500 NSR application Filing Fee enclosed OR  The full permit fee associated with 10 fee points (required w/ streamline applications).

Check No.: 1339 in the amount of \$500

I acknowledge the required submittal format for the hard copy application is printed double sided 'head-to-toe', 2-hole punched (except the Sect. 2 landscape tables is printed 'head-to-head'), numbered tab separators. Incl. a copy of the check on a separate page.

This facility qualifies to receive assistance from the Small Business Environmental Assistance program (SBEAP) and qualifies for 50% of the normal application and permit fees. Enclosed is a check for 50% of the normal application fee which will be verified with the Small Business Certification Form for your company.

This facility qualifies to receive assistance from the Small Business Environmental Assistance Program (SBEAP) but does not qualify for 50% of the normal application and permit fees. To see if you qualify for SBEAP assistance and for the small business certification form go to [https://www.env.nm.gov/aqb/sbap/small\\_business\\_criteria.html](https://www.env.nm.gov/aqb/sbap/small_business_criteria.html)).

**Citation:** Please provide the **low level citation** under which this application is being submitted: **20.2.72.200.A.1 NMAC** (e.g. application for a new minor source would be 20.2.72.200.A NMAC, one example for a Technical Permit Revision is 20.2.72.219.B.1.b NMAC, a Title V acid rain application would be: 20.2.70.200.C NMAC)

## Section 1 – Facility Information

<b>Section 1-A: Company Information</b>		AI # if known (see 1 <sup>st</sup> 3 to 5 #s of permit IDEA ID No.):	Updating Permit/NOI #: 7746
		Plant primary SIC Code (4 digits): 1311	Plant NAIC code (6 digits): 211120
1	Facility Name: Zia Hills Central Facility		
a	Facility Street Address (If no facility street address, provide directions from a prominent landmark): See 1-D.4		
2	Plant Operator Company Name: ConocoPhillips Company	Phone/Fax: (832) 486-2000	
a	Plant Operator Address: 935 N. Eldridge Parkway; Houston, TX 77079		
b	Plant Operator's New Mexico Corporate ID or Tax ID: 73-0400345		

**Table 2-A: Regulated Emission Sources**

Unit and stack numbering must correspond throughout the application package. Equipment that qualifies for an exemption under 20.2.72.202.B NMAC should be included in Table 2-B <b>Note:</b> Equipment options are not authorized.										
Unit Number <sup>1</sup>	Source Description	Manufacturer/Make /Model	Serial #	Manufacturer's Rated Capacity <sup>3</sup> (Specify Units)	Requested Permitted Capacity <sup>3</sup> (Specify Units)	Date of Manufacture <sup>2</sup>	Controlled by Unit #	Source Classification Code (SCC)	RICE Ignition Type (CI, SL, 4SLB, 2SLB) <sup>4</sup>	For Each Piece of Equipment, Check One
						Date of Construction/ Reconstruction <sup>2</sup>	Emissions vented to Stack #			
ENG1	4SLB RICE – Sales/Gas Lift	Caterpillar 3516J	N6W00861	1380 HP	1380 HP	10/1/2018	CAT1	20200254	4SLB	<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced
						2018	ENG1			
ENG2	4SLB RICE – Sales/Gas Lift	Caterpillar 3606A4	JFE01170	1875 HP	1875 HP	10/1/2018	CAT2	20200254	4SLB	<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced
						2018	ENG2			
ENG3	4SLB RICE – Sales/Gas Lift	Caterpillar 3606A4	JFE01205	1875 HP	1875 HP	11/1/2018	CAT3	20200254	4SLB	<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced
						2019	ENG3			
ENG5	4SLB RICE – Sales/Gas Lift	Caterpillar 3606A4	JFE01188	1875 HP	1875 HP	10/1/2018	CAT5	20200254	4SLB	<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced
						2019	ENG5			
ENG6	4SLB RICE – Sales/Gas Lift	Caterpillar 3606A4	JFE01204	1875 HP	1875 HP	11/1/2018	CAT6	20200254	4SLB	<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced
						2019	ENG6			
ENG7	4SLB RICE – Sales/Gas Lift	Caterpillar 3606A4	JFE01745	1875 HP	1875 HP	3/1/2020	CAT7	20200254	4SLB	<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced
						2020	ENG7			
ENG8	4SLB RICE – Sales/Gas Lift	Caterpillar 3606A4	JFE01728	1875 HP	1875 HP	12/1/2019	CAT8	20200254	4SLB	<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced
						2020	ENG8			
OT1	Condensate Tank	Long Industries	5-18-025-005	1000 BBL	1000 BBL	2018	FL2/FL3	40400311	N/A	<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input checked="" type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced
						2018	FL2/FL3			
OT2	Condensate Tank	Long Industries	5-18-025-006	1000 BBL	1000 BBL	2018	FL2/FL3	40400311	N/A	<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input checked="" type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced
						2018	FL2/FL3			
OT3	Condensate Tank	Long Industries	5-18-025-007	1000 BBL	1000 BBL	2018	FL2/FL3	40400311	N/A	<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input checked="" type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced
						2018	FL2/FL3			
OT4	Condensate Tank	Long Industries	5-18-025-008	1000 BBL	1000 BBL	2018	FL2/FL3	40400311	N/A	<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input checked="" type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced
						2018	FL2/FL3			
OT5	Off-Specification Condensate Tank	Long Industries	5-18-029-002	1000 BBL	1000 BBL	2018	FL2/FL3	40400311	N/A	<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input checked="" type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced
						2018	FL2/FL3			

Unit Number <sup>1</sup>	Source Description	Manufacturer/Make /Model	Serial #	Manufacturer's Rated Capacity <sup>3</sup> (Specify Units)	Requested Permitted Capacity <sup>3</sup> (Specify Units)	Date of Manufacture <sup>2</sup>	Controlled by Unit #	Source Classification Code (SCC)	RICE Ignition Type (CI, SI, 4SLB, 2SLB) <sup>4</sup>	For Each Piece of Equipment, Check One
						Date of Construction/ Reconstruction <sup>2</sup>	Emissions vented to Stack #			
WT1	Produced Water Tank	Long Industries	5-18-037-009	1000 BBL	1000 BBL	2018	FL2/FL3	40400315	N/A	<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input checked="" type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced
						2018	FL2/FL3			
WT2	Produced Water Tank	Long Industries	5-18-027-010	1000 BBL	1000 BBL	2018	FL2/FL3	40400315	N/A	<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input checked="" type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced
						2018	FL2/FL3			
WT3	Produced Water Tank	Long Industries	5-18-027-011	1000 BBL	1000 BBL	2018	FL2/FL3	40400315	N/A	<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input checked="" type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced
						2018	FL2/FL3			
WT4	Produced Water Tank	Long Industries	5-18-027-012	1000 BBL	1000 BBL	2018	FL2/FL3	40400315	N/A	<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input checked="" type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced
						2018	FL2/FL3			
WT5	Produced Water Tank	Long Industries	5-18-027-013	1000 BBL	1000 BBL	2018	FL2/FL3	40400315	N/A	<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input checked="" type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced
						2018	FL2/FL3			
WT6	Produced Water Tank	Long Industries	5-18-027-014	1000 BBL	1000 BBL	2018	FL2/FL3	40400315	N/A	<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input checked="" type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced
						2018	FL2/FL3			
WT7	Produced Water Tank	Long Industries	5-18-027-015	1000 BBL	1000 BBL	2018	FL2/FL3	40400315	N/A	<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input checked="" type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced
						2018	FL2/FL3			
WT8	Produced Water Tank	Long Industries	5-18-027-016	1000 BBL	1000 BBL	2018	FL2/FL3	40400315	N/A	<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input checked="" type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced
						2018	FL2/FL3			
GB1	Gun Barrel	TBD	TBD	1000 BBL	1000 BBL	TBD	FL2/FL3	31000107	N/A	<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input checked="" type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced
						TBD	FL2/FL3			
GB2	Gun Barrel	TBD	TBD	1000 BBL	1000 BBL	TBD	FL2/FL3	31000107	N/A	<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input checked="" type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced
						TBD	FL2/FL3			
ST1	Slop Tank	Long Industries	5-18-028-003	1000 BBL	1000 BBL	2018	FL2/FL3	40400311	N/A	<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input checked="" type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced
						2018	FL2/FL3			
ST2	Slop Tank	Long Industries	5-18-028-004	1000 BBL	1000 BBL	2018	FL2/FL3	40400311	N/A	<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input checked="" type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced
						2018	FL2/FL3			
FL1	Flare	Zeeco	31707-001	27 MMscfd	27 MMscfd	TBD	N/A	31000160	N/A	<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input checked="" type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced
						TBD	FL1			
STAB1	Stabilizer Heater	Flameco	1803-861	3.5 MMBtu/hr	3.5 MMBtu/hr	2018	N/A	31000404	N/A	<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced
						2018	STAB1			

Unit Number <sup>1</sup>	Source Description	Manufacturer/Make /Model	Serial #	Manufacturer's Rated Capacity <sup>3</sup> (Specify Units)	Requested Permitted Capacity <sup>3</sup> (Specify Units)	Date of Manufacture <sup>2</sup>		Controlled by Unit #	Source Classification Code (SCC)	RICE Ignition Type (CI, SI, 4SLB, 2SLB) <sup>4</sup>	For Each Piece of Equipment, Check One
						Date of Construction/ Reconstruction <sup>2</sup>	Emissions vented to Stack #				
STAB2	Stabilizer Heater	Flameco	1803-858	3.5 MMBtu/hr	3.5 MMBtu/hr	2018	N/A	31000404	N/A	<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced	
						2018	STAB2				
STAB3	Stabilizer Heater	Flameco	1710-882	3.5 MMBtu/hr	3.5 MMBtu/hr	2018	N/A	31000404	N/A	<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input checked="" type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced	
						2018	STAB3				
LH1	Line Heater	JW Williams	W03967458-2	1 MMBtu/hr	1 MMBtu/hr	2014	N/A	31000404	N/A	<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced	
						2020	LH1				
SSM	SSM Emissions	N/A	N/A	N/A	N/A	N/A	N/A	31088811	N/A	<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced	
						N/A	N/A				
FUG	Fugitive Emissions	N/A	N/A	N/A	N/A	N/A	N/A	31088811	N/A	<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced	
						Post-2015	N/A				
RB1	Glycol Reboiler	Flameco	1803-852	0.5 MMBtu/hr	0.5 MMBtu/hr	2018	N/A	31000228	N/A	<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input checked="" type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced	
						2018	RB1				
DEHY1	TEG Dehydrator	Valerus	SCOP-0	21 MMscfd	21 MMscfd	2018	COND1/RB1	31000227	N/A	<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input checked="" type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced	
						2018	RB1				
RB2	Glycol Reboiler	Flameco	1803-850	0.5 MMBtu/hr	0.5 MMBtu/hr	2018	N/A	31000228	N/A	<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input checked="" type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced	
						2018	RB2				
DEHY2	TEG Dehydrator	Valerus	SCOP45-0	21 MMscfd	21 MMscfd	2018	COND2/RB2	31000227	N/A	<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input checked="" type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced	
						2018	RB2				
RB3	Glycol Reboiler	Flameco	1803-854	0.75 MMBtu/hr	0.75 MMBtu/hr	2018	N/A	31000228	N/A	<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input checked="" type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced	
						2018	RB3				
DEHY3	TEG Dehydrator	Valerus	SCOP34-0	41 MMscfd	41 MMscfd	2018	COND3/RB3	31000227	N/A	<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input checked="" type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced	
						2018	RB3				
RB4	Glycol Reboiler	Flameco	1803-713	0.75 MMBtu/hr	0.75 MMBtu/hr	2018	N/A	31000228	N/A	<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input checked="" type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced	
						2018	RB4				
DEHY4	TEG Dehydrator	Valerus	SCOP47-0	41 MMscfd	41 MMscfd	2018	COND4/RB4	31000227	N/A	<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input checked="" type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced	
						2018	RB4				

Unit Number <sup>1</sup>	Source Description	Manufacturer/Make /Model	Serial #	Manufacturer's Rated Capacity <sup>3</sup> (Specify Units)	Requested Permitted Capacity <sup>3</sup> (Specify Units)	Date of Manufacture <sup>2</sup>	Controlled by Unit #	Source Classification Code (SCC)	RICE Ignition Type (CI, SI, 4SLB, 2SLB) <sup>4</sup>	For Each Piece of Equipment, Check One
						Date of Construction/Reconstruction <sup>2</sup>	Emissions vented to Stack #			
VRT1	Vapor Recovery Tower	TBD	N/A	N/A	N/A	TBD	VRU1/VRU2	N/A	N/A	<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input checked="" type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced
						TBD	FL2/FL3			
VRU1	Vapor Recovery Unit (Electric)	AIR MAC VRU-HG24179-200	WO 107967-1a	N/A	N/A	2020	FL2/FL3	N/A	N/A	<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input checked="" type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced
						2020	N/A			
VRU2	Vapor Recovery Unit (Redundant)	TBD	TBD	N/A	N/A	TBD	FL2/FL3	N/A	N/A	<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced
						TBD	N/A			
WDGV1	Water Degas Vessel	Cameron	A154-4113342	N/A	N/A	2020	VRU1/VRU2	N/A	N/A	<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input checked="" type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced
						2020	FL2/FL3			
OHS1	Overhead Gas Scrubber	K&K	V17510-A	N/A	N/A	2014	VRU1/VRU2	N/A	N/A	<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input checked="" type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced
						2018	FL2/FL3			
FL2	Flare	Zeeco	31707-001	3 MMscfd	3 MMscfd	TBD	N/A	31000160	N/A	<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input checked="" type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced
						TBD	FL2			
FL3	Flare	Zeeco	TBD	3 MMscfd	3 MMscfd	TBD	N/A	31000160	N/A	<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input checked="" type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced
						TBD	FL3			
MF	Malfunction Emissions	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced
						N/A	N/A			

<sup>1</sup> 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.

<sup>2</sup> Specify dates required to determine regulatory applicability.

<sup>3</sup> 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.

<sup>4</sup> "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-C: Emissions Control Equipment**

Unit and stack numbering must correspond throughout the application package. 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.

Control Equipment Unit No.	Control Equipment Description	Date Installed	Controlled Pollutant(s)	Controlling Emissions for Unit Number(s) <sup>1</sup>	Efficiency (% Control by Weight)	Method used to Estimate Efficiency
FL1	Flare	TBD	VOC/HAP	HP Gas (Compressor downtime, blowdowns and starter vents)	98	Manufacturer
COND1	BTEX Condenser	2018	VOC/HAP	DEHY1	33	Promax
COND2	BTEX Condenser	2018	VOC/HAP	DEHY2	33	Promax
COND3	BTEX Condenser	2018	VOC/HAP	DEHY3	33	Promax
COND4	BTEX Condenser	2018	VOC/HAP	DEHY4	33	Promax
RB1	Glycol Reboiler	2018	VOC/HAP	DEHY1	98	Engineering Design
RB2	Glycol Reboiler	2018	VOC/HAP	DEHY2	98	Engineering Design
RB3	Glycol Reboiler	2018	VOC/HAP	DEHY3	98	Engineering Design
RB4	Glycol Reboiler	2018	VOC/HAP	DEHY4	98	Engineering Design
VRU1	Vapor Recovery Unit	2020	VOC/HAP	OT1-OT5, ST1-ST2, GB1-GB2, WT1-WT8, WDGV1, OHS1	100	Engineering Design
CAT1	Catalyst	2018	CO, VOC, HCOH, HAP	ENG1	80, 50, 80, 50	Manufacturer
CAT2	Catalyst	2018	CO, VOC, HCOH, HAP	ENG2	93.4, 60.8, 91.7, 60.8	Stack Test
CAT3	Catalyst	2019	CO, VOC, HCOH, HAP	ENG3	93.4, 60.8, 91.7, 60.8	Stack Test
CAT5	Catalyst	2019	CO, VOC, HCOH, HAP	ENG5	93.4, 60.8, 91.7, 60.8	Stack Test
CAT6	Catalyst	2019	CO, VOC, HCOH, HAP	ENG6	93.4, 60.8, 91.7, 60.8	Stack Test
CAT7	Catalyst	2020	CO, VOC, HCOH, HAP	ENG7	93.4, 60.8, 91.7, 60.8	Stack Test
CAT8	Catalyst	2019	CO, VOC, HCOH, HAP	ENG8	93.4, 60.8, 91.7, 60.8	Stack Test
FL2	Flare	TBD	VOC/HAP	OT1-OT5, ST1-ST2, GB1-GB2, WT1-WT8, WDGV1, OHS1	98	Manufacturer
FL3	Flare	TBD	VOC/HAP	OT1-OT5, ST1-ST2, GB1-GB2, WT1-WT8, WDGV1, OHS1	98	Manufacturer
VRU2	Vapor Recovery Unit	TBD	VOC/HAP	OT1-OT5, ST1-ST2, GB1-GB2, WT1-WT8, WDGV1, OHS1	100	Engineering Design

<sup>1</sup> List each control device on a separate line. For each control device, list all emission units controlled by the control device.

**Table 2-D: Maximum Emissions** (Consider federally enforceable controls under normal operating conditions)

**This table must be filled out**

Maximum Federally Enforceable Emissions are the emissions at maximum capacity with only federally enforceable methods of reducing emissions. 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 facility capacity without pollution controls for 8760 hours per year. Account for federally enforceable controls, such as an NSPS or MACT regulation. Consider federally enforceable controls due to permitting. List Hazardous Air Pollutants (HAP) in Table 2-I. 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		PM10 <sup>1</sup>		PM2.5 <sup>1</sup>		H <sub>2</sub> S		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
ENG1	1.52	6.66	7.33	32.11	3.86	16.92	0.13	0.58	0.12	0.51	0.12	0.51	--	--	0.0	0.0
ENG2	1.24	5.43	11.95	52.32	5.57	24.39	0.17	0.74	0.15	0.65	0.15	0.65	--	--	0.0	0.0
ENG3	1.24	5.43	11.95	52.32	5.57	24.39	0.17	0.74	0.15	0.65	0.15	0.65	--	--	0.0	0.0
ENG5	1.24	5.43	11.95	52.32	5.57	24.39	0.17	0.74	0.15	0.65	0.15	0.65	--	--	0.0	0.0
ENG6	1.24	5.43	11.95	52.32	5.57	24.39	0.17	0.74	0.15	0.65	0.15	0.65	--	--	0.0	0.0
ENG7	1.24	5.43	11.95	52.32	5.57	24.39	0.17	0.74	0.15	0.65	0.15	0.65	--	--	0.0	0.0
ENG8	1.24	5.43	11.95	52.32	5.57	24.39	0.17	0.74	0.15	0.65	0.15	0.65	--	--	0.0	0.0
OT1	--	--	--	--	40.27	141.11	--	--	--	--	--	--	--	--	--	--
OT2	--	--	--	--	40.27	141.11	--	--	--	--	--	--	--	--	--	--
OT3	--	--	--	--	40.27	141.11	--	--	--	--	--	--	--	--	--	--
OT4	--	--	--	--	40.27	141.11	--	--	--	--	--	--	--	--	--	--
OT5	--	--	--	--	433.53	1519.11	--	--	--	--	--	--	--	--	--	--
WT1	--	--	--	--	0.98	4.29	--	--	--	--	--	--	--	--	--	--
WT2	--	--	--	--	0.98	4.29	--	--	--	--	--	--	--	--	--	--
WT3	--	--	--	--	0.98	4.29	--	--	--	--	--	--	--	--	--	--
WT4	--	--	--	--	0.98	4.29	--	--	--	--	--	--	--	--	--	--
WT5	--	--	--	--	0.98	4.29	--	--	--	--	--	--	--	--	--	--
WT6	--	--	--	--	0.98	4.29	--	--	--	--	--	--	--	--	--	--
WT7	--	--	--	--	0.98	4.29	--	--	--	--	--	--	--	--	--	--
WT8	--	--	--	--	0.98	4.29	--	--	--	--	--	--	--	--	--	--
GB1	--	--	--	--	32.96	144.37	--	--	--	--	--	--	--	--	--	--
GB2	--	--	--	--	32.96	144.37	--	--	--	--	--	--	--	--	--	--
ST1	--	--	--	--	1.91	8.37	--	--	--	--	--	--	--	--	--	--
ST2	--	--	--	--	1.91	8.37	--	--	--	--	--	--	--	--	--	--
FL1	0.04	0.18	0.08	0.35	0.06	0.28	0.00	0.01	0.00	0.00	0.00	0.00	--	--	--	--
STAB1	0.42	1.86	0.36	1.56	0.02	0.10	0.00	0.01	0.03	0.14	0.03	0.14	--	--	--	--
STAB2	0.42	1.86	0.36	1.56	0.02	0.10	0.00	0.01	0.03	0.14	0.03	0.14	--	--	--	--
FUG	--	--	--	--	2.70	11.81	--	--	--	--	--	--	--	--	--	--
DEHY1	--	--	--	--	20.77	90.98	--	--	--	--	--	--	--	--	--	--
RB1	0.12	0.54	0.10	0.46	0.01	0.03	0.00	0.00	0.01	0.04	0.01	0.04	--	--	--	--
DEHY2	--	--	--	--	20.77	90.98	--	--	--	--	--	--	--	--	--	--
RB2	0.12	0.54	0.10	0.46	0.01	0.03	0.00	0.00	0.01	0.04	0.01	0.04	--	--	--	--

**Table 2-D: Maximum Emissions** (Consider federally enforceable controls under normal operating conditions)**This table must be filled out**

Maximum Federally Enforceable Emissions are the emissions at maximum capacity with only federally enforceable methods of reducing emissions. 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 facility capacity without pollution controls for 8760 hours per year. Account for federally enforceable controls, such as an NSPS or MACT regulation. Consider federally enforceable controls due to permitting. List Hazardous Air Pollutants (HAP) in Table 2-I. 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		PM10 <sup>1</sup>		PM2.5 <sup>1</sup>		H <sub>2</sub> S		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
LH1	0.12	0.53	0.10	0.45	0.01	0.03	0.00	0.00	0.01	0.04	0.01	0.04	--	--	--	--
OHS	--	--	--	--	1915.31	6711.24	--	--	--	--	--	--	--	--	--	--
WDGV1	--	--	--	--	344.06	1205.59	--	--	--	--	--	--	--	--	--	--
FL2	0.06	0.27	0.13	0.55	0.10	0.44	0.00	0.02	0.00	0.00	0.00	0.00	--	--	--	--
FL3	0.06	0.27	0.13	0.55	0.10	0.44	0.00	0.02	0.00	0.00	0.00	0.00	--	--	--	--
RB3	0.19	0.81	0.16	0.68	0.01	0.04	0.00	0.00	0.01	0.06	0.01	0.06	--	--	--	--
DEHY3	--	--	--	--	36.30	158.98	--	--	--	--	--	--	--	--	--	--
RB4	0.19	0.81	0.16	0.68	0.01	0.04	0.00	0.00	0.01	0.06	0.01	0.06	--	--	--	--
DEHY4	--	--	--	--	36.30	158.98	--	--	--	--	--	--	--	--	--	--
STAB3	0.42	1.86	0.36	1.56	0.02	0.10	0.00	0.01	0.03	0.14	0.03	0.14	--	--	--	--
VRT	--	--	--	--	434.02	1520.81	--	--	--	--	--	--	--	--	--	--
<b>Totals</b>	11.1	48.8	81.0	354.9	3520.1	12537.6	1.2	5.1	1.2	5.1	1.2	5.1	--	--	--	--

<sup>1</sup> Condensable Particulate Matter: Include condensable particulate matter emissions for PM10 and PM2.5 if the source is a combustion source.

**Table 2-E: Requested Allowable Emissions**

Enter an allowable emission limit for each piece of equipment with either an uncontrolled emission rate greater than 1 lb/hr or 1 ton per year (tpy) or a controlled emission rate of any amount. For H2S please represent all emissions even if they are less than 1 lb/hr and 1 tpy. If selecting combustion SSM emissions, enter lb/hr and tpy values. If selecting up to 10 tpy of Malfunction VOC emissions, enter tpy values. Combustion emissions from malfunction events are **not authorized** under this permit. Fill all cells in this table with the emissions in lb/hr and tpy, or a "-" symbol. A "--" symbol indicates that emissions of this pollutant are not expected. Total the emissions from all equipment in the Totals row. Add additional rows as necessary. Unit & stack numbering must be consistent throughout the application package. Numbers shall be expressed to at least 2 decimal points (e.g. 0.41, 1.41, or 1.41E<sup>-4</sup>).

Unit No.	NOx		CO		VOC		SOx		PM10 <sup>1</sup>		PM2.5 <sup>1</sup>		H <sub>2</sub> S		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
ENG1	1.52	6.66	1.47	6.42	0.97	4.23	0.13	0.58	0.12	0.51	0.12	0.51	0.0	0.0	--	--
ENG2	1.24	5.43	0.79	3.44	1.94	8.50	0.17	0.74	0.15	0.65	0.15	0.65	0.0	0.0	--	--
ENG3	1.24	5.43	0.79	3.44	1.94	8.50	0.17	0.74	0.15	0.65	0.15	0.65	0.0	0.0	--	--
ENG5	1.24	5.43	0.79	3.44	1.94	8.50	0.17	0.74	0.15	0.65	0.15	0.65	0.0	0.0	--	--
ENG6	1.24	5.43	0.79	3.44	1.94	8.50	0.17	0.74	0.15	0.65	0.15	0.65	0.0	0.0	--	--
ENG7	1.24	5.43	0.79	3.44	1.94	8.50	0.17	0.74	0.15	0.65	0.15	0.65	0.0	0.0	--	--
ENG8	1.24	5.43	0.79	3.44	1.94	8.50	0.17	0.74	0.15	0.65	0.15	0.65	0.0	0.0	--	--
OT1	Emissions represented at FL2/FL3														--	--
OT2	Emissions represented at FL2/FL3														--	--
OT3	Emissions represented at FL2/FL3														--	--
OT4	Emissions represented at FL2/FL3														--	--
OT5	Emissions represented at FL2/FL3														--	--
WT1	Emissions represented at FL2/FL3														--	--
WT2	Emissions represented at FL2/FL3														--	--
WT3	Emissions represented at FL2/FL3														--	--
WT4	Emissions represented at FL2/FL3														--	--
WT5	Emissions represented at FL2/FL3														--	--
WT6	Emissions represented at FL2/FL3														--	--
WT7	Emissions represented at FL2/FL3														--	--
WT8	Emissions represented at FL2/FL3														--	--
GB1	Emissions represented at FL2/FL3														--	--
GB2	Emissions represented at FL2/FL3														--	--
ST1	Emissions represented at FL2/FL3														--	--
ST2	Emissions represented at FL2/FL3														--	--
FL1 (Normal)	0.04	0.18	0.08	0.35	0.06	0.28	0.00	0.01	0.00	0.00	0.00	0.00	0.0	0.0	--	--
FL2 (Normal)	0.06	0.27	0.13	0.55	0.10	0.44	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	--	--
FL3 (Normal)	0.06	0.27	0.13	0.55	0.10	0.44	0.00	0.02	0.00	0.00	0.00	0.00	0.0	0.0	--	--
STAB1	0.42	1.86	0.36	1.56	0.02	0.10	0.00	0.01	0.03	0.14	0.03	0.14	0.0	0.0	--	--
STAB2	0.42	1.86	0.36	1.56	0.02	0.10	0.00	0.01	0.03	0.14	0.03	0.14	0.0	0.0	--	--

**Table 2-E: Requested Allowable Emissions**

Enter an allowable emission limit for each piece of equipment with either an uncontrolled emission rate greater than 1 lb/hr or 1 ton per year (tpy) or a controlled emission rate of any amount. For H2S please represent all emissions even if they are less than 1 lb/hr and 1 tpy. If selecting combustion SSM emissions, enter lb/hr and tpy values. If selecting up to 10 tpy of Malfunction VOC emissions, enter tpy values. Combustion emissions from malfunction events are **not authorized** under this permit. Fill all cells in this table with the emissions in lb/hr and tpy, or a "-" symbol. A "--" symbol indicates that emissions of this pollutant are not expected. Total the emissions from all equipment in the Totals row. Add additional rows as necessary. Unit & stack numbering must be consistent throughout the application package. Numbers shall be expressed to at least 2 decimal points (e.g. 0.41, 1.41, or 1.41E<sup>4</sup>).

Unit No.	NOx		CO		VOC		SOx		PM10 <sup>1</sup>		PM2.5 <sup>1</sup>		H <sub>2</sub> S		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
FUG	---	---	---	---	2.70	11.81	---	---	---	---	---	---	0.0	0.0	--	--
DEHY1	---	---	---	---	0.34	1.47	---	---	---	---	---	---	0.0	0.0	--	--
RB1	0.12	0.54	0.10	0.46	0.01	0.03	0.00	0.00	0.01	0.04	0.01	0.04	0.0	0.0	--	--
DEHY2	---	---	---	---	0.34	1.47	---	---	---	---	---	---	0.0	0.0	--	--
RB2	0.12	0.54	0.10	0.46	0.01	0.03	0.00	0.00	0.01	0.04	0.01	0.04	0.0	0.0	--	--
LH1	0.12	0.53	0.10	0.45	0.01	0.03	0.00	0.00	0.01	0.04	0.01	0.04	0.0	0.0	--	--
Malfunction	--	--	--	--	--	10.00	--	--	--	--	--	--	--	--	--	--
RB3	0.19	0.81	0.16	0.68	0.01	0.04	0.00	0.00	0.01	0.06	0.01	0.06	--	--	--	--
DEHY3	--	--	--	--	0.59	2.58	--	--	--	--	--	--	--	--	--	--
RB4	0.19	0.81	0.16	0.68	0.01	0.04	0.00	0.00	0.01	0.06	0.01	0.06	--	--	--	--
DEHY4	--	--	--	--	0.59	2.58	--	--	--	--	--	--	--	--	--	--
STAB3	0.42	1.86	0.36	1.56	0.02	0.10	0.00	0.01	0.03	0.14	0.03	0.14	--	--	--	--
<b>Totals</b>	11.14	48.81	8.20	35.93	17.53	86.78	1.17	5.11	1.15	5.06	1.15	5.06	0.00	0.00	--	--

<sup>1</sup> **Condensable Particulate Matter:** Include condensable particulate matter emissions for PM10 and PM2.5 if the source is a combustion source.



**Table 2-I: Emission Rates for HAPs**

HAP In the table below, report the potential emission rate for each HAP from each regulated emission unit listed in Table 1, only if the entire facility emits the HAP. For each such emission unit, HAP shall be reported to the nearest 0.1 tpy. Each facility-wide Individual HAP total and the facility-wide Total HAP shall be the sum of all HAP sources calculated to the nearest 0.1 ton per year. Use the HAP nomenclature as it appears in Section 112 (b) of the 1990 CAAA. Include tank-flashing emissions estimates of HAP in this table. For each HAP 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. Add additional rows as necessary.

Stack No.	Unit No.(s)	Total HAPs		Formaldehyde ☑ HAP		Acetaldehyde ☑ HAP		Acrolein ☑ HAP		Provide Pollutant Name Here <input type="checkbox"/> HAP		Provide Pollutant Name Here <input type="checkbox"/> HAP		Provide Pollutant Name Here <input type="checkbox"/> HAP		Provide Pollutant Name Here <input type="checkbox"/> HAP		Provide Pollutant Name Here <input type="checkbox"/> HAP	
		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
ENG1	ENG1	0.30	1.29	0.24	1.07	0.03	0.14	0.02	0.09										
ENG2	ENG2	0.17	0.76	0.08	0.33	0.06	0.26	0.04	0.16										
ENG3	ENG3	0.17	0.76	0.08	0.33	0.06	0.26	0.04	0.16										
ENG5	ENG5	0.17	0.76	0.08	0.33	0.06	0.26	0.04	0.16										
ENG6	ENG6	0.17	0.76	0.08	0.33	0.06	0.26	0.04	0.16										
ENG7	ENG7	0.17	0.76	0.08	0.33	0.06	0.26	0.04	0.16										
ENG8	ENG8	0.17	0.76	0.08	0.33	0.06	0.26	0.04	0.16										
OT1	FL1	Emissions represented at FL2/FL3																	
OT2	FL1	Emissions represented at FL2/FL3																	
OT3	FL1	Emissions represented at FL2/FL3																	
OT4	FL1	Emissions represented at FL2/FL3																	
OT5	FL1	Emissions represented at FL2/FL3																	
WT1	FL1	Emissions represented at FL2/FL3																	
WT2	FL1	Emissions represented at FL2/FL3																	
WT3	FL1	Emissions represented at FL2/FL3																	
WT4	FL1	Emissions represented at FL2/FL3																	
WT5	FL1	Emissions represented at FL2/FL3																	
WT6	FL1	Emissions represented at FL2/FL3																	
WT7	FL1	Emissions represented at FL2/FL3																	
WT8	FL1	Emissions represented at FL2/FL3																	
GB1	FL1	Emissions represented at FL2/FL3																	
GB2	FL1	Emissions represented at FL2/FL3																	
ST1	FL1	Emissions represented at FL2/FL3																	
ST2	FL1	Emissions represented at FL2/FL3																	
FL1	FL1	6.48	0.21	--	--	--	--	--	--										
STAB1	STAB1	0.01	0.03	--	--	--	--	--	--										
STAB2	STAB2	0.01	0.03	--	--	--	--	--	--										
FUG	FUG	0.08	0.34	--	--	--	--	--	--										
DEHY1	DEHY1	0.03	0.15	--	--	--	--	--	--										

Stack No.	Unit No.(s)	Total HAPs		Formaldehyde <input checked="" type="checkbox"/> HAP		Acetaldehyde <input checked="" type="checkbox"/> HAP		Acrolein <input checked="" type="checkbox"/> HAP		Provide Pollutant Name Here <input type="checkbox"/> HAP		Provide Pollutant Name Here <input type="checkbox"/> HAP		Provide Pollutant Name Here <input type="checkbox"/> HAP		Provide Pollutant Name Here <input type="checkbox"/> HAP		Provide Pollutant Name Here <input type="checkbox"/> HAP	
		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
RB1	RB1	0.0	0.0	--	--	--	--	--	--										
DEHY2	DEHY2	0.03	0.15	--	--	--	--	--	--										
RB2	RB2	0.0	0.0	--	--	--	--	--	--										
LH1	LH1	0.0	0.0	--	--	--	--	--	--										
FL2/FL3	FL2/FL3	2.2	0.3	--	--	--	--	--	--										
MF	MF	0.00	0.00	--	--	--	--	--	--										
STAB3	STAB3	0.0	0.0	--	--	--	--	--	--										
DEHY3	DEHY3	0.06	0.26	--	--	--	--	--	--										
RB3	RB3	0.0	0.0	--	--	--	--	--	--										
DEHY4	DEHY4	0.06	0.26	--	--	--	--	--	--										
RB4	RB4	0.0	0.0	--	--	--	--	--	--										
<b>Totals:</b>		10.33	7.61	0.7	3.1	0.4	1.7	0.2	1.1										

**Table 2-J: Fuel**

Specify fuel characteristics and usage. Unit and stack numbering must correspond throughout the application package.

Unit No.	Fuel Type (low sulfur Diesel, ultra low sulfur diesel, Natural Gas, Coal, ...)	Fuel Source: purchased commercial, pipeline quality natural gas, residue gas, raw/field natural gas, process gas (e.g. SRU tail gas) or other	Specify Units				
			Lower Heating Value	Hourly Usage (scf)	Annual Usage (MMscf)	% Sulfur	% Ash
ENG1	Natural Gas	Treated Field Gas	1262	9319	81.6	0	0
ENG2	Natural Gas	Treated Field Gas	1262	11794	103.3	0	0
ENG3	Natural Gas	Treated Field Gas	1262	11794	103.3	0	0
ENG5	Natural Gas	Treated Field Gas	1262	11794	103.3	0	0
ENG6	Natural Gas	Treated Field Gas	1262	11794	103.3	0	0
ENG7	Natural Gas	Treated Field Gas	1262	11794	103.3	0	0
ENG8	Natural Gas	Treated Field Gas	1262	11794	103.3	0	0
FL1	Natural Gas	Treated Field Gas	1262	230	2.0	0	0
STAB1	Natural Gas	Treated Field Gas	1262	2773	24.3	0	0
STAB2	Natural Gas	Treated Field Gas	1262	2773	24.3	0	0
RB1	Natural Gas	Process Gas from Dehydrator	2586	357	3.1	0	0
RB2	Natural Gas	Process Gas from Dehydrator	2586	357	3.1	0	0
LH1	Natural Gas	Treated Field Gas	1262	792	6.9	0	0
FL2	Natural Gas	Treated Field Gas	1262	360	3.2	0	0
FL3	Natural Gas	Treated Field Gas	1262	360	3.2	0	0
STAB3	Natural Gas	Treated Field Gas	1262	2773	24.3	0	0
RB3	Natural Gas	Process Gas from Dehydrator	2580	628	5.5	0	0
RB4	Natural Gas	Process Gas from Dehydrator	2580	628	5.5	0	0

# Section 3

## Application Summary

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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](http://www.env.nm.gov/aqb/permit/app_form.html)) for more detailed instructions on SSM emissions.

---

ConocoPhillips Company (COP) is submitting this New Source Review (NSR) permit application for the Zia Hills Central Facility in accordance with 20.2.72.200.A.1 NMAC. COP plans to increase production to 18,503 barrels of oil per day (BOPD) and 120 million standard cubic feet per day (MMscfd). The production increase will require utilization of the third and fourth triethylene glycol dehydrators (DEHY3-DEHY4) and full time use of the third stabilizer (STAB3).

Oil, gas, and water flow separately into the site. Gas is dehydrated then reinjected for gas lift or compressed to the sales line. Oil is stabilized then temporarily stored in tanks before being sold via pipeline. Water is processed, then temporarily stored before being shipped offsite via pipeline. A detailed process description is provided in Section 10.

SSM emissions associated with compressor or VRU downtime are represented at the flare and included with normal operations. Emissions associated with engine maintenance (blowdown and starter vents) are included with SSM emissions. Tank cleanout emissions are also included. Ten (10) tons of VOC emissions related to malfunctions are also included.

# Section 10

## Written Description of the Routine Operations of the Facility

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**A written description of the routine operations of the facility.** Include a description of how each piece of equipment will be operated, how controls will be used, and the fate of both the products and waste generated. For modifications and/or revisions, explain how the changes will affect the existing process. In a separate paragraph describe the major process bottlenecks that limit production. The purpose of this description is to provide sufficient information about plant operations for the permit writer to determine appropriate emission sources.

---

Gas from well sites enter the facility through a slug catcher. The site uses natural gas engines to compress the gas for sales and gas lift, including one Caterpillar 3516J and six (6) Caterpillar 3606A4 engines (ENG1-ENG3, ENG5-ENG8). The Caterpillar engines are equipped with oxidation catalysts to reduce CO, VOC, and formaldehyde emissions. During compressor downtime or during an emergency, a flare (FL1) is used to flare high pressure gas. If two of the compressors go down, the facility is automatically shut in, limiting the volume of gas flared. Gas is dehydrated using triethylene glycol dehydration units (DEHY1-DEHY4). The glycol still vent vapors are routed to condensers. Flash tank and uncondensed vapors are burned in the glycol regenerator burners (RB1-RB4). Dehydrated gas is used for gas lift or transferred to a gas sales line.

Liquids generated from the slug catcher and compressor dumps are routed to a line heater (LH1), then to an overhead gas scrubber (OHS1). These units are used to flash the liquids and route gas to sales via by a redundant vapor recovery system (VRU1-VRU2). One VRU serves as a backup to the other in the event one unit shuts down. Water is routed to a water degassing vessel (WDGV1) and oil is routed to an oil tank (OT5) prior to being piped to the stabilizers. Vapors from both are carried to sales via VRU1-VRU2.

Oil from well sites enters the facility through inlet separators and into three (3) stabilizers (STAB1-STAB3). Gas from the stabilizer vessels is mixed with the gas from the inlet separator and routed to the inlet of the compressors. The facility is designed such that the stabilizer and inlet separator gas always flows to sales. Oil then flows to four (4) sales tanks (OT1-OT4) controlled by a VRU1-VRU2. During VRU downtime, these streams are routed a redundant flare system (FL2-FL3). Oil is shipped offsite via pipeline LACT.

Water from well sites is routed to WDGV1 then to (two (2) gun barrel separators (GB1- GB2), which skim any remaining oil from the incoming water. The water then flows to produced water tanks (WT1-WT8) for temporary storage prior to being piped offsite. Any skimmed oil is routed to two slop oil tanks (ST1-ST2). Slop oil is routed back to the stabilizer vessels. Water degas vessel, gun barrel, and slop tank vapors are controlled using VRU1-VRU2, with vapors routed to FL2-FL3 during VRU downtime. Water is piped offsite.

[Track Another Package +](#)

**Tracking Number:** 70173040000095879862

[Remove X](#)

Your item was delivered to the front desk, reception area, or mail room at 1:08 pm on January 12, 2021 in CARLSBAD, NM 88220.

## **Delivered**

January 12, 2021 at 1:08 pm  
Delivered, Front Desk/Reception/Mail Room  
CARLSBAD, NM 88220

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**Tracking Number:** 70173040000095879855

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Your item was delivered to an individual at the address at 9:47 am on January 12, 2021 in CARLSBAD, NM 88220.

## **Delivered**

January 12, 2021 at 9:47 am  
Delivered, Left with Individual  
CARLSBAD, NM 88220

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Feedback

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Your item was delivered to the front desk, reception area, or mail room at 9:42 am on January 12, 2021 in LOVINGTON, NM 88260.

## **Delivered**

January 12, 2021 at 9:42 am  
Delivered, Front Desk/Reception/Mail Room  
LOVINGTON, NM 88260

**Get Updates** 

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**Text & Email Updates**



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**Tracking History**



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**Product Information**



Feedback

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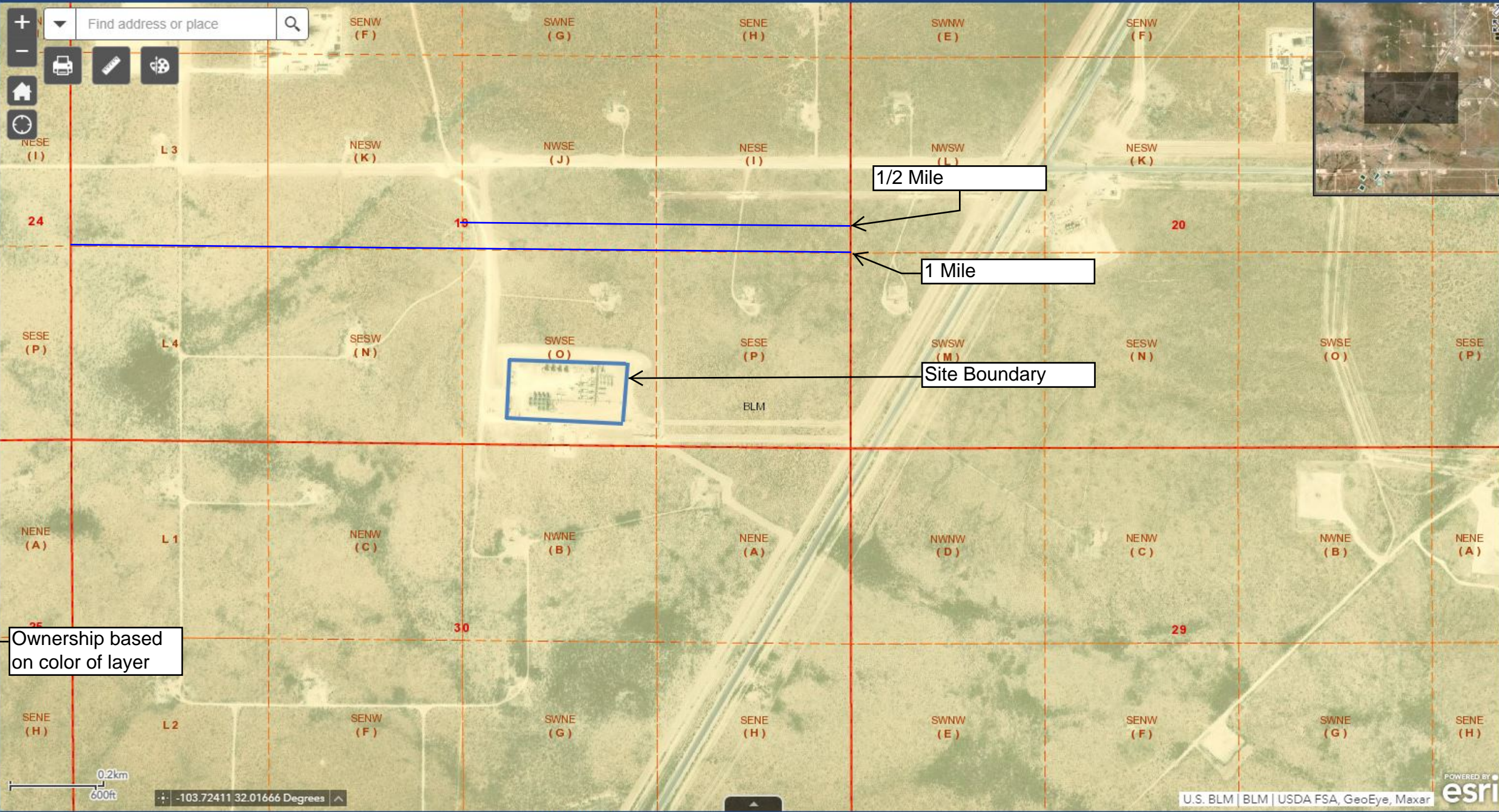
[FAQs](#)



Find address or place

Layer List

- Layers**
- Lines
  - Oil and Gas Wells
  - OCD Districts and Offices
  - NM Oil and Gas Production Areas
  - Public Land Survey System
    - PLSS Townships
    - PLSS Second Division
    - PLSS First Division
  - Leases and Units
  - Communitization Agreements and Participating Areas
  - Political Boundaries and Transportation
  - Mineral and Surface Ownership
    - Land Ownership
      - BLM
      - BOR
      - DOD
      - DOE
      - FS
      - FWS



Ownership based on color of layer

1/2 Mile

1 Mile

Site Boundary

0.2km 600ft -103.72411 32.01666 Degrees

<b>STATE REGU- LATIONS CITATION</b>	<b>Title</b>	<b>Applies? Enter Yes or No</b>	<b>Unit(s) or Facility</b>	<b>JUSTIFICATION:  (You may delete instructions or statements that do not apply in the justification column to shorten the document.)</b>
20.2.74 NMAC	Permits – Prevention of Significant Deterioration (PSD)	No	N/A	The facility is not a major PSD site.
20.2.75 NMAC	Construction Permit Fees	Yes	Facility	A permit fee is included with this application.
20.2.77 NMAC	New Source Performance	Yes	FUG, ENG1- 3, ENG5- 8	See regulatory discussion in Federal Regulations Citation section.
20.2.78 NMAC	Emission Standards for HAPS	No	N/A	The facility does not fit into any of the source categories.
20.2.79 NMAC	Permits – Nonattainment Areas	No	N/A	The facility is not located in a nonattainment area.
20.2.80 NMAC	Stack Heights	No	N/A	There are no stacks to which this regulation would apply.
20.2.82 NMAC	MACT Standards for source categories of HAPS	Yes	ENG1- 3, ENG5- 8,, DEHY1 - DEHY4	See regulatory discussion in Federal Regulations Citation section.

<b>FEDERAL REGU- LATIONS CITATION</b>	<b>Title</b>	<b>Applies? Enter Yes or No</b>	<b>Unit(s) or Facility</b>	<b>JUSTIFICATION:</b>
40 CFR 50	NAAQS	Yes	Facility	
NSPS 40 CFR 60, Subpart A	General Provisions	Yes	Units subject to 40 CFR 60	Applies if any other Subpart in 40 CFR 60 applies.
NSPS 40 CFR60.40a, Subpart Da	Subpart Da, Performance Standards for <b>Electric Utility Steam Generating Units</b>	No	N/A	The facility does not operate any electric utility steam generating units.
NSPS 40 CFR60.40b Subpart Db	<b>Electric Utility Steam Generating Units</b>	No	N/A	The facility does not operate any electric utility steam generating units.

# Section 17

## Compliance Test History

(Submitting under 20.2.70, 20.2.72, 20.2.74 NMAC)

To show compliance with existing NSR permits conditions, you must submit a compliance test history. The table below provides an example.

### Compliance Test History Table

Unit No.	Test Description	Test Date	Emission Unit No.
811252	NSPS JJJJ Test	06/06/2019	ENG1
811355	NSPS JJJJ Test	02/24/2021	ENG2
412951	NSPS JJJJ Test	02/24/2021	ENG3
811356	NSPS JJJJ Test	02/25/2021	ENG5
811357	NSPS JJJJ Test	02/25/2021	ENG6
413049	NSPS JJJJ Test	02/25/2021	ENG7
413029	NSPS JJJJ Test	04/01/2021	ENG8



P.O. Box 682 • 303 West 3rd Street • Elk City, Oklahoma 73644 • 580-225-0403

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April 7, 2021

New Mexico Environmental Department  
525 Camino de los Marquez, Suite 1  
Santa Fe, NM 87505

RE: ConocoPhillips  
40 CFR Part 60 Subpart JJJJ and GCP Oil & Gas – Report Submittal

To Whom It May Concern,

Please find enclosed a copy of a performance testing report for 40 CFR Part 60, Subpart JJJJ on behalf of ConocoPhillips. The testing was completed the week of March 29, 2021. Please see below for information regarding the report.

AI # or NA	NOI/GCP/NSR # or No Permit	TV # or NA	Owner/Operator	Facility Name	Unit #	Serial #	Test Requirement/Description (NSPS/MACT/Permit/Initial Compliance)
38334	GCP-O&G-7746	NA	ConocoPhillips	Zia Hill Central Facility	413029	JFE01728	Initial JJJJ

For any questions regarding the report you can contact me by email at [khood@gasinc.us](mailto:khood@gasinc.us) or by phone at 580-225-0403. For information regarding engine or location information, please contact Curtis Blaik by email at [curtis.blaik@conocophillips.com](mailto:curtis.blaik@conocophillips.com) or by phone at 830-583-4879.

Regards,

*Kaci Hood*

Kaci Hood, Client QA/QC Executive  
Great Plains Analytical Services



To:

RE: NSPS Subpart JJJJ Applicability Summary

Date:

<b>Service Order Number:</b>	
<b>Service Site Name:</b>	Zia Hills CF 902
<b>CSI/Compressco Unit Number:</b>	413029
<b>Engine Make &amp; Model:</b>	Caterpillar G3606A4
<b>Engine Serial Number:</b>	JFE01728
<b>Engine Type:</b>	4SLB
<b>Engine Category:</b>	New
<b>OEM Rated Engine Horsepower:</b>	1875 HP
<b>Engine Manufacture Date:</b>	12/01/2019
<b>“New” Engine Subject to NSPS JJJJ?</b>	Yes – 1.0 g/NOx, 2.0 g/CO, 0.7 g/VOC
<b>Engine Displacement:</b>	127.2 liters
<b>Engine RPM:</b>	1,000
<b>Fuel Type:</b>	Natural Gas
<b>Control Equipment:</b>	ADEM IV / Catalytic Converter
<b>Compressor Make &amp; Model:</b>	Ariel KBK/4
<b>Number of Stages:</b>	3
<b>Compressor OEM Rated HP:</b>	3680 HP
<b>Compressor Rated Speed:</b>	1,200
<b>Compressor Serial Number:</b>	F-61946
<b>Compressor Type:</b>	Reciprocating
<b>Compressor Manufacture Date:</b>	11/01/2019
<b>Compressor NSPS Quad O Status:</b>	
<b>Engine Certification:</b>	None

**Reconstruction Status:** Since the date of manufacture noted above, this engine has not been modified per 40 CFR 60.14, or reconstructed per 40 CFR 60.15.

Please contact Brad Johnson with any questions regarding this information at 432-495-3242 or [brad.johnson@compressor-systems.com](mailto:brad.johnson@compressor-systems.com).

NOTE: UNIT SPECIFICATIONS AND NUMBERS LISTED IN THIS DATA SHEET ARE USED FOR REFERENCE PURPOSES ONLY IN ORDER TO OBTAIN ANY PERMITS REQUIRED FOR PROVISION OF THE COMPRESSION SERVICES AT THE SERVICE SITE. NOTWITHSTANDING THE FOREGOING, THE LISTING OF THE UNIT SPECIFICATIONS AND NUMBERS ON THIS DATA SHEET SHALL NOT BE CONSTRUED AS LIMITING IN ANY WAY CONTRACTOR'S CONTRACTUAL RIGHT TO FREELY SUBSTITUTE THE UNIT BEING USED TO PROVIDE COMPRESSION AND RELATED PRODUCTION ENHANCEMENT SERVICES UNDER THE MASTER AGREEMENT AND THE APPLICABLE SERVICE ORDER AT ANY TIME, IN ITS SOLE DISCRETION, AND WITHOUT NOTICE, SO LONG AS SUCH SUBSTITUTION DOES NOT UNREASONABLY INTERFERE WITH THE PROVISION OF SUCH SERVICES OR CUSTOMER'S OPERATIONS AT THE SITE. UPON ANY SUBSTITUTION OR REPLACEMENT OF ANY UNIT USED FOR THE PROVISION OF THE COMPRESSION SERVICES, CONTRACTOR SHALL PROVIDE CUSTOMER WITH A NEW DATA SHEET REFLECTING THE APPLICABLE UNIT SPECIFICATIONS AND NUMBERS.

**General Construction Permit - 4 Oil & Gas  
Performance Test Report**

**Test Type: Initial**

**Test Date: 04-01-2021**

DOM: 12-01-19

**Source:**

Caterpillar G3606A4  
Lean Burn 4 Cycle Engine

Unit Number: 413029

Serial Number: JFE01728

Engine Hours: 924.5

Permit #: GCP-O&G-7746

AI#: 38334

**Location:**

Zia Hill Central Facility  
Lea County, New Mexico

**Prepared on Behalf of:**

Conoco Phillips

	CO		NOx		NMNEHC (VOC)	
	Federal	State	Federal	State	Federal	State
Results ppmvd	0.00		36.001		41.308	
Results g/hp-hr	0.00		0.282		0.310	
Permit g/hp-hr	2.000	0.190	1.000	0.300	0.700	0.346
<b>PASS ALL</b>	<b>Pass</b>	<b>Pass</b>	<b>Pass</b>	<b>Pass</b>	<b>Pass</b>	<b>Pass</b>

Test Started: 10:05    Test Completed: 13:22





To:

RE: NSPS Subpart JJJJ Applicability Summary

Date:

<b>Service Order Number:</b>	
<b>Service Site Name:</b>	Zia Hills CF 905
<b>CSI/Compressco Unit Number:</b>	413049
<b>Engine Make &amp; Model:</b>	Caterpillar G3606A4
<b>Engine Serial Number:</b>	JFE01745
<b>Engine Type:</b>	4SLB
<b>Engine Category:</b>	New
<b>OEM Rated Engine Horsepower:</b>	1875 HP
<b>Engine Manufacture Date:</b>	03/01/2020
<b>“New” Engine Subject to NSPS JJJJ?</b>	Yes – 1.0 g/NOx, 2.0 g/CO, 0.7 g/VOC
<b>Engine Displacement:</b>	127.2 liters
<b>Engine RPM:</b>	1,000
<b>Fuel Type:</b>	Natural Gas
<b>Control Equipment:</b>	ADEM IV / Catalytic Converter
<b>Compressor Make &amp; Model:</b>	Ariel KBK/4-3
<b>Number of Stages:</b>	3
<b>Compressor OEM Rated HP:</b>	3680 HP
<b>Compressor Rated Speed:</b>	1,200
<b>Compressor Serial Number:</b>	F-62359
<b>Compressor Type:</b>	Reciprocating
<b>Compressor Manufacture Date:</b>	02/01/2020
<b>Compressor NSPS Quad O Status:</b>	
<b>Engine Certification:</b>	None

**Reconstruction Status:** Since the date of manufacture noted above, this engine has not been modified per 40 CFR 60.14, or reconstructed per 40 CFR 60.15.

Please contact Brad Johnson with any questions regarding this information at 432-495-3242 or [brad.johnson@compressor-systems.com](mailto:brad.johnson@compressor-systems.com).

**NOTE:** UNIT SPECIFICATIONS AND NUMBERS LISTED IN THIS DATA SHEET ARE USED FOR REFERENCE PURPOSES ONLY IN ORDER TO OBTAIN ANY PERMITS REQUIRED FOR PROVISION OF THE COMPRESSION SERVICES AT THE SERVICE SITE. NOTWITHSTANDING THE FOREGOING, THE LISTING OF THE UNIT SPECIFICATIONS AND NUMBERS ON THIS DATA SHEET SHALL NOT BE CONSTRUED AS LIMITING IN ANY WAY CONTRACTOR'S CONTRACTUAL RIGHT TO FREELY SUBSTITUTE THE UNIT BEING USED TO PROVIDE COMPRESSION AND RELATED PRODUCTION ENHANCEMENT SERVICES UNDER THE MASTER AGREEMENT AND THE APPLICABLE SERVICE ORDER AT ANY TIME, IN ITS SOLE DISCRETION, AND WITHOUT NOTICE, SO LONG AS SUCH SUBSTITUTION DOES NOT UNREASONABLY INTERFERE WITH THE PROVISION OF SUCH SERVICES OR CUSTOMER'S OPERATIONS AT THE SITE. UPON ANY SUBSTITUTION OR REPLACEMENT OF ANY UNIT USED FOR THE PROVISION OF THE COMPRESSION SERVICES, CONTRACTOR SHALL PROVIDE CUSTOMER WITH A NEW DATA SHEET REFLECTING THE APPLICABLE UNIT SPECIFICATIONS AND NUMBERS.

GAS COMPRESSION APPLICATION

ENGINE SPEED (rpm):	1000	RATING STRATEGY:	STANDARD
COMPRESSION RATIO:	7.6	FUEL SYSTEM:	GAV
AFTERCOOLER TYPE:	SCAC		WITH AIR FUEL RATIO CONTROL
AFTERCOOLER - STAGE 2 INLET (°F):	130	<b>SITE CONDITIONS:</b>	
AFTERCOOLER - STAGE 1 INLET (°F):	214	FUEL:	Gas Analysis
JACKET WATER OUTLET (°F):	230	FUEL PRESSURE RANGE(psig): (See note 1)	58.0-70.3
ASPIRATION:	TA	FUEL METHANE NUMBER:	52.3
COOLING SYSTEM:	JW+1AC, OC+2AC	FUEL LHV (Btu/scf):	1194
CONTROL SYSTEM:	ADEM4	ALTITUDE(ft):	3000
EXHAUST MANIFOLD:	DRY	INLET AIR TEMPERATURE(°F):	105
COMBUSTION:	LOW EMISSION	STANDARD RATED POWER:	1875 bhp@1000rpm
NOx EMISSION LEVEL (g/bhp-hr NOx):	0.3		
SET POINT TIMING:	16		

RATING	NOTES	LOAD	MAXIMUM RATING	SITE RATING AT MAXIMUM INLET AIR TEMPERATURE			
			100%	100%	75%	50%	
ENGINE POWER (WITHOUT FAN)	(2)	bhp	1875	1875	1406	938	
INLET AIR TEMPERATURE		°F	105	105	105	105	

ENGINE DATA			100%	100%	75%	50%
FUEL CONSUMPTION (LHV)	(3)	Btu/bhp-hr	6920	6920	7197	7807
FUEL CONSUMPTION (HHV)	(3)	Btu/bhp-hr	7614	7614	7919	8589
AIR FLOW (@inlet air temp, 14.7 psia)	(WET) (4)(5)	ft <sup>3</sup> /min	5105	5105	3874	2664
AIR FLOW	(WET) (4)(5)	lb/hr	21512	21512	16327	11226
FUEL FLOW (60°F, 14.7 psia)		scfm	181	181	141	102
INLET MANIFOLD PRESSURE	(6)	in Hg(abs)	106.1	106.1	80.9	58.1
EXHAUST TEMPERATURE - ENGINE OUTLET	(7)	°F	801	801	870	950
EXHAUST GAS FLOW (@engine outlet temp, 14.5 psia)	(WET) (8)(5)	ft <sup>3</sup> /min	12095	12095	9696	7085
EXHAUST GAS MASS FLOW	(WET) (8)(5)	lb/hr	22159	22159	16831	11590

EMISSIONS DATA - ENGINE OUT			100%	100%	75%	50%
NOx (as NO2)	(9)(10)	g/bhp-hr	0.30	0.30	0.30	0.30
CO	(9)(10)	g/bhp-hr	2.89	2.89	2.89	2.90
THC (mol. wt. of 15.84)	(9)(10)	g/bhp-hr	3.57	3.57	3.72	3.72
NMHC (mol. wt. of 15.84)	(9)(10)	g/bhp-hr	1.75	1.75	1.83	1.82
NMNEHC (VOCs) (mol. wt. of 15.84)	(9)(10)(11)	g/bhp-hr	1.09	1.09	1.14	1.14
HCHO (Formaldehyde)	(9)(10)	g/bhp-hr	0.22	0.22	0.10	0.11
CO2	(9)(10)	g/bhp-hr	460	460	474	505
EXHAUST OXYGEN	(9)(12)	% DRY	11.4	11.4	11.2	10.8

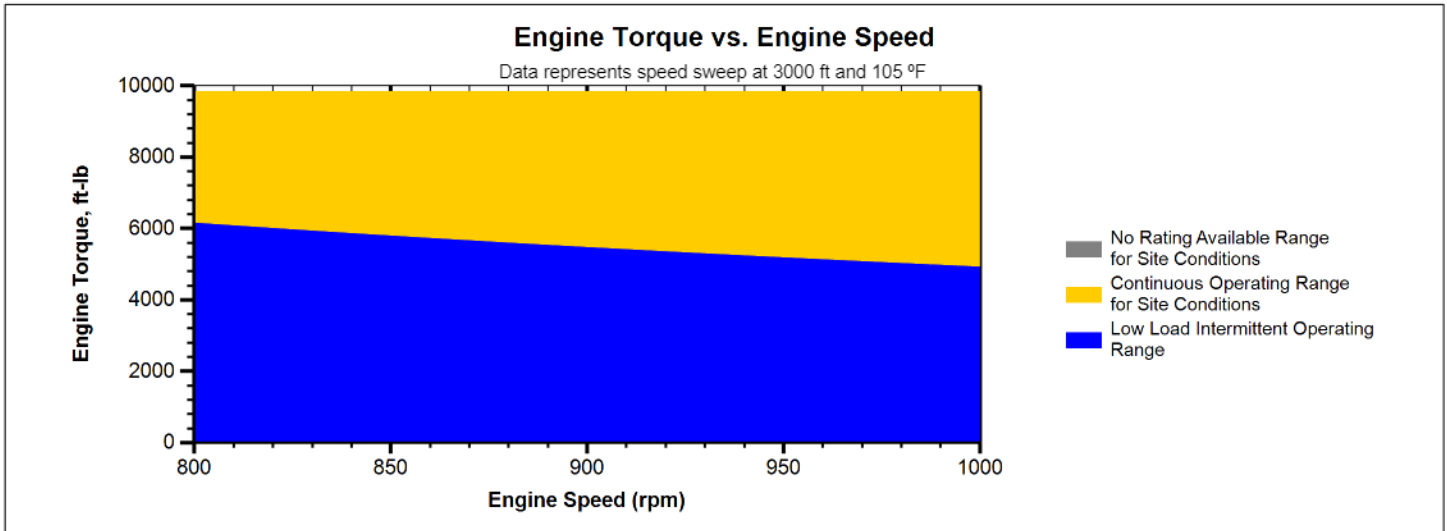
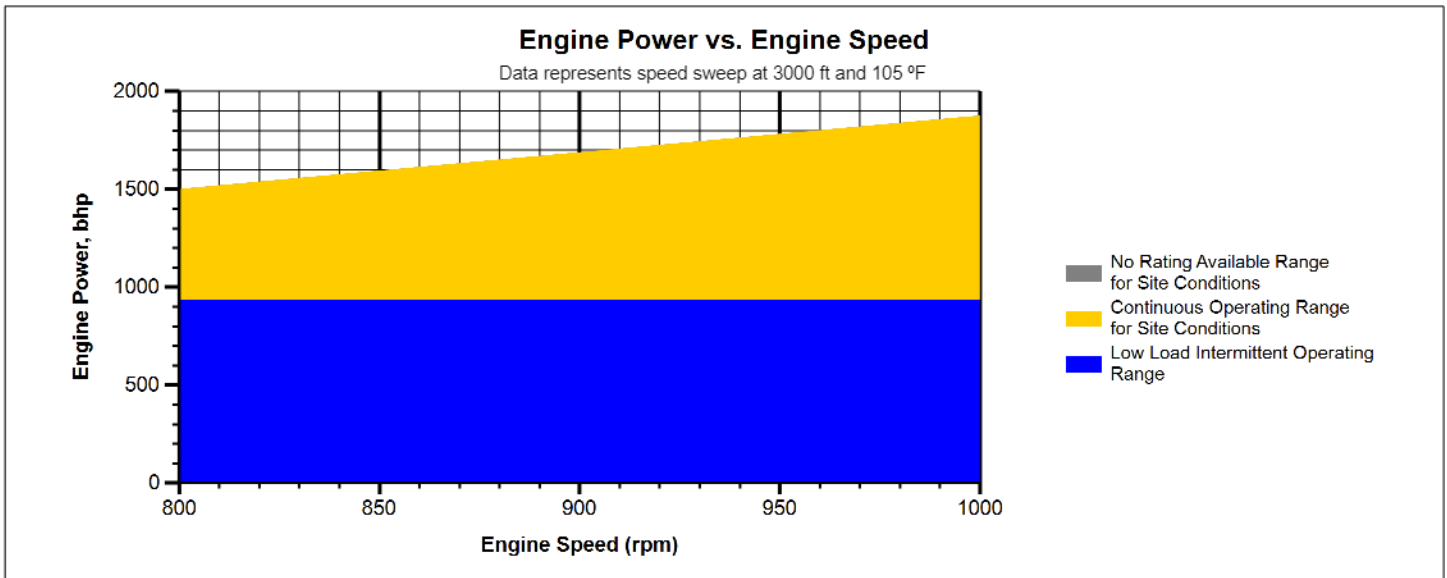
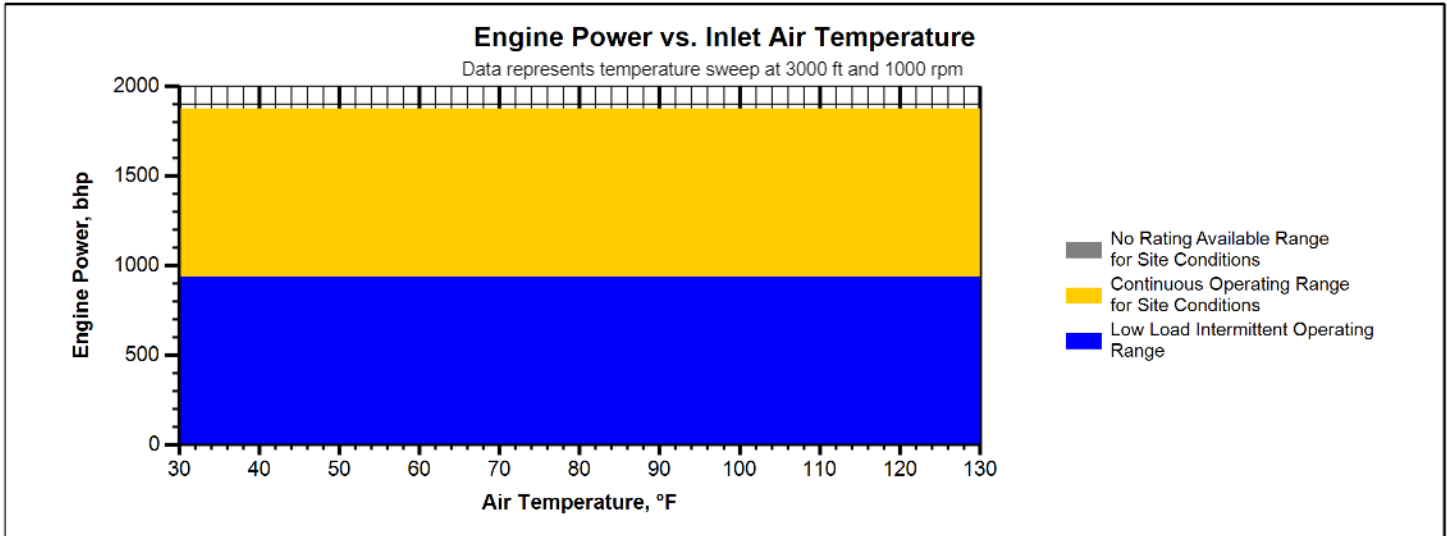
HEAT REJECTION			100%	100%	75%	50%
HEAT REJ. TO JACKET WATER (JW)	(13)	Btu/min	21990	21990	17771	14963
HEAT REJ. TO ATMOSPHERE	(13)	Btu/min	6934	6934	6691	6613
HEAT REJ. TO LUBE OIL (OC)	(13)	Btu/min	11679	11679	10797	9394
HEAT REJ. TO A/C - STAGE 1 (1AC)	(13)(14)	Btu/min	17841	17841	8754	2119
HEAT REJ. TO A/C - STAGE 2 (2AC)	(13)(14)	Btu/min	11043	11043	7115	3864

COOLING SYSTEM SIZING CRITERIA			100%	100%
TOTAL JACKET WATER CIRCUIT (JW+1AC)	(14)(15)	Btu/min	42922	
TOTAL STAGE 2 AFTERCOOLER CIRCUIT (OC+2AC)	(14)(15)	Btu/min	25610	

A cooling system safety factor of 0% has been added to the cooling system sizing criteria.

**CONDITIONS AND DEFINITIONS**  
 Engine rating obtained and presented in accordance with ISO 3046/1, adjusted for fuel, site altitude and site inlet air temperature. 100% rating at maximum inlet air temperature is the maximum engine capability for the specified fuel at site altitude and maximum site inlet air temperature. Maximum rating is the maximum capability at the specified aftercooler inlet temperature for the specified fuel at site altitude and reduced inlet air temperature. Lowest load point is the lowest continuous duty operating load allowed. No overload permitted at rating shown.

For notes information consult page three.



**Note:**

At site conditions of 3000 ft and 105°F inlet air temp., constant torque can be maintained down to 800 rpm. The minimum speed for loading at these conditions is 800 rpm.

**NOTES:**

1. Fuel pressure range specified is to the engine gas shutoff valve (GSOV). Additional fuel train components should be considered in pressure and flow calculations.
2. Engine rating is with two engine driven water pumps. Tolerance is  $\pm 3\%$  of full load.
3. Engine rating obtained and presented in accordance with ISO 3046/1, adjusted for fuel, site altitude and site ambient temperature.
4. Air flow value is on a 'wet' basis. Flow is a nominal value with a tolerance of  $\pm 5\%$ .
5. Inlet and Exhaust Restrictions must not exceed A&I limits based on full load flow rates from the standard technical data sheet.
6. Inlet manifold pressure is a nominal value with a tolerance of  $\pm 5\%$ .
7. Exhaust temperature is a nominal value with a tolerance of (+)63°F, (-)54°F.
8. Exhaust flow value is on a "wet" basis. Flow is a nominal value with a tolerance of  $\pm 6\%$ .
9. Emissions data is at engine exhaust flange prior to any after treatment.
10. Values listed are higher than nominal levels to allow for instrumentation, measurement, and engine-to-engine variations. They indicate the maximum values expected under steady state conditions. Fuel methane number cannot vary more than  $\pm 3$ . THC, NMHC, and NMNEHC do not include aldehydes. An oxidation catalyst may be required to meet Federal, State or local CO or HC requirements.
11. VOCs - Volatile organic compounds as defined in US EPA 40 CFR 60, subpart JJJJ
12. Exhaust Oxygen level is the result of adjusting the engine to operate at the specified NOx level. Tolerance is  $\pm 0.5$ .
13. Heat rejection values are nominal. Tolerances, based on treated water, are  $\pm 10\%$  for jacket water circuit,  $\pm 50\%$  for radiation,  $\pm 20\%$  for lube oil circuit, and  $\pm 5\%$  for aftercooler circuit.
14. Aftercooler heat rejection includes an aftercooler heat rejection factor for the site elevation and inlet air temperature specified. Aftercooler heat rejection values at part load are for reference only. Do not use part load data for heat exchanger sizing.
15. Cooling system sizing criteria are maximum circuit heat rejection for the site, with applied tolerances.

GAS COMPRESSION APPLICATION

Constituent	Abbrev	Mole %	Norm
Water Vapor	H2O	0.0000	0.0000
Methane	CH4	71.6358	71.6358
Ethane	C2H6	12.9322	12.9322
Propane	C3H8	7.7873	7.7873
Isobutane	iso-C4H10	1.0798	1.0798
Norbutane	nor-C4H10	2.4309	2.4309
Isopentane	iso-C5H12	0.5175	0.5175
Norpentane	nor-C5H12	0.5045	0.5045
Hexane	C6H14	0.0758	0.0758
Heptane	C7H16	0.0150	0.0150
Nitrogen	N2	2.2933	2.2933
Carbon Dioxide	CO2	0.7269	0.7269
Hydrogen Sulfide	H2S	0.0000	0.0000
Carbon Monoxide	CO	0.0000	0.0000
Hydrogen	H2	0.0000	0.0000
Oxygen	O2	0.0000	0.0000
Helium	HE	0.0000	0.0000
Neopentane	neo-C5H12	0.0000	0.0000
Octane	C8H18	0.0000	0.0000
Nonane	C9H20	0.0010	0.0010
Ethylene	C2H4	0.0000	0.0000
Propylene	C3H6	0.0000	0.0000
TOTAL (Volume %)		100.0000	100.0000

Fuel Makeup: Nat Gas  
Unit of Measure: English

**Calculated Fuel Properties**

Caterpillar Methane Number: 52.3

Lower Heating Value (Btu/scf): 1194  
Higher Heating Value (Btu/scf): 1314  
WOBBE Index (Btu/scf): 1350

THC: Free Inert Ratio: 32.11  
Total % Inerts (% N2, CO2, He): 3.0202%  
RPC (%) (To 905 Btu/scf Fuel): 100%

Compressibility Factor: 0.996  
Stoich A/F Ratio (Vol/Vol): 12.36  
Stoich A/F Ratio (Mass/Mass): 15.81  
Specific Gravity (Relative to Air): 0.782

Fuel Specific Heat Ratio (K): 1.275

**CONDITIONS AND DEFINITIONS**

Caterpillar Methane Number represents the knock resistance of a gaseous fuel. It should be used with the Caterpillar Fuel Usage Guide for the engine and rating to determine the rating for the fuel specified. A Fuel Usage Guide for each rating is included on page 2 of its standard technical data sheet.

RPC always applies to naturally aspirated (NA) engines, and turbocharged (TA or LE) engines only when they are derated for altitude and ambient site conditions.

Project specific technical data sheets generated by the Caterpillar Gas Engine Rating Pro program take the Caterpillar Methane Number and RPC into account when generating a site rating.

Fuel properties for Btu/scf calculations are at 60F and 14.696 psia.

Caterpillar shall have no liability in law or equity, for damages, consequently or otherwise, arising from use of program and related material or any part thereof.

**FUEL LIQUIDS**

Field gases, well head gases, and associated gases typically contain liquid water and heavy hydrocarbons entrained in the gas. To prevent detonation and severe damage to the engine, hydrocarbon liquids must not be allowed to enter the engine fuel system. To remove liquids, a liquid separator and coalescing filter are recommended, with an automatic drain and collection tank to prevent contamination of the ground in accordance with local codes and standards.

To avoid water condensation in the engine or fuel lines, limit the relative humidity of water in the fuel to 80% at the minimum fuel operating temperature.



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PREPARED FOR: Brad Johnson  
 CSI COMPRESSCO

PDS #: PDS-030821-0002  
 EXPIRES: 4/14/2021

G3606A4 with (4) Premium Oxidation Elements

APPLICATION INFORMATION

Driver: Engine  
 Make: Caterpillar  
 Model: G3606A4  
 Horsepower: 1875  
 RPM: 1000  
 Compression Ratio: 7.6:1  
 Exhaust Flow Rate: 12095  
 Exhaust Temperature: 801  
 Reference: GERP  
 Fuel: Natural Gas  
 Annual Operating Hours: 8760

PERFORMANCE DETAIL

**HOUSING REFERENCE** ELH-5000-1820F-4CE0-362

**CATALYST ELEMENTS**

Model: RT-3615-H Element  
 Catalyst Type: Premium Oxidation  
 Substrate Type: Brazed  
 Element Size: Rectangle, 36"x15"x3.5"  
 Element Quantity: (4) Elements Required

**Minimum Pre Cat Exhaust**

**Temperature: 700\* F**

**\*\*POST CATALYST EMISSIONS ARE ONLY GUARANTEED FOR CATALYST ELEMENTS SUPPLIED BY EMIT**

UNCONTROLLED EMISSIONS DATA

	<u>g/bhp-hr</u>
NOx:	0.3
CO:	2.89
THC:	3.57
NMHC:	1.75
NMNEHC:	1.09
HCHO:	0.22
Oxygen:	11.40%

POST CATALYST EMISSIONS DATA

	<u>g/bhp-hr</u>
NOx:	Unaffected
CO:	< 0.19
VOC:	< 0.472
HCHO:	< .018



## **WARRANTY**

EMIT Technologies, Inc. warrants that the goods supplied will be free from defects in workmanship by EMIT Technologies, Inc. for a period of one (1) year from date of shipment. EMIT Technologies, Inc. will not be responsible for any defects which result from improper use, neglect, failure to properly maintain or which are attributable to defects, errors or omissions in any drawings, specifications, plans or descriptions, whether written or oral, supplied to EMIT Technologies, Inc. by Buyer.

Catalyst performance using an EMIT Air/Fuel ratio controller is dependent upon properly defined set-points, variable with engine and fuel gas composition. Air/fuel ratio controller performance is guaranteed, but not limited, to fuel gas with an HHV content of 1400 BTU/SCF.

Catalyst performance will be guaranteed for a period of 2 years from installation, or 17,000 operating hours, whichever comes first. The catalyst shall be operated with an automatic air/fuel ratio controller. The performance guarantee shall not cover the effects of excessive ash masking due to operation at low load, improper engine maintenance, or inappropriate lubrication oil. The performance guarantee shall not cover the effects of continuous engine misfires (cylinder or ignition) exposing the catalyst to excessive exothermic reaction temperatures.

Unless otherwise stated the exhaust temperature operating range at the converter inlet is 600°F minimum for oxidation catalyst and 750°F for NSCR catalyst and 1250°F maximum.

If a high temperature shut down switch is not installed, thermal deactivation of catalyst at temperatures above 1300 °F is not covered.

The catalyst conversion efficiencies (% reduction) will be guaranteed for engine loads of 50 to 100 percent.

Engine lubrication oil shall contain less than 0.6% ash (by weight) with a maximum allowable specific oil consumption of 0.01 gal/bhp-hr. The maximum ash loading on the catalyst shall be limited to 350 g/m<sup>3</sup>. Phosphorous and zinc additives are limited to 0.03% (by weight).

The catalyst must not be exposed to the following known poisoning agents, including: iron, nickel, sodium, chromium, arsenic, zinc, lead, phosphorous, silicon, potassium, magnesium, copper, tin, and mercury. Total poison concentrations in the gas are limited to 0.3 ppm.

Shipment - Promised shipping dates are approximate and are not guaranteed and are from the point of manufacture. EMIT Technologies, Inc. will not be liable for any loss, damage or delay in manufacture or delivery resulting from any cause beyond its control including, but not limited to a period equal to the time lost by reason of that delay. All products will be crated as per best practice to prevent any damage during shipment. Unless otherwise specified, Buyer will pay for any special packing and shipping requirements. Acceptance of goods by common carrier constitutes delivery to Buyer. EMIT Technologies, Inc. shall not be responsible for goods damaged or lost in transit.

## **PAYMENT TERMS AND ADVANCE PAYMENT REQUIREMENT**

Terms: Credit is extended to purchaser for net 30 time period. If payment is not received in the net 30 timeframe, interest on the unpaid balance will accrue at a rate of 1.5% per month from the invoice date.

Advance Payment Requirement: Proposals with a project value of \$100,000 or greater, and 60 days or greater time to completion, will require an advance payment of 30% of the total value. The advance payment will be invoiced to the customer upon receipt of the customer's purchase order. Advance payment is due 30 days after the date of the invoice. If payment is not received in the net 30 timeframe, interest on the unpaid balance will accrue at the rate of 1.5% per month from the invoice date. Failure to pay this invoice may delay completion of the project outlined in this proposal.

Order Cancellation Terms: Upon cancellation of an order once submittal of a Purchase Order has occurred, the customer will pay a 25% restocking fee for Catalyst Housings, Catalyst Elements, and Air/Fuel Ratio Controllers; 50% restocking fee for Cooler Top Solutions, Exhaust System Accessories, and other Custom Built Products; 100% of all associated shipping costs incurred by EMIT; 100% of all project expenses incurred by EMIT for Field Services.