HG Energy, LLC
5260 Dupont Road
Parkersburg, WV 26101
(304) 420-1100 - Office
(304) 863-3172 - Fax

Mr. William F. Durham, Director
WV Department of Environmental Protection
Division of Air Quality
601 57th Street, SE
Charleston, WV 25304

April 7, 2017

RE: Scout Compressor Station Permit Determination

In 2016, HG Energy purchased assets from Southwestern Energy (SWN). Included in those assets was the Scout Compressor Station located at GPS 39.525833, -79.904432 in Monongalia County, WV. The Scout Compressor Station, at the time of purchase, consisted of one engine manufactured on September 29, 2006 with a horsepower of 145. Based on discussions with SWN, no air permit was required for the Scout Compressor Station.

On March 29, 2017, HG Energy replaced the 145 horsepower engine with a 95 horsepower engine manufactured on October 14, 1999 resulting in reduced emissions. On April 4, 2017, HG Energy submitted a letter notification (attached) to WV DEP in accordance with 45 CSR 13, 2.17.f.6. On April 6, 2017, WV DEP requested HG Energy submit a permit determination form for this site. Attached is the permit determination form and supporting documents for the Scout Compressor Station.

If you have any questions, please contact me at 304-420-1126 or mmcguire@hgenergyllc.com.

Sincerely,

Matthew J. McGuire
HSE Manager
HG Energy, LLC.

WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF AIR QUALITY
601 57th Street, SE
Charleston, WV 25304
Phone: (304) 926-0475
www.dep.wv.gov/daq

PERMIT DETERMINATION FORM (PDF)

FOR AGENCY USE ONLY: PLANT I.D. # _____

PDF # _____ PERMIT WRITER: _____

RECEIVED APR 11 2017 WV DEP / DIV OF AIR QUALITY

1. NAME OF APPLICANT (AS REGISTERED WITH THE WV SECRETARY OF STATE'S OFFICE):
HG Energy, LLC.

2. NAME OF FACILITY (IF DIFFERENT FROM ABOVE):
Scout Compressor

3. NORTH AMERICAN INDUSTRY CLASSIFICATION SYSTEM (**NAICS**) CODE:
21111

4A. MAILING ADDRESS: 5260 Dupont Road
Parkersburg, WV 26101

4B. PHYSICAL ADDRESS: Camp Mountaineer Road
Morgantown, WV

5A. DIRECTIONS TO FACILITY (PLEASE PROVIDE **MAP** AS **ATTACHMENT A**): 79 North to I-68 East. Take Exit 1, Route 119 South. Left on Boy Scout Camp Road. Left on Camp Mountaineer Road/.Dalton Road. Left onto access road, follow access road to compressor.

5B. NEAREST ROAD:	5C. NEAREST CITY OR TOWN:	5D. COUNTY:
Camp Mountaineer	Morgantown	Monongalia
5E. UTM NORTHING (KM):	**5F. UTM EASTING (KM):**	**5G. UTM ZONE:**
113963.098	565228.427	WV N-4701

6A. INDIVIDUAL TO CONTACT IF MORE INFORMATION IS REQUIRED:		6B. TITLE:
Matt McGuire		HSE Manager
6C. TELEPHONE:	**6D. FAX:**	**6E. E-MAIL:**
304-420-1126	304-863-3172	mmcguire@hgenergyllc.com

7A. DAQ PLANT I.D. NO. (FOR AN EXISTING FACILITY ONLY):
___ ___ ___ - ___ ___ ___ ___ ___

7B. PLEASE LIST ALL CURRENT 45CSR13, 45CSR14, 45CSR19 AND/OR TITLE V (45CSR30) PERMIT NUMBERS ASSOCIATED WITH **THIS** PROCESS (FOR AN EXISTING FACILITY ONLY):

7C. IS THIS PDF BEING SUBMITTED AS THE RESULT OF AN ENFORCEMENT ACTION? IF YES, PLEASE LIST:

8A. TYPE OF EMISSION SOURCE (CHECK ONE):
☐ **NEW SOURCE** ☐ **ADMINISTRATIVE UPDATE**
☐ **MODIFICATION** ☒ **OTHER** (PLEASE EXPLAIN IN 11B)

8B. IF ADMINISTRATIVE UPDATE, DOES DAQ HAVE THE APPLICANT'S CONSENT TO UPDATE THE EXISTING PERMIT WITH THE INFORMATION CONTAINED HEREIN?
☐ **YES** ☐ **NO**

9. IS *DEMOLITION* OR PHYSICAL *RENOVATION* AT AN EXISTING FACILITY INVOLVED? ☐ **YES** ☒ **NO**

10A. DATE OF ANTICIPATED INSTALLATION OR CHANGE:
March/29/2017.

10B. DATE OF ANTICIPATED START-UP:
March/29/2017.

11A. PLEASE PROVIDE A **DETAILED PROCESS FLOW DIAGRAM** SHOWING EACH PROPOSED OR MODIFIED PROCESS EMISSION POINT AS **ATTACHMENT B**.

11B. PLEASE PROVIDE A **DETAILED PROCESS DESCRIPTION** AS **ATTACHMENT C**.

12. PLEASE PROVIDE **MATERIAL SAFETY DATA SHEETS (MSDS)** FOR ALL MATERIALS PROCESSED, USED OR PRODUCED AS **ATTACHMENT D**. FOR CHEMICAL PROCESSE, PLEASE PROVIDE A MSDS FOR EACH COMPOUND EMITTED TO AIR.

13A. **REGULATED AIR POLLUTANT EMISSIONS:**

⇒ **FOR A NEW FACILITY,** PLEASE PROVIDE PLANT WIDE EMISSIONS BASED ON THE POTENTIAL TO EMIT (PTE) FOR THE FOLLOWING AIR POLLUTANTS INCLUDING ALL PROCESSES.

⇒ **FOR AN EXISTING FACILITY,** PLEASE PROVIDE THE PROPOSED CHANGE IN EMISSIONS BASED ON THE PTE OF ALL PROCESS CHANGES FOR THE FOLLOWING AIR POLLUTANTS.

PTE FOR A GIVEN POLLUTANT IS TYPICALLY BEFORE AIR POLLUTION CONTROL DEVICES AND IS COLLECTED BASED ON THE MAXIMUM DESIGN CAPACITY OF PROCESS EQUIPMENT.

POLLUTANT	HOURLY PTE (LB/HR)	YEARLY PTE (TON/YR) (HOURLY PTE MULTIPLIED BY 8760 HR/YR) DIVIDED BY 2000 LB/TON
PM		
PM_{10}	0.040	0.176
VOCs	0.079	0.345
CO	2.746	12.027
NO_x	2.746	12.027
SO_2	0.001	0.002
Pb		
HAPs (AGGREGATE AMOUNT)	0.364	1.562
TAPs (INDIVIDUALLY)*		
OTHER (INDIVIDUALLY)*		

* ATTACH ADDITIONAL PAGES AS NEEDED

13B. PLEASE PROVIDE ALL **SUPPORTING CALCULATIONS** AS **ATTACHMENT E.**

CALCULATE AN HOURLY AND YEARLY PTE OF EACH PROCESS EMISSION POINT (SHOWN IN YOUR DETAILED PROCESS FLOW DIAGRAM) FOR ALL AIR POLLUTANTS LISTED ABOVE INCLUDING INDIVIDUAL HAP'S (LISTED IN SECTION 112[b] OF THE 1990 CAAA), TAP'S (LISTED IN 45CSR27), AND OTHER AIR POLLUTANTS (E.G. POLLUTANTS LISTED IN TABLE 45-13A OF 45CSR13, MINERAL ACIDS PER 45CSR7, ETC.).

14. **CERTIFICATION OF DATA**

I, MATTHEW J. MCGUIRE (*TYPE NAME*) ATTEST THAT ALL THE REPRESENTATIONS CONTAINED IN THIS APPLICATION, OR APPENDED HERETO, ARE TRUE, ACCURATE, AND COMPLETE TO THE BEST OF MY KNOWLEDGE BASED ON INFORMATION AND BELIEF AFTER REASONABLE INQUIRY, AND THAT I AM A ***RESPONSIBLE OFFICIAL*** (*PRESIDENT, VICE PRESIDENT, SECRETARY OR TREASURER, GENERAL PARTNER OR SOLE PROPRIETOR*) OF THE APPLICANT.

SIGNATURE OF RESPONSIBLE OFFICIAL: _____

TITLE: HSE Manager DATE: 4 / 7 / 17

** THE DEFINITION OF THE PHRASE '***RESPONSIBLE OFFICIAL***' CAN BE FOUND AT 45CSR13, SECTION 2.23.

NOTE: PLEASE CHECK ENCLOSED ATTACHMENTS:

☒ **ATTACHMENT A** ☒ **ATTACHMENT B** ☒ **ATTACHMENT C** ☒ **ATTACHMENT D** ☒ **ATTACHMENT E**

RECORDS ON ALL CHANGES ARE REQUIRED TO BE KEPT AND MAINTAINED ON-SITE FOR TWO (2) YEARS.

THE PERMIT DETERMINATION FORM WITH THE INSTRUCTIONS CAN BE FOUND ON DAQ'S PERMITTING SECTION WEB SITE:

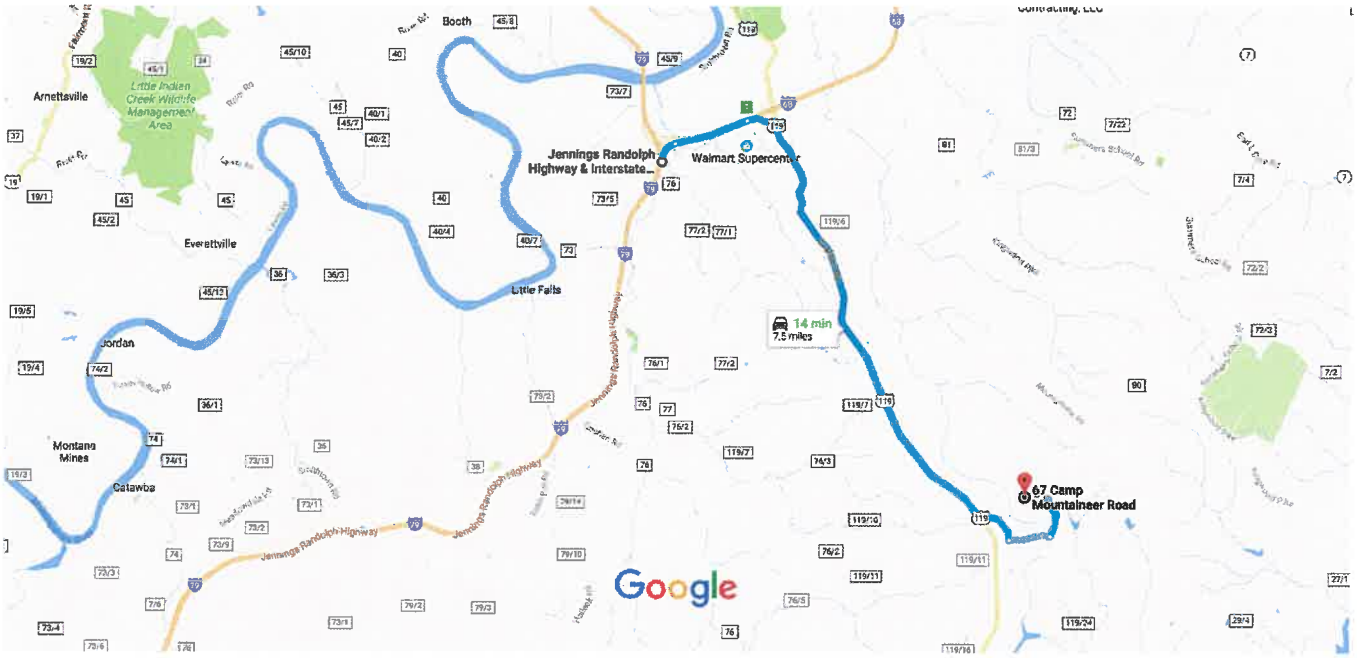
www.dep.wv.gov/daq

ATTACHMENT A

Google Maps

Jennings Randolph Highway & I-79 & I-68, Morgantown, WV 26508 to 67 Camp Mountaineer Rd, Morgantown, WV 26508

Drive 7.5 miles, 14 min



Map data ©2017 Google 1 mi

Jennings Randolph Highway & I-79 & I-68

Morgantown, WV 26508

1. Head north on Exit 148 toward I-68 E — 0.3 mi
2. Continue onto I-68 E — 0.8 mi
3. Take exit 1 for US-119 toward University Ave/Downtown — 0.3 mi
4. Turn right onto US-119 S — 4.8 mi
5. Turn left onto Boy Scout Camp Rd — 0.5 mi
6. Turn left onto Camp Mountaineer Rd/Dalton Rd — 0.4 mi
7. Turn left onto Camp Mountaineer Rd — 0.4 mi

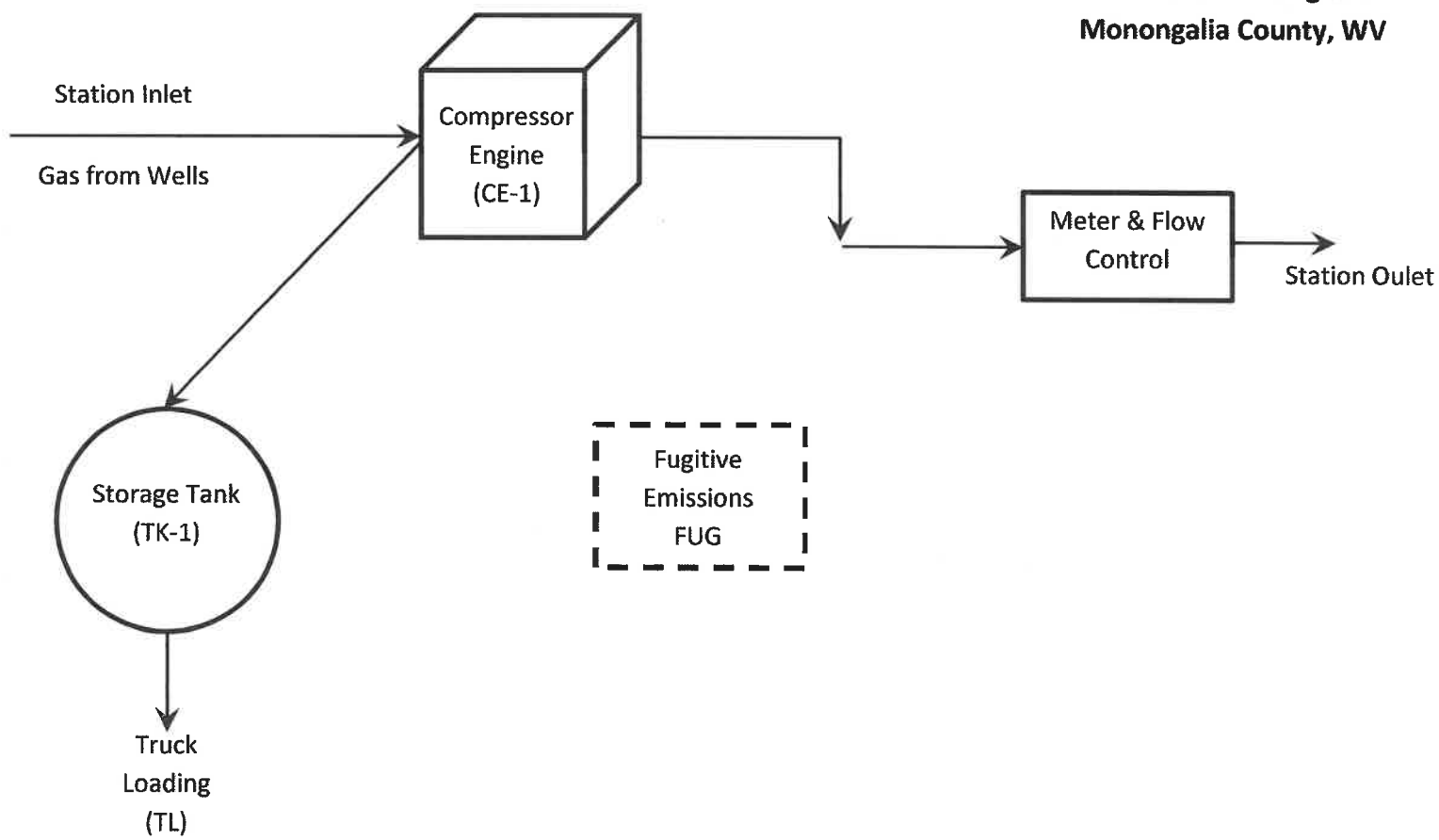
67 Camp Mountaineer Rd

Morgantown, WV 26508

ATTACHMENT B

Attachment B

Scout Compressor Station
HG Energy, LLC.
Process Flow Diagram
Monongalia County, WV



ATTACHMENT C

Attachment C

Process Description

The natural gas inlet stream from surrounding area wells enters the facility and is compressed. After the inlet gas passes through a compressor (CE-1), it exits the facility. Pipeline fluids are stored in a storage tank (TK-1) and transported offsite via truck (TL). Emissions from fugitive components (FUG) also occur.

Type of Emission Source:

In 2016, HG Energy purchased assets from Southwestern Energy (SWN). Included in those assets was the Scout Compressor Station. The Scout CF, at the time of purchase, consisted of one compressor engine manufactured on September 29, 2006 with a horsepower of 145. Based on discussions with SWN, no air permit was required for the Scout CF.

On March 29, 2017, HG Energy replaced the 145 horsepower engine with a 95 horsepower engine manufactured on October 14, 1999 resulting in reduced emissions.

ATTACHMENT D 1

PRODUCED WATER SDS

SAFETY DATA SHEET ***Date of Preparation: September 2, 2016***

SECTION 1: IDENTIFICATION

Product Name:	Produced Water
Synonyms:	Salt water; Produced salt water; Formation water.
Product Use:	Waste water stream from oil and gas operations.
Manufacturer/Supplier:	HG Energy, LLC. 5260 Dupont Road Parkersburg, WV 26101
Phone Number:	304-420-1100
Emergency Phone:	1-800-344-6601
Date of Preparation:	September 2, 2016

SECTION 2: HAZARD(S) IDENTIFICATION

GHS Classification:

- Flammable Gas
- Environmental Toxicity
- Target Organ Toxicity
- Irritant

GHS LABEL ELEMENTS

Symbol(s)

Signal Word

- Danger
- Warning

Hazard Statements

- Extremely flammable gas
- Harmful if Swallowed

Emergency Overview: Vapors may cause flash fire or explosion.

Production upsets can result in mixing of flammable liquids with produced water, resulting in a potential flammability hazard. Wash hands thoroughly after handling. Irritating to eyes and skin.

Likely Routes of Exposure:	Eye contact. Skin contact. Inhalation. Ingestion. Skin absorption.
Eye:	Irritating to eyes. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy

	vision.
Skin:	May be irritating to skin. Signs/symptoms may include localized redness, swelling, and itching.
Ingestion:	May cause gastrointestinal irritation. Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.
Inhalation:	No inhalation hazard under normal conditions. If misting occurs: may cause mild mucous membrane irritation of the nose, throat, and upper respiratory tract.
Chronic Effects:	None known.
Medical Conditions Aggravated By Exposure:	Not available.
Target Organs:	Skin. Eyes. Gastrointestinal tract. Respiratory system.
Potential Environmental Effects:	The product components are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

Component	CAS No.	Wt. %
Water	7732-18-5	90
Sodium chloride (NaCl)	7647-14-5	1 - <10
Calcium chloride	10035-04-8	1 - <10
Potassium chloride	7791-18-6	1 - <10

Composition Comments:

This product may contain small amounts of condensate or crude oil as a contaminant.

SECTION 4: FIRST AID MEASURES

Eye Contact:	In case of contact, immediately flush eyes with fresh water for at least 15 minutes while holding the eyelids open. Remove contact lenses if worn. Get medical attention if irritation persists.
Skin Contact:	Wash skin with soap and water for at least 15 minutes while removing contaminated clothing and shoes. If signs/symptoms develop, get medical attention.
Ingestion:	Rinse mouth thoroughly. Get medical attention if any discomfort occurs.
Inhalation:	If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. Call a physician if symptoms develop or persist.
General Advice:	In case of accident or if you feel unwell, seek medical advice immediately (show the label or MSDS where possible).
Note to Physicians:	Symptoms may not appear immediately.

SECTION 5: FIRE-FIGHTING MEASURES	
Flammability:	Not flammable or combustible by OSHA/WHMIS criteria. At elevated temperatures or in headspaces of vessels this product may release combustible levels of flammable gases or vapors. These gases can accumulate in confined or poorly ventilated areas. Ensure no sources of ignition are present when working in any confined space containing this product.
Means of Extinction	
Suitable Extinguishing Media:	Water. Foam. Dry chemical powder. Carbon dioxide (CO2).
Unsuitable Extinguishing Media:	Not available.
Products of Combustion:	Oxides of carbon. Oxides of nitrogen. Oxides of iron. Sodium oxide.
Protection of Firefighters:	A fire would be associated with vapors related to oil or natural gas condensate/crude floating on the surface of the produced water. Water maybe ineffective on flames and may even spread the fire but should be used to cool pressurized containers in the fire. Keep upwind of fire. Wear full firefighting turn-out gear (full Bunker gear) and respiratory protection (SCBA).

SECTION 6: ACCIDENTAL RELEASE MEASURES	
Personal Precautions:	Keep away from sources of ignition - No smoking. The vapors should dissipate fairly rapidly depend on the amount of oil and natural gas condensate/crude floating on the surface of the produced water. Stay upwind. Keep unnecessary personnel away. See Section 8 of the MSDS for Personal Protective Equipment.
Environmental Precautions:	Prevent further leakage or spillage if safe to do so. Do not allow to enter drains, sewers or watercourses.
Methods for Containment:	Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Prevent entry into waterways, sewer, basements or confined areas.
Methods for Clean-Up:	Recover by pumping (use an explosion-proof motor or hand pump properly grounded and bonded) or by sand or other oil absorbing materials. Carefully shovel, scoop or sweep up into a waste container for reclamation or disposal. Where feasible and appropriate, remove contaminated soil or flush with fresh water. On water spills utilize absorbent material to remove oil and natural gas liquid from the surface of the water.
Other Information:	Avoid excess skin contact with spilled material.

SECTION 7: HANDLING AND STORAGE

Handling

Handle as a flammable liquid. Tank headspaces should always be regarded as potentially flammable and care should be taken to avoid static electrical discharge and all ignition sources during filling, discharging and sampling from storage tanks. Bond and ground containers and hoses during product transfer to reduce the possibility of static-initiated fire or explosion. Keep away from heat, sparks, and open flame. Electrical equipment should be approved for classified area. Wear appropriate personal protective equipment. Avoid direct skin contact with any surface. Avoid generation of dust, smoke, fumes, etc. in the work area, or if they cannot be avoided, a tested and certified dust respirator should be worn. Smoking, eating or drinking should be prohibited when working with the equipment. Workers should wash hands and face before eating, drinking and smoking. Keep face clear of tank and/or tank car openings.

Storage

Keep containers in well-ventilated area away from flame, sparks, excessive temperatures and open flames. Keep the containers closed and clearly labeled. Empty product containers or vessels may contain explosive vapors. Do not pressurize, cut, heat, weld or expose such containers to sources of ignition. Do not enter storage areas and confined spaces without adequate ventilation and air monitoring. Use appropriate respiratory protection if there is the potential to exceed the exposure limit(s). Vapors containing benzene may accumulate during storage and transport.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

Occupational Exposure Limits

No exposure limits noted for ingredient(s).

Engineering Controls

Ensure adequate ventilation, especially in confined areas.

Personal Protective Equipment

Eye / face protection:
If eye contact is likely, safety glasses with side shields or chemical type goggles should be worn.

Skin protection
Wear suitable protective clothing. Flame resistant clothing such as Nomex ® is recommended in areas where material is stored or handled. Wash contaminated clothing prior to reuse. Avoid unnecessary skin contamination with material. Use of chemical resistant gloves is advised to prevent skin contact.

Respiratory protection
If engineering controls and ventilation are not sufficient to control exposure to below the allowable limits then an appropriate NIOSH/MSHA approved air-purifying respirator or self-contained breathing apparatus (SCBA) should be used. Supplied air breathing apparatus must be used when oxygen concentrations are low or if airborne concentrations exceed the limits of the air-purifying respirators.

General hygiene considerations
Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Handle in accordance with good industrial hygiene and safety practice.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Clear/Dirty/Hazy Liquid.
Color:	Colorless.
Odor:	Salty / Mild Hydrocarbon.
Odor Threshold:	Not available.
Physical State:	Liquid.
pH (1% solution in water):	Not available
Viscosity:	Not available.
Melting Point:	Not available.
Boiling Point:	212 °F (100 °C)
Flash Point:	Not available.
Evaporation Rate:	Not available.
Lower Flammability Limit:	Not available.
Upper Flammability Limit:	Not available.
Vapor Pressure:	< 0.36 psi @70°F (21°C)
Vapor Density:	10 lbs/gal (Air=1) (Estimated)
Specific Gravity:	1 (Water = 1)
Density:	Not available.
Solubility in Water:	Complete
Coefficient of Water/Oil Distribution:	Not available.
Auto-ignition Temperature:	Not available.
Percent Volatile, wt. %:	Not available.
VOC content, wt. %:	Not available.

SECTION 10: STABILITY AND REACTIVITY

Stability:	Stable under normal storage conditions.
Conditions of Reactivity:	Contact with incompatible materials.
Incompatible Materials:	Strong acids. Strong oxidizers.
Hazardous Decomposition Products:	Carbon Oxides
Possibility of Hazardous Reactions:	None known.

SECTION 11: TOXICOLOGICAL INFORMATION

Carcinogenic: IARC: No NTP: No OSHA: No ACGIH: No

SECTION 12: ECOLOGICAL INFORMATION

Keep out of sewers, drainage areas, and waterways. Report spills and releases, as applicable, under Federal and State regulations.

SECTION 13: DISPOSAL CONSIDERATION

Disposal instructions: Dispose in accordance with all applicable local, state, and federal regulations.

SECTION 14: TRANSPORTATION INFORMATION

DOT: Not regulated as dangerous goods.

IMDG: Not regulated as dangerous goods.

Special Shipping Information: If this material has been carried in a vehicle that last transported crude oil or condensate, mark shipping document "Residue – Last Contained, Petroleum Crude Oil".

SECTION 15: REGULATORY INFORMATION

U.S. Federal, State, and Local Regulatory Information

Any spill or uncontrolled release of this product, including any substantial threat of release, may be subject to federal, state, and/or local reporting requirements. This product and/or its constituents may also be subject to other regulations at the state and/or local level.

SECTION 16: OTHER INFORMATION

Disclaimer:

The information provided herein is believed to be accurate as of the date of issue, but is offered without guarantee. The information provided may not be complete, as it is not practicable to provide all scientific information in the format of this document. Further, additional information may be necessary under exceptional conditions of use, or because of applicable laws or regulations. HG Energy, LLC. does not assume any liability arising out of product use even if safety procedures are followed as outlined herein. The user has the responsibility for evaluating the adequacy of the information under the conditions of use and obtaining additional information where uncertainty exists. No express or implied guarantees are made as to the effects of use, the results to be obtained, or the safety and toxicity of the product in any specific application. The user assumes all risks of use of the product. HG Energy, LLC. expressly disclaims all warranties of every kind including warranties of merchantability and fitness for any particular purpose.

Communication with Employees and Purchasers:

This Safety Data Sheet (SDS) alerts the reader to potential safety and health hazards. It also contains valuable reference material relating to the safe use and handling of the product. Make sure that this information is shared with all employees and purchasers who use or handle the product. It is an important part of the OSHA hazard communication program.

This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

ABBREVIATIONS:

TLV - Threshold Limit Value SDS - Safety Data Sheet STEL - Short-term Exposure Limit PEL - Permissible Exposure Limit DOT - Department of Transportation (USA) CAS - Chemical Abstract Service Number ACGIH - American Conference of Government Industrial Hygienists NFPA - National Fire Protection Association (USA) IARC – International Agency for Research on Cancer OSHA - Occupational Safety and Health Administration TSCA – Toxic Substance Control Act

The information in the sheet was written based on the best knowledge and experience currently available.

Date:	**9/2/16**
Version:	**2.0**
SDS Prepared by:	**HG Energy, LLC.**
Phone:	**(800) 579-7684**

ATTACHMENT D 2

NATURAL GAS CONDENSATE SDS

SAFETY DATA SHEET ***Date of Preparation: January 9, 2014***

SECTION 1: IDENTIFICATION

Product Name:	***Natural Gas Condensate***
Synonyms:	Condensate, Drips, Gas Well Condensate, Pipeline Liquids, Field Condensate, High Pressure Inlet Liquids
Product Use:	Refinery Feedstock
Manufacturer/Supplier:	HG Energy, LLC. 5260 Dupont Road Parkersburg, WV 26101
Phone Number:	304-420-1100
Emergency Phone:	1-800-579-7684
Date of Preparation:	January 9, 2014

SECTION 2: HAZARD(S) IDENTIFICATION

GHS Classification:

- Flammable Liquid
- Specific Target Organ Systemic Toxicity (STOT)
- Environmental Toxicity

GHS LABEL ELEMENTS

Symbol(s)

Signal Word

- Danger

Hazard Statements

- Extremely flammable Liquid.
- Toxic if swallowed, Flammable Liquid and Vapor
- May cause damage to central nervous and respiratory systems.
- Toxic to aquatic life

Emergency Overview: DANGER Highly flammable. Vapors may cause flash fire or explosion. Will be easily ignited by heat, spark or flames.

Aspiration hazard: The major health threat of ingestion occurs from the danger of aspiration (breathing) of liquid drops into the lungs particularly from vomiting. Harmful or fatal if swallowed. Can enter lungs and cause damage. Aspiration may result in chemical pneumonia (fluid in the lungs). Harmful if absorbed through skin. Causes skin and eye irritation.

Wash hands thoroughly after handling.

OSHA Regulatory Status: This product is considered hazardous under 29 CFR 1910.1200 (Hazard Communication).

Routes of Exposure	Inhalation. Ingestion. Skin contact. Eye contact.
Inhalation	Harmful if inhaled. Vapors may cause drowsiness and dizziness.
Eyes:	Causes eye irritation. Do not get this material in contact with eyes.
Skin:	Harmful if absorbed through skin. Irritating to skin. Do not get this material in contact with skin.
Ingestion:	Harmful or fatal if swallowed. Can enter lungs and cause damage. Components of the product may be absorbed into the body by ingestion. Irritating to mouth, throat, and stomach.
Summary of Chronic Hazards and Special Health Effects	May cause damage to the liver and kidneys. May cause central nervous system disorder (e.g., narcosis involving a loss of coordination, weakness, fatigue, mental confusion, and blurred vision) and/or damage.
Signs and Symptoms	Irritation of nose and throat. Irritation of eyes and mucous membranes. Unconsciousness. Narcosis. Cyanosis. Decrease in motor functions. Behavioral changes. Edema. Liver enlargement. Jaundice. Proteinuria.
Target Organs:	Blood. Bone. Central nervous system. Eyes. Gastrointestinal tract. Kidney. Liver. Respiratory system. Skin.
Potential Environmental Effects:	Components of this product are hazardous to aquatic life. Harmful to aquatic organisms. May cause long-term adverse effects in the aquatic environment.

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

Components	CAS #	Percent
Natural gas condensates	68919-39-1	100

A complex combination of hydrocarbons separated and/or condensed from natural gas and containing carbon numbers predominantly in the range of C2-C20. Can contain as much as 15-20% methane (C1), ethane (C2), and propane (C3), 20 wt% butanes (C4) and up to 6-7% carbon dioxide (CO2) depending on natural gas production process conditions and pressure.

SECTION 4: FIRST AID MEASURES

Eye Contact:	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Get medical attention.
Skin Contact:	Remove contaminated clothes and rinse skin thoroughly with water for at least 15 minutes. Get medical attention if irritation develops or persists.
Ingestion:	Give one or two glasses or water if patient is alert and able to swallow. Seek immediate medical attention. Do not induce vomiting.

Inhalation:	Move injured person into fresh air and keep person calm under observation. If breathing is difficult, give oxygen. Get medical attention immediately.
General Advice:	In case of shortness of breath, give oxygen. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. If exposed or concerned: get medical attention/advice.
Note to Physicians:	Oxygen, if needed. Keep victim warm. Symptoms may be delayed.

SECTION 5: FIRE-FIGHTING MEASURES	
Flammability:	Flammable by OSHA criteria. Containers may explode when heated. Vapor or gas may spread to distant ignition sources and flash back. Runoff to sewer may cause fire or explosion hazard.
Means of Extinction	
Suitable Extinguishing Media:	Foam. Dry powder. Carbon dioxide (CO2).
Unsuitable Extinguishing Media:	Do not use a solid water stream as it may scatter and spread fire.
Products of Combustion:	Fire may produce irritating, corrosive and/or toxic gases.
Protection of Firefighters:	In case of fire and/or explosion do not breathe fumes. Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask. If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also consider initial evacuation for 800 meters (1/2 mile) in all directions. ALWAYS stay away from tanks engulfed in flame. Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Withdraw immediately in case of rising sound from venting safety devices or any discoloration of tanks due to fire. Move containers from fire area if you can do it without risk. Use water spray to cool unopened containers. Cool containers with flooding quantities of water until well after fire is out. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn.
Specific Methods:	In the event of fire and/or explosion do not breathe fumes. In the event of fire, cool tanks with water spray. Use water spray to cool unopened containers.
Sensitivity to Static Discharge:	This material is sensitive to static discharge at temperatures above the flash point.

SECTION 6: ACCIDENTAL RELEASE MEASURES	
Personal Precautions:	Keep unnecessary personnel away. Stay upwind. Keep out of low areas. Keep people away from and upwind of spill/leak. Fully encapsulating, vapor

	protective clothing should be worn for spills and leaks with no fire. Wear appropriate protective equipment and clothing during clean-up. Ventilate closed spaces before entering. Ensure adequate ventilation. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Avoid inhalation of vapors or mists.
Environmental Precautions:	Prevent further leakage or spillage if safe to do so. Do not contaminate water. Do not allow to enter drains, sewers or watercourses.
Methods for Containment:	Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Use water spray to reduce vapors or divert vapor cloud drift. Prevent entry into waterways, sewers, basements or confined areas.
Methods for Clean-Up:	Wipe up with absorbent material (e.g. cloth, fleece). Should not be released into the environment. Do not allow material to contaminate ground water system. Prevent product from entering drains. Large Spills: Dike far ahead of liquid spill for later disposal. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Small Spills: Clean contaminated surface thoroughly. After removal flush contaminated area thoroughly with water. Never return spills in original containers for re-use.
Other Information:	Avoid excess skin contact with spilled material. Dispose of in accordance with all federal, state, and local regulations. Comply with federal, state, and local requirements for spill and/or release notification.

SECTION 7: HANDLING AND STORAGE

Handling

Do not breathe vapors. Do not swallow. Do not get in eyes, or on skin. Handle open containers with care. Tank headspaces should always be regarded as potentially flammable and care should be taken to avoid static electrical discharge and all ignition sources while working with storage tanks. Bond and ground containers and hoses during product transfer to reduce the possibility of static-initiated fire or explosion. Keep away from heat, sparks, and open flame. Electrical equipment should be approved for classified area. Wear appropriate personal protective equipment. Avoid direct skin contact with any surface. Smoking, eating or drinking should be prohibited when working with the equipment. Workers should wash hands and face before eating, drinking and smoking. Keep face clear of tank openings.

Storage

Store and transport in accordance with all applicable laws. KEEP AWAY FROM HEAT, SPARKS, AND OPEN FLAME! KEEP CONTAINERS CLOSED, PLAINLY LABELED AND OUT OF CLOSED VEHICLES! All electrical equipment in storage and/or handling areas should be installed in accordance with applicable federal and state code. Keep containers in well-ventilated area away

from flame, sparks, excessive temperatures and open flames. The pressure in sealed containers can increase under the influence of heat. Keep the containers closed and clearly labeled. Prevent electrostatic charge build-up by using common bonding and grounding techniques. Empty product containers or vessels may contain explosive vapors. Hazard precautions must be observed when handling empty containers. Do not pressurize, cut, heat, weld or expose such containers to sources of ignition. Do not enter storage areas and confined spaces without adequate ventilation and air monitoring. Use appropriate respiratory protection.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls

Use ventilation adequate to keep exposures (airborne levels of dust, fume, vapor, gas, etc.) below recommended exposure limits. Use explosion-proof ventilation equipment.

Personal Protective Equipment

Eye / face protection:
Safety glasses with side shields or chemical type goggles should be worn.

Skin protection
Wear suitable protective clothing. Flame resistant clothing such as Nomex ® is recommended in areas where material is stored or handled. Wash contaminated clothing prior to reuse. Avoid unnecessary skin contamination with material. Use of chemical resistant gloves is advised to prevent skin contact.

Respiratory protection
If engineering controls and ventilation are not sufficient to control exposure to below the allowable limits then an appropriate NIOSH/MSHA approved air-purifying respirator or self-contained breathing apparatus (SCBA) should be used. Supplied air breathing apparatus must be used when oxygen concentrations are low or if airborne concentrations exceed the limits of the air-purifying respirators.

General hygiene considerations
Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Handle in accordance with good industrial hygiene and safety practice.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Colorless liquid, Water-Like Liquid.
Color:	Colorless to Straw Yellow.
Odor:	Gasoline
Odor Threshold:	Not available.
Physical State:	Liquid.
pH:	Not available.
Viscosity:	Not available.
Melting Point:	Not available.
Boiling Point:	96.8 - 258.1 °F (36 - 125.6 °C)
Flash Point:	< -50 °F (< -45.6 °C)
Evaporation Rate:	Not available.
Flammability limits in air, upper, % by volume	10
Flammability limits in air, lower, % by volume	1
Vapor Pressure:	200 - 500 mmHg @ 68 °F

Vapor Density:	> 1 (Air=1)
Specific Gravity:	Not available.
Density:	Not available.
Solubility in Water:	Insoluble in cold water.
Coefficient of Water/Oil Distribution:	Not available.
Auto-ignition Temperature:	< 450 °F (< 232.2 °C)
Percent Volatile, wt. %:	Variable
Hazardous Decomposition Products:	Oxides of carbon.

SECTION 10: STABILITY AND REACTIVITY

Stability:	Stable under normal storage conditions.
Conditions to avoid	Heat, flames and sparks.
Conditions of Reactivity:	Contact with incompatible materials. Sources of ignition. Hazardous polymerization does not occur.
Incompatible Materials:	Strong oxidizing agents. Strong acids.

SECTION 11: TOXICOLOGICAL INFORMATION

Carcinogenic: IARC: No NTP: No OSHA: No ACGIH: No

Exposure to light hydrocarbons in the same boiling range as this product have been associated in animal studies with effects to the central nervous system, peripheral nervous system, liver, and kidneys. The significance of these animal models to predict similar human response is uncertain. Observing good work practices and personal hygiene procedures (Sections 7 and 8) can minimize potential risks to humans.

Product may contain benzene. Human health studies indicate that prolonged and/or repeated overexposure to benzene may cause damage to the blood forming system (particularly bone marrow), and serious blood disorders, such as aplastic anemia and leukemia. Benzene is listed by the NTP, IARC, OSHA, and ACGIH as carcinogenic to humans.

SECTION 12: ECOLOGICAL INFORMATION

Keep out of sewers, drainage areas, and waterways. Report spills and releases, as applicable, under Federal and State regulations.

SECTION 13: DISPOSAL CONSIDERATION

Disposal instructions: Dispose in accordance with all applicable local, state, and federal regulations.

SECTION 14: TRANSPORTATION INFORMATION

Basic shipping requirements:		**Alternative**
Proper Shipping Name:	Petroleum Distillates, n.o.s. or Petroleum Products, n.o.s	Hydrocarbons, Liquid n.o.s (condensate)

	(condensate)	
Class:	3	3
UN Number:	UN 1268	UN 3295
Packing Group:	II	II
Hazard Class Packing Group	3	3

Label Code: 

Dependent upon the product's properties, the shipper may also elect to classify as Gasoline UN1203 or Petroleum Crude Oil UN1267 – reference 49 CFR 172.101 for further description. (e.g., packing group determination)

SECTION 15: REGULATORY INFORMATION

U.S. Federal, State, and Local Regulatory Information

Any spill or uncontrolled release of this product, including any substantial threat of release, may be subject to federal, state, and/or local reporting requirements. This product and/or its constituents may also be subject to other regulations at the state and/or local level.

Clean Water Act (Oil Spills)

Any spill or release of this product to "navigable waters" (essentially any surface water including certain wetlands) or adjoining shorelines sufficient to cause a visible sheen or deposit of a sludge or emulsion must be reported immediately to the National Response Center (1-800-424-8802) or, if not practicable, the U.S. Coast Guard with follow-up to the National Response Center, as required by U.S. Federal Law. Also contact appropriate state and local regulatory agencies as required.

CERCLA Section 311/312 – Hazard Classes

Acute Health	Chronic Health	Fire	Sudden Release of Pressure	Reactive
X	X	X	----	----

SARA Section 313 – Supplier Notification

This product contains the following toxic chemicals subject to the reporting requirements of section 313 of the Emergency Planning and Community Right-To-Know Act (EPCRA) of 1986 and of 40 CFR 372:

Ingredient Name	Concentration Percent by Weight
Benzene CAS Number 71-43-2	<0.1 to 2

SECTION 16: OTHER INFORMATION

Disclaimer:

The information provided herein is believed to be accurate as of the date of issue, but is offered without guarantee. The information provided may not be complete, as it is not practicable to provide all scientific information in the format of this document. Further, additional information may be necessary under exceptional conditions of use, or because of applicable laws or regulations. HG Energy, LLC. does not assume any liability arising out of product use even if safety procedures are followed as outlined herein. The user has the responsibility for evaluating the adequacy of the information under the conditions of use and obtaining additional information where uncertainty exists. No express or implied guarantees are made as to the effects of use, the results to be obtained, or the safety and toxicity of the product in any specific application. The user assumes all risks of use of the product. HG Energy, LLC. expressly disclaims all warranties of every kind including warranties of merchantability and fitness for any particular purpose.

Communication with Employees and Purchasers:

This Safety Data Sheet (SDS) alerts the reader to potential safety and health hazards. It also contains valuable reference material relating to the safe use and handling of the product. Make sure that this information is shared with all employees and purchasers who use or handle the product. It is an important part of the OSHA hazard communication program.

This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

ABBREVIATIONS:

TLV - Threshold Limit Value SDS - Safety Data Sheet STEL - Short-term Exposure Limit PEL - Permissible Exposure Limit DOT - Department of Transportation (USA) CAS - Chemical Abstract Service Number ACGIH - American Conference of Government Industrial Hygienists NFPA - National Fire Protection Association (USA) IARC – International Agency for Research on Cancer OSHA - Occupational Safety and Health Administration TSCA – Toxic Substance Control Act

The information in the sheet was written based on the best knowledge and experience currently available.

Date:	**1/9/14**
Version:	**3.0**
SDS Prepared by:	**HG Energy, LLC.**
Phone:	**(800) 579-7684**

ATTACHMENT E

HG Energy, LLC
Scout Compressor Station
Monongalia County, WV
Emissions Summary

Emissions Unit ID	Emission Point ID	Emission Unit Description	NO_x (Tons per year)	CO (Tons per year)	VOC (Tons per year)	SO_2 (Tons per year)	PM_{10} (Tons per year)	HAPs (Tons per year)	CO_2e (Tons per year)
CE-1	CE-1	Compressor 37Y03802	12.027	12.027	0.267	0.002	0.176	1.590	507.280
TL	TL	Brine/Pipeline Liquids Truck Loading	-	-	0.000	-	-	0.000	-
TK-1	TK-1	Brine/Pipeline Liquids	-	-	0.076	-	-	0.002	0.350
FUG	FUG	Fugitive Emissions	-	-	0.002	-	-	0.000	0.173
TOTAL	N/A	N/A	**12.027**	**12.027**	**0.345**	**0.002**	**0.176**	**1.592**	**507.803**
Emissions Unit ID	**Emission Point ID**	**Emission Unit Description**	**NO_x (Lbs Per Hour)**	**CO (Lbs per year)**	**VOC (Lbs per year)**	**SO2 (Lbs per year)**	**PM10 (Lbs per year)**	**HAPs (Lbs per year)**	**CO2e (Lbs per year)**
TOTAL	N/A	N/A	**2.746**	**2.746**	**0.079**	**0.001**	**0.040**	**0.364**	**115.937**

HG Energy, LLC
Scout Compressor Station
Monongalia County, WV
Emissions Unit Summary

Emissions Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Year Removed	Design Capacity	Control Device
CE-1	CE-1	Compressor 37Y03802	2017	N/A	95 hp/1800 rpm	N/A
TL	TL	Brine/Pipeline Liquids Truck Loading	See Note	N/A	N/A	N/A
TK-1	TK-1	Brine/Pipeline Liquids	See Note	N/A	2,100 gal	N/A
FUG	FUG	Fugitive Emissions	See Note	N/A	N/A	N/A

Note: HG Energy purchased the Scout compressor station from SWN in 2016. HG estimates that the station was installed between 2007 and 2009.

HG Energy, LLC
Scout Compressor Station
Monongalia County, WV
CE-1 Potential to Emit Calculations

Natural Gas Engine Combustion Emissions Calculations (Potential)

Pollutant	Value	Rate	Reference	lb/hr	tons/yr
NOX	2.000	g/hp-hr	Vendor	2.746	12.027
CO	1.600	g/hp-hr	Vendor	2.746	12.027
VOC	0.280	g/hp-hr	Vendor	0.061	0.267
SO2	0.0006	lb/MMBtu	Vendor	0.001	0.002
PM	0.010	lb/MMBtu	Vendor	0.040	0.176
CO_2	500.000	g/bhp-hr	Vendor	103.042	451.325
CH_4	2.350	g/bhp-hr	Vendor	0.511	2.238
CO_2e	N/A	N/A	N/A	115.817	507.280
HCOH	0.250	g/hp-hr	Vendor	0.052	0.229
Total HAPs	N/A	N/A	Vendor and AP-42, Table 3.2-2	0.36	1.5904

Natural Gas Engine Combustion HAP Emissions Calculator

Compound	lb/MMBtu	Reference	lb/hr	tons/year
1,1,2,2-Tetrachloroethane	4.00E-05	AP-42, Table 3.2-2	3.32E-05	0.0001
1,1,2-Tricholorethane	3.18E-05	AP-42, Table 3.2-2	2.64E-05	0.0001
1,3-Butadiene	2.67E-04	AP-42, Table 3.2-2	2.22E-04	0.0010
1,3-Dichloropropene	2.64E-05	AP-42, Table 3.2-2	2.19E-05	0.0001
2-Methylnaphthalene	3.32E-05	AP-42, Table 3.2-2	2.76E-05	0.0001
2,2,4-Trimethylpentane	2.50E-04	AP-42, Table 3.2-2	2.07E-04	0.0009
Acenaphthene	1.25E-06	AP-42, Table 3.2-2	1.04E-06	0.0000
Acenaphthylene	5.53E-06	AP-42, Table 3.2-2	4.59E-06	0.0000
Acrolein	8.36E-03	AP-42, Table 3.2-2	6.94E-03	0.0304
Benzo(b)fluroanthene	5.14E-03	AP-42, Table 3.2-2	4.27E-03	0.0187
Benzene	4.40E-04	AP-42, Table 3.2-2	3.65E-04	0.0016
Benzo(b)fluoranthene	1.66E-07	AP-42, Table 3.2-2	1.38E-07	0.0000
Benzo(e)pyrene	4.15E-07	AP-42, Table 3.2-2	3.44E-07	0.0000
Benzo(g,h,i)perylene	4.14E-07	AP-42, Table 3.2-2	3.44E-07	0.0000
Biphenyl	2.12E-04	AP-42, Table 3.2-2	1.76E-04	0.0008
Carbon tetrachloride	3.67E-05	AP-42, Table 3.2-2	3.05E-05	0.0001
Chlorobenzene	3.04E-05	AP-42, Table 3.2-2	2.52E-05	0.0001
Chloroform	2.85E-05	AP-42, Table 3.2-2	2.37E-05	0.0001
Chrysene	6.93E-07	AP-42, Table 3.2-2	5.75E-07	0.0000
Ethylbenzene	3.97E-05	AP-42, Table 3.2-2	3.29E-05	0.0001
Ethylene dirbromide	4.43E-05	AP-42, Table 3.2-2	3.68E-05	0.0002
Fluoranthene	1.11E-06	AP-42, Table 3.2-2	9.21E-07	0.0000
Fluorene	5.67E-06	AP-42, Table 3.2-2	4.71E-06	0.0000
Formaldehyde	5.28E-03	Manf. Data Sheet	3.47E-01	1.5199
Methanol	2.50E-03	AP-42, Table 3.2-2	2.07E-03	0.0091
Methylene chloride	2.00E-05	AP-42, Table 3.2-2	1.66E-05	0.0001
n-Hexane	1.11E-03	AP-42, Table 3.2-2	9.21E-04	0.0040
Naphthalene	7.44E-05	AP-42, Table 3.2-2	6.17E-05	0.0003
PAH	2.69E-05	AP-42, Table 3.2-2	2.23E-05	0.0001
Phenanthrene	1.04E-05	AP-42, Table 3.2-2	8.63E-06	0.0000
Phenol	2.40E-05	AP-42, Table 3.2-2	1.99E-05	0.0001
Pyrene	1.36E-06	AP-42, Table 3.2-2	1.13E-06	0.0000
Styrene	2.36E-05	AP-42, Table 3.2-2	1.96E-05	0.0001
Tetrachloroethane	2.48E-06	AP-42, Table 3.2-2	2.06E-06	0.0000
Toluene	4.08E-04	AP-42, Table 3.2-2	3.39E-04	0.0015
Vinyl Chloride	1.49E-05	AP-42, Table 3.2-2	1.24E-05	0.0001
Xylene	1.84E-04	AP-42, Table 3.2-2	1.53E-04	0.0007

HG Energy, LLC
Scout Compressor Station
Monongalia County, WV
Fugitive Emissions from Equipment Leaks

Fugitive Emissions Calculations (Potential)

Component Type	Component count*	VOC emission factor (lb/hr/component)**	wt% VOC***	VOC emissions (lb/hr)	VOC Emissions (tons/yr)	wt% HAPs***	HAP Emissions (lb/hr)	HAP Emissions (tons/yr)	Whole gas leak rate (scf/hr/component)	Whole gas leak rate (lb/hr/component)	wt% GHG	GHG Emissions (CO_2e, lb/hr)****	GHG Emissions (CO_2e, tons/yr)****
Valves	24	0.0099	0.12%	0.0003	0.0013	0.0000	0.0000	0.0000	0.0270	0.0012	96%	0.02684	0.1176
Connectors	102	0.0009	0.12%	0.0001	0.0005	0.0000	0.0000	0.0000	0.0030	0.0001	96%	0.01268	0.0555
Open-ended lines	0	0.0044	0.12%	0.0000	0.0000	0.0000	0.0000	0.0000	0.0610	0.0026	96%	0.00000	0.0000
Relief valves	0	0.0194	0.12%	0.0000	0.0000	0.0000	0.0000	0.0000	0.0400	0.0017	96%	0.00000	0.0000
Total				0.0004	0.0017		0.0000	0.0000				0.0395	0.1731

*Based on 40 CFR 98, Subpart W, Table W-1B with 10% safety factor (1 compressor, 1 meters/piping)
**from EPA-453/R-95-017, November 1995, pp. 2-15
**From EPA 453/R-95-017, November 1995
****From 40 CFR 98, Subpart W, Table W-1A

HG Energy, LLC
Scout Compressor Station
Monongalia County, WV
Truck Loading Emissions

Produced Water Loading Emissions		
Pollutant	Loading losses (tons/yr)*	Method
VOC	0.0001	AP-42
Total HAPs	7.70031E-07	AP-42

*Assumes all liquids loaded are crude oil RVP 5 with 1% VOC emitted

***HAPs losses estimated as 1% of total VOC losses

OTHER

HG Energy, LLC
5260 Dupont Road
Parkersburg, WV 26101
(304) 420-1100 - Office
(304) 863-3172 - Fax

WV Department of Environmental Protection
Division of Air Quality
601 57th Street, SE
Charleston, WV 25304

April 4, 2017

RE: Replacement Notification 45 CSR 13, 2.17.f.6

45 CSR 13, 2.17.f.6 An emissions reduction for each regulated pollutant from current actual emissions to new potential emissions from any replacement of a natural gas compressor engine not previously required to obtain a permit under this rule with another natural gas compressor engine: provided that the owner or operator of the source shall notify the Secretary of such replacement and the emissions reduction within ten (10) working days of the replacement

In accordance with 45 CSR 13, 2.17.f.6, HG Energy is submitting this letter to notify the Division of Air Quality of the replacement of a natural gas compressor engine not previously required to obtain a permit with another natural gas compressor engine on March 29, 2017.

In 2016, HG Energy purchased assets from Southwestern Energy (SWN). Included in those assets was the Scout Compressor Facility (CF) located at GPS 39.525833, -79.904432 in Monongalia County, WV. The Scout CF, at the time of purchase, consisted of one engine manufactured on September 29, 2006 with a horsepower of 145. Based on discussions with SWN, no air permit was required for the Scout CF.

On March 29, 2017, HG Energy replaced the 145 horsepower engine with a 95 horsepower engine manufactured on October 14, 1999 resulting in reduced emissions based on the engine horsepower reduction.

HG Energy was not provided with the emission information for the 145 horsepower engine and estimates of actual emission rates for the 145 horsepower engine may result in under or over estimations. Therefore, the actual emission reduction for the compressor replacement is not provided. However, the emission report for the 95 horsepower compressor installed on March 29, 2017 is attached to this letter notification.

If you have any questions, please contact me at 304-420-1126 or mmcguire@hgenergyllc.com.

Sincerely,

Matthew J. McGuire
HSE Manager
HG Energy, LLC.

USA COMPRESSION

Emissions Report

2/8/2017

USA Compression Unit 2541, G3304NA/JGP2

Engine Serial Number	37Y03802	**Engine Manufactured Date**	10/14/1999
Max HP	95	**Max RPM**	1800
Number of Engine Cylinders	4	**Total Displacement (in3)**	425
Combustion Type & Setting		**Fuel Delivery Method**	Carburetor
Compression Ratio	10.5:1	**Combustion Air Treatment**	Naturally Aspirated
Engine Modified/Reconstructed?			
Compressor Frame Serial #	F22069	**Unit Packaged Date**	6/5/2005
Compressor Frame Max RPM	1800	**# of Compressor Throws**	2

AIR ENVIRONMENTAL REGULATIONS

County and State selected for Quote: Wetzel, WV

NSPS JJJJ	**NOx**	**CO**	**VOC**	
Ozone Non-Attainment/General Permit	**NOx**	**CO**	**VOC**	**CH20**

RAW ENGINE EMISSIONS

(based on assumption of burning 900-970 LHV BTU/SCF or 80-85 Fuel Methane # Fuel Gas with little to no H2S)

Fuel Consumption: 8735 HHV BTU/bhp-hr

	g/bhp-hr	lb/MMBTU	lb/hr	TPY
Nitrogren Oxides (NOx)	13.11		2.746	12.027
Carbon Monoxide (CO)	13.11		2.746	12.027
Volatile Organic Compounds (NMNEHC excluding CH2O)	0.29		0.061	0.267
Formaldehyde (CH2O)	0.27		0.057	0.25
Particulate Matter (PM) Filterable+Condensable		0.0483	0.0401	0.1756
Sulfur Dioxide (SO2)		0.0006	0.0005	0.0021
	g/bhp-hr	**lb/MMBTU**	**lb/hr**	**Metric Tonne/yr**
Carbon Dioxide (CO2)	492		103.0423	409.365
Methane (CH4)	2.44		0.511	2.03

CONTROLLED EMISSIONS

Catalytic Converter Make/Model	VXC-1408-04
Catalyst Element Type	
# of Catalyst Elements Currently in Housing	1
Air/Fuel Ratio Control	Yes
Other Engine Emissions Control Equipment	

	% Reduction Required to Comply with JJJJ & Non-Attainment / General Permit Limits	lb/hr	TPY
Nitrogen Oxides (NOx)	0	2.746	12.027
Carbon Monoxide (CO)	0	2.746	12.027
Volatile Organic Compounds (NMNEHC excluding CH2O)	0	0.061	0.267
Formaldehyde (CH2O)	0	0.057	0.25
Particulate Matter (PM) Filterable+Condensable	0	0.0401	0.1756
Sulfur Dioxide (SO2)	0	0.0005	0.0021
	% Reduction Required to Comply with JJJJ & Non-Attainment / General Permit Limits	**lb/hr**	**Metric Tonne/yr**
Carbon Dioxide (CO2)	0	103.0423	409.3650
Methane (CH4)	0	0.511	2.03

1. g/bhp-hr are based on Engine Manufacturer Specifications assuming a "Pipeline Quality" fuel gas composition, 1200 ft elevation, and 100- 110 F Max Air Inlet. Note that g/bhp-hr values are based on 100% engine load operation and some g/hp-hr values are Nominal and are not representative of Not- To-Exceed values. It is recommended to apply safety factor (i.e. increase the value by a nominal percentage) to the g/hp- hr values for Air Permitting to allow for operational flexibility and variations in fuel gas composition.
2. lb/MMBTU emission Factors are based on EPA's AP-42, Fifth Edition, Volume I, Chapter 3: Stationary Internal Combution Sources (Section 3.2 Natural Gas-Fired Reciprocating Engines).