



State of Mississippi



AIR POLLUTION CONTROL PERMIT

To Construct Air Emissions Equipment

THIS CERTIFIES

Goodrich Petroleum Company LLC, Denkmann 33- 28 H Number 1 Production Facility
Near Parish Road 181
Off Bean Road
Liberty, MS
Amite County

has been granted permission to construct air emissions equipment to comply with the emission limitations, monitoring requirements and other conditions set forth herein. This permit is issued in accordance with the provisions of the Mississippi Air and Water Pollution Control Law (Section 49-17-1 et. seq., Mississippi Code of 1972), and the regulations and standards adopted and promulgated thereunder.

Mississippi Environmental Quality Permit Board

Mississippi Department of Environmental Quality

Issued/Modified: MAY 29 2014

Expires:

Permit No. 0080-00029

Agency Interest # 57649

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Other Relevant Documents:

Mississippi Department of Environmental Quality, Environmental Permitting Division, by phone at (601) 961-5171 and by mail at Post Office Box 2261, Jackson, MS 39255. The following regulations were referenced in this permit:

Mississippi Air Pollution Control Regulations, 11 Miss. Admin. Code Pt. 2, Ch. 1

Mississippi Air Pollution Control Regulations, 11 Miss. Admin. Code Pt. 2, Ch. 2

Standards of Performance for Stationary Spark Ignition Internal Combustion Engines, 40 CFR Part 60, Subpart JJJJ

Standards of Performance for Stationary Compression Ignition Internal Combustion Engines, 40 CFR Part 60, Subpart IIII

40 CFR Part 63, Subpart ZZZZ, National Emissions Standards for Hazardous Air Pollutants for Stationary Internal Combustion Engines

40 CFR Part 60, Subpart OOOO - New Source Performance Standards for Crude Oil and Natural Gas Production, Transmission, and Distribution

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Goodrich Petroleum Company LLC, Denkmann 33- 28 H Number 1 Production Facility

Subject Item Inventory

Permit Number:0080-00029

Activity ID No.: PER20140001

Subject Item Inventory:

ID	Designation	Description
AI57649	57649	Oil & Gas Production
EQPT2	AA-002	0.5 MMBtu/hr Heater Treater Burner Stack (Facility Ref. No. 2-12-HT-BS)
EQPT5	AA-005	250 HP Reciprocating Internal Combustion Engine (Compressor Engine, Facility Ref. No. 5-12-ICE-ES)
EQPT6	AA-006	20 HP Reciprocating Internal Combustion Engine (Circulating Pump, Facility Ref. No. 6-12-ICE-ES)
EQPT7	AA-007	400 Barrel (16,800 gallon) Oil Storage Tank with a common vent (Facility Ref. No. 7a-12-OST-CV)
EQPT8	AA-008	400 Barrel (16,800 gallon) Oil Storage Tank with a common vent (Facility Ref. No. 7b-12-OST-CV)
EQPT9	AA-009	400 Barrel (16,800 gallon) Oil Storage Tank with a common vent (Facility Ref. No. 7c-12-OST-CV)
EQPT10	AA-010	400 Barrel (16,800 gallon) Oil Storage Tank with a common vent (Facility Ref. No. 7d-12-OST-CV)
EQPT11	AA-011	400 Barrel (16,800 gallon) Produced Water Storage Tank with a common vent (Facility Ref. No. 7e-12-WST-CV)
EQPT12	AA-012	400 Barrel (16,800 gallon) Produced Water Storage Tank with a common vent (Facility Ref. No. 7f-12-WST-CV)
EQPT14	AA-014	Heater Treater - waste gas (Facility Ref. No. 10-12-HT-WG)
EQPT16	AA-016	Blowcase Vessel - Compressor Skid Fluids (Facility Ref. No. 12-12-BV)
EQPT17	AA-017	Blowcase Vessel - Condensed Liquids (Facility Ref. No. 13-12-BV)
EQPT18	AA-018	Gas Operated Pump - chemical injection (Facility Ref. No. 14-12-GOP)
EQPT19	AA-019	Gas Operated Pump (Facility Ref. No. 15-12-GOP)
EQPT21	AA-020	Oil Tank Transfer to Truck Loading - Loading Losses (Facility Ref. No. 16-12-LL)
EQPT20	AA-021	Pneumatic Controllers (Facility Ref. No. 17-12-PC)
AREA1	AA-022	Fugitive Emissions (Facility Ref. No. 18-12-FE)
EQPT24	AA-025	Chemical Storage Tank (Facility Ref. No. 21-12-CST)
CONT1	AA-026	Control Flare that controls emissions from the heater treater flash gas, Joule-Thomson unit exit gas, crude oil storage tanks, produced water storage tanks and natural gas liquids storage vessel gas (Facility Ref.: 8-12-F)
EQPT49	AA-027	Gas Operated Pump (23-14-GOP)
EQPT50	AA-028	Gas Operated Pump (24-14-GOP)

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ID	Designation	Description
EQPT51	AA-029	Blowcase Vessel (22-14-BV)
EQPT52	AA-030	NGL Storage Vessel Flash Gas (11-14-NGLSV-FG)
EQPT53	AA-031	NGL Purging(25-14-NGL-P)
EQPT54	AA-032	Joule-Thomson Unit Outlet Gas

Subject Item Groups:

ID	Description	Components
GRPT3	Crude Oil and Produced Water Storage Tanks	EQPT7 400 Barrel (16,800 gallon) Oil Storage Tank with a common vent (Facility Ref. No. 7a-12-OST-CV)
		EQPT8 400 Barrel (16,800 gallon) Oil Storage Tank with a common vent (Facility Ref. No. 7b-12-OST-CV)
		EQPT9 400 Barrel (16,800 gallon) Oil Storage Tank with a common vent (Facility Ref. No. 7c-12-OST-CV)
		EQPT10 400 Barrel (16,800 gallon) Oil Storage Tank with a common vent (Facility Ref. No. 7d-12-OST-CV)
		EQPT11 400 Barrel (16,800 gallon) Produced Water Storage Tank with a common vent (Facility Ref. No. 7e-12-WST-CV)
		EQPT12 400 Barrel (16,800 gallon) Produced Water Storage Tank with a common vent (Facility Ref. No. 7f-12-WST-CV)
GRPT4	Blowcase Vessels	EQPT51 Blowcase Vessel (22-14-BV)
		EQPT16 Blowcase Vessel - Compressor Skid Fluids (Facility Ref. No. 12-12-BV)
		EQPT17 Blowcase Vessel - Condensed Liquids (Facility Ref. No. 13-12-BV)
GRPT5	Gas Operated Pumps	EQPT49 Gas Operated Pump (23-14-GOP)
		EQPT50 Gas Operated Pump (24-14-GOP)
		EQPT18 Gas Operated Pump - chemical injection (Facility Ref. No. 14-12-GOP)
		EQPT19 Gas Operated Pump (Facility Ref. No. 15-12-GOP)
GRPT6	Miscellaneous small storage tanks	EQPT22 Lube Oil Tank (Facility Ref. No. 19-12-LOT)
		EQPT23 Glycol Storage Tank (Facility Ref. No. 20-12-GST)

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ID	Description	Components
GRPT6	Miscellaneous small storage tanks	EQPT24 Chemical Storage Tank (Facility Ref. No. 21-12-CST)

KEY

ACT = Activity

AREA = Area

CONT = Control Device

IA = Insignificant Activity

MAFO = Animal Feeding Operation

RPNT = Release Point

WDPT = Withdrawal Point

AI = Agency Interest

CAFO = Concentrated Animal Feeding Operation

EQPT = Equipment

IMPD = Impoundment

PCS = PCS

TRMT = Treatment

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AI0000057649 (57649) Oil & Gas Production :

Limitation Requirements:

Condition No.	Parameter	Condition
L-1		The internal combustion engines may be subject to 40 CFR Part 60, Subpart JJJJ - Standards of Performance for Stationary Spark Ignition Internal Combustion Engines and 40 CFR Part 60, Subpart IIII -Standards of Performance for Stationary Compression Ignition Internal Combustion Engines depending upon the manufacture date of the engines. If the engines are affected units under these subparts, the permittee shall comply with all applicable requirements 40 CFR Part 60, Subpart JJJJ and 40 CFR Part 60, Subpart IIII. [APC-S-2 II.B(10)]
L-2		The facility is subject to 40 CFR 60, Subpart OOOO, New Source Performance Standards for Crude Oil and Natural Gas Production, Transmission, and Distribution. If any of the equipment listed in 40 CFR 60.5365 (a) through (h) are constructed at this facility, the permittee must comply with the applicable requirements of 40 CFR 60, Subpart OOOO. [11 Miss. Admin. Code Pt. 2, Ch. 2. II.B(10)]
L-3		All equipment located at the facility shall be operated as efficiently as possible to provide the maximum reduction of air contaminants. [11 Miss. Admin. Code Pt. 2, R. 2.2.B(10)]
L-4		The permittee shall calculate the gas to oil ratio (GOR) from the production of crude oil and gas annually. [11 Miss. Admin. Code Pt. 2, R. 2.2.B(11)]
L-5		For all combustion units operating at this facility, the permittee shall combust only natural gas, gasoline or diesel. [11 Miss. Admin. Code Pt. 2, R. 2.2.B(10)]

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Monitoring Requirements:

Condition No.	Parameter	Condition
M-1		The permittee shall conduct a semi-annual produced field gas analysis, including hydrogen sulfide concentration, sulfur content, methane concentration (volume), gross heating value, molecular weight and speciated VOC constituents. The first produced field gas analysis shall be conducted no later than 60 days after certifying construction. Additionally, an updated produced field gas analysis must be conducted within 90 days from startup of any well that starts up after the most recent analysis. [11 Miss. Admin. Code Pt. 2, Ch. 2. II.B(11)]

Record-Keeping Requirements:

Condition No.	Condition
R-1	<p>The permittee shall keep the following records:</p> <ul style="list-style-type: none">(1) Monthly and rolling 12 month total for: produced crude oil (barrels), produced water (barrels), produced field gas (MMSCF), gas flared (MMSCF), volatile organic compound (VOC) emissions (lbs and/or tons) and total hazardous air pollutants (HAP) emissions (lbs and/or tons), and individual HAP emissions (lbs and/or tons), including sample calculations;(2) Results of all field gas analysis performed during the reporting period(3) Gas to Oil Ratio (GOR) annual value. [11 Miss. Admin. Code Pt. 2, Ch. 2. II.B(11)]

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Submittal/Action Requirements:

Condition No.	Condition
S-1	The permittee shall report to MDEQ all applicable requirements that the facility is subject to and must comply with under 40 CFR Part 63, Subpart ZZZZ; 40 CFR Part 60, Subpart A; 40 CFR Part 63, Subpart A; 40 CFR Part 60, Subpart JJJJ; 40 CFR Part 60, Subpart IIII; and 40 CFR Part 60, Subpart OOOO. This report shall include, at a minimum, standards, initial compliance demonstration, continuous compliance demonstration, record keeping, notification, performance testing, and reporting. This report shall be submitted within 60 days of certification of construction. [APC-S-2 II.B(11)]
S-2	<p>The permittee shall report annually by January 31st for the preceding calendar year:</p> <p>(1) Monthly and rolling 12 month total for: produced crude oil (barrels), produced water (barrels), produced field gas (MMSCF), gas flared (MMSCF), volatile organic compound (VOC) emissions (lbs and/or tons) and total hazardous air pollutants (HAP) emissions (lbs and/or tons), and individual HAP emissions (lbs and/or tons), including sample calculations;</p> <p>(2) Results of all field gas analysis performed during the reporting period</p> <p>(3) Gas to Oil Ratio (GOR) annual value. [11 Miss. Admin. Code Pt. 2, Ch. 2. II.B(11)]</p>
S-3	General Condition: The permittee shall submit certification of construction: Due within thirty (30) days of completion of construction or installation of an approved stationary source or prior to startup, whichever is earlier. The notification shall certify that construction or installation was performed in accordance with the approved plans and specifications. In the event there is any change in construction from the previously approved plans and specifications or permit, the permittee shall promptly notify MDEQ in writing. If MDEQ determines the changes are substantial, MDEQ may require the submission of a new application to construct with "as built" plans and specifications. Notwithstanding any provision herein to the contrary, the acceptance of an "as built" application shall not constitute a waiver of the right to seek compliance penalties pursuant to State Law. [11 Miss. Admin. Code Pt. 2, R. 2.5.D.]
S-4	Within fifteen (15) days of beginning actual construction, the permittee must notify DEQ in writing that construction has begun. [11 Miss. Admin.Code Pt. 2, R.2.5.C(2).]
S-5	The permittee must notify DEQ in writing when construction does not begin within eighteen (18) months of issuance or if construction is suspended for eighteen (18) months or more. [11 Miss. Admin.Code Pt. 2, R.2.5.C(4).]

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Narrative Requirements:

General Condition:

Condition No.	Condition
T-1	General Condition: The stationary source shall be designed and constructed so as to operate without causing a violation of any Applicable Rules and Regulations or this permit, without interfering with the attainment and maintenance of State and National Ambient Air Quality Standards, and such that the emission of air toxics does not result in an ambient concentration sufficient to adversely affect human health and well-being or unreasonably and adversely affect plant or animal life beyond the stationary source boundaries. [11 Miss. Admin.Code Pt. 2, R.2.5.A.]
T-2	General Condition: Any activities not identified in the application are not authorized by this permit. [Miss. Code Ann. 49_17_29 1.b]
T-3	General Condition: The necessary facilities shall be constructed so that solids removed in the course of control of air emissions may be disposed of in a manner such as to prevent the solids from becoming windborne and to prevent the materials from entering State waters without the proper environmental permits. [Miss. Code Ann. 49_17_29]
T-4	General Condition: The air pollution control facilities shall be constructed such that diversion from or bypass of collection and control facilities is not needed except as provided for in Regulation 11 Miss. Admin. Code Pt.2, R. 1.10 "Air Emission Regulations for the Prevention, Abatement, and Control of Air Contaminants", Section 10. [11 Miss. Admin. Code Pt. 2, R. 1.10]
T-5	General Condition: The permittee shall allow the Mississippi Environmental Quality Commission, the Mississippi Environmental Quality Permit Board, MDEQ staff and/or their authorized representatives, upon the presentation of credentials: a. To enter upon the permittee's premises where an air emission source is located or in which any records are required to be kept under the terms and conditions of this permit; and b. At reasonable times to have access to and copy any records required to be kept under the terms and conditions of this permit, to inspect any monitoring equipment or monitoring method required in this permit, and to sample any air emission. [Miss. Code Ann. 49_17_21]
T-6	General Condition: After notice and opportunity for a hearing, this permit may be modified, suspended, or revoked in whole or in part during its term for good cause shown including, but not limited to, the following: a. Persistent violation of any terms or conditions of this permit; b. Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts; or c. A change in any condition that requires either a temporary or permanent reduction or elimination of previously authorized air emissions. [11 Miss. Admin.Code Pt. 2, R.2.2.C.]
T-7	General Condition: Except for data determined to be confidential under the Mississippi Air & Water Pollution Control Law, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Mississippi Department of Environmental Quality Office of Pollution Control. [Miss. Code Ann. 49_17_39]

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Narrative Requirements:

Condition No.	Condition
T-8	General Condition: This permit is for air pollution control purposes only. [11 Miss. Admin.Code Pt. 2, R.2.1.D.]
T-9	General Condition: The knowing submittal of a permit application with false information may serve as the basis for the Permit Board to void the permit issued pursuant thereto or subject the applicant to penalties for operating without a valid permit pursuant to State Law. [11 Miss. Admin.Code Pt. 2, R.2.2.B(5).]
T-10	General Condition: It is the responsibility of the applicant/permittee to obtain all other approvals, permits, clearances, easements, agreements, etc., which may be required including, but not limited to, all required local government zoning approvals or permits. [11 Miss. Admin.Code Pt. 2, R.2.1.D(6).]
T-11	General Condition: The issuance of a permit does not release the permittee from liability for constructing or operating air emissions equipment in violation of any applicable statute, rule, or regulation of state or federal environmental authorities. [11 Miss. Admin.Code Pt. 2, R.2.1.D(7).]
T-12	General Condition: 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 the permit, unless halting or reducing activity would create an imminent and substantial endangerment threatening the public health and safety of the lives and property of the people of this state. [11 Miss. Admin.Code Pt. 2, R.2.2.B(15)(a).]
T-13	General Condition: The permit and/or any part thereof may be modified, revoked, reopened, and reissued, or terminated for cause. Sufficient cause for a permit to be reopened shall exist when an air emissions stationary source becomes subject to Title V. 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. [11 Miss. Admin.Code Pt. 2, R.2.2.B(15)(b).]
T-14	General Condition: The permit does not convey any property rights of any sort, or any exclusive privilege. [11 Miss. Admin.Code Pt. 2, R.2.2.B(15)(c).]
T-15	General Condition: The permittee shall furnish to the DEQ within a reasonable time any information the DEQ 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 DEQ copies of records required to be kept by the permit or, for information claimed to be confidential, the permittee shall furnish such records to the DEQ along with a claim of confidentiality. The permittee may furnish such records directly to the Administrator along with a claim of confidentiality. [11 Miss. Admin.Code Pt. 2, R.2.2.B(15)(d).]
T-16	General Condition: This permit shall not be transferred except upon approval of the Permit Board. [11 Miss. Admin.Code Pt. 2, R.2.16.B.]

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Narrative Requirements:

Condition No.	Condition
T-17	General Condition: The provisions of this permit are severable. If any provision of the permit, or the application of any provision of the permit to any circumstances, is challenged or held invalid, the validity of the remaining permit provisions and/or portions thereof or their application to other persons or sets of circumstances, shall not be affected thereby. [11 Miss. Admin.Code Pt. 2, R.1.1.D(7).]
T-18	General Condition: The permit to construct will expire if construction does not begin within eighteen (18) months from the date of issuance or if construction is suspended for eighteen (18) months or more. [11 Miss. Admin.Code Pt. 2, R.2.5.C(1).]
T-19	General Condition: A new stationary source issued a Permit to Construct cannot begin operation until certification of construction by the permittee. [11 Miss. Admin.Code Pt. 2, R.2.5.D(3).]
T-20	General Condition: Except as prohibited in 11 Miss. Admin. Code Pt. 2,R. 2.5.D(7) after certification of construction by the permittee, the Permit to Construct shall be deemed to satisfy the requirement for a permit to operate until the date the application for issuance or modification of the Title V Permit or the application for issuance or modification of the State Permit to Operate, whichever is applicable, is due. This provision is not applicable to a source excluded from the requirement for a permit to operate as provided by APC-S-2, Section XIII.G. [11 Miss. Admin. Code Pt. 2, R. 2.5.D(4).]
T-21	General Condition: Except as otherwise specified in 11 Miss. Admin. Code Pt. 2, R. 2.5.D(7), the application for issuance or modification of the State Permit to Operate or the Title V Permit, whichever is applicable, is due twelve (12) months after beginning operation or such earlier date or time as specified in the Permit to Construct. The Permit Board may specify an earlier date or time for submittal of the application. Beginning operation will be assumed to occur upon certification of construction, unless the permittee specifies differently in writing. [11 Miss. Admin. Code Pt. 2, R. 2.5.D(5).]
T-22	General Condition: Except as otherwise specified in 11 Miss. Admin. Code Pt. 2, R. 2.5.D(7), upon submittal of a timely and complete application for issuance or modification of a State Permit to Operate or a Title V Permit, whichever is applicable, the applicant may continue to operate under the terms and conditions of the Permit to Construct and in compliance with the submitted application until the Permit Board issues, modifies, or denies the Permit to Operate. [11 Miss. Admin. Code Pt. 2, R. 2.5.D(6).]
T-23	General Condition: For moderate modifications that require contemporaneous enforceable emissions reductions from more than one emission point in order to net out of PSD/NSR, the applicable Title V Permit to Operate or State Permit to Operate must be modified prior to beginning operation of the modified facilities. [11 Miss. Admin.Code Pt. 2, R.2.5.D(7).]

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Narrative Requirements:

Condition No.	Condition
T-24	<p>General Condition: Regarding compliance testing:</p> <p>(a) The results of any emissions sampling and analysis shall be expressed both in units consistent with the standards set forth in any Applicable Rules and Regulations or this permit and in units of mass per time.</p> <p>(b) Compliance testing will be performed at the expense of the permittee.</p> <p>(c) Each emission sampling and analysis report shall include but not be limited to the following:</p> <ol style="list-style-type: none">1. detailed description of testing procedures;2. sample calculation(s);3. results; and4. comparison of results to all Applicable Rules and Regulations and to emission limitations in the permit. [11 Miss. Admin.Code Pt. 2, R.2.6.B(3),(4)&(6).]
T-25	<p>General Condition: The construction of the stationary source shall be performed in such a manner so as to reduce fugitive dust emissions from construction activities to a minimum. [11 Miss. Admin.Code Pt. 2, R.2.5.A(4).]</p>

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EQPT0000000002 (AA-002) 0.5 MMBtu/hr Heater Treater Burner Stack (Facility Ref. No. 2-12-HT-BS:

Limitation Requirements:

Condition No.	Parameter	Condition
L-1		For the heater treater burner stack, the maximum permissible emission of ash and/or particulate matter from fossil fuel burning installations of less than 10 million BTU per hour heat input shall not exceed 0.6 pounds per million BTU per hour heat input. [11 Miss. Admin. Code Pt. 2, R. 1.3.D(1)a]
L-2		The heater treater burner stack shall have emissions of opacity less than or equal to 40%, as determined by EPA Reference Method 9, 40 CFR Part 60, Appendix A. [APC-S-1 3.1.a]
L-3		For the heater treater burner stack, the permittee shall not discharge sulfur oxides from any fuel burning installation in which fuel is burned primarily to produce heat or power by indirect heat transfer in excess of 4.8 pounds (measured as sulfur dioxide) per million BTU heat input. [11 Miss. Admin. Code Pt. 2, R. 1.4.A(1)]

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EQPT0000000005 (AA-005) 250 HP Reciprocating Internal Combustion Engine (Compressor Engine, Facility Ref. No. 5-12-ICE-ES):

Limitation Requirements:

Condition No.	Parameter	Condition						
L-1		The maximum permissible emission of ash and/or particulate matter from fossil fuel burning installations of less than 10 million BTU per hour heat input shall not exceed 0.6 pounds per million BTU per hour heat input. [11 Miss. Admin. Code Pt. 2, R. 1.3.D(1)a]						
L-2		Opacity: The compressor engine shall have emissions of opacity less than or equal to 40%, as determined by EPA Reference Method 9, 40 CFR Part 60, Appendix A. [APC-S-1 3.1(a)]						
L-3		This unit is a new spark ignition reciprocating engine, rated at less than or equal to 500 hp, located at an area source of Hazardous Air Pollutants (HAPs) and the permittee shall comply with 40 CFR Part 63, Subpart ZZZZ by complying with all applicable requirements of 40 CFR 60, Subpart JJJJ, New Source Performance Standard for Stationary Spark Ignition Internal Combustion Engines. [40 CFR 63.Subpart ZZZZ]						
L-4		If this non-emergency engine is manufactured after July 1, 2008; or if the engine is reconstructed or modified after June 12, 2006, as defined in §60.14 and §60.15, it is subject to the New Source Performance Standards for Stationary Spark Ignition Internal combustion Engines, 40 CFR Part 60, Subpart JJJJ 60.4340 (a) (4)(iii). [40 CFR 60.4340(a)(4)iii]						
L-5		<p>If this compressor engine is subject to 40 CFR Part 60, Subpart JJJJ, the permittee shall comply with one of the following standards:</p> <p>If this compressor engine is manufactured after July 1, 2008 and before January 1, 2011, the permittee shall comply with the following standard:</p> <table><tr><td>Nitrogen Oxide (NOx)</td><td>2 gm/bhp-hr</td></tr><tr><td>Carbon Monoxide (CO)</td><td>4 gm/bhp-hr</td></tr><tr><td>Volatile Organic Compounds (VOC)</td><td>1 gm/bhp-hr. [40 CFR 60.4233(e), 40 CFR 60.Subpart JJJJ(Table 1)]</td></tr></table>	Nitrogen Oxide (NOx)	2 gm/bhp-hr	Carbon Monoxide (CO)	4 gm/bhp-hr	Volatile Organic Compounds (VOC)	1 gm/bhp-hr. [40 CFR 60.4233(e), 40 CFR 60.Subpart JJJJ(Table 1)]
Nitrogen Oxide (NOx)	2 gm/bhp-hr							
Carbon Monoxide (CO)	4 gm/bhp-hr							
Volatile Organic Compounds (VOC)	1 gm/bhp-hr. [40 CFR 60.4233(e), 40 CFR 60.Subpart JJJJ(Table 1)]							

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EQPT0000000005 (continued):

Limitation Requirements:

Condition No.	Parameter	Condition
L-6		If this compressor engine is manufactured after January 1, 2011, the permittee shall comply with the following standard: Nitrogen Oxide (NOx) 1 gm/bhp-hr Carbon Monoxide (CO) 2 gm/bhp-hr Volatile Organic Compounds (VOC) 0.7 gm/bhp-hr. [40 CFR 60.4233(e), 40 CFR 60.Subpart JJJJ(Table 1)]
L-7		Such air emission equipment shall be operated as efficiently as possible to provide the maximum reduction of air contaminants. [11 Miss. Admin. Code Pt. 2, Ch. 2. II.B(10)]

Monitoring Requirements:

Condition No.	Parameter	Condition
M-1		If this compressor engine is subject to NSPS Subpart JJJJ, the permittee shall demonstrate compliance according to one of the following methods: Purchasing an engine certified according to procedures specified in 40 CFR Part 60, Subpart JJJJ, for the same model year and demonstrating compliance according to one of the methods specified in 60.4243(a) or; If the compressor engine is subject to NSPS Subpart JJJJ and is not certified by the manufacturer, the permittee must conduct an initial performance test. [40 CFR 60.4243(b)(2)i]

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EQPT0000000005 (continued):

Record-Keeping Requirements:

Condition No.	Condition
R-1	If the engine is subject to NSPS, Subpart JJJJ, the permittee must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. 60.4243 (b)(ii). [40 CFR 60.4243(b)(ii)]
R-2	If the compressor engine is subject to NSPS Subpart JJJJ, the permittee must keep records of the following: (1) All notifications submitted to comply with this subpart and all documentation supporting any notification (2) Maintenance conducted on the engine (3) If the engine is certified, documentation from the manufacturer that the engine is certified to meet the emissions standards and information as required in 40 CFR Parts 90 & 1048 (4) If the engine is not certified, or a certified engine is operated in a non-certified manner and subject to 60.4243(a) (20), documentation that the engine meets the emission standards must be kept. . [40 CFR 60.4245(a)(1-4)]

Submittal/Action Requirements:

Condition No.	Condition
S-1	If the compressor engine is subject to NSPS, Subpart JJJJ, within 60 days of engine startup date, the permittee shall submit the engine manufacture date and the brake horse power. [APC-S-2 II.B(11)]
S-2	If the compressor engine is subject to NSPS Subpart JJJJ, and is not certified by the manufacturer, the permittee must submit a copy of each performance test as conducted in accordance with 40 CFR 60.4244 within 60 days after the test has been complete. [40 CFR 60.4243(f)]

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EQPT0000000006 (AA-006) 20 HP Reciprocating Internal Combustion Engine (Circulating Pump, Facility Ref. No. 6-12-ICE-ES):

Limitation Requirements:

Condition No.	Parameter	Condition
L-1		For Emission Point AA-002, the maximum permissible emission of ash and/or particulate matter from fossil fuel burning installations of less than 10 million BTU per hour heat input shall not exceed 0.6 pounds per million BTU per hour heat input. [11 Miss. Admin. Code Pt. 2, R. 1.3.D(1)a]
L-2		The circulating pump engine shall have emissions of opacity less than or equal to 40%, as determined by EPA Reference Method 9, 40 CFR Part 60, Appendix A. [APC-S-2 II.B(10)]
L-3		This unit is a new stationary engine less than or equal to 500 hp, located at an area source of Hazardous Air Pollutants (HAPs), and shall comply with 40 CFR Part 63, Subpart ZZZZ by complying with all applicable requirements of 40 CFR 60, Subpart IIII, New Source Performance Standard (NSPS) for Stationary Compression Ignition Internal Combustion Engines. [40 CFR 63.Subpart ZZZZ]
L-4		If the circulation pump engine has a displacement of less than 30 liters per cylinder and is subject to NSPS, Subpart IIII, the permittee shall only use diesel fuel that meets the requirements of 40 CFR 80.510(b) for non road diesel fuel. [40 CFR 60.4207(b)]
L-5		If the engine is subject to NSPS, Subpart IIII and the engine is a pre-2007 model year engine with a displacement of less than 10 liters per cylinder, the engine must comply with the emission standards of Table 1 of Subpart IIII of the entire life of the engine. [40 CFR 60.4240(a)]
L-6		If the circulating pump engine is subject to NSPS, Subpart IIII and is a 2007 model year or later engine with a displacement of less than 30 liters per cylinder, the engine must comply with the emission standards for new CI engines in 60.4201, as applicable. [40 CFR 60.4204(b)]
L-7		Such air emission equipment shall be operated as efficiently as possible to provide the maximum reduction of air contaminants. [APC-S-2 II.B(10)]

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EQPT00000000006 (continued):

Monitoring Requirements:

Condition No.	Parameter	Condition
M-1		If the circulation pump engine has a displacement of less than 30 liters per cylinder and is subject to NSPS, Subpart IIII, the permittee must conduct an initial performance test to demonstrate compliance with the emissions standards according to the requirements specified in §60.4212 (a) through(d), as applicable. [40 CFR 60.4211(b)]

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EQPT0000000014 (AA-014) Heater Treater - waste gas (Facility Ref. No. 10-12-HT-WG):

Limitation Requirements:

Condition No.	Parameter	Condition
L-1		The heater treater shall only be operated with separated gas routed to o a control flare or to a natural gas transportation and sales pipeline. [APC-S-2 II.B(10)]
L-2		Such air emissions shall be operated as efficiently as possible to provide the maximum reduction of air contaminants. [11 Miss. Admin. Code Pt. 2, Ch. 2. II.B(10)]

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EQPT0000000021 (AA-020) Oil Tank Transfer to Truck Loading - Loading Losses (Facility Ref. No. 16-12-LL):

Limitation Requirements:

Condition		
Condition No.	Parameter	Condition
L-1		Crude oil loading shall be operated to minimize the emissions lost to the atmosphere during the loading process. [11 Miss. Admin. Code Pt. 2, Ch. 2. II.B(10)]

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CONT0000000001 (AA-026) Control Flare that controls emissions from the heater treater flash gas, Joule-Thomson unit exit gas, crude oil storage tanks, produced water storage tanks and natural gas liquids storage vessel gas (Facility Ref.: 8-12-F):

Limitation Requirements:

Condition No.	Parameter	Condition
L-1		The maximum permissible emission of ash and/or particulate matter from fossil fuel burning installations of less than 10 million BTU per hour heat input shall not exceed 0.6 pounds per million BTU per hour heat input. [11 Miss. Admin. Code Pt. 2, R. 1.3.D(1)a]
L-2		The control flare shall be designed and operated with no visible emissions as determined by EPA Method 22, except for periods not to exceed a total of 5 minutes during any consecutive two (2) hours. (APC-S-2 B 10). [11 Miss. Admin. Code Pt. 2, Ch. 2. II.B(10)]
L-3		The permittee shall maintain a flare pilot flame, auto ignitor, or any other equivalent device at all times when emissions are routed to the flare. [11 Miss. Admin. Code Pt. 2, Ch. 2. II.B(10)]
L-4		The net heating value of the gas being combusted shall be 300 Btu/scf or greater if the flare is steam-assisted or air-assisted; or the net heating value of the gas being combusted shall be 200 Btu/scf or greater if the flare is non-assisted. [APC-S-2 II.B(10)]
L-5		Flares shall be operated and maintained in conformance with their design and manufacturer's recommendations. [11 Miss. Admin. Code Pt. 2, R. 2.2.B(10)]
L-6		Flares shall be operated at all times when emissions may be vented to them. [11 Miss. Admin. Code Pt. 2, R. 2.2 .B(10)]

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CONT0000000001 (continued):

Monitoring Requirements:

Condition No.	Parameter	Condition
M-1		The permittee shall monitor the presence of the flare pilot flame by one of the following methods: using a thermo-couple or any other equivalent device to detect the presence of a flare; or visually observe the presence of the flare flame, daily. [APC-S-2 II.B(11)]
M-2		The permittee shall visually observe the flare for a minimum of five (5) minutes during operation using EPA method 22, weekly. If smoking is observed, corrective actions must be taken. The permittee shall perform a follow-up visual observation for a period of two (2) hours using EPA Method 22 immediately after corrections are made to demonstrate compliance with the visible emissions limitation. [11 Miss. Admin. Code Pt. 2, Ch. 2. II.B(11)]
M-3		The permittee shall measure the volume of gas combusted in the flare. [11 Miss. Admin. Code Pt. 2, Ch. 2. II.B(11)]
M-4		The net heating value of the gas being combusted shall be determined monthly by the methods specified in 40 CFR 60.18 (f) or by semi-annual field gas analysis. Analysis must demonstrate that the heat content of the flare gas is 300 Btu/scf or greater if the flare is steam-assisted; or the net heating value of the gas being combusted is 200 Btu/scf or greater if the flare is non-assisted . [11 Miss. Admin. Code Pt. 2, Ch. 2. II.B(11)]

Record-Keeping Requirements:

Condition No.	Condition
R-1	The permittee shall keep records of all maintenance performed on the flare in order to operate the flare in a manner consistent with good air pollution control practices to minimize emissions and shall make said records available upon request. [APC-S-2 II.B(11)]
R-2	The permittee shall maintain a record and/or a log documenting all visual observations/test, the nature and cause of any visible emissions, any corrective actions(s) taken to prevent or minimize the emissions, the date and time when visible observations were conducted and the date and time when corrective action was taken. [APC-S-2 II.B(11)]

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CONT0000000001 (continued):

Record-Keeping Requirements:

Condition No.	Condition
R-3	The permittee shall record on a log sheet anytime the facility is operating without a flare flame present and corrective actions taken including date, start and end times, duration, cause, corrective and preventative actions, and whether or not any gases were being vented to the flare at the time. [11 Miss. Admin. Code Pt. 2, Ch. 2. II.B(11)]
R-4	The permittee shall keep a record of the net heating value of the stream combusted in the flare. [11 Miss. Admin. Code Pt. 2, Ch. 2. II.B(11)]
R-5	The permittee shall keep a record of monitoring conducted to ensure the flare is operated and maintained in conformance with its design. [11 Miss. Admin. Code Pt. 2, R. 2.2.B(11)]

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EQPT0000000052 (AA-030) NGL Storage Vessel Flash Gas (11-14-NGLSV-FG):

Limitation Requirements:

Condition No.	Parameter	Condition
L-1		Off-gas from the natural gas liquids storage vessels shall be routed to the control flare. [11 Miss. Admin. Code Pt. 2, R. 2.2.B(10)]

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EQPT0000000054 (AA-032) Joule-Thomson Unit Outlet Gas:

Limitation Requirements:

Condition No.	Parameter	Condition
L-1		Outlet gas from the Joule-Thomson unit shall be routed to the control flare. [11 Miss. Admin. Code Pt. 2, R. 2.2.B(10)]

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GRPT0000000003 (Storage Tanks) Crude Oil and Produced Water Storage Tanks:

Limitation Requirements:

Condition		
No.	Parameter	Condition
L-1		The crude oil and produced water storage tanks shall only be operated with emissions routed to a control flare. [11 Miss. Admin. Code Pt. 2, Ch. 2. II.B(11)]

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GRPT0000000004 (Blowcase Vessels) Blowcase Vessels:

Limitation Requirements:

Condition No.	Parameter	Condition
L-1		Such air emission equipment shall be operated as efficiently as possible to provide the maximum reduction of air contaminants. [APC-S-2 II.B(10)]

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GRPT0000000005 (Pumps) Gas Operated Pumps:

Limitation Requirements:

Condition No.	Parameter	Condition
L-1		Such air emission equipment shall be operated as efficiently as possible to provide the maximum reduction of air contaminants. [APC-S-2 II.B(10)]

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GRPT0000000006 (Small Storage Tanks) Miscellaneous small storage tanks:

Limitation Requirements:

Condition No.	Parameter	Condition
L-1		Such air emission equipment shall be operated as efficiently as possible to provide the maximum reduction of air contaminants. [11 Miss. Admin. Code Pt. 2, Ch. 2. II.B(10)]

GENERAL INFORMATION

Goodrich Petroleum Company LLC, Denkmann 33- 28 H Number 1 Production Facility
Near Parish Road 181
Off Bean Road
Liberty, MS
Amite County

Alternate/Historic Identifiers

ID	Alternate/Historic Name	User Group	Start Date	End Date
57649	Goodrich Petroleum Company, LLC	Official Site Name	5/14/2012	
2800500029	Goodrich Petroleum Company, LLC	Air-AIRS AFS	5/14/2012	
008000029	Goodrich Petroleum Company LLC, Denkmann 33- 28 H Number 1 Production	Air-Construction	9/13/2012	

Basin: South Independent Streams Basin

Location Description:

GENERAL INFORMATION

Relevant Documents:

Mississippi Department of Environmental Quality, Environmental Permitting Division, by phone at (601) 961-5171 and by mail at Post Office Box 2261, Jackson, MS 39255. The following regulations were referenced in this permit:

Mississippi Air Pollution Control Regulations, 11 Miss. Admin. Code Pt. 2, Ch. 1

Mississippi Air Pollution Control Regulations, 11 Miss. Admin. Code Pt. 2, Ch. 2

Standards of Performance for Stationary Spark Ignition Internal Combustion Engines, 40 CFR Part 60, Subpart JJJJ

Standards of Performance for Stationary Compression Ignition Internal Combustion Engines, 40 CFR Part 60, Subpart IIII

40 CFR Part 63, Subpart ZZZZ, National Emissions Standards for Hazardous Air Pollutants for Stationary Internal Combustion Engines

40 CFR Part 60, Subpart OOOO - New Source Performance Standards for Crude Oil and Natural Gas Production, Transmission, and Distribution