MERIT ENERGY COMPANY

1510 Thomas Road · P.O. Box 910 · Kalkaska, MI 49646
Ph 231.258.6400 · Fx 231.258.6355

January 5, 2016

VIA ELECTRONIC MAIL ONLY

Mr. Shane Nixon:
Michigan Department of Environmental Quality
Cadillac District Office
120 West Chapin Street
Cadillac, Michigan 49601-2159

Re: Merit Energy Company – Charlton 28, Charlton Township
MDEQ Permit to Install (PTI) 644-96A
Initial Response to December 15, 2015 Violation Notice

Dear Mr. Nixon:

This letter provides Merit Energy Company's ("Merit's") initial response to the claim set forth in a Violation Notice MDEQ issued to Merit on December 15, 2015. Section I of this letter provides an overview of the oil and gas processing functions at the Charlton 28. Section II sets forth Merit's initial response to the single claim set forth in the Violation Notice.

I. Overview of the Charlton 28 Central Processing Facility

Natural gas, crude oil, condensate, and brine fluids are extracted from 8 producing wells drilled into the Niagaran formation (7 currently active). One of these wells, the Plagens Valek 1-28 (Plagens Valek), is slightly sour and an H_2S scavenger chemical is used to sweeten the gas. The gas and fluids are routed to the facility through flow lines. The temperature of the gas and fluids are increased by inline heaters and the fluids are separated and stored in tanks controlled by a vapor recovery unit (VRU).

The natural gas is compressed by an internal combustion engine compressor. After the gas exits the compressor, the saturated water vapor is removed by glycol dehydration and the residue gas is sold or used to fuel the internal and external combustion devices at the facility.

II. Merit's Response to Violation Claim

Claim: *The records that Merit Energy Company provided demonstrate that the hydrogen sulfide (H_2S) concentration of the natural gas burned as fuel in process equipment is 20 ppm. Based upon the H_2S concentration of the gas burned at the facility, AQD staff has determined Merit Energy Company is not in compliance with Special Condition 3.2 which states, in part: "The permittee shall not burn any sour natural gas in FGFACILITY."*

The H_2S concentration of 20 ppm was from an inlet gas to the dehydrator sample collected on July 9, 2015. In response to the claim, Merit and our chemical contractor Baker Hughes, immediately began investigating the H_2S concentration in the Plagens Valek well. The scavenger chemical was being injected into the gas outlet of the separator. It was determined that the scavenger chemical performed more efficiently when it was injected down the annulus of the well by allowing more contact time with the gas. The injection rate of the chemical was also adjusted.

On December 23, 2015, SPL resampled the inlet to dehydrator gas and the H_2S concentration was 1 ppm (attached). Merit is planning on keeping the scavenger chemical at the wellhead and continuing to inject down the annulus to prevent future reoccurrences. Merit is not certain on the duration of the violation.

It should be noted that with the inlet gas H_2S concentration of 20 ppm and the facility consuming 15.9 MMCF/year (12-month rolling amount) of natural gas, the resulting sulfur dioxide (SO_2) emissions would be 53.43 pounds per year. If the inlet gas H_2S concentration was 16 ppm (the MDEQ-AQD limit) and facility consumed the same volume of gas (15.9 MMCF/year), the SO_2 emissions would be 42.75 pounds per year - resulting in a negligible difference in 10.68 pounds of SO_2 per year.

Thank you for the opportunity to supply this response to the December 15, 2015 Violation Notice. If you would like to schedule a time to meet and discuss this response, please let me know.

Sincerely yours,

Sean F. Craven
Regulatory Analyst
Merit Energy Company

Certificate of Analysis

Number: 8010-15120109-002A

Traverse City Laboratory
781 Industrial Circle, Ste 6
Traverse City, MI 49686
Phone 231-421-8202

Dec. 23, 2015

Sean Craven
MERIT ENERGY
P.O. Box 910
Kalkaska, MI 49646

Station Location: CHARLTON 28
Sample Point: DEHY INLET
Sample Conditions: 800 psig, @ 65 °F

Sampled By: (DM) SPL
Sample Of: Gas Spot
Sample Date: 12/22/2015

Analytical Data

Test	Method	Result	Units	Detection Limit	Lab Tech.	Analysis Date
Hydrogen Sulfide	GPA 2377	1	ppm	1.0	DM	12/23/2015

Hydrocarbon Laboratory Manager

Quality Assurance: The above analyses are performed in accordance with ASTM, UOP, GPA guidelines for quality assurance, unless otherwise stated.