Docusign Envelope ID: 8D18665B-2BE0-4D3F-BD83-90A992B01F19

DOCUMENT CERTIFICATION

Facility Name: ***Swann Compressor Station***

Registration No. **21808**

Facility Location: **Cove Hollow Road, Elliston, VA 24087**

Type of Submittal Attached: ***Revised Emissions Calculations***

Certification: I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering and evaluating the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name of Responsible Official (Print): **Joe Mallow**

Title: **VP of SP&C**

Signature: Signed by: Joe Mallow 80069EED1AB143E... **Date:** 3/23/2026 | 3:42 PM EDT

Docusign Envelope ID: 8D18665B-2BE0-4D3F-BD83-90A992B01F19

Company Name: Mountain Valley Pipeline, LLC
Facility Name: Swann Compressor Station
Project Description: Initial Construction

TABLE 1A. Uncontrolled Emissions from Each Source at the Facility

Source	Exemption Status	Pollutants						
		VOC (tpy)	NO_X (tpy)	CO (tpy)	PM (tpy)	PM_{10} (tpy)	$PM_{2.5}$ (tpy)	SO_2 (tpy)
Turbine 1 (S001)	N/A	6.65	56.45	57.95	16.81	16.81	16.81	5.72
Turbine 2 (S002)	N/A	6.65	56.45	57.95	16.81	16.81	16.81	5.72
Turbine 3 (S003)	N/A	3.78	31.99	32.67	9.60	9.60	9.60	3.26
Microturbine 1 (S004)	N/A	0.09	0.35	0.96	0.02	0.07	0.07	0.03
Microturbine 2 (S005)	N/A	0.09	0.35	0.96	0.02	0.07	0.07	0.03
Microturbine 3 (S006)	N/A	0.09	0.35	0.96	0.02	0.07	0.07	0.03
Microturbine 4 (S007)	N/A	0.09	0.35	0.96	0.02	0.07	0.07	0.03
Microturbine 5 (S008)	N/A	0.09	0.35	0.96	0.02	0.07	0.07	0.03
Microturbine 6 (S009)	N/A	0.09	0.35	0.96	0.02	0.07	0.07	0.03
Microturbine 7 (S010)	N/A	0.09	0.35	0.96	0.02	0.07	0.07	0.03
Microturbine 8 (S011)	N/A	0.09	0.35	0.96	0.02	0.07	0.07	0.03
Microturbine 9 (S012)	N/A	0.09	0.35	0.96	0.02	0.07	0.07	0.03
Microturbine 10 (S013)	N/A	0.09	0.35	0.96	0.02	0.07	0.07	0.03
Microturbine 11 (S014)	N/A	0.09	0.35	0.96	0.02	0.07	0.07	0.03
Microturbine 12 (S015)	N/A	0.09	0.35	0.96	0.02	0.07	0.07	0.03
Microturbine 13 (S016)	N/A	0.09	0.35	0.96	0.02	0.07	0.07	0.03
Microturbine 14 (S017)	N/A	0.09	0.35	0.96	0.02	0.07	0.07	0.03
Microturbine 15 (S018)	N/A	0.09	0.35	0.96	0.02	0.07	0.07	0.03
Fuel Gas Heater (S019)	9VAC5-80-1105.B.1.a(4)	0.02	0.32	0.27	6.08E-03	0.02	0.02	1.92E-03
Fuel Gas Heater (S020)	9VAC5-80-1105.B.1.a(4)	0.02	0.32	0.27	6.08E-03	0.02	0.02	1.92E-03
Fuel Gas Heater (S021)	9VAC5-80-1105.B.1.a(4)	0.02	0.32	0.27	6.08E-03	0.02	0.02	1.92E-03
Fuel Gas Heater (S028)	9VAC5-80-1105.B.1.a(4)	0.03	0.48	0.40	9.13E-03	0.04	0.04	2.88E-03
Fuel Gas Heater (S029)	9VAC5-80-1105.B.1.a(4)	0.03	0.48	0.40	9.13E-03	0.04	0.04	2.88E-03
Produced Fluids Tank (S022)	9VAC5-80-1105.B.8	0.01	--	--	--	--	--	--
Used Oil Tank (S023)	9VAC5-80-1105.B.8	5.26E-05	--	--	--	--	--	--
Used Oil Tank (S024)	9VAC5-80-1105.B.8	5.26E-05	--	--	--	--	--	--
Fugitives (S025)	N/A	0.45	--	--	0.05	0.01	1.40E-03	--
Liquid Loading (S026)	N/A	0.19	--	--	--	--	--	--
Blowdowns (S027)	N/A	10.13	--	--	--	--	--	--
Total		**29.28**	**152.06**	**164.62**	**43.60**	**44.37**	**44.36**	**15.21**
Non-Exempt Units Total		**29.16**	**150.14**	**163.01**	**43.56**	**44.22**	**44.21**	**15.20**
Minor NSR Threshold		25	40	100	25	15	10	40
Trigger Minor Source NSR Permitting?		**YES**	**YES**	**YES**	**YES**	**YES**	**YES**	**NO**

Notes:

1. PM_{10} and $PM_{2.5}$ emissions are filterable + condensable.
2. Fugitives emissions include piping component and haul road emissions.

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Company Name: Mountain Valley Pipeline, LLC
Facility Name: Swann Compressor Station
Project Description: Initial Construction

TABLE 1B. Facility-Wide HAP/TAP Summary

Source	Exempt from State Toxics?	Pollutants																									
		Acetaldehyde		Acrolein		Benzene		1,3-Butadiene		Propylene Oxide		Ethylbenzene		Toluene		Xylene		Naphthalene		Formaldehyde		n-Hexane		2,2,4-Trimethylpentane		Xylene	
		75-07-0		107-02-8		71-43-2		106-99-0		75-56-9		100-41-4		108-88-3		1330-20-7		91-20-3		50-00-0		110-54-3		540-84-1		108-38-3	
		(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)
Turbine 1 (S001)	No	0.02	0.07	2.46E-03	0.01	4.61E-03	0.02	1.65E-04	7.23E-04	0.01	0.05	0.01	0.05	0.05	0.22	0.02	0.11	4.99E-04	2.19E-03	0.22	0.97	--	--	--	--	0.02	0.11
Turbine 2 (S002)	No	0.02	0.07	2.46E-03	0.01	4.61E-03	0.02	1.65E-04	7.23E-04	0.01	0.05	0.01	0.05	0.05	0.22	0.02	0.11	4.99E-04	2.19E-03	0.22	0.97	--	--	--	--	0.02	0.11
Turbine 3 (S003)	No	8.76E-03	0.04	1.40E-03	6.14E-03	2.63E-03	0.01	9.42E-05	4.13E-04	5.90E-03	0.03	7.01E-03	0.03	0.03	0.12	0.01	0.06	2.85E-04	1.25E-03	0.13	0.55	--	--	--	--	0.01	0.06
Microturbine 1 (S004)	No	9.12E-05	3.99E-04	1.46E-05	6.39E-05	2.74E-05	1.20E-04	9.80E-07	4.29E-06	6.61E-05	2.90E-04	7.30E-05	3.20E-04	2.96E-04	1.30E-03	1.46E-04	6.39E-04	2.96E-06	1.30E-05	1.62E-03	7.09E-03	--	--	--	--	1.46E-04	6.39E-04
Microturbine 2 (S005)	No	9.12E-05	3.99E-04	1.46E-05	6.39E-05	2.74E-05	1.20E-04	9.80E-07	4.29E-06	6.61E-05	2.90E-04	7.30E-05	3.20E-04	2.96E-04	1.30E-03	1.46E-04	6.39E-04	2.96E-06	1.30E-05	1.62E-03	7.09E-03	--	--	--	--	1.46E-04	6.39E-04
Microturbine 3 (S006)	No	9.12E-05	3.99E-04	1.46E-05	6.39E-05	2.74E-05	1.20E-04	9.80E-07	4.29E-06	6.61E-05	2.90E-04	7.30E-05	3.20E-04	2.96E-04	1.30E-03	1.46E-04	6.39E-04	2.96E-06	1.30E-05	1.62E-03	7.09E-03	--	--	--	--	1.46E-04	6.39E-04
Microturbine 4 (S007)	No	9.12E-05	3.99E-04	1.46E-05	6.39E-05	2.74E-05	1.20E-04	9.80E-07	4.29E-06	6.61E-05	2.90E-04	7.30E-05	3.20E-04	2.96E-04	1.30E-03	1.46E-04	6.39E-04	2.96E-06	1.30E-05	1.62E-03	7.09E-03	--	--	--	--	1.46E-04	6.39E-04
Microturbine 5 (S008)	No	9.12E-05	3.99E-04	1.46E-05	6.39E-05	2.74E-05	1.20E-04	9.80E-07	4.29E-06	6.61E-05	2.90E-04	7.30E-05	3.20E-04	2.96E-04	1.30E-03	1.46E-04	6.39E-04	2.96E-06	1.30E-05	1.62E-03	7.09E-03	--	--	--	--	1.46E-04	6.39E-04
Microturbine 6 (S009)	No	9.12E-05	3.99E-04	1.46E-05	6.39E-05	2.74E-05	1.20E-04	9.80E-07	4.29E-06	6.61E-05	2.90E-04	7.30E-05	3.20E-04	2.96E-04	1.30E-03	1.46E-04	6.39E-04	2.96E-06	1.30E-05	1.62E-03	7.09E-03	--	--	--	--	1.46E-04	6.39E-04
Microturbine 7 (S010)	No	9.12E-05	3.99E-04	1.46E-05	6.39E-05	2.74E-05	1.20E-04	9.80E-07	4.29E-06	6.61E-05	2.90E-04	7.30E-05	3.20E-04	2.96E-04	1.30E-03	1.46E-04	6.39E-04	2.96E-06	1.30E-05	1.62E-03	7.09E-03	--	--	--	--	1.46E-04	6.39E-04
Microturbine 8 (S011)	No	9.12E-05	3.99E-04	1.46E-05	6.39E-05	2.74E-05	1.20E-04	9.80E-07	4.29E-06	6.61E-05	2.90E-04	7.30E-05	3.20E-04	2.96E-04	1.30E-03	1.46E-04	6.39E-04	2.96E-06	1.30E-05	1.62E-03	7.09E-03	--	--	--	--	1.46E-04	6.39E-04
Microturbine 9 (S012)	No	9.12E-05	3.99E-04	1.46E-05	6.39E-05	2.74E-05	1.20E-04	9.80E-07	4.29E-06	6.61E-05	2.90E-04	7.30E-05	3.20E-04	2.96E-04	1.30E-03	1.46E-04	6.39E-04	2.96E-06	1.30E-05	1.62E-03	7.09E-03	--	--	--	--	1.46E-04	6.39E-04
Microturbine 10 (S013)	No	9.12E-05	3.99E-04	1.46E-05	6.39E-05	2.74E-05	1.20E-04	9.80E-07	4.29E-06	6.61E-05	2.90E-04	7.30E-05	3.20E-04	2.96E-04	1.30E-03	1.46E-04	6.39E-04	2.96E-06	1.30E-05	1.62E-03	7.09E-03	--	--	--	--	1.46E-04	6.39E-04
Microturbine 11 (S014)	No	9.12E-05	3.99E-04	1.46E-05	6.39E-05	2.74E-05	1.20E-04	9.80E-07	4.29E-06	6.61E-05	2.90E-04	7.30E-05	3.20E-04	2.96E-04	1.30E-03	1.46E-04	6.39E-04	2.96E-06	1.30E-05	1.62E-03	7.09E-03	--	--	--	--	1.46E-04	6.39E-04
Microturbine 12 (S015)	No	9.12E-05	3.99E-04	1.46E-05	6.39E-05	2.74E-05	1.20E-04	9.80E-07	4.29E-06	6.61E-05	2.90E-04	7.30E-05	3.20E-04	2.96E-04	1.30E-03	1.46E-04	6.39E-04	2.96E-06	1.30E-05	1.62E-03	7.09E-03	--	--	--	--	1.46E-04	6.39E-04
Microturbine 13 (S016)	No	9.12E-05	3.99E-04	1.46E-05	6.39E-05	2.74E-05	1.20E-04	9.80E-07	4.29E-06	6.61E-05	2.90E-04	7.30E-05	3.20E-04	2.96E-04	1.30E-03	1.46E-04	6.39E-04	2.96E-06	1.30E-05	1.62E-03	7.09E-03	--	--	--	--	1.46E-04	6.39E-04
Microturbine 14 (S017)	No	9.12E-05	3.99E-04	1.46E-05	6.39E-05	2.74E-05	1.20E-04	9.80E-07	4.29E-06	6.61E-05	2.90E-04	7.30E-05	3.20E-04	2.96E-04	1.30E-03	1.46E-04	6.39E-04	2.96E-06	1.30E-05	1.62E-03	7.09E-03	--	--	--	--	1.46E-04	6.39E-04
Microturbine 15 (S018)	No	9.12E-05	3.99E-04	1.46E-05	6.39E-05	2.74E-05	1.20E-04	9.80E-07	4.29E-06	6.61E-05	2.90E-04	7.30E-05	3.20E-04	2.96E-04	1.30E-03	1.46E-04	6.39E-04	2.96E-06	1.30E-05	1.62E-03	7.09E-03	--	--	--	--	1.46E-04	6.39E-04
Fuel Gas Heater (S019)	Yes	--	--	--	--	1.54E-06	6.73E-06	--	--	--	--	--	--	2.49E-06	1.09E-05	--	--	4.46E-07	1.95E-06	5.48E-05	2.40E-04	1.32E-03	5.76E-03	--	--	--	--
Fuel Gas Heater (S020)	Yes	--	--	--	--	1.54E-06	6.73E-06	--	--	--	--	--	--	2.49E-06	1.09E-05	--	--	4.46E-07	1.95E-06	5.48E-05	2.40E-04	1.32E-03	5.76E-03	--	--	--	--
Fuel Gas Heater (S021)	Yes	--	--	--	--	1.54E-06	6.73E-06	--	--	--	--	--	--	2.49E-06	1.09E-05	--	--	4.46E-07	1.95E-06	5.48E-05	2.40E-04	1.32E-03	5.76E-03	--	--	--	--
Fuel Gas Heater (S028)	Yes	--	--	--	--	2.30E-06	1.01E-05	--	--	--	--	--	--	3.73E-06	1.63E-05	--	--	6.69E-07	2.93E-06	5.48E-05	2.40E-04	1.97E-03	8.65E-03	--	--	--	--
Fuel Gas Heater (S029)	Yes	--	--	--	--	2.30E-06	1.01E-05	--	--	--	--	--	--	3.73E-06	1.63E-05	--	--	6.69E-07	2.93E-06	5.48E-05	2.40E-04	1.97E-03	8.65E-03	--	--	--	--
Produced Fluids Tank (S022)	No	--	--	--	--	3.56E-05	1.56E-04	--	--	--	--	0.00E+00	0.00E+00	1.26E-05	5.50E-05	--	--	--	--	--	--	8.85E-07	3.88E-06	2.85E-08	1.25E-07	0.00E+00	0.00E+00
Used Oil Tank (S023)	No	--	--	--	--	0.00E+00	0.00E+00	--	--	--	--	0.00E+00	0.00E+00	0.00E+00	0.00E+00	--	--	--	--	--	--	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Used Oil Tank (S024)	No	--	--	--	--	0.00E+00	0.00E+00	--	--	--	--	0.00E+00	0.00E+00	0.00E+00	0.00E+00	--	--	--	--	--	--	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fugitives (S025)	No	--	--	--	--	2.21E-03	9.67E-03	--	--	--	--	0.00E+00	0.00E+00	1.04E-03	4.56E-03	--	--	--	--	--	--	0.01	0.05	--	--	--	--
Liquid Loading (S026)	No	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Blowdowns (S027)	No	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total		**0.04**	**0.18**	**6.53E-03**	**0.029**	**0.01**	**0.06**	**4.39E-04**	**1.92E-03**	**0.03**	**0.12**	**0.03**	**0.14**	**0.13**	**0.59**	**0.07**	**0.29**	**1.33E-03**	**5.82E-03**	**0.59**	**2.60**	**0.020**	**0.086**	**2.85E-08**	**1.25E-07**	**0.07**	**0.29**
Non-Exempt Units Total		**0.04**	**0.18**	**6.53E-03**	**0.029**	**0.01**	**0.06**	**4.39E-04**	**1.92E-03**	**0.03**	**0.12**	**0.03**	**0.14**	**0.13**	**0.59**	**0.07**	**0.29**	**1.33E-03**	**5.81E-03**	**0.59**	**2.60**	**0.012**	**0.051**	**2.85E-08**	**1.25E-07**	**0.07**	**0.29**
Exemption Threshold		**8.91**	**26.10**	**0.02**	**0.033**	**2.11**	**4.64**	**1.45**	**3.19**	**3.17**	**6.96**	**17.92**	**62.93**	**18.65**	**54.67**	**21.48**	**62.93**	**2.61**	**7.54**	**0.08**	**0.17**	**11.62**	**25.52**	**22.80**	**50.75**	**21.48**	**62.93**
Above Threshold?		**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**	**YES**	**YES**	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**

Notes:
1. Fuel gas heaters are exempt from the state toxics program (9VAC5-60-300.C.7)

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Company Name: Mountain Valley Pipeline, LLC
Facility Name: Swann Compressor Station
Project Description: Initial Construction

TABLE 1C. Potential Atmospheric Emissions from Each Source at the Facility

Source	Pollutants																			
	VOC		NO_X		CO		PM		PM_{10}		$PM_{2.5}$		SO_2		HCHO		Total HAPs		GHG (CO_2e)	
	(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)
Turbine 1 (S001)	0.90	4.03	3.86	16.99	2.61	12.22	3.84	16.81	3.84	16.81	3.84	16.81	1.30	5.72	0.22	0.97	0.34	1.50	45,355	198,789
Turbine 2 (S002)	0.90	4.03	3.86	16.99	2.61	12.22	3.84	16.81	3.84	16.81	3.84	16.81	1.30	5.72	0.22	0.97	0.34	1.50	45,355	198,789
Turbine 3 (S003)	0.51	2.29	2.19	9.60	1.48	6.70	2.19	9.60	2.19	9.60	2.19	9.60	0.74	3.26	0.13	0.55	0.20	0.86	25,887	113,516
Microturbine 1 (S004)	0.02	0.09	0.08	0.35	0.22	0.96	4.33E-03	0.02	0.02	0.07	0.02	0.07	7.75E-03	0.03	1.62E-03	7.09E-03	2.34E-03	0.01	266	1,166
Microturbine 2 (S005)	0.02	0.09	0.08	0.35	0.22	0.96	4.33E-03	0.02	0.02	0.07	0.02	0.07	7.75E-03	0.03	1.62E-03	7.09E-03	2.34E-03	0.01	266	1,166
Microturbine 3 (S006)	0.02	0.09	0.08	0.35	0.22	0.96	4.33E-03	0.02	0.02	0.07	0.02	0.07	7.75E-03	0.03	1.62E-03	7.09E-03	2.34E-03	0.01	266	1,166
Microturbine 4 (S007)	0.02	0.09	0.08	0.35	0.22	0.96	4.33E-03	0.02	0.02	0.07	0.02	0.07	7.75E-03	0.03	1.62E-03	7.09E-03	2.34E-03	0.01	266	1,166
Microturbine 5 (S008)	0.02	0.09	0.08	0.35	0.22	0.96	4.33E-03	0.02	0.02	0.07	0.02	0.07	7.75E-03	0.03	1.62E-03	7.09E-03	2.34E-03	0.01	266	1,166
Microturbine 6 (S009)	0.02	0.09	0.08	0.35	0.22	0.96	4.33E-03	0.02	0.02	0.07	0.02	0.07	7.75E-03	0.03	1.62E-03	7.09E-03	2.34E-03	0.01	266	1,166
Microturbine 7 (S010)	0.02	0.09	0.08	0.35	0.22	0.96	4.33E-03	0.02	0.02	0.07	0.02	0.07	7.75E-03	0.03	1.62E-03	7.09E-03	2.34E-03	0.01	266	1,166
Microturbine 8 (S011)	0.02	0.09	0.08	0.35	0.22	0.96	4.33E-03	0.02	0.02	0.07	0.02	0.07	7.75E-03	0.03	1.62E-03	7.09E-03	2.34E-03	0.01	266	1,166
Microturbine 9 (S012)	0.02	0.09	0.08	0.35	0.22	0.96	4.33E-03	0.02	0.02	0.07	0.02	0.07	7.75E-03	0.03	1.62E-03	7.09E-03	2.34E-03	0.01	266	1,166
Microturbine 10 (S013)	0.02	0.09	0.08	0.35	0.22	0.96	4.33E-03	0.02	0.02	0.07	0.02	0.07	7.75E-03	0.03	1.62E-03	7.09E-03	2.34E-03	0.01	266	1,166
Microturbine 11 (S014)	0.02	0.09	0.08	0.35	0.22	0.96	4.33E-03	0.02	0.02	0.07	0.02	0.07	7.75E-03	0.03	1.62E-03	7.09E-03	2.34E-03	0.01	266	1,166
Microturbine 12 (S015)	0.02	0.09	0.08	0.35	0.22	0.96	4.33E-03	0.02	0.02	0.07	0.02	0.07	7.75E-03	0.03	1.62E-03	7.09E-03	2.34E-03	0.01	266	1,166
Microturbine 13 (S016)	0.02	0.09	0.08	0.35	0.22	0.96	4.33E-03	0.02	0.02	0.07	0.02	0.07	7.75E-03	0.03	1.62E-03	7.09E-03	2.34E-03	0.01	266	1,166
Microturbine 14 (S017)	0.02	0.09	0.08	0.35	0.22	0.96	4.33E-03	0.02	0.02	0.07	0.02	0.07	7.75E-03	0.03	1.62E-03	7.09E-03	2.34E-03	0.01	266	1,166
Microturbine 15 (S018)	0.02	0.09	0.08	0.35	0.22	0.96	4.33E-03	0.02	0.02	0.07	0.02	0.07	7.75E-03	0.03	1.62E-03	7.09E-03	2.34E-03	0.01	266	1,166
Fuel Gas Heater (S019)	4.02E-03	0.02	0.07	0.32	0.06	0.27	1.39E-03	6.08E-03	5.56E-03	0.02	5.56E-03	0.02	4.39E-04	1.92E-03	5.48E-05	2.40E-04	1.38E-03	6.06E-03	90	395
Fuel Gas Heater (S020)	4.02E-03	0.02	0.07	0.32	0.06	0.27	1.39E-03	6.08E-03	5.56E-03	0.02	5.56E-03	0.02	4.39E-04	1.92E-03	5.48E-05	2.40E-04	1.38E-03	6.06E-03	90	395
Fuel Gas Heater (S021)	4.02E-03	0.02	0.07	0.32	0.06	0.27	1.39E-03	6.08E-03	5.56E-03	0.02	5.56E-03	0.02	4.39E-04	1.92E-03	5.48E-05	2.40E-04	1.38E-03	6.06E-03	90	395
Fuel Gas Heater (S028)	6.03E-03	0.03	0.11	0.48	0.09	0.40	2.08E-03	9.13E-03	8.34E-03	0.04	8.34E-03	0.04	6.58E-04	2.88E-03	8.23E-05	3.60E-04	2.08E-03	9.09E-03	135	592
Fuel Gas Heater (S029)	6.03E-03	0.03	0.11	0.48	0.09	0.40	2.08E-03	9.13E-03	8.34E-03	0.04	8.34E-03	0.04	6.58E-04	2.88E-03	8.23E-05	3.60E-04	2.08E-03	9.09E-03	135	592
Produced Fluids Tank (S022)	3.34E-03	0.01	--	--	--	--	--	--	--	--	--	--	--	--	--	--	4.91E-05	2.15E-04	11	50
Used Oil Tank (S023)	1.20E-05	5.26E-05	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.20E-05	5.26E-05	--	--
Used Oil Tank (S024)	1.20E-05	5.26E-05	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.20E-05	5.26E-05	--	--
Fugitives (S025)	0.10	0.45	--	--	--	--	0.01	0.05	3.19E-03	0.01	3.19E-04	1.40E-03	--	--	--	--	1.56E-04	6.83E-04	238	1,044
Liquid Loading (S026)	0.04	0.19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Blowdowns (S027)	2.31	10.13	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3.52E-03	0.02	5,377	23,552
Total	**5.09**	**22.55**	**11.55**	**50.76**	**10.37**	**47.20**	**9.95**	**43.60**	**10.13**	**44.37**	**10.13**	**44.36**	**3.47**	**15.21**	**0.59**	**2.60**	**0.93**	**4.06**	**126,758**	**555,601**

Notes:

1. PM_{10} and $PM_{2.5}$ emissions are filterable + condensable.
2. Fugitives emissions include piping component and haul road emissions.
3. Global Warming Potential (40 CFR 98 Subpart A Table A -1)

CO_2	1
CH_4	28
N_2O	265

Docusign Envelope ID: 8D18665B-2BE0-4D3F-BD83-90A992B01F19

Company Name: **Mountain Valley Pipeline, LLC**
Facility Name: **Swann Compressor Station**
Project Description: **Initial Construction**

TABLE 2. Turbine Emissions Calculations

Turbine Information:

Source ID:	S001-S002
Manufacturer:	Solar
Model No.:	Titan 350-52500S
Fuel Used:	Natural Gas
Fuel Heating Value (Btu/scf) (LHV):	947.30
Rated Horsepower (bhp at ISO conditions):	52,500
Maximum Fuel Consumption at 100% Load (scf/hr):	376248
Heat Input (MMBtu/hr) (LHV)	356.42
Control Device:	Oxidation Catalyst
CO Control Efficiency	80%
VOC Control Efficiency	40%
Formaldehyde Control Efficiency	80%
Control Device:	SCR
NOx Control Efficiency	70%
Stack Designation:	ST1-ST2

Operational Details:

Potential Annual Hours of Operation (hr/yr):	8,760
Potential Fuel Consumption (MMscf/yr):	3,295.93
Potential Startup/Shutdown Events (per year):	12

Docusign Envelope ID: 8D18665B-2BE0-4D3F-BD83-90A992B01F19

Company Name: Mountain Valley Pipeline, LLC
Facility Name: Swann Compressor Station
Project Description: Initial Construction

TABLE 2. Turbine Emissions Calculations

Manufacturer Specific Pollutant Emission Factors:

Pollutant	Emission Factors	Units	Emission Factor Source
NO_X	12.87	lb/hr	Manufacturer - 9ppm
CO	13.05	lb/hr	Manufacturer - 15 ppm
SO_2	3.66E-03	lb/MMBtu	AP-42, Table 3.1-2a
PM	0.011	lb/MMBtu	Assume PM=PM_{10}.
PM_{10}	0.011	lb/MMBtu	Manufacturer, PIL 171 Rev 11
$PM_{2.5}$	0.011	lb/MMBtu	Manufacturer, PIL 171 Rev 11
VOC	1.496	lb/hr	20% of UHC per Manufacturer
Formaldehyde	0.003	lb/MMBtu	Manufacturer, PIL 168
CO_2	126.72	lb/MMBtu	40 CFR 98, Subpart C, Table C-1
CH_4	5.984	lb/hr	80% of UHC per Manufacturer
N_2O	2.4E-04	lb/MMBtu	40 CFR 98, Subpart C, Table C-2

*Emission factors from AP-42 and Subpart C are based on HHV. To calculate a LHV emission factor, emissions are multiplied by (HHV/LHV). For AP-42 HHV is 1020 Btu/scf, for Subpart C HHV is 1026 Btu/scf. PM and HCHO emission factors are provided in HHV in the specifications and were converted to LHV using a HHV value of 1020 Btu/scf.

Pollutant Emission Rates:

Pollutant	Pre-control Emissions (lb/hr)[1]	Pre-control Emissions (tpy)[2]	Post-control Emissions (lb/hr)	Post-control Emissions (tpy)
NO_X	12.87	56.45	3.86	16.99
CO	13.05	57.95	2.61	12.22
SO_2	1.30	5.72	1.30	5.72
PM	3.84	16.81	3.84	16.81
PM_{10}	3.84	16.81	3.84	16.81
$PM_{2.5}$	3.84	16.81	3.84	16.81
VOC	1.50	6.65	0.90	4.03
Formaldehyde	1.11	4.84	0.22	0.97
CO_2	45,165	197,836	45,165	197,836
CH_4	5.98	30.50	5.98	30.50
N_2O	0.09	0.37	0.09	0.37
GHG (CO2e)	45,355	198,789	45,355	198,789

*Annual emissions shown above include startup/shutdown events.

Docusign Envelope ID: 8D18665B-2BE0-4D3F-BD83-90A992B01F19

Company Name: Mountain Valley Pipeline, LLC
Facility Name: Swann Compressor Station
Project Description: Initial Construction

TABLE 2. Turbine Emissions Calculations

Hazardous Air Pollutant (HAP) Emission Rates:

Pollutant	Emission Factor (lb/MMBtu)[3]	Potential Emissions (lb/hr)[1]	Potential Emissions (tpy)[2,4]
HAPs:			
Acetaldehyde	4.31E-05	1.54E-02	6.72E-02
Acrolein	6.89E-06	2.46E-03	1.08E-02
Benzene	1.29E-05	4.61E-03	2.02E-02
1,3-Butadiene	4.63E-07	1.65E-04	7.23E-04
Propylene Oxide	2.90E-05	1.03E-02	4.53E-02
Ethylbenzene	3.45E-05	1.23E-02	5.38E-02
Toluene	1.40E-04	4.99E-02	2.19E-01
Xylene	6.89E-05	2.46E-02	1.08E-01
Naphthalene	1.40E-06	4.99E-04	2.19E-03
PAH	2.37E-06	8.44E-04	3.70E-03
Total HAP (Including HCHO)		**0.34**	**1.50**

1. Emission Rate (lb/hr) = Rated Capacity (MMBtu/hr) × Emission Factor (lb/MMBtu)
2. Emission Rate (tpy) = Emission Rate (lb/hr) × Hours of Operation (hr/yr) / 2000 (tons/lb) + SU/SD emissions, as applicable
3. Emission factors from AP-42 Section 3.1, Table 3.1-3 "Emission Factors for HAPs from Natural Gas Fired Stationary Gas Turbines", April 2000. Factors are based on HHV of 1020. Therefore, they were converted to LHV by multiplying by (HHV/LHV).
4. Emission calculations are based on maximum operating load of 100% load, ambient temperature 0°F and site elevation. The turbine ratings can vary with ambient conditions. Each Turbine is ISO rated at 52,500 HP

Startup/Shutdown Combustion Emission Factors:

Pollutant	Startup Emissions[a] (lbs/event)	Shutdown Emissions[a] (lbs/event)	Emission Factor Source
NO_X	7	6	Manufacturer
CO	71	60	Manufacturer
VOC	4	3	Manufacturer
$PM_{10}/PM_{2.5}$	0.3	0.2	Manufacturer
CO_2	1360	1192	Manufacturer

a. Each startup and shutdown event is estimated to last approximately 10 minutes, per manufacturer. Emissions estimates provided by manufacturer.

Pneumatic Start Venting Emissions		
Natural Gas Purged During Startup	4500	scfm
Duration of Normal Purge	4.0	min
Total Gas Purged (Per Startup)	18000	scf
VOC Purged (Per Startup)	9	lbs/startup
CO_2 Purged (Per Startup)	5	lbs/startup
CH_4 Purged (Per Startup)	715	lbs/startup
Site specific density of natural gas:	0.04	lb/ft^3

*Current design includes electric motor starts, but pneumatic starts have been included as a conservative measure.

Docusign Envelope ID: 8D18665B-2BE0-4D3F-BD83-90A992B01F19

Company Name: Mountain Valley Pipeline, LLC
Facility Name: Swann Compressor Station
Project Description: Initial Construction

TABLE 3. Turbine Emissions Calculations

Turbine Information:

Source ID:	S003
Manufacturer:	Solar
Model No.:	Titan 250-31900S
Fuel Used:	Natural Gas
Fuel Heating Value (Btu/scf) (LHV):	947.40
Rated Horsepower (bhp at ISO conditions):	31,900
Maximum Fuel Consumption at 100% Load (scf/hr):	214,756
Heat Input (MMBtu/hr) (LHV)	203.46
Control Device:	Oxidation Catalyst
CO Control Efficiency	80%
VOC Control Efficency	40%
Formaldehyde Control Efficiency	80%
Control Device:	SCR
NOx Control Efficiency	70%
Stack Designation:	ST3

Operational Details:

Potential Annual Hours of Operation (hr/yr):	8,760
Potential Fuel Consumption (MMscf/yr):	1,881.26
Potential Startup/Shutdown Events (per year):	12

Docusign Envelope ID: 8D18665B-2BE0-4D3F-BD83-90A992B01F19

Company Name: Mountain Valley Pipeline, LLC
Facility Name: Swann Compressor Station
Project Description: Initial Construction

TABLE 3. Turbine Emissions Calculations

Manufacturer Specific Pollutant Emission Factors:

Pollutant	Emission Factors	Units	Emission Factor Source
NO_X	7.30	lb/hr	Manufacturer - 9ppm
CO	7.41	lb/hr	Manufacturer - 15 ppm
SO_2	3.66E-03	lb/MMBtu	AP-42, Table 3.1-2a
PM	0.011	lb/MMBtu	Assume PM=PM_{10}.
PM_{10}	0.011	lb/MMBtu	Manufacturer, PIL 171 Rev 11
$PM_{2.5}$	0.011	lb/MMBtu	Manufacturer, PIL 171 Rev 11
VOC	0.848	lb/hr	20% of UHC per Manufacturer
Formaldehyde	0.003	lb/MMBtu	Manufacturer, PIL 168
CO_2	126.70	lb/MMBtu	40 CFR 98, Subpart C, Table C-1
CH_4	3.392	lb/hr	80% of UHC per Manufacturer
N_2O	2.4E-04	lb/MMBtu	40 CFR 98, Subpart C, Table C-2

*Emission factors from AP-42 and Subpart C are based on HHV. To calculate a LHV emission factor, emissions are multiplied by (HHV/LHV). For AP-42 HHV is 1020 Btu/scf, for Subpart C HHV is 1026 Btu/scf. PM and HCHO emission factors are provided in HHV in the specifications and were converted to LHV using a HHV value of 1020 Btu/scf.

Pollutant Emission Rates:

Pollutant	Pre-control Emissions		Post-control Emissions	
	(lb/hr)[1]	(tpy)[2]	(lb/hr)	(tpy)
NO_X	7.30	31.99	2.19	9.60
CO	7.41	32.67	1.48	6.70
SO_2	0.74	3.26	0.74	3.26
PM	2.19	9.60	2.19	9.60
PM_{10}	2.19	9.60	2.19	9.60
$PM_{2.5}$	2.19	9.60	2.19	9.60
VOC	0.85	3.78	0.51	2.29
Formaldehyde	0.63	2.76	0.13	0.55
CO_2	25,779	112,924	25,779	112,924
CH_4	3.39	19.15	3.39	19.15
N_2O	0.05	0.21	0.05	0.21
GHG (CO2e)	25887	113516	25887	113516

*Annual emissions shown above include startup/shutdown events.

Docusign Envelope ID: 8D18665B-2BE0-4D3F-BD83-90A992B01F19

Company Name: Mountain Valley Pipeline, LLC
Facility Name: Swann Compressor Station
Project Description: Initial Construction

TABLE 3. Turbine Emissions Calculations

Hazardous Air Pollutant (HAP) Emission Rates:

Pollutant	Emission Factor (lb/MMBtu)[3]	Potential Emissions (lb/hr)[1]	Potential Emissions (tpy)[2,4]
HAPs:			
Acetaldehyde	4.31E-05	8.76E-03	3.84E-02
Acrolein	6.89E-06	1.40E-03	6.14E-03
Benzene	1.29E-05	2.63E-03	1.15E-02
1,3-Butadiene	4.63E-07	9.42E-05	4.13E-04
Propylene Oxide	2.90E-05	5.90E-03	2.58E-02
Ethylbenzene	3.45E-05	7.01E-03	3.07E-02
Toluene	1.40E-04	2.85E-02	1.25E-01
Xylene	6.89E-05	1.40E-02	6.14E-02
Naphthalene	1.40E-06	2.85E-04	1.25E-03
PAH	2.37E-06	4.82E-04	2.11E-03
Total HAP (Including HCHO)		**0.20**	**0.86**

1. Emission Rate (lb/hr) = Rated Capacity (MMBtu/hr) × Emission Factor (lb/MMBtu)

2. Emission Rate (tpy) = Emission Rate (lb/hr) × Hours of Operation (hr/yr) / 2000 (tons/lb) + SU/SD emissions, as applicable

3. Emission factors from AP-42 Section 3.1, Table 3.1-3 "Emission Factors for HAPs from Natural Gas Fired Stationary Gas Turbines", April 2000. Factors are based on HHV. Therefore, they were converted to LHV by multiplying by (HHV/LHV).

4. Emission calculations are based on maximum operating load of 100% load, ambient temperature 0°F and site elevation. The turbine ratings can vary with ambient conditions. Each Turbine is ISO rated at 31,900 HP

Startup/Shutdown Combustion Emission Factors:

Pollutant	Startup Emissions[a] (lbs/event)	Shutdown Emissions[a] (lbs/event)	Emission Factor Source
NO_X	1	1	Manufacturer
CO	19	16	Manufacturer
VOC	1	1	Manufacturer
$PM_{10}/PM_{2.5}$	0.2	0.1	Manufacturer
CO_2	987	880	Manufacturer

a. Each startup and shutdown event is estimated to last approximately 10 minutes, per manufacturer. Emissions estimates provided by manufacturer.

Pneumatic Start Venting Emissions		
Natural Gas Purged During Startup	4500	scfm
Duration of Normal Purge	4.0	min
Total Gas Purged (Per Startup)	18000	scf
VOC Purged (Per Startup)	9	lbs/startup
CO_2 Purged (Per Startup)	5	lbs/startup
CH_4 Purged (Per Startup)	715	lbs/startup
Site specific density of natural gas:	0.04	lb/ft^3

*Current design includes electric motor starts, but pneumatic starts have been included as a conservative measure.

Docusign Envelope ID: 8D18665B-2BE0-4D3F-BD83-90A992B01F19

Company Name: Mountain Valley Pipeline, LLC
Facility Name: Swann Compressor Station
Project Description: Initial Construction

TABLE 4. Microturbine Emissions Calculations

Microturbine Unit Information:

Engine ID:	S004-S018
Manufacturer:	Capstone
Model No.:	C200
Number of Units:	15

Microturbine Fuel Information:

	Per Unit
Fuel Type:	Natural Gas
Rated Electrical Power Output (kW):	200
Rated Electrical Power Output (MW):	0.2
Rated Horsepower (bhp):	268.2
Heat Input (MMBtu/hr)	2.28
Potential Fuel Consumption (MMBtu/yr):	19,973
Max. Annual Hours of Operation (hr/yr):	8,760

Microturbine Emissions Data:

Pollutant	Emission Factors	Units	Maximum Potential Emissions Per Unit		Estimation Basis / Emission Factor Source
			lbs/hr	tpy	
NO_X	0.40	lb/MWhe	0.08	0.35	Manufacturer's Specifications
VOC	0.10	lb/MWhe	0.02	0.09	Manufacturer's Specifications
CO	1.10	lb/MWhe	0.22	0.96	Manufacturer's Specifications
SO_X	0.0034	lb/MMBtu	0.01	0.03	AP-42, Table 3.1-2a (Apr-2000)
PM	0.0019	lb/MMBtu	0.00	0.02	AP-42, Table 3.1-2a (Apr-2000)
PM_{10}	0.0066	lb/MMBtu	0.02	0.07	AP-42, Table 3.1-2a (Apr-2000)
$PM_{2.5}$	0.0066	lb/MMBtu	0.02	0.07	AP-42, Table 3.1-2a (Apr-2000)
GHG (CO_2e)	See Table Below		266	1,166	Manufacturer's Specifications / 40 CFR 98, Table C-2
Other (Total HAP)	See Table Below		0.00	0.01	AP-42, Table 3.1-3 (Apr-2000)

Notes:

1. PM_{10} and $PM_{2.5}$ are total values (filterable + condensable).
2. GHG (CO_2e) is carbon dioxide equivalent, which is the summation of CO_2 (GWP = 1) + CH_4 (GWP = 28) + N_2O (GWP = 265).
3. Total HAP is the summation of all hazardous air pollutants for which there is a published emission factor for this engine type.

Greenhouse Gas (GHG) & Hazardous Air Pollutant (HAP) Emissions Calculations:

Pollutant	Emission Factor	Units	Maximum Potential Emissions Per Unit		Estimation Basis / Emission Factor Source
			lbs/hr	tpy	
GHGs:					
CO_2	1330	lb/MWhe	266	1,165	Manufacturer's Specifications
CH_4	0.001	kg/MMBtu	0.01	0.02	40 CFR 98, Tables C-1 & C-2
N_2O	0.0001	kg/MMBtu	0.00	0.00	40 CFR 98, Tables C-1 & C-2
GHG (CO_2e)			**266**	**1,166**	
HAPs:					
1,3-Butadiene	4.3E-07	lb/MMBtu	0.00	0.00	AP-42, Table 3.1-3 (Apr-2000)
Acetaldehyde	4.0E-05	lb/MMBtu	0.00	0.00	AP-42, Table 3.1-3 (Apr-2000)
Acrolein	6.4E-06	lb/MMBtu	0.00	0.00	AP-42, Table 3.1-3 (Apr-2000)
Benzene	1.2E-05	lb/MMBtu	0.00	0.00	AP-42, Table 3.1-3 (Apr-2000)
Ethylbenzene	3.2E-05	lb/MMBtu	0.00	0.00	AP-42, Table 3.1-3 (Apr-2000)
Formaldehyde	7.1E-04	lb/MMBtu	0.00	0.01	AP-42, Table 3.1-3 (Apr-2000)
Naphthalene	1.3E-06	lb/MMBtu	0.00	0.00	AP-42, Table 3.1-3 (Apr-2000)
PAH	2.2E-06	lb/MMBtu	0.00	0.00	AP-42, Table 3.1-3 (Apr-2000)
Propylene oxide	2.9E-05	lb/MMBtu	0.00	0.00	AP-42, Table 3.1-3 (Apr-2000)
Toluene	1.3E-04	lb/MMBtu	0.00	0.00	AP-42, Table 3.1-3 (Apr-2000)
Xylene	6.4E-05	lb/MMBtu	0.00	0.00	AP-42, Table 3.1-3 (Apr-2000)
Total HAP			**0.002**	**0.010**	

Docusign Envelope ID: 8D18665B-2BE0-4D3F-BD83-90A992B01F19

Company Name: Mountain Valley Pipeline, LLC
Facility Name: Swann Compressor Station
Project Description: Initial Construction

TABLE 5. Fuel Gas Heater Emissions Calculations

Fuel Gas Heater Information:

Source ID:	S019-S021
Number of Units:	3

Fuel Gas Heater Information:

Fuel Type:	Natural Gas
Higher Heating Value (HHV) (Btu/scf):	1,052
Heat Input (MMBtu/hr)	0.77
Potential Fuel Consumption (MMBtu/yr):	6,738
Max. Fuel Consumption (MMscf/hr):	0.0007
Max. Fuel Consumption (MMscf/yr):	6.4
Max. Annual Hours of Operation (hr/yr):	8,760

Fuel Gas Heater Information:

Pollutant	Emission Factor	Units	Maximum Potential Emissions Per Unit		Estimation Basis / Emission Factor Source
			lbs/hr	tpy	
NO_X	100	lb/MMScf	0.07	0.32	AP-42, Table 1.4-1 (Jul-1998)
VOC	5.5	lb/MMScf	0.00	0.02	AP-42, Table 1.4-2 (Jul-1998)
CO	84	lb/MMScf	0.06	0.27	AP-42, Table 1.4-1 (Jul-1998)
SO_X	0.6	lb/MMScf	0.00	0.00	AP-42, Table 1.4-2 (Jul-1998)
PM	1.9	lb/MMScf	0.00	0.01	AP-42, Table 1.4-2 (Jul-1998)
PM_{10}	7.6	lb/MMScf	0.01	0.02	AP-42, Table 1.4-2 (Jul-1998)
$PM_{2.5}$	7.6	lb/MMScf	0.01	0.02	AP-42, Table 1.4-2 (Jul-1998)
GHG (CO_2e)	See Table Below		90	395	40 CFR 98, Tables C-1 & C-2
Other (Total HAP)	See Table Below		0.00	0.01	AP-42, Tables 1.4-3 & 1.4-4 (Jul-1998)

Notes:

1. PM_{10} and $PM_{2.5}$ are total values (filterable + condensable).
2. GHG (CO_2e) is carbon dioxide equivalent, which is the summation of CO_2 (GWP = 1) + CH_4 (GWP = 28) + N_2O (GWP = 265).
3. Total HAP is the summation of all hazardous air pollutants for which there is a published emission factor for this source type.

Docusign Envelope ID: 8D18665B-2BE0-4D3F-BD83-90A992B01F19

Company Name: Mountain Valley Pipeline, LLC
Facility Name: Swann Compressor Station
Project Description: Initial Construction

TABLE 5. Fuel Gas Heater Emissions Calculations

Greenhouse Gas (GHG) & Hazardous Air Pollutant (HAP) Emissions Calculations:

Pollutant	Emission Factor	Units	Maximum Potential Emissions Per Unit		Estimation Basis / Emission Factor Source
			lbs/hr	tpy	
GHGs:					
CO_2	53.06	kg/MMBtu	90.00	394	40 CFR 98, Table C-1
CH_4	0.001	kg/MMBtu	0.00	0.01	40 CFR 98, Table C-2
N_2O	0.0001	kg/MMBtu	0.00	0.00	40 CFR 98, Table C-2
GHG (CO_2e)			**90**	**395**	
Organic HAPs:					
2-Methylnaphthalene	2.40E-05	lb/MMscf	0.00	0.00	AP-42, Table 1.4-3 (Jul-1998)
3-Methylchloranthrene	1.80E-06	lb/MMscf	0.00	0.00	AP-42, Table 1.4-3 (Jul-1998)
7,12-Dimethylbenz(a)anthracene	1.60E-05	lb/MMscf	0.00	0.00	AP-42, Table 1.4-3 (Jul-1998)
Acenapthene	1.80E-06	lb/MMscf	0.00	0.00	AP-42, Table 1.4-3 (Jul-1998)
Acenapthylene	1.80E-06	lb/MMscf	0.00	0.00	AP-42, Table 1.4-3 (Jul-1998)
Anthracene	2.40E-06	lb/MMscf	0.00	0.00	AP-42, Table 1.4-3 (Jul-1998)
Benz(a)anthracene	1.80E-06	lb/MMscf	0.00	0.00	AP-42, Table 1.4-3 (Jul-1998)
Benzene	2.10E-03	lb/MMscf	0.00	0.00	AP-42, Table 1.4-3 (Jul-1998)
Benzo(a)pyrene	1.20E-06	lb/MMscf	0.00	0.00	AP-42, Table 1.4-3 (Jul-1998)
Benzo(b)fluoranthene	1.80E-06	lb/MMscf	0.00	0.00	AP-42, Table 1.4-3 (Jul-1998)
Benzo(g,h,i)perylene	1.20E-06	lb/MMscf	0.00	0.00	AP-42, Table 1.4-3 (Jul-1998)
Benzo(k)fluoranthene	1.80E-06	lb/MMscf	0.00	0.00	AP-42, Table 1.4-3 (Jul-1998)
Chrysene	1.80E-06	lb/MMscf	0.00	0.00	AP-42, Table 1.4-3 (Jul-1998)
Dibenzo(a,h)anthracene	1.20E-06	lb/MMscf	0.00	0.00	AP-42, Table 1.4-3 (Jul-1998)
Dichlorobenzene	1.20E-03	lb/MMscf	0.00	0.00	AP-42, Table 1.4-3 (Jul-1998)
Fluoranthene	3.00E-06	lb/MMscf	0.00	0.00	AP-42, Table 1.4-3 (Jul-1998)
Fluorene	2.80E-06	lb/MMscf	0.00	0.00	AP-42, Table 1.4-3 (Jul-1998)
Formaldehyde	0.08	lb/MMScf	0.00	0.00	AP-42, Table 1.4-3 (Jul-1998)
n-Hexane	1.80E+00	lb/MMscf	0.00	0.01	AP-42, Table 1.4-3 (Jul-1998)
Indeno(1,2,3-c,d)pyrene	1.80E-06	lb/MMscf	0.00	0.00	AP-42, Table 1.4-3 (Jul-1998)
Naphthalene	6.10E-04	lb/MMscf	0.00	0.00	AP-42, Table 1.4-3 (Jul-1998)
Phenanthrene	1.70E-05	lb/MMscf	0.00	0.00	AP-42, Table 1.4-3 (Jul-1998)
Pyrene	5.00E-06	lb/MMscf	0.00	0.00	AP-42, Table 1.4-3 (Jul-1998)
Toluene	3.40E-03	lb/MMscf	0.00	0.00	AP-42, Table 1.4-3 (Jul-1998)
Metal HAPs:					
Arsenic	2.00E-04	lb/MMscf	0.00	0.00	AP-42, Table 1.4-4 (Jul-1998)
Beryllium	4.40E-03	lb/MMscf	0.00	0.00	AP-42, Table 1.4-4 (Jul-1998)
Cadmium	1.10E-03	lb/MMscf	0.00	0.00	AP-42, Table 1.4-4 (Jul-1998)
Chromium	1.40E-03	lb/MMscf	0.00	0.00	AP-42, Table 1.4-4 (Jul-1998)
Cobalt	8.40E-05	lb/MMscf	0.00	0.00	AP-42, Table 1.4-4 (Jul-1998)
Lead	5.00E-04	lb/MMscf	0.00	0.00	AP-42, Table 1.4-2 (Jul-1998)
Manganese	3.80E-04	lb/MMscf	0.00	0.00	AP-42, Table 1.4-4 (Jul-1998)
Mercury	2.60E-04	lb/MMscf	0.00	0.00	AP-42, Table 1.4-4 (Jul-1998)
Nickel	2.10E-03	lb/MMscf	0.00	0.00	AP-42, Table 1.4-4 (Jul-1998)
Selenium	2.40E-05	lb/MMscf	0.00	0.00	AP-42, Table 1.4-4 (Jul-1998)
Total HAP			**0.001**	**0.01**	

Docusign Envelope ID: 8D18665B-2BE0-4D3F-BD83-90A992B01F19

Company Name: Mountain Valley Pipeline, LLC
Facility Name: Swann Compressor Station
Project Description: Initial Construction

TABLE 6. Fuel Gas Heater Emissions Calculations

Fuel Gas Heater Information:

Source ID:	S028-S029
Number of Units:	2

Fuel Gas Heater Information:

Fuel Type:	Natural Gas
Higher Heating Value (HHV) (Btu/scf):	1,052
Heat Input (MMBtu/hr)	1.15
Potential Fuel Consumption (MMBtu/yr):	10,108
Max. Fuel Consumption (MMscf/hr):	0.0011
Max. Fuel Consumption (MMscf/yr):	9.6
Max. Annual Hours of Operation (hr/yr):	8,760

Fuel Gas Heater Information:

Pollutant	Emission Factor	Units	Maximum Potential Emissions Per Unit		Estimation Basis / Emission Factor Source
			lbs/hr	tpy	
NO_X	100	lb/MMScf	0.11	0.48	AP-42, Table 1.4-1 (Jul-1998)
VOC	5.5	lb/MMScf	0.01	0.03	AP-42, Table 1.4-2 (Jul-1998)
CO	84	lb/MMScf	0.09	0.40	AP-42, Table 1.4-1 (Jul-1998)
SO_X	0.6	lb/MMScf	0.00	0.00	AP-42, Table 1.4-2 (Jul-1998)
PM	1.9	lb/MMScf	0.00	0.01	AP-42, Table 1.4-2 (Jul-1998)
PM_{10}	7.6	lb/MMScf	0.01	0.04	AP-42, Table 1.4-2 (Jul-1998)
$PM_{2.5}$	7.6	lb/MMScf	0.01	0.04	AP-42, Table 1.4-2 (Jul-1998)
GHG (CO_2e)	See Table Below		135	592	40 CFR 98, Tables C-1 & C-2
Other (Total HAP)	See Table Below		0.00	0.01	AP-42, Tables 1.4-3 & 1.4-4 (Jul-1998)

Notes:

1. PM_{10} and $PM_{2.5}$ are total values (filterable + condensable).
2. GHG (CO_2e) is carbon dioxide equivalent, which is the summation of CO_2 (GWP = 1) + CH_4 (GWP = 28) + N_2O (GWP = 265).
3. Total HAP is the summation of all hazardous air pollutants for which there is a published emission factor for this source type.

Docusign Envelope ID: 8D18665B-2BE0-4D3F-BD83-90A992B01F19

Company Name: Mountain Valley Pipeline, LLC
Facility Name: Swann Compressor Station
Project Description: Initial Construction

TABLE 6. Fuel Gas Heater Emissions Calculations

Greenhouse Gas (GHG) & Hazardous Air Pollutant (HAP) Emissions Calculations:

Pollutant	Emission Factor	Units	Maximum Potential Emissions Per Unit		Estimation Basis / Emission Factor Source
			lbs/hr	tpy	
GHGs:					
CO_2	53.06	kg/MMBtu	135.00	591	40 CFR 98, Table C-1
CH_4	0.001	kg/MMBtu	0.00	0.01	40 CFR 98, Table C-2
N_2O	0.0001	kg/MMBtu	0.00	0.00	40 CFR 98, Table C-2
GHG (CO_2e)			**135**	**592**	
Organic HAPs:					
2-Methylnaphthalene	2.40E-05	lb/MMscf	0.00	0.00	AP-42, Table 1.4-3 (Jul-1998)
3-Methylchloranthrene	1.80E-06	lb/MMscf	0.00	0.00	AP-42, Table 1.4-3 (Jul-1998)
7,12-Dimethylbenz(a)anthracene	1.60E-05	lb/MMscf	0.00	0.00	AP-42, Table 1.4-3 (Jul-1998)
Acenapthene	1.80E-06	lb/MMscf	0.00	0.00	AP-42, Table 1.4-3 (Jul-1998)
Acenapthylene	1.80E-06	lb/MMscf	0.00	0.00	AP-42, Table 1.4-3 (Jul-1998)
Anthracene	2.40E-06	lb/MMscf	0.00	0.00	AP-42, Table 1.4-3 (Jul-1998)
Benz(a)anthracene	1.80E-06	lb/MMscf	0.00	0.00	AP-42, Table 1.4-3 (Jul-1998)
Benzene	2.10E-03	lb/MMscf	0.00	0.00	AP-42, Table 1.4-3 (Jul-1998)
Benzo(a)pyrene	1.20E-06	lb/MMscf	0.00	0.00	AP-42, Table 1.4-3 (Jul-1998)
Benzo(b)fluoranthene	1.80E-06	lb/MMscf	0.00	0.00	AP-42, Table 1.4-3 (Jul-1998)
Benzo(g,h,i)perylene	1.20E-06	lb/MMscf	0.00	0.00	AP-42, Table 1.4-3 (Jul-1998)
Benzo(k)fluoranthene	1.80E-06	lb/MMscf	0.00	0.00	AP-42, Table 1.4-3 (Jul-1998)
Chrysene	1.80E-06	lb/MMscf	0.00	0.00	AP-42, Table 1.4-3 (Jul-1998)
Dibenzo(a,h)anthracene	1.20E-06	lb/MMscf	0.00	0.00	AP-42, Table 1.4-3 (Jul-1998)
Dichlorobenzene	1.20E-03	lb/MMscf	0.00	0.00	AP-42, Table 1.4-3 (Jul-1998)
Fluoranthene	3.00E-06	lb/MMscf	0.00	0.00	AP-42, Table 1.4-3 (Jul-1998)
Fluorene	2.80E-06	lb/MMscf	0.00	0.00	AP-42, Table 1.4-3 (Jul-1998)
Formaldehyde	0.08	lb/MMScf	0.00	0.00	AP-42, Table 1.4-3 (Jul-1998)
n-Hexane	1.80E+00	lb/MMscf	0.00	0.01	AP-42, Table 1.4-3 (Jul-1998)
Indeno(1,2,3-c,d)pyrene	1.80E-06	lb/MMscf	0.00	0.00	AP-42, Table 1.4-3 (Jul-1998)
Naphthalene	6.10E-04	lb/MMscf	0.00	0.00	AP-42, Table 1.4-3 (Jul-1998)
Phenanthrene	1.70E-05	lb/MMscf	0.00	0.00	AP-42, Table 1.4-3 (Jul-1998)
Pyrene	5.00E-06	lb/MMscf	0.00	0.00	AP-42, Table 1.4-3 (Jul-1998)
Toluene	3.40E-03	lb/MMscf	0.00	0.00	AP-42, Table 1.4-3 (Jul-1998)
Metal HAPs:					
Arsenic	2.00E-04	lb/MMscf	0.00	0.00	AP-42, Table 1.4-4 (Jul-1998)
Beryllium	4.40E-03	lb/MMscf	0.00	0.00	AP-42, Table 1.4-4 (Jul-1998)
Cadmium	1.10E-03	lb/MMscf	0.00	0.00	AP-42, Table 1.4-4 (Jul-1998)
Chromium	1.40E-03	lb/MMscf	0.00	0.00	AP-42, Table 1.4-4 (Jul-1998)
Cobalt	8.40E-05	lb/MMscf	0.00	0.00	AP-42, Table 1.4-4 (Jul-1998)
Lead	5.00E-04	lb/MMscf	0.00	0.00	AP-42, Table 1.4-2 (Jul-1998)
Manganese	3.80E-04	lb/MMscf	0.00	0.00	AP-42, Table 1.4-4 (Jul-1998)
Mercury	2.60E-04	lb/MMscf	0.00	0.00	AP-42, Table 1.4-4 (Jul-1998)
Nickel	2.10E-03	lb/MMscf	0.00	0.00	AP-42, Table 1.4-4 (Jul-1998)
Selenium	2.40E-05	lb/MMscf	0.00	0.00	AP-42, Table 1.4-4 (Jul-1998)
Total HAP			**0.002**	**0.01**	

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Company Name: Mountain Valley Pipeline, LLC
Facility Name: Swann Compressor Station
Project Description: Initial Construction

TABLE 7. Storage Tank Emissions Calculations - Produced Fluids Tank

Storage Tank Information:

Source ID:	S022
Tank Capacity (gallons):	8,820
Tank Contents:	Produced Fluids
Annual Throughput (gallons/year):	458,640
Daily Throughput (bbl/day)	29.92
Control Type:	None
Control Efficiency:	N/A
Max. Annual Hours of Operation (hr/yr):	8,760

Tank Emissions Data:

Pollutant	Uncontrolled Emissions		Controlled Emissions		Emissions Estimation Method
	lbs/hr	tpy	lbs/hr	tpy	
VOC	0.00	0.01	0.00	0.01	ProMax
HAPs	0.00	0.00	0.00	0.00	ProMax
GHG (CO2e)	11.40	49.92	11.40	49.92	ProMax

Notes:
1. GHG (CO_2e) is carbon dioxide equivalent, which is the summation of CO_2 (GWP = 1) + CH_4 (GWP = 28) + N_2O (GWP = 265).

Promax Tanks Emissions Data:

Pollutant	Total Emissions (Working + Breathing + Flashing)			Total Emissions		
	lbs/hr	lbs/yr	tpy	lbs/hr	lbs/yr	tpy
VOC	0.00	29.29	0.01	0.00	29.29	0.01
HAPs	0.00	0.43	0.00	0.00	0.43	0.00
Carbon Dioxide	0.06	481.96	0.24	0.06	481.96	0.24
Methane	0.41	3,548.76	1.77	0.41	3,548.76	1.77
GHG (CO_2e)	11.40	99,847.23	49.92	11.40	99,847.23	49.92

Notes:
1. Emissions estimated using BR&E ProMax software.

Docusign Envelope ID: 8D18665B-2BE0-4D3F-BD83-90A992B01F19

Company Name: Mountain Valley Pipeline, LLC
Facility Name: Swann Compressor Station
Project Description: Initial Construction

TABLE 8. Storage Tank Emissions Calculations - Used Oil Tank

Storage Tank Information:

Source ID:	S023-S024
Tank Capacity (gallons):	3,000
Tank Contents:	Used Oil
Annual Throughput (gallons/year):	9,000
Control Type:	None
Control Efficiency:	N/A
Max. Annual Hours of Operation (hr/yr):	8,760

Tank Emissions Data:

Pollutant	Uncontrolled Emissions		Emissions Estimation Method
	lbs/hr	tpy	
VOC	1.20E-05	5.26E-05	ProMax
HAPs	1.20E-05	5.26E-05	ProMax
GHG (CO_2e)	N/A	N/A	N/A

ProMax Emissions Data - Used Oil Tank:

Pollutant	Working Losses	Breathing Losses	Flashing Losses	Total Emissions		
	tpy	tpy	tpy	lbs/hr	lbs/yr	tpy
VOC	2.62E-06	4.99E-05	N/A	0.00	0.11	5.26E-05
HAPs	2.62E-06	4.99E-05	N/A	0.00	0.11	5.26E-05

Notes:

1. Emissions estimated using ProMax software.
2. This tank does not contain hydrocarbons that would be expected to be flashed off at tank operating conditions.

Docusign Envelope ID: 8D18665B-2BE0-4D3F-BD83-90A992B01F19

Company Name: Mountain Valley Pipeline, LLC
Facility Name: Swann Compressor Station
Project Description: Initial Construction

TABLE 9. Liquid Loading Emissions Calculations

Liquid Loading Information:

Parameter	Value	Description
S	1.45	saturation factor for splash loading (AP-42 Table 5.2-1)
Collection Efficiency	0.0%	
Control Efficiency	0%	
P	0.21	true vapor pressure of liquid loaded (psia) - assume octane
M	114.23	molecular weight of vapors (lb/lb-mol) - assume octane
T	516.4	temperature of liquids loaded (deg R) - annual average temperature

Description	Loading Losses	Maximum Throughput[2]	VOC Emissions	
	(lb/10^3 gal)[1]	(gal)	(lb/hr)	(tpy)
Liquids Hauling	0.8	458,640	0.04	0.19

Notes:

1. Uncontrolled Loading Losses: L_L (lb/10^3 gal) = 12.46 (SPM)/T
2. Hourly emissions assume continuous operation (i.e., 8760 hr/yr).

Docusign Envelope ID: 8D18665B-2BE0-4D3F-BD83-90A992B01F19

Company Name: Mountain Valley Pipeline, LLC
Facility Name: Swann Compressor Station
Project Description: Initial Construction

TABLE 10. Fugitive Emissions Calculations

Fugitive Component Information:

Component Type	Estimated Component Count	Gas Leak Emission Factor		Average Gas Leak Rate	Max Gas Leak Rate	Potential VOC Emissions	Potential HAP Emissions
		(lb/hr/component)	Factor Source	(lb/hr)	(tpy)	(tpy)	(tpy)
Connectors	2,100	0.0004	Table 2-4	0.93	4.46	0.05	0.00
Flanges	578	0.0009	Table 2-4	0.50	2.39	0.03	0.00
Open-Ended Lines	21	0.0044	Table 2-4	0.09	0.45	0.00	0.00
Pump Seals	0	0.0053	Table 2-4	0.00	0.00	0.00	0.00
Valves	728	0.0099	Table 2-4	7.22	34.77	0.37	0.00
Other	0	0.0194	Table 2-4	0.00	0.00	0.00	0.00
Total				**8.73**	**42.07**	**0.45**	**0.00**

Notes:
1. "Other" equipment types include compressor seals, relief valves, diaphragms, drains, meters, etc.
2. The component count is based on the current design of the station.
3. Conservatively assumed that maximum leak rate is 10% greater than measured average leak rate for the purposes of establishing PTE.
4. VOC and HAP emissions are based on fractions of these pollutants in the site-specific gas analysis.
5. Emission factors are from EPA's Protocol for Equipment Leak Emission Estimates (EPA-453/R-95-017)

GHG Fugitive Emissions from Component Leaks:

Component Type	Estimated Component Count	Gas Leak Emission Factor		Average Gas Leak Rate	Max Gas Leak Rate	Potential CH_4 Emissions	Potential CO_2 Emissions	Potential CO_2e Emissions
		(lb/hr/component)	Factor Source	(lb/hr)	(tpy)	(tpy)	(tpy)	(tpy)
Connectors	2,100	0.0004	Table 2-4	0.93	4.46	3.95	0.03	110.65
Flanges	578	0.0009	Table 2-4	0.50	2.39	2.12	0.01	59.34
Open-Ended Lines	21	0.0044	Table 2-4	0.09	0.45	0.40	0.00	11.06
Pump Seals	0	0.0053	Table 2-4	0.00	0.00	0.00	0.00	0.00
Valves	728	0.0099	Table 2-4	7.22	34.77	30.79	0.21	862.46
Other	0	0.0194	Table 2-4	0.00	0.00	0.00	0.00	0.00
Total				**8.73**	**42.07**	**37.26**	**0.26**	**1043.51**

Notes:
1. "Other" equipment types include compressor seals, relief valves, diaphragms, drains, meters, etc.
2. The component count is based on the current design of the station.
3. Conservatively assumed that maximum leak rate is 10% greater than measured average leak rate for the purposes of establishing PTE.
4. CO2 and CH4 emissions are based on fractions of these pollutants in the site-specific gas analysis.
5. Emission factors are from EPA's Protocol for Equipment Leak Emission Estimates (EPA-453/R-95-017)

Fugitive Component Emissions Data:

Pollutant	Atmospheric Emissions		Emissions Estimation Method
	lbs/hr	tpy	
VOC	0.10	0.45	EPA Protocol, Table 2-4 & Site-Specific Gas Analysis
HAPs	0.00	0.00	EPA Protocol, Table 2-4 and Site-Specific Gas Analysis
GHG (CO_2e)	238	1,044	EPA Protocol, Table 2-4 and Site-Specific Gas Analysis

Docusign Envelope ID: 8D18665B-2BE0-4D3F-BD83-90A992B01F19

Company Name: Mountain Valley Pipeline, LLC
Facility Name: Swann Compressor Station
Project Description: Initial Construction

TABLE 11. Blowdown Emission Calculations

[1]Mole fractions of CH_4 VOC, HAP and CO_2 based on gas analysis:

CH_4:	93.83%	CO_2:	0.24%	VOC	0.39%	HAP	0.00%

[2]Weight fractions of CH_4 , VOC, HAP and CO_2 based on gas analysis:

CH_4:	88.56%	CO_2:	0.61%	VOC	1.07%	HAP	0.0016%

[3] Carbon equivalent emissions (CO_2e) are based on the following Global Warming Potentials (GWP) from 40 CFR Part 98, Table A-1: 0.0012%

Carbon Dioxide (CO_2):	1
Methane (CH_4):	28

Emissions from Compressor Seal:

Number of Compressors	Number of Seals Per Compressor	Leak Rate (scf/hr/compressor)	Total Volume NG Emitted (scf/yr)	Potential VOC Emissions (tpy)	Potential HAP Emissions (tpy)	Potential CO_2 Emissions (tpy)	Potential CH_4 Emissions (tpy)	Potential CO_2e Emissions (tpy)
3	2	600	31,536,000	7.54	0.01	4.31	626.25	17,539
Total				**7.54**	**0.01**	**4.31**	**626.25**	**17,539**

1. Leak rate was estimated by using the max dry seal compressor leak rate from NSPS OOOOb.
2. Potential emissions VOC/HAP (tpy) = Gas volume vented (scf/yr) * Molar weight of natural gas (lb/lb-mol) * Weight % VOC/HAP ÷ 100 ÷ 379 (scf/lb-mol) ÷ 2,000 (lb/ton)
Sample calculation: Volume vented (scf/yr) x density of natural gas (lb/scf) x wt % VOC / 2000 lb/ton
3. GHG emissions calculated in accordance with Equations W-35 and W-36 in Subpart W of 40 CFR 98.
Sample calculation: Volume vented (scf/yr) x density of GHG (kg/scf) x mol % VOC x 2.2 lb/kg / 2000 lb/ton

VOC and HAP Vented Blowdown Emissions

Blowdown Emissions Sources	Vented Gas Volume Per Blowdown Event (scf)	Number of Blowdown Events per year	Total Volume NG Emitted (scf/yr)	Potential VOC Emissions (tpy)	Potential HAP Emissions (tpy)	Potential CH_4 Emissions[1] (tpy)	Potential CO_2 Emissions[1] (tpy)	Potential CO_2e Emissions (tpy)
Station ESD Vent	1,825,278	1	1,825,278	0.44	0.00	36.25	0.25	1,015
Compressor Unit 1 Blowdowns	240,241	12	2,882,896	0.69	0.00	57.25	0.39	1,603
Compressor Unit 2 Blowdowns	240,241	12	2,882,896	0.69	0.00	57.25	0.39	1,603
Compressor Unit 3 Blowdowns	150,747	12	1,808,958	0.43	0.00	35.92	0.25	1,006
Gas Filter Changes (All filters)	113,958	12	1,367,496	0.33	0.00	27.16	0.19	761
Total				**2.58**	**0.00**	**213.8**	**1.47**	**5,989**

1. GHG emissions calculated in accordance with Equations W-35 and W-36 in Subpart W of 40 CFR 98.
2. Potential emissions VOC/HAP (tpy) = Gas volume vented (scf/yr) * Molar weight of natural gas (lb/lb-mol) * Weight % VOC/HAP ÷ 100 ÷ 379 (scf/lb-mol) ÷ 2,000 (lb/ton)

VOC and HAP Vented Pigging Emissions

Blowdown Emissions Sources	Vented Gas Volume Per Blowdown Event (scf)	Number of Blowdown Events per year	Total Volume NG Emitted (scf/yr)	Potential VOC Emissions (tpy)	Potential HAP Emissions (tpy)	Potential CH_4 Emissions[1] (tpy)	Potential CO_2 Emissions[1] (tpy)	Potential CO_2e Emissions (tpy)
Pig Suction Receiver Barrel	14,618	1	14,618	0.00	0.00	0.29	0.00	8
Pig Suction Receiver Kicker	5,956	1	5,956	0.00	0.00	0.12	0.00	3
Pig Suction Launcher Barrel	14,618	1	14,618	0.00	0.00	0.29	0.00	8
Pig Suction Launcher Kicker	7,461	1	7,461	0.00	0.00	0.15	0.00	4
Total				**0.01**	**0.00**	**0.85**	**0.01**	**23.72**

1. GHG emissions calculated in accordance with Equations W-35 and W-36 in Subpart W of 40 CFR 98.
2. Potential emissions VOC/HAP (tpy) = Gas volume vented (scf/yr) * Molar weight of natural gas (lb/lb-mol) * Weight % VOC/HAP ÷ 100 ÷ 379 (scf/lb-mol) ÷ 2,000 (lb/ton)

Blowdowns Emissions Data:

Pollutant	Atmospheric Emissions		Emissions Estimation Method
	lbs/hr	tpy	
VOC	2.31	10.13	Engineering Estimates, Manufacturer Data, and Site-
HAPs	0.00	0.02	Engineering Estimates, Manufacturer Data, and Site-
GHG (CO_2e)	5,377	23,552	Engineering Estimates, Manufacturer Data, and Site-Specific Gas Analysis

Hourly emissions are annualized (i.e., assume 8,760 hours per year).

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Company Name: Mountain Valley Pipeline, LLC
Facility Name: Swann Compressor Station
Project Description: Initial Construction

TABLE 12. Haul Road Emission Calculations

Unpaved Road Information:

Unpaved Roads: $E\ (lb/VMT) = k(s/12)^a(W/3)^b*[(365-p)/365]$

	PM	PM_{10}	$PM_{2.5}$	
k Factor (lb/VMT)	4.9	1.5	0.15	AP-42 Table 13.2.2-2 (Final, 11/06)
Silt content, s	4.8 %			AP-42 Table 13.2.2-1 (11/06), for Sand and Gravel Processing
Number of Rain Days, p	150			AP-42 Figure 13.2.1-2
a	0.7	0.9	0.9	AP-42 Table 13.2.2-2 (Final, 11/06)
b	0.45	0.45	0.45	AP-42 Table 13.2.2-2 (Final, 11/06)

Description	Weight of Empty Truck (tons)	Weight of Truck w/ Max Load (tons)	Mean Vehicle Weight (tons)	Length of Unpaved Road Traveled (mile/trip)	Trips Per Year	Mileage Per Year	Control (%)	Emissions (tpy) PM	PM_{10}	$PM_{2.5}$
Service Truck	4	4	4	0.07	365	26	0	0.02	0.01	0.00
Liquids Hauling - Vendor Fluid	12	20	16	0.07	4	0	0	0.00	0.00	0.00
Liquids Hauling - Produced Fluid	20	32	26	0.07	115	8	0	0.02	0.00	0.00
Employee Vehicles	2	2	2	0.07	365	26	0	0.02	0.00	0.00
Total Potential Emissions								**0.05**	**0.01**	**0.00**

Docusign Envelope ID: 8D18665B-2BE0-4D3F-BD83-90A992B01F19

Company Name: Mountain Valley Pipeline, LLC
Facility Name: Swann Compressor Station
Project Description: Initial Construction

TABLE 13. Site-Specific Gas Analysis

Sample Location: MVP Pipeline
HHV (Btu/scf): 1,052.08

Constituent	Natural Gas Stream Speciation (Vol. %)	Natural Gas Stream Speciation (Wt. %)	Molar Weight
Nitrogen	0.356	0.587	0.100
Oxygen	0.003	0.005	0.001
Methane	93.831	88.558	15.050
Carbon Dioxide	0.235	0.610	0.104
Ethane	5.184	9.172	1.559
Propane	0.335	0.869	0.148
Isobutane	0.020	0.067	0.011
n-Butane	0.029	0.100	0.017
Isopentane	0.004	0.016	0.003
n-Pentane	0.002	0.009	0.002
Cyclopentane	1.60E-04	0.001	0.000
Isohexane	3.60E-04	0.002	0.000
n-Hexane	2.40E-04	0.001	0.000
Benzene	5.00E-05	2.30E-04	0.000
Cyclohexane	7.00E-05	3.47E-04	0.000
Isoheptanes	6.00E-05	3.54E-04	0.000
Heptanes	3.00E-05	1.77E-04	0.000
Toluene	2.00E-05	1.08E-04	0.000
Methylcyclohexane	1.10E-04	0.001	0.000
2,2,4 Trimethylpentane	1.00E-05	6.72E-05	0.000
Octanes	1.00E-05	6.72E-05	0.000
Ethylbenzene	0.000	0.000	0.000
Xylenes	0.000	0.000	0.000
Isononanes	0.000	0.000	0.000
n-Nonane	0.000	0.000	0.000
Isodecanes	0.000	0.000	0.000
n-Decane	0.000	0.000	0.000
Isoundecanes+	0.000	0.000	0.000
Totals	100.000	100.000	16.995

TOC (Total)	99.41	98.80
VOC (Total)	0.39	1.07
HAP (Total)	0.00	0.00