

Fold at line over top of envelope to the right of the return

Is your RETURN ADDRESS completed on the reverse side?

SENDER:

- Complete items 1 and/or 2 for additional services.
- Complete items 3, and 4a & b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

I also wish to receive the following services (for an extra fee):

- ☐ Addressee's Address
- ☐ Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:
 William S. Knisely
 Desoto Oil & Gas, Inc
 700 S. Palafox St.
 Pensacola, FL 32501

4a. Article Number
 Z 127 633 190

4b. Service Type
☐ Registered ☐ Insured
☒ Certified ☐ COD
☐ Express Mail ☐ Return Receipt for Merchandise

7. Date of Delivery

12-25

5. Signature (Addressee)

8. Addressee's Address (Only if requested and fee is paid)

6. Signature (Agent)

[Signature]

PS Form 3811, December 1991

★U.S. GPO: 1993-352-714

DOMESTIC RETURN RECEIPT

Thank you for using Return Receipt Service.

Z 127 633 190



Receipt for Certified Mail

No Insurance Coverage Provided
 Do not use for International Mail
 (See Reverse)

Sent to	
William S. Knisely	
Street and No.	
Desoto Oil & Gas	
City, State and ZIP Code	
Pensacola, FL	
Postage	\$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, and Addressee's Address	
TOTAL Postage & Fees	\$
Postmark or Date	
3-21-96	
Blackjack Creek Sulphur Rec. Plant	

PS Form 3800, March 1993



Department of Environmental Protection

Lawton Chiles
Governor

Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Virginia B. Wetherell
Secretary

March 20, 1996

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. William S. Knisely
Vice President - Engineering & Operation
De Soto Oil & Gas, Inc.
700 South Palafox Street
Pensacola, Florida 32501

Dear Mr. Knisely:

Re: Blackjack Creek Sulfur Recovery Plant

This is in response to your February 9 letter. The Department cannot authorize the removal of the SCOT tail gas unit from the Blackjack Creek Sulfur Recovery Plant. The air pollution control regulations prohibit the plant from operating without this equipment.

Florida regulations in existence when this unit was constructed (Rule 17-2.04(6)(h)1.a, F.A.C., now Rule 62-296.409, F.A.C.) required existing units to remove the equivalent of 96 percent of the sulfur and new units to remove 99.8 percent. Existing units were defined as those having construction permits issued prior to July 1, 1973. Florida regulations were based on information that was obtained as a result of studies sponsored by the Jay field operators, which included Exxon and others. The studies examined the feasibility of several levels of control that included 92, 96, and 99.8 percent sulfur removal. The studies also examined the sulfur dioxide ambient air quality impacts resulting from the proposed strategies. Lower standards could result in violation of the sulfur dioxide ambient air quality standard. The regulation is part of Florida's federally approved State Implementation Plan. Any changes to the regulation would require federal approval through the variance process.

Permit No. AC 57-2009 for this unit was issued on December 6, 1973. In a meeting of the Department of Pollution Control Board in December 1974, the Blackjack Creek Sulfur Recovery Plant was classified as a new unit. Exxon agreed that this unit would meet the 99.8 percent removal standard. All previous operators of this facility have met this standard.

Mr. William S. Knisely
March 20, 1996
Page Two

The federal government passed regulations (40CFR60, Subpart LLL) that required the equivalent of 99.8 percent removal of sulfur by units built or modified after January 20, 1984. Prevention of Significant Deterioration (PSD) regulations would require at least 99.8 percent removal if any modification resulted in the sulfur dioxide emissions from this unit increasing by 40 or more tons per year above previous actual emissions.

Florida does not have an administrative waiver procedure. The Department may grant a variance for up to two years for any of the following reasons:

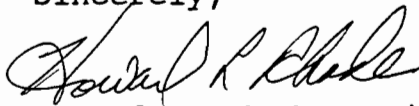
- (a) There are no practical means available to control the pollution.
- (b) The cost of the controls must be spread out over a considerable period of time.
- (c) To relieve a hardship other than those listed above.

None of these reasons could be used as a basis to remove the existing tail gas scrubber from this facility.

All units built or modified in Florida after July 1, 1973 are required to remove 99.8 percent of the sulfur. Florida has no jurisdiction on the requirements of other states. Those units built after January 20, 1984 in other states are required to meet at least 99.8 percent sulfur removal by the federal regulations. If you are aware of any new units in Florida built or modified after July 1, 1973 that are not removing at least 99.8 percent of the sulfur, please let the Department know.

We appreciate your effort to comply with the environmental requirements for these units.

Sincerely,



Howard L. Rhodes, Director
Division of Air Resources
Management

HLR/wh/h

cc: Ed Middleswart, NWD

DE SOTO OIL & GAS, INC.

February 9, 1996

Florida Department of Environmental Protection
Air Resources Management Division
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32399-2400
Attn: Mr. Howard Rhodes, Division Director

RECEIVED

FEB 13 1996

DIVISION OF AIR
RESOURCES MANAGEMENT

*Clair p/s
draft
response on
call this
man - see
what we
are able to
do to help.
H
Howard
2/15*

Re: Permit #A057-197735, ID# 10PEN57001401
Blackjack Creek Sulfur Recovery Plant
Santa Rosa County, FL

Dear Mr. Rhodes:

I met last month with Mr. Middleswart and Mr. Allen in Pensacola regarding a request to eliminate the SCOT tail gas unit requirement portion of the above referenced permit. Attached is a letter that was reviewed with them along with a few informational handouts on the SCOT process.

The elimination of the SCOT unit process would increase future potential SO₂ emissions over current actual emissions by 350± tons per year, which is much greater than the 40 ton per year ceiling "minimum impact" level. In lieu of initially undertaking a long, rigorous re-permitting process, I would like to know if an administrative waiver could be granted in light of the apparent unfairness and economic hardship imposed by the requirement.

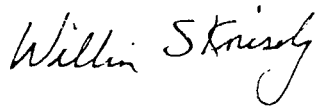
As pointed out in the attached letter, our sulfur recovery plant is by far the smallest thruput facility of the four plants in the area, and we have an SO₂ emission restriction 20 times greater than the next most restricted plant, all of which were installed in the early 1970's. We have produced with this restriction up to now, and paid the additional costs necessary; however, we are rapidly approaching our economical limit. Removal of this restriction would allow us to operate an estimated two to three additional years, which would enable us to produce an additional 500,000± barrels of crude oil plus associated natural gas and sulphur.

De Soto currently employs 14 full time personnel at the Blackjack Creek Field site, and spends approximately \$3,000,000 per year to operate the facility. We pay out approximately \$350,000 per year additionally in oil, gas, and sulfur severance taxes to the state along with \$100,000 per year in property taxes to Santa Rosa county. We are very proud of our strong environmental record that has been coupled with our low cost operatorship enabling us to greatly extend the economic life of the field and maximize the natural resource recovery.

DE SOTO OIL & GAS, INC.

Please review this request and give me a call if you have any questions or require additional information. I am available to meet with you and your staff on this request as needed.

Sincerely Yours,

A handwritten signature in cursive script that reads "William S. Knisely".

William S. Knisely
Vice President - Engineering & Operations
De Soto Oil & Gas, Inc.

WSK/Attachment

DE SOTO OIL & GAS, INC.

*Clair pls
draft
response or
call this
man - see
what we
are able to
do to help.
H*

February 9, 1996

Florida Department of Environmental Protection
Air Resources Management Division
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32399-2400
Attn: Mr. Howard Rhodes, Division Director

RECEIVED
FEB 13 1996
DIVISION OF AIR
RESOURCES MANAGEMENT

*Howard
2/15*

Re: Permit #A057-197735, ID# 10PEN57001401
Blackjack Creek Sulfur Recovery Plant
Santa Rosa County, FL

RECEIVED
FEB 15 1996
BUREAU OF
AIR REGULATION

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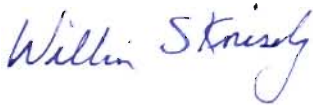
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DE SOTO OIL & GAS, INC.

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Sincerely Yours,



William S. Knisely
Vice President - Engineering & Operations
De Soto Oil & Gas, Inc.

WSK/Attachment

DE SOTO OIL & GAS, INC.

January 8, 1996

Florida Department of Environmental Regulation
Air Resources Management Program
160 Governmental Center
Pensacola, FL 32565
Attn: Mr. Ed Middleswart - Program Director

Re: Permit #A057-197735, ID# 10PEN57001401
Blackjack Creek Sulfur Recovery Plant
Santa Rosa County, FL

Dear Mr. Middleswart:

De Soto Oil & Gas, Inc. requests that the above referenced permit be amended to eliminate the SCOT tail gas unit requirement. This will enable us to increase the economic life of the plant and maximize oil recovery with only a minor increase in SO₂ emissions. Approximately 99% of Blackjack Creek Field's sour Smackover crude oil has produced to date, and the declining field production rate (currently 750 BOPD) is rapidly approaching the economic limit.

Currently, we are treating 1,990 MCFD of inlet sour gas with a 15.0% H₂S content. The sulfur content is 12.6 tons per day. Our permitted sulfur recovery using both the Claus and SCOT units is a minimum of 99.8%, which corresponds to a maximum SO₂ emission of 0.05 tons/day. Elimination of the SCOT unit process would decrease our sulfur recovery minimum to 96.0%, which corresponds to a maximum SO₂ emission of 1.0 tons/day. The average sulfur recovery in our Claus process alone was 97.5% based on monthly 1995 checks.

Our SCOT process operating cost (including fuel gas consumption) accounts for a considerable portion of our total fixed plant operating cost. Fuel gas availability is also becoming a major concern, as our excess gas (sales gas) volume has dropped from over 800 MCFD in 1992 to only 220 MCFD now.

De Soto feels very strongly about our record of minimizing our SO₂ emissions at Blackjack Creek since we became operator in 1992. Attached are tables that recap the SO₂ emission history at Blackjack Creek along with actual versus permitted emission amounts. Our aggressive pursuit in repressurizing the Smackover sour oil reservoir has greatly minimized individual well flaring events, and along with several other operational improvements, has resulted in SO₂ emissions of less than 3% of permitted amounts the past four years.

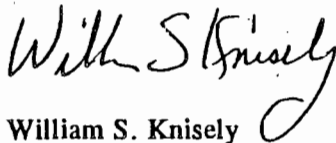
It should be noted that the other nearby oilfield sour gas treating facility in Florida operates with a minimum 96% sulfur recovery limit and processes 90± long tons per day whereas the two nearest sour gas treating facilities in Alabama operate with 91% and 93% minimums

DE SOTO OIL & GAS, INC.

processing $70\pm$ and $520\pm$ long tons respectively. These sulfur processing amounts are much larger than our 11.3 long tons per day at Blackjack Creek.

Please review this permit modification request and give me a call if you have any questions or require additional information. I am available to meet with you on this request as needed.

Sincerely Yours,



William S. Knisely
Vice President - Engineering & Operations
De Soto Oil & Gas, Inc.

WSK/Attachment

XC: Mr. Walter Schmidt
Chief, Bureau of Geology
Florida DEP - Tallahassee

SO₂ EMISSION HISTORY
BLACKJACK CREEK FACILITY
SANTA ROSA COUNTY, FLORIDA

QUARTERLY FLARE REPORT (TONS SO ₂)						SULFUR RECOVERY UNIT	FACILITY TOTAL	
Year	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Total	Test Efficiency	Calc. Yrly. Emissions (Tons SO ₂)	Emissions (Tons SO ₂)
1995	4.1	6.4	60.9	15.7	87.1	99.86%	13.3	100.4
1994	4.9	4.7	4.7	8.0	22.3	99.94%	6.1	28.4
1993	15.8	14.9	6.5	7.6	44.8	99.97%	2.6	47.4
1992	36.5	36.0	14.0	6.3	92.8	99.81%	20.2	113.0
1991	41.0	34.6	35.5	43.7	154.8	99.98%	2.5	157.3
1990					73.1	99.99%	1.3	74.4
1989					258.8	99.83%	25.0	283.8
1988					34.6	99.99%	1.1	35.7
1987					79.2	99.97%	4.9	84.1
1986					27.7	99.97%	5.7	33.4
pre-1986					no data	no data	no data	no data

PERMIT MAXIMUM VS. ACTUAL SO₂ EMISSIONS
BLACKJACK CREEK FACILITY
SANTA ROSA COUNTY, FLORIDA

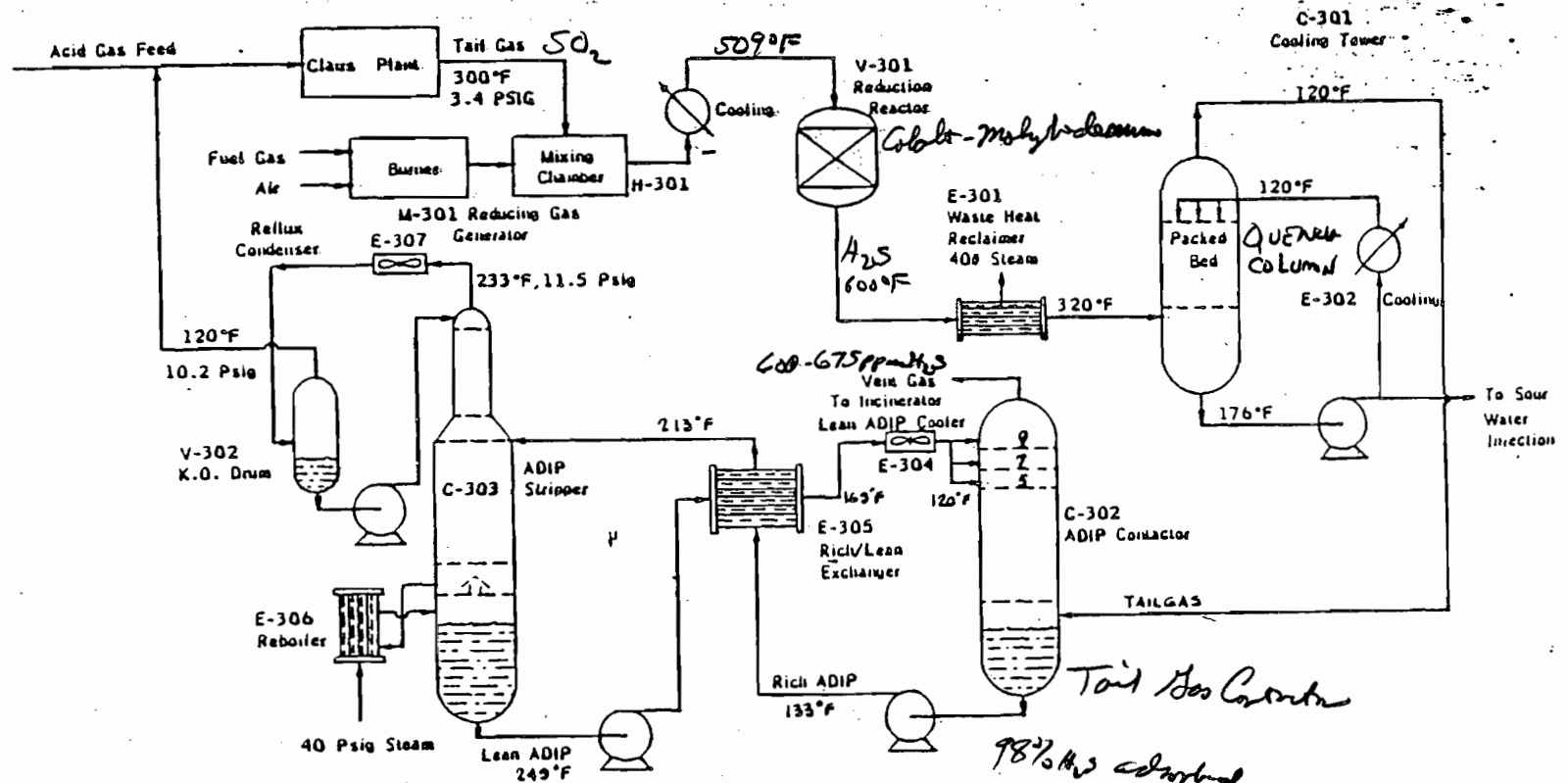
<u>Year</u>	<u>FLARE EMISSIONS (TONS SO₂)</u>		<u>SULFUR REC. PLT. EMISS. (TONS SO₂)</u>		<u>TOTAL FACILITY EMISS. (TONS SO₂)</u>		
	<u>Max. Permitted</u>	<u>Actual ⁽¹⁾</u>	<u>Max. Permitted</u>	<u>Actual ⁽²⁾</u>	<u>Max. Permitted</u>	<u>Actual</u>	<u>% of Max.</u>
1995	3832	87.1	18.9	13.3	3851	100.4	2.6%
1994	3832	22.3	20.7	6.1	3853	28.4	0.7%
1993	3832	44.8	19.8	2.6	3852	47.4	1.2%
1992	3832	92.8	21.5	20.2	3853	113.0	2.9%
1991	3285	154.8	25.0	2.5	3310	157.3	4.8%
1990	3285	73.1	26.0	1.3	3311	74.4	2.3%
1989	3285	258.8	29.4	25.0	3314	283.8	8.6%
1988	3285	34.6	22.0	1.1	3307	35.7	1.1%
1987	3285	79.2	32.7	4.9	3318	84.1	2.5%
1986	3285	27.7	38.0	5.7	3323	33.4	1.0%

(1) As calculated from daily flare log amounts.

(2) As extrapolated from yearly emission test data.

Figure 1

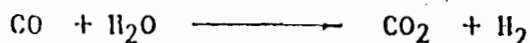
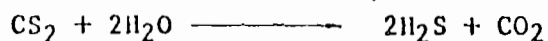
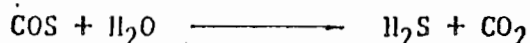
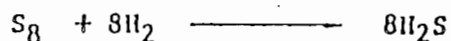
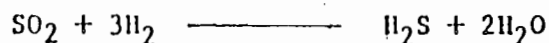
SHELL SCOT PROCESS AT BLACKJACK CREEK, FLORIDA



I. PROCESS DESCRIPTION

The SCOT Unit converts sulfur compounds in the Claus sulfur recovery unit tail gas into hydrogen sulfide, selectively removes hydrogen sulfide from the converted gas and routes the treated gas to the incinerator. The hydrogen sulfide removed in the SCOT Unit is recycled to the Claus sulfur recovery unit for further conversion into sulfur. The overall sulfur recovery is better than 99.8% for the combined operations of Claus sulfur recovery Unit and SCOT Unit. In order to attain the above mentioned overall sulfur recovery, the sulfur recovery at the Claus sulfur recovery unit alone must be better than 92%.

The SCOT process basically is comprised of a reduction section and a selective hydrogen sulfide absorption section. The hot reducing gas is generated in the In-Line Burner, M-301, by substoichiometric combustion of fuel gas. The hot reducing gas mixes with Claus tail gas in the Mixing Chamber, H-301, attached to the end of the In-Line Burner. The tail gas is heated by the hot reducing gas. There is a Water Injection System, M-304, attached to the outlet of the Mixing Chamber. A suitable amount of water is injected into the mixed gas so that the resultant reactor feed gas is maintained at about 509°F. The Reduction Reactor, V-301, contains a 3 foot depth of Shell's 534 Cobalt-Molybdenum catalyst. All the sulfur compounds in the gas are converted to hydrogen sulfide over the catalyst by the reducing gas. The reactions which occur in the reactor are:



The reactor effluent is heated to about 600°F by heat generated by these reactions.

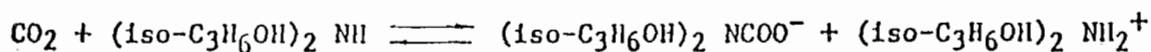
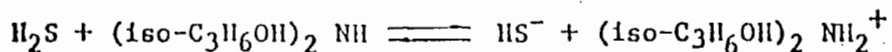
The reactor effluent is cooled to 320°F in the Reduction Reactor Waste Heat Reclaimer, E-301, where 40 PSIG steam is generated. The gas is then routed to Quench Column, C-301, for further cooling by direct contact with 120°F quench water. The gas is cooled to 120°F and most of the water vapor in the gas is condensed and removed with quench water. The quench water from the bottom of the Quench Column is at 178°F. It is pumped by one of the Quench Water Pumps, P-301A or B. Most of the water is cooled to 120°F at Quench Cooler, E-302, and returned to the top of the Quench Column. The amount of water corresponding to the water condensed from the gas stream is bled from the quench water circuit. About 10% of the quench water passes through the Quench Water Filter, F-301, to remove solid particles from the quench water.

Acidity of the quench water is maintained at pH 8.0 to 8.5 to reduce corrosion of the equipment in the quench water system. A pH control system monitors the acidity of the water and periodically injects caustic solution into the quench water.

During upset some sulfur dioxide will pass through the Reduction Reactor. Sulfur dioxide will dissolve in the quench water and react with hydrogen sulfide to form solid sulfur particles. The water will become cloudy due to solid sulfur particles. The Turbidity Analyzer, AE-304, will detect the increase of turbidity and the Turbidity Indicator, AI-304, will alarm the operator of the upset and will eventually actuate shutdown system B if turbidity keeps on rising. Shutdown System B closes the Valve, HV-304, at the gas inlet to the Quench Column and opens the Bypass Valve, PV-309A. Tail gas will pass through Valve PV-309A and go to Incinerator, II-302, for

incineration. Turbidity can also be visually observed at FI-320.

From the Quench Column, the tail gas passes into the Tail Gas Contactor, C-302. In the Tail Gas Contactor, the tail gas contacts countercurrently with 120°F aqueous diisopropanol amine solution (26.6 wt % DIPA). The amine solution absorbs about 98% hydrogen sulfide and 35% carbon dioxide in the tail gas. The acid gas absorptions are equilibrium reactions as shown below:



At the Tail Gas Contactor, low solution temperature and higher acid gas partial pressures than equilibrium partial pressures force the reactions toward right, and the acid gases are absorbed into the lean amine solution.

At the Stripper, C-303, high operating temperature favors reverse reactions. The acid gases are evolved from the rich amine solution.

The vent gas from the Tail Gas Contactor contains 600 to 675 ppm hydrogen sulfide. It is sent to the Incinerator, H-302, where hydrogen sulfide is oxidized to sulfur dioxide. The combustion gas then passes through the Incinerator Waste Heat Reclaimer, generating 350 PSIG steam. The cooled combustion gas is then dispersed through Vent Stack, S-301. The sulfur in the vent gas is less than 0.2% of sulfur content of raw acid gas to the Claus Sulfur Recovery Unit, and an overall sulfur recovery of higher than 99.8% is obtained.

Rich solvent, at a temperature of 133°F, leaves the bottom of the Tail Gas Contactor and is pumped by one of the Rich Solvent Pumps, P-302A or B, through Lean/Rich Solvent Exchanger, E-305. It is heated to 216°F at Lean/Rich Solvent Exchanger and then routed to Stripper, C-303. The rich solution enters the Stripper at 20th tray from the bottom and flows downward.

The acid gases are stripped from the solvent by heat from steam. The heat is supplied by Reboiler, E-306, by 40 PSIG steam. The stripper bottom passes through the Reboiler and generates steam as it boils. The steam flows upward toward the top of the Stripper and supplies heat needed for acid gas stripping.

The lean solvent from the bottom of the Stripper, at 249°F, is pumped by one of the Lean Solvent Pumps, P-303A or B. It passes through Lean/Rich Solvent Exchanger, E-305, where it is cooled to about 170°F and then passes through Lean Solvent Cooler, E-304, where it is cooled to 120°F. The lean solvent at 120°F then flows to top of Tail Gas Contactor, C-302, for acid gas absorption.

The overhead vapor from the Stripper, C-303, at 235°F is cooled to 120°F and partially condensed by the Stripper Condenser, E-307, and passes into Stripper Reflux Accumulator, V-302. The water is separated from acid gas at the Stripper Reflux Accumulator and is pumped back to the top of the Stripper by one of the Stripper Reflux Pumps, P-304A or B. Acid gas is recycled to Acid Gas Scrubber, V-201, in the front end of the Claus Sulfur Recovery Unit.

II. EQUIPMENT LIST AND DESCRIPTION

Equipment List

Description

C-301

Quench Column
Sivalls. 66" ID x 32' SS
Design 55 PSI at 350°F. Packed
with 356CF, 304 SS No. 2 Hpak

C-302

Tail Gas Contactor
Sivalls. Vertical. 60" ID x 35' SS
Design 55 PSI at 225°F, Trayed
Valve Tray 9-CS w/304 SS Valves
1-CS Chimney

C-303

Stripper
Sivalls. Vertical. 60" x 36" ID x 74' SS
Design 65 PSI at 300°F, Trayed
Valve Trays 20-60" CS w/304 SS Valves
6-36" CS w/SS Valves
1-60" CS Draw-Off

E-301 Reduction Reactor
Waste Heat Reclaimer

Temperature in shellside 210°F Tubeside 287°F
Temperature out shellside 603°F Tubeside 320°F
Operating pressure shell-
side 40 PSIG Tubeside 3.2 PSIG
Design pressure shellside 75 PSIG Tubeside 12 PSIG
206 Tubes 2" OD x 24'

E-302 Quench Cooler

Temperature in tubeside 178°F
Temperature out tubeside 120°F
Operating pressure tube-
side 25 PSIG
Design pressure tubeside 75 PSIG
Design temperature tube-
side 250°F
2 Fans, 15 HP each 418 RPM

E-304 Lean Solvent
Cooler

Temperature in tubeside 169°F
Temperature out tubeside 120°F
Design Temperature tube-
side 300°F
Operating pressure tube-
side 25 PSIG
Design pressure tubeside 75 PSIG

E-305 Lean/Rich
Solvent Exchanger

Temperature in shellside 249°F Tubeside 133°F
Temperature out shellside 169°F Tubeside 213°F
Operating pressure shell-
side 30 PSIG Tubeside 45 PSIG
Design pressure shellside 75 PSIG Tubeside 84 PSIG
Design temperature shell-
side 300°F Tubeside 300°F
250 Tubes, 3/4" OD x 20'

Equipment ListDescription

E-306 Stripper Reboiler

Temperature in shellside 286°F Tubeside 249°F
Temperature out shellside 286°F Tubeside 249°F
Design temperature shell-
side 350°F Tubeside 350°F
Operating pressure shell-
side 40 PSIG Tubeside 18 PSIG
660 Tubes, 3/4" OD x 16'

E-307 Stripper Condensate

Temperature in tubeside 233°F
Temperature out tubeside 120°F
Design temperature 300°F
Operating pressure 11.5 PSIG
Design pressure 65 PSIG

F-301

Quench Water Filter
Nowata 3TL 24 C-100
50 GPM, 5 Micron

F-302

Lean Solvent Filter
Nowata 4TL 48 C-100
75 GPM, 5 Micron

H-301

Mixing Chamber
Operating shell tempera-
ture 350-650°F
Design shell temperature 750°F
Operating pressure 3.9 PSIG
Design pressure 12 PSIG
Operating temperature at
hot end (inlet will be
approximately 3000°F
and at cold end (outlet)
approximately 900°F

K-302

Startup Blower
Buffalo Forge Co., Centrifugal Blower
2912 SCFM at .19 PSI Δp

M-301

In-Line Burner Assembly
Duiker Projekten, Holland
Duiker LMV 5650 MBTU/HR

M-304

Water Injection System
3075 Lbs/HR

P-301 A&B

Quench Water Pump
Union Pump Co., Vertical In-Line VLK
385 GPM, 35 PSI Δp

Equipment ListDescription

P-302 A&B

Rich Solvent Pump
Union Pump Co., Vertical In-Line 3x4x7 VLK
273 GPM, 58 PSI Δp

P-303 A&B

Lean Solvent Pump
Union Pump Co., Vertical In-Line 4x6x8-1/2 VLK
340 GPM, 26 PSI Δp , 7 1/2 HP

P-304 A&B

Stripper Reflux Pump
Union Pump Co., Vertical In-Line 1-1/2x2x7 VLK
30 GPM, 51 PSI Δp , 5 HP

P-306

SCOT Solvent Transfer Pump
Union Pump Co., Vertical In-Line 1-1/2x2x8-1/2 VLK
25 GPM, 30 PSI Δp , 3 HP

P-307

Caustic Chemical Injection Pump
1 to 36 GPM, 58 PSI Δp , 1/3 HP

P-510 A&B

Classifier Oil Pumps (Will pump sour oil)
Design 200 GPM at 1800 RPM, 5 HP

V-301

Reduction Reactor
Sivalls. Horizontal 10' OD x 10' SS
Design 12 PSI at 900°F

V-302

Stripper Reflux Accumulator
Sivalls. Vertical 30" OD x 8' SS
Design 65 PSI at 300°F

V-303

Reboiler Condensate Drum
Sivalls. Vertical 18" OD x 3' SS
Design 90 PSI at 350°F

V-304

DIPA Sump Tank
Sivalls. Horizontal 6' OD x 10' SS
Design 65 PSI at 300°F

V-305

Bypass Condensate Receiver
Sivalls. Vertical 30" OD x 5' SS
Design 12 PSI at 350°F

V-306

SCOT Closed Drain Sump
Sivalls. Horizontal 36" OD x 6' SS
Design 65 PSI at 300°F

V-504

Closed Drain Classifier
Furnished by Exxon

Blackjack Creek
1130014
De Soto Oil & Gas, Inc.
DE SOTO OIL & GAS, INC.

MEETING WITH FLORIDA DEPARTMENT OF
ENVIRONMENTAL PROTECTION

August 26, 1993

William S. Knisely, Vice President
De Soto Oil & Gas, Inc.

Gregory L. Hodges, Manager
De Soto Oil & Gas, Inc.

BILL KNISELY
Vice President

Engineering
& Operations

De Soto Oil & Gas, Inc.

700 South Palafox St.
Pensacola, FL 32501

(904) 432-9588
Fax (904) 432-5737

GREGORY L. HODGES

De Soto Oil & Gas, Inc.

700 South Palafox St.
Pensacola, FL 32501

(904) 432-9588
Fax (904) 432-5737

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SO₂ EMISSION HISTORY
BLACKJACK CREEK FACILITY
SANTA ROSA COUNTY, FLORIDA

QUARTERLY FLARE REPORT (TONS SO ₂)						SULFUR RECOVERY UNIT		FACILITY TOTAL
Year	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Total	Test Efficiency	Calc. Yrly. Emissions (Tons SO ₂)	Emissions (Tons SO ₂)
1993	15.8	14.9				99.97%		
1992	36.5	36.0	14.0	6.3	92.8	99.81%	20.2	113.0
1991	41.0	34.6	35.5	43.7	154.8	99.98%	2.5	157.3
1990					73.1	99.99%	1.3	74.4
1989					258.8	99.83%	25.0	283.8
1988					34.6	99.99%	1.1	35.7
1987					79.2	99.97%	4.9	84.1
1986					27.7	99.97%	5.7	33.4
pre-1986					no data	no data	no data	no data

PERMIT MAXIMUM VS. ACTUAL SO₂ EMISSIONS
BLACKJACK CREEK FACILITY
SANTA ROSA COUNTY, FLORIDA

<u>Year</u>	<u>FLARE EMISSIONS (TONS SO₂)</u>		<u>SULFUR REC. PLT. EMISS. (TONS SO₂)</u>		<u>TOTAL FACILITY EMISS. (TONS SO₂)</u>		
	<u>Max. Permitted</u>	<u>Actual ⁽¹⁾</u>	<u>Max. Permitted</u>	<u>Actual ⁽²⁾</u>	<u>Max. Permitted</u>	<u>Actual</u>	<u>% of Max.</u>
1993	3832	61.4 (est.)	19.6 (est.)	2.9 (est.)	3851 (est.)	64.3 (est.)	1.7% (est.)
1992	3832	92.8	21.5	20.2	3853	113.0	2.9%
1991	3285	154.8	25.0	2.5	3310	157.3	4.8%
1990	3285	73.1	26.0	1.3	3311	74.4	2.3%
1989	3285	258.8	29.4	25.0	3314	283.8	8.6%
1988	3285	34.6	22.0	1.1	3307	35.7	1.1%
1987	3285	79.2	32.7	4.9	3318	84.1	2.5%
1986	3285	27.7	38.0	5.7	3323	33.4	1.0%

(1) As calculated from daily flare log amounts.

(2) As extrapolated from yearly emission test data.

DE SOTO OIL & GAS, INC.

Date: February 1, 1993

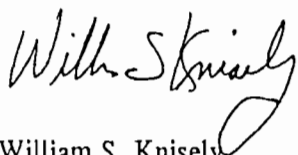
Mr. Rick Prusa
Department of Environmental Regulation
160 Governmental Center
Pensacola, FL 32501-5794

Re: Blackjack Creek Field Permit No's. A057-197735, A057-197727, and A057-151960
Santa Rosa County, Florida

Dear Mr. Prusa:

Attached is the De Soto 1992 Annual Operation Report for the above referenced permits. We previously submitted these reports on the old forms prior to receiving the new forms. Please contact Bill Knisely at the phone number provided below should you have any questions.

Sincerely Yours,



William S. Knisely
Engineering Manager
De Soto Oil & Gas, Inc.



Florida Department of Environmental Regulation

Twin Towers Office Bldg. 2600 Blair Stone Road Tallahassee, Florida 32399-2400

DER Form	17-210.900(4)
Form Title	Annual Operating Report
Effective Date	
DER Application No.	(Filled in by DER)

DIVISION OF AIR RESOURCES MANAGEMENT

ANNUAL OPERATING REPORT FOR AIR POLLUTANT EMITTING FACILITY

See Instructions for Form 17-210.900(4).

(Note: Shaded fields on form are for DER use; please leave blank.)

REPORT INFORMATION

1. Year of Report <i>1992</i>	2. Date Report Received	3. Number of Sources in Report <i>3</i>
----------------------------------	-------------------------	--------------------------------------------

FACILITY INFORMATION (AIR020)

1. Facility APIS ID <i>10PEN570014</i>	2. Facility Status <i>A</i>	3. Date of Permanent Facility Shutdown
4. Facility Owner/Company Name <i>De Soto Oil & Gas, Inc.</i>		
5. Facility Name/Street Address or Location Description <i>Blackjack Creek Facility - 4940 Blackjack Plant Road</i>		
6. Facility City <i>7 miles south of Jay</i>	County <i>Santa Rosa</i>	
7. Facility Compliance Tracking Codes	CDS	VOC
8. Facility Comment (60 Characters)		

FACILITY HISTORY INFORMATION (AIR022)

1. Change in Facility Name During Year? <i>NO</i>	Previous Name	2. Date of Change
---------------------------------------------------	---------------	-------------------

Shaded areas are for DER use.

APIS ID	District	Office	County	Facility	INPUT

OWNER/CONTACT INFORMATION (AIR021)

1. Individual Owner or Authorized Representative		
Name <i>William S. Knisely</i>		
Organization/Firm <i>De Soto Oil & Gas, Inc.</i>		
Street Address or P.O. Box <i>700 South Palafox Street</i>		
City <i>Pensacola</i>	State <i>Florida</i>	Zip <i>32501</i>
Telephone <i>(904) 432-9588</i>		
2. Facility Contact for Air Regulatory Matters		
Name <i>same as above</i>		
Organization/Firm		
Street Address or P.O. Box		
City	State	Zip
Telephone <i>()</i>		

CERTIFICATION

Statement by Owner or Authorized Representative	
I hereby certify that the information given in this report is correct to the best of my knowledge.	
<i>William S. Knisely</i>	<i>2/1/93</i>
Signature	Date

Shaded areas are for DER use.

District	Office	County	Facility	Source	INPUT
APIS ID					

SOURCE OPERATION REPORT - PAGE 1 & 2 (SOURCE REPORT 1 OF 3)

FACILITY NAME: Blackjack Creek Facility

SOURCE INFORMATION (AIR030)

1. Source Description <u>Sulfur Recovery Unit</u>		
2. DER Permit or PPS Number <u>A057-197735</u>	3. Source APIS ID <u>10PEN57001401</u>	4. Source Status <u>A</u>
5. Source Startup Date (MM/DD/YY) <u>N/A</u>		6. Source Shutdown Date (MM/DD/YY) <u>N/A</u>

SOURCE EMISSION POINT/CONTROL INFORMATION (AIR033)

1. Source Emission Point Type <u>/</u>
2a. Description of Control Equipment 'a'
2b. Description of Control Equipment 'b'

SOURCE OPERATING SCHEDULE INFORMATION (AIR050)

1. Operated During Year? <u>y</u>	2. Average Operation During Year	hour/day <u>24</u>	day/week <u>7</u>	3. Total Operation During Year (hour/year) <u>8676</u>
4. Percent Hours of Operation by Season	DJF <u>25%</u>	MAM <u>25%</u>	JJA <u>25%</u>	SON <u>25%</u>

Shaded areas are for DER use.

District	Office	County	Facility	Source	INPUT
APIS ID					

SOURCE PROCESS/FUEL INFORMATION (AIR050)

1a. SCC 'a'	2a. Description of Process or Type of Fuel <i>Sulfur recovery from sour crude oil production</i>	
3a. Annual Process or Fuel Usage Rate (SCC Units) <i>5382 tons produced sulfur</i>		
4a. Fuel Average % Sulfur <i>N/A</i>	5a. Fuel Average % Ash <i>N/A</i>	6a. Fuel Heat Content (mmBtu/SCC Units) <i>N/A</i>

1b. SCC 'b'	2b. Description of Process or Type of Fuel <i>Natural (sweet) gas to run system</i>	
3b. Annual Process or Fuel Usage Rate (SCC Units) <i>64.1 million cubic feet</i>		
4b. Fuel Average % Sulfur <i>0</i>	5b. Fuel Average % Ash <i>0</i>	6b. Fuel Heat Content (mmBtu/SCC Units) <i>920</i>

1c. SCC 'c'	2c. Description of Process or Type of Fuel	
3c. Annual Process or Fuel Usage Rate (SCC Units)		
4c. Fuel Average % Sulfur	5c. Fuel Average % Ash	6c. Fuel Heat Content (mmBtu/SCC Units)

1d. SCC 'd'	2d. Description of Process or Type of Fuel	
3d. Annual Process or Fuel Usage Rate (SCC Units)		
4d. Fuel Average % Sulfur	5d. Fuel Average % Ash	6d. Fuel Heat Content (mmBtu/SCC Units)

Shaded areas are for DER use.

District	Office	County	Facility	Source	INPUT
APIS ID					

SOURCE OPERATION REPORT - PAGE 3 & 4 (SOURCE REPORT 1 OF 3)

SOURCE DESCRIPTION: SULFUR RECOVERY UNIT

SOURCE EMISSIONS INFORMATION (AIR051)

1a. Pollutant 'a' ID <u>SO2</u>	2a. Annual Emissions (ton/year) <u>20.2</u>	3a. Emissions Method Code <u>1</u>
------------------------------------	------------------------------------------------	---------------------------------------

4a. Emissions Calculation <u>Based on results of 3/20/92 emissions test that showed 0.00376 # SO₂ / # sulfur.</u>

1b. Pollutant 'b' ID	2b. Annual Emissions (ton/year)	3b. Emissions Method Code
----------------------	---------------------------------	---------------------------

4b. Emissions Calculation

1c. Pollutant 'c' ID	2c. Annual Emissions (ton/year)	3c. Emissions Method Code
----------------------	---------------------------------	---------------------------

4c. Emissions Calculation

1d. Pollutant 'd' ID	2d. Annual Emissions (ton/year)	3d. Emissions Method Code
----------------------	---------------------------------	---------------------------

4d. Emissions Calculation

Shaded areas are for DER use.

District	Office	County	Facility	Source	INPUT
APIS ID					

SOURCE EMISSIONS INFORMATION (Continued)

1e. Pollutant 'e' ID	2e. Annual Emissions (ton/year)	3e. Emissions Method Code
4e. Emissions Calculation		

1f. Pollutant 'f' ID	2f. Annual Emissions (ton/year)	3f. Emissions Method Code
4f. Emissions Calculation		

1g. Pollutant 'g' ID	2g. Annual Emissions (ton/year)	3g. Emissions Method Code
4g. Emissions Calculation		

1h. Pollutant 'h' ID	2h. Annual Emissions (ton/year)	3h. Emissions Method Code
4h. Emissions Calculation		

5. Source Operation Report Comments

Shaded areas are for DER use.

District	Office	County	Facility	Source	Input
APIS ID					

SOURCE PROCESS/FUEL INFORMATION (AIR050)

1a. SCC 'a'	2a. Description of Process or Type of Fuel <i>Natural gas (sour) production associated with crude oil production.</i>	
3a. Annual Process or Fuel Usage Rate (SCC Units) <i>1048 million cubic feet of natural gas (sour)</i>		
4a. Fuel Average % Sulfur <i>N/A</i>	5a. Fuel Average % Ash <i>N/A</i>	6a. Fuel Heat Content (mmBtu/SCC Units) <i>N/A</i>

1b. SCC 'b'	2b. Description of Process or Type of Fuel <i>Flared gas (sweet + sour).</i>	
3b. Annual Process or Fuel Usage Rate (SCC Units) <i>8.9 million cubic feet</i>		
4b. Fuel Average % Sulfur <i>13.6</i>	5b. Fuel Average % Ash <i>0</i>	6b. Fuel Heat Content (mmBtu/SCC Units) <i>1030</i>

1c. SCC 'c'	2c. Description of Process or Type of Fuel	
3c. Annual Process or Fuel Usage Rate (SCC Units)		
4c. Fuel Average % Sulfur	5c. Fuel Average % Ash	6c. Fuel Heat Content (mmBtu/SCC Units)

1d. SCC 'd'	2d. Description of Process or Type of Fuel	
3d. Annual Process or Fuel Usage Rate (SCC Units)		
4d. Fuel Average % Sulfur	5d. Fuel Average % Ash	6d. Fuel Heat Content (mmBtu/SCC Units)

Shaded areas are for DER use.

District	Office	County	Facility	Source	INPUT
APIS ID					

SOURCE OPERATION REPORT - PAGE 3 & 4 (SOURCE REPORT 2 OF 3)

SOURCE DESCRIPTION: Emergency Flare.

SOURCE EMISSIONS INFORMATION (AJR051)

1a. Pollutant 'a' ID <u>SO₂</u>	2a. Annual Emissions (ton/year) <u>92.8</u>	3a. Emissions Method Code <u>2</u>
4a. Emissions Calculation <u>From 1992 Quarterly Flare Reports.</u>		

1b. Pollutant 'b' ID	2b. Annual Emissions (ton/year)	3b. Emissions Method Code
4b. Emissions Calculation		

1c. Pollutant 'c' ID	2c. Annual Emissions (ton/year)	3c. Emissions Method Code
4c. Emissions Calculation		

1d. Pollutant 'd' ID	2d. Annual Emissions (ton/year)	3d. Emissions Method Code
4d. Emissions Calculation		

Shaded areas are for DER use.

District	Office	County	Facility	Source	APIS ID	INPUT

SOURCE EMISSIONS INFORMATION (Continued)

1e. Pollutant 'e' ID	2e. Annual Emissions (ton/year)	3e. Emissions Method Code
4e. Emissions Calculation		

1f. Pollutant 'f' ID	2f. Annual Emissions (ton/year)	3f. Emissions Method Code
4f. Emissions Calculation		

1g. Pollutant 'g' ID	2g. Annual Emissions (ton/year)	3g. Emissions Method Code
4g. Emissions Calculation		

1h. Pollutant 'h' ID	2h. Annual Emissions (ton/year)	3h. Emissions Method Code
4h. Emissions Calculation		

5. Source Operation Report Comments

Shaded areas are for DER use.

District	Office	County	Facility	Source
APIS ID				INRUL

SOURCE OPERATION REPORT - PAGE 1 & 2 (SOURCE REPORT 3 OF 3)

FACILITY NAME: Blackjack Creek Facility

SOURCE INFORMATION (AIR030)

1. Source Description <u>Saltwater disposal system - vapor recovery.</u>		
2. DER Permit or PPS Number <u>A057-151960</u>	3. Source APIS ID <u>10PEN57001405</u>	4. Source Status <u>A</u>
5. Source Startup Date (MM/DD/YY) <u>N/A</u>	6. Source Shutdown Date (MM/DD/YY) <u>N/A</u>	

SOURCE EMISSION POINT/CONTROL INFORMATION (AIR033)

1. Source Emission Point Type <u>2</u>
2a. Description of Control Equipment 'a'
2b. Description of Control Equipment 'b'

SOURCE OPERATING SCHEDULE INFORMATION (AIR050)

1. Operated During Year? <u>y</u>	2. Average Operation During Year	hour/day <u>24</u>	day/week <u>7</u>	3. Total Operation During Year (hour/year) <u>8676</u>
4. Percent Hours of Operation by Season	DJF <u>25%</u>	MAM <u>25%</u>	JJA <u>25%</u>	SON <u>25%</u>

Shaded areas are for DER use.

District	Office	County	Facility	Source	INPUT
APIS ID					

SOURCE PROCESS/FUEL INFORMATION (AIR050)

1a. SCC a	2a. Description of Process or Type of Fuel <i>INCLUDED IN ANNUAL REPORT FIGURE FOR 10AEN 57001402 - EMERGENCY PLANS - AS PER SPECIFIC CONDITION IS OF PERMIT # A057-15M60</i>	
3a. Annual Process or Fuel Usage Rate (SCC Units)		
4a. Fuel Average % Sulfur	5a. Fuel Average % Ash	6a. Fuel Heat Content (mmBtu/SCC Units)
1b. SCC b	2b. Description of Process or Type of Fuel	
3b. Annual Process or Fuel Usage Rate (SCC Units)		
4b. Fuel Average % Sulfur	5b. Fuel Average % Ash	6b. Fuel Heat Content (mmBtu/SCC Units)
1c. SCC c	2c. Description of Process or Type of Fuel	
3c. Annual Process or Fuel Usage Rate (SCC Units)		
4c. Fuel Average % Sulfur	5c. Fuel Average % Ash	6c. Fuel Heat Content (mmBtu/SCC Units)
1d. SCC d	2d. Description of Process or Type of Fuel	
3d. Annual Process or Fuel Usage Rate (SCC Units)		
4d. Fuel Average % Sulfur	5d. Fuel Average % Ash	6d. Fuel Heat Content (mmBtu/SCC Units)

Shaded areas are for DER use.

District	Office	County	Facility	Source	INPUT
APIS ID: [][]	[][][]	[][]	[][][][]	[][][]	[][][]

SOURCE OPERATION REPORT - PAGE 3 & 4 (SOURCE REPORT 3 OF 3)

SOURCE DESCRIPTION: SALTWATER DISPOSAL SYSTEM - VAPOR RECOVERY

SOURCE EMISSIONS INFORMATION (AIR051)

1a. Pollutant 'a' ID <u>SO₂</u>	2a. Annual Emissions (ton/year) <u>see below</u>	3a. Emissions Method Code
4a. Emissions Calculation <u>Included in annual report figure for 10PEN57001402 - Emergency Flare as per specific condition 15 of Permit # A057-151960.</u>		

1b. Pollutant 'b' ID	2b. Annual Emissions (ton/year)	3b. Emissions Method Code
4b. Emissions Calculation		

1c. Pollutant 'c' ID	2c. Annual Emissions (ton/year)	3c. Emissions Method Code
4c. Emissions Calculation		

1d. Pollutant 'd' ID	2d. Annual Emissions (ton/year)	3d. Emissions Method Code
4d. Emissions Calculation		

Shaded areas are for DER use.

District	Office	County	Facility	Source	APIS ID	INPUT

SOURCE EMISSIONS INFORMATION (Continued)

1c. Pollutant 'c' ID	2c. Annual Emissions (ton/year)	3c. Emissions Method Code
4c. Emissions Calculation		

1f. Pollutant 'f' ID	2f. Annual Emissions (ton/year)	3f. Emissions Method Code
4f. Emissions Calculation		

1g. Pollutant 'g' ID	2g. Annual Emissions (ton/year)	3g. Emissions Method Code
4g. Emissions Calculation		

1h. Pollutant 'h' ID	2h. Annual Emissions (ton/year)	3h. Emissions Method Code
4h. Emissions Calculation		

5. Source Operation Report Comments

Shaded areas are for DER use.



Florida Department of Environmental Regulation

Northwest District

160 Governmental Center

Pensacola, Florida 32501-5794

Lawton Chiles, Governor

May 10, 1993

Virginia B. Wetherell, Secretary

Mr. William S. Knisely
Engineering Vice President
DeSoto Oil & Gas, Incorporated
700 South Palafox Street
Pensacola, Florida 32501

Dear Mr. Knisely:

The SO₂ emissions test report on the sulfur recovery system at your Blackjack Creek Facility, permit A057-197735, from April 1993 has been reviewed. The results of the test review indicate compliance. No further information is required.

If you have any questions please contact Rick Prusa of this office at (904) 436-8364.

Sincerely,

Ed K. Middleswart, P.E.
Program Administrator
Air Resources Management

EKM:rpc

Desoto Oil & Gas, Inc.

Sulfur Recovery - Blackjack Creek

SO₂ tested 4-1-93
Efficiency

10PEN57001401
A057-197735

17-297.570 Test Reports.

(1) The owner or operator of an air pollution source, for which a compliance test is required, shall file a report with the Department on the results of each such test.

(2) The required test report shall be filed with the Department as soon as practical but no later than 45 days after the last sampling run of each test is completed.

(3) The test report shall provide sufficient detail on the source tested and the test procedures used to allow the Department to determine if the test was properly conducted and the test results properly computed. As a minimum, the test report, other than an EPA or DER Method 9 test, shall provide information on:

☒ a. The type, location and designation of the source tested.

☒ b. The facility at which the source is located.

☒ c. The owner or operator of the source.

☒ d. The normal type and amount of fuels used and materials processed and the types and amounts of fuels used and material processed during each test run.

☒ e. The means, raw data and computations used to determine the amount of fuels used and materials processed, if necessary to determine compliance with an applicable emission limiting standard.

☒ f. The type of air pollution control devices installed on the source, their general condition, their normal operating parameters (pressure drops, total operating current and GPM scrubber water) and their operating parameters during each test run.

☒ g. A sketch of the duct within 8 stack diameters upstream and 2 stack diameters downstream of the sampling ports, including the distance to any upstream and downstream bends or other flow disturbances.

☒ h. The date, starting time and duration of each sampling run.

☒ i. The test procedures used including any alternative procedures authorized pursuant to Rule 17-297.620, F.A.C. Where optional procedures are authorized in this chapter, indicate which option was used.

☒ j. The number of points sampled and configuration and location of the sampling run.

☒ k. For each sampling point for each run, the dry gas meter reading, velocity head, pressure drop across the stack, temperatures, average meter temperatures and sample time per point.

☒ l. The type, manufacturer and configuration of the sampling equipment used.

☒ m. Data related to the required calibration of the test equipment.

☒ n. Data on the identification, processing and weights of all filters used.

☒ o. Data on the types and amounts of any chemical solutions used.

☒ p. Data on the amount of pollutant collected from each; the sampling probe, the filters, and the impingers, are reported separately for the compliance test.

☒ q. The names of individuals who furnished the process variable data, conducted the test, analyzed the samples and prepared the report.

☒ r. All measured and calculated data required to be determined by each applicable test procedure for each run.

☒ s. The detailed calculations for one run that relate the collected data to the calculated emission rate.

☒ t. The applicable emission standard, and the resulting maximum allowable emission rate for the source, plus the test result in the same form and unit of measure.

☒ u. A certification that to the knowledge of the owner or his authorized agent, all data submitted is true and correct.

When a compliance test is conducted for the Department or its agent, the person who conducts the test shall provide the certification with respect to the test procedures used. The owner or his authorized agent shall certify that all data required and provided to the person conducting the test are true and correct to his knowledge.

Specific Authority: 403.061, F.S.

Law Implemented: 403.021, 403.031, 403.061, 403.087, F. S.

History: Formerly 17-2.700(8)

Reviewed By

R.J. Prusa

SO₂: 0.000530 vs. 0.004 allowed

Eff: 97.66% vs. 96% allowed

H₂S in Vent Gas:
25ppm vs 600ppm allowed

DE SOTO OIL & GAS, INC.

Date: April 29, 1993

Mr. Rick Prusa
Department of
Environmental Regulation
160 Governmental Center
Pensacola, FL 32501-5794

Re: Annual Emission Tests
Blackjack Creek Facility
Permit No: A057-197735
I.D. No: 10PEN57001401

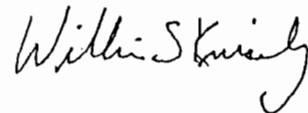
Dear Mr. Prusa:

Attached for your review are the tabulated results of the annual emission tests recently performed at our Blackjack Creek Facility. Please let me know if you did not receive your report copy from Pensacola P.O.C. The emission tests show continuing compliance with the permit as tabulated below.

<u>Specific Condition</u>	<u>Measured</u>	<u>Maximum Allowable</u>
15. (SO ₂ emissions - #/# of sulfur)	0.00053 (99.97% effic.)	0.004 (99.8% effic.)
20B. (H ₂ S content of vent gas-ppm)	25	600
21. (Claus emissions - #SO ₂ /# of sulfur)	0.047 (97.66% effic.)	0.08 (96% effic.)

Should you have any questions, please give me a call.

Sincerely,



William S. Knisely
Engineering Vice President
De Soto Oil & Gas, Inc.

EMISSIONS TEST

FOR

DE SOTO OIL & GAS, INC.

Blackjack Creek Facility
Jay, FL

Date: 26 April 1993

Date of Test: 1 April 1993

Type of Test: EPA Method 4 & 8

Permit Number: A057-197735

I.D. Number: 10PEN57001401

Average Sulfur Production Rate: 26,527 lb/day

Sulfur Dioxide Emissions: 0.00053 lbs SO₂ / lb/Sulfur

D.E.R. Allowable: 0.004 lbs SO₂/lb Sulfur

Tested by

Pensacola P.O.C., Inc.
109 S. Second Street
Pensacola, FL 32507

Phone: 904 456-4406

copies to:
DeSoto Oil & Gas
DeSoto Oil & Gas
D.E.R., R. Prusa
file

PENSACOLA P.O.C., INC.

109 South Second St., Pensacola, FL 32507 U.S.A. 904 456-4406



ENVIRONMENTAL TESTING AND TROUBLESHOOTING

April 26, 1993

Mr. Rick Prusa
Department of Environmental Regulation
160 Governmental Center
Pensacola, FL 32501-5794

RE: De Soto Oil & Gas, Inc.
Jay, FL

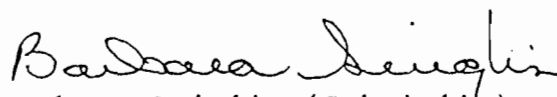
Dear Rick,

On 1 April 1993, Pensacola P.O.C., Inc. conducted the following tests at the sulfur recovery plant located at subject site:

Moisture Test (EPA Method 4) on Stack Gas & Recycle Gas
SO₂ Test (EPA Method 8) on Stack Gas

To the best of my knowledge, all applicable field and analytical procedures comply with Florida Department of Environmental Regulation requirements, and all test data and plant operating data furnished by us are true and correct.

Sincerely,


Barbara Sviglin (Schwiglin)

DESOTO OIL & GAS, INC.

Blackjack Creek Facility, Jay, FL

1. Molecular Weight of Acid Gas

N_2	0.0030×28	=	0.0840
C1 (methane)	0.0030×16	=	0.0480
CO_2	0.1315×44	=	5.7860
C2 (ethane)	0.0011×30	=	0.0330
H_2S	0.8600×34	=	29.2400
C3 (propane)	0.0007×44	=	0.0308
C_5H_{12} (I pentane)	0.0003×72	=	0.0216
C_5H_{12} (n pentane)	0.0004×72	=	<u>0.0288</u>
M_d		=	35.2722

2. Specific Gravity of Acid Gas: $35.2722/28.96 = 1.2180$

3. Molecular Weight of Recycle Gas:

N_2	0.0446×28	=	1.2488
CO_2	0.3574×44	=	15.7256
H_2S	0.5980×34	=	<u>20.3320</u>
M_d		=	37.3064

4. Specific Gravity of Recycle gas: $37.3064/28.96 = 1.2882$

5. Stack Gas Moisture (EPA Method 4)

Volume Collected, $V = 36.3$ CF

Delta H = 0.75

Temperature Meter, $T_a = 102 + 460 = 562^0$ R

Barometric Pressure, $P_b = 29.75$ " Hg

$$\begin{aligned}
 V_{m \text{ std}} &= V_m \times Y_m \times (T_{\text{std}} / P_{\text{std}}) [(P_b + \text{Delta H}/13.6) / T_m] \\
 &= 36.3 \times 1.0 \times 17.647 \times [(29.75 + 0.75/13.6) / 562] \\
 &= 640.59 \times 0.05303 = 34.00
 \end{aligned}$$

H₂O collected in impingers = 25

H₂O collected in silica gel = 27.5

Total H₂O collected = 25 + 27.5 = 52.5

$$V_{ws} = 0.04707 \times 52.5 = 2.47$$

$$B_{ws} = 2.47 / (2.47 + 34.0) = 0.07$$

$$V_{m \text{ (std) dry}} = V_{m \text{ (std)}} \times (1 - B_{ws}) = 34.00 (1 - 0.07) = 31.6$$

6. Recycle Gas Moisture (EPA Method 4)

Volume Collected, V = 34.3

Delta H = 0.75

Temperature Meter, T_m, 102 + 460 = 562° R

Barometric Pressure, P_b = 29.75" Hg

$$\begin{aligned}
 V_{m \text{ std.}} &= V_m \times Y_m \times T_{\text{std}} / P_{\text{std}} \times [(P_b + \text{Delta H}/13.6) / 562] \\
 &= 34.3 \times 1.0 \times 17.647 \times [(29.75 + 0.75/13.6) / 562] \\
 &= 605.3 \times 0.05303 = 32.1
 \end{aligned}$$

H₂O collected in impingers = 18

H₂O collected in silica gel = 16.5

Total H₂O collected = 18 + 16.5 = 34.5

$$V_{ws} = 0.04707 \times 34.5 = 1.62$$

$$B_{ws} = 1.62 / (1.62 + 32.1) = 0.05$$

$$V_{m \text{ std. dry}} = V_{m \text{ std}} \times (1 - B_{ws}) = 32.1 \times (1 - 0.05) = 30.5$$

7. Acid Gas Flow Q_{AG}

Specific Gravity, SG = 1.2180

Molecular Weight, $M_d = 35.2722$

Temperature, $^{\circ}R = 90 + 460 = 550$

Line Pressure, PSIG = $2.1 + 14.7 = 16.8$

Roots of Flow = 5.8

Orifice Plate = 2.75

Orifice Factor, $F_b = 1,531.7$

Meter Range, $H_m = 25$

$$\begin{aligned} D/P \text{ Range} &= 30.45 \times (H_m / 25)^{1/2} \times (F_b / 2500.1) \\ &= 30.45 \times (25/25)^{1/2} \times 1,531.7 / 2500.1 \\ &= 30.45 \times 1 \times 0.61266 \\ &= 18.66 \end{aligned}$$

$$\begin{aligned} Q_{AG} &= D/P \times (520/T)^{1/2} \times (PSIA)^{1/2} \times (1/SG)^{1/2} \times \text{Roots} \times (1-B_{gs}) \\ &= 18.66 \times (520/550)^{1/2} \times (16.8)^{1/2} \times (1/1.218)^{1/2} \times 5.8 \times \\ &\quad (1 - 0.04) \\ &= 18.66 \times 0.972 \times 4.10 \times 0.906 \times 5.8 \times 0.96 \\ &= 375.1 \text{ M CF/Day} \end{aligned}$$

8. Recycle Gas Flow Q_{RG}

Specific Gravity, $SG = 1.2882$

Molecular Weight, $M_d = 37.3064$

Temperature, $^{\circ}R = 74 + 460 = 534$

Line Pressure, PSIA = $4.8 + 14.7 = 19.5$

Roots Flow = 3.8

Orifice Plate = 0.875

Orifice Factor, $F_b = 153.56$

Meter Range, $H_m = 10$

$$\begin{aligned}
 D/P \text{ Range} &= 5.89 \times (H_m / 25)^{1/2} \times (F_b / 626.85) \\
 &= 5.89 \times (10/25)^{1/2} \times 153.56/626.85 \\
 &= 5.89 \times 0.63 \times 0.245 \\
 &= 0.909
 \end{aligned}$$

$$\begin{aligned}
 Q_{RG} &= D/P \times (520/T)^{1/2} \times (PSIA)^{1/2} \times (1/SG)^{1/2} \times \text{Roots} \times (1-B_{v3}) \\
 &= 0.909 \times (520/534)^{1/2} \times (19.5)^{1/2} \times (1/1.2882)^{1/2} \times 3.8 \\
 &\quad \times (1 - 0.05) \\
 &= 0.909 \times 0.987 \times 4.42 \times 0.881 \times 3.8 \times 0.95 \\
 &= 12.61 \text{ M CF/Day}
 \end{aligned}$$

9. Stack Gas Flow

3.6" WG, Delta P = 188,000 SCFH

$$DSCFM = (1 - 0.07) \times 188,000 = 174,840$$

$$174,840 \times 24 \text{ hr/day} = 4,196 \text{ M CF/Day}$$

10. Sulfur Content of Acid + Recycle Gas

$$S_1 = 0.842 \times Q_{AG} \times C_{AG} = 0.842 \times 375.1 \times 86.00 = 27,162 \text{ lb/day}$$

11. Sulfur Content of Recycle Gas

$$S_2 = 0.842 \times Q_{RG} \times C_{RG} = 0.842 \times 12.61 \times 59.80 = 635 \text{ lbs/day}$$

12. Sulfur Input

$$S_j = S_1 - S_2 = 27,162 - 635 = 26,527 \text{ lbs/day}$$

13. Sulfur in Stack Gas (EPA Method 8)

Sulfur Dioxide Concentration

$$C_{SO_2} = K_j [N (V_t - V_{tb}) (V_{soln} / V_s) / V_m (std)]$$

$$K_j = \text{Constant} = 0.03203$$

N = Normality of Barium Perchlorate Titrant, g
equivalent/liter = 0.01375

V_t = Volume of BaCL2 Titrant used for scrub solution (ml)

V_{tb} = Volume of BaCL2 titrant used for blank sample (ml)

$$V_t - V_{tb} = 1.1 \text{ ml}$$

$$V_{\text{soln}} = 1,000 \text{ ml}$$

$$V_a = 10 \text{ ml aliquot}$$

$$\begin{aligned} C_{\text{SO}_2} &= 0.03203 \times [0.01375 \times 1.1 \times (1,000/10) / 31.7] \\ &= 0.0115 \text{ g/SCF} \times 2.2/1,000 = 3.36 \times 10^{-6} \text{ lb/SCF} \end{aligned}$$

$$\begin{aligned} \text{SO}_2 &= 3.36 \times 10^{-6} \text{ lb/SCF} \times 4,196,000 \text{ SCF/Day} \\ &= 14.1 \text{ lb/day SO}_2 \end{aligned}$$

$$M_d \text{ of SO}_2 = 32 + (2 \times 16) = 64$$

$$\text{S in SO}_2 = 32/64 = 0.5$$

$$S_f = 0.5 \times 14.1 = 7.1 \text{ lb/day of Sulfur}$$

14. Sulfur Reduction

$$= \text{Sulfur Input} - \text{Sulfur Stack Gas} / \text{Sulfur input}$$

$$= (26,527 - 7.1 / 26,527) \times 100 = 99.97\%$$

15. Sulfur Dioxide Emissions

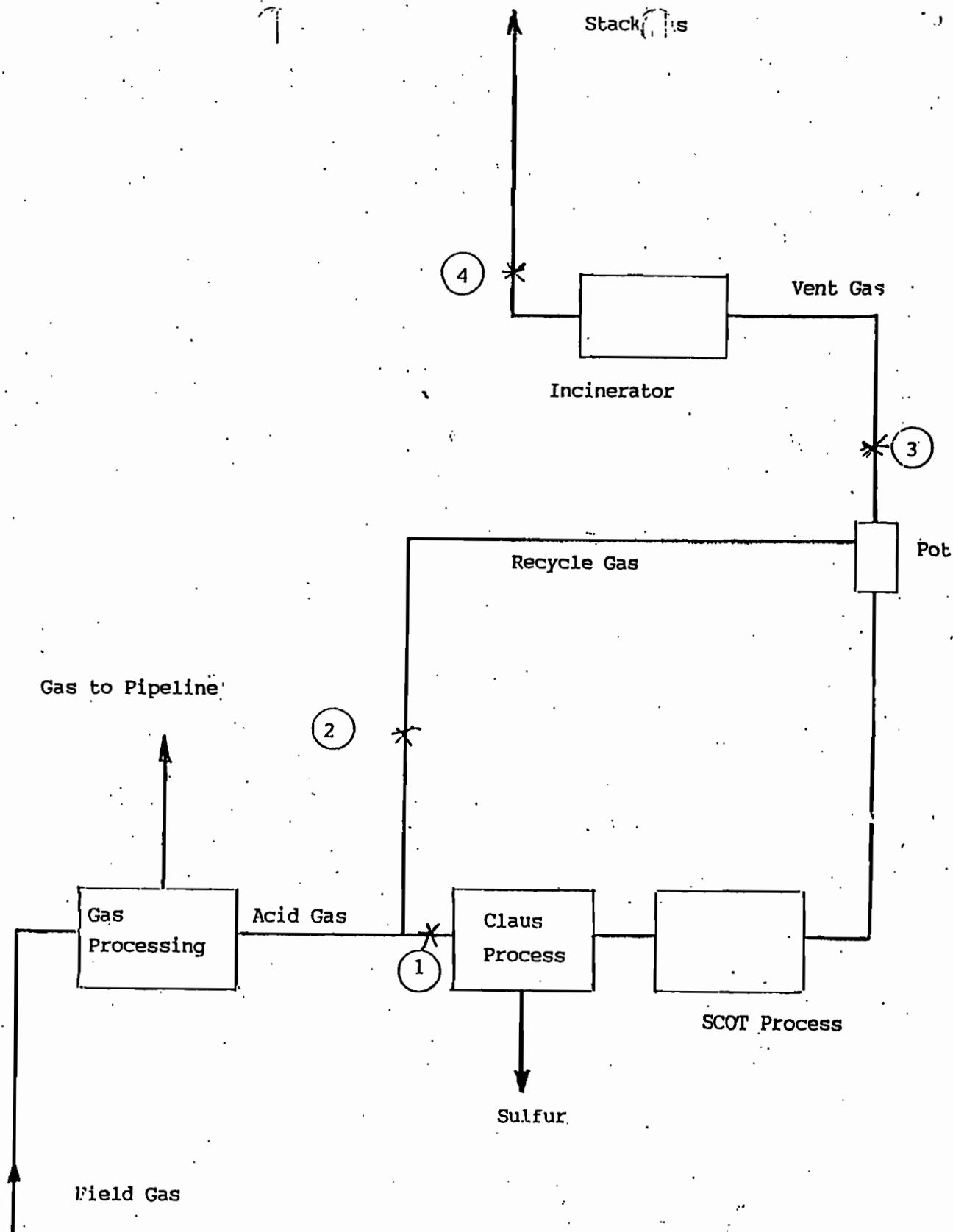
$$\text{SO}_2 / \text{Sulfur} = 14.1 \text{ lb}/26,527 \text{ lb} = 0.00053 \text{ lb SO}_2 / \text{lb Sulfur}$$

16. H₂S Concentration in Vent Gas - (Drager Tube) = 25 ppm

17. Claus Efficiency

$$(\text{Acid Sulfur} - \text{Recycle Sulfur}) / \text{Acid Sulfur} =$$

$$[(27,162 - 635) / 27,162] \times 100 = 97.66\%$$



PENSACOLA P.O.C., INC.
 109 South Second Street
 Pensacola, FL 32507

DeSoto Oil & Gas, Inc., Blackjack Creek, FL

Date

Scale

None

Point	Name of	Substance	Method	By
①	Acid Gas + Recycle Gas	H ₂ S	Gas Chromato- graph	De Soto
②	Recycle Gas	H ₂ S	Gas Chromato- graph	De Soto
		Moisture	EPA Method 4	PPOC
③	Vent Gas	H ₂ S	Drager Tuber	DeSoto & POC
④	Stack Gas	SO ₂	EPA Method 8	PPOC
		Moisture	EPA Method 4	PPOC

Acid GAS FLOW 5.8 RTS. 65.2 COFF.

Acid GAS PRESS 2.1#

Acid GAS Temp. 90°F

Recycle GAS FLOW 3.8 RTS 3.17 COFF.

ReFLUX Temp. 74°F

ReFLUX PRESS. 4.8#

VENT GAS FLOW 1.5 RTS

VENT GAS Temp. 99°F

VENT GAS PRESS 1.0#

STACK Temp. 484°F

1 April 1993, Data furnished by DeSoto Oil & Gas, Inc.

DLN: LAB REVISION 12

BLACKJACK CREEK PRODUCTION FACILITY

LABORATORY ANALYSIS

RUN IT ON a HEWLETT-PACKARD, a GOOD machine!!!

Time:

Sample of: Acid Gas

Date: 4-1-93

Temperature:

Pressure:

Rate:

COMPONENT NAME	AREA	AREA %	RESPONSE FACTOR	RESPONSE AREA	MOLE %
NITROGEN:			1.7155		.30
METHANE:			0.8265		.30
CO2:			1.2553		13.15
ETHANE:			1.2470		.11
H2S:			0.9477		86.00
PROPANE:			1.4117		.07
I BUTANE:			1.5077		-
N BUTANE:			1.3170		-
I PENTANE:			1.0751		.03
N PENTANE:			0.9298		.04
I HEXANE:			0.5640		-
TOTALS:					100.0

REMARKS & CALCULATION:

Chlorides: _____ ppm

ANALYSIS BY: DOYCE NOWLING, ESQ.

#####

LABORATORY ANALYSIS

Time:

Date: 4-1-93

Rate:

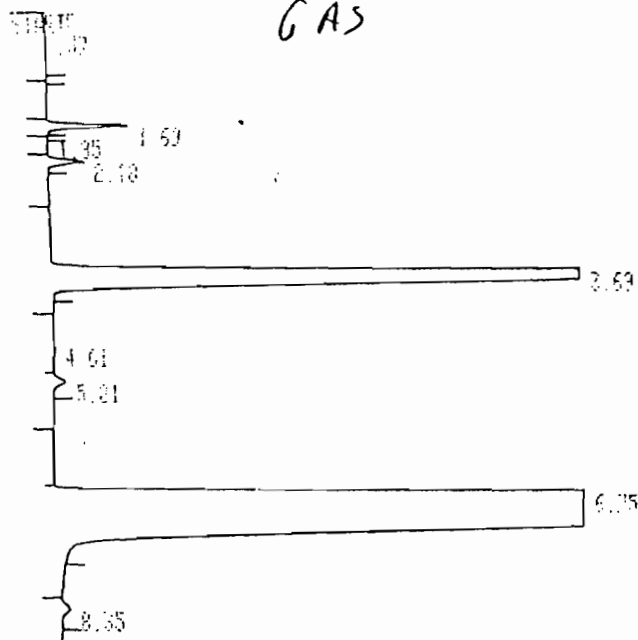
COMPONENT NAME	INTEGRATOR AREA	PRINT-OUT AREA %	RESPONSE FACTOR	RESPONSE AREA	MOLE %
NITROGEN:			1.7155		4.46
METHANE:			0.8265		—
CO2:			1.2553		35.74
ETHANE:			1.2470		—
H2S:			0.9477		59.80
PROPANE:			1.4117		—
I BUTANE:			1.5077		—
N BUTANE:			1.3170		—
I PENTANE:			1.0751		—
N PENTANE:			0.9298		—
I HEXANE:			0.5640		—
TOTALS:					100.00

Chlorides: _____ ppm

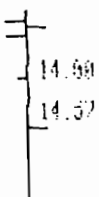
ANALYSIS BY: DOYCE NOWLING, ESQ.

BEST AVAILABLE COPY

Acid
GAS

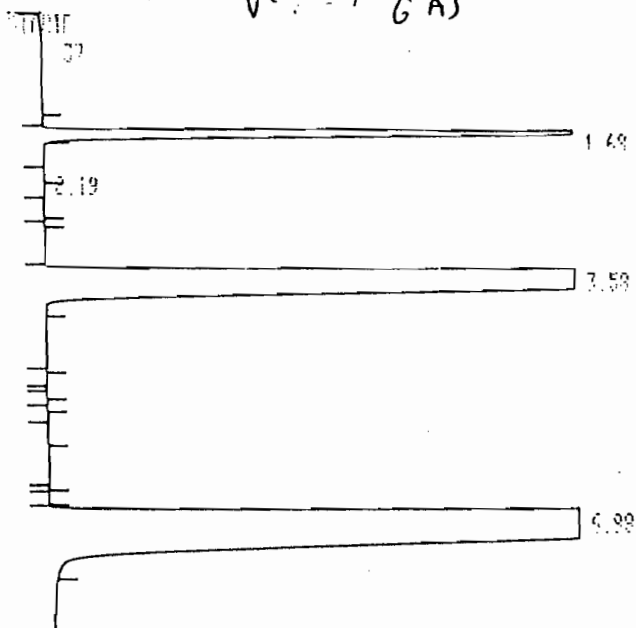


NORM	RT	AREA	TYPE	SCALE	AMOUNT
	1.69	277600	PB	1	0.299
	2.18	156849	BB	2	0.303
	3.69	1.0263E+07	PB	3	13.148
	5.01	81789	VB	4	0.185
	6.25	5.1358E+07	PB	5	86.008
	8.35	59609	BB	6	0.068
	14.00	16753	BP	9	0.027
	14.57	26524	PB	10	0.044



STOP

Recycle
GAS



NORM				
RT	AREA	TYPE	CAL #	AMOUNT
1.68	3728700	FB	1	4.455
2.19	1393	BB	2	0.003
3.58	2.5439E+07	FB	3	35.736
6.88	3.2569E+07	FB	5	59.806

TOTAL AREA= 6.1788E+07
MUL FACTOR= 1.0000E+00

STOP

NOTES:

CLIENT: DeSoto Oil & Gas - Recycle Gas DATE: 4/1/93
 LOCATION: Blackjack Creek SOURCE: Moisture test
Recycle Gas

Run Number 1

Nozzle Size N/A N/A N/A N/A
(1) (2) (3) Average

O₂ N/A % CO₂ N/A % CO N/A %

Water:	In	Out	Color	Gain
cyclone	N/A	—	—	—
Impinger #1	100	106	CLEAR	
Impinger #2	100	100	CLEAR	
Impinger #3	-0-	2	11	
Total				ml

4th Impinger Temperature: Pt. _____

1.	2.	3.	4.	5.	6.	7.	8.	9.
10.	11.	12.	13.	14.	15.	16.	17.	18.
19.	20.	21.	22.	23.	24.			

Silica Gel:	In	Out	Color	Gain in g
Impinger #4	311.7		100% BLUE	16.5

Filter: Pretest Post-test
 N/A Weight _____ g Weight _____ g Gain _____ g
 Wash: Desiccated Container #
 N/A Weight _____ g Weight _____ g Gain _____ g

CLIENT: DeSoto Oil & Gas - Stack GASDATE: 4-1-93LOCATION: Blackjack Creek

SOURCE: _____

Run Number 1Nozzle Size N/A
(1) _____ (2) _____ (3) _____

Average

O₂ N/A %CO₂ N/A %

CO _____ %

Water:	In	Out	Color	Gain
cyclone	N/A			
Impinger #1	100 ml 80% isopropanol	115	clean	
Impinger #2	100 ml 3% hydrogen peroxide	107	"	
Impinger #3	100 ml 3% hydrogen peroxide	103	"	
Total				25 ml

4th Impinger Temperature: Pt. _____

1.	2.	3.	4.	5.	6.	7.	8.	9.
10.	11.	12.	13.	14.	15.	16.	17.	18.
19.	20.	21.	22.	23.	24.			

Silica Gel:	(4,7) In	Out	Color	Gain in g
Impinger #4	310.8 313.1	340.6	90% pink	27.5

Filter: Pretest
N/A Weight _____ gPost-test
Weight _____ g

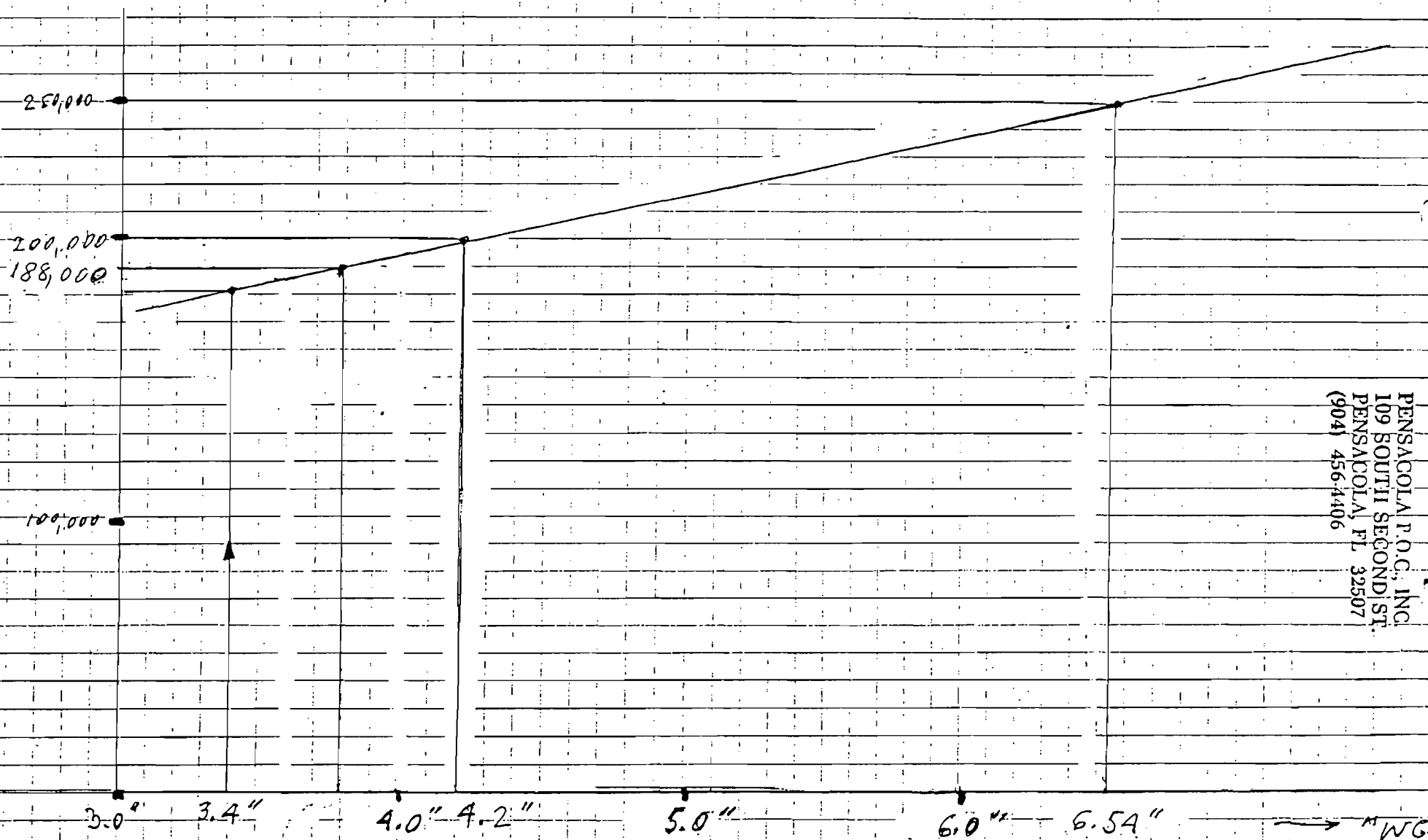
Gain _____ g

Wash: Desiccated
N/A Weight _____ gContainer # _____
Weight _____ g

Gain _____ g

STACK GAS FLOW METER: (12" Φ LINE)

250,000 SCFH AT 6.54" WG
200,000 SCFH AT 4.20" WG



PENSACOLA P.O.C., INC.
109 SOUTH SECOND ST.
PENSACOLA, FL 32507
(904) 456-4406

DE SOTO OIL & GAS, INC.

January 6, 1993

Department of Environmental Regulation
160 Government Center
Pensacola, Florida 32501-5794
Attn: Mr. Rick Prusa

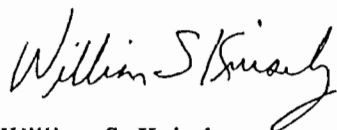
Re: Quarterly Report for Permit No. A057-197727
Emergency Avoidance Flare - Identification No. 10PEN57001402
Blackjack Creek Facility
Santa Rosa County, Florida

Dear Mr. Prusa

Attached for your review is a summary of the fourth quarter, 1992 Emergency Avoidance Flare usage at our above referenced facility. This summary includes flare volumes associated with the saltwater disposal system, Permit No. A057-15160 (ID #10PEN57001405).

<i>Month</i>	<i>MMCF Flared</i>	<i>SO₂ (tons)</i>	<i>Cause</i>
October	0.1	1.7	Well upsets, compressor problems.
November	0.1	0	
December	0.2	4.6	Depressurizing flowlines, vapor recovery compressor problems.
4th Qtr. 1992 Total	0.4	6.3	

SO₂ emissions did not exceed 10.5 tons on any day. Should you have any questions or require further information, please give me a call.



William S. Knisely
Vice President - Engineering & Operations
De Soto Oil & Gas, Inc.

DE SOTO OIL & GAS, INC.

October 2, 1992

Department of Environmental Regulation
160 Governmental Center
Pensacola, FL 32501-5794
Attn: Mr. Rick Prusa

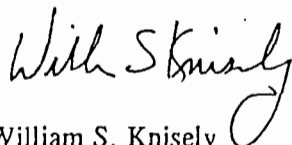
Re: Quarterly Report for Permit No. A057-197727
Emergency Avoidance Flare - Identification No. 10PEN57001402
Blackjack Creek Facility
Santa Rosa County, Florida

Dear Mr. Prusa

Attached for your review is a summary of the third quarter, 1992 Emergency Avoidance Flare usage at our above referenced facility. This summary includes flare volumes associated with the saltwater disposal system, Permit No. A057-15160 (ID #10PEN57001405).

<u>Month</u>	<u>MMCF Flared</u>	<u>SO₂ (tons)</u>	<u>Cause</u>
July	2.6	11.2	Well upsets, sales gas pipeline problems.
August	0.1	1.6	Well upsets.
September	<u>0.2</u>	<u>1.2</u>	Depressurizing flowlines, compressor problems.
3rd Qtr. 1992 Total	2.9	14.0	

SO₂ emissions did not exceed 10.5 tons on any day. Should you have any questions or require further information, please give me a call.



William S. Knisely
Vice President - Engineering & Operations
De Soto Oil & Gas, Inc.

DE SOTO OIL & GAS, INC.

July 23, 1992

Department of Environmental Regulation
160 Governmental Center
Pensacola, FL 32501-5794
Attn: Mr. Rick Prusa

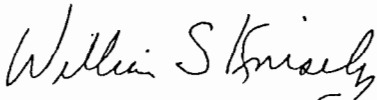
Re: Quarterly Report for Permit No. A057-197727
Emergency Avoidance Flare - Identification No. 10PEN57001402
Blackjack Creek Facility
Santa Rosa County, Florida

Dear Mr. Prusa:

Attached for your review is a summary of the second quarter, 1992 Emergency Avoidance Flare usage at our above referenced facility. This summary includes flare volumes associated with the saltwater disposal system, Permit No. A057-151960 (ID #10PEN57001405).

Month	MMCF Flared	SO ₂ (tons)	Cause
April	1.4	12.7	Well upsets, compressor problems, and plant turnaround.
May	1.0	15.9	Well upsets, compressor problems, and boiler repairs.
June	0.4	7.4	Well upsets and power outage.
2nd Qtr.			
1992 Total	2.8	36.0	

SO₂ emissions did not exceed 10.5 tons on any day. Should you have any questions or require further information, please give me a call.



William S. Knisely
Vice President - Engineering
De Soto Oil & Gas, Inc.

DE SOTO OIL & GAS, INC.

May 5, 1992

Department of Environmental Regulation
160 Governmental Center
Pensacola, FL 32501-5794
Attn: Mr. Jack Preece

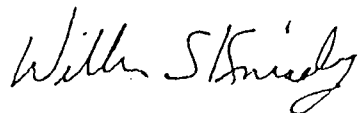
Re: Quarterly Report for Permit No. A057-197727
Emergency Avoidance Flare - Identification No. 10PEN57001402
Blackjack Creek Facility
Santa Rosa County, Florida

Dear Mr. Preece:

Attached for your review is a summary of the first quarter, 1992 Emergency Avoidance Flare usage at our above referenced facility. This summary includes flare volumes associated with the saltwater disposal system, Permit No. A057-151960 (ID #10PEN57001405).

Month	MMCF Flared	SO ₂ (tons)	Cause
January	1.5	17.9	Well upsets and freeze problems.
February	0.3	15.3	Vapor recovery compressor problems.
March	1.0	3.3	Well upsets and vapor recovery compressor problems.
1st Qtr.			
1992 Total	2.8	36.5	

SO₂ emissions did not exceed 10.5 tons on any day. Should you have any questions or require further information, please give me a call.



William S. Knisely
Vice President - Engineering
De Soto Oil & Gas, Inc.

SO₂ FLARE EMISSION MEASUREMENTS & CALCULATIONS BLACKJACK CREEK FIELD TREATING FACILITY

1. GAS FLARE DURATION: MEASURED IN MINUTES AND BASED ON LOGGED ENTRIES OF BEGINNING AND ENDING TIMES OF FLARE EVENTS.
2. GAS FLARE RATE: MEASURED IN THOUSAND CUBIC FEET PER DAY (MCFD or KCFD) BASED ON GAS FLOW RATE CALCULATIONS FROM STRIP CHART RECORDINGS OF ORIFICE PLATE PRESSURE MEASUREMENTS OF THE VARIOUS GAS STREAMS OCCASIONALLY SENT TO FLARE DURING WELL OR FACILITY UPSETS.
3. SO₂ EMISSION AMOUNT: CALCULATED IN TONS BASED ON COMPLETE COMBUSTION OF H₂S IN FLARE STREAM AS FOLLOWS.

TONS SO₂ EMITTED = MEASURED FLARE AMOUNT X
MOLE FRACTION H₂S X H₂S DENSITY X MOLE
CONVERSION TO SO₂

$$\begin{aligned}
 &= \left[\frac{1 \text{ DAY}}{1440 \text{ MINUTES}} \right] \times \left[\text{MOLE FRACTION H}_2\text{S} \right] \times \left[\frac{1000 \text{ CU. FT.}}{\text{MCF}} \right] \times \\
 &\left[\frac{28.964 \text{ \# air at S.C.}}{379.4 \text{ cu. ft. air at S.C.}} \times 1.1765 \frac{\text{lbs. H}_2\text{S}}{\text{lb. air}} \right] \times \left[\frac{64 \text{ \# / \# mole SO}_2}{34 \text{ \# / \# mole H}_2\text{S}} \right] \times \\
 &\frac{1 \text{ ton}}{2000 \text{ \#}}
 \end{aligned}$$

$$= \text{MCF} \times \text{MOLE FRACTION H}_2\text{S} \times 0.0845$$

4. H_2S MOLE FRACTIONS : BASED ON HISTORICAL GAS CHROMATOGRAM MEASUREMENT DATA OF THE VARIOUS FLARE STREAMS LISTED BELOW AND UPDATED AS WARRANTED.

A. ACID GAS : AN 84.8 MOLE % FIGURE WAS USED IN THE 1992 FLARE CALCULATIONS , ACTUAL MOLE % H_2S MEASUREMENTS DURING 1992 WERE AS FOLLOWS :

<u>DATE</u>	<u>MEASUREMENT</u>	
10/13/92	86.40%	} AVG. = 86.9%
7/28/92	87.39%	
3/11/92	87.32%	
1/23/92	86.49%	

B. SWEET OR OFF-SPEC RESIDUE GAS : A 0.0008 MOLE % FIGURE WAS USED IN THE 1992 FLARE CALCULATIONS. OUR GAS SALES CONTRACT CALLS FOR 1.5 GRAINS OF H_2S PER 100 CU. FT. WHICH EQUALS 23.9 ppm H_2S . WE NORMALLY SELL GAS AT LESS THAN 2 PPM H_2S .

C. FULL WELLSTREAM (INLET) SOUR GAS : COMPOSITE INLET AND INDIVIDUAL PRODUCING WELL GAS IS ANALYZED MONTHLY. THE AVERAGE MOLE % FIGURE USED IN 1992 WAS 14.02% COMPARED TO AN ACTUAL MOLE % AVERAGE OF 14.17% AS PRESENTED IN THE FOLLOWING TABLE.

WELL	(MCF) FLARED AMOUNT	H ₂ S MOLE %		SO ₂ EMISSIONS (TONS)	
		USED	LOOKBACK ACTUAL	REPORTED	ADJUSTED
COMPOSITE INLET	350	11.95	11.4	3.53	3.37
11-E	2854	17.4	16.0	41.96	38.59
13-3	5	27.3	18.5	0.12	0.08
13-4	202	21.9	22.0	3.74	3.76
13-W	1656	7.5	10.5	10.49	14.69
14-1	53	8.7	9.0	0.39	0.40
14-4	17	9.2	8.5	0.13	0.12
23-W	56	28.9	not meas.	1.37	1.37 (e)
14-5	68	11.95	12.0	0.69	0.69
11-W	50	11.95	not meas.	0.50	0.50 (e)
TOTAL	5311			62.92	63.57
WEIGHTED AVERAGE		14.02	14.17		

D. VAPOR RECOVERY COMPRESSOR GAS FROM PRODUCED WATER TANK:

A 79.86 MOLE % FIGURE WAS USED IN THE 1992
FLARE CALCULATIONS. NO ACTUAL MOLE % H₂S
MEASUREMENTS WERE MADE IN 1992; HOWEVER, A
58.23 MOLE % MEASUREMENT WAS TAKEN ON 3/4/93.

5. POSSIBLE 1992 SO₂ EMISSION ADJUSTMENTS BASED ON
LOOK BACK AT ACTUAL H₂S MOLE FRACTION MEASUREMENTS.

(Flow to
burning
low
Tare
to cover)
Pilot
light
all wells
normal from
bypass from
2nd on
SW SYS
during
acid
wt

FLARE CATEGORY	MCF FLARED	H ₂ S FRACTION		TONS SO ₂ EMITTED	
		REPORTED	ADJUSTED	REPORTED	ADJUSTED
ACID GAS	68	.848	.869	4.87	4.99
SWEET/OFF SPEC.	3066	.000008	N/A	0.002	4.002
FULL WELLSTREAM	5311	.1402	.1417	62.92	63.57
SW TANK VRC	371	.7986	.5823	25.04	18.25
TOTAL	8816			92.83	86.81

WSK/

8-23-93

BLACK JACK CREEK EMERGENCY FLARE REPORT

MONTH: DECEMBER 1992

ID #: 10PEN57001402 PERMIT #: A057-197727

Call (904) 436-8300 to REPORT Problems, Malfunctions,
or EXCEEDANCES. (DAY or NIGHT)

kcf Flared = Rate (kcf/D) x Durations (minutes) / 1440
kcf = 1000 Standard Cubic feet

11-E= #1 13-W= #5 23-W= #09

*** DER must be Notified if:

13-3= #2 14-N= #6 24-N= #10

1. More than 5.25 tons SO2 is flared in any 1 day;

13-4= #3 14-S= #7 14-5= #11

2. Opacity above 20 % (Ringleman Number greater than 1).

13-N= #4 19-W= #8

TIME DER
Notified of
Reaching 50 %
Permitted

FWS MIXTURE = #12

e * * * * * SO2

REASON for Flare or HIGH Opacity:

START Duration: Rate: kcf Type 1 SO2 Emissions: Time of Flare
Date: Time: (minutes) (kcf/day) FLARED Gas: 1# Factor Tons/day SHUTDOWN: Opacity:

SO2 SR. OPR.

12-03-92	12:15 AM	585	29	12	B	*	0.00000068	0.000	13 south gas to flare. Freeze conditions.....	***	***	P.B.
12-08-92	2:00 AM	900	50	31	B	*	0.00000068	0.000	13 south separator gas to flare ?.....	***	***	D.B.
12-14-92	11:45 AM	500	30	10	C	5	0.00633	0.063	13-West flowline de-pressured to flare	***	***	K.W.
12-15-92	11:50 PM	10	100	1	D	*	0.0675	0.068	Vapor Recovery Compressor down:jacket H2O motor.	***	***	K.W.
12-16-92	12:01 AM	865	100	60	D	*	0.0675	4.050	Vapor Recovery Compressor down:jacket H2O motor.	***	***	K.W.
12-17-92	1:45 PM	35	100	2	D	*	0.0675	0.135	Vapor Recovery Compressor down:jacket H2O motor.	***	***	D.B.
12/23/92	1:00 PM	5	1035	4	B	*	0.00000068	0.000	Switched to North recompressor.....	***	***	P.B.
12/29/92	8:10 AM	180	400	50	C	5	0.00633	0.317	Depressuring 13-W production casing / tubing....	***	***	D.B.
12/30/92	11:10 AM	5	700	2	B	*	0.00000068	0.000	Switched to South recompressor.....	***	***	D.B.

172

4.630

pe of Gas: A = Acid Gas : KSCF x .0717 = Tons SO2.

B = Sweet or Off-Spec Residue Gas : KSCF x .00000068 = Tons SO2.

C = Full Wellstream Sour Gas : KSCF x .0101 = Tons SO2.

D = Other : If VRC to EITHER Flare : KSCF x .0675 = Tons SO2.

MAXIMUM PERMITTED ALLOWABLE

Correct:

For H. P. Flare & L. P. Flare COMBINED:

SO2 Factor = Frac H2S in F.G. x MW of SO2 / (2 x MW of Air x Spec. Vol. of Air)

= Frac H2S in F.G. x 64.06 / (2 x 29 x 13.108)

OR = % H2S X .000844

10.50 Tons SO2 / Calendar Day

(Effective December 31, 1991)

Plant Manager

MONTH: NOVEMBER 1992

$$\text{kcf Flared} = \text{Rate (kcf/D)} \times \text{Durations (minutes)} / 1440$$

$$\text{kcf} = 1000 \text{ Standard Cubic feet}$$

* Call (904) 436-8300 to REPORT Problems, Malfunctions,
* or EXCEEDANCES. (DAY or NIGHT)

11-E= #1 13-W= #5 23-W= #09 *** DER must be Notified if:
13-3= #2 14-N= #6 24-N= #10 1. More than 5.25 tons SO2 is flared in any 1 day;
13-4= #3 14-S= #7 14-5= #11 2. Opacity above 20 % (Ringelman Number greater than 1).

TIME DER
Notified of
Reaching 50 %
Permitted
SO2 SR. OPR.

FWS MIXTURE = #12 e * * * * * SO2 REASON for Flare or HIGH Opacity:

START Duration: Rate: kcf Type I SO2 Emissions: Time of Flare
Date: Time: (minutes) (kcf/day) FLARED Gas: 1# Factor Tons/day SHUTDOWN: Opacity:

[illegible]

Type of Gas: A = Acid Gas : KSCF x .0717 = Tons SO₂.
 B = Sweet or Off-Spec Residue Gas : KSCF x .00000068 = Tons SO₂.
 C = Full Wellstream Sour Gas : KSCF x .0101 = Tons SO₂.
 D = Other : If VRC to EITHER Flare : KSCF x .0675 = Tons SO₂.

MAXIMUM PERMITTED ALLOWABLE

for H. P. Flare & L. P. Flare COMBINED:

Correct:

$$\begin{aligned} \text{SO}_2 \text{ Factor} &= \frac{\text{Frac H}_2\text{S in F.G.} \times \text{M.W. of SO}_2}{\left(2 \times \text{M.W. of Air} \times \text{Spec. Vol. of Air} \right)} \\ &= \frac{\text{Frac H}_2\text{S in F.G.} \times 64.06}{\left(2 \times 29 \times 13.108 \right)} \\ \text{OR} &= \% \text{H}_2\text{S} \times 0.00844 \end{aligned}$$

10.50 Tons SO₂ / Calendar Day
(Effective December 31, 1991)

J C Callis
Plant Manager

BLACK JACK CREEK EMERGENCY FLARE REPORT

MONTH: OCTOBER 1992

10PEN57001402 PERMIT #: A057-197727

* Call (904) 436-8300 to REPORT Problems, Malfunctions,
* or EXCEEDANCES. (DAY or NIGHT)

kcf Flared = Rate (kcf/D) x Durations (minutes) / 1440
kcf = 1000 Standard Cubic feet

11-E= #1 13-W= #5 23-W= #09

*** DER must be Notified if:

13-3= #2 14-N= #6 24-N= #10

1. More than 5.25 tons SO2 is flared in any 1 day;

13-4= #3 14-S= #7 14-5= #11

2. Opacity above 20 % (Ringleman Number greater than 1).

13-N= #4 19-W= #8

FWS MIXTURE = #12

e ***** SO2

REASON for Flare or HIGH Opacity:

TIME DER
Notified of
Reaching 50 %
Permitted

START Duration: Rate: kcf Type I SO2 Emissions: Time of Flare
Date: Time: (minutes) (kcf/day) FLARED Gas: 1# Factor Tons/day SHUTDOWN: Opacity:

SO2 SR. OPR.

10/01/92	3:17 PM	10	500	3	B	*	0.00000068	0.000	Switched Recompessors.....	***	***	J.R.
10/02/92	8:00 AM	960	50	33	C	1	0.0147	0.485	11-East unloading to classifier after workover..	***	***	P.B.
10/03/92	12:00 AM	1440	25	25	C	1	0.0147	0.368	11-East unloading to classifier.....	***	***	P.B.
10/04/92	12:00 AM	600	15	6	C	1	0.0147	0.088	11-East unloading to classifier.....	***	***	P.B.
10/05/92	7:30 AM	30	120	3	C	9	0.0244	0.073	23-West open to classifier.....	***	***	D.B.
10/06/92	12:50 PM	15	50	1	C	1	0.0147	0.015	11-East open to classifier.....	***	***	D.B.
10/09/92	7:30 AM	990	15	10	C	9	0.0244	0.244	23-West open to classifier.....	***	***	K.W.
10/14/92	7:30 AM	540	50	19	C	1	0.0147	0.279	11-East open to classifier.....	***	***	D.B.
10/14/92	9:00 AM	30	500	10	C	6	0.00734	0.073	14-North open to classifier.....	***	***	D.B.
10/15/92	11:20 AM	5	800	3	B	*	0.00000068	0.000	Swapping recompressors.....	***	***	J.L.
10/23/92	1:10 PM	30	45	1	D	*	0.0675	0.068	V.R.C. down for maintenance.....	***	***	P.B.
10/28/92	1:10 PM	5	800	3	B	*	0.00000068	0.000	Swapping recompressors.....	***	***	P.B.

17

1.693

Type of Gas: A = Acid Gas : KSCF x .0717 = Tons SO2.

B = Sweet or Off-Spec Residue Gas : KSCF x .00000068 = Tons SO2.

C = Full Wellstream Sour Gas : KSCF x .0101 = Tons SO2.

D = Other : If VRC to EITHER Flare : KSCF x .0675 = Tons SO2.

MAXIMUM PERMITTED ALLOWABLE

for H. P. Flare & L. P. Flare COMBINED:

Correct:

SO2 Factor = Frac H2S in F.G. x MW of SO2 / (2 x MW of Air x Spec. Vol. of Air)
= Frac H2S in F.G. x 64.06 / (2 x 29 x 13.108)

OR = % H2S X .00044

10.50 Tons SO2 / Calendar Day
(Effective December 31, 1991)

J.C. Collis
Plant Manager

BLACK JACK C R E K E M E R G E N C Y F L A R E R E P O R T

MONTH: SEPTEMBER 1992

WELL #: 11 PEN 57001402 PERMIT #: A 57-197727

kcf Flared = Rate (kcf/D) x Durations (minutes) / 1440

* Call (904) 436-8300 to REPORT Problems, Malfunctions,

kcf = 1000 Standard Cubic feet

* or EXCEEDANCES. (DAY or NIGHT)

11-E= #1 13-W= #5 23-W= #09 *** DER must be Notified if:

13-3= #2 14-N= #6 24-N= #10

1. More than 5.25 tons SO2 is flared in any 1 day;

13-4= #3 14-S= #7 14-5= #11

2. Opacity above 20 % (Ringleman Number greater than 1).

13-N= #4 19-W= #8

FWS MIXTURE = #12

v

e * * * * * SO2

REASON for Flare or HIGH Opacity:

START Duration: Rate: kcf Type 1 SO2 Emissions: Time of Flare

TIME DER
Notified of
Reaching 50 %
Permitted

Date: Time: (minutes) (kcf/day) FLARED Gas: 14 Factor Tons/day SHUTDOWN: Opacity:

SO2 SR. OPR.

9/09/92	10:10 AM	3	870	2	B	* 0.00000068	0.000	UNLOADING NORTH RECOMPRESSOR TO FLARE.....	***	***	D.B.
9/09/92	7:35 PM	35	1250	30	B	* 0.00000068	0.000	ESD-1: South Recompressor down.....	***	***	K.W.
9/09/92	7:45 PM	55	100	4	D	* 0.0675	0.270	Vapor Recovery Compressor down.....	***	***	K.W.
9/09/92	8:40 PM	20	1000	14	B	* 0.00000068	0.000	ESD-1: South Recompressor down.....	***	***	K.W.
9/19/92	1:00 PM	330	150	34	C	6 0.00734	0.250	14-N TO CLASSIFIER	***	***	J.R.
9/22/92	12:01 AM	1440	50	50	C	12 0.0101	0.505	11-N TO CLASSIFIER	***	***	J.R.
9/24/92	3:17 PM	60	300	13	C	11 0.0101	0.131	14-5 to classifier, weak after treatment.	***	***	D.B.
9/25/92	9:30 AM	240	50	8	C	6 0.00734	0.059	Depressured 14-North flowline to classifier....	***	***	P.B.
9/25/92	4:43 PM	17	50	1	C	6 0.00734	0.007	Depressured 14-North flowline to classifier....	***	***	D.B.
9/27/92	3:00 PM	7	600	3	B	* 0.00000068	0.000	1ST stage suction to recompressor high !!!!!	***	***	D.B.

159

1.222

Type of Gas: A = Acid Gas : KSCF x .0717 = Tons SO2.

B = Sweet or Off-Spec Residue Gas : KSCF x .00000068 = Tons SO2.

C = Full Wellstream Sour Gas : KSCF x .0101 = Tons SO2.

D = Other : If VRC to EITHER Flare : KSCF x .0675 = Tons SO2.

MAXIMUM PERMITTED ALLOWABLE

Correct:

for H. P. Flare & L. P. Flare COMBINED:

SO2 Factor = Frac H2S in F.G. x MW of SO2 / (2 x MW of Air x Spec. Vol. of Air)

10.50 Tons SO2 / Calendar Day

= Frac H2S in F.G. x 64.06 / (2 x 29 x 13.108)

(Effective December 31, 1991)

OR = % H2S X .00044

Plant Manager

J.C. Collis

BLACKJACK CREEK EMERGENCY FLARE REPORT

MONTH: AUGUST 1992

ID #: 10PEN57001402 PERMIT #: A057-197727

* Call (904) 436-8300 to REPORT Problems, Malfunctions,
* or EXCEEDANCES. (DAY or NIGHT)

kcf Flared = Rate (kcf/D) x Durations (minutes) / 1440
kcf = 1000 Standard Cubic feet

11-E= #1 13-N= #5 23-W= #09

*** DER must be Notified if:

13-3= #2 14-N= #6 24-N= #10

1. More than 5.25 tons SO2 is flared in any 1 day;

13-4= #3 14-S= #7 14-5= #11

2. Opacity above 20 % (Ringleman Number greater than 1).

13-N= #4 19-W= #8

FWS MIXTURE = #12

w

e ***** SO2

REASON for Flare or HIGH Opacity:

TIME DER
Notified of
Reaching 50 %
Permitted

START Duration: Rate: kcf Type 1 SO2 Emissions: Time of Flare
Date: Time: (minutes) (kcf/day) FLARED Gas: 1# Factor Tons/day SHUTDOWN: Opacity:

SO2 SR. OPR.

8/01/92	12:01	AM	810	25	14	C	9	0.0244	0.342	23-West to Classifier	***	***	K.W.
8/01/92	12:30	PM	690	75	36	C	5	0.00633	0.228	13-West open to Classifier.....	***	***	K.W.
8/02/92	12:01	AM	440	50	15	C	5	0.00633	0.095	13-West open to Classifier.....	***	***	K.W.
8/02/92	5:50	PM	310	50	11	C	5	0.00633	0.070	13-West open to Classifier.....	***	***	K.W.
8/03/92	12:01	AM	480	25	8	C	5	0.00633	0.051	13-West open to Classifier.....	***	***	K.W.
8/05/92	10:00	AM	270	50	9	C	5	0.00633	0.057	13-West open to Classifier.....	***	***	K.W.
8-10-92	8:50	AM	910	25	16	C	1	0.0147	0.235	11-East open to classifier.....	***	***	P.B.
8-14-92	1:00	PM	890	25	15	c	9	0.0244	0.366	23-West open to Classifier.....	***	***	D.B.
8-19-92	2:00	PM	45	240	8	C	3	0.0185	0.148	13-4 open to Classifier.....	***	***	D.B.

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Type of Gas: A = Acid Gas : KSCF x .0717 = Tons SO2.

B = Sweet or Off-Spec Residue Gas : KSCF x .00000068 = Tons SO2.

C = Full Wellstream Sour Gas : KSCF x .0101 = Tons SO2.

D = Other : If VRC to EITHER Flare : KSCF x .0675 = Tons SO2.

MAXIMUM PERMITTED ALLOWABLE

for H. P. Flare & L. P. Flare COMBINED:

Correct:

SO2 Factor = Frac H2S in F.G. x MW of SO2 / (2 x MW of Air x Spec. Vol. of Air)
= Frac H2S in F.G. x 64.06 / (2 x 29 x 13.108)

OR = % H2S x .07844

10.50 Tons SO2 / Calendar Day
(Effective December 31, 1991)

J.C. Collins
Plant Manager

BLACK JACK CREEK EMERGENCY FLARE REPORT

MONTH: JULY 1992

NO: 10PEN57001402 PERMIT #: A057-197727

* Call (904) 436-8300 to REPORT Problems, Malfunctions,
* or EXCEEDANCES. (DAY or NIGHT)

11-E= #1 13-W= #5 23-W= #09

*** DER must be Notified if:

13-3= #2 14-N= #6 24-N= #10

1. More than 5.25 tons SO2 is flared in any 1 day;

13-4= #3 14-S= #7 14-5= #11

2. Opacity above 20 % (Ringelman Number greater than 1).

13-N= #4 19-W= #8

PWS MIXTURE = #12

W

e ***** SO2

REASON for Flare or HIGH Opacity:

TIME DER
Notified of
Reaching 50 %
Permitted

START Duration: Rate: kcf Type l SO2 Emissions: Time of Flare
Date: Time: (minutes) (kcf/day) FLARED Gas: l# Factor Tons/day SHUTDOWN: Opacity:

SO2 SR. OPR.

7/05/92	7:30 PM	270	50	9	C	5	0.00633	0.057	13 West open to classifier.	***	***	D.B.
7/06/92	12:01 AM	390	250	68	C	5	0.00633	0.430	13-West open to classifier.....	***	***	K.W.
7/06/92	1:00 PM	660	1000	450	B	*	0.0000068	0.000	Sales Gas flaring: FFPLC down.....	***	***	K.W.
7/07/92	12:01 AM	1141	1250	990	B	*	0.0000068	0.001	Sales Gas flaring: FFPLC down.....	***	***	D.B.
7/10/92	1:05 PM	5	1000	4	B	*	0.0000068	0.000	Unloading South recompressor.....	***	***	D.B.
7/10/92	11:38 PM	22	19	0	C	5	0.00633	0.000	13-W TO CLASSIFIER.....	***	***	J.L.
7/11/92	12:00 PM	1303	250	226	C	5	0.00633	1.431	13-W TO CLASSIFIER.....	***	***	J.L.
7/12/92	3:30 PM	210	30	4	C	5	0.00633	0.025	13-W TO CLASSIFIER FOR 3.5HRS.....	***	***	J.L.
7/13/92	7:40 AM	960	200	133	C	1	0.0147	1.955	11-E TO CLASSIFIER.....	***	***	J.L.
7/13/92	11:30 PM	30	4	0	C	5	0.00633	0.000	13-W TO CLASSIFIER.....	***	***	J.L.
7/14/92	12:01 AM	1440	250	250	C	5	0.00633	1.583	13-W TO CLASSIFIER.....	***	***	J.L.
7/14/92	12:01 AM	1440	94	94	C	1	0.0147	1.382	11-E TO CLASSIFIER.....	***	***	J.L.
7/15/92	12:01 AM	1440	94	94	C	1	0.0147	1.382	11-E TO CLASSIFIER.....	***	***	J.L.
7/15/92	12:01 AM	1260	182	159	C	5	0.00633	1.006	13-W TO CLASSIFIER.....	***	***	J.L.
7/16/92	7:30 AM	330	48	11	C	5	0.00633	0.070	13-W TO CLASSIFIER FOR 5.5 HRS.....	***	***	J.L.
7/16/92	12:01 AM	1440	94	94	C	1	0.0147	1.382	11-E TO CLASSIFIER.....	***	***	J.L.
7/30/92	7:00 PM	300	125	26	C	5	0.00633	0.165	13-W TO CLASSIFIER FOR 5.0 HRS.....	***	***	JR
7/31/92	10:45 AM	795	25	14	C	9	0.0244	0.342	23-West to Classifier	***	***	KW

2634 11.2/1

Type of Gas: A = Acid Gas : KSCF x .0717 = Tons SO2.

B = Sweet or Off-Spec Residue Gas : KSCF x .0000068 = Tons SO2.

C = Full Wellstream Sour Gas : KSCF x .0101 = Tons SO2.

D = Other : If VRC to EITHER Flare : KSCF x .0675 = Tons SO2.

MAXIMUM PERMITTED ALLOWABLE

for H. P. Flare & L. P. Flare COMBINED:

Correct:

SO2 Factor = Frac H2S in F.G. x MW of SO2 / (2 x MW of Air x Spec. Vol. of Air)
= Frac H2S in F.G. x 64.06 / (2 x 29 x 13.100)

10.50 Tons SO2 / Calendar Day
(Effective December 31, 1991)

OR = % H2S X .00044

J.C. Collis
Plant Manager

MONTH: JUNE 1992

$\text{kcft Flared} = \text{Rate (kcf/D)} \times \text{Durations (minutes)} / 1440$
 $\text{kcf} = 1000 \text{ Standard Cubic feet}$

* OF EXCEEDANCES. (DAY or NIGHT)

*** DER must be Notified if:

1. More than 5.25 tons SO₂ is flared in any 1 day:

2. Opacity above 20 % (Ringelman Number greater than 1).

13-N= #4 19-N= #8

1

e * * * * * S02

REASON for Flare or HIGH Opacity:

TIME DER

Notified of

Reaching 51 8

Permitted

502 SR. OPR.

START Duration: Rate: kcf Type 1 SO2 Emissions: Time of Flare
Date: Time: (minutes) (kcf/day) FLARED Gas: 1# Factor Tons/day SHUTDOWN: Opacity:

6-10-92	9:15 AM	3	1210	3	B	*	0.00000068	0.000	Depressured South recompressor.....	***	***	P.B.
6-10-92	12:30 PM	5	1132	4	B	*	0.00000068	0.000	Depressured 14-4 flowline.....	***	***	P.B.
6-12-92	11:10 PM	50	314	11	C	5	0.00633	0.070	13-W to classifier.....	***	***	P.B.
6-13-92	1:15 AM	150	47	5	C	2	0.0231	0.116	13-3 TO CLASSIFIER.....	***	***	P.B.
6-13-92	3:45 AM	105	157	11	C	5	0.00633	0.070	13-W TO CLASSIFIER.....	***	***	P.B.
6-15-92	3:20 PM	540	30	11	C	5	0.00633	0.070	13-W TO CLASSIFIER.....	***	***	P.B.
6-16-92	10:40 AM	180	217	27	D	*	0.0675	1.823	LOST GULF POWER, VRC DOWN.	***	***	D.B.
6-17-92	11:05 AM	5	600	2	B	*	0.00000068	0.000	UNLOADING SOUTH RECOMPRESSOR	***	***	D.B.
6-18-92	1:45 AM	5	1137	4	B	*	0.00000068	0.000	Unloading North recompressor.....	***	***	P.B.
6/18/92	10:30 AM	5	600	2	B	*	0.00000068	0.000	UNLOADING SOUTH RECOMPRESSOR	***	***	J.B.
6/22/92	7:50 AM	290	217	44	D	*	0.0675	2.970	LOST GULF POWER, VRC DOWN.	***	***	J.R.
6-24-92	4:00 PM	35	450	11	A	*	0.0717	0.780	Steam Turbine Air Blower tripped???	***	***	P.B.
6-25-92	9:00 AM	180	157	20	C	5	0.00633	0.127	13-W TO CLASSIFIER.....	***	***	J.L.
6-29-92	11:05 AM	545	314	119	C	5	0.00633	0.753	13-W TO CLASSIFIER.....	***	***	J.R.
6-30-92	12:05 AM	435	300	91	C	5	0.00633	0.576	13-W TO CLASSIFIER.....	***	***	J.R.

365

7349

Type of Gas: A = Acid Gas : KSCF x .1717 = Tons SO₂.

B = Sweet or Off-Spec Residue Gas : KSCF x .00000168 = Tons SO₂.

C = Full Wellstream Sour Gas : KSCF x .0101 = Tons SO₂.

D = Other : If VRC to EITHER Flare : $KSCF \times .0675 = \text{Tons SO}_2$.

MAXIMUM PERMITTED ALLOWABLE

for H. P. Flare & L. P. Flare COMBINED:

Correct:

$$\begin{aligned} \text{SO}_2 \text{ Factor} &= \text{Frac H}_2\text{S in F.G.} \times \text{M.W. of SO}_2 / (2 \times \text{M.W. of Air} \times \text{Spec. Vol. of Air}) \\ &= \text{Frac H}_2\text{S in F.G.} \times 64.06 / (2 \times 29 \times 13.108) \end{aligned}$$

11.5# Tons SO₂ / Calendar Day
(Effective December 31, 1991)

OR = 8 E2S X .11844

Plant Manager's

BLACK JACK CREEK EMERGENCY FLARE REPORT

MONTH: MAY 1992

ID #: 10PBN57001402 PERMIT #: A057-197727

* Call (904) 436-8300 to REPORT Problems, Malfunctions,
* or EXCEEDANCES. (DAY or NIGHT)

11-E= #1 13-W= #5 23-W= #09

*** DER must be Notified if:

13-3= #2 14-N= #6 24-N= #10

1. More than 5.25 tons SO2 is flared in any 1 day;

13-4= #3 14-S= #7 14-5= #11

2. Opacity above 20% (Ringelman Number greater than 1).

13-N= #4 19-W= #8

FWS MIXTURE = #12

e***** SO2

REASON for Flare or HIGH Opacity:

TIME DER

Notified of

Reaching 50%

Permitted

SO2 SR. OPR.

START Duration: Rate: kcf Type 1 SO2 Emissions: Time of Flare
Date: Time: (minutes) (kcf/day) FLARED Gas: l# Factor Tons/day SHUTDOWN: Opacity:

5/1/92	12:01 AM	1400	97	94	C	1	0.0147	1.382	11-East open to classifier.	***	***	J.R.
5/2/92	12:01 AM	1440	97	97	C	1	0.0147	1.426	11-East open to classifier.	***	***	J.R.
5/3/92	12:01 AM	1440	60	60	C	1	0.0147	0.882	11-East open to classifier.	***	***	J.R.
5/4/92	12:01 AM	1440	60	60	C	1	0.0147	0.882	11-East open to classifier.	***	***	J.R.
5/5/92	12:01 AM	1440	60	60	C	1	0.0147	0.882	11-East open to classifier.	***	***	J.R.
5/6/92	12:01 AM	1440	60	60	C	1	0.0147	0.882	11-East open to classifier.	***	***	J.R.
5/7/92	12:01 AM	1440	60	60	C	1	0.0147	0.882	11-East open to classifier.	***	***	J.R.
5/8/92	12:01 AM	1170	75	61	C	1	0.0147	0.897	11-East open to classifier.....	***	***	K.W.
5/9/92	12:01 AM	1170	75	61	C	1	0.0147	0.897	11-East open to classifier.....	***	***	K.W.
5/10/92	12:01 AM	1200	75	63	C	1	0.0147	0.926	11-East open to classifier.....	***	***	K.W.
5/11/92	12:01 AM	1200	75	63	C	1	0.0147	0.926	11-East open to classifier.....	***	***	K.W.
5/12/92	12:01 AM	1200	100	83	C	1	0.0147	1.220	11-East open to classifier.....	***	***	K.W.
5/13/92	12:01 AM	715	60	30	C	1	0.0147	0.441	11-East open to classifier.....	***	***	K.W.
5/20/92	12:00 PM	3	970	2	B	*	0.00000068	0.000	Unloading South recompressor.	***	***	D.B.
5/22/92	12:10 PM	10	726	5	B	*	0.00000068	0.000	Recompressor went down.	***	***	J.R.
5/22/92	12:30 PM	120	75	6	C	1	0.0147	0.088	11-East open to classifier.....	***	***	J.R.
5/23/92	3:30 AM	90	50	3	C	1	0.0147	0.044	11-East open to classifier.....	***	***	D.B.
5/26/92	8:15 AM	125	404	35	A	*	0.0717	2.510	Patching Leak On Sulphur Boiler	***	***	J.R.
5/26/92	8:50 PM	30	550	11	B	*	0.00000068	0.000	North Recompressor went down? & * ! @ # \$! ?.	***	***	K.W.
5/27/92	4:50 AM	30	615	13	B	*	0.00000068	0.000	North Recompressor went down? & * ! @ # \$! ?.	***	***	D.B.
5/27/92	7:30 AM	35	250	6	B	*	0.00000068	0.000	North Recompressor went down? & * ! @ # \$! ?.	***	***	J.R.
5/27/92	9:30 AM	20	1230	17	C	7	0.00776	0.132	14-South open to classifier.....	***	***	J.R.
5/28/92	7:30 AM	180	438	55	C	11	0.0101	0.556	14-5 open to classifier.....	***	***	D.B.

1005

15.855

pe of Gas: A = Acid Gas : KSCF x .0717 = Tons SO2.

B = Sweet or Off-Spec Residue Gas : KSCF x .00000068 = Tons SO2.

C = Full Wellstream Sour Gas : KSCF x .0101 = Tons SO2.

D = Other : If VRC to EITHER Flare : KSCF x .0675 = Tons SO2.

MAXIMUM PERMITTED ALLOWABLE

Correct:

for H. P. Flare & L. P. Flare COMBINED:

SO2 Factor = Frac H2S in F.G. x MW of SO2 / (2 x MW of Air x Spec. Vol. of Air)

10.50 Tons SO2 / Calendar Day

= Frac H2S in F.G. x 64.06 / (2 x 29 x 13.108)

(Effective December 31, 1991)

OR = % H2S x .00844

J. C. Collis
Plant Manager

BLACK JACK CREEK EMERGENCY FLARE REPORT

MONTH: APRIL 1992

ID #: 10PRN57001402 PERMIT #: A 57-197727

* Call (904) 436-8300 to REPORT Problems, Malfunctions,

* or EXCEEDANCES. (DAY or NIGHT)

11-E- #1 13-W- #5 23-W- #09

*** DER must be Notified if:

13-3- #2 14-W- #6 24-W- #10

1. More than 5.25 tons SO₂ is flared in any 1 day;

13-4- #3 14-S- #7 14-5- #11

2. Opacity above 20 % (Ringelman Number greater than 1).

13-W- #4 19-W- #8

PWS MIXTURE = #12

e * * * * * SO₂

REASON for Flare or HIGH Opacity:

TIME DER

Notified of

Reaching 50 %

Permitted

SO₂ SR. OPR.

START Duration: Rate: kcf Type l SO₂ Emissions: Time of Flare
Date: Time: (minutes) (kcf/day) FLARED Gas: l# Factor Tons/day SHUTDOWN: Opacity:

4/1/92	12:01 AM	1200	75	63	C	1	0.0147	0.926	11-East open to classifier.	***	***	D.B.
4/1/92	12:35 PM	5	1289	4	B	12	0.0000068	0.000	RECOMP. S/D	***	***	J.R.
4/2/92	12:01 AM	1000	75	56	C	1	0.0147	0.823	11-East open to classifier.	***	***	D.B.
4/3/92	12:01 AM	510	75	27	C	1	0.0147	0.397	11-East open to classifier -- very little flow.	***	***	K.W.
4/5/92	12:01 AM	180	500	63	c	12	0.0101	0.636	DEPRESSURING PLANT FOR TURNAROUND	***	***	J.R.
4/10/92	08:00 AM	45	1000	31	B	*	0.0000068	0.000	Purging Plant for Start-up.....	***	***	K.W.
4/10/92	11:30 AM	90	4500	281	C	12	0.0101	2.838	Plant Start-up.....	***	***	K.W.
4/10/92	12:15 PM	90	150	9	D	*	0.0675	0.608	VRC down while starting plant up.....	***	***	K.W.
4/10/92	01:00 PM	90	275	17	A	*	0.0717	1.219	ACID GAS to flare during Sulfur Plant start-up..	***	***	K.W.
4/10/92	01:00 PM	300	2500	521	B	*	0.0000068	0.000	Sales Gas to flare-- Off spec. Residue.....	***	***	K.W.
4/10/92	01:30 PM	630	50	22	C	3	0.0185	0.407	13-4 to Classifier -- weak.....	***	***	K.W.
4/10/92	07:00 PM	300	150	31	C	5	0.00633	0.196	13-West to Classifier -- weak.....	***	***	K.W.
4/11/92	07:45 AM	465	150	48	C	5	0.00633	0.304	13-West to classifier..weak.....	***	***	P.B.
4/11/92	12:01 AM	840	75	44	C	3	0.0185	0.814	13-4 to Classifier -- weak.....	***	***	K.W.
4/12/92	12:01 AM	1440	50	50	C	3	0.0185	0.925	13-4 to Classifier -- weak.....	***	***	K.W.
4/13/92	00:25 AM	20	372	5	A	*	0.0717	0.350	Acid gas to flare.Welding leak on muffle furnace	***	***	P.B.
4/13/92	12:01 AM	1440	25	25	C	3	0.0185	0.463	13-4 to Classifier -- weak.....	***	***	K.W.
4/14/92	12:01 AM	600	25	10	C	3	0.0185	0.185	13-4 to Classifier -- weak.....	***	***	D.B.
4/14/92	09:00 AM	150	15	2	C	1	0.0147	0.020	11-East to Classifier	***	***	K.W.
4/22/92	09:45 AM	5	920	3	B	*	0.0000068	0.000	Lost north recompressor.	***	***	D.B.
4/22/92	10:40 AM	9	920	6	B	*	0.0000068	0.000	Lost north recompressor.	***	***	D.B.
4/25/92	1:30 AM	5	800	3	B	*	0.0000068	0.000	Unloading north recompressor.	***	***	D.B.
4/29/92	1:20 PM	3	895	2	B	*	0.0000068	0.000	Purged South recompressor.....	***	***	P.B.
4/29/92	10:15 AM	645	75	34	C	1	0.0147	0.500	Unloaded 11-East to classifier.....	***	***	P.B.
4/30/92	4:35 AM	1165	97	78	C	1	0.0147	1.147	11-East open to classifier.....	***	***	D.B.

1435

17.749

Type of Gas: A = Acid Gas : KSCF x .0717 = Tons SO₂.

B = Sweet or Off-Spec Residue Gas : KSCF x .0000068 = Tons SO₂.

C = Full Wellstream Sour Gas : KSCF x .0101 = Tons SO₂.

D = Other : IF VRC to EITHER Flare : KSCF x .0675 = Tons SO₂.

MAXIMUM PERMITTED ALLOWABLE

Correct:

for H. P. Flare & L. P. Flare COMBINED:

SO₂ Factor = Frac H₂S in F.G. x MW of SO₂ / (2 x MW of Air x Spec. Vol. of Air)
= Frac H₂S in F.G. x 64.06 / (2 x 29 x 13.108)

OR = % H₂S x .00844

10.50 Tons SO₂ / Calendar Day
(Effective December 31, 1991)

J.C. Collins
Plant Manager

BLACK JACK CREEK EMERGENCY FLARE REPORT

MONTH: MARCH 1992

ID #: 10PEN57111412 PERMIT #: A 57-197727

* Call (904) 436-8300 to REPORT Problems, Malfunctions,

* or EXCEEDANCES. (DAY or NIGHT)

11-R= #1 13-W= #5 23-W= #89

*** DER must be Notified if:

13-3= #2 14-N= #6 24-N= #10

1. More than 5.25 tons SO2 is flared in any 1 day;

13-4= #3 14-S= #7 14-5= #11

2. Opacity above 20 % (Ringeman Number greater than 1).

13-N= #4 19-W= #8

PWS MIXTURE = #12

w

e * * * * * SO2

REASON for Flare or HIGH Opacity:

TIME DER

Notified of

Reaching 50 %

Permitted

START Duration: Rate: kcf Type 1 SO2 Emissions: Time of Flare
Date: Time: (minutes) (kcf/day) FLARED Gas: 1# Factor Tons/day SHUTDOWN: Opacity:

SO2 SR. OPR.

3/2/92	12:01 AM	300	75	16	C	1	0.0147	0.235	11-East open to classifier.	***	***	D.B.
3/3/92	12:01 AM	540	50	19	C	1	0.0147	0.279	11-East open to classifier.....	***	***	K.W.
3/6/92	7:40 AM	35	163	4	D	*	0.0675	0.270	V.R.C. down to change hot valve.	***	***	D.B.
3/7/92	11:38 AM	12	163	1	D	*	0.0675	0.068	V.R.C. down for maintenance.	***	***	D.B.
3/11/92	7:00 AM	340	600	142	B	*	0.00000068	0.000	Sales Gas to flare: problem with Propane System.	***	***	K.W.
3/11/92	6:00 AM	245	157	27	C	3	0.0185	0.500	13-4 open to classifier.	***	***	D.B.
3/11/92	12:20 PM	377	640	168	B	*	0.00000068	0.000	Sales Gas to flare: problem with Propane System.	***	***	D.B.
3/18/92	12:45 PM	3	755	2	B	*	0.00000068	0.000	Unloading south recom. to start north recom.	***	***	P.B.
3/19/92	11:50 PM	10	650	5	B	*	0.00000068	0.000	South recompressor shutdown:(no flag on board).	***	***	K.W.
3/24/92	12:10 AM	540	1100	413	B	*	0.00000068	0.000	Sales gas to flare.Problems with propane system.	***	***	P.B.
3/24/92	10:05 AM	65	1100	50	B	*	0.00000068	0.000	South recompressor shutdown: High disch.temp.	***	***	D.B.
3/29/92	7:30 AM	30	75	2	C	1	0.0147	0.029	11-East open to classifier.	***	***	D.B.
3/30/92	12:01 AM	1440	10	10	C	1	0.0147	0.147	11-East open to classifier.	***	***	D.B.
3/31/92	12:01 AM	1440	100	100	C	1	0.0147	1.470	11-East open to classifier.	***	***	D.B.
3/31/92	12:45 PM	90	250	16	C	3	0.0185	0.296	13-4 open to classifier for SSSV closure.....	***	***	K.W.

975

Type of Gas: A = Acid Gas : KSCF x .0717 = Tons SO2.

B = Sweet or Off-Spec Residue Gas : KSCF x .00000068 = Tons SO2.

C = Full Wellstream Sour Gas : KSCF x .0101 = Tons SO2.

D = Other : If VRC to EITHER Flare : KSCF x .0675 = Tons SO2.

MAXIMUM PERMITTED ALLOWABLE

Correct:

for H. P. Flare & L. P. Flare COMBINED:

SO2 Factor = Frac H2S in P.G. x M W of SO2 / (2 x M W of Air x Spec. Vol. of Air)
= Frac H2S in P.G. x 64.06 / (2 x 29 x 13.108)

10.50 Tons SO2 / Calendar Day
(Effective December 31, 1991)

Plant Manager

OR = % H2S X .00844

BEST AVAILABLE COPY

BLACK JACK CREEK EMERGENCY FLARE REPORT

MONTH: FEBRUARY 1992

ID #: 10PEN57001402 PERMIT #: A057-197727

* Call (904) 436-8300 to REPORT Problems, Malfunctions,
* or EXCEEDANCES. (DAY or NIGHT)

kcf Flared = Rate (kcf/D) x Durations (minutes) / 1440
kcf = 1000 Standard Cubic feet

11-E= #1 13-W= #5 23-W= #09 *** DER must be Notified if:
13-3= #2 14-N= #6 24-N= #10 1. More than 5.25 tons SO2 is flared in any 1 day;
13-4= #3 14-S= #7 14-5= #11 2. Opacity above 20 % (Ringleman Number greater than 1).
13-N= #4 19-W= #8

PWS MIXTURE = #12

e * * * * * SO2

REASON for Flare or HIGH Opacity:

TIME DER
Notified of
Reaching 50 %
Permitted
SO2 SR. OPR.

START Duration: Rate: kcf Type l SO2 Emissions: Time of Flare
Date: Time: (minutes) (kcf/day) FLARED Gas: l# Factor Tons/day SHUTDOWN: Opacity:

2/5/92	12:01 AM	540	110	41	D	*	0.0675	2.768	VRC TO H.P. FLARE / T.P. PRESS. VALVE PLUGGED.	***	***	D.B.
2/6/92	8:30 AM	5	1132	4	C	12	0.0101	0.040	E.S.D. #1	***	***	J. R.
2/6/92	7:45 AM	900	110	69	D	*	0.0675	4.658	VRC DOWN.	***	***	D.B.
2/07/92	12:01 AM	625	215	93	D	*	0.0675	6.278	Vapor Recovery Compressor Down: knocking sound.	03:00 PM		K.W.
2/12/92	10:30 AM	20	500	7	B	*	0.00000068	0.000	Switching Recompessors.	***	***	K.W.
2/17/92	5:30 AM	15	200	2	D	*	0.0675	0.135	VRC Down: Purchased power failure (Gulf Power).	***	***	K.W.
2/19/92	12:30 PM	5	1509	5	B	*	0.00000068	0.000	Switching recompressors.	***	***	P.B.
2/20/92	10:30 PM	90	165	10	D	*	0.0675	0.675	Vapor Recovery Compressor Down: Squealing sound.	***	***	K.W.
2/21/92	12:01 AM	30	165	3	D	*	0.0675	0.203	Vapor Recovery Compressor Down: Squealing sound.	***	***	K.W.
2/26/92	8:30 AM	930	60	30	C	1	0.0147	0.573	Unloading 11-E to classifier.	***	***	P.B.

273

1.33

Type of Gas: A = Acid Gas : KSCF x .0717 = Tons SO2.

B = Sweet or Off-Spec Residue Gas : KSCF x .00000068 = Tons SO2.

C = Full Wellstream Sour Gas : KSCF x .0101 = Tons SO2.

D = Other : If VRC to EITHER Flare : KSCF x .0675 = Tons SO2.

MAXIMUM PERMITTED ALLOWABLE

for H. P. Flare & L. P. Flare COMBINED:

Correct:

SO2 Factor = Frac H2S in F.G. x M W of SO2 / (2 x M W of Air x Spec. Vol. of Air)

= Frac H2S in F.G. x 64.06 / (2 x 29 x 13.108)

OR = % H2S x .00014

10.50 Tons SO2 / Calendar Day

(Effective December 31, 1991)

J.C. Callis
Plant Manager

BLACK JACK CREEK EMERGENCY FLARE REPORT

MONTH: January 1992

ID #: 10PENST001402 PERMIT #: A157-197727

* Call (904) 436-8399 to REPORT Problems, Malfunctions,
* or EXCEEDANCES. (DAY or NIGHT)

kcf Flared = Rate (kcf/D) x Durations (minutes) / 1440
kcf = 1999 Standard Cubic feet

11-E= #1 13-W= #5 23-W= #49
13-J= #2 14-W= #6 24-W= #10
13-4= #3 14-S= #7 14-S= #11
13-W= #4 19-W= #8

*** DER must be Notified if:

1. More than 5.25 tons SO2 is flared in any 1 day;
2. Opacity above 20 % (Ringelman Number greater than 1).

TIME DER
Notified of
Reaching 50 %
Permitted
SO2 SE. OPR.

MIXTURE = #12

***** SO2

REASON for Flare or HIGH Opacity:

START Duration: Rate: kcf Type I SO2 Emissions: Time of Flare
Date: Time: (minutes) (kcf/day) FLARED Gas: 10 Factor Tons/day SHUTDOWN: Opacity:

1/1/92	12:01 AM	1440	75	75	C	1	0.0147	1.103	11-East to classifier.	000	000	P.B.
1/1/92	12:01 AM	540	120	45	C	5	0.00633	0.205	13-West to classifier.	000	000	P.B.
1/2/92	12:01 AM	1230	75	64	C	1	0.0147	0.941	11-East to classifier.	000	000	P.B.
1/3/92	12:01 AM	1440	00	00	C	1	0.0147	1.323	11-East to classifier.	000	000	D.B.
1/4/92	12:01 AM	1095	120	91	C	1	0.0147	1.330	11-East to classifier.	000	000	D.B.
1/5/92	12:01 AM	870	120	73	C	1	0.0147	1.073	11-East to classifier.	000	000	D.B.
1/6/92	2:00 AM	1260	120	105	C	1	0.0147	1.544	11-East to classifier.	000	000	D.B.
1/6/92	8:45 AM	400	100	20	C	5	0.00633	0.177	13-West to classifier.	000	000	D.B.
1/7/92	12:01 AM	1440	120	120	C	1	0.0147	1.764	11-East to classifier.	000	000	D.B.
1/7/92	1:00 PM	660	250	115	C	5	0.00633	0.728	13-West to classifier.	000	000	D.B.
1/8/92	12:01 AM	750	110	57	C	1	0.0147	0.838	11-East to classifier.	000	000	D.B.
1/8/92	12:01 AM	400	435	121	C	5	0.00633	0.766	13-West to classifier.	000	000	D.B.
1/9/92	12:40 AM	1320	110	101	C	1	0.0147	1.405	11-East to classifier.	000	000	D.B.
1/10/92	12:01 AM	830	100	50	C	1	0.0147	0.853	11-East to classifier.	000	000	JR
1/11/92	12:01 AM	975	100	60	C	1	0.0147	1.000	11-East to classifier.	000	000	JR
1/12/92	12:01 AM	1440	00	00	C	1	0.0147	1.176	11-East to classifier.	000	000	JR
1/13/92	12:01 AM	100	50	6	C	1	0.0147	0.002	11-East to classifier.	000	000	JR
1/14/92	09:15 AM	300	100	21	C	5	0.00633	0.133	13-West to classifier.	000	000	JR
1/15/92	8:30 AM	105	50	4	C	1	0.0147	0.050	11-East to classifier.	000	000	K.W.
1/16/92	9:30 PM	150	20	3	B	0.00000060	0.000	13-South GAS to flare for "FREEZE" conditions.	000	000	D.B.	
1/17/92	12:01 AM	825	20	17	B	0.00000060	0.000	13-South to flare.	000	000	K.W.	
1/18/92	9:00 AM	900	100	63	C	5	0.00633	0.390	13-West to classifier.	000	000	K.W.
1/21/92	12:01 AM	530	20	11	B	0.00000060	0.000	13-South GAS to flare for "FREEZE" conditions.	000	000	K.W.	
1/21/92	12:01 AM	420	100	20	C	5	0.00633	0.104	13-W to classifier.	000	000	P.B.
1/22/92	1:30 PM	5	500	2	B	0.00000060	0.000	Unloaded north recompressor to start & load.	000	000	P.B.	
1/22/92	11:30 AM	750	50	26	C	1	0.0147	0.382	11-East to classifier.	000	000	K.W.
1/23/92	12:01 AM	510	40	14	C	1	0.0147	0.206	11-East to classifier.	000	000	K.W.
1/28/92	9:30 AM	40	75	2	C	9	0.0244	0.049	23-West to classifier.	000	000	D.B.
1/29/92	9:30 AM	5	600	2	B	0.00000060	0.000	Switching Recompessors.	000	000	D.B.	

1491

11.879

Type of Gas: A = Acid Gas : KSCF x .0717 = Tons SO2.

B = Sweet or Off-Spec Residue Gas : KSCF x .00000060 = Tons SO2.

C = Full Wellstream Sour Gas : KSCF x .0101 = Tons SO2.

D = Other : Specify if VRC to L.P. Flare (No SO2 limit).

***** If VRC to H.P. Flare : KSCF x .0675 = Tons SO2.

MAXIMUM PERMITTED ALLOWABLE

Correct:

for H. P. Flare:

10.50 Tons SO2 / Calendar Day

(Effective December 31, 1991)

J. Callie
Plant Manager

SO2 Factor = Frac WTS in F.G. x MW of SO2 / (2 x MW of Air x Spec. Vo. of Air)

DLN: LAB REVISION 12

B. KNISLEY
P-COLA

BLACKJACK CREEK PRODUCTION FACILITY

LABORATORY ANALYSIS

RUN IT ON a HEWLETT-PACKARD, a GOOD machine!!!

Time:

10⁰⁰ PM

Sample of: GAS FROM S.W.D. TO KRC

Date:

3-4-93

Temperature:

Pressure:

2 1/2 PSI

Rate:

COMPONENT NAME	AREA	AREA %	RESPONSE FACTOR	RESPONSE AREA	MOLE %
NITROGEN:			1.7155		9.03
METHANE:			0.8265		14.30
CO2:			1.2553		6.66
ETHANE:			1.2470		3.85
H2S:			0.9477		58.23
PROPANE:			1.4117		2.58
I BUTANE:			1.5077		.86
N BUTANE:			1.3170		1.95
I PENTANE:			1.0751		1.13
N PENTANE:			0.9298		1.41
I HEXANE:			0.5640		
TOTALS:					100.00

REMARKS & CALCULATION:

Chlorides:

ppm

ANALYSIS BY:

DOYCE NOWLING, ESQ.

Petro Acquisitions, Inc.
Blackjack Creek Field
Gas Analysis Calculations

Sample of TOTAL Acid GAS

Sampled by D. H. Date 1-23-92 Source SCHUBER

Flowing Temperature _____ Flowing Pressure _____ psig

Analysis by D. Newby Date 1-23-92

COMP	MOL %	V ₁ b	V ₁ b X Mole %	BTU CONTENT (factor) BTU *	BTU CONTENT BTU x Mole% 100	Ideal Specific Gravity	Ideal Sp. Gr. x Mole% 100
H2S	86.490	0.0985	0.0851927	637.0	551.0	1.1765	1.017555
N2	0.180	0.0164	0.0000295	0.0	0.0	0.9672	0.001741
CO2	12.780	0.0640	0.0081792	0.0	0.0	1.5195	0.194192
C1	0.290	0.0436	0.0001264	1010.0	2.9	0.5539	0.001606
C2	0.100	0.0017	0.0000017	1769.8	1.8	1.0382	0.001038
C3	0.060	0.1342	0.0000805	2516.2	1.5	1.5226	0.000914
IC4	0.000	0.1744	0.0000000	3252.1	0.0	2.0068	0.000000
NC4	0.050	0.1825	0.0000013	3262.4	1.6	2.0068	0.001003
IC5	0.050	0.2276	0.0001138	4000.9	2.0	2.4911	0.001246
NC5	0.000	0.2377	0.0000000	4008.8	0.0	2.4911	0.000000
C6+	0.000	0.2830	0.0000000	5502.5	0.0	3.4598	0.000000

100.000		E =	0.093905	ghv ;=	560.8	SPGR ;= 1.219295	

$$E^* = 0.00881814 \quad ghv E = \frac{ghv ; \times 14.65}{z \times 14.696} \quad SPGR E = \frac{SPGR ; \times .99959}{z}$$

z = 0.991182	ghv E = 564 BTU/scf	SPGR E = 1.22964
--------------	---------------------	------------------

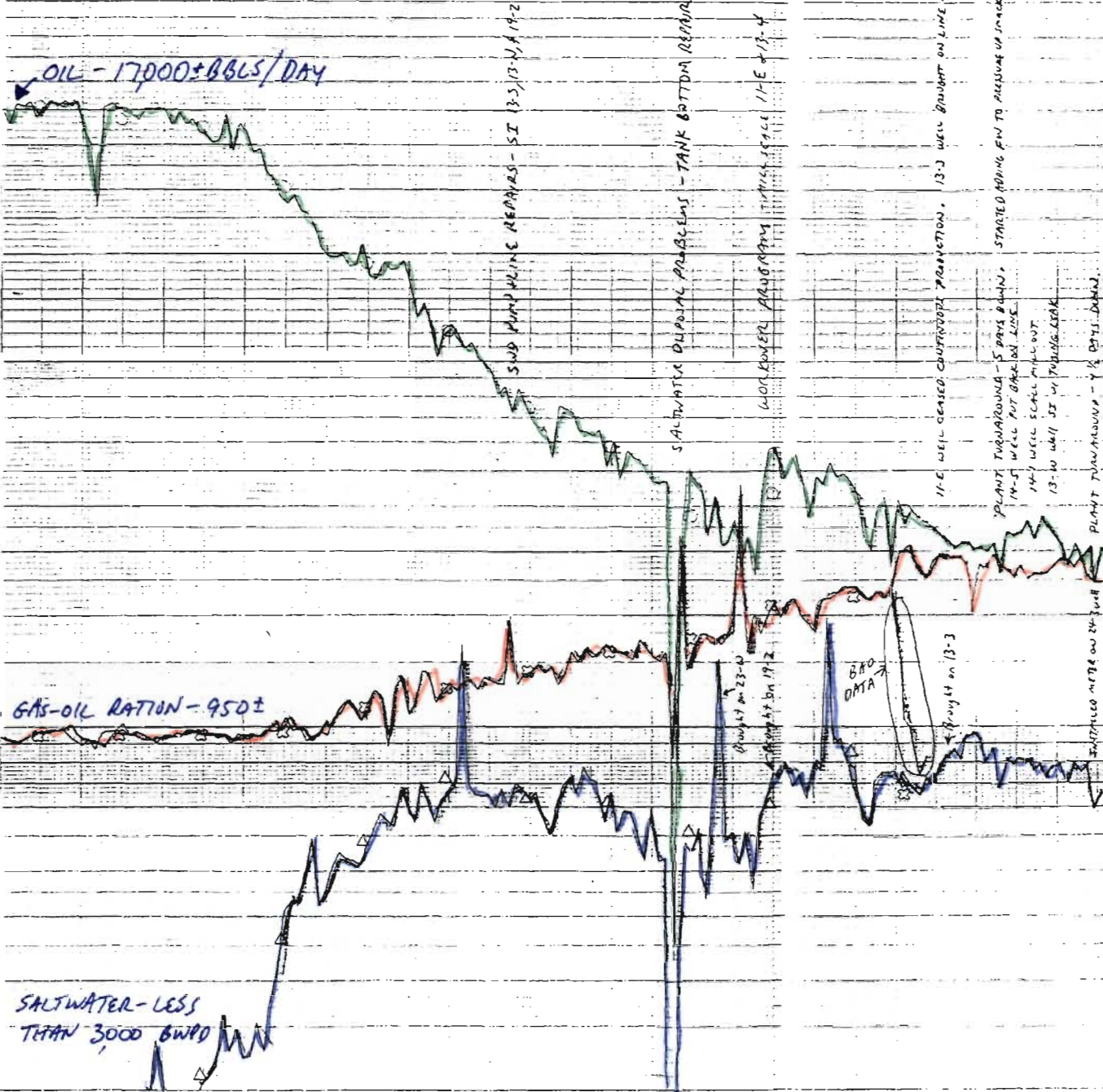
10²10³10⁶

▷ WATER - BBLS./MO.
 ✕ GAS/OIL RATIO
 ○ OIL - BBLS./MO.

10⁶10³10⁴

10⁵10²10³

1980 1981 1982 1983 1984 1985 1986 1987 1988 1989 1990 1991 1992 1993 1994 1995 1996 1997 1998 1999



LEASE : BLACKJACK CREEK ^{FIELD} PLOT
 FIELD : BLACKJACK CREEK
 CNTY. ST : SANTA ROSA, FL
 OPERATOR : EXXON CO USA C- 0-
 ZONE : SMACKOVER 15793-15828
 ID : BLACKJACK(P)

← OIL - 1000 ± BBLS./DAY
 ← GAS/OIL RATIO - 2700 ± SCR/BSL

← SALTWATER - 25,000 ± BWPD

SALTWATER - LESS
 THAN 3000 BWPD

SALTWATER DUE TO PROBLEMS - TANK BOTTOM REMOVALS
 WORKOVERS APPROXIMATELY 11-E & 13-4

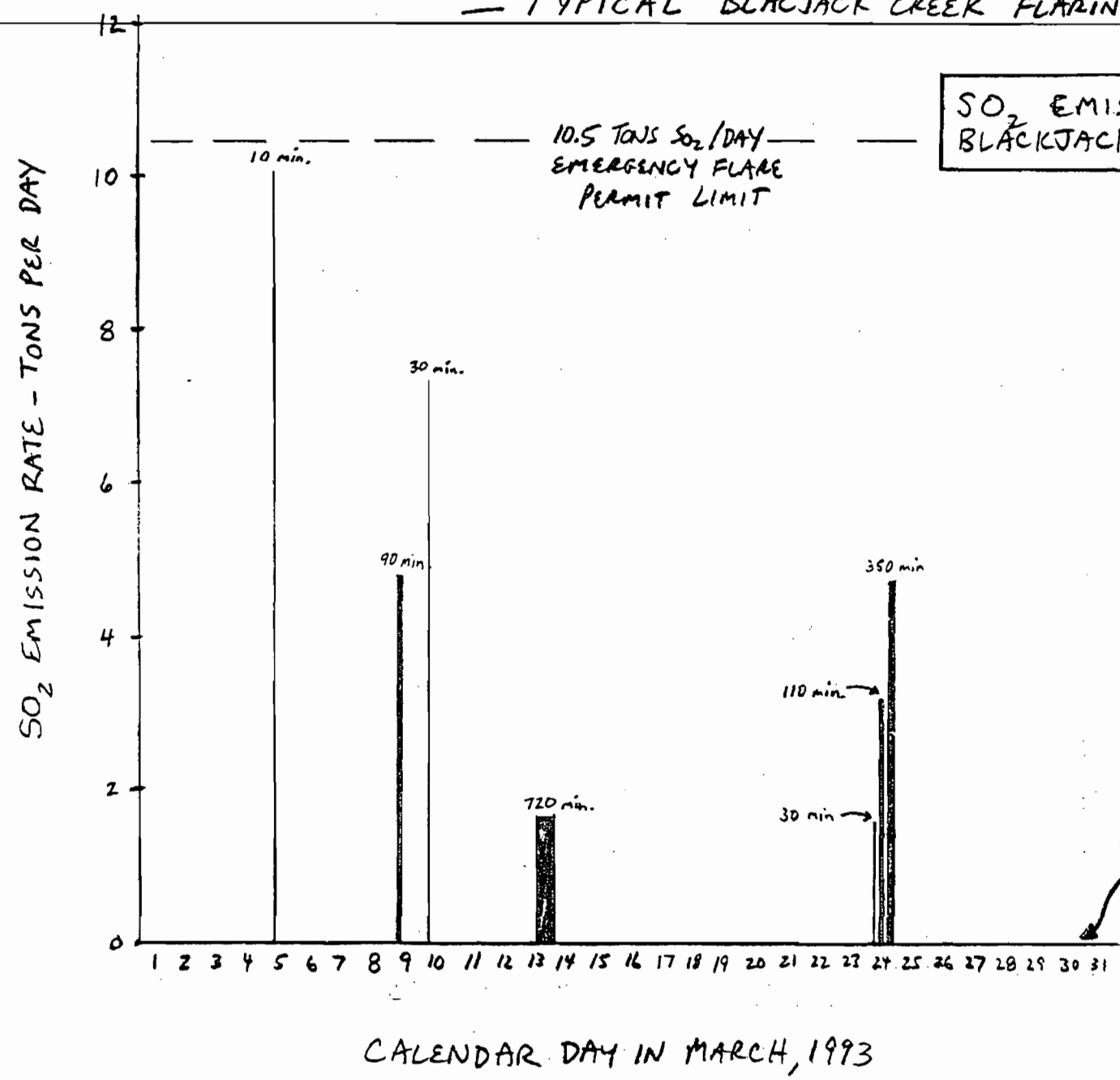
11-E WELL CEMENTED COUNTERBORE PRODUCTION. 13-2 WELL BROUGHT ON LINE AFTER WORKOVER
 PLANT TURNAROUND - 5 DAYS DOWN. 14-S WELL PUT BACK ON LINE. 14-S WELL SCALF FILL OUT. 13-W WELL ST 4 TUBING LEAK. PLANT TURNAROUND - 4 DAYS DOWN.

GOOD DATA
 11-E on 12-2
 13-W on 12-2
 11-E on 12-3

0 5000 10000 15000 20000 25000 30000 35000 40000 45000 50000 55000 60000 65000 70000 75000 80000 85000 90000 95000 100000 105000 110000 115000 120000 125000 130000 135000 140000 145000 150000 155000 160000 165000 170000 175000 180000 185000 190000 195000 200000 205000 210000 215000 220000 225000 230000 235000 240000 245000 250000 255000 260000 265000 270000 275000 280000 285000 290000 295000 300000 305000 310000 315000 320000 325000 330000 335000 340000 345000 350000 355000 360000 365000 370000 375000 380000 385000 390000 395000 400000 405000 410000 415000 420000 425000 430000 435000 440000 445000 450000 455000 460000 465000 470000 475000 480000 485000 490000 495000 500000 505000 510000 515000 520000 525000 530000 535000 540000 545000 550000 555000 560000 565000 570000 575000 580000 585000 590000 595000 600000 605000 610000 615000 620000 625000 630000 635000 640000 645000 650000 655000 660000 665000 670000 675000 680000 685000 690000 695000 700000 705000 710000 715000 720000 725000 730000 735000 740000 745000 750000 755000 760000 765000 770000 775000 780000 785000 790000 795000 800000 805000 810000 815000 820000 825000 830000 835000 840000 845000 850000 855000 860000 865000 870000 875000 880000 885000 890000 895000 900000 905000 910000 915000 920000 925000 930000 935000 940000 945000 950000 955000 960000 965000 970000 975000 980000 985000 990000 995000 1000000

— TYPICAL BLACKJACK CREEK FLARING EVENTS —

SO₂ EMISSION RATE PLOT — MARCH, '93
BLACKJACK CREEK EMERGENCY FLARES



NOTE: SULPHUR RECOVERY PLANT
PERMITTED EMISSION RATE OF
≈ 0.054 TONS SO₂/DAY AND
ACTUAL EMISSION RATE OF
≈ 0.008 TONS SO₂/DAY WOULD
NOT SHOW UP ON THIS GRAPH
SCALE.

*- PORTION OF RULES AND REGULATIONS RECEIVED FROM
DER IN TALLAHASSEE STAMPED 12/1/92 -*

accurately quantified, and such exclusion is approved by the Department.

(c) As a precondition to excluding these compounds as VOC or at any time thereafter, the Department may require an owner or operator to provide monitoring or testing methods and results demonstrating, to the satisfaction of the Department, the amount of negligibly-reactive compounds in the source's emissions.

Specific Authority: 403.061, 403.087, F.S.

Law Implementd: 403.021, 403.031, 403.087, 403.0872, 403.0873, F.S.

History: New

17-213.200 Annual Operation Licensing Fee.

Commencing in 1993, each major source of air pollution permitted to operate in this state must pay between January 15 and March 1 of each year, upon written notice from the department, an annual operation license fee in an amount determined as follows:

(1) Each major source must calculate the annual fee, based upon the source's previous year's emissions, by multiplying the applicable annual operation license fee factor times the tons of each regulated air pollutant (except carbon monoxide) allowed to be emitted per hour by specific condition of the source's most recent certification, construction permit or operation permit,

times the annual hours of operation allowed by specific condition; provided, however, that:

(a) For 1993 and 1994, the license fee factor is \$10. For 1995, the license fee factor is \$25. The license fee factor may be increased beyond \$25 in years succeeding 1995 only if the Secretary of the Department affirmatively finds that a shortage of revenue for support of the major stationary air source operation permit program will occur in the absence of a fee factor adjustment, otherwise the fee factor is \$25. The annual license fee factor may never exceed \$35 without legislative approval. The Department shall retain a nationally recognized accounting firm to conduct a study to determine the reasonable revenue requirements necessary to support the development and administration of the major source air operation permit program as prescribed in Rule 17-213.200(2), F.A.C. The results of that determination must be considered in assessing whether a \$25-per-ton fee factor is sufficient to adequately fund the major air source operation permit program. The results of the study must be presented to the Governor, the President of the Senate, the Speaker of House of Representatives, and the Public Service Commission, including the Public Counsel's Office, by no later than October 31, 1994.

(b) Any source that operates for fewer hours during

the calendar year than allowed under its permit, will calculate the annual fee based upon actual hours of operation, rather than allowable hours, if the owner or operator of the source documents the source's actual hours of operation for the calendar year. Any source that has an emission limit that is dependent upon the type of fuel burned, will calculate the annual fee calculation based on the emissions limit applicable during actual hours of operation.

(c) For any source whose allowable emission limitation is specified per units of material input or heat input or product output, the applicable input or production amount may be used to calculate the allowable emissions if the owner or operator of the source documents the actual input or production amount. If the input or production amount is not documented, the maximum allowable input or production amount specified in the permit must be used to calculate the allowable emissions.

(d) Any new source that does not receive its first operation permit until after the beginning of a calendar year, will reduce the annual fee for the year pro rata to reflect the period during which the source was not allowed to operate.

(e) Any source that emits less of any regulated air

pollutant than allowed by specific condition, will base the annual fee calculation for such pollutant upon actual emissions rather than allowable emissions if the owner or operator documents the source's actual emissions by means of data from a certified continuous emissions monitor which the Department has determined meets the requirements of Appendix B of 40 CFR Part 60 which is adopted and incorporated by reference, or from a method specifically approved by the Department fee calculation proposes after demonstration by the source that such method's ability to quantify emissions is equivalent to the use of a certified continuous emissions monitor.

(f) The amount of each regulated air pollutant in excess of 4,000 tons per year allowed to be emitted by any source, or group of sources belonging to the same Major Group as described in the Standard Industrial Classification Manual, 1987, will not be included in the calculation of the fee. Any source, or group of sources, which does not emit any regulated air pollutant in excess of 4,000 tons per year, is allowed a one-time credit not to exceed 25 percent of the first annual licensing fee for the prorated portion of the existing air operation permit application fees remaining upon commencement of the annual licensing fees.

(g) If the Department has not received the fee by February 15 of the calendar year, the Department will send



Florida Department of Environmental Regulation

Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, Florida 32399-2400

Lawton Chiles, Governor

Carol M. Browner, Secretary

January 11, 1993

Dear Air Permittee:

Enclosed are instructions for completing the annual operation license fee form (DER Form 17-213.900(1)) sent to you in December, 1992.

We regret any inconvenience omitting these instructions this might have caused. Should you have questions write to me or call either Jonathan Holtom at (904) 488-8163 or Tom Cascio or Mark Halverstadt at (904) 488-1344.

Sincerely,

for

John C. Brown, Jr., P.E.
Administrator
Air Permitting and Standards
Section

JCB/kbw

Attachments

INSTRUCTIONS FOR MAJOR AIR POLLUTION SOURCE ANNUAL OPERATION
LICENSE FEE FORM [DER Form 17-213.900(1)]

PAGE A: Complete as indicated on form.

PAGE B: Source Information Sheet. A Source Information Sheet should be completed for each emission unit regulated individually and for each group of emission units regulated collectively. Exceptions: 1. If a visible emissions limitation is the only pollutant emission limitation for the source, no information is needed. 2. If the total emissions of a pollutant for a facility is equal to or greater than 4000 tons per year, Page(s) B does(do) not have to be completed for that pollutant as long as 4000 is entered in column (c) of Page C for that pollutant.

Source I.D. No.: 2-digit APIS (Air Program Information System) source identifying number.

Section I, Column (a): List each air pollutant regulated by specific permit condition for the source (single emission unit regulated individually, or group of emission units regulated collectively) listed at the top of page. If additional space is needed to list all of the pollutants regulated for a source, make additional copies of page B for the source as needed. For sources that have different regulations for a single pollutant because of various fuels burned or materials handled, the pollutant should be listed in Column (a) as many times as necessary with identifiers to indicate the different regulations. Example 1: A source is allowed to burn either solid or liquid fuel, and both were burned during the reported calendar year. While burning solid fuel the SO₂ allowable emission limit is 1.2 lb/MMBTU and while burning liquid fuel the SO₂ allowable emission limit is 0.8 lb/MMBTU. Two SO₂ entries should be listed in Column (a), each with a distinguishable identifier such as "SO₂-coal" and "SO₂-oil". Example 2: A source is allowed different particulate emission limitations based upon whether or not the source is soot-blowing. Two different particulate (or PM-10) entries should be listed in Column (a), with separate identifiers such as "particulate" and "particulate-SB". Example 3: A source is allowed to emit different amounts of fluoride depending on the type of fertilizer produced. A fluoride entry should be made in Column (a) for each type of emission limitation such as "fluoride-GTSP" and "fluoride-DAP".

Section II, Columns (b), (c), (d), and (e). For each pollutant listed in column (a), list the most limiting maximum allowable pollutant emission rate specified in the permit. Though a pollutant may be limited by each of the three different condition types listed, only one, the most restrictive for the year, of the columns (b), (c), or (d) should be filled in. Example 1: "pounds per hour" is the most limiting maximum emission rate. Enter this limitation in Column (b). In most cases, if the Column (c) "tons per year" is specified in a permit as a limiting condition it will simply be Column (b) "pounds per hour" multiplied by Column (d) "maximum allowed annual hours of operation" divided by 2000 (pounds per ton). If this is the case, because "tons per year"

would just be another version of "pounds per hour", it is not necessary to enter "tons per year" in Column (c), just enter the "pounds per hour" in Column (b). Example 2: Sometimes the maximum allowable hours per year is not stated in the permit and a "tons per year" limitation is specified which is more restrictive than the Column (b) "pounds per hour" multiplied by 8760 (default number of hours per year). In this case, the "tons per year" should be entered in Column (c) as this is the most limiting rate. Also, due to production variations, or perhaps to avoid more stringent regulations, a source is sometimes given a more limiting "tons per year" emission rate that has no direct correlation with the "pounds per hour" limitation given, or perhaps there is no "pounds per hour" limitation at all. The "tons per year" should be entered in Column (c). Example 3: The most limiting maximum allowable pollutant emission rate is based on tons of pollutant emitted per unit of material input, heat input or product output, rather than "pounds per hour" or "tons per year". For an emission limit such as 0.0015 tons of VOC allowed per gallon of coating, list tons (0.0015) in Column (d) and list the material input unit (gallon) in Column (e). For an emission limit such as 0.0004 tons of SO₂ allowed per MMBTU heat input, list tons (0.0004) in Column (d) and list the heat input unit (MMBTU) in Column (e). Example 4: If the sulfur dioxide limitation for the source is specified in terms of a %S fuel limit, convert the %S to tons of SO₂. SO₂, not S, should be listed as the pollutant in column (a). For a boiler firing No. 6 fuel oil with a %S limit of 2.5% by weight, multiply the annual fuel oil consumption allowed by permit (or actual fuel oil consumption if documented) times the density of the fuel oil times the maximum percent sulfur limit times the stoichiometric conversion factor of 2 (2 pounds of SO₂ formed per pound of sulfur burned). $[1,000,000 \text{ gal/year} \times 7.88 \text{ lbs/gal} (\times 1/2000 \text{ tons per pound}) \times 0.025 \times 2 = 197 \text{ tons SO}_2/\text{year.}]$ If the fuel limit is based upon BTU input rather than gallons of fuel, the allowable BTU input must be divided by the (BTU/gal) heating value of the fuel oil to obtain gallons.

Section III. Maximum annual operating conditions as allowed by permit condition.

Column (f): For each pollutant listed in Column (a), list the corresponding maximum annual hours of operation allowed at the maximum allowable pollutant emission rate for the source by permit condition. Example 1: A source is allowed to operate 8 hours/day, 5 days/week, 52 weeks/year. The maximum annual hours to be entered in Column (f) is 2080 ($8 \times 5 \times 52$). Example 2: For a boiler with a particulate limitation for normal operation and a particulate limitation for soot-blowing (SB) with the soot-blowing limited to 3 hours per 24-hour period and the boiler is allowed to operate 8760 hours per year, the maximum allowable annual hours of operation for pollutant "particulate-SB" should be listed as 1095 (3 hours times 365 days/year); and, for pollutant "particulate", the maximum annual hours of operation should be listed as 7665 (8760 hours/year minus 1095).

Column (g): For each pollutant listed in Column (a) that has as its most limiting maximum allowable emission rate a value listed in Column (d), enter the maximum annual amount of material input, heat input, or product output allowed by permit condition. The

amount must be expressed in the same units as listed in Column (e). Example: If a boiler has as its maximum permitted heat input rate 4000 MMBTU/hour, and as its maximum permitted hours of operation 8760 hours per year, the maximum allowable annual heat input to be entered in Column (g) is 35,040,000 (4000 x 8760). The units are understood to be MMBTU if these are the units that were entered in Column (e).

Section IV. Actual annual operating conditions as documented for the reported calendar year. For the operating conditions to be considered "documented", the records (e.g., operation logs, fuel receipts, inventory records, etc.) which were used to determine the operating conditions must be kept on file at the facility and available for review by Department personnel.

Column (h): For each pollutant listed in Column (a) having documented actual annual operating hours for the source, list the actual annual hours of operation.

Column (i): For each pollutant listed in Column (a) that has as its most limiting maximum allowable emission rate a value listed in Column (d), enter the actual annual amount of material input, heat input, or product output if the actual amount is documented. The amount must be expressed in the same units as listed in Column (e).

Section V. Annual licensed emissions.

Column (j): [If the source's actual emissions of the pollutant were recorded by means of a continuous emissions monitor (C.E.M.) or other method approved by the Department for this purpose, skip this column and enter the actual recorded emissions in Column (k).] The calculated annual tons of pollutant emissions are determined by multiplying the most limiting maximum allowable pollutant emission rate specified in Section II times the corresponding operating condition in Section III (or Section IV if the operating conditions are documented). Example 1: A source is allowed to emit 30 pounds per hour of particulate. The annual hours of operation were not documented, but the permitted hours of operation are 8760. To calculate annual tons of particulate, multiply 30 [from Column (b)] times 8760 [from Column (f)]. This results in calculated particulate emissions of 262,800 pounds per year. However, because the reporting units for Column (j) are "tons", divide 262,800 pounds/year by 2000 (pounds per ton) to determine the tons emitted per year to be entered in Column (j).

Example 2: A source is allowed to emit 30 pounds per hour of particulate. The annual hours were documented to be 2080. To calculate annual tons of particulate, multiply 30 [from Column (b)] times 2080 [from Column (h)]. This results in calculated particulate emissions of 62,400 pounds per year. However, because the reporting units for Column (j) are "tons" divide 62,400 pounds/year by 2000 (pounds per ton) to determine the tons emitted per year to be entered in Column (j). Example 3: A source is allowed to emit 3 pounds of NOX per ton of nitric acid produced. The annual tons of nitric acid produced were documented to be 100,000. To calculate annual tons of NOX, multiply 0.0015 [3 pounds (converted to tons) from Column (d)] times 100,000 tons of acid per year [from Column (i)]. This results in calculated NOX emissions of 150 tons per year to be entered in Column (j). If

the acid production was not documented for the year, and the allowed annual production by permit condition is 120,000 tons of acid per year, the annual emissions of NOX would be calculated by multiplying 0.0015 [from Column (d)] times 120,000 [from Column (g)]. This results in calculated NOX emissions of 180 tons per year to be entered in Column (j). Example 4: The most limiting maximum allowable pollutant emission rate for a source of SO2 is 240 tons per year [as entered in Column (c)]. This is considered the calculated allowable annual tons of SO2 and is entered in Column (j).

Column (k): If a source's actual emissions of the pollutant were recorded by means of a continuous emissions monitor (C.E.M.) or other method approved by the Department for this purpose, enter the actual recorded emissions in Column (k). The method code must be entered in Column (l).

Column (l): Code for method by which actual emissions listed in Column (k) were recorded.

<u>Code</u>	<u>Method</u>
a	DER-approved continuous emissions monitor
b	Emissions monitoring method approved by the USEPA as specified in 40 CFR Part 75
c	Method approved by the DER Bureau of Air Regulation for this purpose

PAGE C: Fee Payment Calculation Sheet. Complete as indicated on form.

PAGE D: One-Time Fee Credit Calculation Sheet.

Any source, or group of sources, which does not emit any regulated air pollutant in excess of 4,000 tons per year, is allowed a one-time credit not to exceed 25 percent of the first annual licensing fee for the prorated portion of existing air operation permit application fees remaining upon commencement of the annual licensing fees.

Column (c): Full years remaining in the life of the permit can be determined by comparing the permit expiration date with the values given in the table at the bottom of Page D of the form.

Column (d): Permit term length (to nearest amount of full years) can be determined by comparing the permit issuance date to the permit expiration date. In most cases this is 5 years, but there are some exceptions.

Column (e): The credit factor is determined by dividing the "Full years remaining" listed in Column (c) by the "Permit term length" listed in Column (d).

Column (f): Enter the permit application processing fee amount that was paid at the time the permit was applied for.

Column (g): The credit amount is determined by multiplying the "credit factor" listed in Column (e) times the "permit application processing fee paid" listed in Column (f).

Box 1: Total of the credit amounts listed in Column (g).

Box 2: Multiply 0.25 (25%) times the "Total Fee Amount" listed on page C of form and enter amount in Box 2.

Box 3: Enter the total credit amount allowed, which is the lesser amount of Boxes 1 and 2.



Florida Department of Environmental Regulation

Twin Towers Office Bldg., 2600 Blair Stone Road, Tallahassee, Florida 32399-2400

DER Form	17-213.900(1)
Form Title	Annual Operation License Fee
Effective Date	
DER Application No.	
(Filled in by DER)	

DEPARTMENT OF ENVIRONMENTAL REGULATION MAJOR AIR POLLUTION SOURCE ANNUAL OPERATION LICENSE FEE FORM

CALENDAR YEAR REPORTED: 1992

Fee payment due between January 15th and March 1st of following year. If the Department has not received the fee payment by March 1st, the Department shall impose, in addition to the fee, a penalty of 50 percent of the amount of the fee, plus interest on such amount computed in accordance with s. 220.807, Florida Statutes. The Department may revoke any major air pollution source operation permit if it finds that the permit holder has failed to pay timely any required annual operation license fee, penalty or interest.

FACILITY INFORMATION (Please print or type information)

1. Facility owner/company name <u>DE SOTO OIL & GAS, INC.</u>		2. Facility ID <u>10PEN570014</u>
3. Facility name/street address or location description <u>BLACKJACK CREEK FACILITY - 4940 BLACKJACK PLANT ROAD</u>		
4. Facility city <u>7 MILES SOUTH OF JAY</u>	zip code <u>32565</u>	county <u>SANTA ROSA</u>
5. Authorized representative (if not owner) 		
6. Name of person to be contacted if there are questions about information submitted <u>WILLIAM S. KNISELY</u>		7. Contact's telephone number <u>(904) 432-9588</u>

TOTAL FEE PAYMENT REMITTED:

\$ 847.50

("Total Fee Amount" calculated on page C of form minus "Total credit amount allowed" calculated on page D of form)

CERTIFICATION

I, the undersigned, am the owner or authorized representative of the facility described on this fee form. I certify that the statements and calculations made on this form are true, correct and complete to the best of my knowledge.

<u>William S. Knisely</u> Signature	<u>1/19/93</u> Date
----------------------------------------	------------------------

Submit check, draft, or money order, made payable to Florida DER, with completed form.

BEST AVAILABLE COPY

MAJOR AIR POLLUTION SOURCE ANNUAL OPERATION LICENSE FEE FORM SOURCE INFORMATION SHEET

Facility Name: BLACKJACK CREEK TREATING FACILITY Source Permit/Certification No.: A057-197735 Source I.D. No. (if known): _____

Brief Description of Source (emission unit regulated individually, or group of emission units regulated collectively): SULPHUR RECOVERY UNIT
(10 PEN 57001401)

I. Air pollutant(s) regulated by: specific permit condition for this source (excluding carbon monoxide)	II. Most limiting maximum allowable pollutant emission rate (fill in one column only for each pollutant)			III. Operating conditions - Maximum allowed by permit per year		IV. Operating conditions - Actual documented for reported calendar year		V. Annual licensed emission		
	pounds per hour	tons per year	tons per unit of material or heat input or product output	hours of operation	amount of material or heat input or product output [in units specified in column (e)]	hours of operation	amount of material or heat input or product output [in units specified in column (e)]	calculated annual tons of pollutant emissions	actual tons recorded annual emissions using C.E.M. or other DER-approved method	code
(a)	(b)	(c)	(tons) (d) (units) (e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)
SO ₂			0.004 Ton sulfur	8784	NO MAXIMUM	8676	5382 TONS SULFUR	21.5	20.2 *	C

No. 1 of 2 total Source Information Sheets submitted for this facility.

* based on annual emission test
measurement of 0.00376 #SO₂/#sulfur

BEST AVAILABLE COPY

MAJOR AIR POLLUTION SOURCE ANNUAL OPERATION LICENSE FEE FORM SOURCE INFORMATION SHEET

Facility Name: BLACKJACK CREEK FIELD TREATING FACILITY Source Permit/Certification No.: A057-197727 Source I.D. No. (if known): A057-151960

Brief Description of Source (emission unit regulated individually, or group of emission units regulated collectively): EMERGENCY FLARE (10PEN57001402)
AND SALTWATER DISPOSAL SYSTEM (10PEN57001405)

I. Air pollutant(s) regulated by specific permit condition for this source (excluding carbon monoxide)	II. Most limiting maximum allowable pollutant emission rate (fill in one column only for each pollutant)				III. Operating conditions - Maximum allowed by permit per year		IV. Operating conditions - Actual documented for reported calendar year		V. Annual licensed emission		
	pound per hour	tons per year	tons per unit of material or heat input or product output	(units)	hours of operation	amount of material or heat input or product output [in units specified in column (e)]	hours of operation	amount of material or heat input or product output [in units specified in column (e)]	calculated annual tons of pollutant emissions	actual tons recorded annual emissions using C.E.M. or other DER-approved method	code
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)
SO ₂	875				8784		8676		3796	92.8 *	C

No. 2 of 2 total Source Information Sheets submitted for this facility.

* Based on daily flare log as presented in quarterly reports.

MAJOR AIR POLLUTION SOURCE ANNUAL OPERATION LICENSE FEE FORM
FEE PAYMENT CALCULATION SHEET

Facility Name: BLACKJACK CREEK TREATING FACILITY

Air pollutant(s) regulated by specific permit conditions for this facility (excluding carbon monoxide).	Total facility annual licensed emissions for each pollutant listed in column (a). [Sum of column entries (j) and/or (k) for pollutant on page(s) B for all sources at facility]	If amount in column (b) is less than 4000 tons, enter amount in column (c). If the amount in column (b) is equal to or greater than 4000 tons, enter 4000 in column (c).	Multiply amount in column (c) by \$10 and enter dollar amount in column (d).
(a)	(b)	(c)	(d)
SO ₂	113.0 TONS	113.0 TONS	\$ 1130
Total Fee Amount			\$ 1130

MAJOR AIR POLLUTION SOURCE ANNUAL OPERATION LICENSE FEE FORM
ONE - TIME FEE CREDIT CALCULATION SHEET

Facility Name: BLACKJACK CREEK TREATING FACILITY

Note: Credit is not allowed for any facility with a source, or group of sources belonging to the same Major Group as described in the Standard Industrial Classification Manual, 1987, which emits any regulated air pollutant in excess of 4000 tons per year.

Permit numbers of current air pollution source operation permits issued to facility	Permit expiration date	Full years remaining	Permit term length (years)	Credit factor (c) - (d)	Permit application processing fee paid (\$)	Credit amount (\$) (e) x (f)
(a)	(b)	(c)	(d)	(e)	(f)	(g)
AO57-197735	7/1/96	3	5	0.60	750	450
AO 57-197727	6/1/96	3	5	0.60	750	450
AO57-151960	8/1/93	0	5	0		0
AO						
AO						
AO						
AO						
AO						
AO						
AO						
AO						

Box 1. Total credit amount possible [sum total of column (g)]

1. 900.00

Box 2. 25% of page C "Total Fee Amount"

2. 282.50

Box 3. Total credit amount allowed [lesser of Box 1 and Box 2]

3. 282.50

Permit expiration date	Full years remaining
Jan. 1, 1993 - Dec. 31, 1993	0
Jan. 1, 1994 - Dec. 31, 1994	1
Jan. 1, 1995 - Dec. 31, 1995	2
Jan. 1, 1996 - Dec. 31, 1996	3
Jan. 1, 1997 - Dec. 31, 1997	4
Jan. 1, 1998 and thereafter	5



Lawton Chiles
Governor

Florida Department of Environmental Protection

Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Virginia B. Wetherell
Secretary

August 13, 1993

Mr. William S. Knisely
De Soto Oil and Gas, Inc.
700 South Palafox Street
Pensacola, Florida 32501

RE: Annual License Fees
Facility ID # 10PEN570014

Dear Mr. Knisely:

After careful review of your Annual License Fee form and consultation with Mr. John Brown, Air Permitting and Standards Administrator, Bureau of Air Regulation, I have determined that, because you do not have SO₂ continuous emissions monitors on your flares, or a Department approved equivalent method of calculating continuous emissions for fee calculation purposes, that your fees should be based on the permitted allowable emission rate of 10.5 tons per day [17-213.200(1)(e), F.A.C.] and not the calculated rate you have submitted for your quarterly reports which is based on periodic sampling.

Re-calculation of total fees owed leaves you with a balance due of \$36,427.50.

Because it is past March 1, 1993, this balance due is subject to a 50% penalty plus 1/2% interest per month or part of a month past March 1, 1993 that fees are not received [17-213.200(1)(g), F.A.C.]. If fees are received by August 31, 1993, your total amount due will be:

$$\$36,427.50 + (36,427.50 \times 0.53) = \$55,734.08.$$

Please remit payment to:

Department of Environmental Protection
Title V (10PEN570014)
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

BEST AVAILABLE COPY

Mr. William Knisely
De Soto Oil and Gas, Inc.
Page 2

Should you have any questions, please contact me at (904)
488-1044.

Sincerely,

William Knisely

William Knisely

Engineer II

State of Florida

Bureau of Air Regulation

mailed 8/17

DE SOTO OIL & GAS, INC.

Date: August 17, 1993

Florida Department of Environmental Protection
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32399-2400

Attn: Mr. Jonathan Holtom

Re: Annual License Fees
Facility ID # 10PEN570014
Blackjack Creek Field
Santa Rosa County, FL

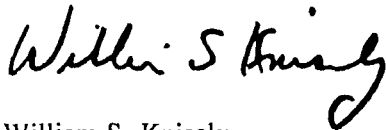
Dear Mr. Holtom:

As per our conversation today, ^{9 AM} De Soto Oil & Gas, Inc. is prepared to meet with yourself and Mr. John Brown at ~~1:30 PM~~ on Thursday August 26, 1993 to discuss the letter we received dated August 13, 1993 detailing a re-calculation of fees associated with the above referenced facility. Attending the meeting on De Soto's behalf will be myself and Mr. Greg Hodges, the Division Manager. We look forward to meeting you and discussing the following items:

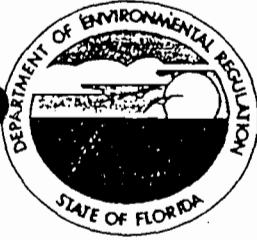
- ___ The Blackjack Creek Facility emission measurement processes.
- ___ Technical backup data used to prepare license fee forms.
- ___ DEP's interpretation of rules pertaining to Annual License fees.
- ___ Review of emission history at Blackjack Creek Facility.
- ___ Uniqueness of emission events occurring at an oil and gas production facility.

Should the need arise to reschedule the meeting, please give me a call.

Sincerely Yours,



William S. Knisely
Vice President of Engineering & Operations
De Soto Oil & Gas, Inc.



Florida Department of Environmental Regulation

Northwest District • 160 Governmental Center • Pensacola, Florida 32501-5794

Lawton Chiles, Governor

Carol M. Browner, Secretary

PERMITTEE:

Petro Acquisitions,
Incorporated

I.D. Number: 1OPEN57001401

Permit/Certification Number: A057-197735

Date of Issue: August 19, 1991

Expiration Date: July 1, 1996

County: Santa Rosa

Latitude/Longitude: 30°50'54"N/87°06'48"W

Section/Township/Range: 23/4N/29W

Project: Sulfur Recovery Plant -
Blackjack Creek

This permit is issued under the provisions of Section 403.087, Florida Statutes, and Florida Administrative Code Rules 17-2 and 17-4. The above named applicant, hereinafter called Permittee, is hereby authorized to perform the work or operate the facility shown on the application and approved drawing(s), plans, and other documents attached hereto or on file with the Department and made a part hereof and specifically described as follows:

Operation of a sulfur recovery plant, design capacity total acid gas derived from 17,000 STB/D of crude oil (3,449 Mcf/D). Current operating rate is total acid gas derived from 1,200 STB/D of crude oil (1,090 Mcf/D). Hydrogen sulfide (H_2S) emissions are controlled by a three-stage Claus unit (conversion to elemental sulfur), a Shell Scot Unit (recycles H_2S from tail gasses to Claus feed), and incinerator (burns H_2S to sulfur dioxide [SO_2]).

Located at Blackjack Creek facility, one mile north of SR 178, one and one-half miles east of SR 89, seven miles south of Jay.

Specific Condition No. 16 requires annual sulfur dioxide emissions tests due before the end of March.

Specific Condition No. 19 requires submittal of an annual operation report.

Specific Condition No. 21 requires submittal of permit renewal application by May 1, 1996.

PERMITTEE:

Petro Acquisitions,
Incorporated

I.D. Number: 10PEN57001401

Permit/Certification Number: A057-197735

Date of Issue: August 19, 1991

Expiration Date: July 1, 1996

GENERAL CONDITIONS:

1. The terms, conditions, requirements, limitations, and restrictions set forth in this permit are "permit conditions", and are binding and enforceable pursuant to Sections 403.141, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of these conditions.

2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.

3. As provided in Subsections 403.087(6) and 403.722(5), Florida Statutes, the issuance of this permit does not convey any vested rights or any exclusive privileges. Nor does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations. This permit does not constitute a waiver of or approval of any other Department permit that may be required for other aspects of the total project which are not addressed in the permit.

4. This permit conveys no title to land or water, does not constitute state recognition or acknowledgement of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the state. Only the Trustees of the Internal Improvement Trust Fund may express state opinion as to title.

5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, or plant life, or property caused by the construction or operation of this permitted source, or from penalties therefore; nor does it allow the permittee to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by an order from the Department.

6. The permittee shall properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed and used by the permittee to achieve compliance with the conditions of this permit, are required by Department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by Department rules.

PERMITTEE:

Petro Acquisitions,
Incorporated

I.D. Number: 10PEN57001401

Permit/Certification Number: A057-197735

Date of Issue: August 19, 1991

Expiration Date: July 1, 1996

GENERAL CONDITIONS:

7. The permittee, by accepting this permit, specifically agrees to allow authorized Department personnel, upon presentation of credentials or other documents as may be required by law, access to the premises, at reasonable times, where the permitted activity is located or conducted for the purpose of:

- a. Having access to and copying any records that must be kept under the conditions of this permit;
- b. Inspecting the facility, equipment, practices, or operations regulated or required under this permit; and,
- c. Sampling or monitoring any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules.

Reasonable time may depend on the nature of the concern being investigated.

8. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately provide the Department with the following information:

- a. A description of and cause of noncompliance; and
- b. The period of noncompliance, including exact dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the noncompliance. The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the Department for penalties or for revocation of this permit.

9. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source which are submitted to the Department may be used by the Department as evidence in any enforcement case involving the permitted source arising under the Florida Statutes or Department rules, except where such use is proscribed by Sections 403.73 and 403.111, Florida Statutes. Such evidence shall only be used to the extent it is consistent with Florida Rules of Civil Procedure and appropriate evidentiary rules.

PERMITTEE:

Petro Acquisitions,
Incorporated

I.D. Number: 10PEN57001401

Permit/Certification Number: A057-197735

Date of Issue: August 19, 1991

Expiration Date: July 1, 1996

GENERAL CONDITIONS:

10. The permittee agrees to comply with changes in Department rules and Florida Statutes after a reasonable time for compliance, provided however, the permittee does not waive any other rights granted by Florida Statutes or Department rules.

11. This permit is transferable only upon Department approval in accordance with Florida Administrative Code Rules 17-4.120 and 17-730.300, as applicable. The permittee shall be liable for any noncompliance of the permitted activity until the transfer is approved by the Department.

12. This permit is required to be kept at the work site of the permitted activity during the entire period of construction or operation.

13. The permittee shall comply with the following:

- a. Upon request, the permittee shall furnish all records and plans required under Department rules. During enforcement actions, the retention period for all records will be extended automatically unless otherwise stipulated by the Department.
- b. The permittee shall hold at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation) required by the permit, copies of all reports required by this permit, and records of all data used to complete the application for this permit. These materials shall be retained at least three years from the date of the sample, measurement, report or application unless otherwise specified by Department rule.
- c. Records of monitoring information shall include:
 - the date, exact place, and time of sampling or measurement;
 - the person responsible for performing the sampling or measurement;
 - the date(s) analyses were performed;
 - the person responsible for performing the analyses;
 - the analytical techniques or methods used; and
 - the results of such analyses.

PERMITTEE:

Petro Acquisitions,
Incorporated

I.D. Number: 10PEN57001401

Permit/Certification Number: AO57-197735

Date of Issue: August 19, 1991

Expiration Date: July 1, 1996

GENERAL CONDITIONS:

14. When requested by the Department, the permittee shall within a reasonable time furnish any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware the relevant facts were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be corrected promptly.

SPECIFIC CONDITIONS:

15. Sulfur dioxide emissions shall not exceed .004 pounds per pound of sulfur input to the sulfur recovery plant.

16. Sulfur dioxide emissions tests are required to show continuing compliance with the standards of the Department. The test results must provide reasonable assurance that the source is capable of compliance at the permitted maximum operating rate. Tests shall be conducted in accordance with a State approved test method. Such tests shall be conducted once per year before the end of March. Results shall be submitted to the Department within 45 days after testing. The Department shall be notified at least 15 days prior to testing to allow witnessing.

17. Visible emissions shall not exceed 5% opacity from the thermal oxidizer stack.

18. This source shall be operated in such a fashion so as to preclude objectionable odors.

19. An annual operation report (DER Form 17-1.202(6) attached) shall be submitted by March 1 each year. The attached form shall be reproduced by the permittee and used for future annual submittals.

20. The following surrogate parameters shall be routinely measured and logged to assure continuing compliance with sulfur recovery efficiency standard (sulfur dioxide emissions standard):

A. The excess H_2 from the Scot unit shall be controlled to approximately 1.6% (0.5% minimum).

B. The H_2S content of the vent gases (from the Scot to the thermal incinerator shall be minimized (not more than 600 ppm).

21. Operation of this facility with the Scot unit inoperable for more than 24 hours requires prior approval by the Department. Such approval may be granted after the Department has been notified of all pertinent circumstances and the Department concurs with the basis and time frames necessary to take the unit off line. The maximum SO_2 emissions while operating in this mode shall not exceed 0.08 pounds per pound of sulfur input to the sulfur recovery plant.

PERMITTEE:

Petro Acquisitions,
Incorporated

I.D. Number: 10PEN57001401

Permit/Certification Number: A057-197735

Date of Issue: August 19, 1991

Expiration Date: July 1, 1996

SPECIFIC CONDITIONS:

22. The permittee shall submit evidence that the Claus units are operating with sufficient efficiency to assure compliance with the criteria of condition 21.

This evidence shall include identification of surrogate parameters and quantitative control limits to assure continuing compliance with the required efficiency of the Claus unit.

23. An application to renew this permit shall be submitted prior to May 1, 1996.

24. The permanent source identification number for this point source is 10PEN57001401. Please cite this number on all test reports and other correspondence specific to this permitted point source.

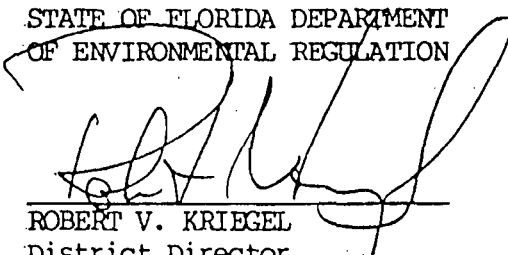
25. The Department telephone number for reporting problems, malfunctions or exceedances under this permit is (904) 436-8300, day or night, and for emergencies involving a significant threat to human health or the environment is (904) 488-1320. For routine business, telephone (904) 436-8364 during normal working hours.

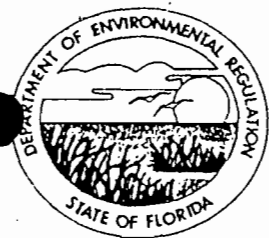
Expiration date:

July 1, 1996

Issued this 19th day of Aug,
1991.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION


ROBERT V. KRIEDEL
District Director



Florida Department of Environmental Regulation

Northwest District

160 Governmental Center

Pensacola, Florida 32501-5794

Lawton Chiles, Governor

Carol M. Browner, Secretary

PERMITTEE:

Petro Acquisitions,
Incorporated

I.D. Number: 10PEN57001402

Permit/Certification Number: A057-197727

Date of Issue: June 25, 1991

Expiration Date: June 1, 1996

County: Santa Rosa

Latitude/Longitude: 30°50'54"N/87°06'48"W

Section/Township/Range: 23/4N/29W

Project: Emergency Flare - Blackjack Creek
Facility

This permit is issued under the provisions of Section 403.087, Florida Statutes, and Florida Administrative Code Rules 17-2 and 17-4. The above named applicant, hereinafter called Permittee, is hereby authorized to perform the work or operate the facility shown on the application and approved drawing(s), plans, and other documents attached hereto or on file with the Department and made a part hereof and specifically described as follows:

Operation of an emergency flare for disposal of sour gases (acid gas or full well gas) during sulfur recovery plant emergency. Sulfur dioxide emissions are controlled by limited duration of full capacity flaring, reduction of plant operating rate or shutdown of plant.

Located at Blackjack Creek facility, one mile north of State Road 178, 1 1/2 miles east of State Road 89, seven miles south of Jay.

Specific Condition No. 16 requires maintenance of a flaring (SO₂ and VE) log.

Specific Condition No. 17 requires submittal of quarterly excess emissions reports.

Specific Condition No. 18 requires telephone reporting of significant emergency flaring incidents.

Specific Condition No. 20 requires submittal of permit renewal application by April 1, 1996.

PERMITTEE:

Petro Acquisitions,
Incorporated

I.D. Number: 10PEN57001402

Permit/Certification Number: AO57-197727

Date of Issue: June 25, 1991

Expiration Date: June 1, 1996

GENERAL CONDITIONS:

1. The terms, conditions, requirements, limitations, and restrictions set forth in this permit are "permit conditions", and are binding and enforceable pursuant to Sections 403.141, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of these conditions.
2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.
3. As provided in Subsections 403.087(6) and 403.722(5), Florida Statutes, the issuance of this permit does not convey any vested rights or any exclusive privileges. Nor does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations. This permit does not constitute a waiver of or approval of any other Department permit that may be required for other aspects of the total project which are not addressed in the permit.
4. This permit conveys no title to land or water, does not constitute state recognition or acknowledgement of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the state. Only the Trustees of the Internal Improvement Trust Fund may express state opinion as to title.
5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, or plant life, or property caused by the construction or operation of this permitted source, or from penalties therefore; nor does it allow the permittee to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by an order from the Department.
6. The permittee shall properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed and used by the permittee to achieve compliance with the conditions of this permit, are required by Department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by Department rules.

PERMITTEE:

Petro Acquisitions,
Incorporated

I.D. Number: 10PEN57001402

Permit/Certification Number: AO57-197727

Date of Issue: June 25, 1991

Expiration Date: June 1, 1996

GENERAL CONDITIONS:

7. The permittee, by accepting this permit, specifically agrees to allow authorized Department personnel, upon presentation of credentials or other documents as may be required by law, access to the premises, at reasonable times, where the permitted activity is located or conducted for the purpose of:

- a. Having access to and copying any records that must be kept under the conditions of this permit;
- b. Inspecting the facility, equipment, practices, or operations regulated or required under this permit; and,
- c. Sampling or monitoring any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules.

Reasonable time may depend on the nature of the concern being investigated.

8. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately provide the Department with the following information:

- a. A description of and cause of noncompliance; and
- b. The period of noncompliance, including exact dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the noncompliance. The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the Department for penalties or for revocation of this permit.

9. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source which are submitted to the Department may be used by the Department as evidence in any enforcement case involving the permitted source arising under the Florida Statutes or Department rules, except where such use is proscribed by Sections 403.73 and 403.111, Florida Statutes. Such evidence shall only be used to the extent it is consistent with Florida Rules of Civil Procedure and appropriate evidentiary rules.

PERMITTEE:

Petro Acquisitions,
Incorporated

I.D. Number: 10PEN57001402

Permit/Certification Number: AO57-197727

Date of Issue: June 25, 1991

Expiration Date: June 1, 1996

GENERAL CONDITIONS:

10. The permittee agrees to comply with changes in Department rules and Florida Statutes after a reasonable time for compliance, provided however, the permittee does not waive any other rights granted by Florida Statutes or Department rules.

11. This permit is transferable only upon Department approval in accordance with Florida Administrative Code Rules 17-4.120 and 17-730.300, as applicable. The permittee shall be liable for any noncompliance of the permitted activity until the transfer is approved by the Department.

12. This permit is required to be kept at the work site of the permitted activity during the entire period of construction or operation.

13. The permittee shall comply with the following:

- a. Upon request, the permittee shall furnish all records and plans required under Department rules. During enforcement actions, the retention period for all records will be extended automatically unless otherwise stipulated by the Department.
- b. The permittee shall hold at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation) required by the permit, copies of all reports required by this permit, and records of all data used to complete the application for this permit. These materials shall be retained at least three years from the date of the sample, measurement, report or application unless otherwise specified by Department rule.
- c. Records of monitoring information shall include:
 - the date, exact place, and time of sampling or measurement;
 - the person responsible for performing the sampling or measurement;
 - the date(s) analyses were performed;
 - the person responsible for performing the analyses;
 - the analytical techniques or methods used; and
 - the results of such analyses.

PERMITTEE:

I.D. Number: 10PEN57001402

Petro Acquisitions,
Incorporated

Permit/Certification Number: AO57-197727

Date of Issue: June 25, 1991

Expiration Date: June 1, 1996

GENERAL CONDITIONS:

14. When requested by the Department, the permittee shall within a reasonable time furnish any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware the relevant facts were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be corrected promptly.

SPECIFIC CONDITIONS:

15. Sulfur dioxide emissions from the flare shall not exceed ~~6.78~~ tons per day.
10.5 as of 12/31/91

16. Each incident of sulfur dioxide total emissions from the emergency flare shall be logged. The log shall be available for Department inspections.

17. A quarterly report of excess emissions shall be submitted within 30 days following the end of each calendar quarter. The report shall consist of total quantity of sulfur dioxide emitted on a monthly basis, plus specific incidences of days that exceeded 6.78 tons with cause and action taken to avoid recurrence.

18. Report to the Department by telephone, as soon as possible, incidents of emergency flaring which are of sufficient magnitude to impact the total sulfur dioxide emissions to the extent of 6,780 pounds per day or more. State the expected duration and the plans for corrective action.

19. No visible emissions are allowed under normal operation except for up to three minutes in any one hour at not more than 20% opacity. Visible emissions during each flaring incident shall be recorded on the log (condition 15).

20. An application to renew this permit shall be submitted prior to April 1, 1996.

21. The permanent source identification number for this point source is 10PEN57001402. Please cite this number on all test reports and other correspondence specific to this permitted point source.

PERMITTEE:

Petro Acquisitions,
Incorporated

I.D. Number: 10PEN57001402

Permit/Certification Number: AO57-197727

Date of Issue: June 25, 1991

Expiration Date: June 1, 1996

SPECIFIC CONDITIONS:

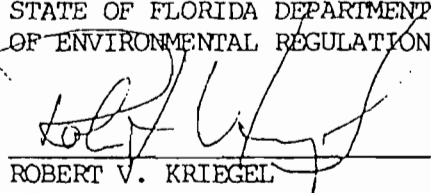
22. The Department telephone number for reporting problems, malfunctions or exceedances under this permit is (904) 436-8300, day or night, and for emergencies involving a significant threat to human health or the environment is (904) 488-1320. For routine business, telephone (904) 436-8364 during normal working hours.

Expiration date:

June 1, 1996

Issued this 25th day of June,
1991.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION


ROBERT V. KRIEDEL
District Director



Florida Department of Environmental Regulation

Northwest District • 160 Governmental Center • Pensacola, Florida 32501-5794

Lawton Chiles, Governor

Carol M. Browner, Secretary

December 31, 1991

Mr. David L. Reisdorf
Vice President
Petro Acquisitions, Incorporated
6200 Highway 6 South
Suite 201
Houston, Texas 77083

Dear Mr. Reisdorf:

This is in response to your letter of December 16.

By this letter permit A057-197727 is modified as follows.

Specific condition No. 15 is replaced with:

15. Sulfur dioxide emissions from the flare shall not exceed 10.5 tons per day.

Specific condition No. 17 is replaced with:

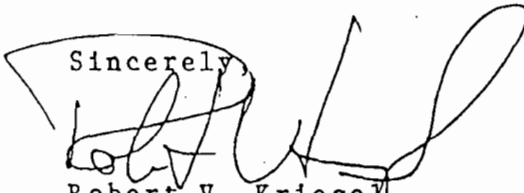
17. A quarterly report of excess emissions shall be submitted within 30 days following the end of each calendar quarter. The report shall consist of total quantity of sulfur dioxide emitted on a monthly basis, plus specific incidences of days that exceeded 10.5 tons with cause and action taken to avoid recurrence.

Specific condition No. 18 is replaced with:

18. Report to the Department by telephone, as soon as possible, incidents of emergency flaring which are of sufficient magnitude to impact the total sulfur dioxide emissions to the extent to 10,500 pounds per day or more. State the expected duration and the plans for corrective action.

This letter shall be attached to and made a part of permit A057-197727.

Sincerely,


Robert V. Kriegel
District Director

RVK:rpc





Florida Department of Environmental Regulation

Northwest District • 160 Governmental Center • Pensacola, Florida 32501-5794 • 904-436-8300

Bob Martinez, Governor

Dale Twachtmann, Secretary

John Shearer, Assistant Secretary
Robert Kriegel, Deputy Assistant Secretary

PERMITTEE:

Exxon Company, USA

I.D. Number: 10PEN57001405

Permit/Certification Number: ⁵⁷ ⁹⁶⁰ A066-151700

Date of Issue: AUG 18 1988

Expiration Date: August 1, 1993

County: Santa Rosa

Latitude/Longitude: 30°50'54"N/87°06'48"W

Section/Township/Range: 23/4N/29W

Project: Saltwater Disposal System

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Rules 17-2 and 17-4. The above named applicant, hereinafter called Permittee, is hereby authorized to perform the work or operate the facility shown of the application and approved drawing(s), plans, and other documents attached hereto or on file with the department and made a part hereof and specifically described as follows:

Operation of saltwater disposal, design capacity 30,000 barrels wastewater per day. The system consists of:

1) A vapor recovery system which will remove sour gas from the saltwater in two stages (35 and 2 psig) and send to existing Sulfur Recovery Plant (ID # 10PEN57001401). Emergency flaring from the 35 psig recovery system will be from existing Emergency Flare (ID # 10PEN57001402).

2) A flare which serves as an emergency flare for the 2 psig vapor recovery system and as a continuous safe disposal flare of sour gas leakage from compressor cylinder seals. The specific conditions of this permit pertain to this flare (ID # 10PEN57001405).

Located: Blackjack Creek facility, one mile north of State Road 178, 2 miles west of State Road 89, south of Jay.

98 2/5/91

PERMITTEE:

Exxon Company, USA

I.D. Number: 10PEN57001405

Permit/Certification Number: A057-151960

Date of Issue: **AUG 18 1988**

Expiration Date: August 1, 1993

GENERAL CONDITIONS:

1. The terms, conditions, requirements, limitations, and restrictions set forth herein are "Permit Conditions", and as such are binding upon the permittee and enforceable pursuant to the authority of Sections 403.161, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is hereby placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of the "Permit Conditions" by the permittee, its agents, employees, servants or representatives.

2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the department.

3. As provided in Subsections 403.087(6) and 403.722(5), Florida Statutes, the issuance of this permit does not convey any vested rights or any exclusive privileges. Nor does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations. This permit does not constitute a waiver of or approval of any other department permit that may be required for other aspects of the total project which are not addressed in the permit.

4. This permit conveys no title to land or water, does not constitute state recognition or acknowledgement of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the state. Only the Trustees of the Internal Improvement Trust Fund may express state opinion as to title.

5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, plant or aquatic life or property and penalties therefor caused by the construction or operation of this permitted source, nor does it allow the permittee to cause pollution in contravention of Florida Statutes and department rules, unless specifically authorized by an order from the department.

6. The permittee shall at all times properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed or used by the permittee to achieve compliance with the conditions of this permit, as required by department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by department rules.

PERMITTEE:

Exxon Company, USA

I.D. Number: 10PEN57001405.

Permit/Certification Number: A057-151960

Date of Issue:

AUG 18 1988

Expiration Date: August 1, 1993

GENERAL CONDITIONS:

7. The permittee, by accepting this permit, specifically agrees to allow authorized department personnel, upon presentation of credentials or other documents as may be required by law, access to the premises, at reasonable times, where the permitted activity is located or conducted for the purpose of:

- a. Having access to and copying any records that must be kept under the conditions of this permit;
- b. Inspecting the facility, equipment, practices, or operations regulated or required under this permit; and,
- c. Sampling or monitoring any substances or parameters at any location reasonably necessary to assure compliance with this permit or department rules.

Reasonable time may depend on the nature of the concern being investigated.

8. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately notify and provide the department with the following information:

- a. A description of and cause of noncompliance; and
- b. The period of noncompliance, including exact dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the noncompliance.

The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the department for penalties or revocation of this permit.

9. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source, which are submitted to the department, may be used by the department as evidence in any enforcement case arising under the Florida Statutes or department rules, except where such use is proscribed by Sections 403.73 and 403.111, Florida Statutes.

PERMITTEE:

Exxon Company, USA

I.D. Number: 10PEN57001405

Permit/Certification Number: A057-151960

Date of Issue: AUG 18 1988

Expiration Date: August 1, 1993

GENERAL CONDITIONS:

10. The permittee agrees to comply with changes in department rules and Florida Statutes after a reasonable time for compliance, provided however, the permittee does not waive any other rights granted by Florida Statutes or department rules.

11. This permit is transferable only upon department approval in accordance with Florida Administrative Code Rules 17-4.12 and 17-30.30, as applicable. The permittee shall be liable for any noncompliance of the permitted activity until the transfer is approved by the department.

12. This permit is required to be kept at the work site of the permitted activity during the entire period of construction or operation.

13. The permittee shall comply with the following monitoring and record keeping requirements:

- a. Upon request, the permittee shall furnish all records and plans under department rules. The retention period for all records will be extended automatically, unless otherwise stipulated by the department, during the course of any unresolved enforcement action.
- b. The permittee shall retain at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation), copies of all reports required by this permit, and records of all data used to complete the application for this permit. The time period of retention shall be at least three years from the date of the sample, measurement, report or application unless otherwise specified by department rule.
- c. Records of monitoring information shall include:
 - the date, exact place, and time of sampling or measurement;
 - the person responsible for performing the sampling or measurement;
 - the date(s) analyses were performed;
 - the person responsible for performing the analyses;
 - the analytical techniques or methods used; and
 - the results of such analyses.

PERMITTEE:

Exxon Company, USA

I.D. Number: 10PEN57001405

Permit/Certification Number: A057-151960

Date of Issue: AUG 18 1988

Expiration Date: August 1, 1993

GENERAL CONDITIONS:

14. When requested by the department, the permittee shall within a reasonable time furnish any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware that relevant facts were not submitted or were incorrect in the permit application or in any report to the department, such facts or information shall be submitted or corrected promptly.

SPECIFIC CONDITIONS:

15. Emergency flaring from the 35 psig system shall be reported as part of the Emergency Flare (ID # 10PEN57001402 - Permit A057-119628, conditions 13 and 16). Emergency flaring from the 2 psig system (ID # 10PEN57001405) shall be reported in the same format and shall be added to the main Emergency Flare emissions to comply with the 21.7 tons/day and 9 tons/day average allowed for the total.

16. No visible emissions are allowed under normal operation except for up to three minutes in any one hour at not more than 20% opacity.

17. Visible emissions tests are required to show continuing compliance with the standards of the Department. The test results must provide reasonable assurance that the source is capable of compliance at the permitted maximum operating rate. Tests shall be conducted in accordance with EPA method 9. Such tests shall be conducted in 1993 before the end of April to be submitted with the application for renewal of this permit. More frequent tests may be required if Department inspections show a need for such tests.

18. This source shall be operated in such a fashion so as to preclude objectionable odors.

19. An application to renew this permit shall be submitted prior to June 1, 1993.

20. The permanent source identification number for this point source is 10PEN57001405. Please cite this number on all test reports and other correspondence specific to this permitted point source.

PERMITTEE:

Exxon Company, USA

I.D. Number: 10PEN57001405

Permit/Certification Number: A057-151960

Date of Issue: AUG 18 1988

Expiration Date: August 1, 1993

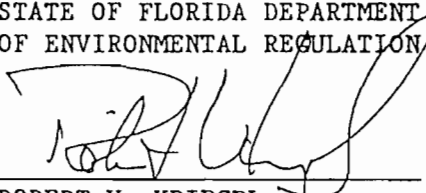
SPECIFIC CONDITIONS:

Expiration date:

August 1, 1993

Issued this 15th day of August,
1988.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION


ROBERT V. KRIEDEL
Deputy Assistant Secretary