

**TITLE V PERMIT RENEWAL APPLICATION
RULE 13 PERMIT MODIFICATION APPLICATION
EQUITRANS, INC.
COPLEY RUN COMPRESSOR STATION #70**

PERMIT NO. R30-04100009-2002

PERMIT NO. R13-2397A

WESTON, WEST VIRGINIA

TRINITY CONSULTANTS
5320 Spectrum Drive
Suite C
Frederick, MD 21703
(240) 379-7490

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Trinity
Consultants

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1. INTRODUCTION

Equitrans, Inc. (Equitrans) operates a natural gas transmission facility in Weston, West Virginia referred to as the Copley Run Compressor Station #70 (the Copley Run Station). The Copley Run Station is currently operating in accordance with West Virginia Department of Environmental Protection (WVDEP) Division of Air Quality Title V operating permit R30-04100009-2002, last issued on June 17, 2002, as well as Rule 13 permit R13-2397A.

The current Title V permit expires June 17, 2007. Equitrans is submitting this timely and complete permit renewal application by the renewal submission deadline of December 17, 2006, (i.e., six months before the expiration of the current permit) in accordance with Series 30, Section 4.1.a.3 of the WVDEP Division of Air Quality (DAQ) Code of State Rules (C.S.R.) §45-30-4.1.a.3. Presuming WVDEP finds this application administratively complete, Equitrans may continue to operate the Copley Run Station under the terms of the existing Title V permit until the renewed permit is issued, even if this issuance would occur after the current permit's expiration date.

It should be noted that in addition to this Title V renewal application, Equitrans is requesting changes to federally enforceable limitations, including certain emission rate limits. As such, Equitrans is also submitting a permit application to modify permit R13-2397A accordingly.

1.1 FACILITY DESCRIPTION

The Copley Run Station is a natural gas transmission facility covered under Standard Industrial Classification (SIC) Code 4922. The station has the potential to operate 24 hours per day, 7 days per week. The station consists of five (5) reciprocating engine/integral compressors (three 1350-hp engines, one 2250-hp engine, and one 1800-hp engine), two natural gas-fired electric generators (2.2 MMBtu/hr each), a triethylene glycol (TEG) dehydration unit equipped with a flare, a TEG dehydration unit equipped with an indirect heater/reboiler, and six (6) storage tanks of various sizes. The facility also operates a comfort heating boiler and a hot water heater, both of which are considered insignificant sources under Title V and Rule 13.

A description of each source category is included below. A process flow diagram is included in Appendix A.

1.1.1 DEHYDRATION UNITS

The Copley Run Station process involves the storage and transmission of natural gas. The station includes two glycol dehydration units that are operated to remove water vapor from the natural gas. The gas contacts lean triethylene glycol (TEG), which absorbs the water from the gas. The dehydrated gas leaves the dehydration tower at the top and returns to the process for compression by the engines. The water-rich TEG leaves the dehydration tower at the bottom and is routed to a re-concentration system (reboiler) where the water and organic impurities are driven from the TEG by heating. The cleaned TEG is then re-used in the contact tower. For the storage dehydration unit (Dehy #1), the water vapor and organics

driven from the TEG during regeneration are passed through a flare to minimize emissions of volatile organic compounds (VOC) and organic hazardous air pollutants (HAP). The flare has an estimated destruction efficiency of 98% of VOC/HAP, and is integral to the dehydration unit. For the transmission dehydration unit (Dehy #2), the water vapor and organics driven from the TEG during regeneration are reintroduced into the reboiler system as fuel for the reboiler. A secondary benefit of this recirculation system is the coincidental combustion of VOC and organic HAP. This combustion system has an estimated destruction efficiency of 95% of VOC/HAP, and is also integral to the dehydration unit. Two additional emission sources involved with the dehydration units are the combustion exhausts for the 2.2 MMBtu/hr natural gas fired-reboilers associated with each unit, which provide the heat to drive off the water and impurities from the water-rich TEG. One additional emissions source involved with Dehy #2 is the combustion exhaust for the 1.2 MMBtu/hr natural gas-fired indirect heater, which is used to preheat the natural gas prior to dehydration.

1.1.2 COMPRESSOR ENGINES

The Copley Run Station also includes five natural gas-fired reciprocating engines used to power reciprocating compressors that move the compressed natural gas through pipelines. These engines are two-stroke lean-burn engines ranging in size from 1350 hp to 2250 hp. The function of the reciprocating compressors is to raise the discharge pressure of the gas in the pipeline to overcome the effect of frictional losses in the pipeline upstream of the station, in order to maintain the required suction pressure at the next station downstream or at various downstream delivery points.

1.1.3 STORAGE TANKS

The Copley Run Station operates six (6) horizontal fixed roof storage tanks ranging in capacity from 2,000 gallons to 20,000 gallons. The storage tanks contain various purchased materials (e.g., triethylene glycol, lube oil, methanol, etc.) as well as site-generated materials (e.g., pipeline condensate, used oil, etc.).

1.1.4 MISCELLANEOUS SOURCES

Additional combustion sources at the station include two natural gas-fired emergency backup electric generators (four-stroke rich-burn engines, rated at 2.2 MMBtu/hr each), a small natural gas-fired boiler for comfort heating (rated at 0.675 MMBtu/hr), and a small natural gas-fired hot water heater (rated at 0.03 MMBtu/hr).

1.2 TITLE V RENEWAL APPLICATION ORGANIZATION

This Title V permit renewal application is organized as follows:

- Section 2 contains an overview of regulatory applicability for the Copley Run Station;
- Section 3 contains a summary of proposed permit changes;

- Section 4 contains a detailed CAM rule applicability analysis;
- Section 5 contains sample emission source calculations;
- Section 6 contains the required WVDEP application forms;
- Appendix A contains process flow diagrams;
- Appendix B contains relevant correspondence from WVDEP
- Appendix C contains the completed WVDEP Title V permit forms
- Appendix D contains the completed WVDEP Rule 13 permit forms

2. REGULATORY APPLICABILITY

A key objective of a Title V operating permit application is to compile all applicable Clean Air Act-derived requirements into one document. The requirements can be categorized as (1) emission limits and work practice standards, and (2) testing, monitoring, recordkeeping, and reporting requirements. To compile a list of the requirements applicable to a facility, it is first necessary to determine which Federal and State air regulations apply to the facility as a whole, or to individual emission units. This section documents the applicability determinations made for Federal and State air quality regulations. Regulations potentially applicable to Copley are detailed in the “*Applicable Requirements*” forms provided by the WVDEP in Section 6.

Additional details on applicability for several regulations are presented in this section. Specifically, the remainder of this section summarizes the air permitting requirements and key air quality regulations that apply to the operation of the Copley Run Station. Applicability or non-applicability of the following regulatory programs is addressed:

- Prevention of Significant Deterioration (PSD) permitting;
- Title V of the 1990 Clean Air Act Amendments;
- New Source Performance Standards (NSPS);
- National Emission Standards for Hazardous Air Pollutants (NESHAP);
- Compliance Assurance Monitoring (CAM);
- Risk Management Plan (RMP);
- Stratospheric Ozone Protection; and
- West Virginia State Implementation Plan (SIP) regulations.

This review is presented to supplement and/or add clarification to the information provided in the WVDEP Title V application forms, which fulfill the requirement to include citations and descriptions of applicable statutory and administrative code requirements.

In addition to providing a summary of applicable requirements, this section of the application also provides non-applicability determinations for certain regulations, allowing the WVDEP to confirm that identified regulations are not applicable to the Copley Run Station. Note that explanations of non-applicability are limited to those regulations for which there may be some question of applicability specific to the operations at the Copley Run Station. Regulations that are categorically non-applicable are not discussed (e.g., NSPS Subpart J, *Standards of Performance for Petroleum Refineries*).

2.1 PREVENTION OF SIGNIFICANT DETERIORATION (PSD) SOURCE CLASSIFICATION

Federal construction permitting programs regulate new sources of attainment pollutants under Prevention of Significant Deterioration (PSD) and new sources of non-attainment pollutants under Non-Attainment New Source Review (NNSR). PSD and NNSR regulations apply when a major source makes a change, such as installing new equipment or modifying existing equipment, and a significant increase in emissions results from the change. The Copley Run Station is a major source with respect to the NSR program, and as such when undertaking modifications may be subject to NSR permit requirements. Because the Title V permit renewal process is not intended to accommodate any changes or modifications to the facility that are not currently permitted at the facility, NSR/PSD permitting is not triggered by this activity but could be by future activities at the site.

2.2 TITLE V OPERATING PERMIT PROGRAM

Title 40 of the Code of Federal Regulations Part 70 (40 CFR 70) establishes the federal Title V operating permit program. West Virginia has incorporated the provisions of this federal program in its Title V operating permit program in C.S.R. 45-30. The major source thresholds with respect to the West Virginia Title V operating permit program regulations are 10 tons per year (tpy) of a single HAP, 25 tpy of any combination of HAP, and 100 tpy of all other regulated pollutants. The potential emissions of at least one regulated pollutant exceed the corresponding threshold(s) at this facility. Therefore, the Copley Run Station is classified as a major source for Title V purposes. The Copley Run Station currently operates under Title V operating permit No. R30-04100009-2002. This renewal application is being submitted to meet the requirements of the Title V program.

2.3 NEW SOURCE PERFORMANCE STANDARDS

New Source Performance Standards (NSPS), located in 40 CFR 60, require new, modified, or reconstructed sources to control emissions to the level achievable by the best demonstrated technology as specified in the applicable provisions. Moreover, any source subject to an NSPS is also subject to the general provisions of NSPS Subpart A, except where expressly noted. The following is a summary of applicability and non-applicability determinations for NSPS regulations of relevance to Copley.

2.3.1 NSPS SUBPARTS D, DA, DB, AND DC

These subparts apply to steam generating units of various sizes, all greater than 10 MMBtu/hr. The Copley Run Station does not have any steam generating units greater than 10 MMBtu/hr, therefore the requirements of these subparts do not apply.

2.3.2 NSPS SUBPARTS K, Ka, AND Kb

These subparts apply to storage tanks of certain sizes constructed, reconstructed, or modified during various time periods. Subpart K applies to storage tanks constructed, reconstructed, or

modified prior to 1978, and Subpart Ka to those constructed, reconstructed, or modified prior to 1984. The six storage tanks located at the Copley Run Station were constructed after these dates, therefore the requirements of Subparts K and Ka do not apply. Subpart Kb applies to volatile organic liquid (VOL) storage tanks constructed, reconstructed, or modified after July 23, 1984 with a capacity equal to or greater than 75 m³ (~19,813 gallons). All storage tanks at the Copley Run Station were constructed after this date, but only one (Copley 2) has a capacity greater than 75 m³. Subpart Kb does not apply to storage tanks greater than 75 m³ storing a liquid with a maximum true vapor pressure less than 15.0 kPa (~2.175 psi). Storage tank Copley 2 is used to store pipeline condensate, which has a vapor pressure less than 15.0 kPa. Therefore, Subpart Kb does not apply to the storage tanks at the Copley Run Station.

2.3.3 NSPS SUBPART KKK – EQUIPMENT LEAKS OF VOC FROM ONSHORE NATURAL GAS PROCESSING PLANTS

A natural gas processing plant is defined as any processing site engaged in the extraction of natural gas liquids from field gas, fractionation of mixed natural gas liquids to natural gas products, or both. Although this subpart includes requirements for compressors, dehydration units, and storage tanks, it only applies to those units located at a processing plant. The operations at the Copley Run Station do not meet the definition of a processing plant. Therefore, the requirements of this subpart do not apply to the emission units at the Copley Run Station.

2.3.4 NSPS SUBPART LLL – ONSHORE NATURAL GAS PROCESSING: SO₂ EMISSIONS

This subpart applies to each sweetening unit, and each sweetening unit followed by a sulfur recovery unit, at a natural gas processing plant. The Copley Run Station does not meet the definition of a natural gas processing facility, nor does the station include a sweetening unit. Therefore, the requirements of this subpart do not apply.

2.3.5 NSPS SUBPART IIII – STATIONARY COMPRESSION IGNITION INTERNAL COMBUSTION ENGINES

This Subpart applies to manufacturers, owners, and operators of stationary compression ignition internal combustion engines (ICE) that have been constructed, reconstructed, or modified after various dates, the earliest of which is July 11, 2005. All of the engines at the Copley Run Station, including emergency generators, are spark-ignition IC engines, and therefore the requirements of this subpart do not apply.

2.3.6 NON-APPLICABILITY OF ALL OTHER NSPS

NSPS are developed for particular industrial source categories. Other than NSPS developed for natural gas processing plants (Subparts KKK and LLL) and associated equipment (Subparts D-Dc and K-Kb), the applicability of a particular NSPS to the Copley Run Station

can be readily ascertained based on the industrial source category covered. All other NSPS are categorically not applicable to natural gas processing facilities.

2.4 NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS (NESHAP)

National Emissions Standards for Hazardous Air Pollutants (NESHAP) and are generally only applicable to major sources of HAP. Part 63 NESHAP allowable emission limits are established on the basis of a maximum achievable control technology (MACT) determination for a particular major source. A HAP major source is defined as having potential emissions in excess of 25 tpy for total HAP and/or potential emissions in excess of 10 tpy for any individual HAP. NESHAP apply to sources in specifically regulated industrial source categories (Clean Air Act Section 112(d)) or on a case-by-case basis (Section 112(g)) for facilities not regulated as a specific industrial source type. Besides 40 CFR 63 Subpart A (NESHAP Subpart A), which is similar to 40 CFR 60 Subpart A (NSPS Subpart A), the following NESHAP could potentially apply to the Copley Run Station¹:

40 CFR Part 63 Subpart HH – Oil and Natural Gas Production Facilities

40 CFR Part 63 Subpart HHH – Natural Gas Transmission and Storage Facilities

40 CFR Part 63 Subpart ZZZZ – Stationary Reciprocating Internal Combustion Engines (RICE)

40 CFR Part 63 Subpart DDDDD – Industrial, Commercial, and Institutional Boilers and Process Heaters

The applicability of these NESHAP Subparts is discussed in the following sections.

2.4.1 40 CFR 63 SUBPART HH – OIL AND NATURAL GAS PRODUCTION FACILITIES

This MACT standard contains requirements for dehydration units, located at natural gas production facilities. The operations at the Copley Run Station are limited to the storage and transmission of natural gas only (not production). Because the Copley Run Station does not meet the definition of a natural gas production facility per 40 CFR §63.761, the requirements of this subpart do not apply.

2.4.2 40 CFR 63 SUBPART HHH – NATURAL GAS TRANSMISSION AND STORAGE FACILITIES

This MACT subpart applies to facilities which are major sources of HAP that transport or store natural gas prior to entering the transmission pipeline to end users as defined by 40 CFR §63.1271. Specifically, each dehydration unit at these facilities is subject to this subpart. The

¹ It should be noted that this facility was previously identified as being a minor source of HAP due to apparent omission of HAP emissions from four of the five engines in the current Title V permit. A review of site-wide HAP emissions, inclusive of all sources, estimates that formaldehyde emissions are in excess of the HAP major source threshold level of 10 tpy. This issue was reviewed by Mr. Robert Keatley of WVDEP, who recommended the changes proposed in this application, as well as a modification to the facility's permit R13-2397, which is being submitted concurrently. See Appendix B for a copy of Mr. Keatley's memo on this subject.

Copley Run Station stores and transmits natural gas and operates two dehydration units. Therefore, the requirements of this subpart potentially apply to the Copley Run Station.

However, 40 CFR 63.1274(d)(2) exempts all glycol dehydration units from the control requirements, monitoring requirements, and recordkeeping and reporting requirements of the subpart if benzene emissions from the dehydration unit process vents are less than 0.90 Mg/yr (or 1.0 tpy). The dehydration units at the Copley Run Station each maintain controlled benzene emissions below this threshold, with total site-wide benzene emissions limited to 1.34 tpy in the current Title V permit. The referenced controls and associated benzene limit were in place and operational prior to the NESHAP Subpart HHH compliance date of June 17, 2002. In order to make the operation of the dehydration unit control equipment and associated emission limits clearly and practically enforceable on a going forward basis, Equitrans requests specific federally-enforceable requirements to operate and monitor the associated controls and maintain benzene emissions from each individual dehydration unit below the 0.90 Mg/yr (1.0 tpy) exemption threshold. This will ensure that the facility will have clear and enforceable requirements to maintain emissions below levels subject to the requirements of this NESHAP.

2.4.3 40 CFR 63 SUBPART ZZZZ – STATIONARY RECIPROCATING INTERNAL COMBUSTION ENGINES

This NESHAP applies to stationary reciprocating combustion engines (RICE) at facilities that are major sources. Currently, the Copley Run Station compresses natural gas by utilizing five existing two-stroke lean-burn engines. These existing engines are specifically exempted from the requirements of MACT Subpart ZZZZ (RICE MACT) in 40 CFR 63.6590(b)(3). Therefore, the Copley Run Station is not subject to the requirements of this subpart at this time.

2.4.4 40 CFR 63 SUBPART DDDDD – INDUSTRIAL, COMMERCIAL, AND INSTITUTIONAL BOILERS AND PROCESS HEATERS

This MACT standard applies to industrial, commercial, and institutional boilers and process heaters of various sizes and fuel types. The dehydration unit reboilers and the indirect heater associated with Dehy #2 meet the definition of affected units under this subpart. However, these sources are existing small units (less than 10 MMBtu/hr) that burn only gaseous fuel. As such, they are not subject to any requirements under this NESHAP. Units used for comfort heat or space heat, as well as hot water heaters, are specifically exempt from this subpart. Therefore, no sources at the Copley Run Station are subject to any requirements under 40 CFR 63 Subpart DDDDD.

2.5 COMPLIANCE ASSURANCE MONITORING

Under 40 CFR 64, the Compliance Assurance Monitoring (CAM) regulations, facilities are required to prepare and submit monitoring plans for certain emissions units with the initial or renewal Title V operating permit application. CAM Plans are intended to provide an on-going and reasonable

assurance of compliance with emission limits for sources that utilize active control devices where existing Title V permit requirements may not be considered sufficient.

Under the general applicability criteria, this regulation only applies to emission units that use a control device to achieve compliance with an emission limit and whose pre-controlled emission levels exceed the major source thresholds under the Title V operating permit program. Because CAM has not been triggered through prior permitting of the facility, CAM is subject for review during this Title V permit renewal. Accordingly, for a subject unit whose pre-controlled emissions are more than the corresponding Title V major source threshold and is not otherwise exempt, a CAM plan must be submitted with this renewal application.

Equitrans has included a detailed discussion of CAM applicability in Section 4.

2.6 RISK MANAGEMENT PLAN REGULATIONS

Subpart B of 40 CFR 68 outlines requirements for risk management prevention plans pursuant to Section 112(r) of the Clean Air Act. Applicability of the subpart is determined based on the type and quantity of chemicals stored at a facility. Equitrans has evaluated the amount of Section 112(r) substances stored at the Copley Run Station and have determined that there are no listed substances stored at quantities greater than the corresponding threshold.

2.7 STRATOSPHERIC OZONE PROTECTION REGULATIONS

The requirements originating from Title VI of the Clean Air Act, entitled *Protection of Stratospheric Ozone*, are contained in 40 CFR 82. Subparts A through E and Subparts G and H of 40 CFR Part 82 are not applicable to the Copley Run Station. 40 CFR 82 Subpart F, *Recycling and Emissions Reduction*, potentially applies if the facility operates, maintains, repairs, services, or disposes of appliances that utilize Class I or Class II ozone depleting substances. Subpart F generally requires persons completing the repairs, service, or disposal to be properly certified. Certified technicians complete all repairs, service, and disposal of ozone depleting substances from the refrigerant-containing equipment at the Copley Run Station.

2.8 WEST VIRGINIA SIP REGULATIONS

The Copley Run Station is currently permitted under the regulations contained in West Virginia's Title 45 Legislative Rule Department of Environmental Protection Office of Air Quality (WVDEP regulations). A federal operating permit must be issued by the agency upon determination that the facility can reasonably be expected to comply with the WVDEP regulations and all applicable federal requirements. This section of the application highlights specific West Virginia State Implementation Plan (SIP) regulations that apply to the Copley Run Station. The following information has been retrieved directly from the WDEP Fact Sheet (R30-04100009-1996) and verified through review of the associated regulations.

2.8.1 45 C.S.R. 2-3: PREVENT AND CONTROL PARTICULATE AIR POLLUTION FROM COMBUSTION OF FUEL IN INDIRECT HEAT EXCHANGERS (FOR G-001, G-002, 003-01, 003-02 AND DEHY INDIRECT HEATER)

According to regulations:

No person shall cause, suffer, allow or permit emission of smoke and/or particulate matter into the open air from any fuel burning unit which is greater than ten (10) percent opacity based on a six minute block average.

Compliance with this requirement shall be determined in keeping with 40 CFR Part 60, Appendix A, Method 9 or by using approved measurements from continuous opacity monitoring systems.

In addition:

No person shall cause, suffer, allow or permit the discharge of particulate matter into the open air from all fuel burning units located at one plant, measured in terms of pounds per hour in excess of the amount determined [according to fuel burning unit type].

As stated in the R30-04100009-1996 Fact Sheet, visible emissions are not expected since only natural gas is combusted in the applicable units, and emissions from sources that burn natural gas have low variability. Therefore, monthly visual emissions checks and recordkeeping will be adequate to demonstrate compliance. In addition, since the combustion units have maximum design heat inputs less than 10 MMBtu/hr, the units are exempted from the requirements of sections 3 through 8 as specified in Section 10.01 of the SIP version of 45 C.S.R. 2.

2.8.2 45 C.S.R. 6-4 TO PREVENT AND CONTROL AIR POLLUTION FROM COMBUSTION OF REFUSE (FOR DEHY FLARE)

According to regulations:

No person shall cause, suffer, allow or permit particulate matter to be discharged from any incinerator into the open air in excess of the quantity determined by use of the following formula:

$$\text{Emissions (lb/hr)} = F \times \text{Incinerator Capacity (tons/hr)}$$

Where, the factor, F, is as indicated below:

<u>Incinerator Capacity</u>	<u>Factor F</u>
A. Less than 15,000 lbs/hr	5.43
B. 15,000 lbs/hr or greater	2.72

The Dehy Flare is applicable to this regulation because of the use of a flare. However, as stated in the R30-04100009-1996 Fact Sheet, the Dehy Flare is exempted from 45 C.S.R. 6-4.2 because it is an industrial incinerator, which allows the Dehy Flare to operate in evening hours, and from section 4.7 because it does not incinerate hazardous materials. In addition, 45 C.S.R. 6-4.5 is not applicable because natural gas incinerators do not emit unburned particles or ash.

2.8.3 45 C.S.R. 6-4.1 AND 4.3: TO PREVENT AND CONTROL AIR POLLUTION FROM COMBUSTION OF REFUSE (FOR DEHY FLARE)

As stated in the R30-04100009-1996 Fact Sheet, calculations of particulate matter emissions using AP-42 factors for Natural Gas Combustion (Section 1.4-2) indicate that emissions from the flare are only a small fraction (<10%) of the mass limit established by 45 C.S.R. 6. As a result, visual emissions performance tests may be used to demonstrate compliance with 45 C.S.R. 6. requirements and shall be sufficient for compliance certification purposes.

2.8.4 45 C.S.R 10: PREVENT AND CONTROL AIR POLLUTION FROM THE EMISSION OF SULFUR OXIDES

According to regulations:

No person shall cause, suffer, allow or permit the discharge of sulfur dioxide into the open air from all stacks located at one plant, measured in terms of pounds per hour, in excess...of the product of 3.2 and the total design heat inputs for such units discharging through those stacks in million BTU's per hour.

As stated by the R30-04100009-1996 Fact Sheet, the combustion units utilized at the Copley Run Station have a maximum design heat input less than 10 MMBtu/hr and are thus exempted from the requirements of Sections 3 and 6 through 8 as specified in Section 10 of 45 C.S.R. 10. This means that the combustion units are exempt from the sulfur dioxide (SO₂) weight emission standards for fuel burning units and the associated permits and testing, monitoring, recordkeeping, and reporting requirements. Other emission units at the facility are not subject to 45 C.S.R. 10 Section 3 because they do not produce heat or power by indirect heat transfer and are not, by definition, “fuel burning units”.

2.8.5 45 C.S.R 10-4.1: PREVENT AND CONTROL AIR POLLUTION FROM THE EMISSION OF SULFUR OXIDES

As stated by the R30-04100009-1996 Fact Sheet, calculations of SO₂ emissions using the FERC limit for total sulfur of 20 grains/100 ft³ along with stoichiometric conversions from grains of total sulfur/100 ft³ in the fuel to dry standard cubic feet of SO₂ per MMBtu and equation 19-1 of EPA Method 19, indicate that emissions from the engines are only a small fraction (<5%) of the 2000 part per million by volume (ppmv) limit established by 45 C.S.R. 10.

$SO_2 = 1.4286 \times 10^{-4} S \times (385.1 \times 106/MW)$; where
 SO_2 = calculated parts per million by volume of SO_2 in the engine exhaust,
 S = sulfur content of the fuel in grains/ft³, and
 MW = molecular weight of $SO_2 = 64.06$

However, as shown below for a fuel sample with 20 grains S/100 scf, the terms on the right side of the equation calculate the parts per million of SO_2 in the fuel, not in the exhaust.

As written = $(0.2 \text{ grains S/ft}^3 \text{ fuel}) \times (1.4286 \times 10^{-4} \text{ lb S/1 grain S}) \times (385.1 \text{ ft}^3 \text{ SO}_2/\text{lb-mole SO}_2) \times (106 \text{ ppm}) / (64 \text{ lb S / lb-mole S}) = 172 \text{ ppm SO}_2$

The correct conversion from grains S/ft³ fuel to ppm SO_2 in exhaust is:

$\text{lb SO}_2/\text{MMBtu} = (0.2 \text{ grains S/ ft}^3 \text{ fuel}) \times (1 \text{ lb S / 7000 grains S}) \times (1 \text{ scf NG/1000 Btu}) \times (2 \text{ lb SO}_2 / 1 \text{ lb S}) \times (106 \text{ Btu/1MMBtu}) = 0.057 \text{ lb SO}_2/\text{MMBtu}$

$\text{dscf SO}_2/\text{MMBtu} = (0.057 \text{ lb-SO}_2/\text{MMBtu}) \times (1 \text{ lb-mole SO}_2/64 \text{ lb SO}_2) \times (385.1 \text{ ft}^3 \text{ SO}_2/ \text{lb-mole}) = 0.34$

$\text{dscf exhaust/MMBtu [EPA Method 19]} = 8710 \times (20.9 / 20.9-1.0) = 9148$, assuming 1% exhaust oxygen concentration for rich-burn engines

$\text{ppm SO}_2 = 0.34 \text{ dscf SO}_2/9148 \text{ dscf exhaust} \times 106 \text{ ppm} = 37 \text{ ppm SO}_2 \text{ in exhaust}$

$SO_2 \text{ in exhaust} = 37 \text{ ppm Reg 10 limit} = 2000 \text{ ppm}$

$SO_2 \text{ in exhaust/Reg 10 limit} = 37 \text{ ppm}/2000 \text{ ppm} = 1.85 \%$

2.8.6 45 C.S.R. 13: PERMITS FOR CONSTRUCTION, MODIFICATION, RELOCATION AND OPERATION OF STATIONARY SOURCES OF AIR POLLUTANTS, NOTIFICATION REQUIREMENTS, ADMINISTRATIVE UPDATES, TEMPORARY PERMITS, GENERAL PERMITS, AND PROCEDURES FOR EVALUATION

As stated by the regulation:

No person shall cause, suffer, allow or permit the construction, modification, or relocation of any stationary source to be commenced without notifying the Secretary of such intent and obtaining a permit to construct, modify, or relocate the stationary source as required in this rule or any other applicable rule promulgated by the Secretary.

As stated in the R30-04100009-1996 Fact Sheet, general requirements from this facility's Rule 13 permit(s) are reproduced under Rule 30 and are included in the Title V operating permit as Rule 30 General Requirements.

2.8.7 NON-APPLICABILITY OF OTHER SIP RULES

A thorough examination of the West Virginia SIP rule applicability to the Copley Run Station reveals many SIP regulations that do not apply or impose additional requirements on operations. Such SIP rules include those specific to a particular type of industrial operation that is categorically not applicable to the Copley Run Station.

3. REQUESTED PERMIT CHANGES

Equitrans requests that the following changes be incorporated into the Copley Run Station Title V permit. These proposed changes have also been requested in an application for modification to the existing Rule 13 Permit (R13-2397) for this facility, which is being submitted concurrently with this Title V renewal application and is attached as Appendix D. These changes are being requested in accordance with C.S.R. 45-30.12.7.

3.1 EMISSION LIMITATIONS

During a recent review of the current Title V permit for the Copley Run Station, some inaccuracies and omissions related to emissions were noted. The current Title V permit incorrectly limits SO₂, PM₁₀ and HAPS to zero (0) pounds per hour (lb/hour) and 0 tons per year (tpy) for Compressor Number 5 (C-005). The permit does not account for HAP emissions from the remaining engines. As such, Equitrans requests that emission limits for the Copley Run Station compressor engines be revised to more accurately reflect potential emissions as shown in the respective WVDAQ forms (See Appendix C, Attachment E for each engine).

In addition, Equitrans has recalculated potential emissions from each of the dehydration units based on 2006 extended gas analytical data. Equitrans requests that emission limits for the Copley Run Station dehydration units be revised accordingly to reflect potential emissions as shown in the respective WVDAQ forms (See Appendix C, Attachment E for each dehydration unit).

The emission limit changes proposed in this application are not the result of the installation of new equipment or modifications to existing equipment or the hours or methods of operation, but rather a paper change to more accurately reflect existing operations.

3.2 PERIODIC TESTING REQUIREMENTS

The current Title V permit requires Equitrans to perform and document periodic testing to demonstrate compliance with engine CO and NO_x emissions limits, as well as compliance with Dehy Flare SO₂ emission limits. Testing includes using a portable analyzer to measure engine exhaust for CO and NO_x on a quarterly basis, and includes sampling and analyzing inlet and outlet dehydration unit gas streams for sulfur utilizing gas chromatography (GC) on a monthly basis. These requirements correspond to Title V Permit Conditions III.C.5., and III.C.7. and III.C.8. respectively.

Equitrans has been performing the required periodic testing as outlined in the current permit. All results have confirmed that emissions are well below the corresponding CO, NO_x, and sulfur permit limits. Equitrans has committed significant time and cost to accomplish these frequent tests, which have confirmed that emissions are well below required levels. As such, Equitrans requests WVDEP consider reducing the testing frequency to an annual basis for both of these requirements based on the data that have already been collected during the term of the permit, as allowed by C.S.R. 45-30-5.1.c. and C.S.R. 45-13. Equitrans is confident that a reduced testing frequency will maintain compliance

assurance and demonstration of the protection of air quality, while reducing the time-consuming and costly burden to the facility.

3.3 NESHAP SUBPART HHH APPLICABILITY

The current Title V permit limits benzene emissions from the dehydration units to 0.31 lb/hour and 1.34 tpy collectively. In accordance with Equitrans' compliance with the benzene exemption level under 40 CFR 63 Subpart HHH, Equitrans requests that this limit be changed to reflect maximum benzene emissions from each dehydration unit to less than 1.0 tpy. This limit adjustment will ensure that the glycol dehydration units explicitly meet the benzene exemption under Subpart HHH MACT. Equitrans estimates the post-control benzene emissions from the Dehy #1 and Dehy #2 Units to be 0.0997 tpy and 0.01087 tpy respectively.

In order to resolve any future confusion or uncertainty regarding the federally enforceable operation of the flare and reboiler recirculation system associated with these dehydration units, Equitrans suggests the following language be incorporated into the Copley Run Station Title V permits:

" The Dehydration Unit #1 flare (Dehy Flare) and Dehydration Unit #2 reboiler exhaust gas recirculation system must be operated at all times when pollutant emissions may be vented to them. The flare shall be equipped with a thermocouple or equivalent method of monitoring the continuous ignition of a pilot flame. Visible emissions from the flare shall not exceed 5 minutes in any consecutive 2-hr period as demonstrated by EPA Method 22. The maximum tip velocity shall not exceed 400 feet/sec as measured by EPA Method 2, 2A, 2C, or 2D, or as demonstrated using other methods as approved by WVDEP. Compliance with these requirements and/or with specified emission limits for the flare shall be sufficient to demonstrate the practical and federally enforceable operation of the flare."

3.4 ADMINISTRATIVE CHANGES

The current Title V permit references Compressor Engine Number 6 (C-006) as an applicable emission point for permit conditions III.B.2.a.v and III.B.2.a.vi. Compressor Engine Number 6 (C-006) has been permanently removed from the Copley Run Station, and therefore Equitrans requests that all references to this emissions source be deleted from the Title V permit.

The following is a list of the specific sections of the current Title V permit for which Equitrans requests changes:

- Section I.B. Contact Information: Change Holly Hudson to Heather McBurney per WVDEP Forms (Appendix C, General Forms)
- Section III.B. Enforceability of Applicable Requirements: Revise table to reflect updated potential emissions per WVDEP Form
- Section III.B.1.b.i. Enforceable by DAQ Only: Remove reference to C-006
- Section III.B.2.a.v. Enforceable by DAQ and/or USEPA: Remove reference to C-006

- Section III.B.2.a.vi. Enforceable by DAQ and/or USEPA: Revise table to reflect updated potential emissions per WVDEP Forms (Appendix C, Attachment E)
- Section III.B.2.a.xi. Enforceable by DAQ and/or USEPA: Revise HAP emissions to reflect updated potential emissions per WVDEP Forms (Appendix C, Attachment E)
- Section III.C.5., 7., and 8. Specific Monitoring/Recordkeeping/Reporting Requirements: Reduce frequency or eliminate requirement for periodic testing per request in Section 3.2 of this application
- Section III.D.2.e. Permit Shield: Remove statement that the Copley Run Station is not a major source of HAP (potential formaldehyde emissions from engines exceed 10 tpy)
- Section III.E.2. Limits on Operation: Remove this provision as compressor engine CE-6 has been dismantled and rendered inoperable

4. COMPLIANCE ASSURANCE MONITORING APPLICABILITY

This section of the application provides a detailed discussion of CAM applicability for the Copley Run Station.

4.1 CAM RULE SUMMARY

CAM applies to any unit with pre-controlled emissions greater than the Title V major source threshold level that utilizes a control device to comply with a federally-enforceable requirement (e.g. emission limits). Its intent is "to provide reasonable assurance of compliance with applicable requirements under the Clean Air Act for emissions units that rely on pollution control devices to achieve compliance."² The CAM rule requires owners and operators to maintain their control devices at levels that assure compliance, to design CAM plans around current requirements and operating practices, and to select representative parameters upon which compliance can be assured. The CAM plan establishes indicator ranges or procedures for setting indicator ranges, uses performance testing and other information to verify parameters and ranges, and seeks to correct control device performance problems as expeditiously as possible.

CAM potentially applies to every pollutant-specific emissions unit (PSEU) that is located at a major source where a 40 CFR Part 70 or 71 permit is required. The PSEU must be subject to an emission limitation or standard and use a control device to achieve compliance with an emission limitation or standard. A PSEU that is applicable to CAM shall have pre-control potential emissions that are equal to or greater than 100 percent of the Title V major source threshold. Figure 1 represents the steps to assess CAM applicability.

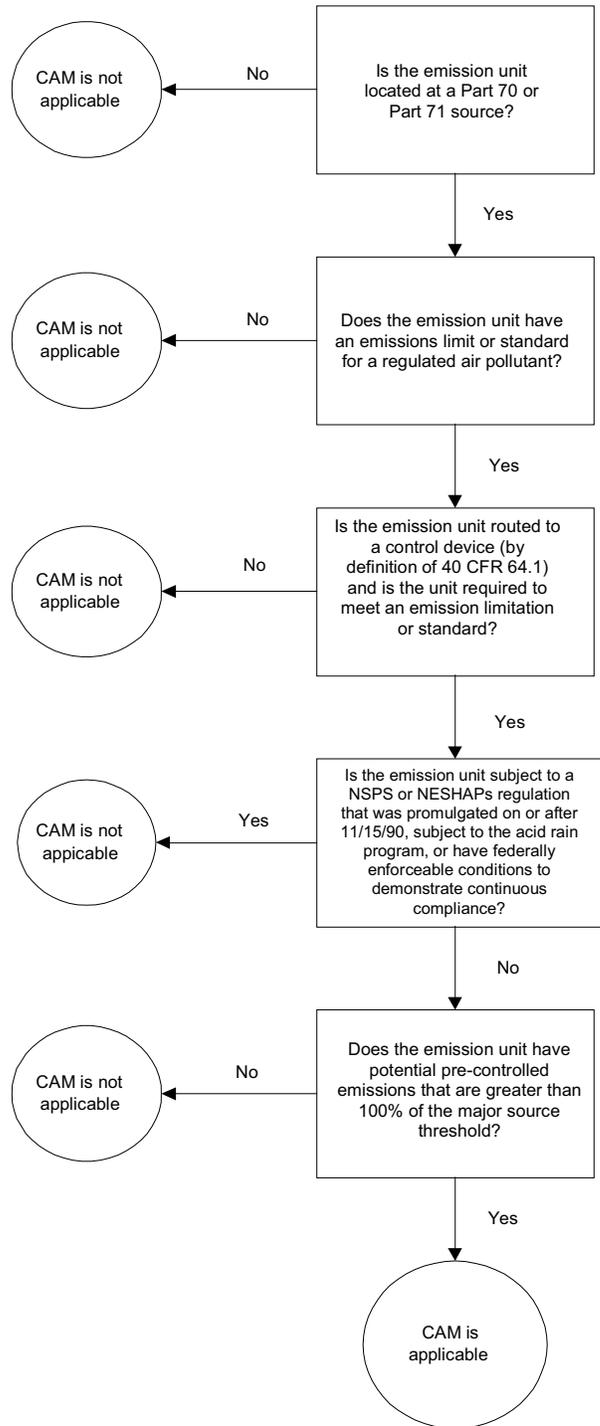
The CAM rule also contains several exemptions. Units that are subject to a NSPS or NESHAP regulation that was promulgated after November 15, 1990 are exempt from CAM. Units that have emissions limitations or standards for which a Title V permit specifies a continuous compliance determination method are also exempt. The two dehydration units at the Copley Run Station are not subject to CAM because they meet one or more of these exemptions.

In specifying submittal deadlines for PSEU CAM plans, the CAM rule distinguishes between large emissions units and other units applicable to CAM requirements. Large units are defined as those with *post-control* potential emissions that are greater than the Title V major source threshold. Small units are defined as those with *pre-control* potential emissions greater than the Title V major source threshold and post-control potential emissions less than the Title V major source threshold.

As detailed below, Equitrans has determined that there are no emission units subject to CAM requirements at the Copley Run station and seeks WVDEP concurrence through review of this application and subsequent issuance of a renewed Title V permit.

² CAM Technical Guidance Document, Working Draft - 10/24/97

FIGURE 1. CAM APPLICABILITY FLOWCHART



4.2 CAM APPLICABILITY

This section provides the CAM applicability assessment specific to the Copley Run Station dehydration units. There are only two emission units that warrant discussion with respect to potential CAM applicability; Dehy #1 and Dehy #2. All other emission units at this facility are clearly not subject to CAM requirements because they do not have control devices associated with their operation.

4.2.1 DEHY #1

In assessing CAM applicability, Dehy #1 has federally-enforceable emission limits associated with its operation. CAM applies to units that use control devices in order to comply with applicable standards for a regulated pollutant under Title V. Since the flare associated with Dehy #1 meets the definition of a control device per 40 CFR 64.1, this unit is potentially CAM applicable. The last variable to assess is whether the emission unit has potential pre-controlled emissions that are greater than the Title V major source threshold. Potential pre-controlled emissions from Dehy #1 do exceed major source thresholds.

These conditions would ordinarily indicate that this unit is subject to CAM requirements. However, Dehy #1 is subject to NESHAP Subpart HHH regulations, which specifically exempts this unit from CAM according to 40 CFR 64.2(b)(1)(i). In addition, this renewal application is requesting the inclusion of requirements for continuous compliance demonstration methods for the Dehy #1 Flare to ensure the federally-enforceable operation of this control device in compliance with NESHAP Subpart HHH requirements as discussed in Section 3.3 above. CAM specifically exempts units that have emissions limitations or standards for which a Title V permit specifies a continuous compliance determination method in 40 CFR 64.2(b)(1)(i). As such, there are no emission limitations or standards for which CAM would apply to Dehy #1 at Copley Run Station. Therefore, CAM is not applicable to this emission unit and no CAM plan is required.

4.2.2 DEHY #2

In assessing CAM applicability, Dehy #2 has federally-enforceable emission limits associated with its operation. However, CAM only applies to units that use control devices in order to comply with applicable standards for a regulated pollutant under Title V. Dehy #2 is configured such that exhaust gases from the reboiler are reintroduced into the reboiler system for the primary purpose of providing fuel for the reboiler, with a secondary benefit being the coincidental combustion and destruction of VOC/HAP. The reboiler exhaust gas recirculation system is operated such that the vapor must be routed to the reboiler, and is not equipped with any bypass vents. As such, the reboiler operation associated with Dehy #2 meets the definition of inherent process equipment per 40 CFR 64.1, and is therefore not considered a control device under CAM.³ In addition, like Dehy #1 discussed above,

³ CAM definition of *control device* includes, “If an applicable requirement establishes that particular equipment which otherwise meets this definition of a control device does not constitute a control device as applied to a particular pollutant-specific emissions unit, then that definition shall be binding for the purposes of this subpart.” Accordingly, 40 CFR 63.1271 definition of *control device* states “For the purposes of this subpart, if gas or vapor from regulated equipment is used, reused (i.e., injected into the flame zone of an enclosed combustion device), returned back to the process, or sold, then the recovery system used, including piping, connections, and flow inducing devices, is not considered to be a control device or a closed-vent system.”

Dehy #2 is subject to NESHAP Subpart HHH regulations, which specifically exempts this unit from CAM according to 40 CFR 64.2(b)(1)(i). Therefore, Dehy #2 is not subject to CAM and no CAM plan is required to be submitted for this emission unit.

5. SAMPLE EMISSION SOURCE CALCULATIONS

This section of the application provides a discussion of emission calculation methodology used for the emission sources at the Copley Run Station.

5.1 DEHYDRATION UNITS

Emissions from the two Copley Run Station dehydration units were determined using GRI-GLYCalc Version 4.0 software. Potential pre-control and post-control emissions were estimated based on 2006 extended gas analysis data. The flare associated with Dehy #1 was estimated to have a VOC/HAP control efficiency of 98%, and the reboiler exhaust recirculation system associated with Dehy #2 was estimated to have a VOC/HAP control efficiency of 95%.

5.2 COMBUSTION SOURCES

For the combustion sources (compressors, generators, hot water heater, heating boiler, dehydration unit reboilers, and the indirect heater) appropriate AP-42 emission factors were chosen and were then multiplied by heat input (MMBtu/hr) in order to determine the tpy and lb/hr emissions of CO, PM, PM₁₀, NO_x, SO₂, VOC, and HAPs.

As an example, PM₁₀ emissions for Compressor Number 5:

Fuel Usage = 9.18 Mscf/hr

Fuel Heating Value = 1080 Btu/scf

Permitted Hours per year = 7709 hours

Heat Input = Fuel Usage * Fuel Heating Value * 1000 Mscf / 1000000 MMBtu = 9.914 MMBtu/hr

AP-42 Table 3.2-1 Uncontrolled Emission Factor for 2-stroke Lean-Burn Engines for PM₁₀ (filterable plus condensable) = 0.04831 lb/MMBtu

Emissions = Heat Input * Emission Factor * Permitted Hours * 1 ton/2000 lbs = 1.846 tpy

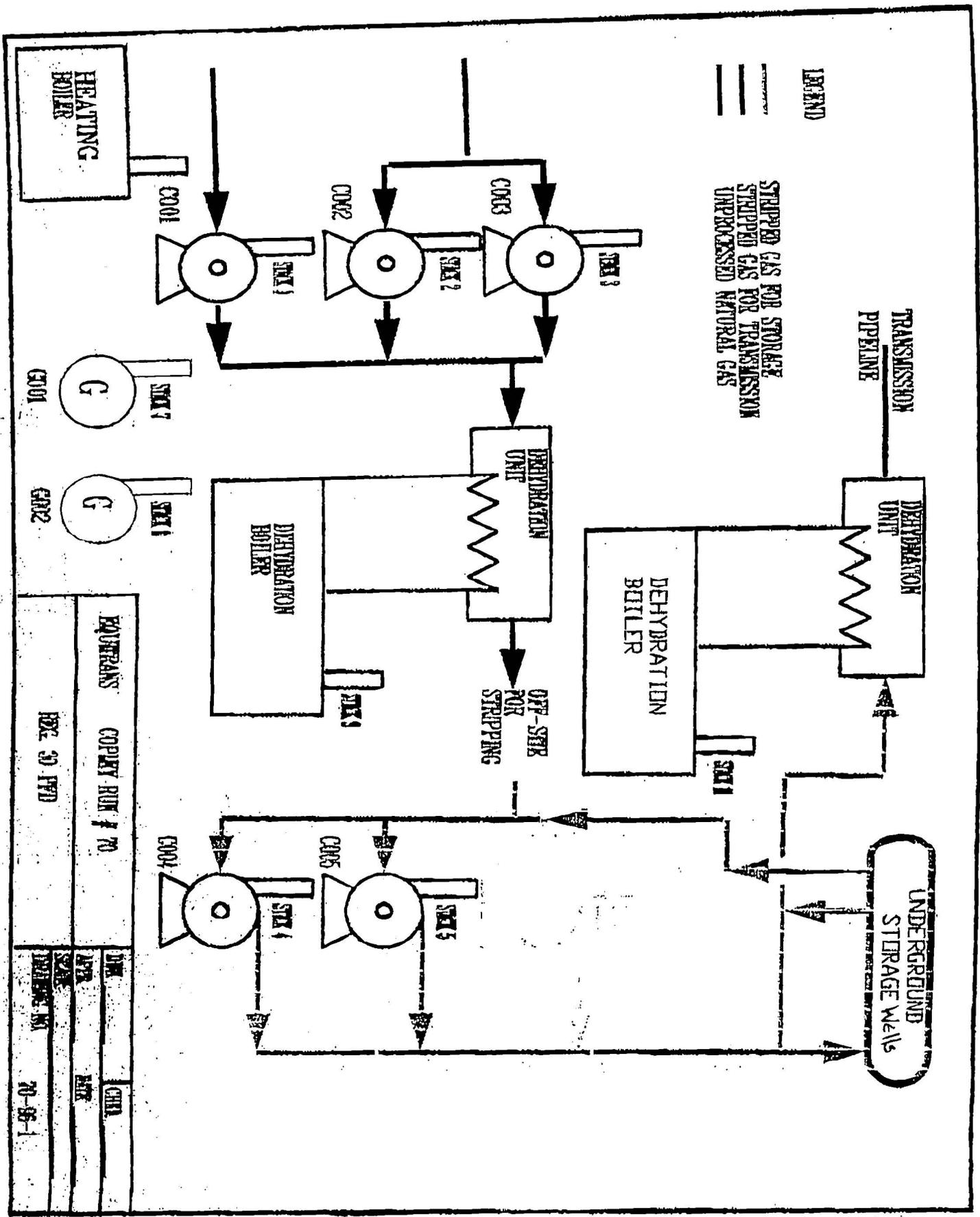
5.3 STORAGE TANKS

Emissions from the six storage tanks at the Copley Run Station were estimated using EPA's TANKS4.09 software, along with physical parameters of the storage tanks, and physical properties, storage temperatures, and throughput volumes of the materials stored in each tank.

6. WVDEP APPLICATION FORMS

The WVDEP permit application forms contained in this renewal application include facility-wide and emission source specific forms for the renewal of the Copley Run Station Title V permit, as well as the modification of the existing Rule 13 permit, which is being submitted concurrently. The completed Title V permit forms are included in Appendix C. The completed Rule 13 permit forms are included in Appendix D.

APPENDIX A – PROCESS FLOW DIAGRAMS



EQUIPMENTS COPY RUN # 70
 PAGE 30 FROM

DATE	BY	CHKD
APR 2006	MM	MM
DATE	BY	CHKD
70-05-1		

APPENDIX B – ROBERT KEATLEY MEMO



west virginia department of environmental protection

Division of Air Quality
601 57th Street SE
Charleston, WV 25304
Phone: (304) 926-0475
Fax: (304) 926-0479

Joe Manchin III, Governor
Stephanie R. Timmermeyer, Cabinet Secretary
www.wvdep.org

MEMORANDUM

To: John Centofanti
From: Robert Keatley
Date: September 13, 2006
Subject: Copley Run MACT Applicability

This memo is in regard to the Subpart HHH MACT applicability determination for this transmission and storage facility. The facility is a major source of HAPs, but does appear to meet the 1 ton of benzene exemption criteria for each dehydration unit for Subpart HHH MACT. I recommend the facility update their Rule 13 and Title V permits to place practically enforceable requirements on the flare (design evaluation criteria) and to reflect the 1 ton of benzene exemption for each dehydration unit. Also, to quantify their formaldehyde emissions from the compressor engines, because the emissions from the compressor engines are major for HAPs (over 10 tons of formaldehyde).

The facility has two glycol dehydration units that were after-the-fact permitted in January 29, 2002 R13-2397, which is before the June of 2002 compliance deadline in the MACT. The R13-2397 permit limits the HAP emissions from the glycol dehydration units below major source thresholds, but does not specify practically enforceable requirements for the flare and possibly the reboiler system. The facility has one TEG glycol dehydration unit for the storage part of the facility and one for the transmission part of the facility. The storage dehydration unit (ID 004-01) has a flare as the control device with 98 % efficiency. The facility estimates their benzene emissions at 0.0997 tpy with control for storage unit, which is under the exemption of 1 ton of benzene for the MACT. The transmission dehydration unit (ID 004-02) has a system where the HAP vapors from the reboiler are reintroduced in the reboiler system and combusted. The facility estimates the efficiency of this system at 95% with emissions of 0.01087 tpy of benzene.

Permit R13-2397 limits the entire facility's benzene emissions to 1.34 tpy, but does not limit each dehydration system. Also, permit R13-2397 limits the facility to zero formaldehyde emissions, but the facility's compressor engines have a potential-to-emit more than 10 tpy of formaldehyde. The DAQ's Title V permit and Fact Sheet state the facility is not major source of HAPs for Subpart HH or Subpart HHH, which is incorrect. The facility is a major source of HAPs for Subpart HHH, but does appear to qualify for the 1 ton of benzene exemption.

APPENDIX C – WVDEP TITLE V PERMIT RENEWAL FORMS



WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION

DIVISION OF AIR QUALITY

601 57th Street SE
Charleston, WV 25304
Phone: (304) 926-0475

www.wvdep.org/daq

TITLE V PERMIT APPLICATION - GENERAL FORMS

Section 1: General Information

Form with 10 numbered sections: 1. Name of Applicant (Equitrans, Inc.), 2. Facility Name (Copley Run Compressor Station #70), 3. DAQ Plant ID No. (041-00009), 4. Federal Employer ID No. (556000769W), 5. Permit Application Type (Renewal), 6. Type of Business Entity (Corporation), 7. Is the Applicant the: (Both), 8. Number of onsite employees (6), 9. Governmental Code (Privately owned and operated; 0), 10. Business Confidentiality Claims (No).

11. Mailing Address		
Street or P.O. Box: Route 4, Box 640		
City: Weston	State: WV	Zip: 26452
Telephone Number: (304) 269-6429	Fax Number:	

12. Facility Location		
Street: Route 4, Box 640	City: Weston	County: Lewis
UTM Easting: 541.30 km	UTM Northing: 4,314.80 km	Zone: <input checked="" type="checkbox"/> 17 or <input type="checkbox"/> 18
Directions: Exit Interstate 79 at the Roanoke Exit (number 91). Proceed towards Weston for approximately one (1) mile then take a left onto Copley Road (Route 17). The Copley Run Station is located approximately ½ mile up on the left.		
Portable Source? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
Is facility located within a nonattainment area? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes, for what air pollutants?	
Is facility located within 50 miles of another state? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes, name the affected state(s).	
Is facility located within 100 km of a Class I Area¹? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If no, do emissions impact a Class I Area¹? <input type="checkbox"/> Yes <input type="checkbox"/> No	If yes, name the area(s). Otter Creek Wilderness Area Dolly Sods	
¹ Class I areas include Dolly Sods and Otter Creek Wilderness Areas in West Virginia, and Shenandoah National Park and James River Face Wilderness Area in Virginia.		

13. Contact Information		
Responsible Official: Mr. Edward M. Nolan		Title:
Street or P.O. Box: Route 4, Box 640		
City: Weston	State: WV	Zip: 26452
Telephone Number: (412)395-3226	Fax Number: (412) 395-3311	
E-mail address:		
Environmental Contact: Ms. Heather McBurney		Title: Environmental Coordinator
Street or P.O. Box: Route 4, Box 640		
City: Weston	State: WV	Zip: 26452
Telephone Number: (412) 395-3305	Fax Number: (412) 395-3311	
E-mail address: HMcBurney@eqt.com		
Application Preparer: Ms. Christi Wilson		Title: Senior Consultant
Company: Trinity Consultants		
Street or P.O. Box: 151 Peters Lane		
City: Cabot	State: PA	Zip: 16023
Telephone Number: (724)360 -8148	Fax Number:	
E-mail address: cwilson@trinityconsultants.com		

14. Facility Description

List all processes, products, NAICS and SIC codes for normal operation, in order of priority. Also list any process, products, NAICS and SIC codes associated with any alternative operating scenarios if different from those listed for normal operation.

Process	Products	NAICS	SIC
Natural Gas Transmission Facility	Natural gas storage and transmission	48621	4922

Provide a general description of operations.

The Copley Run Compressor Station #70 is a natural gas transmission facility covered under Standard Industrial Classification (SIC) Code 4922. The station has the potential to operate twenty-four (24) hours per day, seven (7) days per week. This station consists of three (3) 1350 hp compressor engines, one (1) 2250 hp compressor engine, one (1) 1800 hp compressor engine, two (2) 2.2 MMBtu/hr natural gas fired electric generators, two (2) triethylene glycol dehydration units, one (1) flare and six (6) tanks of various sizes.

15. Provide an **Area Map** showing plant location as **ATTACHMENT A**.

16. Provide a **Plot Plan(s)**, e.g. scaled map(s) and/or sketch(es) showing the location of the property on which the stationary source(s) is located as **ATTACHMENT B**. For instructions, refer to "Plot Plan - Guidelines."

17. Provide a detailed **Process Flow Diagram(s)** showing each process or emissions unit as **ATTACHMENT C**. Process Flow Diagrams should show all emission units, control equipment, emission points, and their relationships.

Section 2: Applicable Requirements

18. Applicable Requirements Summary	
Instructions: Mark all applicable requirements.	
<input checked="" type="checkbox"/> SIP	<input type="checkbox"/> FIP
<input checked="" type="checkbox"/> Minor source NSR (45CSR13)	<input type="checkbox"/> PSD (45CSR14)
<input checked="" type="checkbox"/> NESHAP (45CSR15)	<input type="checkbox"/> Nonattainment NSR (45CSR19)
<input type="checkbox"/> Section 111 NSPS	<input type="checkbox"/> Section 112(d) MACT standards
<input type="checkbox"/> Section 112(g) Case-by-case MACT	<input type="checkbox"/> 112(r) RMP
<input type="checkbox"/> Section 112(i) Early reduction of HAP	<input type="checkbox"/> Consumer/commercial prod. reqts., section 183(e)
<input type="checkbox"/> Section 129 Standards/Reqts.	<input type="checkbox"/> Stratospheric ozone (Title VI)
<input type="checkbox"/> Tank vessel reqt., section 183(f)	<input type="checkbox"/> Emissions cap 45CSR§30-2.6.1
<input type="checkbox"/> NAAQS, increments or visibility (temp. sources)	<input type="checkbox"/> 45CSR27 State enforceable only rule
<input type="checkbox"/> 45CSR4 State enforceable only rule	<input type="checkbox"/> Acid Rain (Title IV, 45CSR33)
<input type="checkbox"/> Emissions Trading and Banking (45CSR28)	<input type="checkbox"/> Compliance Assurance Monitoring (40CFR64)
<input type="checkbox"/> NO _x Budget Trading Program Non-EGUs (45CSR1)	<input type="checkbox"/> NO _x Budget Trading Program EGUs (45CSR26)

19. Non Applicability Determinations
<p>List all requirements which the source has determined not applicable and for which a permit shield is requested. The listing shall also include the rule citation and the reason why the shield applies.</p> <p>40 CFR part 60 Subpart Dc: The boilers at Copley Run station are below 10 mmBtu/hr.</p> <p>40 CFR part 60 Subpart GG: There are no turbines at Copley Run station.</p> <p>40 CFR part 60 Subparts K, Ka: All tanks at Copley Run station are less than 40,000 gallons in capacity.</p> <p>40 CFR part 60 Subpart KKK: Copley Run station is not engaged in the extraction of natural gas liquids from field gas or in the fractionation of mixed natural gas liquids to natural gas products.</p> <p>40 CFR part 60 Subpart LLL: There are no sweetening units at Copley Run station.</p> <p>40 CFR part 63 Subpart HH, HHH: Copley Run station is a major source of HAPS, but qualifies for the 1 ton of benzene exemption for each dehydration unit.</p> <p>45 C.S.R. 21: The Copley Run Compressor Station is not located in Cabell, Kanawha, Putnam, Wayne, nor Wood counties.</p> <p>45 CSR 27: Natural gas is included as a petroleum product and contains less than 5% benzene by weight. C.S.R. § 45-27-2.4 exempts equipment “used in the production and distribution of petroleum products providing that such equipment does not produce or contact materials containing more than 5% benzene by weight.”</p>
<input type="checkbox"/> Permit Shield

20. Facility-Wide Applicable Requirements

List all facility-wide applicable requirements. For each applicable requirement, include the rule citation and/or permit with the condition number.

C.S.R. §45-6-3.1 R30-04100009-2002 Permit condition: III.B.1.a.i

C.S.R. §45-6-3.2 R30-04100009-2002 Permit condition: III.B.1.a.ii

40 C.F.R. §§61.145, 61.148, and 61.150. R30-04100009-2002 Permit condition: III.B.1.a.iii

C.S.R. §45-30-4.3.h.1.B R30-04100009-2002 Permit condition: III.B.1.a.iv

WV Code §22-5-4(a)(15) R30-04100009-2002 Permit condition: III.B.1.a.v

C.S.R. §45-4-3.1 R30-04100009-2002 Permit condition: III.B.1.b.i (Note: C-001 thru C-005 exempt)

C.S.R. §45-13-10.5 R30-04100009-2002 Permit condition: III.B.1.b.ii

C.S.R. §45-11-5.2 R30-04100009-2002 Permit condition: III.B.2.a.i

WV Code §22-5-4(a)(14) R30-04100009-2002 Permit condition: III.B.2.a.ii

C.S.R. §45-2-3.1 R30-04100009-2002 Permit condition: III.B.2.a.iii. (for emission points G-001, G-002, 003-01, 003-02 & Dehy (indirect heater) only)

C.S.R. §45-10-4.1 R30-04100009-2002 Permit Condition: III.B.2.a.iv. (for C-001, C-002, C-003, C-004, C-005, C-006 only)

C.S.R §45-30-12.7: Adjust Permit Condition III.B.2.a.iv. to remove mention of C-006

C.S.R. §45-10-5.1 R30-04100009-2002 Permit Condition: III.B.2.a.v. (for C-001, C-002, C-003, C-004, C-005, C-006 only)

C.S.R §45-30-12.7: Adjust Permit Condition III.B.2.a.v. to remove mention of C-006

C.S.R. §45-13 (Permit R13-2397) R30-04100009-2002 Permit Condition: III.B.2.a.vi. (for C-005, Equipment ID number CE-5 in Permit R13-2397, only)

C.S.R §45-30-12.7: Adjust Permit Condition III.B.2.a.vi. to replace SO₂, PM₁₀, and HAPs emission limits as follows: SO₂ = 0.006 lb/yr, 0.022 tpy; PM₁₀ = 0.479 lb/yr, 1.846 tpy; HAPs = 0.789 lbs/hr, 3.04 tpy and set applicable for all compressors. In addition, remove compliance demonstration condition number III.C.5.

C.S.R. §45-13 (Permit R13-2397) R30-04100009-2002 Permit Condition: III.B.2.a.vii. (for C-005, Equipment ID number CE-5 in Permit R13-2397, only)

C.S.R. §45-6-4.1. R30-04100009-2002 Permit Condition: III.B.2.a.viii. (for Dehy Flare, Equipment ID number 004-01 in Permit R13-2397, only)

C.S.R. §45-6-4.3. R30-04100009-2002 Permit Condition: III.B.2.a.ix. (for Dehy Flare, Equipment ID number 004-01 in Permit R13-2397, only)

C.S.R. §45-6-4.6. R30-04100009-2002 Permit Condition: III.B.2.a.x. (for Dehy Flare, Equipment ID number 004-01 in Permit R13-2397, only)

Permit Shield

20. Facility-Wide Applicable Requirements(Continued) - Attach additional pages as necessary.

List all facility-wide applicable requirements. For each applicable requirement, include the rule citation and/or permit with the condition number.

C.S.R. §45-10-4.1. R30-04100009-2002 Permit Condition: III.B.2.a.iv. (for Dehy Flare, Equipment ID number 004-01 in Permit R13-2397, only)

C.S.R. §45-30-12.7: Adjust Permit Condition III.B.2.a.iv. to remove compliance demonstration condition number III.C.7.

C.S.R. §45-10-5.1. R30-04100009-2002 Permit Condition: III.B.2.a.v. (for Dehy Flare, Equipment ID number 004-01 in Permit R13-2397, only)

C.S.R. §45-13 (Permit R13-2397). R30-04100009-2002 Permit Condition: III.B.2.a.vi. (for Dehy Flare, Equipment ID number 004-01 in Permit R13-2397, only)

C.S.R. §45-13 (Permit R13-2397). R30-04100009-2002 Permit Condition: III.B.2.a.vi. (for Dehy, Equipment ID number 004-02 in Permit R13-2397, only)

C.S.R. §45-13 (Permit R13-2397). R30-04100009-2002 Permit Condition: III.B.2.a.xi. (for Dehy Flare and Dehy, Equipment ID number 004-01 and 004-02 in Permit R13-2397, only)

C.S.R. §45-30-12.7: Adjust Permit Condition III.B.2.a.xi. to replace Benzene emission limit to <1 tpy and set applicable for both dehydration units. Also adjust language to read “The facility shall emit the following HAPs in the associated amounts:”

C.S.R. §45-13 (Permit R13-2397). R30-04100009-2002 Permit Condition: III.B.2.a.vi. (for Dehy Flare, Dehy, and C-005 - Equipment ID number 004-01, 004-02 and CE-5 in Permit R13-2397, only)

C.F.R. §40-60.116b(a) and (b). R30-04100009-2002 Permit condition: III.B.2.a.xii (for Copley 2 only)

Permit Shield

For all facility-wide applicable requirements listed above, provide monitoring/testing / recordkeeping / reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number and/or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

See attached sheet: "Specific Monitoring, Testing, Recordkeeping, Reporting Methods"

Are you in compliance with all facility-wide applicable requirements? Yes No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

Permit Shield

Section 3: Facility-Wide Emissions

23. Facility-Wide Emissions Summary [Tons per Year]	
Criteria Pollutants	Potential Emissions
Carbon Monoxide (CO)	171.78
Nitrogen Oxides (NO _x)	832.54
Lead (Pb)	N/A
Particulate Matter (PM ₁₀) ¹	12.63
Total Particulate Matter (TSP)	12.65
Sulfur Dioxide (SO ₂)	0.167
Volatile Organic Compounds (VOC)	37.05
Hazardous Air Pollutants ²	Potential Emissions
See attached Tables G-1 and G-2	
Regulated Pollutants other than Criteria and HAP	Potential Emissions
See attached Tables G-1 and G-2	
¹ PM ₁₀ is a component of TSP. ² For HAPs that are also considered PM or VOCs, emissions should be included in both the HAPs section and the Criteria Pollutants section.	

Section 4: Insignificant Activities

24. Insignificant Activities (Check all that apply)	
<input checked="" type="checkbox"/>	1. Air compressors and pneumatically operated equipment, including hand tools.
<input type="checkbox"/>	2. Air contaminant detectors or recorders, combustion controllers or shutoffs.
<input checked="" type="checkbox"/>	3. Any consumer product used in the same manner as in normal consumer use, provided the use results in a duration and frequency of exposure which are not greater than those experienced by consumer, and which may include, but not be limited to, personal use items; janitorial cleaning supplies, office supplies and supplies to maintain copying equipment.
<input checked="" type="checkbox"/>	4. Bathroom/toilet vent emissions.
<input checked="" type="checkbox"/>	5. Batteries and battery charging stations, except at battery manufacturing plants.
<input type="checkbox"/>	6. Bench-scale laboratory equipment used for physical or chemical analysis, but not lab fume hoods or vents. Many lab fume hoods or vents might qualify for treatment as insignificant (depending on the applicable SIP) or be grouped together for purposes of description.
<input type="checkbox"/>	7. Blacksmith forges.
<input checked="" type="checkbox"/>	8. Boiler water treatment operations, not including cooling towers.
<input checked="" type="checkbox"/>	9. Brazing, soldering or welding equipment used as an auxiliary to the principal equipment at the source.
<input type="checkbox"/>	10. CO ₂ lasers, used only on metals and other materials which do not emit HAP in the process.
<input checked="" type="checkbox"/>	11. Combustion emissions from propulsion of mobile sources, except for vessel emissions from Outer Continental Shelf sources.
<input checked="" type="checkbox"/>	12. Combustion units designed and used exclusively for comfort heating that use liquid petroleum gas or natural gas as fuel.
<input checked="" type="checkbox"/>	13. Comfort air conditioning or ventilation systems not used to remove air contaminants generated by or released from specific units of equipment.
<input type="checkbox"/>	14. Demineralized water tanks and demineralizer vents.
<input type="checkbox"/>	15. Drop hammers or hydraulic presses for forging or metalworking.
<input type="checkbox"/>	16. Electric or steam-heated drying ovens and autoclaves, but not the emissions from the articles or substances being processed in the ovens or autoclaves or the boilers delivering the steam.
<input type="checkbox"/>	17. Emergency (backup) electrical generators at residential locations.
<input type="checkbox"/>	18. Emergency road flares.
<input checked="" type="checkbox"/>	<p>19. Emission units which do not have any applicable requirements and which emit criteria pollutants (CO, NO_x, SO₂, VOC and PM) into the atmosphere at a rate of less than 1 pound per hour and less than 10,000 pounds per year aggregate total for each criteria pollutant from all emission units.</p> <p>Please specify all emission units for which this exemption applies along with the quantity of criteria pollutants emitted on an hourly and annual basis:</p> <p><u>1 4000 gallon Triethylene Glycol tank</u></p> <p><u>1 2000 gallon crude oil tank</u></p> <p><u>1 2000 methanol tank</u></p> <p><u>1 7500 new oil tank</u></p> <p><u>1 3000 Ambitrol tank</u></p> <p><u>VOC emissions from 1 maintenance degreaser/cold cleaner</u></p> <p><u>VOC emissions from leaking valves, compressors, and connectors</u></p>

24. Insignificant Activities (Check all that apply)	
<input type="checkbox"/>	20. Emission units which do not have any applicable requirements and which emit hazardous air pollutants into the atmosphere at a rate of less than 0.1 pounds per hour and less than 1,000 pounds per year aggregate total for all HAPs from all emission sources. This limitation cannot be used for any source which emits dioxin/furans nor for toxic air pollutants as per 45CSR27. Please specify all emission units for which this exemption applies along with the quantity of hazardous air pollutants emitted on an hourly and annual basis:
<input type="checkbox"/>	21. Environmental chambers not using hazardous air pollutant (HAP) gases.
<input type="checkbox"/>	22. Equipment on the premises of industrial and manufacturing operations used solely for the purpose of preparing food for human consumption.
<input type="checkbox"/>	23. Equipment used exclusively to slaughter animals, but not including other equipment at slaughterhouses, such as rendering cookers, boilers, heating plants, incinerators, and electrical power generating equipment.
<input checked="" type="checkbox"/>	24. Equipment used for quality control/assurance or inspection purposes, including sampling equipment used to withdraw materials for analysis.
<input checked="" type="checkbox"/>	25. Equipment used for surface coating, painting, dipping or spray operations, except those that will emit VOC or HAP.
<input checked="" type="checkbox"/>	26. Fire suppression systems.
<input type="checkbox"/>	27. Firefighting equipment and the equipment used to train firefighters.
<input type="checkbox"/>	28. Flares used solely to indicate danger to the public.
<input checked="" type="checkbox"/>	29. Fugitive emission related to movement of passenger vehicle provided the emissions are not counted for applicability purposes and any required fugitive dust control plan or its equivalent is submitted.
<input type="checkbox"/>	30. Hand-held applicator equipment for hot melt adhesives with no VOC in the adhesive formulation.
<input checked="" type="checkbox"/>	31. Hand-held equipment for buffing, polishing, cutting, drilling, sawing, grinding, turning or machining wood, metal or plastic.
<input type="checkbox"/>	32. Humidity chambers.
<input type="checkbox"/>	33. Hydraulic and hydrostatic testing equipment.
<input type="checkbox"/>	34. Indoor or outdoor kerosene heaters.
<input checked="" type="checkbox"/>	35. Internal combustion engines used for landscaping purposes.
<input type="checkbox"/>	36. Laser trimmers using dust collection to prevent fugitive emissions.
<input type="checkbox"/>	37. Laundry activities, except for dry-cleaning and steam boilers.
<input checked="" type="checkbox"/>	38. Natural gas pressure regulator vents, excluding venting at oil and gas production facilities.
<input type="checkbox"/>	39. Oxygen scavenging (de-aeration) of water.
<input type="checkbox"/>	40. Ozone generators.
<input checked="" type="checkbox"/>	41. Plant maintenance and upkeep activities (e.g., grounds-keeping, general repairs, cleaning, painting, welding, plumbing, re-tarring roofs, installing insulation, and paving parking lots) provided these activities are not conducted as part of a manufacturing process, are not related to the source's primary business activity, and not otherwise triggering a permit modification. (Cleaning and painting activities qualify if they are not subject to VOC or HAP control requirements. Asphalt batch plant

24. Insignificant Activities (Check all that apply)	
	owners/operators must still get a permit if otherwise requested.)
<input checked="" type="checkbox"/>	42. Portable electrical generators that can be moved by hand from one location to another. "Moved by Hand" means that it can be moved without the assistance of any motorized or non-motorized vehicle, conveyance, or device.
<input checked="" type="checkbox"/>	43. Process water filtration systems and demineralizers.
<input type="checkbox"/>	44. Repair or maintenance shop activities not related to the source's primary business activity, not including emissions from surface coating or de-greasing (solvent metal cleaning) activities, and not otherwise triggering a permit modification.
<input checked="" type="checkbox"/>	45. Repairs or maintenance where no structural repairs are made and where no new air pollutant emitting facilities are installed or modified.
<input type="checkbox"/>	46. Routing calibration and maintenance of laboratory equipment or other analytical instruments.
<input type="checkbox"/>	47. Salt baths using nonvolatile salts that do not result in emissions of any regulated air pollutants. Shock chambers.
<input type="checkbox"/>	48. Shock chambers.
<input type="checkbox"/>	49. Solar simulators.
<input type="checkbox"/>	50. Space heaters operating by direct heat transfer.
<input type="checkbox"/>	51. Steam cleaning operations.
<input type="checkbox"/>	52. Steam leaks.
<input type="checkbox"/>	53. Steam sterilizers.
<input type="checkbox"/>	54. Steam vents and safety relief valves.
<input type="checkbox"/>	55. Storage tanks, reservoirs, and pumping and handling equipment of any size containing soaps, vegetable oil, grease, animal fat, and nonvolatile aqueous salt solutions, provided appropriate lids and covers are utilized.
<input checked="" type="checkbox"/>	56. Storage tanks, vessels, and containers holding or storing liquid substances that will not emit any VOC or HAP. Exemptions for storage tanks containing petroleum liquids or other volatile organic liquids should be based on size limits such as storage tank capacity and vapor pressure of liquids stored and are not appropriate for this list.
<input type="checkbox"/>	57. Such other sources or activities as the Director may determine.
<input type="checkbox"/>	58. Tobacco smoking rooms and areas.
<input checked="" type="checkbox"/>	59. Vents from continuous emissions monitors and other analyzers.

Section 5: Emission Units, Control Devices, and Emission Points

25. Equipment Table
Fill out the Title V Equipment Table and provide it as ATTACHMENT D .
26. Emission Units
For each emission unit listed in the Title V Equipment Table , fill out and provide an Emission Unit Form as ATTACHMENT E .
For each emission unit not in compliance with an applicable requirement, fill out a Schedule of Compliance Form as ATTACHMENT F .
27. Control Devices
For each control device listed in the Title V Equipment Table , fill out and provide an Air Pollution Control Device Form as ATTACHMENT G .
For any control device that is required on an emission unit in order to meet a standard or limitation for which the potential pre-control device emissions of an applicable regulated air pollutant is greater than or equal to the Title V Major Source Threshold Level, refer to the Compliance Assurance Monitoring (CAM) Form(s) for CAM applicability. Fill out and provide these forms, if applicable, for each Pollutant Specific Emission Unit (PSEU) as ATTACHMENT H .

Section 6: Certification of Information

28. Certification of Truth, Accuracy and Completeness and Certification of Compliance

*Note: This Certification must be signed by a responsible official. The **original**, signed in **blue ink**, must be submitted with the application. Applications without an **original** signed certification will be considered as incomplete.*

a. Certification of Truth, Accuracy and Completeness

I certify that I am a responsible official (as defined at 45CSR§30-2.38) and am accordingly authorized to make this submission on behalf of the owners or operators of the source described in this document and its attachments. I certify under penalty of law that I have personally examined and am familiar with the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine and/or imprisonment.

b. Compliance Certification

Except for requirements identified in the Title V Application for which compliance is not achieved, I, the undersigned hereby certify that, based on information and belief formed after reasonable inquiry, all air contaminant sources identified in this application are in compliance with all applicable requirements.

Responsible official (type or print)

Name:	Title:
-------	--------

Responsible official's signature:

Signature: _____ Signature Date: _____
(Must be signed and dated in blue ink)

Note: Please check all applicable attachments included with this permit application:

<input checked="" type="checkbox"/>	ATTACHMENT A: Area Map
<input checked="" type="checkbox"/>	ATTACHMENT B: Plot Plan(s)
<input checked="" type="checkbox"/>	ATTACHMENT C: Process Flow Diagram(s)
<input checked="" type="checkbox"/>	ATTACHMENT D: Equipment Table
<input checked="" type="checkbox"/>	ATTACHMENT E: Emission Unit Form(s)
<input type="checkbox"/>	ATTACHMENT F: Schedule of Compliance Form(s)
<input checked="" type="checkbox"/>	ATTACHMENT G: Air Pollution Control Device Form(s)
<input checked="" type="checkbox"/>	ATTACHMENT H: Compliance Assurance Monitoring (CAM) Form(s)

All of the required forms and additional information can be found and downloaded from, the DEP website at www.wvdep.org/dag, requested by phone (304) 926-0475, and/or obtained through the mail.

Specific Monitoring, Testing, Recordkeeping and Reporting Methods

Facility-wide

R30-04100009-1996 III.B.1.a.v:

As per provisions set forth in Section III of this permit or as otherwise required by the Secretary, in accordance with the West Virginia Code, underlying regulations, permits and orders, the permittee shall conduct test(s) to determine compliance with the emission limitations set forth in this permit and/or established or set forth in underlying documents. The Secretary, or his duly authorized representative, may at his option witness or conduct such test(s). Should the Secretary exercise his option to conduct such test(s), the operator shall provide all necessary sampling connections and sampling ports to be located in such manner as the Secretary may require, power for test equipment and the required safety equipment, such as scaffolding, railings and ladders, to comply with generally accepted good safety practices. Such tests shall be conducted in accordance with the methods and procedures set forth in Section III of this permit or as otherwise approved or specified by the Secretary in accordance with the following:

- (a) For emissions for which there are no applicable requirements within the permit, the Secretary for cause may require testing or monitoring to determine emissions of air pollutants or emissions from sources.
- (b) The Secretary may on a source-specific basis approve or specify additional testing or alternative testing to the test methods specified in the permit for demonstrating compliance with 40 C.F.R. Parts 60, 61, and 63 in accordance with the Secretary's delegated authority and any established equivalency determination methods which are applicable. If a testing method is specified or approved which effectively replaces a test method specified in the permit, the permit will be revised in accordance with C.S.R. § 45-30-6.4. or C.S.R. § 45-30-6.5 as applicable.
- (c) The Secretary may on a source-specific basis approve or specify additional testing or alternative testing to the test methods specified in the permit for demonstrating compliance with applicable requirements which do not involve federal delegation. In specifying or approving such alternative testing to the test methods, the Secretary, to the extent possible, shall utilize the same equivalency criteria as would be used in approving such changes under Section III.B.1.a.v.(b). If a testing method is specified or approved which effectively replaces a test method specified in the permit, the permit will be revised in accordance with C.S.R. § 45-30-6.4. or C.S.R. § 45-30-6.5 as applicable.

All periodic tests to determine mass emission limits from or air pollutant concentrations in discharge stacks and such other tests as specified in Section III of this permit shall be conducted in accordance with an approved test protocol. Unless previously approved, such protocols shall be submitted to the Secretary in writing at least thirty (30) days prior to any testing and shall contain the information set forth by the Secretary. In addition, the

permittee shall notify the Secretary at least fifteen (15) days prior to any testing so the Secretary may have the opportunity to observe such tests. This notification shall include the actual date and time during which the test will be conducted and, if appropriate, verification that the tests will fully conform to a referenced protocol previously approved by the Secretary. WV Code § 22-5-4(a)(15). C.S.R. § 45-13-6.1 (effective date August 31, 2000) and C.S.R. § 13 (effective date January 29, 2002 - Permit No. R13-2397 - Condition B.4.)

R30-04100009-1996 III.B.1.b.ii:

A source which has not operated at least 500 hours in one 12-month period within the previous five (5) year time period may be considered permanently shutdown, unless such source can provide to the Director, with reasonable specificity, information to the contrary. All permits may be modified or revoked and/or reapplication or application for new permits may be required for any source determined to be permanently shutdown. C.S.R. § 45-13-10.5. (effective date June 1, 2000). This permit condition shall become federally enforceable upon the Environmental Protection Agency's approval of this regulation as part of the State Implementation Plan.

R30-04100009-1996 III.B.2.a.ii:

The permittee is responsible for submitting, on an annual basis, an emission inventory in accordance with the submittal requirements of the Division of Air Quality. W.V. Code § 22-5-4(a)(14).

R30-04100009-1996 III.C.1: (C-001 through C-005 exempt)

The permittee shall maintain a record of all odor complaints received. Such record shall be maintained on site five (5) years from the record creation date, containing an assessment of the validity of the complaints as well as any corrective actions taken. C.S.R. § 45-30-5.1.c. (effective date July 1, 2001).

Unit Specific

R30-04100009-1996 III.C.2: (G-001, G-002, 003-01, 003-02, Dehy Flare and Dehy(indirect heater))

Visual emission checks of each emission point specified shall be conducted monthly in accordance with 40 CFR 60 Appendix A Method 22. If during these checks or at any other time visible emissions are observed at any emission point, compliance shall be determined by conducting tests in accordance with Method 9 of 40 C.F.R. 60, Appendix A (July 1, 1994) and taking corrective action within three days unless the permittee can demonstrate a valid reason that the time limit should be extended. Records shall be maintained on site for a period of no less than five (5) years stating the date and time of each visible emission check, the visible emissions survey results and, if appropriate, all

corrective actions taken. C.S.R. § 45-30-5.1.c. (effective date July 1, 2001).

R30-04100009-1996 III.E.1: (C-001 through C-005, G-001, G-002, 003-01, 003-02, Dehy Flare and Dehy(indirect heater))

The permittee shall burn natural gas meeting the FERC requirements exclusively for all combustion equipment.

R30-04100009-1996 III.C.3: (C-001 through C-005)

At a minimum of once per year, sample and analyze the inlet gas stream to station utilizing gas chromatography for the presence of total sulfur. Proof of compliance with the FERC limit for a total sulfur of 20 grains/100ft³ will be considered demonstration of compliance with the requirements specified in Section III.B.2.a.iv. of this permit. Records shall be maintained on site for a period of no less than five (5) years stating the date and time of the analysis and the amount of sulfur in the gas stream. The permittee shall only burn natural gas meeting FERC requirements as stated in Section III.E. of this permit. C.S.R. § 45-30-5.1.c. (effective date July 1, 2001).

R30-04100009-1996 III.C.4: (C-001 through C-005)

At a minimum of once per year, sample and analyze the inlet gas stream to the station utilizing gas chromatography for the presence of H₂S. Proof of compliance with the FERC limit of 0.25 grains/100ft³ will be considered demonstration of compliance with the requirement specified in Section III.B.2.a.v. of this permit. Records shall be maintained on site for a period of no less than five (5) years stating the date and time of the analysis and the amount of hydrogen sulfide in the gas stream. The permittee shall only burn natural gas meeting FERC requirements as stated in Section III.E. of this permit. C.S.R. § 45-30-5.1.c. (effective date July 1, 2001).

*** **Remove****** R30-04100009-1996 III.C.5: (C-005)

The permittee shall demonstrate compliance with the CO and NO_x emissions limit by testing the engine exhaust using a portable analyzer on a quarterly basis. Records of the test results and test dates shall be maintained on site for a period of at least five (5) years and shall be made available to any authorized representative of the Secretary, upon the presentation of credentials. C.S.R. § 45-30-5.1.c. (effective date July 1, 2001)

R30-04100009-1996 III.C.6: (C-005)

The engine shall be operated and maintained in accordance with the manufacturer's recommendations and specifications and in a manner consistent with good operating practices and shall only burn natural gas as stated in Section III.E. of this permit. C.S.R. § 45-30-5.1.c. (effective date July 1, 2001)

R30-04100009-1996 III.B.2.a.vii: (C-005)

The compressor engine identified in permit application R13-2397 as CE-5 shall not operate more than 7,709 hours per year. In order to determine compliance with this limit, the permittee shall keep certified daily records of the number of hours the engine operates. These records shall be maintained on site for a period of no less than five (5) years. C.S.R. § 45-13 (effective date January 29, 2002 - Permit No. R13-2397 - Condition A.4.).

*** Remove***** R30-04100009-1996 III.C.7: (Dehy Flare)

At a minimum of once per month during months when the dehydration unit is in operation, sample and analyze the inlet and outlet gas streams of the dehydration unit utilizing Gas Chromatography for the presence of sulfur. The dehydrator flowrate and sulfur content of each stream will be used to determine the sulfur content of the stream going to the flare in grains. The sulfur content (test result) going to the flare will be used along with the following equations to determine compliance with the 2000 ppmv SO₂ limit:

Equation 1:

$$\frac{lbSO_2}{MMBtu} = \left(\frac{testresultgrS}{100 * flareflowdscf} \right) * \left(\frac{1lb}{7000grS} \right) * \left(\frac{1ft^3fuel}{1000Btu} \right) * \left(\frac{2lbSO_2}{1lbS} \right) * \left(\frac{10^6Btu}{MMBtu} \right)$$

Equation 2:

$$\frac{ft^3SO_2}{MMBtu} = \left(\frac{lbSO_2}{MMBtu} \right) * \left(\frac{1lb - moleSO_2}{64lbSO_2} \right) * \left(\frac{385.1ft^3SO_2}{1lb - mole} \right)$$

Equation 3 - Method 19:

$$\frac{8710dscf}{10^6Btu} * \left(\frac{20.9\%O_2}{20.9\%O_2 - 9.01\%XSO_2} \right) = 15,310.3 \frac{dscf}{10^6Btu}$$

Equation 4:

$$ppmSO_2 = \left(\frac{ft^3SO_2}{MMBtu} \right) * \left(\frac{10^6Btu}{15,310.3dscf} \right) * (10^6)$$

Records shall be maintained on site stating the date and sulfur content of the gas sampled and the above outlined calculation procedure. The Division of Air Quality may alter the frequency of the sampling and analysis based on the results of the compliance

demonstration. C.S.R. § 45-30-5.1.c. (effective date July 1, 2001) and C.S.R. § 45-13 (effective date January 29, 2002 - Permit No. R13-2397 - Condition B.6.). (Dehy Flare and Dehy: 004-01 & 004-02 in R13-2397)..

R30-04100009-1996 III.C.8: (Dehy Flare)

At a minimum of once per month during months when the dehydration unit is in operation, sample and analyze the inlet and outlet gas streams of the dehydration unit utilizing Gas Chromatography for the presence of H₂S. The dehydrator flowrate and H₂S content of each stream will be used to determine the H₂S content of the stream going to the flare in grains. The grains/hr of H₂S shall then be divided by 100 times the flare flow in dscf/hr to give grains of H₂S/100 ft³. Proof of compliance with the 50 grains/100ft³ limit will be considered demonstrated if the above outlined calculation procedure results in a total H₂S content of 50 grains/100 ft³ or less for the stream going to the flare. Records shall be maintained on site stating the date and hydrogen sulfide content of the gas sampled as well as the above calculations. The Division of Air Quality may alter the frequency of the sampling and analysis based on the results of the compliance demonstration. C.S.R. § 45-30-5.1.c. (effective date July 1, 2001) and C.S.R. § 45-13 (effective date January 29, 2002 - Permit No. R13-2397 - Condition B.7.). (Dehy Flare and Dehy: 004-01 & 004-02 in R13-2397).

R30-04100009-1996 III.C.9: (Dehy Flare, Dehy)

On the fifteenth day of each month the permittee shall calculate an average hourly emission rate for the previous month in pounds per hour using GRI-GLYCALC for VOC, GRI-HAPCALC for HAPs, and the amount of natural gas to the dehy and the equations listed below for NO_x and CO:

For 004-01: NO_x: 0.9 lbs/hr x hours operated per month x 1/2000 tons/lb
CO: 0.26 lbs/hr x hours operated per month x 1/2000 tons/lb

For 004-02: NO_x: 0.9 lbs/hr x hours operated per month x 1/2000 tons/lb
CO: 0.29 lbs/hr x hours operated per month x 1/2000 tons/lb

The calculated monthly rate shall be converted to an average hourly emission rate by dividing by the number of operating hours in the previous month. A twelve month running total shall be maintained to verify compliance with the annual emission limitations. Each month a new twelve month total shall be calculated using the previous twelve months data. Records shall be maintained on site for a period of no less than five (5) years stating the date and results of the calculations. C.S.R. § 45-30-5.1.c. (effective date July 1, 2001)

R30-04100009-1996 III.C.10: (Dehy Flare, Dehy)

For the purpose of determining compliance with emission limitations set forth in Section III.B.2.a.vi. of this permit, the permittee shall maintain daily and annual records of the dehydrator unit's operating hours and natural gas flow. The permittee shall also maintain records of any maintenance performed on the equipment. These records shall be maintained on site for a period of five (5) years. C.S.R. § 45-30-5.1.c. (effective date July 1, 2001)

R30-04100009-1996 III.C.11: (Dehy Flare, Dehy)

For the purpose of determining compliance with the combined emissions limits for the dehy flare, dehy and engine, the permittee shall add the emissions calculations and portable analyzer results for NO_x, CO and VOC. A twelve month running total shall be maintained to verify compliance with the annual emission limitations. Each month a new twelve month total shall be calculated using the previous twelve months data. Records shall be maintained on site for a period of no less than five (5) years stating the date and results of the calculations. C.S.R. § 45-30-5.1.c. (effective date July 1, 2001)

R30-04100009-1996 III.B.2.a.xii: (Copley 2)

The owner or operator of each storage vessel specified shall keep readily accessible records showing the dimension of the storage vessel and an analysis showing the capacity of the storage vessel. These records shall be kept on site for the life of the source. 40 C.F.R. §§ 60.116b(a) and (b). (effective date April 8, 1987).

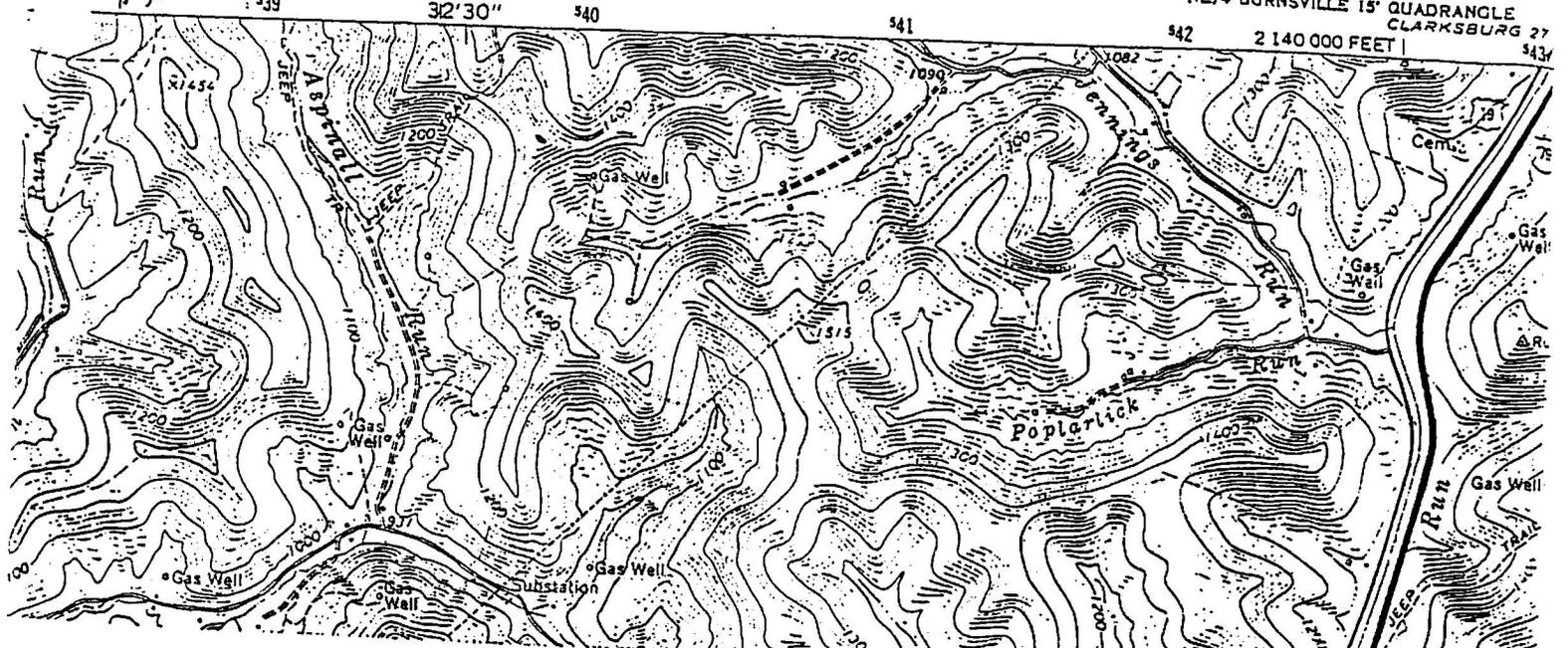
Table G-1. AP-42 Engine Emission Calculations, Copley Run Compressor Station

Pollutant	Maximum Potential Emission for Compression Engines ²														Totals	
	Engine No.1		Engine No.2		Engine No.3		Engine No.4		Engine No.5		Engine No 6 (Generator 1)		Engine No 7 (Generator 2)		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
TOC (Total)	2.71E+01	1.19E+02	1.63E+01	7.12E+01	1.63E+01	7.12E+01	2.17E+01	9.50E+01	1.63E+01	6.27E+01	3.61E+00	1.58E+01	3.61E+00	1.58E+01	1.05E+02	4.50E+02
Ethane	1.17E+00	5.13E+00	7.03E+01	3.08E+00	7.03E+01	3.08E+00	9.37E+01	4.11E+00	7.03E+01	2.71E+00	1.56E+01	6.83E+01	1.56E+01	6.83E+01	4.53E+00	1.95E+01
Methane	2.40E+01	1.05E+02	1.44E+01	6.30E+01	1.44E+01	6.30E+01	1.92E+01	8.40E+01	1.44E+01	5.54E+01	3.19E+00	1.40E+01	3.19E+00	1.40E+01	9.26E+01	3.98E+02
Butane	7.85E-02	3.44E-01	4.71E-02	2.06E-01	4.71E-02	2.06E-01	6.28E-02	2.75E-01	4.71E-02	1.82E-01	1.05E-02	4.58E-02	1.05E-02	4.58E-02	3.03E-01	1.30E+00
Butyr/Isobutyraldehyde	7.22E-03	3.16E-02	4.33E-03	1.90E-02	4.33E-03	1.90E-02	5.78E-03	2.53E-02	4.33E-03	1.67E-02	9.61E-04	4.21E-03	9.61E-04	4.21E-03	2.79E-02	1.20E-01
Chloroethane	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	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Cyclohexane	5.09E-03	2.23E-02	3.05E-03	1.34E-02	3.05E-03	1.34E-02	4.07E-03	1.78E-02	3.05E-03	1.18E-02	6.78E-04	2.97E-03	6.78E-04	2.97E-03	1.97E-02	8.46E-02
Cyclopentane	1.56E-03	6.85E-03	9.39E-04	4.11E-03	9.39E-04	4.11E-03	1.25E-03	5.48E-03	9.39E-04	3.62E-03	2.08E-04	9.13E-04	2.08E-04	9.13E-04	6.05E-03	2.60E-02
Dichloroethane (1,1-)	6.46E-04	2.83E-03	3.88E-04	1.70E-03	3.88E-04	1.70E-03	5.17E-04	2.26E-03	3.88E-04	1.49E-03	8.60E-05	3.77E-04	8.60E-05	3.77E-04	2.50E-03	1.07E-02
Dichloroethane (1,2-)	6.97E-04	3.05E-03	4.18E-04	1.83E-03	4.18E-04	1.83E-03	5.58E-04	2.44E-03	4.18E-04	1.61E-03	9.28E-05	4.07E-04	9.28E-05	4.07E-04	2.70E-03	1.16E-02
Dichloropropane (1,2-)	7.37E-04	3.23E-03	4.42E-04	1.94E-03	4.42E-04	1.94E-03	5.90E-04	2.58E-03	4.42E-04	1.70E-03	9.81E-05	4.30E-04	9.81E-05	4.30E-04	2.85E-03	1.22E-02
Isobutane	6.20E-02	2.71E-01	3.72E-02	1.63E-01	3.72E-02	1.63E-01	4.96E-02	2.17E-01	3.72E-02	1.43E-01	8.25E-03	3.61E-02	8.25E-03	3.61E-02	2.40E-01	1.03E+00
Methylcyclohexane	5.59E-03	2.45E-02	3.35E-03	1.47E-02	3.35E-03	1.47E-02	4.47E-03	1.96E-02	3.35E-03	1.29E-02	7.44E-04	3.26E-03	7.44E-04	3.26E-03	2.16E-02	9.28E-02
Nonane (n-)	5.09E-04	2.23E-03	3.05E-04	1.34E-03	3.05E-04	1.34E-03	4.07E-04	1.78E-03	3.05E-04	1.18E-03	6.78E-05	2.97E-04	6.78E-05	2.97E-04	1.97E-03	8.46E-03
Octane (n-)	1.23E-03	5.35E-03	7.38E-04	3.23E-03	7.38E-04	3.23E-03	9.84E-04	4.31E-03	7.38E-04	2.84E-03	1.64E-04	7.17E-04	1.64E-04	7.17E-04	4.75E-03	2.04E-02
Pentane (n-)	2.53E-02	1.11E-01	1.52E-02	6.64E-02	1.52E-02	6.64E-02	2.02E-02	8.86E-02	1.52E-02	5.85E-02	3.37E-03	1.47E-02	3.37E-03	1.47E-02	9.77E-02	4.20E-01
Propane	4.74E-01	2.08E+00	2.85E-01	1.25E+00	2.85E-01	1.25E+00	3.79E-01	1.66E+00	2.85E-01	1.10E+00	6.31E-02	2.77E-01	6.31E-02	2.77E-01	1.83E+00	7.88E+00
Trimethylbenzene (1,2,3-)	5.85E-04	2.56E-03	3.51E-04	1.54E-03	3.51E-04	1.54E-03	4.68E-04	2.05E-03	3.51E-04	1.35E-03	7.79E-05	3.41E-04	7.79E-05	3.41E-04	2.26E-03	9.72E-03
Trimethylbenzene (1,2,4-)	1.83E-03	8.03E-03	1.10E-03	4.82E-03	1.10E-03	4.82E-03	1.47E-03	6.43E-03	1.10E-03	4.24E-03	2.44E-04	1.07E-03	2.44E-04	1.07E-03	7.09E-03	3.05E-02
Trimethylbenzene (1,3,5-)	2.97E-04	1.30E-03	1.78E-04	7.82E-04	1.78E-04	7.82E-04	1.04E-03	4.49E-03	1.78E-04	6.88E-04	3.96E-05	1.73E-04	3.96E-05	1.73E-04	1.15E-03	4.94E-03
HAP (Total)	1.31E+00	5.76E+00	7.89E-01	3.45E+00	7.89E-01	3.45E+00	1.05E+00	4.61E+00	7.89E-01	3.04E+00	1.75E-01	7.66E-01	1.75E-01	7.66E-01	5.08E+00	2.18E+01
Carbon Tetrachloride	1.00E-03	4.39E-03	6.02E-04	2.64E-03	6.02E-04	2.64E-03	8.02E-04	3.51E-03	6.02E-04	2.32E-03	1.34E-04	5.85E-04	1.34E-04	5.85E-04	3.88E-03	1.67E-02
Methylene Chloride	2.43E-03	1.06E-02	1.46E-03	6.38E-03	1.46E-03	6.38E-03	1.94E-03	8.51E-03	1.46E-03	5.62E-03	3.23E-04	1.42E-03	3.23E-04	1.42E-03	9.39E-03	4.04E-02
Acenaphthene	2.20E-05	9.63E-05	1.32E-05	5.78E-05	1.32E-05	5.78E-05	1.76E-05	7.70E-05	1.32E-05	5.08E-05	2.93E-06	1.28E-05	2.93E-06	1.28E-05	8.50E-05	3.65E-04
Acenaphthylene	5.24E-05	2.29E-04	3.14E-05	1.38E-04	3.14E-05	1.38E-04	4.19E-05	1.84E-04	3.14E-05	1.21E-04	6.97E-06	3.05E-05	6.97E-06	3.05E-05	2.03E-04	8.71E-04
Acetaldehyde	1.28E-01	5.62E-01	7.69E-02	3.37E-01	7.69E-02	3.37E-01	1.03E-01	4.49E-01	7.69E-02	2.97E-01	1.71E-02	7.48E-02	1.71E-02	7.48E-02	4.96E-01	2.13E+00
Acrolein	1.29E-01	5.63E-01	7.71E-02	3.38E-01	7.71E-02	3.38E-01	1.03E-01	4.50E-01	7.71E-02	2.97E-01	1.71E-02	7.50E-02	1.71E-02	7.50E-02	4.97E-01	2.14E+00
Anthracene	1.19E-05	5.20E-05	7.12E-06	3.12E-05	7.12E-06	3.12E-05	9.49E-06	4.16E-05	7.12E-06	2.74E-05	1.58E-06	6.92E-06	1.58E-06	6.92E-06	4.59E-05	1.97E-04
Benz(a)anthracene	5.55E-06	2.43E-05	3.33E-06	1.46E-05	3.33E-06	1.46E-05	4.44E-06	1.95E-05	3.33E-06	1.28E-05	7.39E-07	3.24E-06	7.39E-07	3.24E-06	2.15E-05	9.23E-05
Benzo(e)pyrene	3.21E-02	1.40E-01	1.92E-02	8.42E-02	1.92E-02	8.42E-02	2.56E-02	1.12E-01	1.92E-02	7.41E-02	4.27E-03	1.87E-02	4.27E-03	1.87E-02	1.24E-01	5.33E-01
Benzo(a)pyrene	3.99E-08	4.11E-07	5.63E-08	2.47E-07	5.63E-08	2.47E-07	7.51E-08	3.29E-07	5.63E-08	2.17E-07	1.25E-08	5.47E-08	1.25E-08	5.47E-08	3.63E-07	1.56E-06
Benzo(b)fluoranthene	1.41E-07	6.16E-07	8.44E-08	3.70E-07	8.44E-08	3.70E-07	1.12E-07	4.93E-07	8.44E-08	3.25E-07	1.87E-08	8.20E-08	1.87E-08	8.20E-08	5.44E-07	2.34E-06
Benzo(k)fluoranthene	3.87E-07	1.69E-06	2.32E-07	1.02E-06	2.32E-07	1.02E-06	3.09E-07	1.35E-06	2.32E-07	8.94E-07	5.15E-08	2.25E-07	5.15E-08	2.25E-07	1.49E-06	6.43E-06
Benzo(g,h,i)perylene	4.10E-07	1.79E-06	2.46E-07	1.08E-06	2.46E-07	1.08E-06	3.28E-07	1.44E-06	2.46E-07	9.48E-07	5.46E-08	2.39E-07	5.46E-08	2.39E-07	1.58E-06	6.81E-06
Benzo(f)fluoranthene	7.04E-08	3.08E-07	4.22E-08	1.85E-07	4.22E-08	1.85E-07	5.63E-08	2.47E-07	4.22E-08	1.63E-07	9.37E-09	4.10E-08	9.37E-09	4.10E-08	2.72E-07	1.17E-06
Biphenyl	6.53E-05	2.86E-04	3.92E-05	1.72E-04	3.92E-05	1.72E-04	5.22E-05	2.29E-04	3.92E-05	1.51E-04	8.69E-06	3.81E-05	8.69E-06	3.81E-05	2.52E-04	1.08E-03
Butadiene (1,3-)	1.35E-02	5.93E-02	8.13E-03	3.56E-02	8.13E-03	3.56E-02	1.08E-02	4.75E-02	8.13E-03	3.13E-02	1.80E-03	7.90E-03	1.80E-03	7.90E-03	5.24E-02	2.25E-01
Chlorobenzene	7.34E-04	3.21E-03	4.40E-04	1.93E-03	4.40E-04	1.93E-03	5.87E-04	2.57E-03	4.40E-04	1.70E-03	9.77E-05	4.28E-04	9.77E-05	4.28E-04	2.84E-03	1.22E-02
Chloroform	7.78E-04	3.41E-03	4.67E-04	2.05E-03	4.67E-04	2.05E-03	6.23E-04	2.73E-03	4.67E-04	1.80E-03	1.04E-04	4.54E-04	1.04E-04	4.54E-04	3.01E-03	1.29E-02
Chrysene	1.11E-05	4.86E-05	6.66E-06	2.92E-05	6.66E-06	2.92E-05	8.88E-06	3.89E-05	6.66E-06	2.57E-05	1.48E-06	6.48E-06	1.48E-06	6.48E-06	4.29E-05	1.85E-04
Dichloropropene (1,3-)	7.24E-04	3.17E-03	4.34E-04	1.90E-03	4.34E-04	1.90E-03	5.79E-04	2.54E-03	4.34E-04	1.67E-03	9.64E-05	4.22E-04	9.64E-05	4.22E-04	2.80E-03	1.20E-02
Ethylbenzene	1.78E-03	7.87E-03	1.07E-03	4.69E-03	1.07E-03	4.69E-03	1.43E-03	6.25E-03	1.07E-03	4.13E-03	2.38E-04	1.04E-03	2.38E-04	1.04E-03	6.90E-03	2.97E-02
Ethylene Dibromide	1.21E-03	5.31E-03	7.28E-04	3.19E-03	7.28E-04	3.19E-03	9.70E-04	4.25E-03	7.28E-04	2.80E-03	1.61E-04	7.07E-04	1.61E-04	7.07E-04	4.69E-03	2.02E-02
Fluoranthene	5.97E-06	2.61E-05	3.58E-06	1.57E-05	3.58E-06	1.57E-05	4.77E-06	2.09E-05	3.58E-06	1.38E-05	7.94E-07	3.48E-06	7.94E-07	3.48E-06	2.31E-05	9.91E-05
Fluorene	9.29E-05	1.22E-04	1.68E-05	7.34E-05	1.68E-05	7.34E-05	2.23E-05	9.79E-05	1.68E-05	6.46E-05	3.72E-06	1.63E-05	3.72E-06	1.63E-05	1.08E-04	4.64E-04
Formaldehyde	9.12E-01	4.00E+00	5.47E-01	2.40E+00	5.47E-01	2.40E+00	7.30E-01	3.20E+00	5.47E-01	2.11E+00	1.21E-01	5.32E-01	1.21E-01	5.32E-01	3.53E+00	1.52E+01
Hexane (n-)	7.35E-03	3.22E-02	4.41E-03	1.93E-02	4.41E-03	1.93E-02	5.88E-03	2.58E-02	4.41E-03	1.70E-02	9.79E-04	4.29E-03	9.79E-04	4.29E-03	2.84E-02	1.22E-01
Indeno(1,2,3-c,d)pyrene	1.64E-07	7.19E-07	9.84E-08	4.31E-07	9.84E-08	4.31E-07	1.31E-07	5.75E-07	9.84E-08	3.79E-07	2.18E-08	9.57E-08	2.18E-08	9.57E-08	6.34E-07	2.73E-06
Methanol	4.10E-02	1.79E-01	2.46E-02	1.08E-01	2.46E-02	1.08E-01	3.28E-02	1.44E-01	2.46E-02	9.48E-02	5.46E-03	2.39E-02	5.46E-03	2.39E-02	1.58E-01	6.81E-01
Methylnaphthalene (2-)	3.54E-04	1.55E-03	2.12E-04	9.29E-04	2.12E-04	9.29E-04	2.83E-04	1.24E-03	2.12E-04	8.18E-04	4.71E-05	2.06E-04	4.71E-05	2.06E-04	1.37E-03	5.88E-03
Naphthalene	1.59E-03	6.97E-03	9.55E-04	4.18E-03	9.55E-04	4.18E-03	1.27E-03	5.58E-03	9.55E-04	3.68E-03	2.12E-04	9.28E-04	2.12E-04	9.28E-04	6.15E-03	2.64E-02
PAH	2.21E-03	9.70E-03	1.33E-03	5.82E-03	1.33E-03	5.82E-03	1.77E-03	7.76E-03	1.33E-03	5.12E-03	2.95E-04	1.29E-03	2.95E-04	1.29E-03	8.56E-03	3.68E-02
Perylene	8.21E-08	3.60E-07	4.93E-08	2.16E-07	4.93E-											

Table G-2 AP-42 Boiler Emission Calculations, Copley Run Compressor Station

Pollutant	Maximum Potential Emission for Boilers ^{1,2}															
	003-01		003-02		Dehy #1 reboiler		Dehy #2 reboiler		Indirect heater		Dehy Flare#1		Dehy #2 Recirculation		Totals	
	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy
TOC (Total)	7.28E-03	3.19E-02	3.24E-04	1.42E-03	7.01E-03	3.07E-02	1.80E-02	7.89E-02	1.29E-02	5.67E-02					4.56E-02	2.00E-01
Ethane	2.05E-03	8.99E-03	9.12E-05	3.99E-04	1.98E-03	8.65E-03	5.08E-03	2.22E-02	3.65E-03	1.60E-02					1.28E-02	5.62E-02
Methane	1.52E-03	6.67E-03	6.76E-05	2.96E-04	1.47E-03	6.42E-03	3.77E-03	1.65E-02	2.71E-03	1.19E-02					9.53E-03	4.17E-02
Butane	1.39E-03	6.09E-03	6.18E-05	2.71E-04	1.34E-03	5.86E-03	3.44E-03	1.51E-02	2.47E-03	1.08E-02					8.70E-03	3.81E-02
Butyr/Isobutyraldehyde	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
Chloroethane	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
Cyclohexane	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
Cyclopentane	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
Dichloroethane (1,1-)	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
Dichloroethane (1,2-)	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
Dichloropropane (1,2-)	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
Isobutane	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
Methylcyclohexane	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
Nonane (n-)	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
Octane (n-)	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
Pentane (n-)	1.72E-03	7.54E-03	7.65E-05	3.35E-04	1.66E-03	7.26E-03	4.26E-03	1.86E-02	3.06E-03	1.34E-02					1.08E-02	4.72E-02
Propane	1.06E-03	4.64E-03	4.71E-05	2.06E-04	1.02E-03	4.47E-03	2.62E-03	1.15E-02	1.88E-03	8.24E-03					6.63E-03	2.90E-02
Trimethylbenzene (1,2,3-)	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
Trimethylbenzene (1,2,4-)	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
Trimethylbenzene (1,3,5-)	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
HAP (Total)	1.25E-03	5.47E-03	5.55E-05	2.43E-04	1.20E-03	5.27E-03	3.09E-03	1.35E-02	2.22E-03	9.73E-03					7.82E-03	3.43E-02
Carbon Tetrachloride	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
Methylene Chloride	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
Acenaphthene	1.19E-09	5.22E-09	5.29E-11	2.32E-10	1.15E-09	5.02E-09	2.95E-09	1.29E-08	2.12E-09	9.28E-09					7.46E-09	3.27E-08
Acenaphthylene	1.19E-09	5.22E-09	5.29E-11	2.32E-10	1.15E-09	5.02E-09	2.95E-09	1.29E-08	2.12E-09	9.28E-09					7.46E-09	3.27E-08
Acetaldehyde	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
Acrolein	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
Anthracene	1.59E-09	6.96E-09	7.06E-11	3.09E-10	1.53E-09	6.70E-09	3.93E-09	1.72E-08	2.82E-09	1.24E-08					9.94E-09	4.35E-08
Benzo(a)anthracene	1.19E-09	5.22E-09	5.29E-11	2.32E-10	1.15E-09	5.02E-09	2.95E-09	1.29E-08	2.12E-09	9.28E-09					7.46E-09	3.27E-08
Benzene	1.39E-06	6.09E-06	6.18E-08	2.71E-07	1.34E-06	5.86E-06	3.44E-06	1.51E-05	2.47E-06	1.08E-05	2.28E-02	9.97E-02	2.48E-02	1.09E-01	4.76E-02	2.08E-01
Benzo(a)pyrene	7.94E-10	3.48E-09	3.53E-11	1.55E-10	7.65E-10	3.35E-09	1.96E-09	8.61E-09	1.41E-09	6.18E-09					4.97E-09	2.18E-08
Benzo(b)fluoranthene	1.19E-09	5.22E-09	5.29E-11	2.32E-10	1.15E-09	5.02E-09	2.95E-09	1.29E-08	2.12E-09	9.28E-09					7.46E-09	3.27E-08
Benzo(e)pyrene	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
Benzo(g,h,i)perylene	7.94E-10	3.48E-09	3.53E-11	1.55E-10	7.65E-10	3.35E-09	1.96E-09	8.61E-09	1.41E-09	6.18E-09					4.97E-09	2.18E-08
Benzo(k)fluoranthene	1.19E-09	5.22E-09	5.29E-11	2.32E-10	1.15E-09	5.02E-09	2.95E-09	1.29E-08	2.12E-09	9.28E-09					7.46E-09	3.27E-08
Biphenyl	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
Butadiene (1,3-)	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
Chlorobenzene	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
Chloroform	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
Chrysene	1.19E-09	5.22E-09	5.29E-11	2.32E-10	1.15E-09	5.02E-09	2.95E-09	1.29E-08	2.12E-09	9.28E-09					7.46E-09	3.27E-08
Dichloropropane (1,3-)	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
Ethylbenzene	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	2.20E-02	9.62E-02	2.93E-02	1.28E-01	5.12E-02	2.24E-01
Ethylene Dibromide	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
Fluoranthene	1.99E-09	8.70E-09	8.82E-11	3.86E-10	1.91E-09	8.37E-09	4.91E-09	2.15E-08	3.53E-09	1.55E-08					1.24E-08	5.44E-08
Fluorene	1.85E-09	8.12E-09	8.24E-11	3.61E-10	1.78E-09	7.82E-09	4.58E-09	2.01E-08	3.29E-09	1.44E-08					1.16E-08	5.08E-08
Formaldehyde	4.96E-05	2.17E-04	2.21E-06	9.66E-06	4.78E-05	2.09E-04	1.23E-04	5.38E-04	8.82E-05	3.86E-04					3.11E-04	1.36E-03
Hexane (n-)	1.19E-03	5.22E-03	5.29E-05	2.32E-04	1.15E-03	5.02E-03	2.95E-03	1.29E-02	2.12E-03	9.28E-03	1.76E-02	7.72E-02	1.77E-02	7.74E-02	4.28E-02	1.87E-01
Indeno(1,2,3-c,d)pyrene	1.19E-09	5.22E-09	5.29E-11	2.32E-10	1.15E-09	5.02E-09	2.95E-09	1.29E-08	2.12E-09	9.28E-09					7.46E-09	3.27E-08
Methanol	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
Methylnaphthalene (2-)	1.59E-08	6.96E-08	7.06E-10	3.09E-09	1.53E-08	6.70E-08	3.93E-08	1.72E-07	2.82E-08	1.24E-07					9.94E-08	4.35E-07
Naphthalene	4.04E-07	1.77E-06	1.79E-08	7.86E-08	3.89E-07	1.70E-06	9.99E-07	4.37E-06	7.18E-07	3.14E-06					2.53E-06	1.11E-05
PAH	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
Perylene	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
Phenanthrene	1.13E-08	4.93E-08	5.00E-10	2.19E-09	1.08E-08	4.75E-08	2.78E-08	1.22E-07	2.00E-08	8.76E-08					7.04E-08	3.08E-07
Phenol	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
Propylene Oxide	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
Pyrene	3.31E-09	1.45E-08	1.47E-10	6.44E-10	3.19E-09	1.40E-08	8.19E-09	3.59E-08	5.88E-09	2.58E-08					2.07E-08	9.07E-08
Styrene	0.00E+00	0.00E+00	0.00E+00	0.00E+00												

AREA MAP

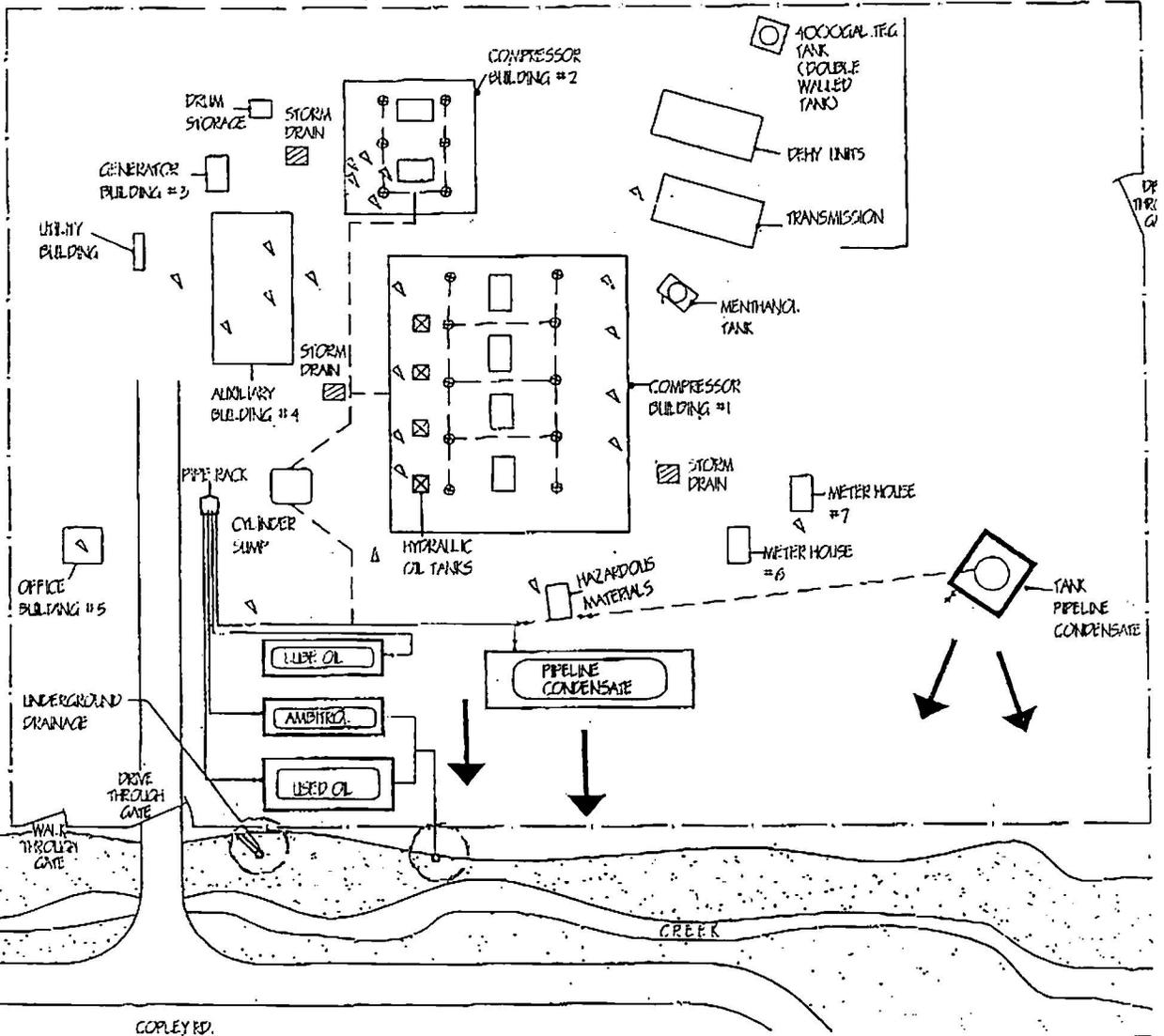
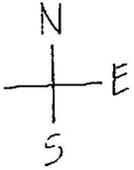


COPLEY COMPRESSING STATION #70

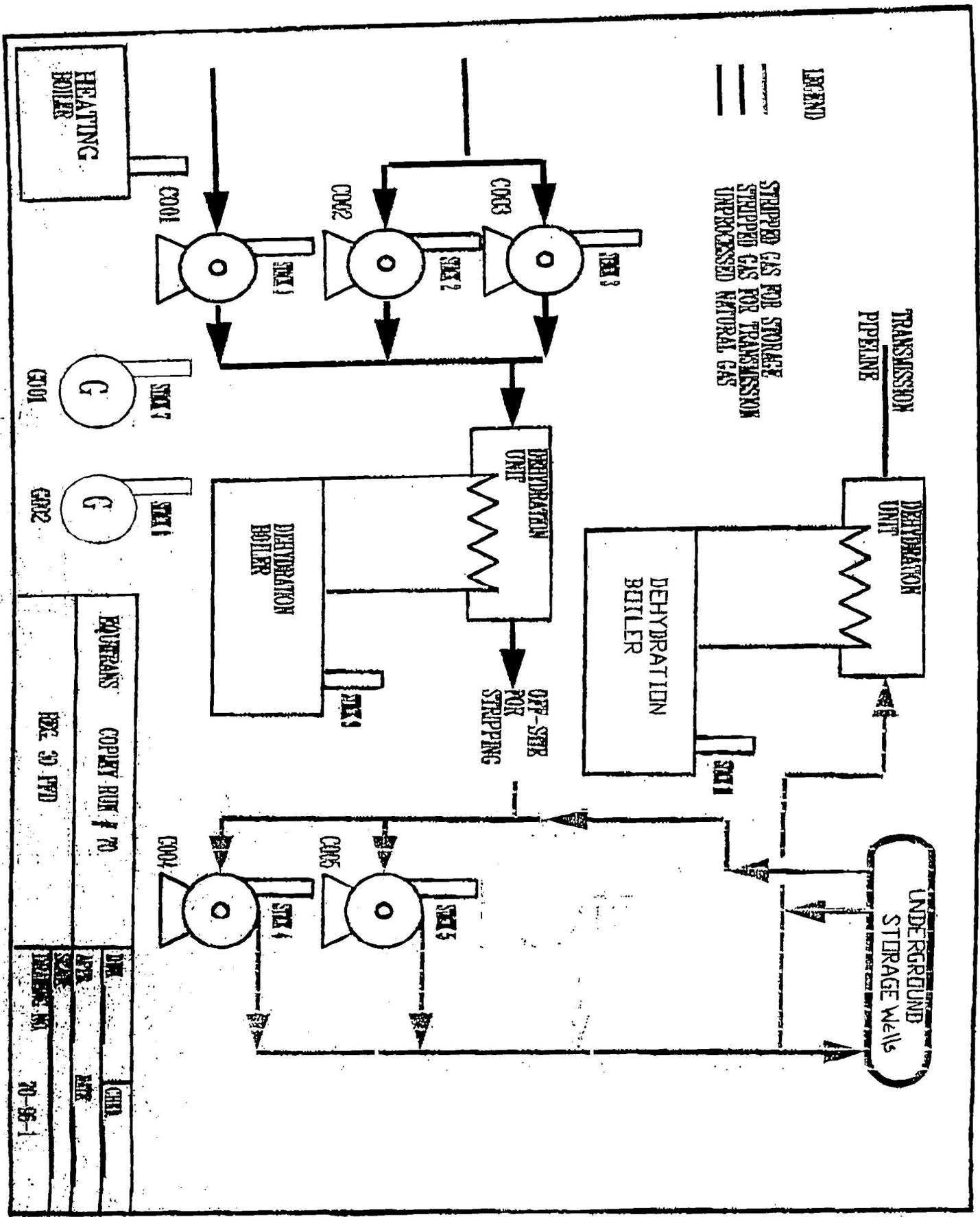


ATTACHMENT B

PLOT PLAN



PROCESS FLOW DIAGRAM



EQUIPMENTS COPY RUN # 70
 PAGE 30 FROM

DATE	BY	CHKD
70-05-1		

TITLE V EQUIPMENT TABLE

ATTACHMENT D - Title V Equipment Table
(includes all emission units at the facility except those designated as
insignificant activities in Section 4, Item 24 of the General Forms)

Emission Point ID ¹	Control Device ¹	Emission Unit ID ¹	Emission Unit Description	Design Capacity	Year Installed/Modified
C-001	N/A	001-01	Reciprocating Engine/Integral Compressor; Cooper-Bessemer Model GMVH10; Serial # 48769	2250 HP	1981
C-002	N/A	001-02	Reciprocating Engine/Integral Compressor; Cooper-Bessemer Model GMVH6; Serial # 48771	1350 Hp	1981
C-003	N/A	001-03	Reciprocating Engine/Integral Compressor; Cooper-Bessemer Model GMVH; Serial # 48772	1350 HP	1981
C-004	N/A	001-04	Reciprocating Engine/Integral Compressor; Cooper-Bessemer Model GMVH8; Serial # 48770	1800 HP	1981
C-005	N/A	001-05	Reciprocating Engine/Integral Compressor; Cooper-Bessemer Model GMVR; Serial # 49126	1350 HP	1993
G-001	N/A	G-001	Natural Gas Fired Electric Generator; International Harvester Model V549; Serial # 174686	2.2 MMBTu/hr	1987
G-002	N/A	G-002	Natural Gas Fired Electric Generator; Cummins Model GTA12; Serial # 25183763	2.2 MMBTu/hr	1993
003-01	N/A	003-01	Natural Gas Fired Heating Boiler; Ajax Model WG-675 D; Serial # 81-33656.	0.675 MMBTu/hr	1981
003-02	N/A	003-02	Natural Gas Fired Hot Water Heater; WL Jackson Mfg. Co. Model G 030 05; Serial # 66552-1080.	0.03 MMBTu/hr	1987
Dehy Flare	004-01	004-01	Triethylene Glycol dehydration unit; Nalco Model 5 GR-3000- TX10; consists of a flare and a natural gas fired reboiler (Dehy Boiler #1).	0.65 MMBTu/hr	1992
Dehy	N/A	004-02	Triethylene Glycol unit; Natco Model GS 3100E; consists of a natural gas fired reboiler (Dehy Boiler #2) and an indirect heater.	1.67 MMBTu/hr and 1.2 MMBTu/hr	1992
Copley 1	N/A	Copley 1	Triethylene Glycol horizontal fixed roof storage tank.	4000 gallon	1992
Copley 2	N/A	Copley 2	Pipeline Condensate horizontal fixed roof storage tank.	20000 gallon	1992
Copley 3	N/A	Copley 3	Crude Oil horizontal fixed roof storage tank.	2000 gallon	1992
Copley 4	N/A	Copley 4	Methanol horizontal fixed roof storage tank.	2000 gallon	1992
Copley 5	N/A	Copley 5	Used Oil horizontal fixed roof storage tank.	7500 gallon	1992
Copley 6	N/A	Copley 6	Ambitrol horizontal fixed roof storage tank.	3000 gallon	1992

¹For 45CSR13 permitted sources, the numbering system used for the emission points, control devices, and emission units should be consistent with the numbering system used in the 45CSR13 permit. For grandfathered sources, the numbering system should be consistent with registrations or emissions inventory previously submitted to DAQ. For emission points, control devices, and emissions units which have not been previously labeled, use the following 45CSR13 numbering system: 1S, 2S, 3S,... or other appropriate description for emission units; 1C, 2C, 3C,... or other appropriate designation for control devices; 1E, 2E, 3E, ... or other appropriate designation for emission points.

ATTACHMENT E

EMISSION UNIT FORMS

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: 001-01	Emission unit name: C-001	List any control devices associated with this emission unit. N/A
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):
Reciprocating Engine/Integral Compressor; 2250 hp

Manufacturer: Cooper-Bessemer	Model number: GMVH10	Serial number: 48769
---	--------------------------------	--------------------------------

Construction date: 12/01/1981	Installation date: 12/01/1981	Modification date(s): N/A
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Design Capacity (examples: furnaces - tons/hr, tanks - gallons):
2250 hp

Maximum Hourly Throughput: 0.0142 MMcf/hr	Maximum Annual Throughput: 125.00 MMcf/yr	Maximum Operating Schedule: 24 hours, 7 days a week, 8760 hours a year
---	---	--

Fuel Usage Data (fill out all applicable fields)

Does this emission unit combust fuel? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes, is it? <input type="checkbox"/> Indirect Fired <input checked="" type="checkbox"/> Direct
--	---

Maximum design heat input and/or maximum horsepower rating: 2250 hp	Type and Btu/hr rating of burners: N/A
---	--

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

Natural gas:
0.0142 MMcf/hr
125.00 cf/yr

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
Natural Gas	10.6 ppm(w)	N/A	1080 Btu/scf

Emissions Data		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	6.38	27.94
Nitrogen Oxides (NO _x)	52.38	229.43
Lead (Pb)	N/A	N/A
Particulate Matter (PM ₁₀)	0.80	3.50
Total Particulate Matter (TSP)	0.80	3.50
Sulfur Dioxide (SO ₂)	0.01	0.04
Volatile Organic Compounds (VOC)	1.98	8.69
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
See attached Table E-1		
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
See attached Table E-1		
<p>List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).</p> <p>To calculate potential emissions for CO, PM₁₀, PM, NO_x, SO₂, VOC and Formaldehyde, used AP-42 factors taken from Chapter 3.2, Table 3.2-1 (Uncontrolled Emission Factors for 2-stroke Lean-Burn Engines, dated 7/2000). Site-specific natural gas heating value of 1080 Btu/scf was used. Heating value was multiplied by a fuel usage rate of 15.3 Mscf/hr to convert to units of MMBtu/hr. The AP-42 emission factors (in lb/MMBtu) were multiplied by the engine's fuel usage (in MMBtu/hr as previously calculated) to get potential emissions in pounds per hour. To determine tons per year, the pounds per hour value was multiplied by 8760 hours per year and divided by 2000 lbs per ton.</p> <p>To calculate potential emissions for HAPs and other regulated pollutants, used AP-42 factors taken from Chapter 2.2, Table 3.2-2 (dated 7/2000). These emission factors were multiplied by the fuel usage rate in MMBtu/hr (as previously calculated) to get the pounds per hour emission rate. To determine tons per year, the pounds per hour value was multiplied by 8760 hours per year and divided by 2000 lbs per ton.</p>		

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the rule citation and/or permit with the condition number. If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

- C.S.R. §45-6-3.1 R30-04100009-2002 Permit condition: III.B.1.a.i
- C.S.R. §45-6-3.2 R30-04100009-2002 Permit condition: III.B.1.a.ii
- 40 C.F.R. §§61.145, 61.148, and 61.150. R30-04100009-2002 Permit condition: III.B.1.a.iii
- C.S.R. §45-30-4.3.h.1.B R30-04100009-2002 Permit condition: III.B.1.a.iv
- WV Code §22-5-4(a)(15) R30-04100009-2002 Permit condition: III.B.1.a.v
- C.S.R. §45-13-10.5 R30-04100009-2002 Permit condition: III.B.1.b.ii
- C.S.R. §45-11-5.2 R30-04100009-2002 Permit condition: III.B.2.a.i
- WV Code §22-5-4(a)(14) R30-04100009-2002 Permit condition: III.B.2.a.ii
- C.S.R. §45-10-4.1 R30-04100009-2002 Permit Condition: III.B.2.a.iv.
- C.S.R. §45-10-5.1 R30-04100009-2002 Permit Condition: III.B.2.a.v.
- C.S.R §45-30-12.7: Revise Permit Condition III.B.2.a.vi. to reflect revised emissions shown above. Additionally, revise frequency of compliance demonstration in Permit Condition III.C.5.

____ Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

- For C.S.R. §45-6-3.1 R30-04100009-2002 Permit condition: III.B.1.a.i = N/A
- For C.S.R. §45-6-3.2 R30-04100009-2002 Permit condition: III.B.1.a.ii = N/A
- For 40 C.F.R. §§61.145, 61.148, and 61.150. R30-04100009-2002 Permit condition: III.B.1.a.iii = N/A
- For C.S.R. §45-30-4.3.h.1.B R30-04100009-2002 Permit condition: III.B.1.a.iv = N/A
- For WV Code §22-5-4(a)(15) R30-04100009-2002 Permit condition: III.B.1.a.v = R30-04100009-2002 Condition Number III.B.1.a.v.
- For C.S.R. §45-13-10.5 R30-04100009-2002 Permit condition: III.B.1.b.ii = R30-04100009-2002 Condition Number III.B.1.b.ii.
- For C.S.R. §45-11-5.2 R30-04100009-2002 Permit condition: III.B.2.a.i = N/A
- For WV Code §22-5-4(a)(14) R30-04100009-2002 Permit condition: III.B.2.a.ii = R30-04100009-2002 Condition Number III.B.2.a.ii.
- For C.S.R. §45-10-4.1 R30-04100009-2002 Permit Condition: III.B.2.a.iv. = R30-04100009-2002 Condition Number III.C.3. and III.E.1.
- For C.S.R. §45-10-5.1 R30-04100009-2002 Permit Condition: III.B.2.a.v. = R30-04100009-2002 Condition Number III.C.4 and III.E.1.
- For C.S.R §45-30-12.7: Revise Permit Condition III.B.2.a.vi. to reflect revised emissions shown above. Additionally, revise frequency of compliance demonstration in Permit Condition III.C.5.

Are you in compliance with all applicable requirements for this emission unit? Yes No

If no, complete the **Schedule of Compliance Form** as ATTACHMENT F.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: 001-02	Emission unit name: C-002	List any control devices associated with this emission unit. N/A
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):
Reciprocating Engine/Integral Compressor; 1350 hp

Manufacturer: Cooper-Bessemer	Model number: GMVH6	Serial number: 48771
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Construction date: 12/01/1981	Installation date: 12/01/1981	Modification date(s): N/A
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Design Capacity (examples: furnaces - tons/hr, tanks - gallons):
1350 hp

Maximum Hourly Throughput: 0.0085 MMcf/hr	Maximum Annual Throughput: 74.509 MMcf/yr	Maximum Operating Schedule: 24 hours, 7 days a week, 8760 hours a year
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Fuel Usage Data (fill out all applicable fields)

Does this emission unit combust fuel? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes, is it? <input type="checkbox"/> Indirect Fired <input checked="" type="checkbox"/> Direct
--	---

Maximum design heat input and/or maximum horsepower rating: 1350 hp	Type and Btu/hr rating of burners: N/A
---	--

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.
Natural gas

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
Natural Gas	10.6 ppm(w)		1080 Btu/scf

Emissions Data

Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	3.83	16.76
Nitrogen Oxides (NO _x)	31.43	137.66
Lead (Pb)	N/A	N/A
Particulate Matter (PM ₁₀)	0.48	2.10
Total Particulate Matter (TSP)	0.48	2.10
Sulfur Dioxide (SO ₂)	0.01	0.03
Volatile Organic Compounds (VOC)	1.19	5.21
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
See attached Table E-1		
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
See attached Table E-1		

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

To calculate potential emissions for CO, PM10, PM, NO_x, SO₂, VOC and Formaldehyde, used AP-42 factors taken from Chapter 3.2, Table 3.2-1 (Uncontrolled Emission Factors for 2-stroke Lean-Burn Engines, dated 7/2000). Site-specific natural gas heating value of 1080 Btu/scf was used. Heating value was multiplied by a fuel usage rate of 9.18 Mscf/hr to convert to units of MMBtu/hr. The AP-42 emission factors (in lb/MMBtu) were multiplied by the engine's fuel usage (in MMBtu/hr as previously calculated) to get potential emissions in pounds per hour. To determine tons per year, the pounds per hour value was multiplied by 8760 hours per year and divided by 2000 lbs per ton.

To calculate potential emissions for HAPs and other regulated pollutants, used AP-42 factors taken from Chapter 2.2, Table 3.2-2 (dated 7/2000). These emission factors were multiplied by the fuel usage rate in MMBtu/hr (as previously calculated) to get the pounds per hour emission rate. To determine tons per year, the pounds per hour value was multiplied by 8760 hours per year and divided by 2000 lbs per ton.

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the rule citation and/or permit with the condition number. If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

C.S.R. §45-6-3.1 R30-04100009-2002 Permit condition: III.B.1.a.i
C.S.R. §45-6-3.2 R30-04100009-2002 Permit condition: III.B.1.a.ii
40 C.F.R. §§61.145, 61.148, and 61.150. R30-04100009-2002 Permit condition: III.B.1.a.iii
C.S.R. §45-30-4.3.h.1.B R30-04100009-2002 Permit condition: III.B.1.a.iv
WV Code §22-5-4(a)(15) R30-04100009-2002 Permit condition: III.B.1.a.v
C.S.R. §45-13-10.5 R30-04100009-2002 Permit condition: III.B.1.b.ii
C.S.R. §45-11-5.2 R30-04100009-2002 Permit condition: III.B.2.a.i
WV Code §22-5-4(a)(14) R30-04100009-2002 Permit condition: III.B.2.a.ii
C.S.R. §45-10-4.1 R30-04100009-2002 Permit Condition: III.B.2.a.iv.
C.S.R. §45-10-5.1 R30-04100009-2002 Permit Condition: III.B.2.a.v.
C.S.R §45-30-12.7: Revise Permit Condition III.B.2.a.vi. to reflect revised emissions shown above. Additionally, revise frequency of compliance demonstration in Permit Condition III.C.5.

____ Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

For C.S.R. §45-6-3.1 R30-04100009-2002 Permit condition: III.B.1.a.i = N/A
For C.S.R. §45-6-3.2 R30-04100009-2002 Permit condition: III.B.1.a.ii = N/A
For 40 C.F.R. §§61.145, 61.148, and 61.150. R30-04100009-2002 Permit condition: III.B.1.a.iii = N/A
For C.S.R. §45-30-4.3.h.1.B R30-04100009-2002 Permit condition: III.B.1.a.iv = N/A
For WV Code §22-5-4(a)(15) R30-04100009-2002 Permit condition: III.B.1.a.v = R30-04100009-2002 Condition Number III.B.1.a.v.
For C.S.R. §45-13-10.5 R30-04100009-2002 Permit condition: III.B.1.b.ii = R30-04100009-2002 Condition Number III.B.1.b.ii.
For C.S.R. §45-11-5.2 R30-04100009-2002 Permit condition: III.B.2.a.i = N/A
For WV Code §22-5-4(a)(14) R30-04100009-2002 Permit condition: III.B.2.a.ii = R30-04100009-2002 Condition Number III.B.2.a.ii.
For C.S.R. §45-10-4.1 R30-04100009-2002 Permit Condition: III.B.2.a.iv. = R30-04100009-2002 Condition Number III.C.3. and III.E.1.
For C.S.R. §45-10-5.1 R30-04100009-2002 Permit Condition: III.B.2.a.v. = R30-04100009-2002 Condition Number III.C.4 and III.E.1.
C.S.R §45-30-12.7: Revise Permit Condition III.B.2.a.vi. to reflect revised emissions shown above. Additionally, revise frequency of compliance demonstration in Permit Condition III.C.5.

Are you in compliance with all applicable requirements for this emission unit? Yes No

If no, complete the **Schedule of Compliance Form** as ATTACHMENT F.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: 001-03	Emission unit name: C-003	List any control devices associated with this emission unit. N/A
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):
Reciprocating Engine/Integral Compressor; 1350 hp

Manufacturer: Cooper-Bessemer	Model number: GMVH	Serial number: 48772
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Construction date: 12/01/1981	Installation date: 12/01/1981	Modification date(s): N/A
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Design Capacity (examples: furnaces - tons/hr, tanks - gallons):
1350 hp

Maximum Hourly Throughput: 0.0085 MMcf/hr	Maximum Annual Throughput: 74.509 MMcf/yr	Maximum Operating Schedule: 24 hours, 7 days a week, 8760 hours a year
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Fuel Usage Data (fill out all applicable fields)

Does this emission unit combust fuel? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes, is it? N/A <input type="checkbox"/> Indirect Fired <input checked="" type="checkbox"/> Direct
--	---

Maximum design heat input and/or maximum horsepower rating: 1350 hp	Type and Btu/hr rating of burners: N/A
---	--

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.
Natural gas

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
Natural Gas	10.6 ppm(w)		1080 Btu/scf

Emissions Data

Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	3.83	16.76
Nitrogen Oxides (NO _x)	31.43	137.66
Lead (Pb)	N/A	N/A
Particulate Matter (PM ₁₀)	0.48	2.10
Total Particulate Matter (TSP)	0.48	2.10
Sulfur Dioxide (SO ₂)	0.01	0.03
Volatile Organic Compounds (VOC)	1.19	5.21
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
See attached Table E-1		
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
See attached Table E-1		

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

To calculate potential emissions for CO, PM10, PM, NO_x, SO₂, VOC and Formaldehyde, used AP-42 factors taken from Chapter 3.2, Table 3.2-1 (Uncontrolled Emission Factors for 2-stroke Lean-Burn Engines, dated 7/2000). Site-specific natural gas heating value of 1080 Btu/scf was used. Heating value was multiplied by a fuel usage rate of 9.18 Mscf/hr to convert to units of MMBtu/hr. The AP-42 emission factors (in lb/MMBtu) were multiplied by the engine's fuel usage (in MMBtu/hr as previously calculated) to get potential emissions in pounds per hour. To determine tons per year, the pounds per hour value was multiplied by 8760 hours per year and divided by 2000 lbs per ton.

To calculate potential emissions for HAPs and other regulated pollutants, used AP-42 factors taken from Chapter 2.2, Table 3.2-2 (dated 7/2000). These emission factors were multiplied by the fuel usage rate in MMBtu/hr (as previously calculated) to get the pounds per hour emission rate. To determine tons per year, the pounds per hour value was multiplied by 8760 hours per year and divided by 2000 lbs per ton.

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the rule citation and/or permit with the condition number. If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

- C.S.R. §45-6-3.1 R30-04100009-2002 Permit condition: III.B.1.a.i
- C.S.R. §45-6-3.2 R30-04100009-2002 Permit condition: III.B.1.a.ii
- 40 C.F.R. §§61.145, 61.148, and 61.150. R30-04100009-2002 Permit condition: III.B.1.a.iii
- C.S.R. §45-30-4.3.h.1.B R30-04100009-2002 Permit condition: III.B.1.a.iv
- WV Code §22-5-4(a)(15) R30-04100009-2002 Permit condition: III.B.1.a.v
- C.S.R. §45-13-10.5 R30-04100009-2002 Permit condition: III.B.1.b.ii
- C.S.R. §45-11-5.2 R30-04100009-2002 Permit condition: III.B.2.a.i
- WV Code §22-5-4(a)(14) R30-04100009-2002 Permit condition: III.B.2.a.ii
- C.S.R. §45-10-4.1 R30-04100009-2002 Permit Condition: III.B.2.a.iv.
- C.S.R. §45-10-5.1 R30-04100009-2002 Permit Condition: III.B.2.a.v.
- C.S.R §45-30-12.7: Revise Permit Condition III.B.2.a.vi. to reflect revised emissions shown above. Additionally, revise frequency of compliance demonstration in Permit Condition III.C.5.

____ Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

- For C.S.R. §45-6-3.1 R30-04100009-2002 Permit condition: III.B.1.a.i = N/A
- For C.S.R. §45-6-3.2 R30-04100009-2002 Permit condition: III.B.1.a.ii = N/A
- For 40 C.F.R. §§61.145, 61.148, and 61.150. R30-04100009-2002 Permit condition: III.B.1.a.iii = N/A
- For C.S.R. §45-30-4.3.h.1.B R30-04100009-2002 Permit condition: III.B.1.a.iv = N/A
- For WV Code §22-5-4(a)(15) R30-04100009-2002 Permit condition: III.B.1.a.v = R30-04100009-2002 Condition Number III.B.1.a.v.
- For C.S.R. §45-13-10.5 R30-04100009-2002 Permit condition: III.B.1.b.ii = R30-04100009-2002 Condition Number III.B.1.b.ii.
- For C.S.R. §45-11-5.2 R30-04100009-2002 Permit condition: III.B.2.a.i = N/A
- For WV Code §22-5-4(a)(14) R30-04100009-2002 Permit condition: III.B.2.a.ii = R30-04100009-2002 Condition Number III.B.2.a.ii.
- For C.S.R. §45-10-4.1 R30-04100009-2002 Permit Condition: III.B.2.a.iv. = R30-04100009-2002 Condition Number III.C.3. and III.E.1.
- For C.S.R. §45-10-5.1 R30-04100009-2002 Permit Condition: III.B.2.a.v. = R30-04100009-2002 Condition Number III.C.4 and III.E.1.
- For C.S.R §45-30-12.7: Revise Permit Condition III.B.2.a.vi. to reflect revised emissions shown above. Additionally, revise frequency of compliance demonstration in Permit Condition III.C.5.

Are you in compliance with all applicable requirements for this emission unit? Yes No

If no, complete the **Schedule of Compliance Form** as ATTACHMENT F.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: 001-04	Emission unit name: C-004	List any control devices associated with this emission unit. N/A
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):
Reciprocating Engine/Integral Compressor; 1800 hp

Manufacturer: Cooper-Bessemer	Model number: GMVH8	Serial number: 48770
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Construction date: 12/01/1981	Installation date: 12/01/1981	Modification date(s): N/A
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Design Capacity (examples: furnaces - tons/hr, tanks - gallons):
1800 hp

Maximum Hourly Throughput: 0.0113 MMcf/hr	Maximum Annual Throughput: 99.346 MMcf/yr	Maximum Operating Schedule: 24 hours, 7 days a week, 8760 hours a year
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Fuel Usage Data (fill out all applicable fields)

Does this emission unit combust fuel? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes, is it? N/A <input type="checkbox"/> Indirect Fired <input checked="" type="checkbox"/> Direct
--	---

Maximum design heat input and/or maximum horsepower rating: 1800 hp	Type and Btu/hr rating of burners: N/A
---	--

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.
Natural gas

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
Natural Gas	10.6 ppm(w)		1080 Btu/scf

Emissions Data		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	5.10	22.35
Nitrogen Oxides (NO _x)	41.90	183.54
Lead (Pb)	N/A	N/A
Particulate Matter (PM ₁₀)	0.64	2.80
Total Particulate Matter (TSP)	0.64	2.80
Sulfur Dioxide (SO ₂)	0.01	0.03
Volatile Organic Compounds (VOC)	1.59	6.95
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
See attached Table E-1		
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
See attached Table E-1		

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

To calculate potential emissions for CO, PM10, PM, NOx, SO2, VOC and Formaldehyde, used AP-42 factors taken from Chapter 3.2, Table 3.2-1 (Uncontrolled Emission Factors for 2-stroke Lean-Burn Engines, dated 7/2000). Site-specific natural gas heating value of 1080 Btu/scf was used. Heating value was multiplied by a fuel usage rate of 12.24 Mscf/hr to convert to units of MMBtu/hr. The AP-42 emission factors (in lb/MMBtu) were multiplied by the engine's fuel usage (in MMBtu/hr as previously calculated) to get potential emissions in pounds per hour. To determine tons per year, the pounds per hour value was multiplied by 8760 hours per year and divided by 2000 lbs per ton.

To calculate potential emissions for HAPs and other regulated pollutants, used AP-42 factors taken from Chapter 2.2, Table 3.2-2 (dated 7/2000). These emission factors were multiplied by the fuel usage rate in MMBtu/hr (as previously calculated) to get the pounds per hour emission rate. To determine tons per year, the pounds per hour value was multiplied by 8760 hours per year and divided by 2000 lbs per ton.

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the rule citation and/or permit with the condition number. If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

- C.S.R. §45-6-3.1 R30-04100009-2002 Permit condition: III.B.1.a.i
- C.S.R. §45-6-3.2 R30-04100009-2002 Permit condition: III.B.1.a.ii
- 40 C.F.R. §§61.145, 61.148, and 61.150. R30-04100009-2002 Permit condition: III.B.1.a.iii
- C.S.R. §45-30-4.3.h.1.B R30-04100009-2002 Permit condition: III.B.1.a.iv
- WV Code §22-5-4(a)(15) R30-04100009-2002 Permit condition: III.B.1.a.v
- C.S.R. §45-13-10.5 R30-04100009-2002 Permit condition: III.B.1.b.ii
- C.S.R. §45-11-5.2 R30-04100009-2002 Permit condition: III.B.2.a.i
- WV Code §22-5-4(a)(14) R30-04100009-2002 Permit condition: III.B.2.a.ii
- C.S.R. §45-10-4.1 R30-04100009-2002 Permit Condition: III.B.2.a.iv.
- C.S.R. §45-10-5.1 R30-04100009-2002 Permit Condition: III.B.2.a.v.
- C.S.R §45-30-12.7: Revise Permit Condition III.B.2.a.vi. to reflect revised emissions shown above. Additionally, revise frequency of compliance demonstration in Permit Condition III.C.5.

____ Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

- For C.S.R. §45-6-3.1 R30-04100009-2002 Permit condition: III.B.1.a.i = N/A
- For C.S.R. §45-6-3.2 R30-04100009-2002 Permit condition: III.B.1.a.ii = N/A
- For 40 C.F.R. §§61.145, 61.148, and 61.150. R30-04100009-2002 Permit condition: III.B.1.a.iii = N/A
- For C.S.R. §45-30-4.3.h.1.B R30-04100009-2002 Permit condition: III.B.1.a.iv = N/A
- For WV Code §22-5-4(a)(15) R30-04100009-2002 Permit condition: III.B.1.a.v = R30-04100009-2002 Condition Number III.B.1.a.v.
- For C.S.R. §45-13-10.5 R30-04100009-2002 Permit condition: III.B.1.b.ii = R30-04100009-2002 Condition Number III.B.1.b.ii.
- For C.S.R. §45-11-5.2 R30-04100009-2002 Permit condition: III.B.2.a.i = N/A
- For WV Code §22-5-4(a)(14) R30-04100009-2002 Permit condition: III.B.2.a.ii = R30-04100009-2002 Condition Number III.B.2.a.ii.
- For C.S.R. §45-10-4.1 R30-04100009-2002 Permit Condition: III.B.2.a.iv. = R30-04100009-2002 Condition Number III.C.3. and III.E.1.
- For C.S.R. §45-10-5.1 R30-04100009-2002 Permit Condition: III.B.2.a.v. = R30-04100009-2002 Condition Number III.C.4 and III.E.1.
- For C.S.R §45-30-12.7: Revise Permit Condition III.B.2.a.vi. to reflect revised emissions shown above. Additionally, revise frequency of compliance demonstration in Permit Condition III.C.5.

Are you in compliance with all applicable requirements for this emission unit? Yes No

If no, complete the **Schedule of Compliance Form** as ATTACHMENT F.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: 001-05	Emission unit name: C-005	List any control devices associated with this emission unit. N/A
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):
Reciprocating Engine/Integral Compressor; 1350 hp

Manufacturer: Cooper-Bessemer	Model number: GMVR	Serial number: 49126
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Construction date: 01/01/1993	Installation date: 01/01/1993	Modification date(s): N/A
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Design Capacity (examples: furnaces - tons/hr, tanks - gallons):
1350 hp

Maximum Hourly Throughput: 0.0085 MMcf/hr	Maximum Annual Throughput: 74.509 MMcf/hr	Maximum Operating Schedule: 24 hours, 7 days a week, 8760 hours a year
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Fuel Usage Data (fill out all applicable fields)

Does this emission unit combust fuel? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes, is it? N/A <input type="checkbox"/> Indirect Fired <input checked="" type="checkbox"/> Direct
--	---

Maximum design heat input and/or maximum horsepower rating: 1800 hp	Type and Btu/hr rating of burners: N/A
---	--

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.
Natural gas

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
Natural Gas	10.6 ppm(w)		1080 Btu/scf

<i>Emissions Data</i>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	3.83	14.75
Nitrogen Oxides (NO _x)	31.43	121.14
Lead (Pb)	N/A	N/A
Particulate Matter (PM ₁₀)	0.48	1.85
Total Particulate Matter (TSP)	0.48	1.85
Sulfur Dioxide (SO ₂)	0.01	0.02
Volatile Organic Compounds (VOC)	1.19	4.59
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
See attached Table E-1		
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
See attached Table E-1		

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

To calculate potential emissions for CO, PM10, PM, NOx, SO2, VOC and Formaldehyde, used AP-42 factors taken from Chapter 3.2, Table 3.2-1 (Uncontrolled Emission Factors for 2-stroke Lean-Burn Engines, dated 7/2000). Site-specific natural gas heating value of 1080 Btu/scf was used. Heating value was multiplied by a fuel usage rate of 9.18 Mscf/hr to convert to units of MMBtu/hr. The AP-42 emission factors (in lb/MMBtu) were multiplied by the engine's fuel usage (in MMBtu/hr as previously calculated) to get potential emissions in pounds per hour. To determine tons per year, the pounds per hour value was multiplied by 8760 hours per year and divided by 2000 lbs per ton.

To calculate potential emissions for HAPs and other regulated pollutants, used AP-42 factors taken from Chapter 2.2, Table 3.2-2 (dated 7/2000). These emission factors were multiplied by the fuel usage rate in MMBtu/hr (as previously calculated) to get the pounds per hour emission rate. To determine tons per year, the pounds per hour value was multiplied by 8760 hours per year and divided by 2000 lbs per ton.

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the rule citation and/or permit with the condition number. If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

C.S.R. §45-6-3.1 R30-04100009-2002 Permit condition: III.B.1.a.i
C.S.R. §45-6-3.2 R30-04100009-2002 Permit condition: III.B.1.a.ii
40 C.F.R. §§61.145, 61.148, and 61.150. R30-04100009-2002 Permit condition: III.B.1.a.iii
C.S.R. §45-30-4.3.h.1.B R30-04100009-2002 Permit condition: III.B.1.a.iv
WV Code §22-5-4(a)(15) R30-04100009-2002 Permit condition: III.B.1.a.v
C.S.R. §45-13-10.5 R30-04100009-2002 Permit condition: III.B.1.b.ii
C.S.R. §45-11-5.2 R30-04100009-2002 Permit condition: III.B.2.a.i
WV Code §22-5-4(a)(14) R30-04100009-2002 Permit condition: III.B.2.a.ii
C.S.R. §45-10-4.1 R30-04100009-2002 Permit Condition: III.B.2.a.iv.
C.S.R. §45-10-5.1 R30-04100009-2002 Permit Condition: III.B.2.a.v.
C.S.R. §45-13 (Permit R13-2397) R30-04100009-2002 Permit Condition: III.B.2.a.vi.
C.S.R. §45-13 (Permit R13-2397) R30-04100009-2002 Permit Condition: III.B.2.a.vii.
C.S.R. §45-13 (Permit R13-2397). R30-04100009-2002 Permit Condition: III.B.2.a.vi.
C.S.R §45-30-12.7: Revise Permit Condition III.B.2.a.vi. to reflect revised emissions shown above. Additionally, revise frequency of compliance demonstration in Permit Condition III.C.5.

____ Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

For C.S.R. §45-6-3.1 R30-04100009-2002 Permit condition: III.B.1.a.i = N/A

For C.S.R. §45-6-3.2 R30-04100009-2002 Permit condition: III.B.1.a.ii = N/A

For 40 C.F.R. §§61.145, 61.148, and 61.150. R30-04100009-2002 Permit condition: III.B.1.a.iii = N/A

For C.S.R. §45-30-4.3.h.1.B R30-04100009-2002 Permit condition: III.B.1.a.iv = N/A

For WV Code §22-5-4(a)(15) R30-04100009-2002 Permit condition: III.B.1.a.v = R30-04100009-2002 Condition Number III.B.1.a.v.

For C.S.R. §45-13-10.5 R30-04100009-2002 Permit condition: III.B.1.b.ii = R30-04100009-2002 Condition Number III.B.1.b.ii.

For C.S.R. §45-11-5.2 R30-04100009-2002 Permit condition: III.B.2.a.i = N/A

For WV Code §22-5-4(a)(14) R30-04100009-2002 Permit condition: III.B.2.a.ii = R30-04100009-2002 Condition Number III.B.2.a.ii.

For C.S.R. §45-10-4.1 R30-04100009-2002 Permit Condition: III.B.2.a.iv. = R30-04100009-2002 Condition Number III.C.3. and III.E.1.

For C.S.R. §45-10-5.1 R30-04100009-2002 Permit Condition: III.B.2.a.v. = R30-04100009-2002 Condition Number III.C.4 and III.E.1.

For C.S.R. §45-13 (Permit R13-2397) R30-04100009-2002 Permit Condition: III.B.2.a.vi. = R30-04100009-2002 Condition Number III.C.5, III.C.6., and III.E.1.

For C.S.R. §45-30-12.7: Revise Permit Condition III.B.2.a.vi. to reflect revised emissions shown above. Additionally, revise frequency of compliance demonstration in Permit Condition III.C.5.

For C.S.R. §45-13 (Permit R13-2397) R30-04100009-2002 Permit Condition: III.B.2.a.vii. = R30-04100009-2002 Condition Number III.B.2.a.vii.

For C.S.R. §45-13 (Permit R13-2397). R30-04100009-2002 Permit Condition: III.B.2.a.vi = R30-04100009-2002 Condition Number III.C.11.

Are you in compliance with all applicable requirements for this emission unit? Yes No

If no, complete the **Schedule of Compliance Form** as ATTACHMENT F.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: 003-01	Emission unit name: 003-01	List any control devices associated with this emission unit. N/A
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):
Natural Gas Fired Heating Boiler; 0.675 MMBtu/hr

Manufacturer: Ajax	Model number: WG-675D	Serial number: 81-33656
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Construction date: 1981	Installation date: 1981	Modification date(s): N/A
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Design Capacity (examples: furnaces - tons/hr, tanks - gallons):
0.675 MMBtu/hr

Maximum Hourly Throughput: 0.625 Mscf/hr	Maximum Annual Throughput: 5.479 MMcf/yr	Maximum Operating Schedule: 24 hours, 7 days a week, 8760 hours a year
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Fuel Usage Data (fill out all applicable fields)

Does this emission unit combust fuel? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes, is it? <input type="checkbox"/> Indirect Fired <input checked="" type="checkbox"/> Direct
--	---

Maximum design heat input and/or maximum horsepower rating: 0.675 MMBtu/hr	Type and Btu/hr rating of burners: N/A
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List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.
Natural gas

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
Natural Gas	10.6 ppm(w)		1080 Btu/scf

Emissions Data		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	0.06	0.24
Nitrogen Oxides (NO _x)	0.07	0.29
Lead (Pb)	N/A	N/A
Particulate Matter (PM ₁₀)	N/A	N/A
Total Particulate Matter (TSP)	0.01	0.02
Sulfur Dioxide (SO ₂)	0.0004	0.002
Volatile Organic Compounds (VOC)	0.004	0.02
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
See attached Table E-2		
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
See attached Table E-2		

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

To calculate potential emissions for CO, PM10, PM, NOx, SO2, VOC and Formaldehyde, used AP-42 factors taken from Chapter 1.4, Table 1.4-1 and 1.4-2 (dated 7/1998). The fuel usage value is 0.675 MMBtu/hr. The AP-42 emission factors (in lb/MMBtu) were multiplied by the engine's fuel usage to get potential emissions in pounds per hour. To determine tons per year, the pounds per hour value was multiplied by 8760 hours per year and divided by 2000 lbs per ton.

To calculate potential emissions for HAPs and other regulated pollutants, used AP-42 factors taken from Chapter 2.2, Table 3.2-2 (dated 7/2000). These emission factors were multiplied by the fuel usage value of MMBtu/hr (as previously stated) to get the pounds per hour emission rate. To determine tons per year, the pounds per hour value was multiplied by 8760 hours per year divided by 2000 lbs per ton.

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the rule citation and/or permit with the condition number. If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

- C.S.R. §45-6-3.1 R30-04100009-2002 Permit condition: III.B.1.a.i
- C.S.R. §45-6-3.2 R30-04100009-2002 Permit condition: III.B.1.a.ii
- 40 C.F.R. §§61.145, 61.148, and 61.150. R30-04100009-2002 Permit condition: III.B.1.a.iii
- C.S.R. §45-30-4.3.h.1.B R30-04100009-2002 Permit condition: III.B.1.a.iv
- WV Code §22-5-4(a)(15) R30-04100009-2002 Permit condition: III.B.1.a.v
- C.S.R. §45-4-3.1 R30-04100009-2002 Permit condition: III.B.1.b.i
- C.S.R. §45-13-10.5 R30-04100009-2002 Permit condition: III.B.1.b.ii
- C.S.R. §45-11-5.2 R30-04100009-2002 Permit condition: III.B.2.a.i
- WV Code §22-5-4(a)(14) R30-04100009-2002 Permit condition: III.B.2.a.ii
- C.S.R. §45-2-3.1 R30-04100009-2002 Permit condition: III.B.2.a.iii.

____ Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

- For C.S.R. §45-6-3.1 R30-04100009-2002 Permit condition: III.B.1.a.i = N/A
- For C.S.R. §45-6-3.2 R30-04100009-2002 Permit condition: III.B.1.a.ii = N/A
- For 40 C.F.R. §§61.145, 61.148, and 61.150. R30-04100009-2002 Permit condition: III.B.1.a.iii = N/A
- For C.S.R. §45-30-4.3.h.1.B R30-04100009-2002 Permit condition: III.B.1.a.iv = N/A
- For WV Code §22-5-4(a)(15) R30-04100009-2002 Permit condition: III.B.1.a.v = R30-04100009-2002 Condition Number III.B.1.a.v.
- For C.S.R. §45-2-3.1 R30-04100009-2002 Permit condition: III.B.2.a.iii. = R30-04100009-2002 Condition Number III.C.1.
- For C.S.R. §45-13-10.5 R30-04100009-2002 Permit condition: III.B.1.b.ii = R30-04100009-2002 Condition Number III.B.1.b.ii.
- For C.S.R. §45-11-5.2 R30-04100009-2002 Permit condition: III.B.2.a.i = N/A
- For WV Code §22-5-4(a)(14) R30-04100009-2002 Permit condition: III.B.2.a.ii = R30-04100009-2002 Condition Number III.B.2.a.ii.
- For C.S.R. §45-2-3.1 R30-04100009-2002 Permit condition: III.B.2.a.iii. = R30-04100009-2002 Condition Number III.C.2., III.E.1.

Are you in compliance with all applicable requirements for this emission unit? Yes No

If no, complete the **Schedule of Compliance Form** as ATTACHMENT F.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: 003-02	Emission unit name: 003-02	List any control devices associated with this emission unit. N/A
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):
Natural Gas Fired Hot Water Heater; 0.03 MMBtu/hr

Manufacturer: WL Jackson Mfg.Co.	Model number: G 030 05	Serial number: 66552-1080
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Construction date: 1987	Installation date: 1987	Modification date(s): N/A
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Design Capacity (examples: furnaces - tons/hr, tanks - gallons):
0.03 MMBtu/hr

Maximum Hourly Throughput: 0.0278 Mscf/hr	Maximum Annual Throughput: 0.244 MMcf/yr	Maximum Operating Schedule: 24 hours, 7 days a week, 8760 hours a year
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Fuel Usage Data (fill out all applicable fields)

Does this emission unit combust fuel? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes, is it? <input type="checkbox"/> Indirect Fired <input checked="" type="checkbox"/> Direct
--	---

Maximum design heat input and/or maximum horsepower rating: 0.03 MMBtu/hr	Type and Btu/hr rating of burners: N/A
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List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.
Natural gas

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
Natural Gas	10.6 ppm(w)		1080 Btu/scf

<i>Emissions Data</i>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	0.002	0.01
Nitrogen Oxides (NO _x)	0.003	0.01
Lead (Pb)	N/A	N/A
Particulate Matter (PM ₁₀)		
Total Particulate Matter (TSP)	0.002	0.001
Sulfur Dioxide (SO ₂)	0.00002	0.00008
Volatile Organic Compounds (VOC)	0.002	0.0007
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
See attached Table E-2		
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
See attached Table E-2		

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

To calculate potential emissions for CO, PM10, PM, NOx, SO2, VOC and Formaldehyde, used AP-42 factors taken from Chapter 1.4, Table 1.4-1 and 1.4-2 (dated 7/1998). The fuel usage value is 0.03 MMBtu/hr. The AP-42 emission factors (in lb/MMBtu) were multiplied by the engine's fuel usage to get potential emissions in pounds per hour. To determine tons per year, the pounds per hour value was multiplied by 8760 hours per year and divided by 2000 lbs per ton.

To calculate potential emissions for HAPs and other regulated pollutants, used AP-42 factors taken from Chapter 2.2, Table 3.2-2 (dated 7/2000). These emission factors were multiplied by the fuel usage value of MMBtu/hr (previously stated) to get the pounds per hour emission rate. To determine tons per year, the pounds per hour value was multiplied by 8760 hours per year and divided by 2000 lbs per ton.

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the rule citation and/or permit with the condition number. If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

- C.S.R. §45-6-3.1 R30-04100009-2002 Permit condition: III.B.1.a.i
- C.S.R. §45-6-3.2 R30-04100009-2002 Permit condition: III.B.1.a.ii
- 40 C.F.R. §§61.145, 61.148, and 61.150. R30-04100009-2002 Permit condition: III.B.1.a.iii
- C.S.R. §45-30-4.3.h.1.B R30-04100009-2002 Permit condition: III.B.1.a.iv
- WV Code §22-5-4(a)(15) R30-04100009-2002 Permit condition: III.B.1.a.v
- C.S.R. §45-4-3.1 R30-04100009-2002 Permit condition: III.B.1.b.i
- C.S.R. §45-13-10.5 R30-04100009-2002 Permit condition: III.B.1.b.ii
- C.S.R. §45-11-5.2 R30-04100009-2002 Permit condition: III.B.2.a.i
- WV Code §22-5-4(a)(14) R30-04100009-2002 Permit condition: III.B.2.a.ii
- C.S.R. §45-2-3.1 R30-04100009-2002 Permit condition: III.B.2.a.iii.

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For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

- For C.S.R. §45-6-3.1 R30-04100009-2002 Permit condition: III.B.1.a.i = N/A
- For C.S.R. §45-6-3.2 R30-04100009-2002 Permit condition: III.B.1.a.ii = N/A
- For 40 C.F.R. §§61.145, 61.148, and 61.150. R30-04100009-2002 Permit condition: III.B.1.a.iii = N/A
- For C.S.R. §45-30-4.3.h.1.B R30-04100009-2002 Permit condition: III.B.1.a.iv = N/A
- For WV Code §22-5-4(a)(15) R30-04100009-2002 Permit condition: III.B.1.a.v = R30-04100009-2002 Condition Number III.B.1.a.v.
- For C.S.R. §45-2-3.1 R30-04100009-2002 Permit condition: III.B.2.a.iii. = R30-04100009-2002 Condition Number III.C.1.
- For C.S.R. §45-13-10.5 R30-04100009-2002 Permit condition: III.B.1.b.ii = R30-04100009-2002 Condition Number III.B.1.b.ii.
- For C.S.R. §45-11-5.2 R30-04100009-2002 Permit condition: III.B.2.a.i = N/A
- For WV Code §22-5-4(a)(14) R30-04100009-2002 Permit condition: III.B.2.a.ii = R30-04100009-2002 Condition Number III.B.2.a.ii.
- For C.S.R. §45-2-3.1 R30-04100009-2002 Permit condition: III.B.2.a.iii. = R30-04100009-2002 Condition Number III.C.2., III.E.1.

Are you in compliance with all applicable requirements for this emission unit? Yes No

If no, complete the **Schedule of Compliance Form** as ATTACHMENT F.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: Copley 1	Emission unit name: Copley 1	List any control devices associated with this emission unit. N/A
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):
Triethylene Glycol horizontal fixed roof storage tank. 4000 gallons

Manufacturer: Highland Tank & MFG Co.	Model number: N/A	Serial number: N/A
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Construction date: 1992	Installation date: 1992	Modification date(s): N/A
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Design Capacity (examples: furnaces - tons/hr, tanks - gallons):
4000 gallons

Maximum Hourly Throughput: N/A	Maximum Annual Throughput: 4000 gallons	Maximum Operating Schedule: 24 hours, 7 days a week, 8760 hours a year
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Fuel Usage Data (fill out all applicable fields)

Does this emission unit combust fuel? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes, is it? N/A <input type="checkbox"/> Indirect Fired <input type="checkbox"/> Direct Fired
--	--

Maximum design heat input and/or maximum horsepower rating: N/A	Type and Btu/hr rating of burners: N/A
---	--

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.
N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
TEG	N/A	N/A	N/A

Emissions Data

Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)		
Nitrogen Oxides (NO _x)		
Lead (Pb)		
Particulate Matter (PM ₁₀)		
Total Particulate Matter (TSP)		
Sulfur Dioxide (SO ₂)		
Volatile Organic Compounds (VOC)		
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
See attached TANK output		

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

Used the EPA program Tanks 4.09D with the following variables:

Type of tank = Horizontal fixed roof
 Shell length = 24 ft
 Shell diameter = 5.33 ft
 Volume = 4000 gallons
 Turnovers = 1
 Throughput = 4000 gallons
 Shell Color/Shade = Black/Black
 Shell Condition = Good
 Vacuum setting = 0.00 psig
 Pressure setting = 0.00 psig
 Meteorological date used = Charleston, West Virginia

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the rule citation and/or permit with the condition number. If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

- C.S.R. §45-6-3.1 R30-04100009-2002 Permit condition: III.B.1.a.i
- C.S.R. §45-6-3.2 R30-04100009-2002 Permit condition: III.B.1.a.ii
- 40 C.F.R. §§61.145, 61.148, and 61.150. R30-04100009-2002 Permit condition: III.B.1.a.iii
- C.S.R. §45-30-4.3.h.1.B R30-04100009-2002 Permit condition: III.B.1.a.iv
- WV Code §22-5-4(a)(15) R30-04100009-2002 Permit condition: III.B.1.a.v
- C.S.R. §45-4-3.1 R30-04100009-2002 Permit condition: III.B.1.b.i
- C.S.R. §45-13-10.5 R30-04100009-2002 Permit condition: III.B.1.b.ii
- C.S.R. §45-11-5.2 R30-04100009-2002 Permit condition: III.B.2.a.i
- WV Code §22-5-4(a)(14) R30-04100009-2002 Permit condition: III.B.2.a.ii

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For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

- For C.S.R. §45-6-3.1 R30-04100009-2002 Permit condition: III.B.1.a.i = N/A
- For C.S.R. §45-6-3.2 R30-04100009-2002 Permit condition: III.B.1.a.ii = N/A
- For 40 C.F.R. §§61.145, 61.148, and 61.150. R30-04100009-2002 Permit condition: III.B.1.a.iii = N/A
- For C.S.R. §45-30-4.3.h.1.B R30-04100009-2002 Permit condition: III.B.1.a.iv = N/A
- For WV Code §22-5-4(a)(15) R30-04100009-2002 Permit condition: III.B.1.a.v = R30-04100009-2002 Condition Number III.B.1.a.v.
- For C.S.R. §45-4-3.1 R30-04100009-2002 Permit condition: III.B.1.b.i = R30-04100009-2002 Condition Number III.C.1.
- For C.S.R. §45-13-10.5 R30-04100009-2002 Permit condition: III.B.1.b.ii = R30-04100009-2002 Condition Number III.B.1.b.ii.
- For C.S.R. §45-11-5.2 R30-04100009-2002 Permit condition: III.B.2.a.i = N/A
- For WV Code §22-5-4(a)(14) R30-04100009-2002 Permit condition: III.B.2.a.ii = R30-04100009-2002 Condition Number III.B.2.a.ii.

Are you in compliance with all applicable requirements for this emission unit? Yes No

If no, complete the **Schedule of Compliance Form** as ATTACHMENT F.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: Copley 2	Emission unit name: Copley 2	List any control devices associated with this emission unit. N/A
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):
Pipeline Condensate horizontal fixed roof storage tank. 20000 gallons

Manufacturer: Highland Tank & MFG Co.	Model number: N/A	Serial number: 723
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Construction date: 1992	Installation date: 1992	Modification date(s): N/A
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Design Capacity (examples: furnaces - tons/hr, tanks - gallons):
20000 gallons

Maximum Hourly Throughput: N/A	Maximum Annual Throughput: 20000 gallons	Maximum Operating Schedule: 24 hours, 7 days a week, 8760 hours a year
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Fuel Usage Data (fill out all applicable fields)

Does this emission unit combust fuel? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes, is it? N/A <input type="checkbox"/> Indirect Fired <input type="checkbox"/> Direct Fired
Maximum design heat input and/or maximum horsepower rating: N/A	Type and Btu/hr rating of burners: N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.
N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
Pipeline Condensates	N/A	N/A	N/A

Emissions Data		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)		
Nitrogen Oxides (NO _x)		
Lead (Pb)		
Particulate Matter (PM ₁₀)		
Total Particulate Matter (TSP)		
Sulfur Dioxide (SO ₂)		
Volatile Organic Compounds (VOC)		
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
See attached TANK output		
<p>List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).</p> <p>Used the EPA program Tanks 4.09D with the following variables:</p> <p>Type of tank = Horizontal fixed roof Shell length = 35 ft Shell diameter = 10 ft Volume = 20000 gallons Turnovers = 1 Throughput = 68000 gallons Shell Color/Shade = Black/Black Shell Condition = Good Vacuum setting = 0.00 psig Pressure setting = 0.00 psig Meteorological date used = Charleston, West Virginia</p> <p>Estimated emissions in TANK assuming contents equivalent to methanol. This is considered conservative because actual contents are approximately 80% water/20% hydrocarbon.</p>		

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the rule citation and/or permit with the condition number. If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

- C.S.R. §45-6-3.1 R30-04100009-2002 Permit condition: III.B.1.a.i
- C.S.R. §45-6-3.2 R30-04100009-2002 Permit condition: III.B.1.a.ii
- 40 C.F.R. §§61.145, 61.148, and 61.150. R30-04100009-2002 Permit condition: III.B.1.a.iii
- C.S.R. §45-30-4.3.h.1.B R30-04100009-2002 Permit condition: III.B.1.a.iv
- WV Code §22-5-4(a)(15) R30-04100009-2002 Permit condition: III.B.1.a.v
- C.S.R. §45-4-3.1 R30-04100009-2002 Permit condition: III.B.1.b.i
- C.S.R. §45-13-10.5 R30-04100009-2002 Permit condition: III.B.1.b.ii
- C.S.R. §45-11-5.2 R30-04100009-2002 Permit condition: III.B.2.a.i
- WV Code §22-5-4(a)(14) R30-04100009-2002 Permit condition: III.B.2.a.ii
- C.F.R. §40-60.116b(a) and (b). R30-04100009-2002 Permit condition: III.B.1.a.xii

____ Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

- For C.S.R. §45-6-3.1 R30-04100009-2002 Permit condition: III.B.1.a.i = N/A
- For C.S.R. §45-6-3.2 R30-04100009-2002 Permit condition: III.B.1.a.ii = N/A
- For 40 C.F.R. §§61.145, 61.148, and 61.150. R30-04100009-2002 Permit condition: III.B.1.a.iii = N/A
- For C.S.R. §45-30-4.3.h.1.B R30-04100009-2002 Permit condition: III.B.1.a.iv = N/A
- For WV Code §22-5-4(a)(15) R30-04100009-2002 Permit condition: III.B.1.a.v = R30-04100009-2002 Condition Number III.B.1.a.v.
- For C.S.R. §45-4-3.1 R30-04100009-2002 Permit condition: III.B.1.b.i = R30-04100009-2002 Condition Number III.C.1.
- For C.S.R. §45-13-10.5 R30-04100009-2002 Permit condition: III.B.1.b.ii = R30-04100009-2002 Condition Number III.B.1.b.ii.
- For C.S.R. §45-11-5.2 R30-04100009-2002 Permit condition: III.B.2.a.i = N/A
- For WV Code §22-5-4(a)(14) R30-04100009-2002 Permit condition: III.B.2.a.ii = R30-04100009-2002 Condition Number III.B.2.a.ii.
- For C.F.R. §40-60.116b(a) and (b). R30-04100009-2002 Permit condition: III.B.2.a.xii = R30-04100009-2002 Condition Number III.B.2.a.xii.

Are you in compliance with all applicable requirements for this emission unit? Yes No

If no, complete the **Schedule of Compliance Form** as ATTACHMENT F.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: Copley3	Emission unit name: Copley 3	List any control devices associated with this emission unit. N/A
--	--	--

Provide a description of the emission unit (type, method of operation, design parameters, etc.):
Crude Oil horizontal fixed roof storage tank. 2000 gallons

Manufacturer: Highland Tank & MFG Co.	Model number: N/A	Serial number: 720
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Construction date: 1992	Installation date: 1992	Modification date(s): N/A
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Design Capacity (examples: furnaces - tons/hr, tanks - gallons):
2000 gallons

Maximum Hourly Throughput: N/A	Maximum Annual Throughput: 2000 gallons	Maximum Operating Schedule: 24 hours, 7 days a week, 8760 hours a year
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Fuel Usage Data (fill out all applicable fields)

Does this emission unit combust fuel? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes, is it? N/A <input type="checkbox"/> Indirect Fired <input type="checkbox"/> Direct Fired
--	--

Maximum design heat input and/or maximum horsepower rating: N/A	Type and Btu/hr rating of burners: N/A
---	--

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.
N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
Crude Oil	N/A	N/A	N/A

Emissions Data		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)		
Nitrogen Oxides (NO _x)		
Lead (Pb)		
Particulate Matter (PM ₁₀)		
Total Particulate Matter (TSP)		
Sulfur Dioxide (SO ₂)		
Volatile Organic Compounds (VOC)		
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
See attached TANK output		
<p>List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).</p> <p>Used the EPA program Tanks 4.09D with the following variables:</p> <p>Type of tank = Horizontal fixed roof Shell length = 13 ft Shell diameter = 5 ft Volume = 2000 gallons Turnovers = 1 Throughput = 2000 gallons Shell Color/Shade = Black/Black Shell Condition = Good Vacuum setting = 0.00 psig Pressure setting = 0.00 psig Meteorological date used = Charleston, West Virginia</p>		

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the rule citation and/or permit with the condition number. If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

- C.S.R. §45-6-3.1 R30-04100009-2002 Permit condition: III.B.1.a.i
- C.S.R. §45-6-3.2 R30-04100009-2002 Permit condition: III.B.1.a.ii
- 40 C.F.R. §§61.145, 61.148, and 61.150. R30-04100009-2002 Permit condition: III.B.1.a.iii
- C.S.R. §45-30-4.3.h.1.B R30-04100009-2002 Permit condition: III.B.1.a.iv
- WV Code §22-5-4(a)(15) R30-04100009-2002 Permit condition: III.B.1.a.v
- C.S.R. §45-4-3.1 R30-04100009-2002 Permit condition: III.B.1.b.i
- C.S.R. §45-13-10.5 R30-04100009-2002 Permit condition: III.B.1.b.ii
- C.S.R. §45-11-5.2 R30-04100009-2002 Permit condition: III.B.2.a.i
- WV Code §22-5-4(a)(14) R30-04100009-2002 Permit condition: III.B.2.a.ii

____ Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

- For C.S.R. §45-6-3.1 R30-04100009-2002 Permit condition: III.B.1.a.i = N/A
- For C.S.R. §45-6-3.2 R30-04100009-2002 Permit condition: III.B.1.a.ii = N/A
- For 40 C.F.R. §§61.145, 61.148, and 61.150. R30-04100009-2002 Permit condition: III.B.1.a.iii = N/A
- For C.S.R. §45-30-4.3.h.1.B R30-04100009-2002 Permit condition: III.B.1.a.iv = N/A
- For WV Code §22-5-4(a)(15) R30-04100009-2002 Permit condition: III.B.1.a.v = R30-04100009-2002 Condition Number III.B.1.a.v.
- For C.S.R. §45-4-3.1 R30-04100009-2002 Permit condition: III.B.1.b.i = R30-04100009-2002 Condition Number III.C.1.
- For C.S.R. §45-13-10.5 R30-04100009-2002 Permit condition: III.B.1.b.ii = R30-04100009-2002 Condition Number III.B.1.b.ii.
- For C.S.R. §45-11-5.2 R30-04100009-2002 Permit condition: III.B.2.a.i = N/A
- For WV Code §22-5-4(a)(14) R30-04100009-2002 Permit condition: III.B.2.a.ii = R30-04100009-2002 Condition Number III.B.2.a.ii.

Are you in compliance with all applicable requirements for this emission unit? Yes No

If no, complete the **Schedule of Compliance Form** as ATTACHMENT F.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: Copley 4	Emission unit name: Copley 4	List any control devices associated with this emission unit. N/A
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):
Methanol horizontal fixed roof storage tank. 2000 gallons

Manufacturer: Economy Tank	Model number: N/A	Serial number: N/A
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Construction date: 1996	Installation date: 1996	Modification date(s): N/A
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Design Capacity (examples: furnaces - tons/hr, tanks - gallons):
2000 gallons

Maximum Hourly Throughput: N/A	Maximum Annual Throughput: 2000 gallons	Maximum Operating Schedule: 24 hours, 7 days a week, 8760 hours a year
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Fuel Usage Data (fill out all applicable fields)

Does this emission unit combust fuel? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes, is it? N/A <input type="checkbox"/> Indirect Fired <input type="checkbox"/> Direct Fired
--	--

Maximum design heat input and/or maximum horsepower rating: N/A	Type and Btu/hr rating of burners: N/A
---	--

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.
N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
Methanol	N/A	N/A	N/A

Emissions Data

Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)		
Nitrogen Oxides (NO _x)		
Lead (Pb)		
Particulate Matter (PM ₁₀)		
Total Particulate Matter (TSP)		
Sulfur Dioxide (SO ₂)		
Volatile Organic Compounds (VOC)		
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
See attached TANK output		

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

Used the EPA program Tanks 4.09D with the following variables:

Type of tank = Horizontal fixed roof
Shell length = 12 ft
Shell diameter = 5.33 ft
Volume = 2000 gallons
Turnovers = 1
Throughput = 2000 gallons
Shell Color/Shade = Black/Black
Shell Condition = Good
Vacuum setting = 0.00 psig
Pressure setting = 0.00 psig
Meteorological date used = Charleston, West Virginia

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the rule citation and/or permit with the condition number. If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

- C.S.R. §45-6-3.1 R30-04100009-2002 Permit condition: III.B.1.a.i
- C.S.R. §45-6-3.2 R30-04100009-2002 Permit condition: III.B.1.a.ii
- 40 C.F.R. §§61.145, 61.148, and 61.150. R30-04100009-2002 Permit condition: III.B.1.a.iii
- C.S.R. §45-30-4.3.h.1.B R30-04100009-2002 Permit condition: III.B.1.a.iv
- WV Code §22-5-4(a)(15) R30-04100009-2002 Permit condition: III.B.1.a.v
- C.S.R. §45-4-3.1 R30-04100009-2002 Permit condition: III.B.1.b.i
- C.S.R. §45-13-10.5 R30-04100009-2002 Permit condition: III.B.1.b.ii
- C.S.R. §45-11-5.2 R30-04100009-2002 Permit condition: III.B.2.a.i
- WV Code §22-5-4(a)(14) R30-04100009-2002 Permit condition: III.B.2.a.ii

____ Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

- For C.S.R. §45-6-3.1 R30-04100009-2002 Permit condition: III.B.1.a.i = N/A
- For C.S.R. §45-6-3.2 R30-04100009-2002 Permit condition: III.B.1.a.ii = N/A
- For 40 C.F.R. §§61.145, 61.148, and 61.150. R30-04100009-2002 Permit condition: III.B.1.a.iii = N/A
- For C.S.R. §45-30-4.3.h.1.B R30-04100009-2002 Permit condition: III.B.1.a.iv = N/A
- For WV Code §22-5-4(a)(15) R30-04100009-2002 Permit condition: III.B.1.a.v = R30-04100009-2002 Condition Number III.B.1.a.v.
- For C.S.R. §45-4-3.1 R30-04100009-2002 Permit condition: III.B.1.b.i = R30-04100009-2002 Condition Number III.C.1.
- For C.S.R. §45-13-10.5 R30-04100009-2002 Permit condition: III.B.1.b.ii = R30-04100009-2002 Condition Number III.B.1.b.ii.
- For C.S.R. §45-11-5.2 R30-04100009-2002 Permit condition: III.B.2.a.i = N/A
- For WV Code §22-5-4(a)(14) R30-04100009-2002 Permit condition: III.B.2.a.ii = R30-04100009-2002 Condition Number III.B.2.a.ii.

Are you in compliance with all applicable requirements for this emission unit? Yes No

If no, complete the **Schedule of Compliance Form** as ATTACHMENT F.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: Copley 5	Emission unit name: Copley 5	List any control devices associated with this emission unit. N/A
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):
New Oil horizontal fixed roof storage tank. 7500 gallons

Manufacturer: Highland Tank & MFG Co.	Model number: N/A	Serial number: 722
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Construction date: 1992	Installation date: 1992	Modification date(s): N/A
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Design Capacity (examples: furnaces - tons/hr, tanks - gallons):
7500 gallons

Maximum Hourly Throughput: N/A	Maximum Annual Throughput: 7500 gallons	Maximum Operating Schedule: 24 hours, 7 days a week, 8760 hours a year
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Fuel Usage Data (fill out all applicable fields)

Does this emission unit combust fuel? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes, is it? N/A <input type="checkbox"/> Indirect Fired <input type="checkbox"/> Direct Fired
--	--

Maximum design heat input and/or maximum horsepower rating: N/A	Type and Btu/hr rating of burners: N/A
---	--

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.
N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
Lube Oil	N/A	N/A	N/A

Emissions Data		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)		
Nitrogen Oxides (NO _x)		
Lead (Pb)		
Particulate Matter (PM ₁₀)		
Total Particulate Matter (TSP)		
Sulfur Dioxide (SO ₂)		
Volatile Organic Compounds (VOC)		
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
See attached TANKS output		
<p>List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).</p> <p>Used the EPA program Tanks 4.09D with the following variables:</p> <p>Type of tank = Horizontal fixed roof Shell length = 18 ft Shell diameter = 9 ft Volume = 7500 gallons Turnovers = 1 Throughput = 7500 gallons Shell Color/Shade = Black/Black Shell Condition = Good Vacuum setting = 0.00 psig Pressure setting = 0.00 psig Meteorological date used = Charleston, West Virginia</p> <p>Estimated emissions in TANKS assuming contents similar to No. 6 Fuel Oil. This is conservative assumption based on similar volatility between generic lube oil and No. 6 Fuel Oil.</p>		

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the rule citation and/or permit with the condition number. If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

- C.S.R. §45-6-3.1 R30-04100009-2002 Permit condition: III.B.1.a.i
- C.S.R. §45-6-3.2 R30-04100009-2002 Permit condition: III.B.1.a.ii
- 40 C.F.R. §§61.145, 61.148, and 61.150. R30-04100009-2002 Permit condition: III.B.1.a.iii
- C.S.R. §45-30-4.3.h.1.B R30-04100009-2002 Permit condition: III.B.1.a.iv
- WV Code §22-5-4(a)(15) R30-04100009-2002 Permit condition: III.B.1.a.v
- C.S.R. §45-4-3.1 R30-04100009-2002 Permit condition: III.B.1.b.i
- C.S.R. §45-13-10.5 R30-04100009-2002 Permit condition: III.B.1.b.ii
- C.S.R. §45-11-5.2 R30-04100009-2002 Permit condition: III.B.2.a.i
- WV Code §22-5-4(a)(14) R30-04100009-2002 Permit condition: III.B.2.a.ii

____ Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

- For C.S.R. §45-6-3.1 R30-04100009-2002 Permit condition: III.B.1.a.i = N/A
- For C.S.R. §45-6-3.2 R30-04100009-2002 Permit condition: III.B.1.a.ii = N/A
- For 40 C.F.R. §§61.145, 61.148, and 61.150. R30-04100009-2002 Permit condition: III.B.1.a.iii = N/A
- For C.S.R. §45-30-4.3.h.1.B R30-04100009-2002 Permit condition: III.B.1.a.iv = N/A
- For WV Code §22-5-4(a)(15) R30-04100009-2002 Permit condition: III.B.1.a.v = R30-04100009-2002 Condition Number III.B.1.a.v.
- For C.S.R. §45-4-3.1 R30-04100009-2002 Permit condition: III.B.1.b.i = R30-04100009-2002 Condition Number III.C.1.
- For C.S.R. §45-13-10.5 R30-04100009-2002 Permit condition: III.B.1.b.ii = R30-04100009-2002 Condition Number III.B.1.b.ii.
- For C.S.R. §45-11-5.2 R30-04100009-2002 Permit condition: III.B.2.a.i = N/A
- For WV Code §22-5-4(a)(14) R30-04100009-2002 Permit condition: III.B.2.a.ii = R30-04100009-2002 Condition Number III.B.2.a.ii.

Are you in compliance with all applicable requirements for this emission unit? Yes No

If no, complete the **Schedule of Compliance Form** as ATTACHMENT F.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: Copley 6	Emission unit name: Copley 6	List any control devices associated with this emission unit. N/A
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):
Ambitrol horizontal fixed roof storage tank. 3000 gallons

Manufacturer: Highland Tank & MFG Co.	Model number: N/A	Serial number: 721
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Construction date: 1992	Installation date: 1992	Modification date(s): N/A
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Design Capacity (examples: furnaces - tons/hr, tanks - gallons):
3000 gallons

Maximum Hourly Throughput: N/A	Maximum Annual Throughput: 3000 gallons	Maximum Operating Schedule: 24 hours, 7 days a week, 8760 hours a year
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Fuel Usage Data (fill out all applicable fields)

Does this emission unit combust fuel? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes, is it? N/A <input type="checkbox"/> Indirect Fired <input type="checkbox"/> Direct Fired
--	--

Maximum design heat input and/or maximum horsepower rating: N/A	Type and Btu/hr rating of burners: N/A
---	--

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.
N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
Ambitrol	N/A	N/A	N/A

Emissions Data

Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)		
Nitrogen Oxides (NO _x)		
Lead (Pb)		
Particulate Matter (PM ₁₀)		
Total Particulate Matter (TSP)		
Sulfur Dioxide (SO ₂)		
Volatile Organic Compounds (VOC)		
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
See attached TANK output		

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

Used the EPA program Tanks 4.09D with the following variables:

- Type of tank = Horizontal fixed roof
- Shell length = 20 ft
- Shell diameter = 5 ft
- Volume = 3000 gallons
- Turnovers = 1
- Throughput = 3000 gallons
- Shell Color/Shade = Black/Black
- Shell Condition = Good
- Vacuum setting = 0.00 psig
- Pressure setting = 0.00 psig
- Meteorological date used = Charleston, West Virginia

Estimated emissions in TANK assuming contents equivalent to propylene glycol. This is a conservative estimate because Ambitrol (an industrial coolant) is generally 30% to 50% propylene glycol.

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the rule citation and/or permit with the condition number. If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

- C.S.R. §45-6-3.1 R30-04100009-2002 Permit condition: III.B.1.a.i
- C.S.R. §45-6-3.2 R30-04100009-2002 Permit condition: III.B.1.a.ii
- 40 C.F.R. §§61.145, 61.148, and 61.150. R30-04100009-2002 Permit condition: III.B.1.a.iii
- C.S.R. §45-30-4.3.h.1.B R30-04100009-2002 Permit condition: III.B.1.a.iv
- WV Code §22-5-4(a)(15) R30-04100009-2002 Permit condition: III.B.1.a.v
- C.S.R. §45-4-3.1 R30-04100009-2002 Permit condition: III.B.1.b.i
- C.S.R. §45-13-10.5 R30-04100009-2002 Permit condition: III.B.1.b.ii
- C.S.R. §45-11-5.2 R30-04100009-2002 Permit condition: III.B.2.a.i
- WV Code §22-5-4(a)(14) R30-04100009-2002 Permit condition: III.B.2.a.ii

____ Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

- For C.S.R. §45-6-3.1 R30-04100009-2002 Permit condition: III.B.1.a.i = N/A
- For C.S.R. §45-6-3.2 R30-04100009-2002 Permit condition: III.B.1.a.ii = N/A
- For 40 C.F.R. §§61.145, 61.148, and 61.150. R30-04100009-2002 Permit condition: III.B.1.a.iii = N/A
- For C.S.R. §45-30-4.3.h.1.B R30-04100009-2002 Permit condition: III.B.1.a.iv = N/A
- For WV Code §22-5-4(a)(15) R30-04100009-2002 Permit condition: III.B.1.a.v = R30-04100009-2002 Condition Number III.B.1.a.v.
- For C.S.R. §45-4-3.1 R30-04100009-2002 Permit condition: III.B.1.b.i = R30-04100009-2002 Condition Number III.C.1.
- For C.S.R. §45-13-10.5 R30-04100009-2002 Permit condition: III.B.1.b.ii = R30-04100009-2002 Condition Number III.B.1.b.ii.
- For C.S.R. §45-11-5.2 R30-04100009-2002 Permit condition: III.B.2.a.i = N/A
- For WV Code §22-5-4(a)(14) R30-04100009-2002 Permit condition: III.B.2.a.ii = R30-04100009-2002 Condition Number III.B.2.a.ii

Are you in compliance with all applicable requirements for this emission unit? Yes No

If no, complete the **Schedule of Compliance Form** as ATTACHMENT F.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: 004-01	Emission unit name: Dehy Flare	List any control devices associated with this emission unit. N/A
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):
Triethylene Glycol dehydration unit; 0.65 MMBtu/hr

Consists of a natural gas-fired reboiler and a flare

Manufacturer: Nalco	Model number: 5 GR-3000-TX10	Serial number: N/A
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Construction date: 01/01/1992	Installation date: 01/01/1992	Modification date(s): N/A
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Design Capacity (examples: furnaces - tons/hr, tanks - gallons):
0.65 MMBtu/hr

Maximum Hourly Throughput: N/A	Maximum Annual Throughput: 8.928 MMcf/yr	Maximum Operating Schedule: 24 hours, 7 days a week, 8760 hours a year
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Fuel Usage Data (fill out all applicable fields)

Does this emission unit combust fuel? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes, is it? N/A <input type="checkbox"/> Indirect Fired <input checked="" type="checkbox"/> Direct
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Maximum design heat input and/or maximum horsepower rating: 0.65 MMBtu/hr	Type and Btu/hr rating of burners: N/A
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List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

Natural gas

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
Natural Gas	10.6 ppm(w)		1080 Btu/scf

<i>Emissions Data</i>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	0.05	0.23
Nitrogen Oxides (NO _x)	0.06	0.28
Lead (Pb)	N/A	N/A
Particulate Matter (PM ₁₀)	0.004	0.02
Total Particulate Matter (TSP)	0.005	0.02
Sulfur Dioxide (SO ₂)	0.0004	0.0004
Volatile Organic Compounds (VOC)		53.35
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
See attached Table E-2		
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
See attached Table E-2		
<p>List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).</p> <p>To calculate potential emissions for CO, PM10, PM, NOx, SO2, VOC and Formaldehyde for the Dehy Reboiler, used AP-42 factors taken from Chapter 1.4, Table 1.4-1 and 1.4-2 (dated 7/1998). The fuel usage value is 0.65 MMBtu/hr. The AP-42 emission factors (in lb/MMBtu) were multiplied by the engine's fuel usage to get potential emissions in pounds per hour. To determine tons per year, the pounds per hour value was multiplied by 8760 hours per year and divided by 2000 lbs per ton.</p> <p>To calculate potential emissions for the flare, estimated using 2006 extended gas analysis data and dehy operating parameters in GLYCalc Verson 4.0. Assumed VOC/HAP control efficiency of 98%.</p> <p>To calculate potential emissions for HAPs and regulated pollutants other than criteria and HAP for the reboiler, used AP-42 factors taken from Chapter 2.2, Table 3.2-2 (dated 7/2000). These emission factors were multiplied by the fuel usage value of MMBtu/hr (previously stated) to get the pounds per hour emission rate. To determine tons per year, the pounds per hour value was multiplied by the number of hours in a year then divided by 2000 lbs.</p> <p>To get the total emissions for the Dehy unit, summed the Reboiler and flare emissions.</p>		

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the rule citation and/or permit with the condition number. If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

- C.S.R. §45-6-3.1 R30-04100009-2002 Permit condition: III.B.1.a.i
- C.S.R. §45-6-3.2 R30-04100009-2002 Permit condition: III.B.1.a.ii
- 40 C.F.R. §§61.145, 61.148, and 61.150. R30-04100009-2002 Permit condition: III.B.1.a.iii
- C.S.R. §45-30-4.3.h.1.B R30-04100009-2002 Permit condition: III.B.1.a.iv
- WV Code §22-5-4(a)(15) R30-04100009-2002 Permit condition: III.B.1.a.v
- C.S.R. §45-4-3.1 R30-04100009-2002 Permit condition: III.B.1.b.i
- C.S.R. §45-13-10.5 R30-04100009-2002 Permit condition: III.B.1.b.ii
- C.S.R. §45-11-5.2 R30-04100009-2002 Permit condition: III.B.2.a.i
- WV Code §22-5-4(a)(14) R30-04100009-2002 Permit condition: III.B.2.a.ii
- C.S.R. §45-6-4.1. R30-04100009-2002 Permit Condition: III.B.2.a.viii.
- C.S.R. §45-6-4.3. R30-04100009-2002 Permit Condition: III.B.2.a.ix.
- C.S.R. §45-6-4.6. R30-04100009-2002 Permit Condition: III.B.2.a.x.
- C.S.R. §45-10-4.1. R30-04100009-2002 Permit Condition: III.B.2.a.iv.
- C.S.R §45-30-12.7: Adjust Permit Condition III.B.2.a.iv. to remove compliance demonstration
condition number III.C.7.
- C.S.R. §45-10-5.1. R30-04100009-2002 Permit Condition: III.B.2.a.v.
- C.S.R. §45-13 (Permit R13-2397). R30-04100009-2002 Permit Condition: III.B.2.a.vi.
- C.S.R. §45-13 (Permit R13-2397). R30-04100009-2002 Permit Condition: III.B.2.a.xi.
- C.S.R §45-30-12.7: Revise emission limits in Permit Condition III.B.2.a.xi. to limit benzene emissions from the Dehy #1 to <1 tpy. Also adjust language to read "The facility shall emit the following HAPs only in the associated amounts:".
- C.S.R. §45-13 (Permit R13-2397). R30-04100009-2002 Permit Condition: III.B.2.a.vi.

____ Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

For C.S.R. §45-6-3.1 R30-04100009-2002 Permit condition: III.B.1.a.i = N/A

For C.S.R. §45-6-3.2 R30-04100009-2002 Permit condition: III.B.1.a.ii = N/A

For 40 C.F.R. §§61.145, 61.148, and 61.150. R30-04100009-2002 Permit condition: III.B.1.a.iii = N/A

For C.S.R. §45-30-4.3.h.1.B R30-04100009-2002 Permit condition: III.B.1.a.iv = N/A

For WV Code §22-5-4(a)(15) R30-04100009-2002 Permit condition: III.B.1.a.v = R30-04100009-2002 Condition Number III.B.1.a.v.

For C.S.R. §45-4-3.1 R30-04100009-2002 Permit condition: III.B.1.b.i = R30-04100009-2002 Condition Number III.C.1.

For C.S.R. §45-13-10.5 R30-04100009-2002 Permit condition: III.B.1.b.ii = R30-04100009-2002 Condition Number III.B.1.b.ii.

For C.S.R. §45-11-5.2 R30-04100009-2002 Permit condition: III.B.2.a.i = N/A

For WV Code §22-5-4(a)(14) R30-04100009-2002 Permit condition: III.B.2.a.ii = R30-04100009-2002

Condition Number III.B.2.a.ii.

For C.S.R. §45-6-4.1. R30-04100009-2002 Permit Condition: III.B.2.a.viii. = R30-04100009-2002

Condition Number III.C.2, III.E.1

For C.S.R. §45-6-4.3. R30-04100009-2002 Permit Condition: III.B.2.a.ix. = R30-04100009-2002

Condition Number III.C.2, III.E.1

For C.S.R. §45-6-4.6. R30-04100009-2002 Permit Condition: III.B.2.a.x. = R30-04100009-2002 Condition

Number III.C.1.

For C.S.R. §45-10-4.1. R30-04100009-2002 Permit Condition: III.B.2.a.iv. = R30-04100009-2002 Condition

Number III.C.7.

For C.S.R. §45-10-5.1. R30-04100009-2002 Permit Condition: III.B.2.a.v. = R30-04100009-2002 Condition

Number III.C.8.

For C.S.R. §45-13 (Permit R13-2397). R30-04100009-2002 Permit Condition: III.B.2.a.vi. = R30-04100009-2002 Condition Number III.C.9. and III.C.10

For C.S.R. §45-13 (Permit R13-2397). R30-04100009-2002 Permit Condition: III.B.2.a.xi. = R30-04100009-2002 Condition Number III.C.9. and III.C.10

For C.S.R. §45-30-12.7: Revise emission limits in Permit Condition III.B.2.a.xi. to limit benzene emissions from the Dehy #1 to <1 tpy. Also adjust language to read "The facility shall emit the following HAPs only in the associated amounts:".

For C.S.R. §45-13 (Permit R13-2397). R30-04100009-2002 Permit Condition: III.B.2.a.vi. = R30-04100009-2002 Condition Number III.C.11.

Are you in compliance with all applicable requirements for this emission unit? Yes No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: 004-02	Emission unit name: Dehy #2	List any control devices associated with this emission unit. N/A
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):
Triethylene Glycol unit; 1.67 MMBtu/hr and 1.2 MMBtu/hr

Consists of a natural gas fired reboiler (Dehy Boiler #2) and an indirect heater.

Manufacturer: Natco	Model number: GS 3100E	Serial number: N/A
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Construction date: 1992	Installation date: 1992	Modification date(s): N/A
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Design Capacity (examples: furnaces - tons/hr, tanks - gallons):
1.67 MMBtu/hr and 1.2 MMBtu/hr

Maximum Hourly Throughput: Indirect Heater = 1514 cf/hr	Maximum Annual Throughput: Reboiler = 13.6 MMcf/yr	Maximum Operating Schedule: 24 hours, 7 days a week, 8760 hours a year
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Fuel Usage Data (fill out all applicable fields)

Does this emission unit combust fuel? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes, is it? <input checked="" type="checkbox"/> Indirect Fired <input type="checkbox"/> Direct Fired
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Maximum design heat input and/or maximum horsepower rating: 1.67 MMBtu/hr and 1.2 MMBtu/hr	Type and Btu/hr rating of burners: N/A
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List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.
Natural gas

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
Natural Gas	10.6 ppm(w)		1080 Btu/scf

<i>Emissions Data</i>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	0.24	1.04
Nitrogen Oxides (NO _x)	0.28	1.23
Lead (Pb)	N/A	N/A
Particulate Matter (PM ₁₀)	0.02	0.07
Total Particulate Matter (TSP)	0.021	0.09
Sulfur Dioxide (SO ₂)	0.002	0.007
Volatile Organic Compounds (VOC)	0.02	0.68
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
See attached Table E-2		
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
See attached Table E-2		

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

To calculate potential emissions for CO, PM10, PM, NOx, SO2, VOC and Formaldehyde for the Dehy Reboiler, used AP-42 factors taken from Chapter 1.4, Table 1.4-1 and 1.4-2 (dated 7/1998). The fuel usage value is 1.67 MMBtu/hr. The AP-42 emission factors (in lb/MMBtu) were multiplied by the reboiler's fuel usage to get potential emissions in pounds per hour. To determine tons per year, the pounds per hour value was multiplied by the number of hours in a year then divided by 2000 lbs.

To calculate potential emissions for CO, PM10, PM, NOx, SO2, VOC and Formaldehyde for the indirect heater, used AP-42 factors taken from Chapter 1.4, Table 1.4-1 and 1.4-2 (dated 7/1998). The fuel usage value is 1.2 MMBtu/hr. The AP-42 emission factors (in lb/MMBtu) were multiplied by the heater's fuel usage to get potential emissions in pounds per hour. To determine tons per year, the pounds per hour value was multiplied by the number of hours in a year then divided by 2000 lbs.

To calculate potential VOC and HAP emissions for the reboiler, estimated using 2006 extended gas analysis data and dehy operating parameters in GLYCalc Version 4.0. Assumed VOC/HAP control efficiency of 95% by recirculating reboiler exhaust back to the associated burner.

To get the total emissions for the Dehy unit, summed the Reboiler and indirect heater emissions.

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the rule citation and/or permit with the condition number. If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

C.S.R. §45-6-3.1 R30-04100009-2002 Permit condition: III.B.1.a.i

C.S.R. §45-6-3.2 R30-04100009-2002 Permit condition: III.B.1.a.ii

40 C.F.R. §§61.145, 61.148, and 61.150. R30-04100009-2002 Permit condition: III.B.1.a.iii

C.S.R. §45-30-4.3.h.1.B R30-04100009-2002 Permit condition: III.B.1.a.iv

WV Code §22-5-4(a)(15) R30-04100009-2002 Permit condition: III.B.1.a.v

C.S.R. §45-4-3.1 R30-04100009-2002 Permit condition: III.B.1.b.i

C.S.R. §45-13-10.5 R30-04100009-2002 Permit condition: III.B.1.b.ii

C.S.R. §45-11-5.2 R30-04100009-2002 Permit condition: III.B.2.a.i

WV Code §22-5-4(a)(14) R30-04100009-2002 Permit condition: III.B.2.a.ii

C.S.R. §45-2-3.1 R30-04100009-2002 Permit condition: III.B.2.a.iii

C.S.R. §45-13 (Permit R13-2397). R30-04100009-2002 Permit Condition: III.B.2.a.vi.

C.S.R. §45-13 (Permit R13-2397). R30-04100009-2002 Permit Condition: III.B.2.a.xi.

C.S.R §45-30-12.7: Adjust Permit Condition III.B.2.a.xi. to replace Benzene emission limits to <1 tpy. Also adjust language to read "The facility shall emit the following HAPs only in the associated amounts:".

C.S.R. §45-13 (Permit R13-2397). R30-04100009-2002 Permit Condition: III.B.2.a.vi.

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

For C.S.R. §45-6-3.1 R30-04100009-2002 Permit condition: III.B.1.a.i = N/A

For C.S.R. §45-6-3.2 R30-04100009-2002 Permit condition: III.B.1.a.ii = N/A

For 40 C.F.R. §§61.145, 61.148, and 61.150. R30-04100009-2002 Permit condition: III.B.1.a.iii = N/A

For C.S.R. §45-30-4.3.h.1.B R30-04100009-2002 Permit condition: III.B.1.a.iv = N/A

For WV Code §22-5-4(a)(15) R30-04100009-2002 Permit condition: III.B.1.a.v = R30-04100009-2002 Condition Number III.B.1.a.v.

For C.S.R. §45-4-3.1 R30-04100009-2002 Permit condition: III.B.1.b.i = R30-04100009-2002 Condition Number III.C.1.

For C.S.R. §45-13-10.5 R30-04100009-2002 Permit condition: III.B.1.b.ii = R30-04100009-2002 Condition Number III.B.1.b.ii.

For C.S.R. §45-11-5.2 R30-04100009-2002 Permit condition: III.B.2.a.i = N/A

For WV Code §22-5-4(a)(14) R30-04100009-2002 Permit condition: III.B.2.a.ii = R30-04100009-2002 Condition Number III.B.2.a.ii.

For C.S.R. §45-2-3.1 R30-04100009-2002 Permit condition: III.B.2.a.iii = R30-04100009-2002 Condition Number III.C.2. and III.E.1.

For C.S.R. §45-13 (Permit R13-2397). R30-04100009-2002 Permit Condition: III.B.2.a.vi. = R30-04100009-2002 Condition Number III.C.9. and III.C.10

For C.S.R. §45-13 (Permit R13-2397). R30-04100009-2002 Permit Condition: III.B.2.a.xi. = R30-04100009-2002 Condition Number III.C.9. and III.C.10

For C.S.R. §45-30-12.7: Adjust Permit Condition III.B.2.a.xi. to replace Benzene emission limits to <1 tpy. Also adjust language to read "The facility shall emit the following HAPs only in the associated amounts:"

For C.S.R. §45-13 (Permit R13-2397). R30-04100009-2002 Permit Condition: III.B.2.a.vi. = R30-04100009-2002 Condition Number III.C.11.

Are you in compliance with all applicable requirements for this emission unit? Yes No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: 002-01	Emission unit name: G-001	List any control devices associated with this emission unit. N/A
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):
Natural Gas Fired Electric Generator; 2.2 MMBtu/hr

Manufacturer: International Harvester	Model number: V549	Serial number: 174686
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Construction date: 1987	Installation date: 1987	Modification date(s): N/A
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Design Capacity (examples: furnaces - tons/hr, tanks - gallons):
2.2 MMBtu/hr

Maximum Hourly Throughput: 0.0014MMcf/hr	Maximum Annual Throughput: 12.272 MMcf/yr	Maximum Operating Schedule: 24 hours, 7 days a week, 8760 hours a year
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Fuel Usage Data (fill out all applicable fields)

Does this emission unit combust fuel? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes, is it? <input type="checkbox"/> Indirect Fired <input checked="" type="checkbox"/> Direct
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Maximum design heat input and/or maximum horsepower rating: 2.2 MMBtu/hr	Type and Btu/hr rating of burners: N/A
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List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.
Natural gas

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
Natural Gas	10.6 ppm(w)		1080 Btu/scf

Emissions Data		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	8.18	35.85
Nitrogen Oxides (NO _x)	4.86	21.30
Lead (Pb)	N/A	N/A
Particulate Matter (PM ₁₀)	0.02	0.09
Total Particulate Matter (TSP)	0.02	0.09
Sulfur Dioxide (SO ₂)	0.001	0.01
Volatile Organic Compounds (VOC)	0.07	0.29
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
See attached Table E-1		
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
See attached Table E-1		

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

To calculate potential emissions for CO, PM10, PM, NOx, SO2, VOC and Formaldehyde, used AP-42 factors taken from AP-42 Table 3.2-3 Uncontrolled Emission Factors for 4-Stroke Rich-Burn Engines (7/00). The fuel usage value is 2.2 MMBtu/hr. The AP-42 emission factors (in lb/MMBtu) were multiplied by the engine's fuel usage to get potential emissions in pounds per hour. To determine tons per year, the pounds per hour value was multiplied by the number of hours in a year then divided by 2000 lbs.

To calculate potential emissions for HAPs and regulated pollutants other than criteria and HAP, used AP-42 factors taken from Chapter 2.2, Table 3.2-2 (dated 7/2000). These emission factors were multiplied by the fuel usage value of MMBtu/hr (previously stated) to get the pounds per hour emission rate. To determine tons per year, the pounds per hour value was multiplied by the number of hours in a year then divided by 2000 lbs.

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the rule citation and/or permit with the condition number. If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

- C.S.R. §45-6-3.1 R30-04100009-2002 Permit condition: III.B.1.a.i
- C.S.R. §45-6-3.2 R30-04100009-2002 Permit condition: III.B.1.a.ii
- 40 C.F.R. §§61.145, 61.148, and 61.150. R30-04100009-2002 Permit condition: III.B.1.a.iii
- C.S.R. §45-30-4.3.h.1.B R30-04100009-2002 Permit condition: III.B.1.a.iv
- WV Code §22-5-4(a)(15) R30-04100009-2002 Permit condition: III.B.1.a.v
- C.S.R. §45-4-3.1 R30-04100009-2002 Permit condition: III.B.1.b.i
- C.S.R. §45-13-10.5 R30-04100009-2002 Permit condition: III.B.1.b.ii
- C.S.R. §45-11-5.2 R30-04100009-2002 Permit condition: III.B.2.a.i
- WV Code §22-5-4(a)(14) R30-04100009-2002 Permit condition: III.B.2.a.ii
- C.S.R. §45-2-3.1 R30-04100009-2002 Permit condition: III.B.2.a.iii.

____ Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

- For C.S.R. §45-6-3.1 R30-04100009-2002 Permit condition: III.B.1.a.i = N/A
- For C.S.R. §45-6-3.2 R30-04100009-2002 Permit condition: III.B.1.a.ii = N/A
- For 40 C.F.R. §§61.145, 61.148, and 61.150. R30-04100009-2002 Permit condition: III.B.1.a.iii = N/A
- For C.S.R. §45-30-4.3.h.1.B R30-04100009-2002 Permit condition: III.B.1.a.iv = N/A
- For WV Code §22-5-4(a)(15) R30-04100009-2002 Permit condition: III.B.1.a.v = R30-04100009-2002 Condition Number III.B.1.a.v.
- For C.S.R. §45-2-3.1 R30-04100009-2002 Permit condition: III.B.2.a.iii. = R30-04100009-2002 Condition Number III.C.1.
- For C.S.R. §45-13-10.5 R30-04100009-2002 Permit condition: III.B.1.b.ii = R30-04100009-2002 Condition Number III.B.1.b.ii.
- For C.S.R. §45-11-5.2 R30-04100009-2002 Permit condition: III.B.2.a.i = N/A
- For WV Code §22-5-4(a)(14) R30-04100009-2002 Permit condition: III.B.2.a.ii = R30-04100009-2002 Condition Number III.B.2.a.ii.
- For C.S.R. §45-2-3.1 R30-04100009-2002 Permit condition: III.B.2.a.iii. = R30-04100009-2002 Condition Number III.C.2., III.E.1.

Are you in compliance with all applicable requirements for this emission unit? Yes No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: 002-02	Emission unit name: G-002	List any control devices associated with this emission unit. N/A
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):
Natural Gas Fired Electric Generator; 2.2 MMBtu/hr

Manufacturer: Cummins	Model number: GTA12	Serial number: 25183763
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Construction date: 1993	Installation date: 1993	Modification date(s): N/A
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Design Capacity (examples: furnaces - tons/hr, tanks - gallons):
2.2 MMBtu/hr

Maximum Hourly Throughput: 0.0022MMcf/hr	Maximum Annual Throughput: 19.416MMcf/yr	Maximum Operating Schedule: 24 hours, 7 days a week, 8760 hours a year
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Fuel Usage Data (fill out all applicable fields)

Does this emission unit combust fuel? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes, is it? <input type="checkbox"/> Indirect Fired <input type="checkbox"/> N/A <input type="checkbox"/> Direct
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Maximum design heat input and/or maximum horsepower rating: 2.2 MMBtu/hr	Type and Btu/hr rating of burners: N/A
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List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.
Natural gas

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
Natural Gas	10.6 ppm(w)		1080 Btu/scf

Emissions Data		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	8.18	35.85
Nitrogen Oxides (NO _x)	4.86	21.30
Lead (Pb)	N/A	N/A
Particulate Matter (PM ₁₀)	0.02	0.09
Total Particulate Matter (TSP)	0.02	0.09
Sulfur Dioxide (SO ₂)	0.001	0.01
Volatile Organic Compounds (VOC)	0.07	0.29
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
See attached Table E-1		
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
See attached Table E-1		

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

To calculate potential emissions for CO, PM10, PM, NOx, SO2, VOC and Formaldehyde, used AP-42 factors taken from AP-42 Table 3.2-3 Uncontrolled Emission Factors for 4-Stroke Rich-Burn Engines (7/00). The fuel usage value is 2.2 MMBtu/hr. The AP-42 emission factors (in lb/MMBtu) were multiplied by the engine's fuel usage to get potential emissions in pounds per hour. To determine tons per year, the pounds per hour value was multiplied by the number of hours in a year then divided by 2000 lbs.

To calculate potential emissions for HAPs and regulated pollutants other than criteria and HAP, used AP-42 factors taken from Chapter 2.2, Table 3.2-2 (dated 7/2000). These emission factors were multiplied by the fuel usage value of MMBtu/hr (previously stated) to get the pounds per hour emission rate. To determine tons per year, the pounds per hour value was multiplied by the number of hours in a year then divided by 2000 lbs

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the rule citation and/or permit with the condition number. If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

- C.S.R. §45-6-3.1 R30-04100009-2002 Permit condition: III.B.1.a.i
- C.S.R. §45-6-3.2 R30-04100009-2002 Permit condition: III.B.1.a.ii
- 40 C.F.R. §§61.145, 61.148, and 61.150. R30-04100009-2002 Permit condition: III.B.1.a.iii
- C.S.R. §45-30-4.3.h.1.B R30-04100009-2002 Permit condition: III.B.1.a.iv
- WV Code §22-5-4(a)(15) R30-04100009-2002 Permit condition: III.B.1.a.v
- C.S.R. §45-4-3.1 R30-04100009-2002 Permit condition: III.B.1.b.i
- C.S.R. §45-13-10.5 R30-04100009-2002 Permit condition: III.B.1.b.ii
- C.S.R. §45-11-5.2 R30-04100009-2002 Permit condition: III.B.2.a.i
- WV Code §22-5-4(a)(14) R30-04100009-2002 Permit condition: III.B.2.a.ii
- C.S.R. §45-2-3.1 R30-04100009-2002 Permit condition: III.B.2.a.iii.

____ Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

- For C.S.R. §45-6-3.1 R30-04100009-2002 Permit condition: III.B.1.a.i = N/A
- For C.S.R. §45-6-3.2 R30-04100009-2002 Permit condition: III.B.1.a.ii = N/A
- For 40 C.F.R. §§61.145, 61.148, and 61.150. R30-04100009-2002 Permit condition: III.B.1.a.iii = N/A
- For C.S.R. §45-30-4.3.h.1.B R30-04100009-2002 Permit condition: III.B.1.a.iv = N/A
- For WV Code §22-5-4(a)(15) R30-04100009-2002 Permit condition: III.B.1.a.v = R30-04100009-2002 Condition Number III.B.1.a.v.
- For C.S.R. §45-2-3.1 R30-04100009-2002 Permit condition: III.B.2.a.iii. = R30-04100009-2002 Condition Number III.C.1.
- For C.S.R. §45-13-10.5 R30-04100009-2002 Permit condition: III.B.1.b.ii = R30-04100009-2002 Condition Number III.B.1.b.ii.
- For C.S.R. §45-11-5.2 R30-04100009-2002 Permit condition: III.B.2.a.i = N/A
- For WV Code §22-5-4(a)(14) R30-04100009-2002 Permit condition: III.B.2.a.ii = R30-04100009-2002 Condition Number III.B.2.a.ii.
- For C.S.R. §45-2-3.1 R30-04100009-2002 Permit condition: III.B.2.a.iii. = R30-04100009-2002 Condition Number III.C.2., III.E.1.

Are you in compliance with all applicable requirements for this emission unit? Yes No

If no, complete the **Schedule of Compliance Form** as ATTACHMENT F.

Table E-1. AP-42 Engine Emission Calculations, Copley Run Compressor Station

Pollutant	Maximum Potential Emission for Compression Engines ^{1,2}														Totals	
	Engine No.1		Engine No.2		Engine No.3		Engine No.4		Engine No.5		Engine No 6 (Generator 1)		Engine No 7 (Generator 2)		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
TOC (Total)	2.71E+01	1.19E+02	1.63E+01	7.12E+01	1.63E+01	7.12E+01	2.17E+01	9.50E+01	1.63E+01	6.27E+01	3.61E+00	1.58E+01	3.61E+00	1.58E+01	1.05E+02	4.50E+02
Ethane	1.17E+00	5.13E+00	7.03E+01	3.08E+00	7.03E+01	3.08E+00	9.37E+01	4.11E+00	7.03E+01	2.71E+00	1.56E+01	6.83E+01	1.56E+01	6.83E+01	4.53E+00	1.95E+01
Methane	2.40E+01	1.05E+02	1.44E+01	6.30E+01	1.44E+01	6.30E+01	1.92E+01	8.40E+01	1.44E+01	5.54E+01	3.19E+00	1.40E+01	3.19E+00	1.40E+01	9.26E+01	3.98E+02
Butane	7.85E-02	3.44E-01	4.71E-02	2.06E-01	4.71E-02	2.06E-01	6.28E-02	2.75E-01	4.71E-02	1.82E-01	1.05E-02	4.58E-02	1.05E-02	4.58E-02	3.03E-01	1.30E+00
Butyl/isobutylaldehyde	7.22E-03	3.16E-02	4.33E-03	1.90E-02	4.33E-03	1.90E-02	5.78E-03	2.53E-02	4.33E-03	1.67E-02	9.61E-04	4.21E-03	9.61E-04	4.21E-03	2.79E-02	1.20E-01
Chloroethane	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	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Cyclohexane	5.09E-03	2.23E-02	3.05E-03	1.34E-02	3.05E-03	1.34E-02	4.07E-03	1.78E-02	3.05E-03	1.18E-02	6.78E-04	2.97E-03	6.78E-04	2.97E-03	1.97E-02	8.46E-02
Cyclopentane	1.56E-03	6.85E-03	9.39E-04	4.11E-03	9.39E-04	4.11E-03	1.25E-03	5.48E-03	9.39E-04	3.62E-03	2.08E-04	9.13E-04	2.08E-04	9.13E-04	6.05E-03	2.60E-02
Dichloroethane (1,1-)	6.46E-04	2.83E-03	3.88E-04	1.70E-03	3.88E-04	1.70E-03	5.17E-04	2.26E-03	3.88E-04	1.49E-03	8.60E-05	3.77E-04	8.60E-05	3.77E-04	2.50E-03	1.07E-02
Dichloroethane (1,2-)	6.97E-04	3.05E-03	4.18E-04	1.83E-03	4.18E-04	1.83E-03	5.58E-04	2.44E-03	4.18E-04	1.61E-03	9.28E-05	4.07E-04	9.28E-05	4.07E-04	2.70E-03	1.16E-02
Dichloropropane (1,2-)	7.37E-04	3.23E-03	4.42E-04	1.94E-03	4.42E-04	1.94E-03	5.90E-04	2.58E-03	4.42E-04	1.70E-03	9.81E-05	4.30E-04	9.81E-05	4.30E-04	2.85E-03	1.22E-02
Isobutane	6.20E-02	2.71E-01	3.72E-02	1.63E-01	3.72E-02	1.63E-01	4.96E-02	2.17E-01	3.72E-02	1.43E-01	8.25E-03	3.61E-02	8.25E-03	3.61E-02	2.40E-01	1.03E+00
Methylcyclohexane	5.59E-03	2.45E-02	3.35E-03	1.47E-02	3.35E-03	1.47E-02	4.47E-03	1.96E-02	3.35E-03	1.29E-02	7.44E-04	3.26E-03	7.44E-04	3.26E-03	2.16E-02	9.28E-02
Nonane (n-)	5.09E-04	2.23E-03	3.05E-04	1.34E-03	3.05E-04	1.34E-03	4.07E-04	1.78E-03	3.05E-04	1.18E-03	6.78E-05	2.97E-04	6.78E-05	2.97E-04	1.97E-03	8.46E-03
Octane (n-)	1.23E-03	5.39E-03	7.38E-04	3.23E-03	7.38E-04	3.23E-03	9.84E-04	4.31E-03	7.38E-04	2.84E-03	1.64E-04	7.17E-04	1.64E-04	7.17E-04	4.75E-03	2.04E-02
Pentane (n-)	2.53E-02	1.11E-01	1.52E-02	6.64E-02	1.52E-02	6.64E-02	2.02E-02	8.86E-02	1.52E-02	5.85E-02	3.37E-03	1.47E-02	3.37E-03	1.47E-02	9.77E-02	4.20E-01
Propane	4.74E-01	2.08E+00	2.85E-01	1.25E+00	2.85E-01	1.25E+00	3.79E-01	1.66E+00	2.85E-01	1.10E+00	6.31E-02	2.77E-01	6.31E-02	2.77E-01	1.83E+00	7.88E+00
Trimethylbenzene (1,2,3-)	5.85E-04	2.56E-03	3.51E-04	1.54E-03	3.51E-04	1.54E-03	4.68E-04	2.05E-03	3.51E-04	1.35E-03	7.79E-05	3.41E-04	7.79E-05	3.41E-04	2.26E-03	9.72E-03
Trimethylbenzene (1,2,4-)	1.83E-03	8.03E-03	1.10E-03	4.82E-03	1.10E-03	4.82E-03	1.47E-03	6.43E-03	1.10E-03	4.24E-03	2.44E-04	1.07E-03	2.44E-04	1.07E-03	7.09E-03	3.05E-02
Trimethylbenzene (1,3,5-)	2.97E-04	1.30E-03	1.78E-04	7.82E-04	1.78E-04	7.82E-04	1.28E-04	1.04E-03	1.78E-04	6.88E-04	3.96E-05	1.73E-04	3.96E-05	1.73E-04	1.15E-03	4.94E-03
HAP (Total)	1.31E+00	5.76E+00	7.89E-01	3.45E+00	7.89E-01	3.45E+00	1.05E+00	4.61E+00	7.89E-01	3.04E+00	1.75E-01	7.66E-01	1.75E-01	7.66E-01	5.08E+00	2.18E+01
Carbon Tetrachloride	1.00E-03	4.39E-03	6.02E-04	2.64E-03	6.02E-04	2.64E-03	8.02E-04	3.51E-03	6.02E-04	2.32E-03	1.34E-04	5.85E-04	1.34E-04	5.85E-04	3.88E-03	1.67E-02
Methylene Chloride	2.43E-03	1.06E-02	1.46E-03	6.38E-03	1.46E-03	6.38E-03	1.94E-03	8.51E-03	1.46E-03	5.62E-03	3.23E-04	1.42E-03	3.23E-04	1.42E-03	9.39E-03	4.04E-02
Acenaphthene	2.20E-05	9.63E-05	1.32E-05	5.78E-05	1.32E-05	5.78E-05	1.76E-05	7.70E-05	1.32E-05	5.08E-05	2.93E-06	1.28E-05	2.93E-06	1.28E-05	8.50E-05	3.65E-04
Acenaphthylene	5.24E-05	2.29E-04	3.14E-05	1.38E-04	3.14E-05	1.38E-04	4.19E-05	1.84E-04	3.14E-05	1.21E-04	6.97E-06	3.05E-05	6.97E-06	3.05E-05	2.03E-04	8.71E-04
Acetaldehyde	1.28E-01	5.62E-01	7.69E-02	3.37E-01	7.69E-02	3.37E-01	1.03E-01	4.49E-01	7.69E-02	2.97E-01	1.71E-02	7.48E-02	1.71E-02	7.48E-02	4.96E-01	2.13E+00
Acrolein	1.29E-01	5.63E-01	7.71E-02	3.38E-01	7.71E-02	3.38E-01	1.03E-01	4.50E-01	7.71E-02	2.97E-01	1.71E-02	7.50E-02	1.71E-02	7.50E-02	4.97E-01	2.14E+00
Anthracene	1.19E-05	5.20E-05	7.12E-06	3.12E-05	7.12E-06	3.12E-05	9.49E-06	4.16E-05	7.12E-06	2.74E-05	1.58E-06	6.92E-06	1.58E-06	6.92E-06	4.59E-05	1.97E-04
Benz(a)anthracene	5.55E-06	2.43E-05	3.33E-06	1.46E-05	3.33E-06	1.46E-05	4.44E-06	1.95E-05	3.33E-06	1.28E-05	7.39E-07	3.24E-06	7.39E-07	3.24E-06	2.15E-05	9.23E-05
Benzo(e)pyrene	3.21E-02	1.40E-01	1.92E-02	8.42E-02	1.92E-02	8.42E-02	2.56E-02	1.12E-01	1.92E-02	7.41E-02	4.27E-03	1.87E-02	4.27E-03	1.87E-02	1.24E-01	5.33E-01
Benzo(a)pyrene	3.99E-08	4.11E-07	5.63E-08	2.47E-07	5.63E-08	2.47E-07	7.51E-08	3.29E-07	5.63E-08	2.17E-07	1.25E-08	5.47E-08	1.25E-08	5.47E-08	3.63E-07	1.56E-06
Benzo(b)fluoranthene	1.41E-07	6.16E-07	8.44E-08	3.70E-07	8.44E-08	3.70E-07	1.12E-07	4.93E-07	8.44E-08	3.25E-07	1.87E-08	8.20E-08	1.87E-08	8.20E-08	5.44E-07	2.34E-06
Benzo(k)fluoranthene	3.87E-07	1.69E-06	2.32E-07	1.02E-06	2.32E-07	1.02E-06	3.09E-07	1.35E-06	2.32E-07	8.94E-07	5.15E-08	2.25E-07	5.15E-08	2.25E-07	1.49E-06	6.43E-06
Benzo(g,h,i)perylene	4.10E-07	1.79E-06	2.46E-07	1.08E-06	2.46E-07	1.08E-06	3.28E-07	1.44E-06	2.46E-07	9.48E-07	5.46E-08	2.39E-07	5.46E-08	2.39E-07	1.58E-06	6.81E-06
Benzo(f)fluoranthene	7.04E-08	3.08E-07	4.22E-08	1.85E-07	4.22E-08	1.85E-07	5.63E-08	2.47E-07	4.22E-08	1.63E-07	9.37E-09	4.10E-08	9.37E-09	4.10E-08	2.72E-07	1.17E-06
Biphenyl	6.53E-05	2.86E-04	3.92E-05	1.72E-04	3.92E-05	1.72E-04	5.22E-05	2.29E-04	3.92E-05	1.51E-04	8.69E-06	3.81E-05	8.69E-06	3.81E-05	2.52E-04	1.08E-03
Butadiene (1,3-)	1.35E-02	5.93E-02	8.13E-03	3.56E-02	8.13E-03	3.56E-02	1.08E-02	4.75E-02	8.13E-03	3.13E-02	1.80E-03	7.90E-03	1.80E-03	7.90E-03	5.24E-02	2.25E-01
Chlorobenzene	7.34E-04	3.21E-03	4.40E-04	1.93E-03	4.40E-04	1.93E-03	5.87E-04	2.57E-03	4.40E-04	1.70E-03	9.77E-05	4.28E-04	9.77E-05	4.28E-04	2.84E-03	1.22E-02
Chloroform	1.78E-04	3.41E-03	4.67E-04	2.05E-03	4.67E-04	2.05E-03	6.23E-04	2.73E-03	4.67E-04	1.80E-03	1.04E-04	4.54E-04	1.04E-04	4.54E-04	3.01E-03	1.29E-02
Chrysene	1.11E-05	4.86E-05	6.66E-06	2.92E-05	6.66E-06	2.92E-05	8.88E-06	3.89E-05	6.66E-06	2.57E-05	1.48E-06	6.48E-06	1.48E-06	6.48E-06	4.29E-05	1.85E-04
Dichloropropene (1,3-)	7.24E-04	3.17E-03	4.34E-04	1.90E-03	4.34E-04	1.90E-03	5.79E-04	2.54E-03	4.34E-04	1.67E-03	9.64E-05	4.22E-04	9.64E-05	4.22E-04	2.80E-03	1.20E-02
Ethylbenzene	1.78E-03	7.87E-03	1.07E-03	4.69E-03	1.07E-03	4.69E-03	1.43E-03	6.25E-03	1.07E-03	4.13E-03	2.38E-04	1.04E-03	2.38E-04	1.04E-03	6.90E-03	2.97E-02
Ethylene Dibromide	1.21E-03	5.31E-03	7.28E-04	3.19E-03	7.28E-04	3.19E-03	9.70E-04	4.25E-03	7.28E-04	2.80E-03	1.61E-04	7.07E-04	1.61E-04	7.07E-04	4.69E-03	2.02E-02
Fluoranthene	5.97E-06	2.61E-05	3.58E-06	1.57E-05	3.58E-06	1.57E-05	4.77E-06	2.09E-05	3.58E-06	1.38E-05	7.94E-07	3.48E-06	7.94E-07	3.48E-06	2.31E-05	9.91E-05
Fluorene	9.29E-05	1.22E-04	1.68E-05	7.34E-05	1.68E-05	7.34E-05	2.23E-05	9.79E-05	1.68E-05	6.46E-05	3.72E-06	1.63E-05	3.72E-06	1.63E-05	1.08E-04	4.64E-04
Formaldehyde	9.12E-01	4.00E+00	5.47E-01	2.40E+00	5.47E-01	2.40E+00	7.30E-01	3.20E+00	5.47E-01	2.11E+00	1.21E-01	5.32E-01	1.21E-01	5.32E-01	3.53E+00	1.52E+01
Hexane (n-)	7.35E-03	3.22E-02	4.41E-03	1.93E-02	4.41E-03	1.93E-02	5.88E-03	2.58E-02	4.41E-03	1.70E-02	9.79E-04	4.29E-03	9.79E-04	4.29E-03	2.84E-02	1.22E-01
Indeno(1,2,3-c,d)pyrene	1.64E-07	7.19E-07	9.84E-08	4.31E-07	9.84E-08	4.31E-07	1.31E-07	5.75E-07	9.84E-08	3.79E-07	2.18E-08	9.57E-08	2.18E-08	9.57E-08	6.34E-07	2.73E-06
Methanol	4.10E-02	1.79E-01	2.46E-02	1.08E-01	2.46E-02	1.08E-01	3.28E-02	1.44E-01	2.46E-02	9.48E-02	5.46E-03	2.39E-02	5.46E-03	2.39E-02	1.58E-01	6.81E-01
Methylnaphthalene (2-)	3.54E-04	1.55E-03	2.12E-04	9.29E-04	2.12E-04	9.29E-04	2.83E-04	1.24E-03	2.12E-04	8.18E-04	4.71E-05	2.06E-04	4.71E-05	2.06E-04	1.37E-03	5.88E-03
Naphthalene	1.59E-03	6.97E-03	9.55E-04	4.18E-03	9.55E-04	4.18E-03	1.27E-03	5.58E-03	9.55E-04	3.68E-03	2.12E-04	9.28E-04	2.12E-04	9.28E-04	6.15E-03	2.64E-02
PAH	2.21E-03	9.70E-03	1.33E-03	5.82E-03	1.33E-03	5.82E-03	1.77E-03	7.76E-03	1.33E-03	5.12E-03	2.95E-04	1.29E-03	2.95E-04	1.29E-03	8.56E-03	3.68E-02
Perylene	8.21E-08	3.60E-07	4.93E-08	2.16E-07	4.93											

Table E-2 AP-42 Boiler Emission Calculations, Copley Run Compressor Station

Pollutant	Maximum Potential Emission for Boilers ^{1,2}															
	003-01		003-02		Dehy #1 reboiler		Dehy #2 reboiler		Indirect heater		Dehy Flare#1		Dehy #2 Recirculation		Totals	
	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy
TOC (Total)	7.28E-03	3.19E-02	3.24E-04	1.42E-03	7.01E-03	3.07E-02	1.80E-02	7.89E-02	1.29E-02	5.67E-02					4.56E-02	2.00E-01
Ethane	2.05E-03	8.99E-03	9.12E-05	3.99E-04	1.98E-03	8.65E-03	5.08E-03	2.22E-02	3.65E-03	1.60E-02					1.28E-02	5.62E-02
Methane	1.52E-03	6.67E-03	6.76E-05	2.96E-04	1.47E-03	6.42E-03	3.77E-03	1.65E-02	2.71E-03	1.19E-02					9.53E-03	4.17E-02
Butane	1.39E-03	6.09E-03	6.18E-05	2.71E-04	1.34E-03	5.86E-03	3.44E-03	1.51E-02	2.47E-03	1.08E-02					8.70E-03	3.81E-02
Butyr/Isobutyraldehyde	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
Chloroethane	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
Cyclohexane	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
Cyclopentane	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
Dichloroethane (1,1-)	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
Dichloroethane (1,2-)	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
Dichloropropane (1,2-)	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
Isobutane	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
Methylcyclohexane	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
Nonane (n-)	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
Octane (n-)	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
Pentane (n-)	1.72E-03	7.54E-03	7.65E-05	3.35E-04	1.66E-03	7.26E-03	4.26E-03	1.86E-02	3.06E-03	1.34E-02					1.08E-02	4.72E-02
Propane	1.06E-03	4.64E-03	4.71E-05	2.06E-04	1.02E-03	4.47E-03	2.62E-03	1.15E-02	1.88E-03	8.24E-03					6.63E-03	2.90E-02
Trimethylbenzene (1,2,3-)	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
Trimethylbenzene (1,2,4-)	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
Trimethylbenzene (1,3,5-)	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
HAP (Total)	1.25E-03	5.47E-03	5.55E-05	2.43E-04	1.20E-03	5.27E-03	3.09E-03	1.35E-02	2.22E-03	9.73E-03					7.82E-03	3.43E-02
Carbon Tetrachloride	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
Methylene Chloride	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
Acenaphthene	1.19E-09	5.22E-09	5.29E-11	2.32E-10	1.15E-09	5.02E-09	2.95E-09	1.29E-08	2.12E-09	9.28E-09					7.46E-09	3.27E-08
Acenaphthylene	1.19E-09	5.22E-09	5.29E-11	2.32E-10	1.15E-09	5.02E-09	2.95E-09	1.29E-08	2.12E-09	9.28E-09					7.46E-09	3.27E-08
Acetaldehyde	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
Acrolein	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
Anthracene	1.59E-09	6.96E-09	7.06E-11	3.09E-10	1.53E-09	6.70E-09	3.93E-09	1.72E-08	2.82E-09	1.24E-08					9.94E-09	4.35E-08
Benzo(a)anthracene	1.19E-09	5.22E-09	5.29E-11	2.32E-10	1.15E-09	5.02E-09	2.95E-09	1.29E-08	2.12E-09	9.28E-09					7.46E-09	3.27E-08
Benzene	1.39E-06	6.09E-06	6.18E-08	2.71E-07	1.34E-06	5.86E-06	3.44E-06	1.51E-05	2.47E-06	1.08E-05	2.28E-02	9.97E-02	2.48E-02	1.09E-01	4.76E-02	2.08E-01
Benzo(a)pyrene	7.94E-10	3.48E-09	3.53E-11	1.55E-10	7.65E-10	3.35E-09	1.96E-09	8.61E-09	1.41E-09	6.18E-09					4.97E-09	2.18E-08
Benzo(b)fluoranthene	1.19E-09	5.22E-09	5.29E-11	2.32E-10	1.15E-09	5.02E-09	2.95E-09	1.29E-08	2.12E-09	9.28E-09					7.46E-09	3.27E-08
Benzo(e)pyrene	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
Benzo(g,h,i)perylene	7.94E-10	3.48E-09	3.53E-11	1.55E-10	7.65E-10	3.35E-09	1.96E-09	8.61E-09	1.41E-09	6.18E-09					4.97E-09	2.18E-08
Benzo(k)fluoranthene	1.19E-09	5.22E-09	5.29E-11	2.32E-10	1.15E-09	5.02E-09	2.95E-09	1.29E-08	2.12E-09	9.28E-09					7.46E-09	3.27E-08
Biphenyl	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
Butadiene (1,3-)	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
Chlorobenzene	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
Chloroform	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
Chrysene	1.19E-09	5.22E-09	5.29E-11	2.32E-10	1.15E-09	5.02E-09	2.95E-09	1.29E-08	2.12E-09	9.28E-09					7.46E-09	3.27E-08
Dichloropropane (1,3-)	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
Ethylbenzene	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	2.20E-02	9.62E-02	2.93E-02	1.28E-01	5.12E-02	2.24E-01
Ethylene Dibromide	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
Fluoranthene	1.99E-09	8.70E-09	8.82E-11	3.86E-10	1.91E-09	8.37E-09	4.91E-09	2.15E-08	3.53E-09	1.55E-08					1.24E-08	5.44E-08
Fluorene	1.85E-09	8.12E-09	8.24E-11	3.61E-10	1.78E-09	7.82E-09	4.58E-09	2.01E-08	3.29E-09	1.44E-08					1.16E-08	5.08E-08
Formaldehyde	4.96E-05	2.17E-04	2.21E-06	9.66E-06	4.78E-05	2.09E-04	1.23E-04	5.38E-04	8.82E-05	3.86E-04					3.11E-04	1.36E-03
Hexane (n-)	1.19E-03	5.22E-03	5.29E-05	2.32E-04	1.15E-03	5.02E-03	2.95E-03	1.29E-02	2.12E-03	9.28E-03	1.76E-02	7.72E-02	1.77E-02	7.74E-02	4.28E-02	1.87E-01
Indeno(1,2,3-c,d)pyrene	1.19E-09	5.22E-09	5.29E-11	2.32E-10	1.15E-09	5.02E-09	2.95E-09	1.29E-08	2.12E-09	9.28E-09					7.46E-09	3.27E-08
Methanol	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
Methylnaphthalene (2-)	1.59E-08	6.96E-08	7.06E-10	3.09E-09	1.53E-08	6.70E-08	3.93E-08	1.72E-07	2.82E-08	1.24E-07					9.94E-08	4.35E-07
Naphthalene	4.04E-07	1.77E-06	1.79E-08	7.86E-08	3.89E-07	1.70E-06	9.99E-07	4.37E-06	7.18E-07	3.14E-06					2.53E-06	1.11E-05
PAH	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
Perylene	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
Phenanthrene	1.13E-08	4.93E-08	5.00E-10	2.19E-09	1.08E-08	4.75E-08	2.78E-08	1.22E-07	2.00E-08	8.76E-08					7.04E-08	3.08E-07
Phenol	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
Propylene Oxide	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
Pyrene	3.31E-09	1.45E-08	1.47E-10	6.44E-10	3.19E-09	1.40E-08	8.19E-09	3.59E-08	5.88E-09	2.58E-08					2.07E-08	9.07E-08
Styrene	0.00E+00	0.00E+00	0.00E+00	0.00E+00												

TANKS 4.0.9d

Emissions Report - Detail Format

Tank Identification and Physical Characteristics

Identification

User Identification: Copley1
 City: West Virginia
 State: West Virginia
 Company: Horizontal Tank
 Type of Tank: Horizontal Tank
 Description:

Tank Dimensions

Shell Length (ft): 24.00
 Diameter (ft): 5.33
 Volume (gallons): 4,000.00
 Turnovers: 1.00
 Net Throughput(gal/yr): 4,000.00
 Is Tank Heated (Y/n): N
 Is Tank Underground (y/n): N

Paint Characteristics

Shell Color/Shade: Gray/Medium
 Shell Condition: Good

Breather Vent Settings

Vacuum Settings (psig): 0.00
 Pressure Settings (psig): 0.00

Meteorological Data used in Emissions Calculations: Charleston, West Virginia (Avg Atmospheric Pressure = 14.25 psia)

TANKS 4.0.9d

Emissions Report - Detail Format

Liquid Contents of Storage Tank

Copley1 - Horizontal Tank , West Virginia

Mixture/Component	Month		Daily Liquid Surf. Temperature (deg F)		Liquid Bulk Temp (deg F)	Vapor Pressure (psia)		Vapor Mol. Weight	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
	Avg.	Min.	Max.	Avg.		Min.	Max.					
triethylene glycol	All	63.43	53.60	73.25	58.06	0.0000	0.0000	9.3600	0.0000	0.0000	150.20	Option 2: A=6.7568, B=3715.222, C=-1.299

TANKS 4.0.9d Emissions Report - Detail Format Detail Calculations (AP-42)

Copley1 - Horizontal Tank , West Virginia

Annual Emission Calculations

Standing Losses (lb):	0.0000
Vapor Space Volume (cu ft):	341.0797
Vapor Density (lb/cu ft):	0.0000
Vapor Space Expansion Factor:	0.0752
Vented Vapor Saturation Factor:	1.0000
Tank Vapor Space Volume:	341.0797
Vapor Space Volume (cu ft):	341.0797
Tank Diameter (ft):	5.3300
Effective Diameter (ft):	12.7654
Vapor Space Outage (ft):	2.6650
Tank Shell Length (ft):	24.0000
Vapor Density	0.0000
Vapor Density (lb/cu ft):	0.0000
Vapor Molecular Weight (lb/lb-mole):	9.3600
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0000
Daily Avg. Liquid Surface Temp. (deg. R):	523.0962
Daily Average Ambient Temp. (deg. F):	54.9833
Ideal Gas Constant R	10.731
(psia cuft / (lb-mol-deg R)):	
Liquid Bulk Temperature (deg. R):	517.7333
Tank Paint Solar Absorptance (Shell):	0.6800
Daily Total Solar Insulation Factor (Btu/sqft day):	1,250.5726
Vapor Space Expansion Factor	0.0752
Vapor Space Expansion Factor:	0.0752
Daily Vapor Temperature Range (deg. R):	39.3149
Daily Vapor Pressure Range (psia):	0.0000
Breather Vent Press. Setting Range (psia):	0.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0000
Vapor Pressure at Daily Minimum Liquid Surface Temperature (psia):	0.0000
Vapor Pressure at Daily Maximum Liquid Surface Temperature (psia):	0.0000
Daily Avg. Liquid Surface Temp. (deg R):	523.0962
Daily Min. Liquid Surface Temp. (deg R):	513.2675
Daily Max. Liquid Surface Temp. (deg R):	532.9249
Daily Ambient Temp. Range (deg. R):	21.5333
Vented Vapor Saturation Factor	1.0000
Vented Vapor Saturation Factor:	1.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0000
Vapor Space Outage (ft):	2.6650
Working Losses (lb):	0.0000

Vapor Molecular Weight (lb/lb-mole):	9.3600
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0000
Annual Net Throughput (gal/yr.):	4,000,0000
Turnover Factor:	1.0000
Tank Diameter (ft):	1.0000
Working Loss Product Factor:	5.3300
Working Loss Product Factor:	1.0000
Total Losses (lb):	0.0000

TANKS 4.0.9d
Emissions Report - Detail Format
Individual Tank Emission Totals

Emissions Report for: Annual

Copley1 - Horizontal Tank
, West Virginia

Components	Losses(lbs)		Total Emissions
	Working Loss	Breathing Loss	
triethylene glycol	0.00	0.00	0.00

TANKS 4.0.9d
Emissions Report - Detail Format
Tank Identification and Physical Characteristics

Identification

User Identification:	Copley 2
City:	
State:	West Virginia
Company:	
Type of Tank:	Horizontal Tank
Description:	

Tank Dimensions

Shell Length (ft):	35.00
Diameter (ft):	10.00
Volume (gallons):	20,000.00
Turnovers:	0.00
Net Throughput(gal/yr):	68,000.00
Is Tank Heated (y/n):	N
Is Tank Underground (y/n):	N

Paint Characteristics

Shell Color/Shade:	Gray/Medium
Shell Condition	Good

Breather Vent Settings

Vacuum Settings (psig):	0.00
Pressure Settings (psig)	0.00

Meteorological Data used in Emissions Calculations: Charleston, West Virginia (Avg Atmospheric Pressure = 14.25 psia)

TANKS 4.0.9d
Emissions Report - Detail Format
Liquid Contents of Storage Tank

Copley 2 - Horizontal Tank

Mixture/Component	Month	Daily Liquid Surf. Temperature (deg F)			Liquid Bulk Temp (deg F)	Vapor Pressure (psia)			Vapor Mol. Weight.	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight
		Avg.	Min.	Max.		Avg.	Min.	Max.				
Propylene glycol	All	63.43	53.60	73.25	58.06	0.0011	0.0007	0.0019	76.1100			76.11

TANKS 4.0.9d Emissions Report - Detail Format Detail Calculations (AP-42)

Copley 2 - Horizontal Tank

Annual Emission Calculations

Standing Losses (lb):	0.7417
Vapor Space Volume (cu ft):	1,750.8876
Vapor Density (lb/cu ft):	0.0000
Vapor Space Expansion Factor:	0.0752
Vented Vapor Saturation Factor:	0.9997
Tank Vapor Space Volume:	
Vapor Space Volume (cu ft):	1,750.8876
Tank Diameter (ft):	10.0000
Effective Diameter (ft):	21.1154
Vapor Space Outage (ft):	5.0000
Tank Shell Length (ft):	35.0000
Vapor Density	
Vapor Density (lb/cu ft):	0.0000
Vapor Molecular Weight (lb/lb-mole):	76.1100
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0011
Daily Avg. Liquid Surface Temp. (deg. R):	523.0962
Daily Average Ambient Temp. (deg. F):	54.9833
Ideal Gas Constant R (psia cuft / (lb-mol-deg R)):	10.731
Liquid Bulk Temperature (deg. R):	517.7333
Tank Paint Solar Absorptance (Shell):	0.6800
Daily Total Solar Insulation Factor (Btu/sqft day):	1,250.5726
Vapor Space Expansion Factor	
Vapor Space Expansion Factor:	0.0752
Daily Vapor Temperature Range (deg. R):	39.3149
Daily Vapor Pressure Range (psia):	0.0013
Breather Vent Press. Setting Range(psia):	0.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0011
Vapor Pressure at Daily Minimum Liquid Surface Temperature (psia):	0.0007
Vapor Pressure at Daily Maximum Liquid Surface Temperature (psia):	0.0019
Daily Avg. Liquid Surface Temp. (deg R):	523.0962
Daily Min. Liquid Surface Temp. (deg R):	513.2675
Daily Max. Liquid Surface Temp. (deg R):	532.9249
Daily Ambient Temp. Range (deg. R):	21.5333
Vented Vapor Saturation Factor	
Vented Vapor Saturation Factor:	0.9997
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0011
Vapor Space Outage (ft):	5.0000
Working Losses (lb):	0.1402
Vapor Molecular Weight (lb/lb-mole):	76.1100
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0011
Annual Net Throughput (gal/yr.):	68,000.0000
Annual Turnovers:	0.0000
Turnover Factor:	1.0000
Tank Diameter (ft):	10.0000
Working Loss Product Factor:	1.0000
Total Losses (lb):	0.8819

TANKS 4.0.9d
Emissions Report - Detail Format
Individual Tank Emission Totals

Emissions Report for: Annual

Copley 2 - Horizontal Tank

	Losses(lbs)		
Components	Working Loss	Breathing Loss	Total Emissions
Propylene glycol	0.14	0.74	0.88

TANKS 4.0.9d

Emissions Report - Detail Format

Tank Identification and Physical Characteristics

Identification

User Identification: Copley 3
 City: West Virginia
 State: West Virginia
 Company: Horizontal Tank
 Type of Tank: Horizontal Tank
 Description:

Tank Dimensions

Shell Length (ft): 13.00
 Diameter (ft): 5.00
 Volume (gallons): 2,000.00
 Turnovers: 1.00
 Net Throughput(gal/yr): 2,000.00
 Is Tank Heated (Y/n): N
 Is Tank Underground (y/n): N

Paint Characteristics

Shell Color/Shade: Gray/Medium
 Shell Condition: Good

Breather Vent Settings

Vacuum Settings (psig): 0.00
 Pressure Settings (psig): 0.00

Meteorological Data used in Emissions Calculations: Charleston, West Virginia (Avg Atmospheric Pressure = 14.25 psia)

TANKS 4.0.9d

Emissions Report - Detail Format

Liquid Contents of Storage Tank

Copley 3 - Horizontal Tank

Mixture/Component	Daily Liquid Surf. Temperature (deg F)			Liquid Bulk Temp (deg F)	Vapor Pressure (psia)			Vapor Mol. Weight	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
	Avg.	Min.	Max.		Avg.	Min.	Max.					
Crude oil (RVP 5)	63.43	53.60	73.25	58.06	3.0767	2.5338	3.7094	50.0000			207.00	Option 4: RVP=5

TANKS 4.0.9d

Emissions Report - Detail Format

Detail Calculations (AP-42)

Copley 3 - Horizontal Tank

Annual Emission Calculations

Standing Losses (lb):	208.3575
Vapor Space Volume (cu ft):	162.5824
Vapor Density (lb/cu ft):	0.0274
Vapor Space Expansion Factor:	0.1803
Vented Vapor Saturation Factor:	0.7104
Tank Vapor Space Volume:	162.5824
Vapor Space Volume (cu ft):	5.0000
Tank Diameter (ft):	9.0996
Effective Diameter (ft):	2.5000
Vapor Space Outage (ft):	13.0000
Tank Shell Length (ft):	
Vapor Density	0.0274
Vapor Density (lb/cu ft):	50.0000
Vapor Molecular Weight (lb/lb-mole):	
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	3.0767
Daily Avg. Liquid Surface Temp. (deg. R):	523.0962
Daily Average Ambient Temp. (deg. F):	54.9833
Ideal Gas Constant R (psia cuft / (lb-mol-deg R):	10.731
Liquid Bulk Temperature (deg. R):	517.7333
Tank Paint Solar Absorbance (Shell):	0.6800
Daily Total Solar Insulation Factor (Btu/sqft day):	1,250.5726
Vapor Space Expansion Factor:	0.1803
Vapor Space Expansion Factor:	39.3149
Daily Vapor Temperature Range (deg. R):	1.1756
Daily Vapor Pressure Range (psia):	0.0000
Breather Vent Press. Setting Range (psia):	
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	3.0767
Vapor Pressure at Daily Minimum Liquid Surface Temperature (psia):	2.5338
Vapor Pressure at Daily Maximum Liquid Surface Temperature (psia):	3.7084
Daily Avg. Liquid Surface Temp. (deg R):	523.0962
Daily Min. Liquid Surface Temp. (deg R):	513.2675
Daily Max. Liquid Surface Temp. (deg R):	532.9249
Daily Ambient Temp. Range (deg. R):	21.5333
Vented Vapor Saturation Factor	0.7104
Vented Vapor Saturation Factor:	
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	3.0767
Vapor Space Outage (ft):	2.5000
Working Losses (lb):	5.4942
Vapor Molecular Weight (lb/lb-mole):	50.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	3.0767

Annual Net Throughput (gal/yr.): 2,000,0000
Annual Turnovers: 1,0000
Turnover Factor: 1,0000
Tank Diameter (ft): 5,0000
Working Loss Product Factor: 0,7500

Total Losses (lb): 213,8517

**TANKS 4.0.9d
Emissions Report - Detail Format
Individual Tank Emission Totals**

Emissions Report for: Annual

Copley 3 - Horizontal Tank

		Losses(lbs)	
Components	Working Loss	Breathing Loss	Total Emissions
Crude oil (RVP 5)	5.49	208.36	213.85

TANKS 4.0.9d

Emissions Report - Detail Format

Tank Identification and Physical Characteristi

Identification

User Identification:	Copley4
City:	
State:	West Virginia
Company:	
Type of Tank:	Horizontal Tank
Description:	

Tank Dimensions

Shell Length (ft):	12.00
Diameter (ft):	5.33
Volume (gallons):	2,000.00
Turnovers:	1.50
Net Throughput(gal/yr):	3,000.00
Is Tank Heated (y/n):	N
Is Tank Underground (y/n):	N

Paint Characteristics

Shell Color/Shade:	Gray/Medium
Shell Condition	Good

Breather Vent Settings

Vacuum Settings (psig):	0.00
Pressure Settings (psig)	0.00

Meteorological Data used in Emissions Calculations: Charleston, West Virginia (Avg Atmospheric Pressure = 14.25 psia)

TANKS 4.0.9d

Emissions Report - Detail Format

Liquid Contents of Storage Tank

Copley4 - Horizontal Tank

Mixture/Component	Month	Daily Liquid Surf. Temperature (deg F)			Liquid Bulk Temp (deg F)	Vapor Pressure (psia)			Vapor Mol. Weight.	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight
		Avg.	Min.	Max.		Avg.	Min.	Max.				
Methyl alcohol	All	63.43	53.60	73.25	58.06	1.6051	1.1753	2.1628	32.0400			32.04

TANKS 4.0.9d

Emissions Report - Detail Format

Detail Calculations (AP-42)

Copley4 - Horizontal Tank

Annual Emission Calculations

Standing Losses (lb):	71.2357
Vapor Space Volume (cu ft):	170.5399
Vapor Density (lb/cu ft):	0.0092
Vapor Space Expansion Factor:	0.1532
Vented Vapor Saturation Factor:	0.8152

Tank Vapor Space Volume:	
Vapor Space Volume (cu ft):	170.5399
Tank Diameter (ft):	5.3300
Effective Diameter (ft):	9.0265
Vapor Space Outage (ft):	2.6650
Tank Shell Length (ft):	12.0000

Vapor Density	
Vapor Density (lb/cu ft):	0.0092
Vapor Molecular Weight (lb/lb-mole):	32.0400
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	1.6051
Daily Avg. Liquid Surface Temp. (deg. R):	523.0962
Daily Average Ambient Temp. (deg. F):	54.9833
Ideal Gas Constant R (psia cuft / (lb-mol-deg R)):	10.731
Liquid Bulk Temperature (deg. R):	517.7333
Tank Paint Solar Absorptance (Shell):	0.6800
Daily Total Solar Insulation Factor (Btu/sqft day):	1,250.5726

Vapor Space Expansion Factor	
Vapor Space Expansion Factor:	0.1532
Daily Vapor Temperature Range (deg. R):	39.3149
Daily Vapor Pressure Range (psia):	0.9875
Breather Vent Press. Setting Range(psia):	0.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	1.6051
Vapor Pressure at Daily Minimum Liquid Surface Temperature (psia):	1.1753
Vapor Pressure at Daily Maximum Liquid Surface Temperature (psia):	2.1628
Daily Avg. Liquid Surface Temp. (deg R):	523.0962
Daily Min. Liquid Surface Temp. (deg R):	513.2675
Daily Max. Liquid Surface Temp. (deg R):	532.9249
Daily Ambient Temp. Range (deg. R):	21.5333

Vented Vapor Saturation Factor	
Vented Vapor Saturation Factor:	0.8152
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	1.6051
Vapor Space Outage (ft):	2.6650

Working Losses (lb):	3.6734
Vapor Molecular Weight (lb/lb-mole):	32.0400
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	1.6051
Annual Net Throughput (gal/yr.):	3,000.0000
Annual Turnovers:	1.5000
Turnover Factor:	1.0000
Tank Diameter (ft):	5.3300
Working Loss Product Factor:	1.0000

Total Losses (lb):	74.9091
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TANKS 4.0.9d
Emissions Report - Detail Format
Individual Tank Emission Totals

Emissions Report for: Annual

Copley4 - Horizontal Tank

	Losses(lbs)		
Components	Working Loss	Breathing Loss	Total Emissions
Methyl alcohol	3.67	71.24	74.91

TANKS 4.0.9d
Emissions Report - Detail Format
Tank Identification and Physical Characteristics

Identification

User Identification:	Copley 5
City:	
State:	West Virginia
Company:	
Type of Tank:	Horizontal Tank
Description:	

Tank Dimensions

Shell Length (ft):	18.00
Diameter (ft):	9.00
Volume (gallons):	7,500.00
Turnovers:	0.00
Net Throughput(gal/yr):	7,500.00
Is Tank Heated (y/n):	N
Is Tank Underground (y/n):	N

Paint Characteristics

Shell Color/Shade:	Gray/Medium
Shell Condition	Good

Breather Vent Settings

Vacuum Settings (psig):	0.00
Pressure Settings (psig)	0.00

Meteorological Data used in Emissions Calculations: Charleston, West Virginia (Avg Atmospheric Pressure = 14.25 psia)

TANKS 4.0.9d
Emissions Report - Detail Format
Liquid Contents of Storage Tank

Copley 5 - Horizontal Tank

Mixture/Component	Month	Daily Liquid Surf. Temperature (deg F)			Liquid Bulk Temp (deg F)	Vapor Pressure (psia)			Vapor Mol. Weight.	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight
		Avg.	Min.	Max.		Avg.	Min.	Max.				
Residual oil no. 6	All	63.43	53.60	73.25	58.06	0.0000	0.0000	0.0001	190.0000			387.00

TANKS 4.0.9d Emissions Report - Detail Format Detail Calculations (AP-42)

Copley 5 - Horizontal Tank

Annual Emission Calculations

Standing Losses (lb):	0.0317
Vapor Space Volume (cu ft):	729.3698
Vapor Density (lb/cu ft):	0.0000
Vapor Space Expansion Factor:	0.0752
Vented Vapor Saturation Factor:	1.0000
 Tank Vapor Space Volume:	
Vapor Space Volume (cu ft):	729.3698
Tank Diameter (ft):	9.0000
Effective Diameter (ft):	14.3656
Vapor Space Outage (ft):	4.5000
Tank Shell Length (ft):	18.0000
 Vapor Density	
Vapor Density (lb/cu ft):	0.0000
Vapor Molecular Weight (lb/lb-mole):	190.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0000
Daily Avg. Liquid Surface Temp. (deg. R):	523.0962
Daily Average Ambient Temp. (deg. F):	54.9833
Ideal Gas Constant R (psia cuft / (lb-mol-deg R)):	10.731
Liquid Bulk Temperature (deg. R):	517.7333
Tank Paint Solar Absorptance (Shell):	0.6800
Daily Total Solar Insulation Factor (Btu/sqft day):	1,250.5726
 Vapor Space Expansion Factor	
Vapor Space Expansion Factor:	0.0752
Daily Vapor Temperature Range (deg. R):	39.3149
Daily Vapor Pressure Range (psia):	0.0000
Breather Vent Press. Setting Range(psia):	0.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0000
Vapor Pressure at Daily Minimum Liquid Surface Temperature (psia):	0.0000
Vapor Pressure at Daily Maximum Liquid Surface Temperature (psia):	0.0001
Daily Avg. Liquid Surface Temp. (deg R):	523.0962
Daily Min. Liquid Surface Temp. (deg R):	513.2675
Daily Max. Liquid Surface Temp. (deg R):	532.9249
Daily Ambient Temp. Range (deg. R):	21.5333
 Vented Vapor Saturation Factor	
Vented Vapor Saturation Factor:	1.0000
Vapor Pressure at Daily Average Liquid: Surface Temperature (psia):	0.0000
Vapor Space Outage (ft):	4.5000
 Working Losses (lb):	0.0016
Vapor Molecular Weight (lb/lb-mole):	190.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0000
Annual Net Throughput (gal/yr.):	7,500.0000
Annual Turnovers:	0.0000
Turnover Factor:	1.0000
Tank Diameter (ft):	9.0000
Working Loss Product Factor:	1.0000
 Total Losses (lb):	0.0333

TANKS 4.0.9d
Emissions Report - Detail Format
Individual Tank Emission Totals

Emissions Report for: Annual

Copley 5 - Horizontal Tank

	Losses(lbs)		
Components	Working Loss	Breathing Loss	Total Emissions
Residual oil no. 6	0.00	0.03	0.03

TANKS 4.0.9d
Emissions Report - Detail Format
Tank Identification and Physical Characteristics

Identification

User Identification:	Copley 6
City:	
State:	West Virginia
Company:	
Type of Tank:	Horizontal Tank
Description:	

Tank Dimensions

Shell Length (ft):	20.00
Diameter (ft):	5.00
Volume (gallons):	3,000.00
Turnovers:	0.00
Net Throughput(gal/yr):	3,000.00
Is Tank Heated (y/n):	N
Is Tank Underground (y/n):	N

Paint Characteristics

Shell Color/Shade:	Gray/Medium
Shell Condition	Good

Breather Vent Settings

Vacuum Settings (psig):	0.00
Pressure Settings (psig)	0.00

Meteorological Data used in Emissions Calculations: Charleston, West Virginia (Avg Atmospheric Pressure = 14.25 psia)

TANKS 4.0.9d
Emissions Report - Detail Format
Liquid Contents of Storage Tank

Copley 6 - Horizontal Tank

Mixture/Component	Month	Daily Liquid Surf. Temperature (deg F)			Liquid Bulk Temp (deg F)	Vapor Pressure (psia)			Vapor Mol. Weight.	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight
		Avg.	Min.	Max.		Avg.	Min.	Max.				
Propylene glycol	All	63.43	53.60	73.25	58.06	0.0011	0.0007	0.0019	76.1100			76.11

TANKS 4.0.9d Emissions Report - Detail Format Detail Calculations (AP-42)

Copley 6 - Horizontal Tank

Annual Emission Calculations

Standing Losses (lb):	0.1060
Vapor Space Volume (cu ft):	250.1268
Vapor Density (lb/cu ft):	0.0000
Vapor Space Expansion Factor:	0.0752
Vented Vapor Saturation Factor:	0.9998
 Tank Vapor Space Volume:	
Vapor Space Volume (cu ft):	250.1268
Tank Diameter (ft):	5.0000
Effective Diameter (ft):	11.2867
Vapor Space Outage (ft):	2.5000
Tank Shell Length (ft):	20.0000
 Vapor Density	
Vapor Density (lb/cu ft):	0.0000
Vapor Molecular Weight (lb/lb-mole):	76.1100
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0011
Daily Avg. Liquid Surface Temp. (deg. R):	523.0962
Daily Average Ambient Temp. (deg. F):	54.9833
Ideal Gas Constant R (psia cuft / (lb-mol-deg R)):	10.731
Liquid Bulk Temperature (deg. R):	517.7333
Tank Paint Solar Absorptance (Shell):	0.6800
Daily Total Solar Insulation Factor (Btu/sqft day):	1,250.5726
 Vapor Space Expansion Factor	
Vapor Space Expansion Factor:	0.0752
Daily Vapor Temperature Range (deg. R):	39.3149
Daily Vapor Pressure Range (psia):	0.0013
Breather Vent Press. Setting Range(psia):	0.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0011
Vapor Pressure at Daily Minimum Liquid Surface Temperature (psia):	0.0007
Vapor Pressure at Daily Maximum Liquid Surface Temperature (psia):	0.0019
Daily Avg. Liquid Surface Temp. (deg R):	523.0962
Daily Min. Liquid Surface Temp. (deg R):	513.2675
Daily Max. Liquid Surface Temp. (deg R):	532.9249
Daily Ambient Temp. Range (deg. R):	21.5333
 Vented Vapor Saturation Factor	
Vented Vapor Saturation Factor:	0.9998
Vapor Pressure at Daily Average Liquid: Surface Temperature (psia):	0.0011
Vapor Space Outage (ft):	2.5000
 Working Losses (lb):	0.0062
Vapor Molecular Weight (lb/lb-mole):	76.1100
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0011
Annual Net Throughput (gal/yr.):	3,000.0000
Annual Turnovers:	0.0000
Turnover Factor:	1.0000
Tank Diameter (ft):	5.0000
Working Loss Product Factor:	1.0000
 Total Losses (lb):	0.1122

TANKS 4.0.9d
Emissions Report - Detail Format
Individual Tank Emission Totals

Emissions Report for: Annual

Copley 6 - Horizontal Tank

	Losses(lbs)		
Components	Working Loss	Breathing Loss	Total Emissions
Propylene glycol	0.01	0.11	0.11

Copley Storage GlyCalc Input

GRI-GLYCalc VERSION 4.0 - SUMMARY OF INPUT VALUES

Case Name: Copley Storage Dehy
File Name: H:\My Documents\GlyCal\copley storage dehy - 2006 for Permit.ddf
Date: August 24, 2006

DESCRIPTION:

Description: Copley Storage Dehy

Annual Hours of Operation: 8760.0 hours/yr

WET GAS:

Temperature: 90.00 deg. F
Pressure: 350.00 psig
Wet Gas Water Content: Saturated

Component	Conc. (vol %)
Carbon Dioxide	0.1000
Nitrogen	1.0810
Methane	83.6390
Ethane	9.2990
Propane	3.3950
Isobutane	0.5130
n-Butane	0.9010
Isopentane	0.2900
n-Pentane	0.2370
n-Hexane	0.0690
Cyclohexane	0.0190
Other Hexanes	0.1000
Heptanes	0.1550
Benzene	0.0030
Toluene	0.0070
Ethylbenzene	0.0010
xylene	0.0050

DRY GAS:

Flow Rate: 21.3 MMSCF/day
Water Content: 7.0 lbs. H2O/MMSCF

LEAN GLYCOL:

Glycol Type: TEG
Water Content: 0.5 wt% H2O
Flow Rate: 7.0 gpm

Copley Storage GlyCalc Input

PUMP:

Glycol Pump Type: Electric/Pneumatic

FLASH TANK:

Flash Control: Combustion device
Flash Control Efficiency: 98.00 %
Temperature: 180.0 deg. F
Pressure: 40.0 psig

REGENERATOR OVERHEADS CONTROL DEVICE:

Control Device: Combustion Device
Destruction Efficiency: 98.0 %
Excess Oxygen: 15.0 %
Ambient Air Temperature: 60.0 deg. F

Copley Storage GlyCalc Combined Emissions

GRI-GLYCalc VERSION 4.0 - COMBINED REGENERATOR VENT/FLASH GAS EMISSION CONTROL REPORT

Case Name: Copley Storage Dehy

File Name: H:\My Documents\GlyCalc\copley storage dehy - 2006 for Permit.ddf

Date: August 24, 2006

Component	Uncontrolled tons/yr	Controlled tons/yr	% Reduction
Methane	19.8435	0.3969	98.00
Ethane	15.8445	0.3169	98.00
Propane	16.3691	0.3274	98.00
Isobutane	5.1179	0.1024	98.00
n-Butane	12.1507	0.2430	98.00
Isopentane	5.5825	0.1116	98.00
n-Pentane	5.9250	0.1185	98.00
n-Hexane	3.8578	0.0772	98.00
Cyclohexane	4.5890	0.0918	98.00
Other Hexanes	4.1582	0.0832	98.00
Heptanes	21.5223	0.4304	98.00
Benzene	4.9872	0.0997	98.00
Toluene	20.4041	0.4081	98.00
Ethylbenzene	4.8095	0.0962	98.00
xylenes	29.6247	0.5925	98.00
Total Emissions	174.7861	3.4957	98.00
Total Hydrocarbon Emissions	174.7861	3.4957	98.00
Total VOC Emissions	139.0980	2.7820	98.00
Total HAP Emissions	63.6833	1.2737	98.00
Total BTEX Emissions	59.8254	1.1965	98.00

Copley Transmission GlyCalc Input

GRI-GLYCalc VERSION 4.0 - SUMMARY OF INPUT VALUES

Case Name: Copley Transmission Dehy

File Name: H:\My Documents\GlyCal\copley transmission dehy - 2006 for Permit.ddf

Date: August 24, 2006

DESCRIPTION:

Description: Copley Transmission Dehy

Annual Hours of Operation: 8760.0 hours/yr

WET GAS:

Temperature: 100.00 deg. F
Pressure: 270.00 psig
Wet Gas Water Content: Saturated

Component	Conc. (vol %)
Carbon Dioxide	0.1000
Nitrogen	1.0810
Methane	83.6390
Ethane	9.2990
Propane	3.3950
Isobutane	0.5130
n-Butane	0.9010
Isopentane	0.2900
n-Pentane	0.2370
n-Hexane	0.0690
Cyclohexane	0.0190
Other Hexanes	0.1000
Heptanes	0.1550
Benzene	0.0030
Toluene	0.0070
Ethylbenzene	0.0010
Xylenes	0.0050

DRY GAS:

Flow Rate: 25.3 MMSCF/day
Water Content: 7.0 lbs. H2O/MMSCF

LEAN GLYCOL:

Glycol Type: TEG
Water Content: 0.5 wt% H2O
Flow Rate: 4.0 gpm

Copley Transmission GlyCalc Input

PUMP:

Glycol Pump Type: Electric/Pneumatic

FLASH TANK:

Flash Control: Combustion device
Flash Control Efficiency: 95.00 %
Temperature: 180.0 deg. F
Pressure: 40.0 psig

REGENERATOR OVERHEADS CONTROL DEVICE:

Control Device: Combustion Device
Destruction Efficiency: 95.0 %
Excess Oxygen: 15.0 %
Ambient Air Temperature: 60.0 deg. F

Copley Transmission GlyCalc Combined Emissions

GRI-GLYCalc VERSION 4.0 - COMBINED REGENERATOR VENT/FLASH GAS EMISSION CONTROL REPORT

Case Name: Copley Transmission Dehy

File Name: H:\My Documents\GlyCalc\copley transmission dehy - 2006 for Permit.ddf

Date: August 24, 2006

Component	Uncontrolled tons/yr	Controlled tons/yr	% Reduction
Methane	7.9791	0.3990	95.00
Ethane	6.1923	0.3096	95.00
Propane	7.0710	0.3535	95.00
Isobutane	2.1622	0.1081	95.00
n-Butane	5.0990	0.2550	95.00
Isopentane	2.3207	0.1160	95.00
n-Pentane	2.4364	0.1218	95.00
n-Hexane	1.5477	0.0774	95.00
Cyclohexane	1.7184	0.0859	95.00
Other Hexanes	1.6777	0.0839	95.00
Heptanes	8.3518	0.4176	95.00
Benzene	2.1741	0.1087	95.00
Toluene	9.4715	0.4736	95.00
Ethylbenzene	2.5643	0.1282	95.00
xylenes	18.2040	0.9102	95.00
Total Emissions	78.9703	3.9485	95.00
Total Hydrocarbon Emissions	78.9703	3.9485	95.00
Total VOC Emissions	64.7989	3.2399	95.00
Total HAP Emissions	33.9617	1.6981	95.00
Total BTEX Emissions	32.4139	1.6207	95.00

AIR POLLUTION CONTROL DEVICE FORM

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number: 009	List all emission units associated with this control device. Dehy Reboiler #1
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Manufacturer: Flare Industries Inc.	Model number: Unknown	Installation date: 1992
---	---------------------------------	-----------------------------------

Type of Air Pollution Control Device:

<input type="checkbox"/> Baghouse/Fabric Filter	<input type="checkbox"/> Venturi Scrubber	<input type="checkbox"/> Multiclone
<input type="checkbox"/> Carbon Bed Adsorber	<input type="checkbox"/> Packed Tower Scrubber	<input type="checkbox"/> Single Cyclone
<input type="checkbox"/> Carbon Drum(s)	<input type="checkbox"/> Other Wet Scrubber	<input type="checkbox"/> Cyclone Bank
<input type="checkbox"/> Catalytic Incinerator	<input type="checkbox"/> Condenser	<input type="checkbox"/> Settling Chamber
<input type="checkbox"/> Thermal Incinerator	<input checked="" type="checkbox"/> X Flare	<input type="checkbox"/> Other (describe) _____
<input type="checkbox"/> Wet Plate Electrostatic Precipitator		<input type="checkbox"/> Dry Plate Electrostatic Precipitator

List the pollutants for which this device is intended to control and the capture and control efficiencies.

Pollutant	Capture Efficiency	Control Efficiency
VOC	100%	98%
HAPs	100%	98%

Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.).

Elevated flare which captures all emissions from Dehy #1 reboiler exhaust.

Is this device subject to the CAM requirements of 40 C.F.R. 64? Yes No

If Yes, **Complete ATTACHMENT H**

- Describe the parameters monitored and/or methods used to indicate performance of this control device.**
- Perform visual emission inspections.
 - Monthly sample inlet and outlet dehy gas streams utilizing Gas Chromatography for the presence of sulfur and H₂S.
 - Monthly calculate the average hourly emission rate using GRI-GLYCALC for VOC, GRI-HAPCALC for HAPs and the amount of natural gas for NO_x and CO.
 - Record dehy operating hours and natural gas flow.
 - Add emission calculations and portable analyzer results for NO_x, CO, and VOC – maintain 12-month running total.

COMPLIANCE ASSURANCE MONITORING (CAM) PLAN FORM

ATTACHMENT H - Compliance Assurance Monitoring (CAM) Plan Form

For definitions and information about the CAM rule, please refer to 40 CFR Part 64. Additional information (including guidance documents) may also be found at <http://www.epa.gov/ttn/emc/cam.html>

CAM APPLICABILITY DETERMINATION

- 1) Does the facility have a PSEU (Pollutant-Specific Emissions Unit considered separately with respect to **EACH** regulated air pollutant) that is subject to CAM (40 CFR Part 64), which must be addressed in this CAM plan submittal? To determine applicability, a PSEU must meet **all** of the following criteria (*If No, then the remainder of this form need not be completed*):
- YES NO
- a. The PSEU is located at a major source that is required to obtain a Title V permit;
 - b. The PSEU is subject to an emission limitation or standard for the applicable regulated air pollutant that is **NOT** exempt;
- LIST OF EXEMPT EMISSION LIMITATIONS OR STANDARDS:
- NSPS (40 CFR Part 60) or NESHAP (40 CFR Parts 61 and 63) proposed after 11/15/1990.
 - Stratospheric Ozone Protection Requirements.
 - Acid Rain Program Requirements.
 - Emission Limitations or Standards for which a WVDEP Division of Air Quality Title V permit specifies a continuous compliance determination method, as defined in 40 CFR §64.1.
 - An emission cap that meets the requirements specified in 40 CFR §70.4(b)(12).
- c. The PSEU uses an add-on control device (as defined in 40 CFR §64.1) to achieve compliance with an emission limitation or standard;
 - d. The PSEU has potential pre-control device emissions of the applicable regulated air pollutant that are equal to or greater than the Title V Major Source Threshold Levels; AND
 - e. The PSEU is **NOT** an exempt backup utility power emissions unit that is municipally-owned.

BASIS OF CAM SUBMITTAL

- 2) Mark the appropriate box below as to why this CAM plan is being submitted as part of an application for a Title V permit:
- RENEWAL APPLICATION.** **ALL** PSEUs for which a CAM plan has **NOT** yet been approved need to be addressed in this CAM plan submittal.
- INITIAL APPLICATION** (submitted after 4/20/98). **ONLY** large PSEUs (i. e., PSEUs with potential post-control device emissions of an applicable regulated air pollutant that are equal to or greater than Major Source Threshold Levels) need to be addressed in this CAM plan submittal.
- SIGNIFICANT MODIFICATION TO LARGE PSEUs.** **ONLY** large PSEUs being modified after 4/20/98 need to be addressed in this cam plan submittal. For large PSEUs with an approved CAM plan, Only address the appropriate monitoring requirements affected by the significant modification.

3) ^a BACKGROUND DATA AND INFORMATION

Complete the following table for **all** PSEUs that need to be addressed in this CAM plan submittal. This section is to be used to provide background data and information for each PSEU in order to supplement the submittal requirements specified in 40 CFR §64.4. If additional space is needed, attach and label accordingly.

PSEU DESIGNATION	DESCRIPTION	POLLUTANT	CONTROL DEVICE	^b EMISSION LIMITATION or STANDARD	^c MONITORING REQUIREMENT
N/A	N/A	N/A	N/A	N/A	N/A
<u>EXAMPLE</u> Boiler No. 1	Wood-Fired Boiler	PM	Multiclone	45CSR§2-4.1.c.; 9.0 lb/hr	Monitor pressure drop across multiclone: Weekly inspection of multiclone

^a If a control device is common to more than one PSEU, one monitoring plan may be submitted for the control device with the affected PSEUs identified and any conditions that must be maintained or monitored in accordance with 40 CFR §64.3(a). If a single PSEU is controlled by more than one control device similar in design and operation, one monitoring plan for the applicable control devices may be submitted with the applicable control devices identified and any conditions that must be maintained or monitored in accordance with 40 CFR §64.3(a).

^b Indicate the emission limitation or standard for any applicable requirement that constitutes an emission limitation, emission standard, or standard of performance (as defined in 40 CFR §64.1).

^c Indicate the monitoring requirements for the PSEU that are required by an applicable regulation or permit condition.

CAM MONITORING APPROACH CRITERIA

Complete this section for EACH PSEU that needs to be addressed in this CAM plan submittal. This section may be copied as needed for each PSEU. This section is to be used to provide monitoring data and information for EACH indicator selected for EACH PSEU in order to meet the monitoring design criteria specified in 40 CFR §64.3 and §64.4. If more than two indicators are being selected for a PSEU or if additional space is needed, attach and label accordingly with the appropriate PSEU designation, pollutant, and indicator numbers.

4a) PSEU Designation: N/A	4b) Pollutant: N/A	4c) ^a Indicator No. 1: N/A	4d) ^a Indicator No. 2: N/A
5a) GENERAL CRITERIA Describe the <u>MONITORING APPROACH</u> used to measure the indicators:		N/A	N/A
^b Establish the appropriate <u>INDICATOR RANGE</u> or the procedures for establishing the indicator range which provides a reasonable assurance of compliance:		N/A	N/A
5b) PERFORMANCE CRITERIA Provide the <u>SPECIFICATIONS FOR OBTAINING REPRESENTATIVE DATA</u> , such as detector location, installation specifications, and minimum acceptable accuracy:		N/A	N/A
^c For new or modified monitoring equipment, provide <u>VERIFICATION PROCEDURES</u> , including manufacturer's recommendations, <u>TO CONFIRM THE OPERATIONAL STATUS</u> of the monitoring:		N/A	N/A
Provide <u>QUALITY ASSURANCE AND QUALITY CONTROL (QA/QC) PRACTICES</u> that are adequate to ensure the continuing validity of the data, (i.e., daily calibrations, visual inspections, routine maintenance, RATA, etc.):		N/A	N/A
^d Provide the <u>MONITORING FREQUENCY</u> :		N/A	N/A
Provide the <u>DATA COLLECTION PROCEDURES</u> that will be used:		N/A	N/A
Provide the <u>DATA AVERAGING PERIOD</u> for the purpose of determining whether an excursion or exceedance has occurred:		N/A	N/A

^a Describe all indicators to be monitored which satisfies 40 CFR §64.3(a). Indicators of emission control performance for the control device and associated capture system may include measured or predicted emissions (including visible emissions or opacity), process and control device operating parameters that affect control device (and capture system) efficiency or emission rates, or recorded findings of inspection and maintenance activities.

^b Indicator Ranges may be based on a single maximum or minimum value or at multiple levels that are relevant to distinctly different operating conditions, expressed as a function of process variables, expressed as maintaining the applicable indicator in a particular operational status or designated condition, or established as interdependent between more than one indicator. For CEMS, COMS, or PEMS, include the most recent certification test for the monitor.

^c The verification for operational status should include procedures for installation, calibration, and operation of the monitoring equipment, conducted in accordance with the manufacturer's recommendations, necessary to confirm the monitoring equipment is operational prior to the commencement of the required monitoring.

^d Emission units with post-control PTE ≥ 100 percent of the amount classifying the source as a major source (i.e., Large PSEU) must collect four or more values per hour to be averaged. A reduced data collection frequency may be approved in limited circumstances. Other emission units must collect data at least once per 24 hour period.

RATIONALE AND JUSTIFICATION

Complete this section for EACH PSEU that needs to be addressed in this CAM plan submittal. This section may be copied as needed for each PSEU. This section is to be used to provide rationale and justification for the selection of EACH indicator and monitoring approach and EACH indicator range in order to meet the submittal requirements specified in 40 CFR §64.4.

6a) PSEU Designation:
N/A

6b) Regulated Air Pollutant:
N/A

7) **INDICATORS AND THE MONITORING APPROACH:** Provide the rationale and justification for the selection of the indicators and the monitoring approach used to measure the indicators. Also provide any data supporting the rationale and justification. Explain the reasons for any differences between the verification of operational status or the quality assurance and control practices proposed, and the manufacturer's recommendations. (If additional space is needed, attach and label accordingly with the appropriate PSEU designation and pollutant):

N/A

8) **INDICATOR RANGES:** Provide the rationale and justification for the selection of the indicator ranges. The rationale and justification shall indicate how EACH indicator range was selected by either a COMPLIANCE OR PERFORMANCE TEST, a TEST PLAN AND SCHEDULE, or by ENGINEERING ASSESSMENTS. Depending on which method is being used for each indicator range, include the specific information required below for that specific indicator range. (If additional space is needed, attach and label accordingly with the appropriate PSEU designation and pollutant):

- COMPLIANCE OR PERFORMANCE TEST (Indicator ranges determined from control device operating parameter data obtained during a compliance or performance test conducted under regulatory specified conditions or under conditions representative of maximum potential emissions under anticipated operating conditions. Such data may be supplemented by engineering assessments and manufacturer's recommendations). The rationale and justification shall INCLUDE a summary of the compliance or performance test results that were used to determine the indicator range, and documentation indicating that no changes have taken place that could result in a significant change in the control system performance or the selected indicator ranges since the compliance or performance test was conducted.
- TEST PLAN AND SCHEDULE (Indicator ranges will be determined from a proposed implementation plan and schedule for installing, testing, and performing any other appropriate activities prior to use of the monitoring). The rationale and justification shall INCLUDE the proposed implementation plan and schedule that will provide for use of the monitoring as expeditiously as practicable after approval of this CAM plan, except that in no case shall the schedule for completing installation and beginning operation of the monitoring exceed 180 days after approval.
- ENGINEERING ASSESSMENTS (Indicator Ranges or the procedures for establishing indicator ranges are determined from engineering assessments and other data, such as manufacturers' design criteria and historical monitoring data, because factors specific to the type of monitoring, control device, or PSEU make compliance or performance testing unnecessary). The rationale and justification shall INCLUDE documentation demonstrating that compliance testing is not required to establish the indicator range.

RATIONALE AND JUSTIFICATION:

N/A

APPENDIX D – WVDEP RULE 13 PERMIT MODIFICATION FORMS



WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF AIR QUALITY

601 57th Street, SE
Charleston, WV 25304
Phone: (304) 926-0475
www.wvdep.org

**APPLICATION FOR PERMIT
TO CONSTRUCT, MODIFY, RELOCATE,
ADMINISTRATIVE UPDATE OR
TEMPORARILY PERMIT
A STATIONARY SOURCE OF AIR POLLUTANTS**

PLEASE CHECK ALL THAT APPLY (IF KNOWN):

- CONSTRUCTION MODIFICATION RELOCATION
 CLASS I ADMINISTRATIVE UPDATE TEMPORARY
 CLASS II ADMINISTRATIVE UPDATE AFTER-THE-FACT

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

Section I. General

1. Name of applicant (as registered with the WV Secretary of State's Office): Equitrans, Inc.		2. Federal Employer ID No. (FEIN): 556000769W	
3. Name of facility (if different from above): Copley Run Compressor Station #70		4. The applicant is the: <input type="checkbox"/> OWNER <input type="checkbox"/> OPERATOR <input checked="" type="checkbox"/> BOTH	
5A. Applicant's mailing address: Route 4 PO Box 640 Weston, WV 26452		5B. Facility's present physical address: Route 4 PO Box 640 Weston, WV 26452	
6. West Virginia Business Registration. Is the applicant a resident of the State of West Virginia? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO ! If YES, provide a copy of the Certificate of Incorporation/Organization/Limited Partnership (one page) including any name change amendments or other Business Registration Certificate as Attachment A . ! If NO, provide a copy of the Certificate of Authority/Authority of L.L.C./Registration (one page) including any name change amendments or other Business Certificate as Attachment A .			
7. If applicant is a subsidiary corporation, please provide the name of parent corporation: Equitrans			
8. Does the applicant own, lease, have an option to buy or otherwise have control of the <i>proposed site</i> ? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO ! If YES, please explain: Equitrans, Inc. owns site that is modifying the previously approved Regulation 13 permit. ! If NO, you are not eligible for a permit for this source.			
9. Type of plant or facility (stationary source) to be constructed, modified, relocated, administratively updated or temporarily permitted (e.g., coal preparation plant, primary crusher, etc.): Natural Gas Transmission Station		10. Standard Industrial Classification (SIC) code for the facility: 4922	
11A. DAQ Plant ID No. (for existing facilities only): 0 4 1 - 0 0 0 0 9		11B. List all current 45CSR13 and 45CSR30 (Title V) permit numbers associated with this process (for existing facilities only): R30-04100009-2002 R13-2397A	

12. Has this source been deferred from 45CSR30 permitting requirements? **YES** **NO** **UNKNOWN**
If a 45CSR30 (Title V) permit exists for this facility, in order to operate, please update your permit according to the changes proposed in this permit application.

13A.
 ! For **Modifications, Administrative Updates or Temporary permits** at an existing facility, please provide directions to the *present location* of the facility from the nearest state road;
 ! For **Construction or Relocation permits**, please provide directions to the *proposed new site location* from the nearest state road.

 Exit Interstate 79 at the Roanoke exit number 91. Proceed towards Weston for approximately one (1) mile then take a left onto Copley Road (Route 17). The Copley Run Station is located approximately ½ mile up on the right.

 Include a **MAP** as **ATTACHMENT B**.

13B. New site address (if applicable): N/A	13C. Nearest city or town: Weston	13D. County: Lewis
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13E. UTM Northing (KM): 4314.80	13F. UTM Easting (KM): 541.30	13G. UTM Zone: 17
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14. Briefly describe the proposed change(s) at the facility:
 a. Remove the 0 pph and 0 tpy emission limit for SO₂, PM₁₀, and HAPs for C-005 (previously ID CE-5) because it is technically not feasible. Set new emissions standards to be applicable for all compressors as: SO₂ = 0.006 lb/yr, 0.022 tpy; PM₁₀ = 0.479 lb/yr, 1.846 tpy; HAPs = 0.789 lbs/hr, 3.04 tpy. Also remove the compliance condition III.C.5 from R30-04100009-1996 because this extra testing has only shown facility well within compliance.
 b. Adjust the benzene emission standard for the Dehy Flare and Dehy (ID 004-01 and 004-02) to < 1 tpy and set applicable for both units
 c. Adjust language in R13-2397 III.B.2.a.xi to account for new benzene limit and read that "The facility shall emit the following HAPs only in the associated amounts."
 d. Remove the compliance condition III.C.7 from R30-04100009-1996 because this extra testing has only shown facility well within compliance.
 e. Adjust Title V Permit Condition III.B.2.a.iv and v to remove mention of C-006 because it is no longer in service.

15A. Provide the date of anticipated installation or change: N/A ! If this is an After-The-Fact permit application, provide the date upon which the proposed change did happen:	15B. Date of anticipated Start-Up if a permit is granted: N/A
---	--

15C. Provide a **Schedule** of the planned **Installation of/Change to** and **Start-Up** of each of the units proposed in this permit application as **Attachment C** (if more than one unit is involved). N/A

16. Provide maximum projected **Operating Schedule** of activity/activities outlined in this application:
 Hours Per Day 24 Days Per Week 7 Weeks Per Year 52

17. Is demolition or physical renovation at an existing facility involved? **YES** **NO**

18. **Risk Management Plans.** If this facility is subject to 112(r) of the 1990 CAAA, or will become subject due to proposed changes (for applicability help see www.epa.gov/ceppo), submit your **Risk Management Plan (RMP)** to U. S. EPA Region III.

19. **Regulatory Discussion.** List all Federal and State air pollution control regulations that you believe are applicable to the proposed process (*if known*). Discuss applicability and proposed demonstration(s) of compliance (*if known*). Provide this information as **Attachment D**.

Section II. Additional attachments and supporting documents.

20. Include a check payable to WVDEP – Division of Air Quality with the appropriate **application fee** (per 45CSR22 and 45CSR13).

21. Include a **Table of Contents** as the first page of your application package.

22. Provide a **Plot Plan**, e.g. scaled map(s) and/or sketch(es) showing the location of the property on which the stationary source(s) is or is to be located as **Attachment E**.
! Indicate the location of the nearest occupied structure (e.g. church, school, business, residence).

23. Provide a **Detailed Process Flow Diagram(s)** showing each proposed or modified emissions unit, emission point and control device as **Attachment F**.

24. Provide a **Process Description** as **Attachment G**.
! Also describe and quantify to the extent possible all changes made to the facility since the last permit review (if applicable).

25. Provide **Material Safety Data Sheets (MSDS)** for all materials processed, used or produced as **Attachment H**.
! For chemical processes, provide a MSDS for each compound emitted to the air.

26. Fill out the **Equipment List Form** * and provide it as **Attachment I**.

27. Fill out the **Emission Points Data Summary Sheet** * (Table 1 and Table 2) and provide it as **Attachment J**.

28. Fill out the **Fugitive Emissions Data Summary Sheet** * and provide it as **Attachment K**.

29. Check all applicable **Emissions Unit Data Sheets** listed below:
 Bulk Liquid Transfer Operations Haul Road Emissions Quarry
 Chemical Processes Hot Mix Asphalt Plant Solid Materials Sizing, Handling and Storage Facilities
 Concrete Batch Plant Incinerator Storage Tanks
 Grey Iron and Steel Foundry Indirect Heat Exchanger
 General Emission Unit, specify
Fill out and provide the **Emissions Unit Data Sheet(s)** * as **Attachment L**.

30. Check all applicable **Air Pollution Control Device Sheets** listed below:
 Absorption Systems Baghouse Flare
 Adsorption Systems Condenser Mechanical Collector
 Afterburner Electrostatic Precipitator Wet Collecting System
 Other Collectors, specify
Fill out and provide the **Air Pollution Control Device Sheet(s)** * as **Attachment M**.

31. Provide all **Supporting Emissions Calculations** as **Attachment N**, or attach the calculations directly to the forms listed in Items 28 through 31.

32. **Monitoring, Recordkeeping, Reporting and Testing Plans.** Attach proposed monitoring, recordkeeping, reporting and testing plans in order to demonstrate compliance with the proposed emissions limits and operating parameters in this permit application. Provide this information as **Attachment O**.
➤ Please be aware that all permits must be practically enforceable whether or not the applicant chooses to propose such measures. Additionally, the DAQ may not be able to accept all measures proposed by the applicant. If none of these plans are proposed by the applicant, DAQ will develop such plans and include them in the permit.

33. **Public Notice.** At the time that the application is submitted, place a **Class I Legal Advertisement** in a newspaper of general circulation in the area where the source is or will be located (See 45CSR13-8.3 through 45CSR13-8.5 and *Example Legal Advertisement** for details). Please submit the **Affidavit of Publication** as **Attachment P** immediately upon receipt.

34. **Business Confidentiality Claims.** Does this application include confidential information (per 45CSR31)?
 YES NO
➤ If **YES**, identify each segment of information on each page that is submitted as confidential and provide justification for each segment claimed confidential, including the criteria under 45CSR31-4.1, and in accordance with the DAQ's "Precautionary Notice – Claims of Confidentiality" guidance found in the *General Instructions* * as **Attachment Q**.

* All of the required forms and additional information can be found and downloaded from DAQ's Permitting Section website: www.wvdep.org/daq/, requested by phone (304) 926-0475 and/or obtained through the mail.

Section III. Certification of Information

35. **Authority/Delegation of Authority.** Only required when someone other than the responsible official signs the application. Check applicable **Authority Form** below:

Authority of Corporation or Other Business Entity

Authority of Partnership

Authority of Governmental Agency

Authority of Limited Partnership

Submit completed and signed **Authority Form *** as **Attachment R**.

36. **Certification of Information.** To certify this permit application, a Responsible Official (per 45CSR13-2.22) or Authorized Representative shall check the appropriate box and sign below.

I, the undersigned **Responsible Official** / **Authorized Representative**, hereby certify that all information contained in this application and any supporting documents appended hereto, is true, accurate, and complete based on information and belief after reasonable inquiry. I further agree to assume responsibility for the construction, modification and/or relocation and operation of the stationary source described herein in accordance with this application and any amendments thereto, as well as the Department of Environmental Protection, Division of Air Quality permit issued in accordance with this application, along with all applicable rules and regulations of the West Virginia Division of Air Quality and W.Va. Code § 22-5-1 et seq. (State Air Pollution Control Act). If the business or agency changes its Responsible Official or Authorized Representative, the Director of the Division of Air Quality will be notified in writing within 30 days of the official change.

SIGNATURE _____

DATE: _____

(Please use blue ink)

(Please use blue ink)

36B. Printed name of signee:

36C. Title:

36D. E-mail:

36E. Phone:

36F. FAX:

37A. Printed name of contact person (if different from above):

37B. Title:

37C. E-mail:

37D. Phone:

37E. FAX:

NOTE: Please check all applicable attachments included with this permit application:

Attachment A: Business Certificate

Attachment K: Fugitive Emissions Data Summary Sheet

Attachment B: Map(s)

Attachment L: Emissions Unit Data Sheet(s)

Attachment C: Installation and Start Up Schedule

Attachment M: Air Pollution Control Device Sheet(s)

Attachment D: Regulatory Discussion

Attachment N: Supporting Emissions Calculations

Attachment E: Plot Plan

**Attachment O: Monitoring/Recordkeeping/Reporting/
Testing Plans**

Attachment F: Detailed Process Flow Diagram(s)

Attachment P: Public Notice

Attachment G: Process Description

Attachment Q: Business Confidential Claims

Attachment H: Material Safety Data Sheets (MSDS)

Attachment R: Authority Forms

Attachment I: Equipment List Form

Application Fee

Attachment J: Emission Points Data Summary Sheet

Please mail an original and two (2) copies of the complete permit application with the signature(s) to the DAQ, Permitting Section, at the address listed on the first page of this application. Please DO NOT fax permit applications. For questions regarding applications or West Virginia Air Pollution Rules and Regulations, please call (304) 926-0475.

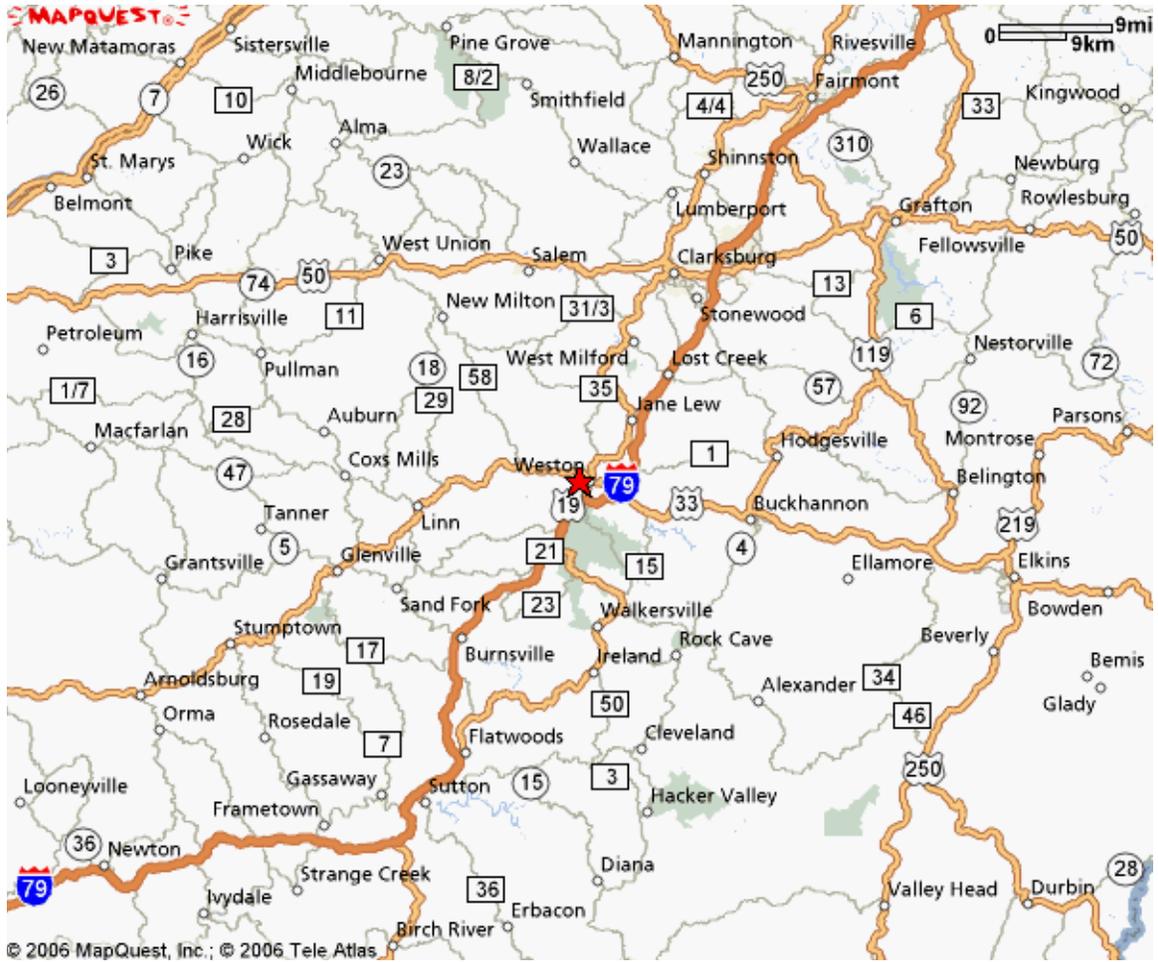
* All of the required forms and additional information can be found and downloaded from DAQ's Permitting Section website: www.wvdep.org/dag/, requested by phone (304) 926-0475 and/or obtained through the mail.

ATTACHMENT B

MAP

Attachment B

Facility Map



ATTACHMENT D

REGULATORY DISCUSSION

Attachment D

Regulatory Discussion

* The following has been taken from R30-04100009-1996.

TITLE V PROGRAM APPLICABILITY BASIS:

This facility has the potential to emit 332.4 tons of nitrogen oxides per year and 107.1 tons of carbon monoxide per year. Due to this facility's potential to emit over 100 tons of a criteria pollutant, Equitrans, Inc. is required to have an operating permit pursuant to Title V of the Federal Clean Air Act as amended and 45 C.S.R. 30.

LEGAL AND FACTUAL BASIS FOR PERMIT CONDITIONS:

The State and Federally-enforceable conditions of the Title V Operating Permits are based upon the requirements of the State of West Virginia Operating Permit Regulations for the purposes of Title V of the Federal Clean Air Act (45 C.S.R. 30), and underlying applicable requirements in other state and federal rules. Applicable requirement means all of the following as they apply to emission units in a Title V source:

- a. Any standard or other requirement provided for in the State Implementation Plan approved by the United States Environmental Protection Agency (USEPA) or promulgated by USEPA through rulemaking under Title I of the Clean Air Act that implements the relevant requirements of the Act, including any revisions to that State Implementation Plan;
- b. Any term or condition of any preconstruction permits issued pursuant to regulations approved or promulgated through rulemaking under Title I, including parts C and D, of the Clean Air Act, including any permits issued under 45 C.S.R. 13, 45 C.S.R. 14, 45 C.S.R.15, and 45 C.S.R. 19;
- c. Any standard or other requirement under §111 of the Clean Air Act, including §111(d);
- d. Any standard or other requirements under §112 of the Clean Air Act, including any requirement concerning accident prevention under §112(r)(7) of the Clean Air Act, but not including the contents of any risk management plan required under §112(r) of the Clean Air Act;
- e. Any standard or other requirement of the acid deposition control program under Title IV of the Clean Air Act or the regulations promulgated there under;
- f. Any requirements established pursuant to §504(b) or §114(a)(3) of the Clean Air Act;

- g. Any standard or other requirement governing solid waste incineration under §129 of the Clean Air Act;
- h. Any standard or other requirement for consumer and commercial products under §183(c) of the Clean Air Act;
- i. Any standard or other requirement for tank vessels under §183(f) of the Clean Air Act;
- j. Any standard or other requirement of the regulations promulgated to protect stratospheric ozone under Title VI of the Clean Air Act, unless the Director determines that such requirements need not be contained in a Title V permit pursuant to an exemption by USEPA;
- k. Any national ambient air quality standard or increment or visibility requirement under part C of Title I of the Clean Air Act, but only as it would apply to temporary sources permitted pursuant to §504(e) of the Clean Air Act;
- l. Any emissions cap and related requirements established for the source by agreement with the Chief and USEPA or otherwise applicable under the rules implemented by the Director; and
- m. Any requirement imposed pursuant to the provisions of 45 C.S.R. 27 or any other State only requirement for State enforceable purposes only. Each State and Federally-enforceable condition of the draft Title V Operating Permit references the specific relevant requirements of 45 C.S.R. 30 or the applicable requirement upon which it is based. Any condition of the draft Title V permit that is enforceable by the state but is not federally-enforceable is identified in the draft Title V permit as such.

This facility has been found to be subject to the requirement set forth in items ‘a’, ‘b’ and ‘m’ above, specifically including the following applicable rules:

Federal and State:

- 45 C.S.R 2 - 10% Opacity requirement*
- 45 C.S.R 6 - Open burning prohibited*
- 45 C.S.R 10 - Control of sulfur oxides*
- 45 C.S.R 11 - Standby plans for emergency episodes*
- 45 C.S.R 13 - Pre-construction permit requirement*
- WV Code §22-5-4(a)(14) - The Chief can request any pertinent information such as annual emission inventory reporting*
- 45 C.S.R 30 - Operating permit requirement*
- 40 C.F.R part 61 - Asbestos inspection and removal*

State Only: *45 C.S.R 4 - No objectionable odors*

Specifics:

45 C.S.R. 2-3.1. - *To Prevent and Control Particulate Air Pollution from Combustion of Fuel in Indirect Heat Exchangers* (G-001, G-002, 003-01, 003-02 and Dehy (indirect heater)) and

45 C.S.R. 6-4.3. - *To Prevent and Control Air Pollution from Combustion of Refuse* (Dehy Flare).

Visible emissions are not anticipated with the combustion of natural gas and emissions from sources that burn natural gas have low variability. Therefore, monthly visual emissions checks and recordkeeping will be adequate to demonstrate compliance. The combustion units have maximum design heat inputs under 10 million BTU's per hour and are thus exempted from the requirements of Sections 4, 5, 6, 8 and 9 as specified in section 11.1 of the SIP version of 45 CSR 2. Other emission units at the facility are not subject to 45 CSR 2 because they do not produce heat or power by indirect heat transfer and are not, by definition, "fuel burning units". The Dehy Flare is exempted from 45 CSR 6-4.2

(SIP version section 4.02) because it is an industrial incinerator, and from section 4.7 (SIP version section 4.07) because it does not incinerate hazardous materials such as insecticides, explosives or medical wastes. 45 CSR 6-4.5 (SIP version section 4.05) is not applicable because natural gas incinerators do not emit unburned particles or ash.

45 C.S.R. 6-4.1. & 4.3: *To Prevent and Control Air Pollution from Combustion of Refuse.*

Calculations of particulate matter emissions using AP-42 factors for Natural Gas Combustion (Section 1.4-2) indicate that emissions from the flare are only a small fraction (<10%) of the mass limit established by 45 C.S.R. 6. As a result of this finding and due to the nature of this control device, visual emissions performance tests may be used to demonstrate compliance with 45 C.S.R. 6. requirements and shall be sufficient for compliance certification purposes. Flare capacity is 0.0505 tons/hour.

$5.43 \times 0.0505 = 0.27 \text{ lb/hr.}$

45 C.S.R 10 - *To Prevent and Control Air Pollution from the Emission of Sulfur Oxides.*

The combustion units utilized at this facility have a maximum design heat input under 10 million BTU's per hour and are thus exempted from the requirements of sections 3 and 6 through 8 as specified in section 10 of 45CSR10. Other emission units at the facility are not subject to 45 CSR 10 section 3 because they do not produce heat or power by indirect heat transfer and are not, by definition, "fuel burning units".

45 C.S.R. 10-4.1. - *To Prevent and Control Air Pollution from the Emission of Sulfur Oxides.*

Calculations of SO₂ emissions using the FERC limit for total sulfur of 20 grains/100ft³ along with stoichiometric conversions from grains of total sulfur/100 ft³ in the fuel to dry standard cubic feet of SO₂ per MMBtu and equation 19-1 of EPA Method 19 indicate that emissions from the engines are only a small fraction (<5%) of the 2000 ppmv limit established by 45 C.S.R. 10.

$SO_2 = 1.4286 \times 10^{-4} S \times (385.1 \times 106/MW)$; where
SO₂ = calculated parts per million by volume of SO₂ in the engine exhaust,
S = sulfur content of the fuel in grains/ft³, and
MW = molecular weight of SO₂ = 64.06

However, as shown below for a fuel sample with 20 grains S/100 scf, the terms on the right side of the equation calculate the parts per million of SO₂ in the fuel, not in the exhaust.

as written = $(0.2 \text{ grains S/ft}^3 \text{ fuel}) \times (1.4286 \times 10^{-4} \text{ lb S/1 grain S}) \times (385.1 \text{ ft}^3 \text{ SO}_2/\text{lb-mole SO}_2) \times (106 \text{ ppm}) / (64 \text{ lb S / lb-mole S}) = 172 \text{ ppm SO}_2$

The correct conversion from grains S/ft³ fuel to ppm SO₂ in exhaust is:

$\text{lb SO}_2/\text{MMBtu} = (0.2 \text{ grains S/ft}^3 \text{ fuel}) \times (1 \text{ lb S / 7000 grains S}) \times (1 \text{ scf NG/1000 Btu}) \times (2 \text{ lb SO}_2 / 1 \text{ lb S}) \times (106 \text{ Btu/1MMBtu}) = 0.057 \text{ lb SO}_2/\text{MMBtu}$

$\text{dscf SO}_2/\text{MMBtu} = (0.057 \text{ lb-SO}_2/\text{MMBtu}) \times (1 \text{ lb-mole SO}_2/64 \text{ lb SO}_2) \times (385.1 \text{ ft}^3 \text{ SO}_2/\text{lb-mole}) = 0.34$

$\text{dscf exhaust/MMBtu [EPA Method 19]} = 8710 \times (20.9 / 20.9 - 1.0) = 9148$, assuming 1% exhaust oxygen concentration for rich-burn engines

$\text{ppm SO}_2 = 0.34 \text{ dscf SO}_2/9148 \text{ dscf exhaust} \times 106 \text{ ppm} = 37 \text{ ppm SO}_2 \text{ in exhaust}$

SO₂ in exhaust = 37 ppm Reg 10 limit = 2000 ppm

SO₂ in exhaust/Reg 10 limit = 37 ppm/2000 ppm = 1.85 %

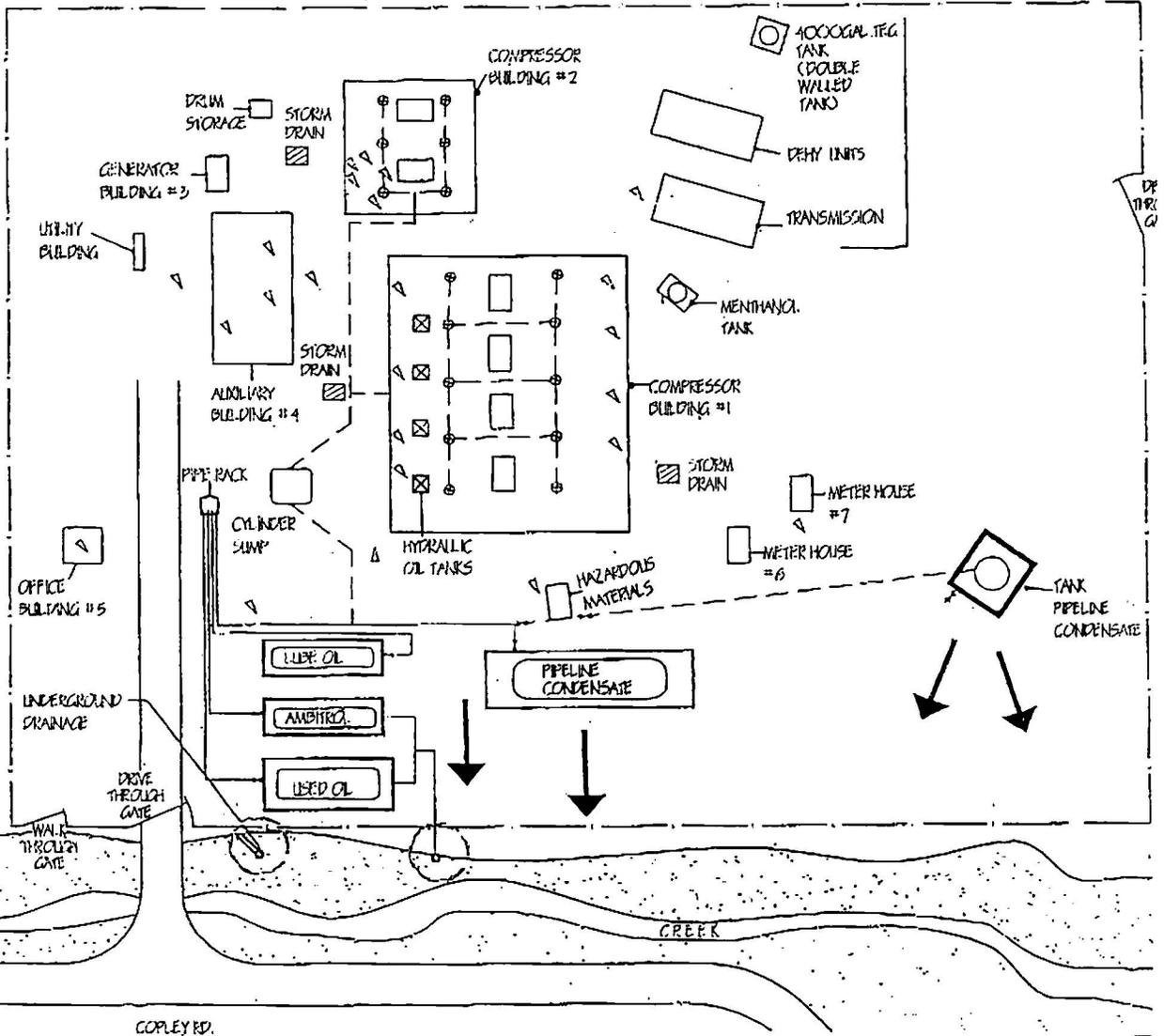
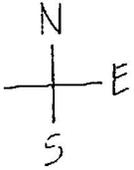
45 C.S.R. 13. - *Permits for Construction, Modification, Relocation and Operation of Stationary Sources of Air Pollutants, Notification Requirements, Administrative Updates, Temporary Permits, General Permits, and Procedures for Evaluation.*

Conditions from this facility's Rule 13 permit(s) governing operation and compliance have been incorporated into this Title V operating permit.

General Requirements from this facility's Rule 13 permit(s) are duplicated under Rule 30 and are included in the Title V operating permit as Rule 30 General Requirements. The emissions limits on the dehydrator flare and dehydrator are authorized by Permit R13-2397 and are recorded in the NSR permit to inventory the emissions. The limits for SO₂ and PM₁₀ are small and may be considered environmentally insignificant. Therefore, monitoring required for the dehydrator flare and dehydrator shall be calculations and recordkeeping based on GRI-GLYCALC for VOC, and GRIHAPCALC for HAPs. Compliance with NO_x, and CO emission limits will be determined by calculations using manufacturer's emission factors and the dehy operating hours. The limits on emissions from the Cooper-Bessemer Model GMVR engine (C-005; CE-5 in Permit R13- 2397) and the requirement to maintain accurate records of the operating hours are authorized by Permit R13-2397A. Because the VOC, PM₁₀ and SO₂ emissions are small and may be considered environmentally insignificant, the only monitoring required for these pollutants shall be to operate and maintain the engine in accordance with the manufacturer's recommendations and specifications and in a manner consistent with good operating practices and to only burn natural gas. The NO_x limit is established to keep the facility from exceeding the PSD threshold, therefore, the permittee shall demonstrate compliance with the NO_x and CO emissions limits by testing the engine exhaust using a portable analyzer every quarter. The permittee shall demonstrate compliance with the limit on operating hours by keeping certified daily records of the number of hours the engine operates. The limit on total emissions for the dehy flare, the dehy, and engine CE-5 are authorized by Permit R13-2397A. The limits on total SO₂ and PM₁₀ are recorded in the permit to inventory the emissions, therefore no monitoring for total SO₂ and PM₁₀ emissions. Monitoring for total NO_x, CO and VOCs emissions shall be determined by calculating the sum of the emissions from each unit.

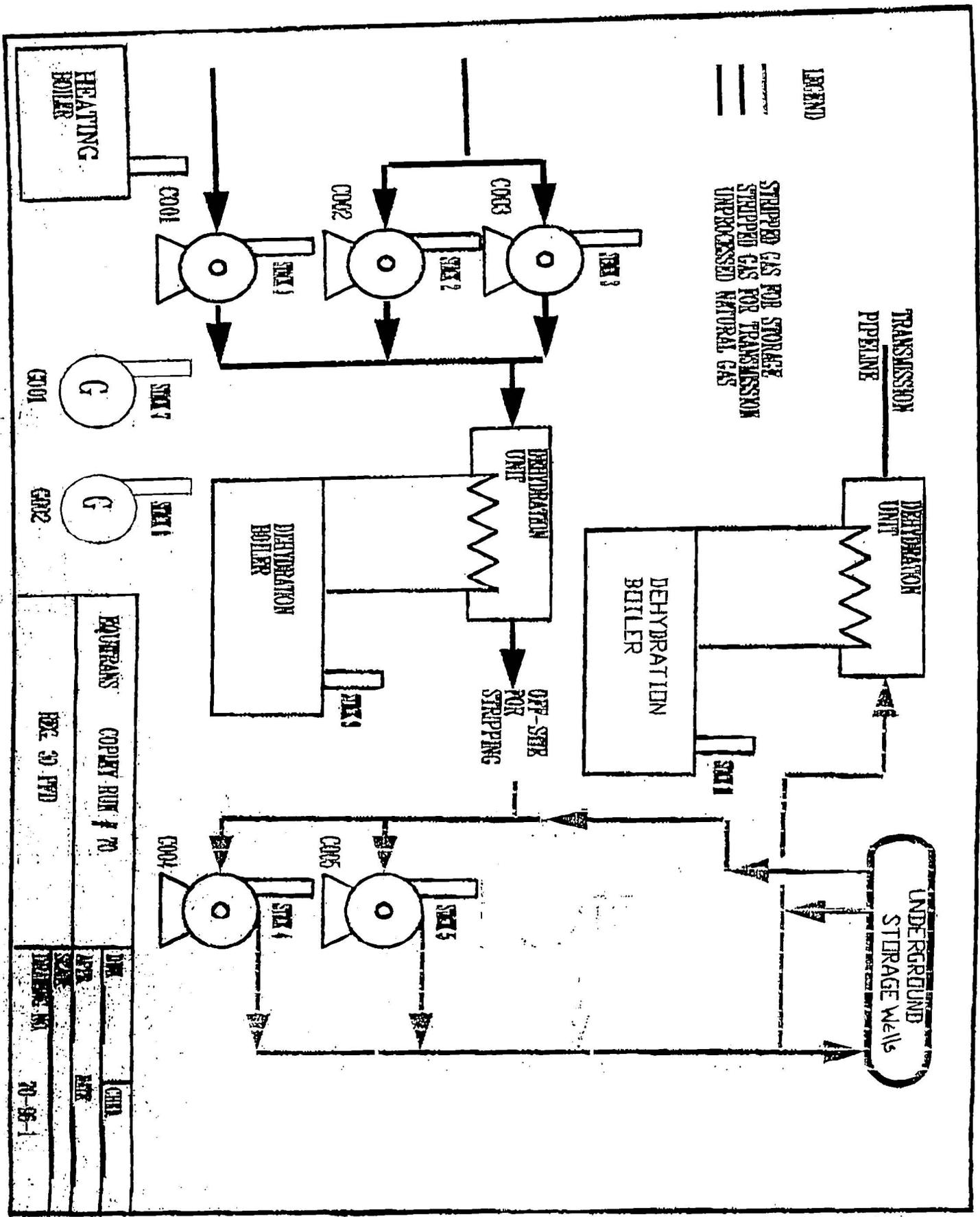
ATTACHMENT E

PLOT PLAN



ATTACHMENT F

PROCESS FLOW DIAGRAM



EQUIPMENTS COPY RUN # 70
 PAGE 30 FROM
 DATE APR 07
 CHN 70-05-1

ATTACHMENT G

PROCESS DESCRIPTION

Attachment G

Process Description

The Copley Run Compressor Station #70 is a natural gas transmission facility covered under Standard Industrial Classification (SIC) Code 4922. The station has the potential to operate twenty-four (24) hours per day, seven (7) days per week. This station consists of three (3) 1350 hp compressor engines, one (1) 2250 hp compressor engine, one (1) 1800 hp compressor engine, two (2) 2.2 MMBtu/hr natural gas fired electric generators, two (2) triethylene glycol dehydration units, one (1) flare and six (6) tanks of various sizes.

DEHYDRATION UNITS:

The Copley Run Station process involves the storage and transmission of natural gas. The station includes two glycol dehydration units that are operated to remove water vapor from the natural gas. The gas contacts dry triethylene glycol (TEG), which absorbs the water from the gas. The dehydrated gas leaves the dehydration tower at the top and returns to the process for compression by the engines. The water-rich TEG leaves the dehydration tower at the bottom and is routed to a re-concentration system (reboiler) where the water and organic impurities are driven from the TEG by heating. The cleaned TEG is then re-used in the contact tower. For the storage dehydration unit (Dehy #1), the water vapor and organics driven from the TEG during regeneration are passed through a flare to minimize emissions of hazardous air pollutants (HAP). The flare has an estimated destruction efficiency of 98%, and is integral to the dehydration unit. For the transmission dehydration unit (Dehy #2), the water vapor and organics driven from the TEG during regeneration are reintroduced into the reboiler system and combusted to minimize emissions of HAP. This combustion system has an estimated destruction efficiency of 95%, and is also integral to the dehydration unit. Two additional emission sources involved with the dehydration units are the combustion exhausts for the natural gas fired-reboiler associated with each unit, which provides the heat to drive off the water and impurities from the water-rich TEG. One additional emissions source involved with Dehy #2 is the combustion exhaust for the natural gas-fired indirect heater, which is used to preheat the natural gas prior to dehydration.

COMPRESSOR ENGINES:

The Copley Run Station also includes five natural gas-fired reciprocating engines used to power reciprocating compressors that move the compressed natural gas through pipelines. These engines are two-stroke lean-burn engines ranging in size from 1350 hp to 2250 hp. The function of the reciprocating compressors is to raise the discharge pressure of the gas in the pipeline to overcome the effect of frictional losses in the pipeline upstream of the station, in order to maintain the required suction pressure at the next station downstream or at various downstream delivery points.

STORAGE TANKS:

The Copley Run Station operates six (6) horizontal fixed roof storage tanks ranging in capacity from 2,000 gallons to 20,000 gallons. The storage tanks contain various purchased materials (e.g., triethylene glycol, lube oil, methanol, etc.) as well as site-generated materials (e.g., pipeline condensate, used oil, etc.).

MISCELLANEOUS SOURCES:

Additional combustion sources at the station include two natural gas-fired emergency backup electric generators (four-stroke rich-burn engines, rated at 2.2 MMBtu/hr each), a small natural gas-fired boiler for comfort heating (rated at 0.675 MMBtu/hr), and a small natural gas-fired hot water heater (rated at 0.03 MMBtu/hr).

ATTACHMENT H

MSDS

ATTACHMENT I

EQUIPMENT LIST

EQUIPMENT LIST FORM

Type Change, if any (New, Modification, or Removal)	Date of Change	Emissions Unit (Source)		Air Pollution Control Device		Emission Point	
		ID No. ¹	Source	ID No. ²	Device Type	ID No. ³	Emission Type ⁴
Modification	N/A	004-02	Dehydration Unit - Natural Gas Fired Reboiler and indirect heater	N/A	N/A	Dehy	Upward vertical stack
Modification	N/A	004-01	Dehydration Unit - Natural Gas Fired Reboiler and flare	004-01	Flare	Dehy Flare	Upward vertical stack
Modification	N/A	CE-5	Compressor	N/A	N/A	C-005	Upward vertical stack
Modification	N/A	CE-4	Compressor	N/A	N/A	C-004	Upward vertical stack
Modification	N/A	CE-3	Compressor	N/A	N/A	C-003	Upward vertical stack
Modification	N/A	CE-2	Compressor	N/A	N/A	C-002	Upward vertical stack
Modification	N/A	CE-1	Compressor	N/A	N/A	C-001	Upward vertical stack

Include **all** process equipment that will be part of this permit application review, including previously unpermitted emissions units (sources) and air pollution control devices.

¹ Number as 1s, 2s, 3s . . . or other appropriate designation. Must match process flow diagram.

² Number as 1c, 2c, 3c . . . or other appropriate designation. Must match process flow diagram.

³ Number as 1e, 2e, 3e . . . or other appropriate designation. Must match process flow diagram.

⁴ Please add descriptors such as upward vertical stack, downward vertical stack, horizontal stack, relief vent, rain cap, etc.

EMISSIONS POINTS DATA SUMMARY

EMISSION POINTS DATA SUMMARY SHEET

Table 1: Emissions Data														
Emission Point ID No. (Must match Equipment List Form & Plot Plan)	Source(s) Vented Through This Point (Must match Equipment List Form & Plot Plan)		Air Pollution Control Device (Must match Equipment List Form & Plot Plan)		Vent Time for Source (chemical processes only)		All Regulated Pollutants - Chemical Name/CAS ² (Speciate VOCs & HAPS)	Maximum Potential Uncontrolled Emissions ³		Maximum Potential Controlled Emissions ⁴		Emission Form or Phase (At exit conditions, Solid, Liquid or Gas/Vapor)	Est. Method Used ⁵	Emission Concentration ⁶ (ppmv or mg/m ³)
	ID No.	Source	ID No.	Device Type	Short Term ¹	Max (hr/yr)		lb/hr	ton/yr	lb/hr	ton/yr			
Dehy	C-004, C-005	Compressors	N/A	N/A	N/A	N/A	See Attached Tables	See Attached Tables	See Attached Tables	See Attached Tables	See Attached Tables	Gas/Vapor	O = AP42	N/A
Dehy Flare	C-001, C-002, C-003	Compressors	004-01	Flare	N/A	N/A	See Attached Tables	See Attached Tables	See Attached Tables	See Attached Tables	See Attached Tables	Gas/Vapor	O = AP42	N/A
C-001 thru C-005	N/A	N/A	N/A	N/A	N/A	N/A	See Attached Tables	See Attached Tables	See Attached Tables	See Attached Tables	See Attached Tables	Gas/Vapor	O = AP42	N/A

The EMISSION POINTS DATA SUMMARY SHEET provides a summation of emissions by emission unit. Note that uncaptured process emission unit emissions are not typically considered to be fugitive and must be accounted for on the appropriate EMISSIONS UNIT DATA SHEET and on the EMISSION POINTS DATA SUMMARY SHEET. Please note that total emissions from the source are equal to all vented emissions, all fugitive emissions, plus all other emissions (e.g. uncaptured emissions). Please complete the FUGITIVE EMISSIONS DATA SUMMARY SHEET for fugitive emission activities.

¹ Indicate by "C" if venting is continuous. Otherwise, specify the average short-term venting rate with units, for intermittent venting (ie., 15 min/hr). Indicate as many rates as needed to clarify frequency of venting (e.g., 5 min/day, 2 days/wk).

² List all regulated air pollutants. Speciate VOCs, including all HAPs. Follow chemical name with Chemical Abstracts Service (CAS) number. LIST Acids, CO, CS₂, VOCs, H₂S, Inorganics, Lead, Organics, O₃, NO, NO₂, SO₂, SO₃, etc. DO NOT LIST CO₂, H₂, H₂O, N₂, O₂, and Noble Gases.

³ Give maximum potential emission rate with no control equipment operating. If emissions occur for less than 1 hr, then record emissions per batch in minutes (e.g. 5 lb VOC/20 minute batch).

⁴ Give maximum potential emission rate with proposed control equipment operating. If emissions occur for less than 1 hr, then record emissions per batch in minutes (e.g. 5 lb VOC/20 minute batch).

⁵ Indicate method used to determine emission rate as follows: MB = material balance; ST = stack test (give date of test); EE = engineering estimate; O = other (specify).

⁶ Provide for all pollutant emissions. Typically, the units of parts per million by volume (ppmv) are used. If the emission is a mineral acid (sulfuric, nitric, hydrochloric or phosphoric) use units of milligram per dry cubic meter (mg/m³) at standard conditions (68 °F and 29.92 inches Hg) (see 45CSR7). If the pollutant is SO₂, use units of ppmv (See 45CSR10).

EMISSION POINTS DATA SUMMARY SHEET

Table 2: Release Parameter Data									
Emission Point ID No. <i>(Must match Equipment List Form)</i>	Inner Diameter (ft.)	Temp. (°F)	Exit Gas		Emission Point Elevation (ft)		UTM Coordinates (km)		
			Volumetric Flow ¹ <i>(acfm) at operating conditions</i>	Velocity (fps)	Ground Level <i>(Height above mean sea level)</i>	Stack Height ² <i>(Release height of emissions above ground level)</i>	Northing	Easting	
Dehy	unknown	unknown	unknown	unknown	unknown	~ 1,024	unknown	unknown	unknown
Dehy Flare	0.25	900	unknown	unknown	unknown	~ 1,024	unknown	unknown	unknown
C-005	1.5	925	unknown	unknown	7.0	~ 1,024	45	4314.80	541.30
C-004	2	925	unknown	unknown	9.5	~ 1,024	30	4314.80	541.30
C-003	2	925	unknown	unknown	7.0	~ 1,024	30	4314.80	541.30
C-002	2	925	unknown	unknown	7.0	~ 1,024	30	4314.80	541.30
C-001	2	925	unknown	unknown	11.7	~ 1,024	30	4314.80	541.30

¹ Give at operating conditions. Include inerts.
² Release height of emissions above ground level.

FUGITIVE EMISSIONS DATA SUMMARY

FUGITIVE EMISSIONS DATA SUMMARY SHEET

The FUGITIVE EMISSIONS SUMMARY SHEET provides a summation of fugitive emissions. Fugitive emissions are those emissions which could not reasonably pass through a stack, chimney, vent or other functionally equivalent opening. Note that uncaptured process emissions are not typically considered to be fugitive, and must be accounted for on the appropriate EMISSIONS UNIT DATA SHEET and on the EMISSION POINTS DATA SUMMARY SHEET.

Please note that total emissions from the source are equal to all vented emissions, all fugitive emissions, plus all other emissions (e.g. uncaptured emissions).

APPLICATION FORMS CHECKLIST - FUGITIVE EMISSIONS
1.) Will there be haul road activities? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If YES, then complete the HAUL ROAD EMISSIONS UNIT DATA SHEET.
2.) Will there be Storage Piles? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If YES, complete Table 1 of the NONMETALLIC MINERALS PROCESSING EMISSIONS UNIT DATA SHEET.
3.) Will there be Liquid Loading/Unloading Operations? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If YES, complete the BULK LIQUID TRANSFER OPERATIONS EMISSIONS UNIT DATA SHEET.
4.) Will there be emissions of air pollutants from Wastewater Treatment Evaporation? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If YES, complete the GENERAL EMISSIONS UNIT DATA SHEET.
5.) Will there be Equipment Leaks (e.g. leaks from pumps, compressors, in-line process valves, pressure relief devices, open-ended valves, sampling connections, flanges, agitators, cooling towers, etc.)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If YES, complete the LEAK SOURCE DATA SHEET section of the CHEMICAL PROCESSES EMISSIONS UNIT DATA SHEET.
6.) Will there be General Clean-up VOC Operations? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If YES, complete the GENERAL EMISSIONS UNIT DATA SHEET.
7.) Will there be any other activities that generate fugitive emissions? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If YES, complete the GENERAL EMISSIONS UNIT DATA SHEET or the most appropriate form.
If you answered "NO" to all of the items above, it is not necessary to complete the following table, "Fugitive Emissions Summary."

FUGITIVE EMISSIONS SUMMARY	All Regulated Pollutants ¹ Chemical Name/CAS	Maximum Potential Uncontrolled Emissions ²		Maximum Potential Controlled Emissions ³		Est. Method Used ⁴
		lb/hr	ton/yr	lb/hr	ton/yr	
Haul Road/Road Dust Emissions Paved Haul Roads						
Unpaved Haul Roads						
Storage Pile Emissions						
Loading/Unloading Operations						
Wastewater Treatment Evaporation & Operations						
Equipment Leaks		Does not apply		Does not apply		
General Clean-up VOC Emissions						
Other						

¹ List all regulated air pollutants. Speciate VOCs, including all HAPs. Follow chemical name with Chemical Abstracts Service (CAS) number. LIST Acids, CO, CS₂, VOCs, H₂S, Inorganics, Lead, Organics, O₃, NO, NO₂, SO₂, SO₃, etc. DO NOT LIST CO₂, H₂, H₂O, N₂, O₂, and Noble Gases.

² Give rate with no control equipment operating. If emissions occur for less than 1 hr, then record emissions per batch in minutes (e.g. 5 lb VOC/20 minute batch).

³ Give rate with proposed control equipment operating. If emissions occur for less than 1 hr, then record emissions per batch in minutes (e.g. 5 lb VOC/20 minute batch).

⁴ Indicate method used to determine emission rate as follows: MB = material balance; ST = stack test (give date of test); EE = engineering estimate; O = other (specify).

ATTACHMENT L

EMISSIONS UNIT DATA SHEETS

**EMISSIONS UNIT DATA SHEET
GENERAL**

To be used for affected sources other than asphalt plants, foundries, incinerators, indirect heat exchangers, and quarries.

Identification Number (as assigned on *Equipment List Form*): C-001

<p>1. Name or type and model of proposed affected source:</p> <p>Cooper-Bessemer GMVH10 Reciprocating Engine/Integral Compressor</p>
<p>2. On a separate sheet(s), furnish a sketch(es) of this affected source. If a modification is to be made to this source, clearly indicated the change(s). Provide a narrative description of all features of the affected source which may affect the production of air pollutants.</p>
<p>3. Name(s) and maximum amount of proposed process material(s) charged per hour:</p> <p>N/A</p>
<p>4. Name(s) and maximum amount of proposed material(s) produced per hour:</p> <p>N/A</p>
<p>5. Give chemical reactions, if applicable, that will be involved in the generation of air pollutants:</p> <p>N/A</p>

* The identification number which appears here must correspond to the air pollution control device identification number appearing on the *List Form*.

6. Combustion Data (if applicable):					
(a) Type and amount in appropriate units of fuel(s) to be burned:					
Natural Gas: 0.0142 MMcf/hr					
(b) Chemical analysis of proposed fuel(s), excluding coal, including maximum percent sulfur and ash:					
Natural Gas: Max sulfur content = 10.6 ppm(w) BTU value = 1080 BTU/scf					
(c) Theoretical combustion air requirement (ACF/unit of fuel):					
N/A	@	N/A	°F and	N/A	psia.
(d) Percent excess air: N/A					
(e) Type and BTU/hr of burners and all other firing equipment planned to be used:					
N/A					
(f) If coal is proposed as a source of fuel, identify supplier and seams and give sizing of the coal as it will be fired:					
N/A					
(g) Proposed maximum design heat input: 16.524 × 10 ⁶ BTU/hr.					
7. Projected operating schedule:					
Hours/Day	24	Days/Week	7	Weeks/Year	52

8. Projected amount of pollutants that would be emitted from this affected source if no control devices were used:

@	N/A	°F and	N/A	psia
a. NO _x		52.38	lb/hr	N/A grains/ACF
b. SO ₂		0.01	lb/hr	N/A grains/ACF
c. CO		6.38	lb/hr	N/A grains/ACF
d. PM ₁₀		0.80	lb/hr	N/A grains/ACF
e. Hydrocarbons		N/A	lb/hr	N/A grains/ACF
f. VOCs		1.98	lb/hr	N/A grains/ACF
g. Pb		N/A	lb/hr	N/A grains/ACF
h. Specify other(s)				
	See Table L-1		lb/hr	grains/ACF
			lb/hr	grains/ACF
			lb/hr	grains/ACF
			lb/hr	grains/ACF

NOTE: (1) An Air Pollution Control Device Sheet must be completed for any air pollution device(s) used to control emissions from this affected source.
 (2) Complete the Emission Points Data Sheet.

9. Proposed Monitoring, Recordkeeping, Reporting, and Testing
 Please propose monitoring, recordkeeping, and reporting in order to demonstrate compliance with the proposed operating parameters. Please propose testing in order to demonstrate compliance with the proposed emissions limits.

MONITORING

RECORDKEEPING

From R30-04010009-2002:

For C.S.R. §45-10-4.1 R30-04100009-2002 Permit Condition: III.B.2.a.iv. = R30-04100009-2002 Condition Number III.C.3. and III.E.1.

For C.S.R. §45-10-5.1 R30-04100009-2002 Permit Condition: III.B.2.a.v. = R30-04100009-2002 Condition Number III.C.4 and III.E.1.

For C.S.R. §45-13 (Permit R13-2397). R30-04100009-2002 Permit Condition: III.B.2.a.vi = R30-04100009-2002 Condition Number III.C.11.

REPORTING

From R30-04010009-2002:

For C.S.R. §45-13-10.5 R30-04100009-2002 Permit condition: III.B.1.b.ii = R30-04100009-2002 Condition Number III.B.1.b.ii.

For WV Code §22-5-4(a)(14) R30-04100009-2002 Permit condition: III.B.2.a.ii=R30-04100009-2002 ConditionNumberIII.B.2.a.ii

TESTING

From R30-04010009-2002:

For WV Code §22-5-4(a)(15) R30-04100009-2002 Permit condition: III.B.1.a.v = R30-04100009-2002 Condition Number III.B.1.a.v.

For C.S.R. §45-30-12.7: Adjust R30-04100009-2002 Permit Condition III.B.2.a.vi. to replace SO₂, PM₁₀, and HAPs emission limits as follows: SO₂ = 0.006 lb/yr, 0.022 tpy; PM₁₀ = 0.479 lb/yr, 1.846 tpy; HAPs = 0.789 lbs/hr, 3.04 tpy and make applicable to all compressors and remove compliance demonstration condition number III.C.5

MONITORING. PLEASE LIST AND DESCRIBE THE PROCESS PARAMETERS AND RANGES THAT ARE PROPOSED TO BE MONITORED IN ORDER TO DEMONSTRATE COMPLIANCE WITH THE OPERATION OF THIS PROCESS EQUIPMENT OPERATION/AIR POLLUTION CONTROL DEVICE.

RECORDKEEPING. PLEASE DESCRIBE THE PROPOSED RECORDKEEPING THAT WILL ACCOMPANY THE MONITORING.

REPORTING. PLEASE DESCRIBE THE PROPOSED FREQUENCY OF REPORTING OF THE RECORDKEEPING.

TESTING. PLEASE DESCRIBE ANY PROPOSED EMISSIONS TESTING FOR THIS PROCESS EQUIPMENT/AIR POLLUTION CONTROL DEVICE.

10. Describe all operating ranges and maintenance procedures required by Manufacturer to maintain warranty

N/A

**EMISSIONS UNIT DATA SHEET
GENERAL**

To be used for affected sources other than asphalt plants, foundries, incinerators, indirect heat exchangers, and quarries.

Identification Number (as assigned on *Equipment List Form*): C-002

<p>1. Name or type and model of proposed affected source:</p> <p>Cooper-Bessemer GMVH6 Reciprocating Engine/Integral Compressor</p>
<p>2. On a separate sheet(s), furnish a sketch(es) of this affected source. If a modification is to be made to this source, clearly indicated the change(s). Provide a narrative description of all features of the affected source which may affect the production of air pollutants.</p>
<p>3. Name(s) and maximum amount of proposed process material(s) charged per hour:</p> <p>N/A</p>
<p>4. Name(s) and maximum amount of proposed material(s) produced per hour:</p> <p>N/A</p>
<p>5. Give chemical reactions, if applicable, that will be involved in the generation of air pollutants:</p> <p>N/A</p>

* The identification number which appears here must correspond to the air pollution control device identification number appearing on the *List Form*.

6. Combustion Data (if applicable):					
(a) Type and amount in appropriate units of fuel(s) to be burned:					
Natural Gas: 0.0085 MMcf/hr					
(b) Chemical analysis of proposed fuel(s), excluding coal, including maximum percent sulfur and ash:					
Natural Gas: Max sulfur content = 10.6 ppm(w) BTU value = 1080 BTU/scf					
(c) Theoretical combustion air requirement (ACF/unit of fuel):					
N/A	@	N/A	°F and	N/A	psia.
(d) Percent excess air: N/A					
(e) Type and BTU/hr of burners and all other firing equipment planned to be used:					
N/A					
(f) If coal is proposed as a source of fuel, identify supplier and seams and give sizing of the coal as it will be fired:					
N/A					
(g) Proposed maximum design heat input: 9.9144 × 10 ⁶ BTU/hr.					
7. Projected operating schedule:					
Hours/Day	24	Days/Week	7	Weeks/Year	52

8. Projected amount of pollutants that would be emitted from this affected source if no control devices were used:

@	N/A	°F and	N/A	psia
a. NO _x		31.43	lb/hr	N/A grains/ACF
b. SO ₂		0.01	lb/hr	N/A grains/ACF
c. CO		3.83	lb/hr	N/A grains/ACF
d. PM ₁₀		0.48	lb/hr	N/A grains/ACF
e. Hydrocarbons		N/A	lb/hr	N/A grains/ACF
f. VOCs		1.19	lb/hr	N/A grains/ACF
g. Pb		N/A	lb/hr	N/A grains/ACF
h. Specify other(s)				
	See Table L-1		lb/hr	grains/ACF
			lb/hr	grains/ACF
			lb/hr	grains/ACF
			lb/hr	grains/ACF

NOTE: (1) An Air Pollution Control Device Sheet must be completed for any air pollution device(s) used to control emissions from this affected source.

(2) Complete the Emission Points Data Sheet.

9. Proposed Monitoring, Recordkeeping, Reporting, and Testing
 Please propose monitoring, recordkeeping, and reporting in order to demonstrate compliance with the proposed operating parameters. Please propose testing in order to demonstrate compliance with the proposed emissions limits.

MONITORING

RECORDKEEPING

From R30-04010009-2002:

For C.S.R. §45-10-4.1 R30-04100009-2002 Permit Condition: III.B.2.a.iv. = R30-04100009-2002 Condition Number III.C.3. and III.E.1.

For C.S.R. §45-10-5.1 R30-04100009-2002 Permit Condition: III.B.2.a.v. = R30-04100009-2002 Condition Number III.C.4 and III.E.1.

For C.S.R. §45-13 (Permit R13-2397). R30-04100009-2002 Permit Condition: III.B.2.a.vi = R30-04100009-2002 Condition Number III.C.11.

REPORTING

From R30-04010009-2002:

For C.S.R. §45-13-10.5 R30-04100009-2002 Permit condition: III.B.1.b.ii = R30-04100009-2002 Condition Number III.B.1.b.ii.

For WV Code §22-5-4(a)(14) R30-04100009-2002 Permit condition: III.B.2.a.ii = R30-04100009-2002 Condition Number III.B.2.a.ii

TESTING

From R30-04010009-2002:

For WV Code §22-5-4(a)(15) R30-04100009-2002 Permit condition: III.B.1.a.v = R30-04100009-2002 Condition Number III.B.1.a.v.

For C.S.R. §45-30-12.7: Adjust R30-04100009-2002 Permit Condition III.B.2.a.vi. to replace SO₂, PM₁₀, and HAPs emission limits as follows: SO₂ = 0.006 lb/yr, 0.022 tpy; PM₁₀ = 0.479 lb/yr, 1.846 tpy; HAPs = 0.789 lbs/hr, 3.04 tpy and make applicable to all compressors and remove compliance demonstration condition number III.C.5

MONITORING. PLEASE LIST AND DESCRIBE THE PROCESS PARAMETERS AND RANGES THAT ARE PROPOSED TO BE MONITORED IN ORDER TO DEMONSTRATE COMPLIANCE WITH THE OPERATION OF THIS PROCESS EQUIPMENT OPERATION/AIR POLLUTION CONTROL DEVICE.

RECORDKEEPING. PLEASE DESCRIBE THE PROPOSED RECORDKEEPING THAT WILL ACCOMPANY THE MONITORING.

REPORTING. PLEASE DESCRIBE THE PROPOSED FREQUENCY OF REPORTING OF THE RECORDKEEPING.

TESTING. PLEASE DESCRIBE ANY PROPOSED EMISSIONS TESTING FOR THIS PROCESS EQUIPMENT/AIR POLLUTION CONTROL DEVICE.

10. Describe all operating ranges and maintenance procedures required by Manufacturer to maintain warranty

N/A

**EMISSIONS UNIT DATA SHEET
GENERAL**

To be used for affected sources other than asphalt plants, foundries, incinerators, indirect heat exchangers, and quarries.

Identification Number (as assigned on *Equipment List Form*): C-003

<p>1. Name or type and model of proposed affected source:</p> <p>Cooper-Bessemer GMVH Reciprocating Engine/Integral Compressor</p>
<p>2. On a separate sheet(s), furnish a sketch(es) of this affected source. If a modification is to be made to this source, clearly indicated the change(s). Provide a narrative description of all features of the affected source which may affect the production of air pollutants.</p>
<p>3. Name(s) and maximum amount of proposed process material(s) charged per hour:</p> <p>N/A</p>
<p>4. Name(s) and maximum amount of proposed material(s) produced per hour:</p> <p>N/A</p>
<p>5. Give chemical reactions, if applicable, that will be involved in the generation of air pollutants:</p> <p>N/A</p>

* The identification number which appears here must correspond to the air pollution control device identification number appearing on the *List Form*.

6. Combustion Data (if applicable):					
(a) Type and amount in appropriate units of fuel(s) to be burned:					
Natural Gas: 0.0085 MMcf/hr					
(b) Chemical analysis of proposed fuel(s), excluding coal, including maximum percent sulfur and ash:					
Natural Gas: Max sulfur content = 10.6 ppm(w) BTU value = 1080 BTU/scf					
(c) Theoretical combustion air requirement (ACF/unit of fuel):					
N/A	@	N/A	°F and	N/A	psia.
(d) Percent excess air: N/A					
(e) Type and BTU/hr of burners and all other firing equipment planned to be used:					
N/A					
(f) If coal is proposed as a source of fuel, identify supplier and seams and give sizing of the coal as it will be fired:					
N/A					
(g) Proposed maximum design heat input:					
			9.9144	× 10 ⁶ BTU/hr.	
7. Projected operating schedule:					
Hours/Day	24	Days/Week	7	Weeks/Year	52

8. Projected amount of pollutants that would be emitted from this affected source if no control devices were used:

@	N/A	°F and	N/A	psia
a. NO _x		31.43	lb/hr	N/A grains/ACF
b. SO ₂		0.01	lb/hr	N/A grains/ACF
c. CO		3.83	lb/hr	N/A grains/ACF
d. PM ₁₀		0.48	lb/hr	N/A grains/ACF
e. Hydrocarbons		N/A	lb/hr	N/A grains/ACF
f. VOCs		1.19	lb/hr	N/A grains/ACF
g. Pb		N/A	lb/hr	N/A grains/ACF
h. Specify other(s)				
	See Table L-1		lb/hr	grains/ACF
			lb/hr	grains/ACF
			lb/hr	grains/ACF
			lb/hr	grains/ACF

NOTE: (1) An Air Pollution Control Device Sheet must be completed for any air pollution device(s) used to control emissions from this affected source.
 (2) Complete the Emission Points Data Sheet.

9. Proposed Monitoring, Recordkeeping, Reporting, and Testing
 Please propose monitoring, recordkeeping, and reporting in order to demonstrate compliance with the proposed operating parameters. Please propose testing in order to demonstrate compliance with the proposed emissions limits.

MONITORING

RECORDKEEPING

From R30-04010009-2002:

For C.S.R. §45-10-4.1 R30-04100009-2002 Permit Condition: III.B.2.a.iv. = R30-04100009-2002 Condition Number III.C.3. and III.E.1.

For C.S.R. §45-10-5.1 R30-04100009-2002 Permit Condition: III.B.2.a.v. = R30-04100009-2002 Condition Number III.C.4 and III.E.1.

For C.S.R. §45-13 (Permit R13-2397). R30-04100009-2002 Permit Condition: III.B.2.a.vi = R30-04100009-2002 Condition Number III.C.11.

REPORTING

From R30-04010009-2002:

For C.S.R. §45-13-10.5 R30-04100009-2002 Permit condition: III.B.1.b.ii = R30-04100009-2002 Condition Number III.B.1.b.ii.

For WV Code §22-5-4(a)(14) R30-04100009-2002 Permit condition: III.B.2.a.ii=R30-04100009-2002 ConditionNumber III.B.2.a.ii

TESTING

From R30-04010009-2002:

For WV Code §22-5-4(a)(15) R30-04100009-2002 Permit condition: III.B.1.a.v = R30-04100009-2002 Condition Number III.B.1.a.v.

For C.S.R. §45-30-12.7: Adjust R30-04100009-2002 Permit Condition III.B.2.a.vi. to replace SO₂, PM₁₀, and HAPs emission limits as follows: SO₂ = 0.006 lb/yr, 0.022 tpy; PM₁₀ = 0.479 lb/yr, 1.846 tpy; HAPs = 0.789 lbs/hr, 3.04 tpy and make applicable to all compressors and remove compliance demonstration condition number III.C.5

MONITORING. PLEASE LIST AND DESCRIBE THE PROCESS PARAMETERS AND RANGES THAT ARE PROPOSED TO BE MONITORED IN ORDER TO DEMONSTRATE COMPLIANCE WITH THE OPERATION OF THIS PROCESS EQUIPMENT OPERATION/AIR POLLUTION CONTROL DEVICE.

RECORDKEEPING. PLEASE DESCRIBE THE PROPOSED RECORDKEEPING THAT WILL ACCOMPANY THE MONITORING.

REPORTING. PLEASE DESCRIBE THE PROPOSED FREQUENCY OF REPORTING OF THE RECORDKEEPING.

TESTING. PLEASE DESCRIBE ANY PROPOSED EMISSIONS TESTING FOR THIS PROCESS EQUIPMENT/AIR POLLUTION CONTROL DEVICE.

10. Describe all operating ranges and maintenance procedures required by Manufacturer to maintain warranty

N/A

**EMISSIONS UNIT DATA SHEET
GENERAL**

To be used for affected sources other than asphalt plants, foundries, incinerators, indirect heat exchangers, and quarries.

Identification Number (as assigned on *Equipment List Form*): C-004

<p>1. Name or type and model of proposed affected source:</p> <p>Cooper-Bessemer GMVH8 Reciprocating Engine/Integral Compressor</p>
<p>2. On a separate sheet(s), furnish a sketch(es) of this affected source. If a modification is to be made to this source, clearly indicated the change(s). Provide a narrative description of all features of the affected source which may affect the production of air pollutants.</p>
<p>3. Name(s) and maximum amount of proposed process material(s) charged per hour:</p> <p>N/A</p>
<p>4. Name(s) and maximum amount of proposed material(s) produced per hour:</p> <p>N/A</p>
<p>5. Give chemical reactions, if applicable, that will be involved in the generation of air pollutants:</p> <p>N/A</p>

* The identification number which appears here must correspond to the air pollution control device identification number appearing on the *List Form*.

6. Combustion Data (if applicable):					
(a) Type and amount in appropriate units of fuel(s) to be burned:					
Natural Gas: 0.0113 MMcf/hr					
(b) Chemical analysis of proposed fuel(s), excluding coal, including maximum percent sulfur and ash:					
Natural Gas: Max sulfur content = 10.6 ppm(w) BTU value = 1080 BTU/scf					
(c) Theoretical combustion air requirement (ACF/unit of fuel):					
N/A	@	N/A	°F and	N/A	psia.
(d) Percent excess air: N/A					
(e) Type and BTU/hr of burners and all other firing equipment planned to be used:					
N/A					
(f) If coal is proposed as a source of fuel, identify supplier and seams and give sizing of the coal as it will be fired:					
N/A					
(g) Proposed maximum design heat input: 13.2192 × 10 ⁶ BTU/hr.					
7. Projected operating schedule:					
Hours/Day	24	Days/Week	7	Weeks/Year	52

8. Projected amount of pollutants that would be emitted from this affected source if no control devices were used:

@	N/A	°F and	N/A	psia
a. NO _x		41.90	lb/hr	N/A grains/ACF
b. SO ₂		0.01	lb/hr	N/A grains/ACF
c. CO		5.10	lb/hr	N/A grains/ACF
d. PM ₁₀		0.64	lb/hr	N/A grains/ACF
e. Hydrocarbons		N/A	lb/hr	N/A grains/ACF
f. VOCs		1.59	lb/hr	N/A grains/ACF
g. Pb		N/A	lb/hr	N/A grains/ACF
h. Specify other(s)				
	See Table L-1		lb/hr	grains/ACF
			lb/hr	grains/ACF
			lb/hr	grains/ACF
			lb/hr	grains/ACF

NOTE: (1) An Air Pollution Control Device Sheet must be completed for any air pollution device(s) used to control emissions from this affected source.
 (2) Complete the Emission Points Data Sheet.

9. Proposed Monitoring, Recordkeeping, Reporting, and Testing
 Please propose monitoring, recordkeeping, and reporting in order to demonstrate compliance with the proposed operating parameters. Please propose testing in order to demonstrate compliance with the proposed emissions limits.

MONITORING

RECORDKEEPING

From R30-04010009-2002:

For C.S.R. §45-10-4.1 R30-04100009-2002 Permit Condition: III.B.2.a.iv. = R30-04100009-2002 Condition Number III.C.3. and III.E.1.

For C.S.R. §45-10-5.1 R30-04100009-2002 Permit Condition: III.B.2.a.v. = R30-04100009-2002 Condition Number III.C.4 and III.E.1.

For C.S.R. §45-13 (Permit R13-2397). R30-04100009-2002 Permit Condition: III.B.2.a.vi = R30-04100009-2002 Condition Number III.C.11.

REPORTING

From R30-04010009-2002:

For C.S.R. §45-13-10.5 R30-04100009-2002 Permit condition: III.B.1.b.ii = R30-04100009-2002 Condition Number III.B.1.b.ii.

For WV Code §22-5-4(a)(14) R30-04100009-2002 Permit condition: III.B.2.a.ii = R30-04100009-2002 Condition Number III.B.2.a.ii

TESTING

From R30-04010009-2002:

For WV Code §22-5-4(a)(15) R30-04100009-2002 Permit condition: III.B.1.a.v = R30-04100009-2002 Condition Number III.B.1.a.v.

For C.S.R. §45-30-12.7: Adjust R30-04100009-2002 Permit Condition III.B.2.a.vi. to replace SO₂, PM₁₀, and HAPs emission limits as follows: SO₂ = 0.006 lb/yr, 0.022 tpy; PM₁₀ = 0.479 lb/yr, 1.846 tpy; HAPs = 0.789 lbs/hr, 3.04 tpy and make applicable to all compressors and remove compliance demonstration condition number III.C.5

MONITORING. PLEASE LIST AND DESCRIBE THE PROCESS PARAMETERS AND RANGES THAT ARE PROPOSED TO BE MONITORED IN ORDER TO DEMONSTRATE COMPLIANCE WITH THE OPERATION OF THIS PROCESS EQUIPMENT OPERATION/AIR POLLUTION CONTROL DEVICE.

RECORDKEEPING. PLEASE DESCRIBE THE PROPOSED RECORDKEEPING THAT WILL ACCOMPANY THE MONITORING.

REPORTING. PLEASE DESCRIBE THE PROPOSED FREQUENCY OF REPORTING OF THE RECORDKEEPING.

TESTING. PLEASE DESCRIBE ANY PROPOSED EMISSIONS TESTING FOR THIS PROCESS EQUIPMENT/AIR POLLUTION CONTROL DEVICE.

10. Describe all operating ranges and maintenance procedures required by Manufacturer to maintain warranty

N/A

**EMISSIONS UNIT DATA SHEET
GENERAL**

To be used for affected sources other than asphalt plants, foundries, incinerators, indirect heat exchangers, and quarries.

Identification Number (as assigned on *Equipment List Form*): C-005

<p>1. Name or type and model of proposed affected source:</p> <p>Cooper-Bessemer GMVR Reciprocating Engine/Integral Compressor</p>
<p>2. On a separate sheet(s), furnish a sketch(es) of this affected source. If a modification is to be made to this source, clearly indicated the change(s). Provide a narrative description of all features of the affected source which may affect the production of air pollutants.</p>
<p>3. Name(s) and maximum amount of proposed process material(s) charged per hour:</p> <p>N/A</p>
<p>4. Name(s) and maximum amount of proposed material(s) produced per hour:</p> <p>N/A</p>
<p>5. Give chemical reactions, if applicable, that will be involved in the generation of air pollutants:</p> <p>N/A</p>

* The identification number which appears here must correspond to the air pollution control device identification number appearing on the *List Form*.

6. Combustion Data (if applicable):					
(a) Type and amount in appropriate units of fuel(s) to be burned:					
Natural Gas: 0.0085 MMcf/hr					
(b) Chemical analysis of proposed fuel(s), excluding coal, including maximum percent sulfur and ash:					
Natural Gas: Max sulfur content = 10.6 ppm(w) BTU value = 1080 BTU/scf					
(c) Theoretical combustion air requirement (ACF/unit of fuel):					
N/A	@	N/A	°F and	N/A	psia.
(d) Percent excess air: N/A					
(e) Type and BTU/hr of burners and all other firing equipment planned to be used:					
N/A					
(f) If coal is proposed as a source of fuel, identify supplier and seams and give sizing of the coal as it will be fired:					
N/A					
(g) Proposed maximum design heat input: 9.9144 × 10 ⁶ BTU/hr.					
7. Projected operating schedule:					
Hours/Day	24	Days/Week	7	Weeks/Year	52

8. Projected amount of pollutants that would be emitted from this affected source if no control devices were used:

@	N/A	°F and	N/A	psia
a. NO _x		31.43	lb/hr	N/A grains/ACF
b. SO ₂		0.01	lb/hr	N/A grains/ACF
c. CO		3.83	lb/hr	N/A grains/ACF
d. PM ₁₀		0.48	lb/hr	N/A grains/ACF
e. Hydrocarbons		N/A	lb/hr	N/A grains/ACF
f. VOCs		1.19	lb/hr	N/A grains/ACF
g. Pb		N/A	lb/hr	N/A grains/ACF
h. Specify other(s)				
	See Table L-1		lb/hr	grains/ACF
			lb/hr	grains/ACF
			lb/hr	grains/ACF
			lb/hr	grains/ACF

NOTE: (1) An Air Pollution Control Device Sheet must be completed for any air pollution device(s) used to control emissions from this affected source.
 (2) Complete the Emission Points Data Sheet.

9. Proposed Monitoring, Recordkeeping, Reporting, and Testing
 Please propose monitoring, recordkeeping, and reporting in order to demonstrate compliance with the proposed operating parameters. Please propose testing in order to demonstrate compliance with the proposed emissions limits.

MONITORING
 See following attachment (C005 EUDS Requirements)

RECORDKEEPING
 See following attachment (C005 EUDS Requirements).

REPORTING
 See following attachment (C005 EUDS Requirements)

TESTING
 See following attachment (C005 EUDS Requirements)

MONITORING. PLEASE LIST AND DESCRIBE THE PROCESS PARAMETERS AND RANGES THAT ARE PROPOSED TO BE MONITORED IN ORDER TO DEMONSTRATE COMPLIANCE WITH THE OPERATION OF THIS PROCESS EQUIPMENT OPERATION/AIR POLLUTION CONTROL DEVICE.

RECORDKEEPING. PLEASE DESCRIBE THE PROPOSED RECORDKEEPING THAT WILL ACCOMPANY THE MONITORING.

REPORTING. PLEASE DESCRIBE THE PROPOSED FREQUENCY OF REPORTING OF THE RECORDKEEPING.

TESTING. PLEASE DESCRIBE ANY PROPOSED EMISSIONS TESTING FOR THIS PROCESS EQUIPMENT/AIR POLLUTION CONTROL DEVICE.

10. Describe all operating ranges and maintenance procedures required by Manufacturer to maintain warranty

N/A

C005 EUDS Requirements

Monitoring:

Recordkeeping:

From R30-04010009-2002:

For C.S.R. §45-10-4.1 R30-04100009-2002 Permit Condition: III.B.2.a.iv. = R30-04100009-2002 Condition Number III.C.3. and III.E.1.

For C.S.R. §45-10-5.1 R30-04100009-2002 Permit Condition: III.B.2.a.v. = R30-04100009-2002 Condition Number III.C.4 and III.E.1.

For C.S.R. §45-13 (Permit R13-2397). R30-04100009-2002 Permit Condition: III.B.2.a.vi = R30-04100009-2002 Condition Number III.C.11.

For C.S.R. §45-13 (Permit R13-2397) R30-04100009-2002 Permit Condition: III.B.2.a.vii. = R30-04100009-2002 Condition Number III.B.2.a.vii.

Reporting:

From R30-04010009-2002:

For C.S.R. §45-13-10.5 R30-04100009-2002 Permit condition: III.B.1.b.ii = R30-04100009-2002 Condition Number III.B.1.b.ii.

For WV Code §22-5-4(a)(14) R30-04100009-2002 Permit condition: III.B.2.a.ii = R30-04100009-2002 Condition Number III.B.2.a.ii

Testing:

From R30-04010009-2002:

For WV Code §22-5-4(a)(15) R30-04100009-2002 Permit condition: III.B.1.a.v = R30-04100009-2002 Condition Number III.B.1.a.v.

For C.S.R §45-30-12.7: Adjust R30-04100009-2002 Permit Condition III.B.2.a.vi. to replace SO₂, PM₁₀, and HAPs emission limits as follows: SO₂ = 0.006 lb/yr, 0.022 tpy; PM₁₀ = 0.479 lb/yr, 1.846 tpy; HAPs = 0.789 lbs/hr, 3.04 tpy and make applicable to all compressors and remove compliance demonstration condition number III.C.5

EMISSIONS UNIT DATA SHEET GENERAL

To be used for affected sources other than asphalt plants, foundries, incinerators, indirect heat exchangers, and quarries.

Identification Number (as assigned on *Equipment List Form*): 004-01

<p>1. Name or type and model of proposed affected source:</p> <p>Emission Unit ID# 004-01 (Natco Dehy, Model# 5 GR-3000-TX10, Natural Gas Fired Reboiler and flare)</p>
<p>2. On a separate sheet(s), furnish a sketch(es) of this affected source. If a modification is to be made to this source, clearly indicated the change(s). Provide a narrative description of all features of the affected source which may affect the production of air pollutants.</p>
<p>3. Name(s) and maximum amount of proposed process material(s) charged per hour:</p> <p>The dehydration unit processes natural gas to remove water vapor. The gas contacts dry triethylene glycol (TEG), which absorbs the water from the gas. The dehydrated gas leaves the dehydration tower at the top and returns to the process for compression by the engines. The water-rich TEG leaves the dehydration tower at the bottom and is routed to a re-concentration system (reboiler) where the water and organic impurities are driven from the TEG by heating. The cleaned TEG is then re-used in the contact tower. The water vapor and organics driven from the TEG during regeneration are passed through a flare to minimize emissions of VOC and HAP. This Dehy processes 21.3 MMscfd of dry gas.</p>
<p>4. Name(s) and maximum amount of proposed material(s) produced per hour:</p> <p>Dehy #1 processes 21.3 MMscf of dry gas using TEG at a flow rate of 7.0 gpm.</p>
<p>5. Give chemical reactions, if applicable, that will be involved in the generation of air pollutants:</p> <p>N/A</p>

* The identification number which appears here must correspond to the air pollution control device identification number appearing on the *List Form*.

6. Combustion Data (if applicable):					
(a) Type and amount in appropriate units of fuel(s) to be burned:					
Reboiler, Natural Gas - 8.928 MMcf/yr					
(b) Chemical analysis of proposed fuel(s), excluding coal, including maximum percent sulfur and ash:					
Maximum Sulfur content = 10.6 ppm(w)					
(c) Theoretical combustion air requirement (ACF/unit of fuel):					
15%	@	60	°F and	atm	psia.
(d) Percent excess air: 15%					
(e) Type and BTU/hr of burners and all other firing equipment planned to be used:					
Reboiler - 0.65 MMBtu/hr					
(f) If coal is proposed as a source of fuel, identify supplier and seams and give sizing of the coal as it will be fired:					
N/A					
(g) Proposed maximum design heat input: 0.65 × 10 ⁶ BTU/hr.					
7. Projected operating schedule:					
Hours/Day	24	Days/Week	7	Weeks/Year	52

8. Projected amount of pollutants that would be emitted from this affected source if no control devices were used:

@	N/A	°F and	N/A	psia
a. NO _x		0.06	lb/hr	N/A grains/ACF
b. SO ₂		0.0004	lb/hr	N/A grains/ACF
c. CO		0.05	lb/hr	N/A grains/ACF
d. PM ₁₀		0.004	lb/hr	N/A grains/ACF
e. Hydrocarbons		N/A	lb/hr	N/A grains/ACF
f. VOCs		31.76	lb/hr	N/A grains/ACF
g. Pb		N/A	lb/hr	N/A grains/ACF
h. Specify other(s)				
	See Table L2		lb/hr	grains/ACF
			lb/hr	grains/ACF
			lb/hr	grains/ACF
			lb/hr	grains/ACF

NOTE: (1) An Air Pollution Control Device Sheet must be completed for any air pollution device(s) used to control emissions from this affected source.
 (2) Complete the Emission Points Data Sheet.

9. Proposed Monitoring, Recordkeeping, Reporting, and Testing
 Please propose monitoring, recordkeeping, and reporting in order to demonstrate compliance with the proposed operating parameters. Please propose testing in order to demonstrate compliance with the proposed emissions limits.

MONITORING
 See following attachment (Dehy Flare EUDS Requirements)

RECORDKEEPING
 See following attachment (Dehy Flare EUDS Requirements)

REPORTING
 See following attachment (Dehy Flare EUDS Requirements)

TESTING
 See following attachment (Dehy Flare EUDS Requirements)

MONITORING. PLEASE LIST AND DESCRIBE THE PROCESS PARAMETERS AND RANGES THAT ARE PROPOSED TO BE MONITORED IN ORDER TO DEMONSTRATE COMPLIANCE WITH THE OPERATION OF THIS PROCESS EQUIPMENT OPERATION/AIR POLLUTION CONTROL DEVICE.

RECORDKEEPING. PLEASE DESCRIBE THE PROPOSED RECORDKEEPING THAT WILL ACCOMPANY THE MONITORING.

REPORTING. PLEASE DESCRIBE THE PROPOSED FREQUENCY OF REPORTING OF THE RECORDKEEPING.

TESTING. PLEASE DESCRIBE ANY PROPOSED EMISSIONS TESTING FOR THIS PROCESS EQUIPMENT/AIR POLLUTION CONTROL DEVICE.

10. Describe all operating ranges and maintenance procedures required by Manufacturer to maintain warranty
 N/A

Dehy Flare EUDS Requirements

Monitoring:

From R30-04100009-2002:

C.S.R. §45-6-4.1. R30-04100009-2002 Permit Condition: III.B.2.a.viii.

C.S.R. §45-6-4.3. R30-04100009-2002 Permit Condition: III.B.2.a.ix.

Recordkeeping:

From R30-04100009-2002:

For C.S.R. §45-4-3.1 R30-04100009-2002 Permit Condition: III.B.1.b.i

For C.S.R. §45-6-4.1. R30-04100009-2002 Permit Condition: III.B.2.a.viii.

For C.S.R. §45-6-4.3. R30-04100009-2002 Permit Condition: III.B.2.a.ix.

For C.S.R. §45-6-4.6. R30-04100009-2002 Permit Condition: III.B.2.a.x.

For C.S.R. §45-10-4.1. R30-04100009-2002 Permit Condition: III.B.2.a.iv.

For C.S.R. §45-10-5.1. R30-04100009-2002 Permit Condition: III.B.2.a.v.

For C.S.R. §45-13 (Permit R13-2397). R30-04100009-2002 Permit Condition: III.B.2.a.vi.

For C.S.R. §45-13 (Permit R13-2397). R30-04100009-2002 Permit Condition: III.B.2.a.xi.

For C.S.R. §45-30-12.7: Adjust Permit Condition III.B.2.a.xi. to replace Benzene emission limits to <1 tpy. Also adjust language to read “The facility shall emit the following HAPs only in the associated amounts:”

For C.S.R. §45-13 (Permit R13-2397). R30-04100009-2002 Permit Condition: III.B.2.a.vi.

Reporting:

From R30-04100009-2002:

For C.S.R. §45-13-10.5 R30-04100009-2002 Permit condition: III.B.1.b.ii

WV Code §22-5-4(a)(14) R30-04100009-2002 Permit condition: III.B.2.a.ii

Testing:

From R30-04100009-2002:

For WV Code §22-5-4(a)(15) R30-04100009-2002 Permit condition: III.B.1.a.v

EMISSIONS UNIT DATA SHEET GENERAL

To be used for affected sources other than asphalt plants, foundries, incinerators, indirect heat exchangers, and quarries.

Identification Number (as assigned on *Equipment List Form*): EU 004-02

<p>1. Name or type and model of proposed affected source:</p> <p>Emission Unit ID# 004-02 (Natco Dehy, Model# GS 3100E, dehy boiler #2 and an indirect heater)</p>
<p>2. On a separate sheet(s), furnish a sketch(es) of this affected source. If a modification is to be made to this source, clearly indicated the change(s). Provide a narrative description of all features of the affected source which may affect the production of air pollutants.</p>
<p>3. Name(s) and maximum amount of proposed process material(s) charged per hour:</p> <p>The dehydration unit processes natural gas to remove water vapor. The gas contacts dry triethylene glycol (TEG), which absorbs the water from the gas. The dehydrated gas leaves the dehydration tower at the top and returns to the process for compression by the engines. The water-rich TEG leaves the dehydration tower at the bottom and is routed to a re-concentration system (reboiler) where the water and organic impurities are driven from the TEG by heating. The cleaned TEG is then re-used in the contact tower. The water vapor and organics driven from the TEG during regeneration are reintroduced into the reboiler system and combusted to minimize emissions of VOC/HAP. This Dehy processes 25.3 MMscfd of dry gas.</p>
<p>4. Name(s) and maximum amount of proposed material(s) produced per hour:</p> <p>Dehy #2 processes 25.3 MMscf of dry gas using TEG at a flow rate of 7.0 gpm.</p>
<p>5. Give chemical reactions, if applicable, that will be involved in the generation of air pollutants:</p> <p>N/A</p>

* The identification number which appears here must correspond to the air pollution control device identification number appearing on the *List Form*.

6. Combustion Data (if applicable):					
(a) Type and amount in appropriate units of fuel(s) to be burned:					
Natural Gas, Indirect Heater = 1514 cf/hr Reboiler = 13.6 MMcf/yr					
(b) Chemical analysis of proposed fuel(s), excluding coal, including maximum percent sulfur and ash:					
Maximum Sulfur content = 10.6 ppm(w)					
(c) Theoretical combustion air requirement (ACF/unit of fuel):					
15%	@	60	°F and	N/A	psia.
(d) Percent excess air: 15%					
(e) Type and BTU/hr of burners and all other firing equipment planned to be used:					
Dehy boiler #2 = 1.67 MMBtu/hr Indirect heater = 1.2 MMBtu/hr					
(f) If coal is proposed as a source of fuel, identify supplier and seams and give sizing of the coal as it will be fired:					
N/A					
(g) Proposed maximum design heat input:				Dehy boiler #2 = 1.67 × 10 ⁶ BTU/hr. Indirect heater = 1.2	
7. Projected operating schedule:					
Hours/Day	24	Days/Week	7	Weeks/Year	52

8. Projected amount of pollutants that would be emitted from this affected source if no control devices were used:

@	N/A	°F and	N/A	psia
a. NO _x		0.28 lb/hr	N/A	grains/ACF
b. SO ₂		0.002 lb/hr	N/A	grains/ACF
c. CO		0.24 lb/hr	N/A	grains/ACF
d. PM ₁₀		0.02 lb/hr	N/A	grains/ACF
e. Hydrocarbons		N/A lb/hr	N/A	grains/ACF
f. VOCs		14.79 lb/hr	N/A	grains/ACF
g. Pb		N/A lb/hr	N/A	grains/ACF
h. Specify other(s)				
	See Table L2		lb/hr	grains/ACF
			lb/hr	grains/ACF
			lb/hr	grains/ACF
			lb/hr	grains/ACF

NOTE: (1) An Air Pollution Control Device Sheet must be completed for any air pollution device(s) used to control emissions from this affected source.
 (2) Complete the Emission Points Data Sheet.

9. Proposed Monitoring, Recordkeeping, Reporting, and Testing
 Please propose monitoring, recordkeeping, and reporting in order to demonstrate compliance with the proposed operating parameters. Please propose testing in order to demonstrate compliance with the proposed emissions limits.

MONITORING
 See following attachment (Dehy EUDS Requirements)

RECORDKEEPING
 See following attachment (Dehy EUDS Requirements)

REPORTING
 See following attachment (Dehy EUDS Requirements)

TESTING
 See following attachment (Dehy EUDS Requirements)

MONITORING. PLEASE LIST AND DESCRIBE THE PROCESS PARAMETERS AND RANGES THAT ARE PROPOSED TO BE MONITORED IN ORDER TO DEMONSTRATE COMPLIANCE WITH THE OPERATION OF THIS PROCESS EQUIPMENT OPERATION/AIR POLLUTION CONTROL DEVICE.

RECORDKEEPING. PLEASE DESCRIBE THE PROPOSED RECORDKEEPING THAT WILL ACCOMPANY THE MONITORING.

REPORTING. PLEASE DESCRIBE THE PROPOSED FREQUENCY OF REPORTING OF THE RECORDKEEPING.

TESTING. PLEASE DESCRIBE ANY PROPOSED EMISSIONS TESTING FOR THIS PROCESS EQUIPMENT/AIR POLLUTION CONTROL DEVICE.

10. Describe all operating ranges and maintenance procedures required by Manufacturer to maintain warranty
 N/A

Dehy EUDS Requirements

Monitoring:

From R30-04100009-2002:

For C.S.R. §45-2-3.1 R30-04100009-2002 Permit condition: III.B.2.a.iii = R30-04100009-2002 Condition Number III.C.2. and III.E.1.

Recordkeeping:

From R30-04100009-2002:

For C.S.R. §45-4-3.1 R30-04100009-2002 Permit condition: III.B.1.b.i = R30-04100009-2002 Condition Number III.C.1.

For C.S.R. §45-2-3.1 R30-04100009-2002 Permit condition: III.B.2.a.iii = R30-04100009-2002 Condition Number III.C.2. and III.E.1.

For C.S.R. §45-13 (Permit R13-2397). R30-04100009-2002 Permit Condition: III.B.2.a.vi. = R30-04100009-2002 Condition Number III.C.9. and III.C.10

For C.S.R. §45-13 (Permit R13-2397). R30-04100009-2002 Permit Condition: III.B.2.a.xi. = R30-04100009-2002 Condition Number III.C.9. and III.C.10

For C.S.R §45-30-12.7: Adjust Permit Condition III.B.2.a.xi. to replace Benzene emission limits to <1 tpy. Also adjust language to read “The facility shall emit the following HAPs only in the associated amounts:”

For C.S.R. §45-13 (Permit R13-2397). R30-04100009-2002 Permit Condition: III.B.2.a.vi. = R30-04100009-2002 Condition Number III.C.11.

Reporting:

From R30-04100009-2002:

For C.S.R. §45-13-10.5 R30-04100009-2002 Permit condition: III.B.1.b.ii = R30-04100009-2002 Condition Number III.B.1.b.ii

For WV Code §22-5-4(a)(14) R30-04100009-2002 Permit condition: III.B.2.a.ii = R30-04100009-2002 Condition Number III.B.2.a.ii.

Testing:

From R30-04100009-2002:

For WV Code §22-5-4(a)(15) R30-04100009-2002 Permit condition: III.B.1.a.v = R30-04100009-2002 Condition Number III.B.1.a.v.

COMPRESSION ENGINE UNITS

* This current R13 update is to address adjustments to potential emission limits. No changes have been made to the previously permitted equipment to change the method of operation nor have new units been installed.

The Copley Run Station also includes five natural gas-fired reciprocating engines used to power reciprocating compressors that move the compressed natural gas through pipelines. These engines are two-stroke lean-burn engines ranging in size from 1350 hp to 2250 hp. The function of the reciprocating compressors is to raise the discharge pressure of the gas in the pipeline to overcome the effect of frictional losses in the pipeline upstream of the station, in order to maintain the required suction pressure at the next station downstream or at various downstream delivery points.

DEHYDRATION UNITS

* This current R13 update is to address adjustments to potential emission limits. No changes have been made to the previously permitted equipment to change the method of operation nor have new units been installed.

The Copley Run Station process involves the storage and transmission of natural gas. The station includes two glycol dehydration units that are operated to remove water vapor from the natural gas. The gas contacts dry triethylene glycol (TEG), which absorbs the water from the gas. The dehydrated gas leaves the dehydration tower at the top and returns to the process for compression by the engines. The water-rich TEG leaves the dehydration tower at the bottom and is routed to a re-concentration system (reboiler) where the water and organic impurities are driven from the TEG by heating. The cleaned TEG is then re-used in the contact tower. For the storage dehydration unit (Dehy #1), the water vapor and organics driven from the TEG during regeneration are passed through a flare to minimize emissions of hazardous air pollutants (HAP). The flare has an estimated destruction efficiency of 98%, and is integral to the dehydration unit. For the transmission dehydration unit (Dehy #2), the water vapor and organics driven from the TEG during regeneration are reintroduced into the reboiler system and combusted to minimize emissions of HAP. This combustion system has an estimated destruction efficiency of 95%, and is also integral to the dehydration unit. Two additional emission sources involved with the dehydration units are the combustion exhausts for the natural gas fired-reboiler associated with each unit, which provides the heat to drive off the water and impurities from the water-rich TEG. One additional emissions source involved with Dehy #2 is the combustion exhaust for the natural gas-fired indirect heater, which is used to preheat the natural gas prior to dehydration.

Table L-1 AP-42 Engine Emission Calculations, Copley Run Compressor Station

Pollutant	Maximum Potential Emission for Compression Engines ^{1,2}											
	Engine No.1		Engine No.2		Engine No.3		Engine No.4		Engine No.5		Totals	
	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy
TOC (Total)	2.71E+01	1.19E+02	1.63E+01	7.12E+01	1.63E+01	7.12E+01	2.17E+01	9.50E+01	1.63E+01	6.27E+01	9.76E+01	4.19E+02
Ethane	1.17E+00	5.13E+00	7.03E-01	3.08E+00	7.03E-01	3.08E+00	9.37E-01	4.11E+00	7.03E-01	2.71E+00	4.22E+00	1.81E+01
Methane	2.40E+01	1.05E+02	1.44E+01	6.30E+01	1.44E+01	6.30E+01	1.92E+01	8.40E+01	1.44E+01	5.54E+01	8.63E+01	3.70E+02
Butane	7.85E-02	3.44E-01	4.71E-02	2.06E-01	4.71E-02	2.06E-01	6.28E-02	2.75E-01	4.71E-02	1.82E-01	2.83E-01	1.21E+00
Butyr/Isobutyraldehyde	7.22E-03	3.16E-02	4.33E-03	1.90E-02	4.33E-03	1.90E-02	5.78E-03	2.53E-02	4.33E-03	1.67E-02	2.60E-02	1.12E-01
Chloroethane	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
Cyclohexane	5.09E-03	2.23E-02	3.05E-03	1.34E-02	3.05E-03	1.34E-02	4.07E-03	1.78E-02	3.05E-03	1.18E-02	1.83E-02	7.86E-02
Cyclopentane	1.56E-03	6.85E-03	9.39E-04	4.11E-03	9.39E-04	4.11E-03	1.25E-03	5.48E-03	9.39E-04	3.62E-03	5.63E-03	2.42E-02
Dichloroethane (1,1-)	6.46E-04	2.83E-03	3.88E-04	1.70E-03	3.88E-04	1.70E-03	5.17E-04	2.26E-03	3.88E-04	1.49E-03	2.33E-03	9.98E-03
Dichloroethane (1,2-)	6.97E-04	3.05E-03	4.18E-04	1.83E-03	4.18E-04	1.83E-03	5.58E-04	2.44E-03	4.18E-04	1.61E-03	2.51E-03	1.08E-02
Dichloropropane (1,2-)	7.37E-04	3.23E-03	4.42E-04	1.94E-03	4.42E-04	1.94E-03	5.90E-04	2.58E-03	4.42E-04	1.70E-03	2.65E-03	1.14E-02
Isobutane	6.20E-02	2.71E-01	3.72E-02	1.63E-01	3.72E-02	1.63E-01	4.96E-02	2.17E-01	3.72E-02	1.43E-01	2.23E-01	9.58E-01
Methylcyclohexane	5.59E-03	2.45E-02	3.35E-03	1.47E-02	3.35E-03	1.47E-02	4.47E-03	1.96E-02	3.35E-03	1.29E-02	2.01E-02	8.63E-02
Nonane (n-)	5.09E-04	2.23E-03	3.05E-04	1.34E-03	3.05E-04	1.34E-03	4.07E-04	1.78E-03	3.05E-04	1.18E-03	1.83E-03	7.86E-03
Octane (n-)	1.23E-03	5.38E-03	7.38E-04	3.23E-03	7.38E-04	3.23E-03	9.84E-04	4.31E-03	7.38E-04	2.84E-03	4.43E-03	1.90E-02
Pentane (n-)	2.53E-02	1.11E-01	1.52E-02	6.64E-02	1.52E-02	6.64E-02	2.02E-02	8.86E-02	1.52E-02	5.85E-02	9.10E-02	3.91E-01
Propane	4.74E-01	2.08E+00	2.85E-01	1.25E+00	2.85E-01	1.25E+00	3.79E-01	1.66E+00	2.85E-01	1.10E+00	1.71E+00	7.33E+00
Trimethylbenzene (1,2,3-)	5.85E-04	2.56E-03	3.51E-04	1.54E-03	3.51E-04	1.54E-03	4.68E-04	2.05E-03	3.51E-04	1.35E-03	2.11E-03	9.04E-03
Trimethylbenzene (1,2,4-)	1.83E-03	8.03E-03	1.10E-03	4.82E-03	1.10E-03	4.82E-03	1.47E-03	6.43E-03	1.10E-03	4.24E-03	6.60E-03	2.83E-02
Trimethylbenzene (1,3,5-)	2.97E-04	1.30E-03	1.78E-04	7.82E-04	1.78E-04	7.82E-04	2.38E-04	1.04E-03	1.78E-04	6.88E-04	1.07E-03	4.60E-03
HAP (Total)	1.31E+00	5.76E+00	7.89E-01	3.45E+00	7.89E-01	3.45E+00	1.05E+00	4.61E+00	7.89E-01	3.04E+00	4.73E+00	2.03E+01
Carbon Tetrachloride	1.00E-03	4.39E-03	6.02E-04	2.64E-03	6.02E-04	2.64E-03	8.02E-04	3.51E-03	6.02E-04	2.32E-03	3.61E-03	1.55E-02
Methylene Chloride	2.43E-03	1.06E-02	1.46E-03	6.38E-03	1.46E-03	6.38E-03	1.94E-03	8.51E-03	1.46E-03	5.62E-03	8.74E-03	3.75E-02
Acenaphthene	2.20E-05	9.63E-05	1.32E-05	5.78E-05	1.32E-05	5.78E-05	1.76E-05	7.70E-05	1.32E-05	5.08E-05	7.91E-05	3.40E-04
Acenaphthylene	5.24E-05	2.29E-04	3.14E-05	1.38E-04	3.14E-05	1.38E-04	4.19E-05	1.84E-04	3.14E-05	1.21E-04	1.89E-04	8.09E-04
Acetaldehyde	1.28E-01	5.62E-01	7.69E-02	3.37E-01	7.69E-02	3.37E-01	1.03E-01	4.49E-01	7.69E-02	2.97E-01	4.62E-01	1.98E+00
Acrolein	1.29E-01	5.63E-01	7.71E-02	3.38E-01	7.71E-02	3.38E-01	1.03E-01	4.50E-01	7.71E-02	2.97E-01	4.63E-01	1.99E+00
Anthracene	1.19E-05	5.20E-05	7.12E-06	3.12E-05	7.12E-06	3.12E-05	9.49E-06	4.16E-05	7.12E-06	2.74E-05	4.27E-05	1.83E-04
Benzo(a)anthracene	5.55E-06	2.43E-05	3.33E-06	1.46E-05	3.33E-06	1.46E-05	4.44E-06	1.95E-05	3.33E-06	1.28E-05	2.00E-05	8.58E-05
Benzenes	3.21E-02	1.40E-01	1.92E-02	8.42E-02	1.92E-02	8.42E-02	2.56E-02	1.12E-01	1.92E-02	7.41E-02	1.15E-01	4.95E-01
Benzo(a)pyrene	9.39E-08	4.11E-07	5.63E-08	2.47E-07	5.63E-08	2.47E-07	7.51E-08	3.29E-07	5.63E-08	2.17E-07	3.38E-07	1.45E-06
Benzo(b)fluoranthene	1.41E-07	6.16E-07	8.44E-08	3.70E-07	8.44E-08	3.70E-07	1.12E-07	4.93E-07	8.44E-08	3.25E-07	5.06E-07	2.17E-06
Benzo(e)pyrene	3.87E-07	1.69E-06	2.32E-07	1.02E-06	2.32E-07	1.02E-06	3.09E-07	1.35E-06	2.32E-07	8.94E-07	1.39E-06	5.97E-06
Benzo(g,h,i)perylene	4.10E-07	1.79E-06	2.46E-07	1.08E-06	2.46E-07	1.08E-06	3.28E-07	1.44E-06	2.46E-07	9.48E-07	1.48E-06	6.33E-06
Benzo(k)fluoranthene	7.04E-08	3.08E-07	4.22E-08	1.85E-07	4.22E-08	1.85E-07	5.63E-08	2.47E-07	4.22E-08	1.63E-07	2.53E-07	1.09E-06
Biphenyl	6.53E-05	2.86E-04	3.92E-05	1.72E-04	3.92E-05	1.72E-04	5.22E-05	2.29E-04	3.92E-05	1.51E-04	2.35E-04	1.01E-03
Butadiene (1,3-)	1.35E-02	5.93E-02	8.13E-03	3.56E-02	8.13E-03	3.56E-02	1.08E-02	4.75E-02	8.13E-03	3.13E-02	4.88E-02	2.09E-01
Chlorobenzene	7.34E-04	3.21E-03	4.40E-04	1.93E-03	4.40E-04	1.93E-03	5.87E-04	2.57E-03	4.40E-04	1.70E-03	2.64E-03	1.13E-02
Chloroform	7.78E-04	3.41E-03	4.67E-04	2.05E-03	4.67E-04	2.05E-03	6.23E-04	2.73E-03	4.67E-04	1.80E-03	2.80E-03	1.20E-02
Chrysene	1.11E-05	4.86E-05	6.66E-06	2.92E-05	6.66E-06	2.92E-05	8.88E-06	3.89E-05	6.66E-06	2.57E-05	4.00E-05	1.72E-04
Dichloropropene (1,3-)	7.24E-04	3.17E-03	4.34E-04	1.90E-03	4.34E-04	1.90E-03	5.79E-04	2.54E-03	4.34E-04	1.67E-03	2.61E-03	1.12E-02
Ethylbenzene	1.78E-03	7.82E-03	1.07E-03	4.69E-03	1.07E-03	4.69E-03	1.43E-03	6.25E-03	1.07E-03	4.13E-03	6.42E-03	2.76E-02
Ethylene Dibromide	1.21E-03	5.31E-03	7.28E-04	3.19E-03	7.28E-04	3.19E-03	9.70E-04	4.25E-03	7.28E-04	2.80E-03	4.37E-03	1.87E-02
Fluoranthene	5.97E-06	2.61E-05	3.58E-06	1.57E-05	3.58E-06	1.57E-05	4.77E-06	2.09E-05	3.58E-06	1.38E-05	2.15E-05	9.22E-05
Fluorene	2.79E-05	1.22E-04	1.68E-05	7.34E-05	1.68E-05	7.34E-05	2.23E-05	9.79E-05	1.68E-05	6.46E-05	1.01E-04	4.32E-04
Formaldehyde	9.12E-01	4.00E+00	5.47E-01	2.40E+00	5.47E-01	2.40E+00	7.30E-01	3.20E+00	5.47E-01	2.11E+00	3.28E+00	1.41E+01
Hexane (n-)	7.35E-03	3.22E-02	4.41E-03	1.93E-02	4.41E-03	1.93E-02	5.88E-03	2.58E-02	4.41E-03	1.70E-02	2.65E-02	1.14E-01
Indeno(1,2,3-c,d)pyrene	1.64E-07	7.19E-07	9.84E-08	4.31E-07	9.84E-08	4.31E-07	1.31E-07	5.75E-07	9.84E-08	3.79E-07	5.91E-07	2.54E-06
Methanol	4.10E-02	1.79E-01	2.46E-02	1.08E-01	2.46E-02	1.08E-01	3.28E-02	1.44E-01	2.46E-02	9.48E-02	1.48E-01	6.33E-01
Methylnaphthalene (2-)	3.54E-04	1.55E-03	2.12E-04	9.29E-04	2.12E-04	9.29E-04	2.83E-04	1.24E-03	2.12E-04	8.18E-04	1.27E-03	5.46E-03
Naphthalene	1.59E-03	6.97E-03	9.55E-04	4.18E-03	9.55E-04	4.18E-03	1.27E-03	5.58E-03	9.55E-04	3.68E-03	5.73E-03	2.46E-02
PAH	2.21E-03	9.70E-03	1.33E-03	5.82E-03	1.33E-03	5.82E-03	1.77E-03	7.76E-03	1.33E-03	5.12E-03	7.97E-03	3.42E-02
Perylene	8.21E-08	3.60E-07	4.93E-08	2.16E-07	4.93E-08	2.16E-07	6.57E-08	2.88E-07	4.93E-08	1.90E-07	2.96E-07	1.27E-06
Phenanthrene	5.83E-05	2.55E-04	3.50E-05	1.53E-04	3.50E-05	1.53E-04	4.67E-05	2.04E-04	3.50E-05	1.35E-04	2.10E-04	9.01E-04
Phenol	6.96E-04	3.05E-03	4.17E-04	1.83E-03	4.17E-04	1.83E-03	5.57E-04	2.44E-03	4.17E-04	1.61E-03	2.50E-03	1.07E-02
Propylene Oxide	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
Pyrene	9.65E-06	4.23E-05	5.79E-06	2.54E-05	5.79E-06	2.54E-05	7.72E-06	3.38E-05	5.79E-06	2.23E-05	3.47E-05	1.49E-04
Styrene	9.06E-04	3.97E-03	5.43E-04	2.38E-03	5.43E-04	2.38E-03	7.24E-04	3.17E-03	5.43E-04	2.09E-03	3.26E-03	1.40E-02
Tetrachloroethane (1,1,1,2-)	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
Tetrachloroethane (1,1,2,2-)	1.10E-03	4.80E-03	6.57E-04	2.88E-03	6.57E-04	2.88E-03	8.76E-04	3.84E-03	6.57E-04	2.53E-03	3.94E-03	1.69E-02
Toluene	1.59E-02	6.97E-02	9.55E-03	4.18E-02	9.55E-03	4.18E-02	1.27E-02	5.58E-02	9.55E-03	3.68E-02	5.73E-02	2.46E-01
Trichloroethane (1,1,2-)	8.71E-04	3.81E-03	5.22E-04	2.29E-03	5.22E-04	2.29E-03	6.97E-04	3.05E-03	5.22E-04	2.01E-03	3.13E-03	1.35E-02
Trimethylpentane (2,2,4-)	1.40E-02	6.12E-02	8.39E-03	3.67E-02	8.39E-03	3.67E-02	1.12E-02	4.90E-02	8.39E-03	3.23E-02	5.03E-02	2.16E-01
Vinyl Chloride	4.08E-04	1.79E-03	2.45E-04	1.07E-03	2.45E-04	1.07E-03	3.27E-04	1.43E-03	2.45E-04	9.44E-04	1.47E-03	6.31E-03
Xylenes	4.43E-03	1.94E-02	2.66E-03									

Table L2. AP-42 Boiler Emission Calculations, Copley Run Compressor Station

Pollutant	Dehy Reboiler		Dehy #2 Reboiler		Dehy Flare#1		Dehy #2 Recirculation		Totals	
	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy
TOC (Total)	7.01E-03	3.07E-02	1.80E-02	7.89E-02					2.50E-02	1.10E-01
Ethane	1.98E-03	8.65E-03	5.08E-03	2.22E-02					7.05E-03	3.09E-02
Methane	1.47E-03	6.42E-03	3.77E-03	1.65E-02					5.23E-03	2.29E-02
Butane	1.34E-03	5.86E-03	3.44E-03	1.51E-02					4.78E-03	2.09E-02
Butyl/Isobutyraldehyde	0.00E+00	0.00E+00	0.00E+00	0.00E+00					0.00E+00	0.00E+00
Chloroethane	0.00E+00	0.00E+00	0.00E+00	0.00E+00					0.00E+00	0.00E+00
Cyclohexane	0.00E+00	0.00E+00	0.00E+00	0.00E+00					0.00E+00	0.00E+00
Cyclopentane	0.00E+00	0.00E+00	0.00E+00	0.00E+00					0.00E+00	0.00E+00
Dichloroethane (1,1-)	0.00E+00	0.00E+00	0.00E+00	0.00E+00					0.00E+00	0.00E+00
Dichloroethane (1,2-)	0.00E+00	0.00E+00	0.00E+00	0.00E+00					0.00E+00	0.00E+00
Dichloropropane (1,2-)	0.00E+00	0.00E+00	0.00E+00	0.00E+00					0.00E+00	0.00E+00
Isobutane	0.00E+00	0.00E+00	0.00E+00	0.00E+00					0.00E+00	0.00E+00
Methylcyclohexane	0.00E+00	0.00E+00	0.00E+00	0.00E+00					0.00E+00	0.00E+00
Nonane (n-)	0.00E+00	0.00E+00	0.00E+00	0.00E+00					0.00E+00	0.00E+00
Octane (n-)	0.00E+00	0.00E+00	0.00E+00	0.00E+00					0.00E+00	0.00E+00
Pentane (n-)	1.66E-03	7.26E-03	4.26E-03	1.86E-02					5.91E-03	2.59E-02
Propane	1.02E-03	4.47E-03	2.62E-03	1.15E-02					3.64E-03	1.59E-02
Trimethylbenzene (1,2,3-)	0.00E+00	0.00E+00	0.00E+00	0.00E+00					0.00E+00	0.00E+00
Trimethylbenzene (1,2,4-)	0.00E+00	0.00E+00	0.00E+00	0.00E+00					0.00E+00	0.00E+00
Trimethylbenzene (1,3,5-)	0.00E+00	0.00E+00	0.00E+00	0.00E+00					0.00E+00	0.00E+00
HAP (Total)	1.20E-03	5.27E-03	3.09E-03	1.35E-02					4.30E-03	1.88E-02
Carbon Tetrachloride	0.00E+00	0.00E+00	0.00E+00	0.00E+00					0.00E+00	0.00E+00
Methylene Chloride	0.00E+00	0.00E+00	0.00E+00	0.00E+00					0.00E+00	0.00E+00
Acenaphthene	1.15E-09	5.02E-09	2.95E-09	1.29E-08					4.09E-09	1.79E-08
Acenaphthylene	1.15E-09	5.02E-09	2.95E-09	1.29E-08					4.09E-09	1.79E-08
Acetaldehyde	0.00E+00	0.00E+00	0.00E+00	0.00E+00					0.00E+00	0.00E+00
Acrolein	0.00E+00	0.00E+00	0.00E+00	0.00E+00					0.00E+00	0.00E+00
Anthracene	1.53E-09	6.70E-09	3.93E-09	1.72E-08					5.46E-09	2.39E-08
Benzo(a)anthracene	1.15E-09	5.02E-09	2.95E-09	1.29E-08					4.09E-09	1.79E-08
Benzene	1.34E-06	5.86E-06	3.44E-06	1.51E-05	2.28E-02	9.97E-02	2.48E-02	1.09E-01	4.76E-02	2.08E-01
Benzo(a)pyrene	7.65E-10	3.35E-09	1.96E-09	8.61E-09					2.73E-09	1.20E-08
Benzo(b)fluoranthene	1.15E-09	5.02E-09	2.95E-09	1.29E-08					4.09E-09	1.79E-08
Benzo(e)pyrene	0.00E+00	0.00E+00	0.00E+00	0.00E+00					0.00E+00	0.00E+00
Benzo(g,h,i)perylene	7.65E-10	3.35E-09	1.96E-09	8.61E-09					2.73E-09	1.20E-08
Benzo(k)fluoranthene	1.15E-09	5.02E-09	2.95E-09	1.29E-08					4.09E-09	1.79E-08
Biphenyl	0.00E+00	0.00E+00	0.00E+00	0.00E+00					0.00E+00	0.00E+00
Butadiene (1,3-)	0.00E+00	0.00E+00	0.00E+00	0.00E+00					0.00E+00	0.00E+00
Chlorobenzene	0.00E+00	0.00E+00	0.00E+00	0.00E+00					0.00E+00	0.00E+00
Chloroform	0.00E+00	0.00E+00	0.00E+00	0.00E+00					0.00E+00	0.00E+00
Chrysene	1.15E-09	5.02E-09	2.95E-09	1.29E-08					4.09E-09	1.79E-08
Dichloropropene (1,3-)	0.00E+00	0.00E+00	0.00E+00	0.00E+00					0.00E+00	0.00E+00
Ethylbenzene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.20E-02	9.62E-02	2.93E-02	1.28E-01	5.12E-02	2.24E-01
Ethylene Dibromide	0.00E+00	0.00E+00	0.00E+00	0.00E+00					0.00E+00	0.00E+00
Fluoranthene	1.91E-09	8.37E-09	4.91E-09	2.15E-08					6.82E-09	2.99E-08
Fluorene	1.78E-09	7.82E-09	4.58E-09	2.01E-08					6.37E-09	2.79E-08
Formaldehyde	4.78E-05	2.09E-04	1.23E-04	5.38E-04					1.71E-04	7.47E-04
Hexane (n-)	1.15E-03	5.02E-03	2.95E-03	1.29E-02	1.76E-02	7.72E-02	1.77E-02	7.74E-02	3.94E-02	1.73E-01
Indeno(1,2,3-c,d)pyrene	1.15E-09	5.02E-09	2.95E-09	1.29E-08					4.09E-09	1.79E-08
Methanol	0.00E+00	0.00E+00	0.00E+00	0.00E+00					0.00E+00	0.00E+00
Methylnaphthalene (2-)	1.53E-08	6.70E-08	3.93E-08	1.72E-07					5.46E-08	2.39E-07
Naphthalene	3.89E-07	1.70E-06	9.99E-07	4.37E-06					1.39E-06	6.08E-06
PAH	0.00E+00	0.00E+00	0.00E+00	0.00E+00					0.00E+00	0.00E+00
Perylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00					0.00E+00	0.00E+00
Phenanthrene	1.08E-08	4.75E-08	2.78E-08	1.22E-07					3.87E-08	1.69E-07
Phenol	0.00E+00	0.00E+00	0.00E+00	0.00E+00					0.00E+00	0.00E+00
Propylene Oxide	0.00E+00	0.00E+00	0.00E+00	0.00E+00					0.00E+00	0.00E+00
Pyrene	3.19E-09	1.40E-08	8.19E-09	3.59E-08					1.14E-08	4.98E-08
Styrene	0.00E+00	0.00E+00	0.00E+00	0.00E+00					0.00E+00	0.00E+00
Tetrachloroethane (1,1,1,2-)	0.00E+00	0.00E+00	0.00E+00	0.00E+00					0.00E+00	0.00E+00
Tetrachloroethane (1,1,2,2-)	0.00E+00	0.00E+00	0.00E+00	0.00E+00					0.00E+00	0.00E+00
Toluene	2.17E-06	9.49E-06	5.57E-06	2.44E-05	9.32E-02	4.08E-01	1.08E-01	4.74E-01	2.01E-01	8.82E-01
Trichloroethane (1,1,2-)	0.00E+00	0.00E+00	0.00E+00	0.00E+00					0.00E+00	0.00E+00
Trimethylpentane (2,2,4-)	0.00E+00	0.00E+00	0.00E+00	0.00E+00					0.00E+00	0.00E+00
Vinyl Chloride	0.00E+00	0.00E+00	0.00E+00	0.00E+00					0.00E+00	0.00E+00
Xylenes	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.35E-01	5.93E-01	2.08E-01	9.10E-01	3.43E-01	1.50E+00
3-Methylnaphthalene	1.15E-09	5.02E-09	2.95E-09	1.29E-08					4.09E-09	1.79E-08
7,12-Dimethylbenz(a)anthracene	1.02E-08	4.47E-08	2.62E-08	1.15E-07					3.64E-08	1.59E-07
Dibenzo(a,h)anthracene	7.65E-10	3.35E-09	1.96E-09	8.61E-09					2.73E-09	1.20E-08
Dichlorobenzene	7.65E-07	3.35E-06	1.96E-06	8.61E-06					2.73E-06	1.20E-05
Arsenic	1.27E-07	5.58E-07	3.27E-07	1.43E-06					4.55E-07	1.99E-06
Beryllium	7.65E-09	3.35E-08	1.96E-08	8.61E-08					2.73E-08	1.20E-07
Cadmium	7.01E-07	3.07E-06	1.80E-06	7.89E-06					2.50E-06	1.10E-05
Chromium	8.92E-07	3.91E-06	2.29E-06	1.00E-05					3.18E-06	1.39E-05
Cobalt	5.35E-08	2.34E-07	1.38E-07	6.02E-07					1.91E-07	8.37E-07
Manganese	2.42E-07	1.06E-06	6.22E-07	2.73E-06					8.64E-07	3.79E-06
Mercury	1.66E-07	7.26E-07	4.26E-07	1.86E-06					5.91E-07	2.59E-06
Nickel	1.34E-06	5.86E-06	3.44E-06	1.51E-05					4.78E-06	2.09E-05
Selenium	1.53E-08	6.70E-08	3.93E-08	1.72E-07					5.46E-08	2.39E-07
Lead	3.19E-07	1.40E-06	8.19E-07	3.59E-06					1.14E-06	4.98E-06

ATTACHMENT M

AIR POLLUTION CONTROL DEVICE SHEETS

Air Pollution Control Device Sheet (FLARE SYSTEM)

Control Device ID No. (must match List Form): 004-01

Equipment Information

<p>1. Manufacturer: Flare Industries, Inc.</p> <p>Model No. Unknown</p>	<p>2. Method: <input type="checkbox"/> Elevated flare <input checked="" type="checkbox"/> Ground flare <input type="checkbox"/> Other Describe</p>						
<p>3. Provide diagram(s) of unit describing capture system with duct arrangement and size of duct, air volume, capacity, horsepower of movers. If applicable, state hood face velocity and hood collection efficiency.</p>							
<p>4. Method of system used: <input type="checkbox"/> Steam-assisted <input type="checkbox"/> Air-assisted <input type="checkbox"/> Pressure-assisted <input type="checkbox"/> Non-assisted</p>							
<p>5. Maximum capacity of flare:</p> <p style="text-align: right;">scf/min</p> <p style="text-align: center;">Unknown</p> <p style="text-align: right;">scf/hr</p>	<p>6. Dimensions of stack:</p> <table style="width: 100%; border: none;"> <tr> <td style="text-align: right;">Diameter</td> <td style="text-align: center;">Unknown</td> <td style="text-align: right;">ft.</td> </tr> <tr> <td style="text-align: right;">Height</td> <td style="text-align: center;">Unknown</td> <td style="text-align: right;">ft.</td> </tr> </table>	Diameter	Unknown	ft.	Height	Unknown	ft.
Diameter	Unknown	ft.					
Height	Unknown	ft.					
<p>7. Estimated combustion efficiency: (Waste gas destruction efficiency)</p> <p style="text-align: right;">Estimated: 98 %</p> <p style="text-align: right;">Minimum guaranteed: %</p>	<p>8. Fuel used in burners: <input checked="" type="checkbox"/> Natural Gas <input type="checkbox"/> Fuel Oil, Number <input type="checkbox"/> Other, Specify:</p>						
<p>9. Number of burners:</p> <p style="text-align: right;">Rating: N/A BTU/hr</p>	<p>11. Describe method of controlling flame: TBD</p>						
<p>10. Will preheat be used? <input type="checkbox"/> Yes <input type="checkbox"/> No</p>							
<p>12. Flare height: TBD ft</p>	<p>14. Natural gas flow rate to flare pilot flame per pilot light:</p> <p style="text-align: right;">Unknown scf/min</p> <p style="text-align: right;">scf/hr</p>						
<p>13. Flare tip inside diameter: TBD ft</p>							
<p>15. Number of pilot lights:</p> <p style="text-align: right;">Total Unknown BTU/hr</p>	<p>16. Will automatic re-ignition be used? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>						
<p>17. If automatic re-ignition will be used, describe the method: N/A</p>							
<p>18. Is pilot flame equipped with a monitor? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>If yes, what type? <input type="checkbox"/> Thermocouple <input type="checkbox"/> Infra-Red <input type="checkbox"/> Ultra Violet <input type="checkbox"/> Camera with monitoring control room <input type="checkbox"/> Other, Describe: TBD</p>							
<p>19. Hours of unit operation per year: 8760</p>							

44. Proposed Monitoring, Recordkeeping, Reporting, and Testing

Please propose monitoring, recordkeeping, and reporting in order to demonstrate compliance with the proposed operating parameters. Please propose testing in order to demonstrate compliance with the proposed emissions limits.

MONITORING:

RECORDKEEPING:

Title V Permit Condition Numbers:
III.C.2, III.E.1, III.C.1, III.C.7, III.C.8, III.C.9,
III.C.10., III.C.11.

REPORTING:

TESTING:

MONITORING: Please list and describe the process parameters and ranges that are proposed to be monitored in order to demonstrate compliance with the operation of this process equipment or air control device.

RECORDKEEPING: Please describe the proposed recordkeeping that will accompany the monitoring.

REPORTING: Please describe any proposed emissions testing for this process equipment on air pollution control device.

TESTING: Please describe any proposed emissions testing for this process equipment on air pollution control device.

45. Manufacturer's Guaranteed Capture Efficiency for each air pollutant.
Unknown

46. Manufacturer's Guaranteed Control Efficiency for each air pollutant.
98%

47. Describe all operating ranges and maintenance procedures required by Manufacturer to maintain warranty.
Unknown

SUPPORTING EMISSIONS CALCULATIONS

Emissions from Compressor Engine #1, Copley Run Compressor Station.

Pollutant	Unit Heat Input	Emission Factor²	Hours of Operation	Potential Emissions
CO	16.524 MMbtu hr	0.386 lb MMbtu	8760 hr yr	27.9368 TPY 6.38E+00 lb hr
PM	16.524 MMbtu hr	0.04831 lb MMbtu	8760 hr yr	3.4964 TPY 7.98E-01 lb hr
PM 10 ⁻¹	16.524 MMbtu hr	0.04831 lb MMbtu	8760 hr yr	3.4964 TPY 7.98E-01 lb hr
NOX	16.524 MMbtu hr	3.17 lb MMbtu	8760 hr yr	229.4291 TPY 5.24E+01 lb hr
SO2	16.524 MMbtu hr	0.000588 lb MMbtu	8760 hr yr	0.0426 TPY 9.72E-03 lb hr
VOC	16.524 MMbtu hr	0.12 lb MMbtu	8760 hr yr	8.6850 TPY 1.98E+00 lb hr
Formaldehyde	16.524 MMbtu hr	0.052 lb MMbtu	8760 hr yr	3.7635 TPY 8.59E-01 lb hr

1. Assumed all PM is PM10.
2. Emission Factors are taken from AP-42 Table 3.2-1.

Emissions from Compressor Engine #2, Copley Run Compressor Station.

Pollutant	Unit Heat Input	Emission Factor²	Hours of Operation	Potential Emissions
CO	9.9144 MMBtu hr	0.386 lb MMBtu	8760 hr yr	16.7621 TPY 3.83E+00 lb hr
PM	9.9144 MMBtu hr	0.04831 lb MMBtu	8760 hr yr	2.0979 TPY 4.79E-01 lb hr
PM 10 ⁻¹	9.9144 MMBtu hr	0.04831 lb MMBtu	8760 hr yr	2.0979 TPY 4.79E-01 lb hr
NOX	9.9144 MMBtu hr	3.17 lb MMBtu	8760 hr yr	137.6575 TPY 3.14E+01 lb hr
SO2	9.9144 MMBtu hr	0.000588 lb MMBtu	8760 hr yr	0.0255 TPY 5.83E-03 lb hr
VOC	9.9144 MMBtu hr	0.12 lb MMBtu	8760 hr yr	5.2110 TPY 1.19E+00 lb hr
Formaldehyde	9.9144 MMBtu hr	0.052 lb MMBtu	8760 hr yr	2.2581 TPY 5.16E-01 lb hr

1. Assumed all PM is PM10.
2. Emission Factors are taken from AP-42 Table 3.2-1.

Emissions from Compressor Engine #3, Copley Run Compressor Station.

Pollutant	Unit Heat Input	Emission Factor²	Hours of Operation	Potential Emissions
CO	9.9144 MMbtu hr	0.386 lb MMbtu	8760 hr yr	16.7621 TPY 3.83E+00 lb hr
PM	9.9144 MMbtu hr	0.04831 lb MMbtu	8760 hr yr	2.0979 TPY 4.79E-01 lb hr
PM 10 ⁻¹	9.9144 MMbtu hr	0.04831 lb MMbtu	8760 hr yr	2.0979 TPY 4.79E-01 lb hr
NOX	9.9144 MMbtu hr	3.17 lb MMbtu	8760 hr yr	137.6575 TPY 3.14E+01 lb hr
SO2	9.9144 MMbtu hr	0.000588 lb MMbtu	8760 hr yr	0.0255 TPY 5.83E-03 lb hr
VOC	9.9144 MMbtu hr	0.12 lb MMbtu	8760 hr yr	5.2110 TPY 1.19E+00 lb hr
Formaldehyde	9.9144 MMbtu hr	0.052 lb MMbtu	8760 hr yr	2.2581 TPY 5.16E-01 lb hr

1. Assumed all PM is PM10.
2. Emission Factors are taken from AP-42 Table 3.2-1.

Emissions from Compressor Engine #4, Copley Run Compressor Station.

Pollutant	Unit Heat Input	Emission Factor²	Hours of Operation	Potential Emissions
CO	13.2192 MMBtu hr	0.386 lb MMbtu	8760 hr yr	22.3494 TPY 5.10E+00 lb hr
PM	13.2192 MMBtu hr	0.04831 lb MMbtu	8760 hr yr	2.7972 TPY 6.39E-01 lb hr
PM 10 ⁻¹	13.2192 MMBtu hr	0.04831 lb MMbtu	8760 hr yr	2.7972 TPY 6.39E-01 lb hr
NOX	13.2192 MMBtu hr	3.17 lb MMbtu	8760 hr yr	183.5433 TPY 4.19E+01 lb hr
SO2	13.2192 MMBtu hr	0.000588 lb MMbtu	8760 hr yr	0.0340 TPY 7.77E-03 lb hr
VOC	13.2192 MMBtu hr	0.12 lb MMbtu	8760 hr yr	6.9480 TPY 1.59E+00 lb hr
Formaldehyde	13.2192 MMBtu hr	0.052 lb MMbtu	8760 hr yr	3.0108 TPY 6.87E-01 lb hr

1. Assumed all PM is PM10.
2. Emission Factors are taken from AP-42 Table 3.2-1.

Emissions from Compressor Engine #5, Copley Run Compressor Station.

Pollutant	Unit Heat Input	Emission Factor²	Hours of Operation³	Potential Emissions
CO	9.9144 MMBtu hr	0.386 MMbtu	7709 hr yr	14.7510 TPY 3.83E+00 lb hr
PM	9.9144 MMBtu hr	0.04831 MMbtu	7709 hr yr	1.8462 TPY 4.79E-01 lb hr
PM 10 ⁻¹	9.9144 MMBtu hr	0.04831 MMbtu	7709 hr yr	1.8462 TPY 4.79E-01 lb hr
NOX	9.9144 MMBtu hr	3.17 MMbtu	7709 hr yr	121.1417 TPY 3.14E+01 lb hr
SO2	9.9144 MMBtu hr	0.000588 MMbtu	7709 hr yr	0.0225 TPY 5.83E-03 lb hr
VOC	9.9144 MMBtu hr	0.12 MMbtu	7709 hr yr	4.5858 TPY 1.19E+00 lb hr
Formaldehyde	9.9144 MMBtu hr	0.052 MMbtu	7709 hr yr	1.9872 TPY 5.16E-01 lb hr

1. Assumed all PM is PM10.
2. Emission Factors are taken from AP-42 Table 3.2-1.
3. Compressor #5 has a permit limit of 7,709 hours of operation per year.

Emissions from Glycol Dehydration Unit #1 Reboiler, Copley Run Compressor Station.

Pollutant	Unit Heat Input	Emission Factor²	Hours of Operation	Potential Emissions
CO	0.65 MMbtu hr	0.082352941 lb MMbtu	8760 hr yr	0.2345 TPY 5.35E-02 lb hr
PM	0.65 MMbtu hr	0.00745098 lb MMbtu	8760 hr yr	0.0212 TPY 4.84E-03 lb hr
PM 10 ¹	0.65 MMbtu hr	0.00745098 lb MMbtu	8760 hr yr	0.0212 TPY 4.84E-03 lb hr
NOX	0.65 MMbtu hr	0.098039216 lb MMbtu	8760 hr yr	0.2791 TPY 6.37E-02 lb hr
SO2	0.65 MMbtu hr	0.000588235 lb MMbtu	8760 hr yr	0.0017 TPY 3.82E-04 lb hr
VOC	0.65 MMbtu hr	0.005392157 lb MMbtu	8760 hr yr	0.0154 TPY 3.50E-03 lb hr
Formaldehyde	0.65 MMbtu hr	7.35294E-05 lb MMbtu	8760 hr yr	0.0002 TPY 4.78E-05 lb hr

1. Assumed all PM is PM10.
2. Emission Factors are taken from AP-42 Table 1.4-1 and 1.4-2 (7/98).

Emissions from Glycol Dehydration Unit #2 Reboiler, Copley Run Compressor Station.

Pollutant	Unit Heat Input	Emission Factor²	Hours of Operation	Potential Emissions
CO	1.67 MMbtu hr	0.082352941 lb MMbtu	8760 hr yr	0.6024 TPY 1.38E-01 lb hr
PM	1.67 MMbtu hr	0.00745098 lb MMbtu	8760 hr yr	0.0545 TPY 1.24E-02 lb hr
PM 10 ¹	1.67 MMbtu hr	0.00745098 lb MMbtu	8760 hr yr	0.0545 TPY 1.24E-02 lb hr
NOX	1.67 MMbtu hr	0.098039216 lb MMbtu	8760 hr yr	0.7171 TPY 1.64E-01 lb hr
SO2	1.67 MMbtu hr	0.000588235 lb MMbtu	8760 hr yr	0.0043 TPY 9.82E-04 lb hr
VOC	1.67 MMbtu hr	0.005392157 lb MMbtu	8760 hr yr	0.0394 TPY 9.00E-03 lb hr
Formaldehyde	1.67 MMbtu hr	7.35294E-05 lb MMbtu	8760 hr yr	0.0005 TPY 1.23E-04 lb hr

1. Assumed all PM is PM10.
2. Emission Factors are taken from AP-42 Table 1.4-1 and 1.4-2 (7/98).

Copley Storage GlyCalc Combined Emissions

GRI-GLYCalc VERSION 4.0 - COMBINED REGENERATOR VENT/FLASH GAS EMISSION CONTROL REPORT

Case Name: Copley Storage Dehy

File Name: H:\My Documents\GlyCalc\copley storage dehy - 2006 for Permit.ddf

Date: August 24, 2006

Component	Uncontrolled tons/yr	Controlled tons/yr	% Reduction
Methane	19.8435	0.3969	98.00
Ethane	15.8445	0.3169	98.00
Propane	16.3691	0.3274	98.00
Isobutane	5.1179	0.1024	98.00
n-Butane	12.1507	0.2430	98.00
Isopentane	5.5825	0.1116	98.00
n-Pentane	5.9250	0.1185	98.00
n-Hexane	3.8578	0.0772	98.00
Cyclohexane	4.5890	0.0918	98.00
Other Hexanes	4.1582	0.0832	98.00
Heptanes	21.5223	0.4304	98.00
Benzene	4.9872	0.0997	98.00
Toluene	20.4041	0.4081	98.00
Ethylbenzene	4.8095	0.0962	98.00
xylenes	29.6247	0.5925	98.00
Total Emissions	174.7861	3.4957	98.00
Total Hydrocarbon Emissions	174.7861	3.4957	98.00
Total VOC Emissions	139.0980	2.7820	98.00
Total HAP Emissions	63.6833	1.2737	98.00
Total BTEX Emissions	59.8254	1.1965	98.00

Copley Transmission GlyCalc Combined Emissions

GRI-GLYCalc VERSION 4.0 - COMBINED REGENERATOR VENT/FLASH GAS EMISSION CONTROL REPORT

Case Name: Copley Transmission Dehy

File Name: H:\My Documents\GlyCalc\copley transmission dehy - 2006 for Permit.ddf

Date: August 24, 2006

Component	Uncontrolled tons/yr	Controlled tons/yr	% Reduction
Methane	7.9791	0.3990	95.00
Ethane	6.1923	0.3096	95.00
Propane	7.0710	0.3535	95.00
Isobutane	2.1622	0.1081	95.00
n-Butane	5.0990	0.2550	95.00
Isopentane	2.3207	0.1160	95.00
n-Pentane	2.4364	0.1218	95.00
n-Hexane	1.5477	0.0774	95.00
Cyclohexane	1.7184	0.0859	95.00
Other Hexanes	1.6777	0.0839	95.00
Heptanes	8.3518	0.4176	95.00
Benzene	2.1741	0.1087	95.00
Toluene	9.4715	0.4736	95.00
Ethylbenzene	2.5643	0.1282	95.00
xylenes	18.2040	0.9102	95.00
Total Emissions	78.9703	3.9485	95.00
Total Hydrocarbon Emissions	78.9703	3.9485	95.00
Total VOC Emissions	64.7989	3.2399	95.00
Total HAP Emissions	33.9617	1.6981	95.00
Total BTEX Emissions	32.4139	1.6207	95.00

MONITORING, RECORDKEEPING, REPORTING, AND TESTING PLANS

Attachment O

Specific Monitoring, Testing, Recordkeeping and Reporting Methods

* Please reference R30-04100009-1996 compliance requirements for requirements for equipment NOT effected by proposed changes. The following are for Compressor 5, Dehy and Dehy Flare only.

Facility-wide

R30-04100009-1996 III.B.1.a.v:

As per provisions set forth in Section III of this permit or as otherwise required by the Secretary, in accordance with the West Virginia Code, underlying regulations, permits and orders, the permittee shall conduct test(s) to determine compliance with the emission limitations set forth in this permit and/or established or set forth in underlying documents. The Secretary, or his duly authorized representative, may at his option witness or conduct such test(s). Should the Secretary exercise his option to conduct such test(s), the operator shall provide all necessary sampling connections and sampling ports to be located in such manner as the Secretary may require, power for test equipment and the required safety equipment, such as scaffolding, railings and ladders, to comply with generally accepted good safety practices. Such tests shall be conducted in accordance with the methods and procedures set forth in Section III of this permit or as otherwise approved or specified by the Secretary in accordance with the following:

- (a) For emissions for which there are no applicable requirements within the permit, the Secretary for cause may require testing or monitoring to determine emissions of air pollutants or emissions from sources.
- (b) The Secretary may on a source-specific basis approve or specify additional testing or alternative testing to the test methods specified in the permit for demonstrating compliance with 40 C.F.R. Parts 60, 61, and 63 in accordance with the Secretary's delegated authority and any established equivalency determination methods which are applicable. If a testing method is specified or approved which effectively replaces a test method specified in the permit, the permit will be revised in accordance with C.S.R. § 45-30-6.4. or C.S.R. § 45-30-6.5 as applicable.
- (c) The Secretary may on a source-specific basis approve or specify additional testing or alternative testing to the test methods specified in the permit for demonstrating compliance with applicable requirements which do not involve federal delegation. In specifying or approving such alternative testing to the test methods, the Secretary, to the extent possible, shall utilize the same equivalency criteria as would be used in approving such changes under Section III.B.1.a.v.(b). If a testing method is specified or approved which effectively replaces a test method specified in the permit, the permit will be revised in

accordance with C.S.R. § 45-30-6.4. or C.S.R. § 45-30-6.5 as applicable.

All periodic tests to determine mass emission limits from or air pollutant concentrations in discharge stacks and such other tests as specified in Section III of this permit shall be conducted in accordance with an approved test protocol. Unless previously approved, such protocols shall be submitted to the Secretary in writing at least thirty (30) days prior to any testing and shall contain the information set forth by the Secretary. In addition, the permittee shall notify the Secretary at least fifteen (15) days prior to any testing so the Secretary may have the opportunity to observe such tests. This notification shall include the actual date and time during which the test will be conducted and, if appropriate, verification that the tests will fully conform to a referenced protocol previously approved by the Secretary. WV Code § 22-5-4(a)(15). C.S.R. § 45-13-6.1 (effective date August 31, 2000) and C.S.R. § 13 (effective date January 29, 2002 - Permit No. R13-2397 - Condition B.4.)

R30-04100009-1996 III.B.1.b.ii:

A source which has not operated at least 500 hours in one 12-month period within the previous five (5) year time period may be considered permanently shutdown, unless such source can provide to the Director, with reasonable specificity, information to the contrary. All permits may be modified or revoked and/or reapplication or application for new permits may be required for any source determined to be permanently shutdown. C.S.R. § 45-13-10.5. (effective date June 1, 2000). This permit condition shall become federally enforceable upon the Environmental Protection Agency's approval of this regulation as part of the State Implementation Plan.

R30-04100009-1996 III.B.2.a.ii:

The permittee is responsible for submitting, on an annual basis, an emission inventory in accordance with the submittal requirements of the Division of Air Quality. W.V. Code § 22-5-4(a)(14).

R30-04100009-1996 III.C.1: (C-005 exempt)

The permittee shall maintain a record of all odor complaints received. Such record shall be maintained on site five (5) years from the record creation date, containing an assessment of the validity of the complaints as well as any corrective actions taken. C.S.R. § 45-30-5.1.c. (effective date July 1, 2001).

Unit Specific

R30-04100009-1996 III.C.2: (Dehy Flare and Dehy(indirect heater))

Visual emission checks of each emission point specified shall be conducted monthly in accordance with 40 CFR 60 Appendix A Method 22. If during these checks or at any

other time visible emissions are observed at any emission point, compliance shall be determined by conducting tests in accordance with Method 9 of 40 C.F.R. 60, Appendix A (July 1, 1994) and taking corrective action within three days unless the permittee can demonstrate a valid reason that the time limit should be extended. Records shall be maintained on site for a period of no less than five (5) years stating the date and time of each visible emission check, the visible emissions survey results and, if appropriate, all corrective actions taken. C.S.R. § 45-30-5.1.c. (effective date July 1, 2001).

R30-04100009-1996 III.E.1: (C-005, Dehy Flare and Dehy(indirect heater))

The permittee shall burn natural gas meeting the FERC requirements exclusively for all combustion equipment.

R30-04100009-1996 III.C.3: (C-005)

At a minimum of once per year, sample and analyze the inlet gas stream to station utilizing gas chromatography for the presence of total sulfur. Proof of compliance with the FERC limit for a total sulfur of 20 grains/100ft³ will be considered demonstration of compliance with the requirements specified in Section III.B.2.a.iv. of this permit. Records shall be maintained on site for a period of no less than five (5) years stating the date and time of the analysis and the amount of sulfur in the gas stream. The permittee shall only burn natural gas meeting FERC requirements as stated in Section III.E. of this permit. C.S.R. § 45-30-5.1.c. (effective date July 1, 2001).

R30-04100009-1996 III.C.4: (C-005)

At a minimum of once per year, sample and analyze the inlet gas stream to the station utilizing gas chromatography for the presence of H₂S. Proof of compliance with the FERC limit of 0.25 grains/100ft³ will be considered demonstration of compliance with the requirement specified in Section III.B.2.a.v. of this permit. Records shall be maintained on site for a period of no less than five (5) years stating the date and time of the analysis and the amount of hydrogen sulfide in the gas stream. The permittee shall only burn natural gas meeting FERC requirements as stated in Section III.E. of this permit. C.S.R. § 45-30-5.1.c. (effective date July 1, 2001).

***** Remove******* R30-04100009-1996 III.C.5: (C-005)

The permittee shall demonstrate compliance with the CO and NO_x emissions limit by testing the engine exhaust using a portable analyzer on a quarterly basis. Records of the test results and test dates shall be maintained on site for a period of at least five (5) years and shall be made available to any authorized representative of the Secretary, upon the presentation of credentials. C.S.R. § 45-30-5.1.c. (effective date July 1, 2001)

R30-04100009-1996 III.C.6: (C-005)

The engine shall be operated and maintained in accordance with the manufacturer's recommendations and specifications and in a manner consistent with good operating practices and shall only burn natural gas as stated in Section III.E. of this permit. C.S.R. § 45-30-5.1.c. (effective date July 1, 2001)

R30-04100009-1996 III.B.2.a.vii: (C-005)

The compressor engine identified in permit application R13-2397 as CE-5 shall not operate more than 7,709 hours per year. In order to determine compliance with this limit, the permittee shall keep certified daily records of the number of hours the engine operates. These records shall be maintained on site for a period of no less than five (5) years. C.S.R. § 45-13 (effective date January 29, 2002 - Permit No. R13-2397 - Condition A.4.).

*** Remove***** R30-04100009-1996 III.C.7: (Dehy Flare)

At a minimum of once per month during months when the dehydration unit is in operation, sample and analyze the inlet and outlet gas streams of the dehydration unit utilizing Gas Chromatography for the presence of sulfur. The dehydrator flowrate and sulfur content of each stream will be used to determine the sulfur content of the stream going to the flare in grains. The sulfur content (test result) going to the flare will be used along with the following equations to determine compliance with the 2000 ppmv SO₂ limit:

Equation 1:

$$\frac{lbSO_2}{MMBtu} = \left(\frac{testresultgrS}{100 * flareflowdscf} \right) * \left(\frac{1lb}{7000grS} \right) * \left(\frac{1ft^3fuel}{1000Btu} \right) * \left(\frac{2lbSO_2}{1lbS} \right) * \left(\frac{10^6Btu}{MMBtu} \right)$$

Equation 2:

$$\frac{ft^3SO_2}{MMBtu} = \left(\frac{lbSO_2}{MMBtu} \right) * \left(\frac{1lb - moleSO_2}{64lbSO_2} \right) * \left(\frac{385.1ft^3SO_2}{1lb - mole} \right)$$

Equation 3 - Method 19:

$$\frac{8710dscf}{10^6Btu} * \left(\frac{20.9\%O_2}{20.9\%O_2 - 9.01\%XSO_2} \right) = 15,310.3 \frac{dscf}{10^6Btu}$$

Equation 4:

$$ppmSO_2 = \left(\frac{ft^3SO_2}{MMBtu} \right) * \left(\frac{10^6Btu}{15,310.3dscf} \right) * (10^6)$$

Records shall be maintained on site stating the date and sulfur content of the gas sampled and the above outlined calculation procedure. The Division of Air Quality may alter the frequency of the sampling and analysis based on the results of the compliance demonstration. C.S.R. § 45-30-5.1.c. (effective date July 1, 2001) and C.S.R. § 45-13 (effective date January 29, 2002 - Permit No. R13-2397 - Condition B.6.). (Dehy Flare and Dehy: 004-01 & 004-02 in R13-2397)..

R30-04100009-1996 III.C.8: (Dehy Flare)

At a minimum of once per month during months when the dehydration unit is in operation, sample and analyze the inlet and outlet gas streams of the dehydration unit utilizing Gas Chromatography for the presence of H₂S. The dehydrator flowrate and H₂S content of each stream will be used to determine the H₂S content of the stream going to the flare in grains. The grains/hr of H₂S shall then be divided by 100 times the flare flow in dscf/hr to give grains of H₂S/100 ft³. Proof of compliance with the 50 grains/100ft³ limit will be considered demonstrated if the above outlined calculation procedure results in a total H₂S content of 50 grains/100 ft³ or less for the stream going to the flare. Records shall be maintained on site stating the date and hydrogen sulfide content of the gas sampled as well as the above calculations. The Division of Air Quality may alter the frequency of the sampling and analysis based on the results of the compliance demonstration. C.S.R. § 45-30-5.1.c. (effective date July 1, 2001) and C.S.R. § 45-13 (effective date January 29, 2002 - Permit No. R13-2397 - Condition B.7.). (Dehy Flare and Dehy: 004-01 & 004-02 in R13-2397).

R30-04100009-1996 III.C.9: (Dehy Flare, Dehy)

On the fifteenth day of each month the permittee shall calculate an average hourly emission rate for the previous month in pounds per hour using GRI-GLYCALC for VOC, GRI-HAPCALC for HAPs, and the amount of natural gas to the dehy and the equations listed below for NO_x and CO:

For 004-01: NO_x: 0.9 lbs/hr x hours operated per month x 1/2000 tons/lb
CO: 0.26 lbs/hr x hours operated per month x 1/2000 tons/lb

For 004-02: NO_x: 0.9 lbs/hr x hours operated per month x 1/2000 tons/lb
CO: 0.29 lbs/hr x hours operated per month x 1/2000 tons/lb

The calculated monthly rate shall be converted to an average hourly emission rate by dividing by the number of operating hours in the previous month. A twelve month running total shall be maintained to verify compliance with the annual emission limitations. Each month a new twelve month total shall be calculated using the previous twelve months data. Records shall be maintained on site for a period of no less than five (5) years stating the date and results of the calculations. C.S.R. § 45-30-5.1.c. (effective date July 1, 2001)

R30-04100009-1996 III.C.10: (Dehy Flare, Dehy)

For the purpose of determining compliance with emission limitations set forth in Section III.B.2.a.vi. of this permit, the permittee shall maintain daily and annual records of the dehydrator unit's operating hours and natural gas flow. The permittee shall also maintain records of any maintenance performed on the equipment. These records shall be maintained on site for a period of five (5) years. C.S.R. § 45-30-5.1.c. (effective date July 1, 2001)

R30-04100009-1996 III.C.11: (Dehy Flare, Dehy)

For the purpose of determining compliance with the combined emissions limits for the dehy flare, dehy and engine, the permittee shall add the emissions calculations and portable analyzer results for NOx, CO and VOC. A twelve month running total shall be maintained to verify compliance with the annual emission limitations. Each month a new twelve month total shall be calculated using the previous twelve months data. Records shall be maintained on site for a period of no less than five (5) years stating the date and results of the calculations. C.S.R. § 45-30-5.1.c. (effective date July 1, 2001)

ATTACHMENT P

PUBLIC NOTICE

ATTACHMENT R

AUTHORITY FORMS

**AUTHORITY OF CORPORATION
OR OTHER BUSINESS ENTITY (DOMESTIC OR FOREIGN)**

TO: The West Virginia Department of Environmental Protection,
Division of Air Quality

DATE: _____, _____

ATTN.: Director

Corporation's / other business entity's Federal Employer I.D. Number _____

The undersigned hereby files with the West Virginia Department of Environmental Protection, Division of Air Quality, a permit application and hereby certifies that the said name is a trade name which is used in the conduct of an incorporated business or other business entity.

Further, the corporation or the business entity certifies as follows:

(1) _____ (is/are) the authorized representative(s) and in that capacity may represent the interest of the corporation or the business entity and may obligate and legally bind the corporation or the business entity.

(2) The corporation or the business entity is authorized to do business in the State of West Virginia.

(3) If the corporation or the business entity changes its authorized representative(s), the corporation or the business entity shall notify the Director of the West Virginia Department of Environmental Protection, Division of Air Quality, immediately upon such change.

President or Other Authorized Officer
(Vice President, Secretary, Treasurer or other official in charge of a principal business function of the corporation or the business entity)

(If not the President, then the corporation or the business entity must submit certified minutes or bylaws stating legal authority of other authorized officer to bind the corporation or the business entity).

Secretary

Name of Corporation or business entity