

ADEQ OPERATING AIR PERMIT

Pursuant to the Regulations of the Arkansas Operating Air Permit Program, Regulation #26:

Permit #: 871-AOP-R0

IS ISSUED TO:

Whiting Petroleum Corp. - Magnolia MSPU Plant
900 Columbia Road #25
Magnolia, AR 71753
Columbia County
CSN: 14-0004

THIS PERMIT AUTHORIZES THE ABOVE REFERENCED PERMITTEE TO INSTALL, OPERATE, AND MAINTAIN THE EQUIPMENT AND EMISSION UNITS DESCRIBED IN THE PERMIT APPLICATION AND ON THE FOLLOWING PAGES. THIS PERMIT IS VALID BETWEEN:

December 3, 2001 and December 2, 2006

AND IS SUBJECT TO ALL LIMITS AND CONDITIONS CONTAINED HEREIN.

Signed:

Keith A. Michaels

Date Amended

SECTION I: FACILITY INFORMATION

PERMITTEE: Whiting Petroleum Corp. - Magnolia
MSPU Plant

CSN: 14-0004
PERMIT NUMBER: 871-AOP-R0

FACILITY ADDRESS: 900 Columbia Road #25
Magnolia, AR 71753

COUNTY: Columbia

CONTACT POSITION: Mr. Charles Evans, Senior Operations
Supervisor

TELEPHONE NUMBER: (870) 234-4022

REVIEWING ENGINEER: David Triplett

UTM North-South (Y): Zone 15 [3681.6]

UTM East-West (X): Zone 15 [478.6]

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SECTION II: INTRODUCTION

Summary:

Whiting Petroleum Corp owns and operates the Magnolia Smackover Pool Unit (MSPU) plant located at 900 Columbia Road, #25 in Magnolia, Arkansas. This facility processes sour natural gas extracted from the Smackover Reservoir. This plant is a sweetening (H₂S removal) and natural gas liquid removal facility. This will be the initial Title V Operating Air Permit for this facility. This permit will limit the facility to operating below the PSD significance levels for all criteria pollutants. This will primarily be accomplished by limiting the amount of sour gas that can be flared off in the main plant flare. A catalytic converter and air-to-fuel ratio (A/F) controllers will be installed on SN-13 in order to control emissions.

Process Description:

The MSPU gas plant is a modern technology operation. The unit consists of approximately 68 active wells completed in the Smackover reservoir at a depth of 7,300 feet. The primary production phase is sour crude oil. Along with the crude oil, associated sour natural gas is also produced. The gas has an H₂S content of about 60,000 ppm (6 volume percent). The gas plant, which is centrally located within the unit boundaries, is a sweetening (removal of H₂S) and natural gas liquid (removal of NGL) processing facility. The gas plant can also process sweet natural gas from wells located outside the Smackover reservoir.

Operating Scenarios:

Operating Scenario No. 1:

The normal operating scenario for the MSPU consists of the following steps:

- Inlet separation of the sour gas;
- Compression of the sour gas; and
- Sell the sour gas to an off-site gas processing plant. Currently the Albemarle Gas Plant buys the sour gas.

Operating Scenario No. 2:

The second operating scenario for the MSPU consists of the following steps:

- Inlet separation of the sour gas;
- Compression of the sour gas;

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- Sweetening of the sour gas in the amine unit;
- Subsurface reinjection of the acid gas stream from the amine unit;
- Gas dehydration and natural gas liquids (NGL) recovery; and
- Utilize sweetened gas for fuel and flare excess.

Operating Scenario No. 3:

The third operating scenario for the MSPU consists of the following steps:

- Inlet separation of the sour gas;
- Flaring the sour gas to the main plant flare.

Inlet Separation/Compression:

There are two sources of natural gas, which provide the feedstock for the MSPU gas plant. The first source originates from the various MSPU wells operated by Whiting. This gas is considered “moderately sour”, and contains about 6 percent H₂S and about 8 percent CO₂ (Carbon Dioxide). Potential additional gas feed sources are Whiting and non-Whiting operated wells producing from other zones that are slightly sour with 0.5% H₂S and 2% CO₂ or less.

The first major step in the processing of the above gases is to knock out any entrained liquids and compress the gasses to a pressure high enough for treating. The MSPU gas is brought into the plant through two parallel free water knockout drums in the production area. Here, any free water or liquid hydrocarbons present in the stream fall out and are routed to water disposal or to the crude tank (SN-15). The crude tank is a 20,000 BBL oil storage tank. This tank has a vapor recovery system that routes the emissions to the suction of compressor K-1E. There are no atmospheric vents on the tank, therefore there are no emissions from the tank to the atmosphere. The backup crude oil tank (SN-16) is a 1,500 BBL oil storage tank that only operates if the crude tank is out of service. Emissions from the backup tank are also routed to the vapor recovery system.

The gas then exits the two drums, combines together, and flows to the inlet gas slug catcher, V-2A, which is very useful for providing surge volume during pipeline pigging operations in which large slugs of liquid are brought in with increased volumes of gas. V-2A provides a second line of defense against liquids being brought into the inlet compressor suction. Liquids from this drum are routed to the 210 BBL plant slops tank (SN-17). Emissions from this tank are routed to the vapor recovery system.

The K-1E compressor (SN-13) compresses the combined gas stream from about 15 psig to about 68psig. The K-1B compressor (SN-09) can be used as a backup for the K-1E compressor during

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Operating Scenario No. 1 (Sales to Albemarle). It cannot be used for Operating Scenario No. 2 (Sweetening/NGL Extraction).

Amine Sweetening/Regeneration:

During periods when sour gas is not sent to an off-site gas processing plant or flared, the sour gas passes through a filter separator to remove fine particles and then flows to the amine contactor, V-102. The amine contactor is a 20-tray column in which a 30 weight percent solution of DEA/water flows from top to bottom. The gas entering the column enters below the bottom tray and travels up through the 20 trays, making contact with the amine solution on each tray. As the gas contacts the amine solution, practically all of the H₂S and CO₂ in the gas is chemically absorbed by the amine. These acid gas components are carried out in the bottom of the column with the amine solution. The gas leaving the top of the contactor is now considered “sweet” due to the removal of the acid gas components. When the gas leaves the contactor, it passes through outlet scrubber, V-103, to help recapture any amine solution which may have carried over with the gas. The recaptured liquid is combined with the amine solution leaving the bottom of the contactor. The gas from V-103 now flows on to the next section of the plant for further treating.

The amine solution leaving the bottom of the amine contactor is loaded with acid gas components and thus is termed “rich” amine. The rich amine flows from the contactor to the amine flash tank, V-104, on level control. The flash drum is a horizontal separator which contains an internal “bucket” section that collects hydrocarbon skimmings from the top of the amine solution. The drum is pressure regulated at a pressure lower than that of the upstream contactor. Some small portion of the dissolved gases in the amine solution will flash out at this lower pressure. These gases are vented to the plant flare (SN-01). The hydrocarbon liquids from the drum are normally routed to the slops system and the rich amine flows on level control to the lean/rich heat exchanger.

The rich amine flows to the top of the amine stripper/reflux accumulator, V-107, where acid gas components are stripped from the amine solution. By the time the amine solution reaches the bottom of the column, it contains very little acid gas and is considered to be lean amine. The lean amine collects briefly in the liquid sump below the bottom tray of the column and then it flows by gravity to E-104, a steam heated reboiler. The vapor produced by the reboiler enters the stripper below the bottom tray and travels up the column. When the vapor reaches the top of the column, it contains all of the acid gas components stripped from the amine. The vapor leaves the stripping column, flows through the reflux condenser, E-103, where the water vapor portion is condensed, and passes on to the lower reflux accumulator drum. The liquid collected in this drum is totally recycled or “refluxed” back to the amine feed line to the stripper. The acid gas flows from the top of the reflux drop to the rotary screw compressor skid for compression into

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the 6M water line.

The lean amine which accumulates in the surge drum portions of E-104 is pumped through a heat exchanger from V-104 and then through an air cooled heat exchanger. The lean amine is then filtered through the mechanical filter for particulate removal and the carbon filter for removal of organic impurities in the amine. The lean amine then enters the top of the contactor and the amine circulation loop is complete.

Acid Gas Compression and Reinjection:

Acid gas at 7-10 psig, approximately 60% CO₂ and 40% H₂S, flows from the regenerator to the suction scrubber on the acid gas compressor skid. The scrubber provides a holding volume for any entrained liquids that might flow overhead with the acid gas. Collected liquids are pumped back to the amine stripper.

Acid gas leaving the scrubber overhead flows to the rotary screw compressor. This type of compressor is well-suited to small flows and small rises in pressure. Its stainless steel rotor is impervious to wet, sour gas. The compressor compresses the gas from suction pressure to approximately 125 psig, which is high enough to flow into the existing 6M water line.

Compressed gas flows through a ten-gallon lube oil recovery pot. Recovered compressor lube oil is recycled back to the compressor as lube oil. The acid gas then flows to the 6M water line.

The 6M water line handles 2500-3000 BPD of brine water. Compressed acid gas will flow into this water line, and immediately into an inline, stationary mixer element. Inline mixing ensures that the acid gas will dissolve in the brine water. The resulting mixture flows to the injection well, thus safely disposing of all the acid gas.

Gas Dehydration/NGL Recovery:

The purpose of the NGL (Natural Gas Liquids) area of the plant is to cool the gas to low enough temperatures where a majority of the propane and heavier hydrocarbons can be removed as a liquid product. The gas is also dehydrated to remove enough water to meet sales gas moisture specifications and prevent freeze-ups in the NGL unit.

The sweet, compressed gas from the amine contactor enters the NGL area by flowing into the free water knockout drum, V-10, where any condensed liquids in the gas stream can disengage and collect. The gas leaving the top of V-10 flows on to the shell side of the gas/gas exchanger, E-10. At the inlet to the heat exchanger, a small stream of ethylene glycol absorbs moisture from the gas stream and keeps it from freezing out as the gas stream begins cooling down by

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exchanging heat with the cold gas coming from the gas/liquid separator, V-20. As the gas cools down, hydrocarbons condense out of the gas stream. The two-phase stream exits E-10 and flows on to the gas chiller, E-20, where it continues to cool down by exchanging heat with vaporizing propane from the refrigeration system. A second stream of ethylene glycol is injected into the gas stream at the chiller to provide additional protection from water freeze-up. When the two-phase stream exits the chiller, it has been cooled to about -10°F and a substantial amount of hydrocarbons have been condensed. The gas/liquid mixture then enters V-20 where the gas separates from the liquid. The gas leaving V-20 becomes the plant sales gas stream or “residue gas”. It travels through E-10, exchanging heat with the incoming gas, on its way to the sales gas pipeline. A portion of the residue gas is used within the plant as a fuel gas by various fuel gas consumers and a portion is also used by MSPU field units. The excess gas is normally flared in the main plant flare (SN-01).

The liquid collected at the bottom of V-20 is actually a two-phase mixture. There is a lighter hydrocarbon phase mixed with a heavier glycol/water phase. The mixture exits the bottom of V-20 and flows to the glycol/NGL separator V-30. This vessel is a liquid full drum which provides residence time for the two liquid phases to separate. The glycol/water mixture flows back to the glycol regeneration system (SN-05) and the hydrocarbons flow to T-10.

The basic purpose of T-10 is to produce a “stabilized” NGL product mix. The column is a 16-tray reboiled stripper type column which makes a crude split between propane and heavier hydrocarbons and ethane and lighter hydrocarbons. The ethane and lighter vapor product from the column overhead is recycled back to the suction of K-1E. The propane and heavier NGL product liquid stream leaves the bottom of T-10, is cooled in the NGL product cooler, AE-10, and flows to the NGL storage tanks V-600/V-700 (SN-11 and SN-12) for product storage. These are bullet tanks storing condensate under 80-85 psig. Thus, emissions are not anticipated from these tanks. The NGL product is periodically pumped out of V-600/V-700 to tank trucks at NGL loading rack, Z-10, for removal from the plant. It is sometimes necessary to depressurize the tank trucks to the main plant flare (SN-01).

The “wet” glycol stream from the bottom of V-30 is pressured back to the glycol regeneration system. The purpose of the regeneration system is to boil off the water absorbed from the gas stream to restore the glycol to its “dry” state for reuse. The wet glycol flows through an exchanger where the cold, wet glycol exchanges heat with the dry, hot glycol from the glycol regenerator, H-10, and then passes through the glycol filter, where any solids present in the stream are filtered out. When the glycol exits the filter, it flows to the top of the packed column section of H-10 where water is stripped from the glycol. The water vapor is discharged to the atmosphere through a vent line (SN-05) and the stripped glycol falls into the heating section. The heating section is a horizontal vessel containing a looped fire tube. On the front end of the fire tube is a gas-fired burner (SN-07) which is controlled by temperature control of the bulk

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glycol. The hot combustion gases travel through the fire tube, supply heat to the surrounding glycol, and exit through the stack on the tail end of the fire tube.

The hot, stripped glycol passes out of the heating section through a vertical overflow pipe which maintains the liquid level in the vessel. It then flows through the tube side of E-40, where it exchanges heat with the cold, incoming glycol. The cooled glycol exits the exchanger and collects in the surge tank. Glycol is pumped from the surge tank, through a coil in V-30 for additional cooling, and reinjected at the injection points mentioned previously. Thus, the glycol dehydration loop is complete.

Plant Flares:

The MSPU plant flare system consists of three flares; the main plant flare (SN-01), the 5-L flare (SN-18), and the horizontal flare (SN-19). The 5-L flare and the horizontal flare are used to collect gas streams from pressure relief valves. Typical emissions from those two flares consist of products of combustion from burning sweet natural gas in the pilots. The main plant flare handles both routine process vents and pressure relief valves. The different operating scenarios for the main plant flare are discussed below.

Main Plant Flare - Operating Scenario No. 1:

Under normal operation, the main plant flare will receive the following vents:

- Sweet natural gas used to burn in the flare pilot;
- Vents from pressure relief valves.

Main Plant Flare - Operating Scenario No. 2:

Under Operating Scenario No. 2, the following vents will be routed to the main plant flare (SN-01):

- Sweet natural gas used to burn in the flare pilot;
- The overhead vent from the amine flash tank;
- Emissions from depressurizing natural gas liquid storage trucks prior to loading;
- Sweetened gas from the NGL extraction area;
- Vents from pressure relief valves.

Main Plant Flare - Operating Scenario No. 3:

During occasions when the downstream buyer of gas, Albemarle, is shutdown, it may be

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necessary to flare the sour gas received at the plant. The flaring of sour gas will be limited so that the total plantwide emissions of SO₂ will be less than 240 tons per year.

Steam Boiler:

The steam generation system at the MSPU gas plant produces 50psig steam for use in regenerating rich amine, heat tracing pipelines, and various other maintenance and operational uses. The steam boiler only operates under Operating Scenario No. 2. The ABCO boiler (SN-02) produces as much steam as is necessary to maintain the steam line at 50 psig. It is a forced draft, sweet natural gas-fired, fire-tube type package boiler rated at 4.7 MMBtu/hr.

BACT Analysis

Consent Administrative Order #99-232 issued by the Department requires that Whiting Petroleum install and operate BACT controls on all of the compressor engines operating on-site at the facility. These engines were installed in 1988 and 1989. Since compressor K-1b is now designated as a back-up unit to the main compressor, and is limited to no more than 500 hours of operation, no control is proposed for this unit at this time. Compressor K-1d is no longer operational at the facility. Compressor K-1E is the only compressor which will be operated full-time, and thus requiring BACT controls.

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Based on an analysis of the EPA BACT/LAER control technology database, it was proposed that the BACT for the K-1E compressor was proposed to be the use of a catalytic converter and Air to Fuel (A/F) ratio controllers. This level of control would result in emissions of:

NO_x: 2.0 g/BHP-HR
CO: 3.0 g/BHP-HR
VOC: 1.0 g/BHP-HR

This is consistent with other compressor engines of this size which were permitted in the 1988-1989 time period. A/F ratio controllers and catalytic conversion will be accepted as BACT for this unit by the Department.

Regulations

This facility is subject to Regulation under the *Arkansas Air Pollution Control Code* (Regulation 18), the *Arkansas Plan of Implementation for Air Pollution Control* (Regulation 19), and the *Arkansas Operating Air Permit Program* (Regulation 26). Additionally, the facility is subject to regulation under 40 CFR Part 60 Subpart KKK - *Standards of Performance for Equipment Leaks from Onshore Natural Gas Processing Plants*. The facility is also subject to the standards of §§60.482-1(a), (b), and (d), and 60.482-2 through 60.482-10 of 40 CFR Part 60 Subpart VV - *Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry*.

The facility is not subject to 40 CFR Part 60 Subpart LLL - *Standards of Performance for Onshore Natural Gas Processing, SO₂ Emissions* due to the fact that the acid gas is re-injected back into the ground.

The following table is a summary of emissions from the facility. Specific conditions and emissions for each source can be found starting on the page cross referenced in the table. This table, in itself, is not an enforceable condition of the permit.

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EMISSION SUMMARY					
Source No.	Description	Pollutant	Emission Rates		Cross Reference Page
			lb/hr	tpy	
Total Allowable Emissions		PM	1.3	3.5	
		PM ₁₀	1.3	3.5	
		SO ₂	642.2	240.3	
		VOC	39.9	46.7	
		CO	67.4	98.8	
		NO _x	30.4	31.4	
		3-Methyl Pentane	0.36	1.11	
		N-Hexane	0.88	2.81	
		Benzene	0.96	0.30	
		Toluene	0.35	0.31	
		Ethyl Benzene	0.10	0.12	
		Xylene	0.05	0.06	
01	Main Plant Flare	PM	0.3	1.0	16
		PM ₁₀	0.3	1.0	
		SO ₂	577.4	235.5	
		VOC	28.5	11.9	
		CO	42.1	77.6	
		NO _x	8.0	14.7	
		3-Methyl Pentane	0.15	0.64	
		N-Hexane	0.35	1.42	
		Benzene	0.76	0.12	
		Toluene	0.06	0.17	
		Ethyl Benzene	0.07	0.06	
		Xylene	0.02	0.02	
02	Auxiliary Boiler	PM	0.1	0.2	19
		PM ₁₀	0.1	0.2	
		SO ₂	0.1	0.3	
		VOC	0.1	0.2	
		CO	0.4	1.7	
		NO _x	0.5	2.1	

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EMISSION SUMMARY					
Source No.	Description	Pollutant	Emission Rates		Cross Reference Page
			lb/hr	tpy	
05	Dehydrator - Moisture Vent	VOC	1.8	7.8	21
		N-Hexane	0.01	0.04	
		Benzene	0.15	0.06	
		Toluene	0.24	0.01	
		Ethyl Benzene	0.01	0.01	
		Xylene	0.01	0.01	
07	Dehydrator - Combustion Vent	PM	0.1	0.1	23
		PM ₁₀	0.1	0.1	
		SO ₂	0.1	0.1	
		VOC	0.1	0.1	
		CO	0.1	0.4	
		NO _x	0.1	0.4	
09	Inlet Gas - Compressor K-1B	PM	0.1	0.1	25
		PM ₁₀	0.1	0.1	
		SO ₂	0.1	0.1	
		VOC	0.2	0.1	
		CO	19.1	4.8	
		NO _x	19.1	4.8	
13	Inlet Gas - Compressor K-1E	PM	0.1	0.1	27
		PM ₁₀	0.1	0.1	
		SO ₂	0.1	0.3	
		VOC	1.1	4.6	
		CO	3.2	13.8	
		NO _x	2.1	9.2	
14	Fugitive Sources	VOC	5.0	21.7	30
		3-Methyl Pentane	0.11	0.46	
		N-Hexane	0.31	1.33	
		Benzene	0.03	0.11	
		Toluene	0.03	0.12	
		Ethyl Benzene	0.01	0.04	
		Xylene	0.01	0.02	

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EMISSION SUMMARY					
Source No.	Description	Pollutant	Emission Rates		Cross Reference Page
			lb/hr	tpy	
18	5-L Flare	PM	0.3	1.0	32
		PM ₁₀	0.3	1.0	
		SO ₂	0.1	0.1	
		VOC	0.1	0.1	
		CO	0.1	0.2	
		NO _x	0.1	0.1	
19	Horizontal Flare	PM	0.3	1.0	34
		PM ₁₀	0.3	1.0	
		SO ₂	64.3	3.9	
		VOC	3.0	0.2	
		CO	2.4	0.3	
		NO _x	0.5	0.1	
		3-Methyl Pentane	0.10	0.01	
		N-Hexane	0.21	0.02	
		Benzene	0.02	0.01	
		Toluene	0.02	0.01	
		Ethyl Benzene	0.01	0.01	
		Xylene	0.01	0.01	

Table Amended

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SECTION III: PERMIT HISTORY

Permit No. 871-A was issued to ARKLA, Inc. on January 12, 1988. This was the initial SIP air permit for the new natural gas treating plant to be installed in Magnolia, Arkansas. Lb/hr emission rate limits and opacity limits were established in this initial permit.

Permit No. 872-AR-1 was issued to ARCO Oil and Gas Company on June 14, 1988. This modification was issued in order to allow for the transfer of ownership from ARKLA to ARCO. No changes in operation at the facility occurred with this modification.

Permit No. 872-AR-2 was issued to ARCO Oil and Gas Company on March 29, 1989. This modification was issued in order to allow for the installation of a new Waukesha 476 HP compressor engine in order to reduce the number of plant shutdowns due to compressor failure.

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SECTION IV: EMISSION UNIT INFORMATION

SN-01

Source Name

Main Plant Flare

Source Description

This is the main plant flare. This flare is used to flare off any unused sweetened or sour natural gas produced by the plant, as well as for burning off the vapors produced by depressurising of the NGL trucks and the vapors produced in the amine flash tank.

Specific Conditions

1. Pursuant to §19.501 et seq of the Regulations of the Arkansas Plan of Implementation for Air Pollution Control (Regulation #19) effective February 15, 1999 and 40 CFR Part 52, Subpart E, the permittee shall not exceed the emission rates set forth in the following table. Compliance with this condition will be demonstrated by compliance with Specific Condition #5 and Specific Condition #8.

Pollutant	lb/hr	tpy
PM ₁₀	0.3	1.0
SO ₂	577.4	235.5
VOC	28.5	11.9
CO	42.1	77.6
NO _x	8.0	14.7

2. Pursuant to §18.801 of the Arkansas Air Pollution Control Code (Regulation #18) effective February 15, 1999, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, the permittee shall not exceed the emission rates set forth in the following table. Compliance with this condition will be demonstrated by compliance with Specific Condition #5.

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Pollutant	lb/hr	tpy
PM	0.3	1.0
3-Methyl Pentane	0.15	0.64
N-Hexane	0.35	1.42
Benzene	0.76	0.12
Toluene	0.06	0.17
Ethyl Benzene	0.07	0.06
Xylene	0.02	0.02

3. Pursuant to §18.501 of Regulation 18, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, the permittee shall not cause to be discharged to the atmosphere from the Main Plant Flare (SN-01) an opacity greater than 10%.
4. Pursuant to §19.705 of Regulation 19, and 40 CFR Part 52, Subpart E, weekly observations of the opacity from source SN-01 shall be conducted by a person trained, but not necessarily certified in EPA Reference Method 9. This shall be a simple yes/no check as to the presence of visible emissions. If visible emissions appear, the permittee shall immediately take action to identify the cause of the excess visible emissions, implement corrective action, and document that visible emissions do not appear to be in excess of the permitted opacity following the corrective action. A full EPA Reference Method 9 observation shall be used to document that emissions are below the permitted opacity following the corrective action. The permittee shall maintain records of any visible emissions which appeared to be in excess of the permitted opacity, the corrective action taken, and if visible emissions were present following the corrective action. These records shall be kept on site and made available to Department personnel upon request.
5. Pursuant to §19.901 et seq of Regulation 19 and 40 CFR Part 52 Subpart E, the permittee shall not send more than 43,333,337 ft³ of natural gas to the flare during any consecutive 12-month period.
6. Pursuant to §19.901 et seq of Regulation 19, A.C.A. §8-4-203 as referenced by §8-4-304

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and §8-4-311, and 40 CFR §70.6 the permittee shall maintain monthly records of the amount of sour natural gas routed to the main plant flare during the previous month. These records shall be updated by the 15th day of the month following the month to which the records pertain. A twelve month rolling total and each individual month's data shall be kept on-site and shall be made available to Department personnel upon request. These records shall be submitted to the Department in accordance with General Provision #7.

7. Pursuant to §19.705 of Regulation 19 and 40 CFR Part 52 Subpart E, the permittee shall test the inlet gas stream into the plant for H₂S concentration on a monthly basis. Records of the monthly H₂S test results shall be updated by the 15th day of the month following the month to which the records pertain. These records shall be maintained on-site and shall be made available to Department personnel upon request. These records shall be submitted to the Department in accordance with General Provision #7.
8. Pursuant to §19.705 of Regulation 19 and 40 CFR Part 52 Subpart E, the permittee shall calculate the monthly SO₂ emissions from sour gas flaring at the main plant flare. This calculation shall be performed based on an assumption that 100% of the H₂S present in the gas stream is converted to SO₂ in the flare. The H₂S concentration used shall be the concentration reported on that month's test results from the inlet gas stream into the plant. This calculation shall be performed by the 15th day of the month following the month to which the records pertain. Records of this calculation shall be updated monthly, maintained on-site, and shall be made available to Department personnel upon request. These records shall be submitted to the Department in accordance with General Provision #7.

SN-02
Source Name

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Auxiliary Boiler

Source Description

This ABCO Auxiliary Boiler is the swing boiler in the plant. It produces as much steam as is necessary to maintain the steam line pressure at 50 psig. It is a forced-draft, natural gas-fired, fire-tube type package boiler rated at 4.7 MMBTU/hr. Its continued operation is critical to the total plant operation. There is no back-up for this unit.

Specific Conditions

9. Pursuant to §19.501 et seq of the Regulations of the Arkansas Plan of Implementation for Air Pollution Control (Regulation #19) effective February 15, 1999 and 40 CFR Part 52, Subpart E, the permittee shall not exceed the emission rates set forth in the following table. Compliance with this condition will be demonstrated by compliance with Specific Condition #13.

Pollutant	lb/hr	tpy
PM ₁₀	0.1	0.2
SO ₂	0.1	0.3
VOC	0.1	0.2
CO	0.4	1.7
NO _x	0.5	2.1

10. Pursuant to §18.801 of the Arkansas Air Pollution Control Code (Regulation #18) effective February 15, 1999, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, the permittee shall not exceed the emission rates set forth in the following table. Compliance with this condition will be demonstrated by compliance with Specific Condition #13.

Pollutant	lb/hr	tpy
PM	0.1	0.2

11. Pursuant to §18.501 of Regulation 18, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, the permittee shall not cause to be discharged to the atmosphere from the

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Auxiliary Boiler (SN-02) an opacity greater than 10%.

12. Pursuant to §19.705 of Regulation 19, and 40 CFR Part 52, Subpart E, weekly observations of the opacity from source SN-02 shall be conducted by a person trained, but not necessarily certified in EPA Reference Method 9. This shall be a simple yes/no check as to the presence of visible emissions. If visible emissions appear, the permittee shall immediately take action to identify the cause of the excess visible emissions, implement corrective action, and document that visible emissions do not appear to be in excess of the permitted opacity following the corrective action. A full EPA Reference Method 9 observation shall be used to document that emissions are below the permitted opacity following the corrective action. The permittee shall maintain records of any visible emissions which appeared to be in excess of the permitted opacity, the corrective action taken, and if visible emissions were present following the corrective action. These records shall be kept on site and made available to Department personnel upon request.
13. Pursuant to §19.705 of Regulation 19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR §70.6, the permittee shall burn only natural gas at SN-02. The permittee shall maintain records of the amount of natural gas burned at SN-02 during each month. These records shall be kept on-site and shall be made available to Department personnel upon request. These records shall be submitted to the Department in accordance with General Provision #7.

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SN-05
Source Name

Dehydrator - Moisture Vent

Source Description

Natural gas is dehydrated to meet sales gas moisture specifications and prevent freeze-ups in the NGL unit. At the inlet to the heat exchanger, a small stream of ethylene glycol absorbs the moisture from the gas stream. The “wet” glycol stream is then regenerated. The purpose of this regeneration is to boil off the water absorbed from the gas stream to restore the glycol to its “dry” state for reuse. During the boil off, some NGL hydrocarbons are carried out along with the water vapor.

Specific Conditions

14. Pursuant to §19.501 et seq of the Regulations of the Arkansas Plan of Implementation for Air Pollution Control (Regulation #19) effective February 15, 1999 and 40 CFR Part 52, Subpart E, the permittee shall not exceed the emission rates set forth in the following table. Compliance with this condition will be demonstrated by compliance with Plantwide Condition #8.

Pollutant	lb/hr	tpy
VOC	1.8	7.8

15. Pursuant to §18.801 of the Arkansas Air Pollution Control Code (Regulation #18) effective February 15, 1999, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, the permittee shall not exceed the emission rates set forth in the following table. Compliance with this condition will be demonstrated by compliance with Plantwide Condition #8.

Pollutant	lb/hr	tpy
N-Hexane	0.01	0.04
Benzene	0.15	0.06
Toluene	0.24	0.01
Ethyl Benzene	0.01	0.01

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Pollutant	lb/hr	tpy
Xylene	0.01	0.01

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SN-07
Source Name

Dehydrator - Combustion Vent

Source Description

This source consists of the combustion emissions from the firing of a 700,000 BTU/hr natural gas burner for the dehydrator.

Specific Conditions

16. Pursuant to §19.501 et seq of the Regulations of the Arkansas Plan of Implementation for Air Pollution Control (Regulation #19) effective February 15, 1999 and 40 CFR Part 52, Subpart E, the permittee shall not exceed the emission rates set forth in the following table. Compliance with this condition will be demonstrated by burning only natural gas in the burner.

Pollutant	lb/hr	tpy
PM ₁₀	0.1	0.1
SO ₂	0.1	0.1
VOC	0.1	0.1
CO	0.1	0.4
NO _x	0.1	0.4

17. Pursuant to §18.801 of the Arkansas Air Pollution Control Code (Regulation #18) effective February 15, 1999, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, the permittee shall not exceed the emission rates set forth in the following table. Compliance with this condition will be demonstrated by burning only natural gas in the burner.

Pollutant	lb/hr	tpy
PM	0.1	0.1

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18. Pursuant to §18.501 of Regulation 18, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, the permittee shall not cause to be discharged to the atmosphere from the Dehydrator-Combustion Vent (SN-07) an opacity greater than 10%.
19. Pursuant to §19.705 of Regulation 19, and 40 CFR Part 52, Subpart E, weekly observations of the opacity from source SN-07 shall be conducted by a person trained, but not necessarily certified in EPA Reference Method 9. This shall be a simple yes/no check as to the presence of visible emissions. If visible emissions appear, the permittee shall immediately take action to identify the cause of the excess visible emissions, implement corrective action, and document that visible emissions do not appear to be in excess of the permitted opacity following the corrective action. A full EPA Reference Method 9 observation shall be used to document that emissions are below the permitted opacity following the corrective action. The permittee shall maintain records of any visible emissions which appeared to be in excess of the permitted opacity, the corrective action taken, and if visible emissions were present following the corrective action. These records shall be kept on site and made available to Department personnel upon request.
20. Pursuant to §19.705 of Regulation 19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR §70.6, the permittee shall burn only natural gas at SN-07.

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SN-09
Source Name

Inlet Gas Compressor K-1B

Source Description

The K-1B compressor is a 540 HP Waukesha natural gas engine driven unit which compresses the gas stream from about 7 psig to about 115 psig. This compressor is used only as a backup unit to the main compressor K-1E (SN-13)

Specific Conditions

21. Pursuant to §19.501 et seq of the Regulations of the Arkansas Plan of Implementation for Air Pollution Control (Regulation #19) effective February 15, 1999 and 40 CFR Part 52, Subpart E, the permittee shall not exceed the emission rates set forth in the following table. Compliance with this condition will be demonstrated by compliance with Specific Condition #23.

Pollutant	lb/hr	tpy
PM ₁₀	0.1	0.1
SO ₂	0.1	0.1
VOC	0.2	0.1
CO	19.1	4.8
NO _x	19.1	4.8

22. Pursuant to §18.801 of the Arkansas Air Pollution Control Code (Regulation #18) effective February 15, 1999, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, the permittee shall not exceed the emission rates set forth in the following table. Compliance with this condition will be demonstrated by compliance with Specific Condition #23.

Pollutant	lb/hr	tpy
PM	0.1	0.1

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23. Pursuant to §19.705 of Regulation 19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR §70.6, the permittee shall not operate the K-1B compressor (SN-09) for more than 500 hours during any consecutive 12-month period.
24. Pursuant to §19.705 of Regulation 19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR §70.6, the permittee shall maintain monthly records which demonstrate compliance with Specific Condition #23. These records shall be updated by the 15th day of the month following the month to which the records pertain. A twelve month rolling total and each individual month's data shall be kept on-site and shall be made available to Department personnel upon request. These records shall be submitted to the Department in accordance with General Provision #7.
25. Pursuant to §18.501 of Regulation 18, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, the permittee shall not cause to be discharged to the atmosphere from the Inlet Gas Compressor K-1B (SN-09) an opacity greater than 10%.
26. Pursuant to §19.705 of Regulation 19, and 40 CFR Part 52, Subpart E, weekly observations of the opacity from source SN-09 shall be conducted by a person trained, but not necessarily certified in EPA Reference Method 9. This shall be a simple yes/no check as to the presence of visible emissions. If visible emissions appear, the permittee shall immediately take action to identify the cause of the excess visible emissions, implement corrective action, and document that visible emissions do not appear to be in excess of the permitted opacity following the corrective action. A full EPA Reference Method 9 observation shall be used to document that emissions are below the permitted opacity following the corrective action. The permittee shall maintain records of any visible emissions which appeared to be in excess of the permitted opacity, the corrective action taken, and if visible emissions were present following the corrective action. These records shall be kept on site and made available to Department personnel upon request.

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SN-13
Source Name

Inlet Gas Compressor K-1E

Source Description

The K-1E compressor is a 476 HP Waukesha three-stage natural gas driven reciprocating unit containing one cylinder per stage. These higher stages of compression are required for further processing and to supply enough pressure head so that the finished sales gas stream can enter the sales gas pipeline. When operating under Scenario No. 2, the last stage of compression is necessary to process the gas for removal of H₂S and natural gas liquids. The emissions from this source are controlled through the use of a catalytic converter and Air to Fuel (A/F) ratio controllers.

Specific Conditions

27. Pursuant to §19.501 et seq of the Regulations of the Arkansas Plan of Implementation for Air Pollution Control (Regulation #19) effective February 15, 1999 and 40 CFR Part 52, Subpart E, the permittee shall not exceed the emission rates set forth in the following table. Compliance with this condition will be demonstrated by compliance with Specific Conditions #31 and #32.

Pollutant	lb/hr	tpy
PM ₁₀	0.1	0.1
SO ₂	0.1	0.3
VOC	1.1	4.6
CO	3.2	13.8
NO _x	2.1	9.2

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28. Pursuant to §18.801 of the Arkansas Air Pollution Control Code (Regulation #18) effective February 15, 1999, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, the permittee shall not exceed the emission rates set forth in the following table. Compliance with this condition will be demonstrated by burning only natural gas at this source.

Pollutant	lb/hr	tpy
PM	0.1	0.1

29. Pursuant to §18.501 of Regulation 18, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, the permittee shall not cause to be discharged to the atmosphere from the Inlet Gas Compressor K-1E (SN-13) an opacity greater than 10%.
30. Pursuant to §19.705 of Regulation 19, and 40 CFR Part 52, Subpart E, weekly observations of the opacity from source SN-13 shall be conducted by a person trained, but not necessarily certified in EPA Reference Method 9. This shall be a simple yes/no check as to the presence of visible emissions. If visible emissions appear, the permittee shall immediately take action to identify the cause of the excess visible emissions, implement corrective action, and document that visible emissions do not appear to be in excess of the permitted opacity following the corrective action. A full EPA Reference Method 9 observation shall be used to document that emissions are below the permitted opacity following the corrective action. The permittee shall maintain records of any visible emissions which appeared to be in excess of the permitted opacity, the corrective action taken, and if visible emissions were present following the corrective action. These records shall be kept on site and made available to Department personnel upon request.
31. Pursuant to §19.705 of Regulation 19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR §70.6, the permittee shall install and operate within 180 days of permit issuance, a catalytic converter and air to fuel (A/F) ratio controllers on SN-13. This control equipment shall be operated such that the exhaust emissions from SN-13 do not exceed the following values at any time. Compliance with the emission limitations of this condition shall be demonstrated by compliance with Specific Condition #32.

Pollutant	Max. Allowable Conc.
NOx	2.0 g/BHP-HR

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CO	3.0 g/BHP-HR
VOC	1.0 g/BHP-HR

32. Pursuant to §19.702 of Regulation 19 and 40 CFR Part 52 Subpart E, the permittee shall conduct a stack emissions test on SN-13 to measure the following pollutants by the indicated EPA test method as listed in 40 CFR Part 60, Appendix A.

Pollutant	EPA Test Method
NO _x	7E
CO	10
VOC	25A

This test shall be performed initially within 90 days of control equipment installation, and every 3 years thereafter. All tests shall be performed with the source operating at 90% of capacity or greater. The tests must be conducted while the source is operating at 90% of capacity or higher. If 90 percent of capacity cannot be achieved, the permittee shall be limited to 10 percent above the actual tested throughput.

The ADEQ Air Division Compliance Inspector Supervisor shall be notified at least 15 days prior to the test. Results of the tests shall be sent to the address indicated in General Provision #7. A valid compliance test conducted within the 180 day period before the issuance of this permit shall be accepted as complying with this requirement.

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SN-14
Source Name

Fugitive Emissions

Source Description

A major source of potential emissions from natural gas processing is fugitive emissions. Fugitive emissions can occur from leaking process equipment, pump seals, valves, flanges, and other equipment sources.

Specific Conditions

33. Pursuant to §19.501 et seq of the Regulations of the Arkansas Plan of Implementation for Air Pollution Control (Regulation #19) effective February 15, 1999 and 40 CFR Part 52, Subpart E, the permittee shall not exceed the emission rates set forth in the following table. Compliance with this condition will be demonstrated by compliance with Specific Condition #35.

Pollutant	lb/hr	tpy
VOC	5.0	21.7

34. Pursuant to §18.801 of the Arkansas Air Pollution Control Code (Regulation #18)

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effective February 15, 1999, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, the permittee shall not exceed the emission rates set forth in the following table. Compliance with this condition will be demonstrated by compliance with Specific Condition #35.

Pollutant	lb/hr	tpy
3-Methyl Pentane	0.11	0.46
N-Hexane	0.31	1.33
Benzene	0.03	0.11
Toluene	0.03	0.12
Ethyl Benzene	0.01	0.04
Xylene	0.01	0.02

35. Pursuant to §19.304 of Regulation 19 and 40 CFR §60.632, the permittee shall comply with the monitoring, recordkeeping, reporting, and all other applicable requirements of 40 CFR Part 60 Subpart VV - §60.482-1(a), (b), and (d), and §60.482-2 through §60.482-10, except as provided in §60.633. For convenience a summary of these requirements is provided in Appendix B. A full copy of Subpart VV is included in Appendix C.

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SN-18
Source Name

5-L Plant Flare

Source Description

The pressure relief valve from the inlet separation processes is routed to the 5-L plant flare. This flare is used to burn off any flammable components of the vent gas stream. Emissions result from the combustion of these vented gases, as well as the combustion of a small pilot gas stream used to keep the flare burning.

Specific Conditions

36. Pursuant to §19.501 et seq of the Regulations of the Arkansas Plan of Implementation for Air Pollution Control (Regulation #19) effective February 15, 1999 and 40 CFR Part 52, Subpart E, the permittee shall not exceed the emission rates set forth in the following table. Compliance with this condition will be demonstrated by compliance with Specific Condition #40.

Pollutant	lb/hr	tpy
PM ₁₀	0.3	1.0
SO ₂	0.1	0.1
VOC	0.1	0.1
CO	0.1	0.2
NO _x	0.1	0.1

37. Pursuant to §18.801 of the Arkansas Air Pollution Control Code (Regulation #18) effective February 15, 1999, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, the permittee shall not exceed the emission rates set forth in the following table. Compliance with this condition will be demonstrated by compliance with Specific Condition #40.

Pollutant	lb/hr	tpy
PM	0.3	1.0

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38. Pursuant to §18.501 of Regulation 18, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, the permittee shall not cause to be discharged to the atmosphere from the 5-L Flare an opacity greater than 10%.
39. Pursuant to §19.705 of Regulation 19, and 40 CFR Part 52, Subpart E, weekly observations of the opacity from source SN-18 shall be conducted by a person trained, but not necessarily certified in EPA Reference Method 9. This shall be a simple yes/no check as to the presence of visible emissions. If visible emissions appear, the permittee shall immediately take action to identify the cause of the excess visible emissions, implement corrective action, and document that visible emissions do not appear to be in excess of the permitted opacity following the corrective action. A full EPA Reference Method 9 observation shall be used to document that emissions are below the permitted opacity following the corrective action. The permittee shall maintain records of any visible emissions which appeared to be in excess of the permitted opacity, the corrective action taken, and if visible emissions were present following the corrective action. These records shall be kept on site and made available to Department personnel upon request.
40. Pursuant to §19.705 of Regulation 19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR §70.6, the permittee shall process only vent gases from the inlet separation process pressure relief valve at the 5-L plant flare. No other natural gas streams may be routed to this flare for combustion.

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SN-19
Source Name

Horizontal Flare

Source Description

The vapor recovery unit (VRU) collects vents from the Crude Tank, the Backup Crude Tank, and the Plant Slops Tank and routes the vents to the suction of Compressor K-1E. A pressure relief valve for the VRU can vent to the horizontal flare. This flare is used to burn off any flammable components of the VRU vent gases. Emissions result from the combustion of these vented gases, as well as the combustion of a small pilot gas stream used to keep the flare burning.

Specific Conditions

41. Pursuant to §19.501 et seq of the Regulations of the Arkansas Plan of Implementation for Air Pollution Control (Regulation #19) effective February 15, 1999 and 40 CFR Part 52, Subpart E, the permittee shall not exceed the emission rates set forth in the following table. Compliance with this condition will be demonstrated by compliance with Specific Conditions #45 and #46.

Pollutant	lb/hr	tpy
PM ₁₀	0.3	1.0
SO ₂	64.3	3.9
VOC	3.0	0.2
CO	2.4	0.3
NO _x	0.5	0.1

42. Pursuant to §18.801 of the Arkansas Air Pollution Control Code (Regulation #18)

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effective February 15, 1999, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, the permittee shall not exceed the emission rates set forth in the following table. Compliance with this condition will be demonstrated by compliance with Specific Conditions #44 and #45.

Pollutant	lb/hr	tpy
PM	0.3	1.0
3-Methyl Pentane	0.10	0.01
N-Hexane	0.21	0.02
Benzene	0.02	0.01
Toluene	0.02	0.01
Ethyl Benzene	0.01	0.01
Xylene	0.01	0.01

43. Pursuant to §18.501 of Regulation 18, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, the permittee shall not cause to be discharged to the atmosphere from the Horizontal Flare (SN-19) an opacity greater than 10%.
44. Pursuant to §19.705 of Regulation 19, and 40 CFR Part 52, Subpart E, weekly observations of the opacity from source SN-19 shall be conducted by a person trained, but not necessarily certified in EPA Reference Method 9. This shall be a simple yes/no check as to the presence of visible emissions. If visible emissions appear, the permittee shall immediately take action to identify the cause of the excess visible emissions, implement corrective action, and document that visible emissions do not appear to be in excess of the permitted opacity following the corrective action. A full EPA Reference Method 9 observation shall be used to document that emissions are below the permitted opacity following the corrective action. The permittee shall maintain records of any visible emissions which appeared to be in excess of the permitted opacity, the corrective action taken, and if visible emissions were present following the corrective action. These records shall be kept on site and made available to Department personnel upon request.
45. Pursuant to §19.901 of Regulation 19, and 40 CFR Part 52, Subpart E, the permittee shall

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maintain records of the amount of gas routed through the VRU. This VRU gas flow data shall be used to calculate the monthly SO₂ emissions from the VRU by the following method:

1. It shall be assumed that 1.2% of all of the gas flow through the VRU is vented to the flare through leakage at the pressure relief valve.
2. During downtime of the VRU, it shall be assumed that 100% of the gas flow to the VRU is routed to the flare. The permittee shall maintain records of the amount of VRU downtime during each month.

This calculation shall be performed on a monthly basis, and record of the tons/month of SO₂ emissions shall be maintained. A 12-month rolling total and each individual month's data shall be maintained on-site and shall be made available to Department personnel upon request.

46. Pursuant to §19.901 of Regulation 19 and 40 CFR Part 52, Subpart E, the permittee shall process only vent gases from the vapor recovery unit (VRU) pressure relief valve at the horizontal flare. No other natural gas streams may be routed to this flare for combustion.

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SECTION V: COMPLIANCE PLAN AND SCHEDULE

Whiting Petroleum Corp. - Magnolia MSPU Plant is in compliance with the applicable regulations cited in the permit application. Whiting Petroleum Corp. - Magnolia MSPU Plant will continue to operate in compliance with those identified regulatory provisions. The facility will examine and analyze future regulations that may apply and determine their applicability with any necessary action taken on a timely basis.

SECTION VI: PLANTWIDE CONDITIONS

5. Pursuant to §19.704 of Regulation 19, 40 CFR Part 52, Subpart E, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, the Director shall be notified in writing within thirty (30) days after construction has commenced, construction is complete, the equipment and/or facility is first placed in operation, and the equipment and/or facility first reaches the target production rate.
6. Pursuant to §19.410(B) of Regulation 19, 40 CFR Part 52, Subpart E, the Director may cancel all or part of this permit if the construction or modification authorized herein is not begun within 18 months from the date of the permit issuance or if the work involved in the construction or modification is suspended for a total of 18 months or more.
7. Pursuant to §19.702 of Regulation 19 and/or §18.1002 of Regulation 18 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311, any equipment that is to be tested, unless stated in the Specific Conditions of this permit or by any federally regulated requirements, shall be tested with the following time frames: (1) Equipment to be constructed or modified shall be tested within sixty (60) days of achieving the maximum production rate, but in no event later than 180 days after initial start-up of the permitted source or (2) equipment already operating shall be tested according to the time frames set forth by the Department. The permittee shall notify the Department of the scheduled date of compliance testing at least fifteen (15) days in advance of such test. Compliance test results shall be submitted to the Department within thirty (30) days after the completed testing.
8. Pursuant to §19.702 of Regulation 19 and/or §18.1002 of Regulation 18 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311, the permittee shall provide:
 - a. Sampling ports adequate for applicable test methods
 - b. Safe sampling platforms
 - c. Safe access to sampling platforms
 - d. Utilities for sampling and testing equipment
9. Pursuant to §19.303 of Regulation 19 and A.C.A. §8-4-203 as referenced by A.C. A. §8-4-304 and §8-4-311, the equipment, control apparatus and emission monitoring equipment shall be operated within their design limitations and maintained in good condition at all times.

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10. Pursuant to Regulation 26 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, this permit subsumes and incorporates all previously issued air permits for this facility.
11. Pursuant to §19.304 of Regulation 19 and 40 CFR §60.630, this facility is subject to and shall comply with the standards of 40 CFR Part 60 Subpart KKK - *Standards of Performance for Equipment Leaks from Onshore Natural Gas Processing Plants* (Appendix A).
12. Pursuant to §19.705 of Regulation 19 and 40 CFR Part 52, Subpart E, this facility shall not process more than 365,000,000 ft³ of sour natural gas through the sweetening unit during any consecutive 12-month period.
13. Pursuant to §19.705 of Regulation 19 and 40 CFR Part 52, Subpart E, the permittee shall maintain monthly records of the amount of sour natural gas processed at this facility during each month. These records shall be updated by the 15th day of the month following the month to which the records pertain. A 12-month rolling total and each individual month's data shall be kept on-site and shall be made available to Department personnel upon request.
14. Pursuant to §19.705 of Regulation 19 and 40 CFR Part 52, Subpart E, the permittee shall submit a bi-annual report to the Department which contains all records required by this permit. This report shall be submitted in accordance with General Provision #7.

Title VI Provisions

15. The permittee shall comply with the standards for labeling of products using ozone depleting substances pursuant to 40 CFR Part 82, Subpart E:
 - a. All containers containing a class I or class II substance stored or transported, all products containing a class I substance, and all products directly manufactured with a class I substance must bear the required warning statement if it is being introduced to interstate commerce pursuant to §82.106.
 - b. The placement of the required warning statement must comply with the requirements pursuant to §82.108.
 - c. The form of the label bearing the required warning must comply with the requirements pursuant to §82.110.
 - d. No person may modify, remove, or interfere with the required warning statement except as described in §82.112.

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16. The permittee shall comply with the standards for recycling and emissions reduction pursuant to 40 CFR Part 82, Subpart F, except as provided for MVACs in Subpart B:
 - a. Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to §82.156.
 - b. Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to §82.158.
 - c. Persons performing maintenance, service repair, or disposal of appliances must be certified by an approved technician certification program pursuant to §82.161.
 - d. Persons disposing of small appliances, MVACs, and MVAC-like appliances must comply with record keeping requirements pursuant to §82.166. (“MVAC-like appliance” as defined at §82.152.)
 - e. Persons owning commercial or industrial process refrigeration equipment must comply with leak repair requirements pursuant to §82.156.
 - f. Owners/operators of appliances normally containing 50 or more pounds of refrigerant must keep records of refrigerant purchased and added to such appliances pursuant to §82.166.
17. If the permittee manufactures, transforms, destroys, imports, or exports a class I or class II substance, the permittee is subject to all requirements as specified in 40 CFR part 82, Subpart A, Production and Consumption Controls.
18. If the permittee performs a service on motor (fleet) vehicles when this service involves ozone-depleting substance refrigerant (or regulated substitute substance) in the motor vehicle air conditioner (MVAC), the permittee is subject to all the applicable requirements as specified in 40 CFR part 82, Subpart B, Servicing of Motor Vehicle Air Conditioners.

The term “motor vehicle” as used in Subpart B does not include a vehicle in which final assembly of the vehicle has not been completed. The term “MVAC” as used in Subpart B does not include the air-tight sealed refrigeration system used as refrigerated cargo, or the system used on passenger buses using HCFC-22 refrigerant.

19. The permittee shall be allowed to switch from any ozone-depleting substance to any alternative that is listed in the Significant New Alternatives Program (SNAP) promulgated pursuant to 40 CFR part 82, Subpart G, Significant New Alternatives Policy Program.

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SECTION VII: INSIGNIFICANT ACTIVITIES

Pursuant to §26.304 of Regulation 26, the following sources are insignificant activities. Any activity for which a state or federal applicable requirement applies is not insignificant even if this activity meets the criteria of §304 of Regulation 26 or is listed below. Insignificant activity determinations rely upon the information submitted by the permittee in an application dated March 9, 2000.

Description	Category
Crude Tank	A-13
Backup Crude Tank	A-13
Plant Slops Tank	A-13

Pursuant to §26.304 of Regulation 26, the emission units, operations, or activities contained in Regulation 19, Appendix A, Group B, have been determined by the Department to be insignificant activities. Activities included in this list are allowable under this permit and need not be specifically identified.

SECTION VIII: GENERAL PROVISIONS

1. Pursuant to 40 C.F.R. 70.6(b)(2), any terms or conditions included in this permit which specify and reference Arkansas Pollution Control & Ecology Commission Regulation 18 or the Arkansas Water and Air Pollution Control Act (A.C.A. §8-4-101 *et seq.*) as the sole origin of and authority for the terms or conditions are not required under the Clean Air Act or any of its applicable requirements, and are not federally enforceable under the Clean Air Act. Arkansas Pollution Control & Ecology Commission Regulation 18 was adopted pursuant to the Arkansas Water and Air Pollution Control Act (A.C.A. §8-4-101 *et seq.*). Any terms or conditions included in this permit which specify and reference Arkansas Pollution Control & Ecology Commission Regulation 18 or the Arkansas Water and Air Pollution Control Act (A.C.A. §8-4-101 *et seq.*) as the origin of and authority for the terms or conditions are enforceable under this Arkansas statute.
2. Pursuant to 40 C.F.R. 70.6(a)(2) and §26.7 of the Regulations of the Arkansas Operating Air Permit Program (Regulation 26), this permit shall be valid for a period of five (5) years beginning on the date this permit becomes effective and ending five (5) years later.
3. Pursuant to §26.4 of Regulation #26, it is the duty of the permittee to submit a complete application for permit renewal at least six (6) months prior to the date of permit expiration. Permit expiration terminates the permittee's right to operate unless a complete renewal application was submitted at least six (6) months prior to permit expiration, in which case the existing permit shall remain in effect until the Department takes final action on the renewal application. The Department will not necessarily notify the permittee when the permit renewal application is due.
4. Pursuant to 40 C.F.R. 70.6(a)(1)(ii) and §26.7 of Regulation #26, where an applicable requirement of the Clean Air Act, as amended, 42 U.S.C. 7401, *et seq* (Act) is more stringent than an applicable requirement of regulations promulgated under Title IV of the Act, both provisions are incorporated into the permit and shall be enforceable by the Director or Administrator.
5. Pursuant to 40 C.F.R. 70.6(a)(3)(ii)(A) and §26.7 of Regulation #26, records of monitoring information required by this permit shall include the following:
 - a. The date, place as defined in this permit, and time of sampling or measurements;
 - b. The date(s) analyses were performed;
 - c. The company or entity that performed the analyses;
 - d. The analytical techniques or methods used;
 - e. The results of such analyses; and

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- f. The operating conditions existing at the time of sampling or measurement.
- 6. Pursuant to 40 C.F.R. 70.6(a)(3)(ii)(B) and §26.7 of Regulation #26, records of all required monitoring data and support information shall be retained for a period of at least 5 years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit.
- 7. Pursuant to 40 C.F.R. 70.6(a)(3)(iii)(A) and §26.7 of Regulation #26, the permittee shall submit reports of all required monitoring every 6 months. If no other reporting period has been established, the reporting period shall end on the last day of the anniversary month of this permit. The report shall be due within 30 days of the end of the reporting period. Even though the reports are due every six months, each report shall contain a full year of data. All instances of deviations from permit requirements must be clearly identified in such reports. All required reports must be certified by a responsible official as defined in §26.2 of Regulation #26 and must be sent to the address below.

Arkansas Department of Environmental Quality
Air Division
ATTN: Compliance Inspector Supervisor
Post Office Box 8913
Little Rock, AR 72219

- 8. Pursuant to 40 C.F.R. 70.6(a)(3)(iii)(B), §26.7 of Regulation #26, and §19.601 and 19.602 of Regulation #19, all deviations from permit requirements, including those attributable to upset conditions as defined in the permit shall be reported to the Department. An initial report shall be made to the Department by the next business day after the occurrence. The initial report may be made by telephone and shall include:
 - a. The facility name and location,
 - b. The process unit or emission source which is deviating from the permit limit,
 - c. The permit limit, including the identification of pollutants, from which deviation occurs,
 - d. The date and time the deviation started,
 - e. The duration of the deviation,
 - f. The average emissions during the deviation,
 - g. The probable cause of such deviations,
 - h. Any corrective actions or preventive measures taken or being taken to prevent such deviations in the future, and

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- i. The name of the person submitting the report.

A full report shall be made in writing to the Department within five (5) business days of discovery of the occurrence and shall include in addition to the information required by initial report a schedule of actions to be taken to eliminate future occurrences and/or to minimize the amount by which the permits limits are exceeded and to reduce the length of time for which said limits are exceeded. If the permittee wishes, they may submit a full report in writing (by facsimile, overnight courier, or other means) by the next business day after discovery of the occurrence and such report will serve as both the initial report and full report.

9. Pursuant to 40 C.F.R. 70.6(a)(5) and §26.7 of Regulation #26, and A.C.A. §8-4-203, as referenced by §8-4-304 and §8-4-311, if any provision of the permit or the application thereof to any person or circumstance is held invalid, such invalidity shall not affect other provisions or applications hereof which can be given effect without the invalid provision or application, and to this end, provisions of this Regulation are declared to be separable and severable.
10. Pursuant to 40 C.F.R. 70.6(a)(6)(i) and §26.7 of Regulation #26, the permittee must comply with all conditions of this Part 70 permit. Any permit noncompliance with applicable requirements as defined in Regulation #26 constitutes a violation of the Clean Air Act, as amended, 42 U.S.C. 7401, *et seq.* and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application. Any permit noncompliance with a state requirement constitutes a violation of the Arkansas Water and Air Pollution Control Act (A.C.A. §8-4-101 *et seq.*) and is also grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.
11. Pursuant to 40 C.F.R. 70.6(a)(6)(ii) and §26.7 of Regulation #26, it shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

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12. Pursuant to 40 C.F.R. 70.6(a)(6)(iii) and §26.7 of Regulation #26, this permit may be modified, revoked, reopened, and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition.
13. Pursuant to 40 C.F.R. 70.6(a)(6)(iv) and §26.7 of Regulation #26, this permit does not convey any property rights of any sort, or any exclusive privilege.
14. Pursuant to 40 C.F.R. 70.6(a)(6)(v) and §26.7 of Regulation #26, the permittee shall furnish to the Director, within the time specified by the Director, any information that the Director may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit. Upon request, the permittee shall also furnish to the Director copies of records required to be kept by the permit. For information claimed to be confidential, the permittee may be required to furnish such records directly to the Administrator along with a claim of confidentiality.
15. Pursuant to 40 C.F.R. 70.6(a)(7) and §26.7 of Regulation #26, the permittee shall pay all permit fees in accordance with the procedures established in Regulation #9.
16. Pursuant to 40 C.F.R. 70.6(a)(8) and §26.7 of Regulation #26, no permit revision shall be required, under any approved economic incentives, marketable permits, emissions trading and other similar programs or processes for changes that are provided for elsewhere in this permit.
17. Pursuant to 40 C.F.R. 70.6(a)(9)(i) and §26.7 of Regulation #26, if the permittee is allowed to operate under different operating scenarios, the permittee shall, contemporaneously with making a change from one operating scenario to another, record in a log at the permitted facility a record of the scenario under which the facility or source is operating.
18. Pursuant to 40 C.F.R. 70.6(b) and §26.7 of Regulation #26, all terms and conditions in this permit, including any provisions designed to limit a source's potential to emit, are enforceable by the Administrator and citizens under the Act unless the Department has specifically designated as not being federally enforceable under the Act any terms and conditions included in the permit that are not required under the Act or under any of its applicable requirements.

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19. Pursuant to 40 C.F.R. 70.6(c)(1) and §26.7 of Regulation #26, any document (including reports) required by this permit shall contain a certification by a responsible official as defined in §26.2 of Regulation #26.
20. Pursuant to 40 C.F.R. 70.6(c)(2) and §26.7 of Regulation #26, the permittee shall allow an authorized representative of the Department, upon presentation of credentials, to perform the following:
 - a. Enter upon the permittee's premises where the permitted source is located or emissions-related activity is conducted, or where records must be kept under the conditions of this permit;
 - b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
 - c. Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit; and
 - d. As authorized by the Act, sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with this permit or applicable requirements.
21. Pursuant to 40 C.F.R. 70.6(c)(5) and §26.7 of Regulation #26, the permittee shall submit a compliance certification with terms and conditions contained in the permit, including emission limitations, standards, or work practices. This compliance certification shall be submitted annually and shall be submitted to the Administrator as well as to the Department. All compliance certifications required by this permit shall include the following:
 - a. The identification of each term or condition of the permit that is the basis of the certification;
 - b. The compliance status;
 - c. Whether compliance was continuous or intermittent;
 - d. The method(s) used for determining the compliance status of the source, currently and over the reporting period established by the monitoring requirements of this permit; and
 - e. Such other facts as the Department may require elsewhere in this permit or by §114(a)(3) and 504(b) of the Act.
22. Pursuant to §26.7 of Regulation #26, nothing in this permit shall alter or affect the

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following:

- a. The provisions of Section 303 of the Act (emergency orders), including the authority of the Administrator under that section;
 - b. The liability of the permittee for any violation of applicable requirements prior to or at the time of permit issuance;
 - c. The applicable requirements of the acid rain program, consistent with §408(a) of the Act; or
 - d. The ability of EPA to obtain information from a source pursuant to §114 of the Act.
23. Pursuant to A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, this permit authorizes only those pollutant emitting activities addressed herein.

APPENDIX A

APPENDIX B

APPENDIX C

INVOICE REQUEST FORM

PDS-_____

Date May 10, 2002

☒	Air
☐	NPDES
☐	Stormwater
☐	State Permits Branch
☐	Solid Waste

CSN 14-0004

Facility Name Whiting Petroleum Corp. - Magnolia MSPU Plant

Invoice Mailing Address Mile High Center, 1700 Broadway, Suite 2300

Denver, Colorado 80290-2301

☒	Initial
☐	Modification
☐	Annual

Permit Number 871-AOP-R0

Permit Description Title 5

Permit Fee Code A

Amount Due \$ 1000

Fee = 331.1 tpy chargeable emissions * \$19.12 = \$6,330.63
Minus last annual fee of \$7160 = -829.37, Minimum initial fee of \$1000 applies

Engineer David Triplett

Paid? ☐No ☐Yes Check # _____

Comments: Air Permit Fee Calculation

Public Notice

Pursuant to the Arkansas Operating Air Permit Program (Regulation #26) Section 6(b), the Air Division of the Arkansas Department of Environmental Quality gives the following notice:

Whiting Petroleum Corporation (CSN: 14-0004) owns and operates the Magnolia Smackover Pool Unit (MSPU) plant located at 900 Columbia Road, #25 in Magnolia, Arkansas. This facility processes sour natural gas extracted from the Smackover Reservoir. This plant is a sweetening (H_2S removal) and natural gas liquid removal facility. This will be the initial Title V Operating Air Permit for this facility. This permit will limit the facility to operating below the PSD significance levels for all criteria pollutants. This will primarily be accomplished by limiting the amount of sour gas that can be flared off in the main plant flare. A catalytic converter and air-to-fuel ratio (A/F) controllers will be installed on the inlet gas compressor (SN-13) in order to control emissions.

The application has been reviewed by the staff of the Department and has received the Department's tentative approval subject to the terms of this notice.

Citizens wishing to examine the permit application and staff findings and recommendations may do so by contacting Suzanne Carswell, Information Officer. Citizens desiring technical information concerning the application or permit should contact David Triplett, Engineer. Both Suzanne Carswell and David Triplett can be reached at the Department's central office, 8001 National Drive, Little Rock, Arkansas 72209, telephone: (501) 682-0744.

The draft permit and permit application are available for copying at the above address. A copy of the draft permit has also been placed at the Magnolia Public Library at 220 East Main Street, Magnolia, Arkansas 71753. This information may be reviewed during normal business hours.

Interested or affected persons may also submit written comments or request a hearing on the proposal, or the proposed modification, to the Department at the above address - Attention: Suzanne Carswell. In order to be considered, the comments must be submitted within thirty (30) days of publication of this notice. Although the Department is not proposing to conduct a public hearing, one will be scheduled if significant comments on the permit provisions are received. If a hearing is scheduled, adequate public notice will be given in the newspaper of largest circulation in the county in which the facility in question is, or will be, located.

The Director shall make a final decision to issue or deny this application or to impose special conditions in accordance with Section 2.1 of the Arkansas Pollution Control and Ecology Commission's Administrative Procedures (Regulation #8) and Regulation #26.

Dated this

Richard A. Weiss
Interim Director