FACILITY PERMIT TO OPERATE
PARAMOUNT PETR CORP (EIS USE)

SECTION H: PERMIT TO CONSTRUCT AND TEMPORARY PERMIT TO OPERATE

The operator shall comply with the terms and conditions set forth below:

Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions * And Requirements	Conditions
Process 2 : HYDROTREATING					
System 1 : NAPHTHA HYDRODESULFURIZATION UNIT (HDS #1)					S4.2, S13.2, S15.2, S15.6, S31.3
DRUM, D-104, HYDROSTRIPPER BOTTOMS, LENGTH: 15 FT; DIAMETER: 5 FT 6 IN A/N: 437036 Permit to Construct Issued:	D37				
COLUMN, D-108, HDS SEPARATOR, DIAMETER: 3 FT X 5 FT; HEIGHT: 82 FT A/N: 437036 Permit to Construct Issued:	D38				
KNOCK OUT POT, D-109, SEPARATOR, HEIGHT: 4 FT 6 IN; DIAMETER: 1 FT 6 IN A/N: 437036 Permit to Construct Issued:	D39				
COLUMN, W-107, H2S STRIPPER, HEIGHT: 57 FT; DIAMETER: 4 FT 6 IN A/N: 437036 Permit to Construct Issued:	D40				
VESSEL, D-125, STRIPPER OVERHEAD ACCUMULATOR, SEPARATOR, HEIGHT: 17 FT 6 IN; DIAMETER: 3 FT A/N: 437036 Permit to Construct Issued:	D806				
COMPRESSOR, C-301, 1250 HP., SIX CYLINDERS, RECIPROCATING (COMMON TO NAPHTHA HDS, GASOIL HDS, KEROSENE HDS AND CATALYTIC REFORMER UNIT) A/N: 437036 Permit to Construct Issued:	D41				E336.5
COMPRESSOR, C-302, 1250 HP., SIX CYLINDERS, RECIPROCATING (COMMON TO NAPHTHA HDS, GASOIL HDS, KEROSENE HDS AND CATALYTIC REFORMER UNIT) A/N: 437036 Permit to Construct Issued:	D42				E336.5

* (1)(1A)(1B)Denotes RECLAIM emission factor
(2)(2A)(2B)Denotes RECLAIM emission rate
(3) Denotes RECLAIM concentration limit
(4) Denotes BACT emission limit
(5)(5A)(5B)Denotes command and control emission limit
(6) Denotes air toxic control rule limit
(7) Denotes NSR applicability limit
(8)(8A)(8B)Denotes 40 CFR limits(e.g. NSPS, NESHAPS, etc.)
(9) See App B for Emission Limits
(10) See Section J for NESHAP/MACT requirements

** Refer to Section F and G of this permit to determine the monitoring, recordkeeping and reporting requirements for this device.

† This permit to construct was issued to the previous operator at a prior date. The equipment was constructed and the permit was subsequently transferred to this operator

FACILITY PERMIT TO OPERATE
PARAMOUNT PETR CORP (EIS USE)

SECTION H: PERMIT TO CONSTRUCT AND TEMPORARY PERMIT TO OPERATE

The operator shall comply with the terms and conditions set forth below:

Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions * And Requirements	Conditions
COMPRESSOR, C-121, CLARK, 1-STAGE, RECIPROCATING, 250 HP, (COMMON TO NAPHTHA HDS, KEROSENE HDS, AND GAS OIL HDS) A/N: 437036 Permit to Construct Issued:	D54				E336.5
COMPRESSOR, C-124, WORTHINGTON, RECIPROCATING, 1-STAGE, 700 HP, (COMMON TO KEROSENE HDS, NAPHTHA HDS AND GAS OIL HDS) A/N: 437036 Permit to Construct Issued:	D64				E17.1 E336.5
REACTOR, RA-103, NAPHTHA HDS, HEIGHT: 13 FT: DIAMETER: 7 FT A/N: 437036 Permit to Construct Issued:	D686				
REACTOR, RA-106, HDS, HEIGHT: 29 FT: DIAMETER: 6 FT 2.5 IN A/N: 437036 Permit to Construct Issued:	D687				
FUGITIVE EMISSIONS, MISCELLANEOUS A/N: 437036 Permit to Construct Issued:	D610				H23.24
System 3 : KEROSENE HYDRODESULFURIZATION UNIT (HDS #5)					S13.2, S15.2, S15.6
KNOCK OUT POT, D512, DISTILLATE HDS, HEIGHT: 10 FT, DIAMETER: 3 FT A/N: 437035 Permit to Construct Issued:	D49				
VESSEL, SEPARATOR, D-502, PRODUCT, LENGTH:15 FT; DIAMETER: 5 FT A/N: 437035 Permit to Construct Issued:	D50				
DRUM, D-503, FRACTIONATOR REFLUX, HEIGHT: 12 FT; DIAMETER: 4 FT A/N: 437035 Permit to Construct Issued:	D51				
KNOCK OUT POT, D-505, SEPARATOR GAS, LENGTH: 6 FT; DIAMETER: 1 FT 8 IN A/N: 437035 Permit to Construct Issued:	D52				

* (1)(1A)(1B)Denotes RECLAIM emission factor
(2)(2A)(2B)Denotes RECLAIM emission rate
(3) Denotes RECLAIM concentration limit
(4) Denotes BACT emission limit
(5)(5A)(5B)Denotes command and control emission limit
(6) Denotes air toxic control rule limit
(7) Denotes NSR applicability limit
(8)(8A)(8B)Denotes 40 CFR limits(e.g. NSPS, NESHAPS, etc.)
(9) See App B for Emission Limits
(10) See Section J for NESHAP/MACT requirements

** Refer to Section F and G of this permit to determine the monitoring, recordkeeping and reporting requirements for this device.

† This permit to construct was issued to the previous operator at a prior date. The equipment was constructed and the permit was subsequently transferred to this operator

FACILITY PERMIT TO OPERATE
PARAMOUNT PETR CORP (EIS USE)

SECTION H: PERMIT TO CONSTRUCT AND TEMPORARY PERMIT TO OPERATE

The operator shall comply with the terms and conditions set forth below:

Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions * And Requirements	Conditions
FRACTIONATOR, W-501, DISTILLATE, HEIGHT: 50 FT: DIAMETER: 4 FT 8 IN A/N: 437035 Permit to Construct Issued:	D53				
COMPRESSOR, C-121, CLARK, 1-STAGE, RECIPROCATING, 250 HP, (COMMON TO NAPHTHA HDS, KEROSENE HDS, AND GAS OIL HDS) A/N: 437035 Permit to Construct Issued:	D54				E336.5
COMPRESSOR, C-124, WORTHINGTON, RECIPROCATING, 1-STAGE, 700 HP, (COMMON TO KEROSENE HDS, NAPHTHA HDS AND GAS OIL HDS) A/N: 437035 Permit to Construct Issued:	D64				E17.1 E336.5
COMPRESSOR, C-120, CLARK, RECIPROCATING, IC DRIVEN (COMMON TO KEROSENE HDS, AND GAS OIL HDS) A/N: 437035 Permit to Construct Issued:	D65				E17.1
REACTOR, RA-501, HEIGHT: 39 FT; DIAMETER: 7 FT 6 IN A/N: 437035 Permit to Construct Issued:	D758				
COMPRESSOR, C-301, 1250 HP., SIX CYLINDERS, RECIPROCATING (COMMON TO NAPHTHA HDS, GASOIL HDS, KEROSENE HDS AND CATALYTIC REFORMER UNIT) A/N: 437035 Permit to Construct Issued:	D41				E336.5
COMPRESSOR, C-302, 1250 HP., SIX CYLINDERS, RECIPROCATING (COMMON TO NAPHTHA HDS, GASOIL HDS, KEROSENE HDS AND CATALYTIC REFORMER UNIT) A/N: 437035 Permit to Construct Issued:	D42				E336.5

* (1)(1A)(1B)Denotes RECLAIM emission factor
(2)(2A)(2B)Denotes RECLAIM emission rate
(3) Denotes RECLAIM concentration limit
(4) Denotes BACT emission limit
(5)(5A)(5B)Denotes command and control emission limit
(6) Denotes air toxic control rule limit
(7) Denotes NSR applicability limit
(8)(8A)(8B)Denotes 40 CFR limits(e.g. NSPS, NESHAPS, etc.)
(9) See App B for Emission Limits
(10) See Section J for NESHAP/MACT requirements

** Refer to Section F and G of this permit to determine the monitoring, recordkeeping and reporting requirements for this device.

† This permit to construct was issued to the previous operator at a prior date. The equipment was constructed and the permit was subsequently transferred to this operator

FACILITY PERMIT TO OPERATE
PARAMOUNT PETR CORP (EIS USE)

SECTION H: PERMIT TO CONSTRUCT AND TEMPORARY PERMIT TO OPERATE

The operator shall comply with the terms and conditions set forth below:

Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions * And Requirements	Conditions
FUGITIVE EMISSIONS, MISCELLANEOUS A/N: 437035 Permit to Construct Issued:	D700				H23.2, H23.23
System 4: GAS OIL HYDRODESULFURIZATION (HDS # 3)					S13.2, S15.2, S15.6
DRUM, D-302,STRIPPER REFLUX, LENGTH: 10 FT; DAIMETER, 4 FT A/N: 437034 Permit to Construct Issued:	D55				
REACTOR, RA-305, HYDRODESULFURIZER, HEIGHT: 30 FT; DIAMETER: 10 FT A/N: 437034 Permit to Construct Issued:	D511				
TANK, SURGE, D-303, FEED, LENGTH: 20 FT; DIAMETER: 8 FT A/N: 437034 Permit to Construct Issued:	D56				
VESSEL, RECEIVER, D-306, HOT, LENGTH: 20 FT; DIAMETER: 8 FT A/N: 437034 Permit to Construct Issued:	D57				
VESSEL, RECEIVER, D-307, COLD, LENGTH: 16 FT: DIAMETER: 4 FT 6 IN A/N: 437034	D58				
KNOCK OUT POT, D-320, HDS BOOSTER CYLINDER, LENGTH: 10 FT; DIAMETER: 2 FT 6 IN A/N: 437034 Permit to Construct Issued:	D59				
KNOCK OUT POT, D-322, RECYCLE GAS COMPRESSOR, HEIGHT: 9 FT: DIAMETER: 5 FT A/N: 437034 Permit to Construct Issued:	D60				
POT, D-321, WATER INJECTION, HEIGHT: 4 FT 3 IN: DIAMETER: 1 FT 6 IN A/N: 437034 Permit to Construct Issued:	D61				

* (1)(1A)(1B)Denotes RECLAIM emission factor
(2)(2A)(2B)Denotes RECLAIM emission rate
(3) Denotes RECLAIM concentration limit
(4) Denotes BACT emission limit
(5)(5A)(5B)Denotes command and control emission limit
(6) Denotes air toxic control rule limit
(7) Denotes NSR applicability limit
(8)(8A)(8B)Denotes 40 CFR limits(e.g. NSPS, NESHAPS, etc.)
(9) See App B for Emission Limits
(10) See Section J for NESHAP/MACT requirements

** Refer to Section F and G of this permit to determine the monitoring, recordkeeping and reporting requirements for this device.

† This permit to construct was issued to the previous operator at a prior date. The equipment was constructed and the permit was subsequently transferred to this operator

FACILITY PERMIT TO OPERATE
PARAMOUNT PETR CORP (EIS USE)

SECTION H: PERMIT TO CONSTRUCT AND TEMPORARY PERMIT TO OPERATE

The operator shall comply with the terms and conditions set forth below:

Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions * And Requirements	Conditions
TOWER, W-301, RERUN TOWER, HEIGHT: 39 FT; DIAMETER: 8 FT 6 IN A/N: 437034 Permit to Construct Issued:	D62				
EVAPORATOR, D-122, LPG, HEIGHT:10 FT 1 IN: DIAMETER: 1 FT A/N: 437034 Permit to Construct Issued:	D63				
COMPRESSOR, C-301, 1250 HP., SIX CYLINDERS, RECIPROCATING (COMMON TO NAPHTHA HDS, GASOIL HDS, KEROSENE HDS AND CATALYTIC REFORMER UNIT) A/N: 437034 Permit to Construct Issued:	D41				E336.5
COMPRESSOR, C-302, 1250 HP., SIX CYLINDERS, RECIPROCATING (COMMON TO NAPHTHA HDS, GASOIL HDS, KEROSENE HDS AND CATALYTIC REFORMER UNIT) A/N: 437034	D42				E336.5
COMPRESSOR, C-121, CLARK, 1-STAGE, RECIPROCATING, 250 HP., (COMMON TO NAPHTHA HDS, KEROSENE HDS AND GAS OIL HDS) A/N: 437034 Permit to Construct Issued:	D54				E336.5
COMPRESSOR, C-124, WORTHINGTON, RECIPROCATING, 1-STAGE, 700 HP, (COMMON TO KEROSENE HDS, NAPHTHA HDS AND GAS OIL HDS) A/N: 437034 Permit to Construct Issued:	D64				E17.1 E336.5
COMPRESSOR, C-120, CLARK, RECIPROCATING, IC DRIVEN (COMMON TO KEROSENE HDS, AND GAS OIL HDS) A/N: 437034 Permit to Construct Issued:	D65				E17.1
REACTOR, RA-301, HDS, HEIGHT; 46 FT; DIAMETER: 8 FT 6 IN A/N: 437034 Permit to Construct Issued:	D493				

* (1)(1A)(1B)Denotes RECLAIM emission factor
(2)(2A)(2B)Denotes RECLAIM emission rate
(3) Denotes RECLAIM concentration limit
(4) Denotes BACT emission limit
(5)(5A)(5B)Denotes command and control emission limit
(6) Denotes air toxic control rule limit
(7) Denotes NSR applicability limit
(8)(8A)(8B)Denotes 40 CFR limits(e.g. NSPS, NESHAPS, etc.)
(9) See App B for Emission Limits
(10) See Section J for NESHAP/MACT requirements

** Refer to Section F and G of this permit to determine the monitoring, recordkeeping and reporting requirements for this device.

† This permit to construct was issued to the previous operator at a prior date. The equipment was constructed and the permit was subsequently transferred to this operator

FACILITY PERMIT TO OPERATE
PARAMOUNT PETR CORP (EIS USE)

SECTION H: PERMIT TO CONSTRUCT AND TEMPORARY PERMIT TO OPERATE

The operator shall comply with the terms and conditions set forth below:

Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions * And Requirements	Conditions
REACTOR, RA-305, HYDRODESULFIZER, HEIGHT: 20 FT; DIAMETER: 7 FT A/N: 437034 Permit to Construct Issued:	D494				
SALT DRYER, D-319, DIAMETER: 4 FT; HEIGHT: 12 FT A/N: 437034 Permit to Construct Issued:	D832				
STRIPPER, W-302, RERUN TOWER OVERHEAD, HEIGHT: 39 FT; DIAMETER: 6 FT A/N: 437034 Permit to Construct Issued:	D833				
FUGITIVE EMISSIONS, MISCELLANEOUS A/N: 437034 Permit to Construct Issued:	D616				H23.2,H23.23
Process 6 : TREATING/STRIPPING					
System 2 : SOUR WATER STRIPPER UNIT					S13.2, S15.2, S15.5
COLUMN, W-453, SOUR WATER STRIPPER, HEIGHT: 38 FT 10 IN; DIAMETER: 2 FT 6 IN A/N: 485566 Permit to Construct Issued:	D144				
DRUM, D-204, SOUR WATER, HEIGHT: 17 FT 10.5 IN; DIAMETER: 5 FT A/N: 485566 Permit to Construct Issued:	D145				
KNOCK OUT POT, D-212, SOUR WATER STRIPPER OVHD, HEIGHT: 15 FT 9 IN; DIAMETER; 4 FT A/N: 485566 Permit to Construct Issued:	D146				
System 6: Caustic Storage & Scrubbing (Standby for Amine Treating & SRP)					S13.2 S15.2, S15.7

* (1)(1A)(1B)Denotes RECLAIM emission factor
(2)(2A)(2B)Denotes RECLAIM emission rate
(3) Denotes RECLAIM concentration limit
(4) Denotes BACT emission limit
(5)(5A)(5B)Denotes command and control emission limit
(6) Denotes air toxic control rule limit
(7) Denotes NSR applicability limit
(8)(8A)(8B)Denotes 40 CFR limits(e.g. NSPS, NESHAPS, etc.)
(9) See App B for Emission Limits
(10) See Section J for NESHAP/MACT requirements

** Refer to Section F and G of this permit to determine the monitoring, recordkeeping and reporting requirements for this device.

† This permit to construct was issued to the previous operator at a prior date. The equipment was constructed and the permit was subsequently transferred to this operator

FACILITY PERMIT TO OPERATE
PARAMOUNT PETR CORP (EIS USE)

SECTION H: PERMIT TO CONSTRUCT AND TEMPORARY PERMIT TO OPERATE

The operator shall comply with the terms and conditions set forth below:

Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions * And Requirements	Conditions
SCRUBBER, W-206, CAUSTIC WASH, STANDBY FOR AMINE/FUEL GAS TREATING UNIT & SRP, HEIGHT:29 FT 8 IN; DIAMETER: 6 FT A/N: 486513 Permit to Construct Issued:	C167			SOX: 500 PPMV (5) [RULE 407,4-2-1982]	C6.12 C8.3
STORAGE TANK, T-1000, SPENT CAUSTIC, 42000 GALS; DIAMETER: 21 FT 6 IN; HEIGHT: 16 FT A/N: 104014 Permit to Construct Issued:	D168			SOX: 500 PPMV (5) [RULE 407,4-2-1982]	E336.2
STORAGE TANK, T-1001, FRESH SPENT CAUSTIC, 42000 GALS; DIAMETER: 21 FT 6 IN; HEIGHT: 16 FT A/N: 364595 Permit to Construct Issued:	D169				E336.2
System 7: AMINE REGENERATION UNIT					S13.2, S15.2, S15.5
COLUMN, W-208, AMINE REGENERATOR, HEIGHT: 49 FT; DIAMETER: 7 FT A/N: 482640 Permit to Construct Issued:	D134				
KNOCK OUT POT, D-206, AMINE REGENERATOR COLUMN OVERHEAD ACI D GAS, HEIGHT: 18 FT 6 IN; DIAMETER: 5 FT A/N: 482640 Permit to Construct Issued:	D139				
TANK, SURGE, D-213, LEAN AMINE, LENGTH: 20 FT; DIAMETER: 8 FT 6 IN A/N: 482640 Permit to Construct Issued:	D142				E336.1
SUMP, AMINE DRAIN SUMP, WIDTH: 5 FT; LENGTH: 5 FT; DEPTH: 10 FT A/N: 482640 Permit to Construct Issued:	D143				

* (1)(1A)(1B)Denotes RECLAIM emission factor (2)(2A)(2B)Denotes RECLAIM emission rate
(3) Denotes RECLAIM concentration limit (4) Denotes BACT emission limit
(5)(5A)(5B)Denotes command and control emission limit (6) Denotes air toxic control rule limit
(7) Denotes NSR applicability limit (8)(8A)(8B)Denotes 40 CFR limits(e.g. NSPS, NESHAPS, etc.)
(9) See App B for Emission Limits (10) See Section J for NESHAP/MACT requirements

** Refer to Section F and G of this permit to determine the monitoring, recordkeeping and reporting requirements for this device.

† This permit to construct was issued to the previous operator at a prior date. The equipment was constructed and the permit was subsequently transferred to this operator

FACILITY PERMIT TO OPERATE
PARAMOUNT PETR CORP (EIS USE)

SECTION H: PERMIT TO CONSTRUCT AND TEMPORARY PERMIT TO OPERATE

The operator shall comply with the terms and conditions set forth below:

Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions * And Requirements	Conditions
TOWER, W-204, WASH WATER, HEIGHT: 29 FT 10 IN; DIAMETER: 2 FT 8 IN A/N: 482640 Permit to Construct Issued:	D834				
LEAN AMINE FILTER, D-209, HEIGHT: 3 FT 10 IN; DIAMETER: 1 FT 2 IN A/N: 482640 Permit to Construct Issued:	D835				
LEAN AMINE FILTER, D-210, HEIGHT: 3 FT 5 IN; DIAMETER: 1 FT 8 IN A/N: 482640 Permit to Construct Issued:	D836				
FILTER, D-220, CARBON, HEIGHT: 7 FT; DIAMETER: 4 FT A/N: 482640 Permit to Construct Issued:	D837				
FUGITIVE EMISSIONS, MISCELLANEOUS A/N: 482640 Permit to Construct Issued:	D657				H23.2
Process 7 : SULFUR RECOVERY UNIT					
System 1 : SULFUR RECOVERY UNIT					S15.1, S15.10, S18.5
REACTOR, RA-411, FIRST- STAGE CONVERTER, HEIGHT: 12 FT; DIAMETER: 12 FT A/N: 486507 Permit to Construct Issued:	D689				
REACTOR, RA-412, SECOND-STAGE CONVERTER, HEIGHT: 19 FT 6 IN; DIAMETER: 8 FT A/N: 486507 Permit to Construct Issued:	D170				
VESSEL, COALESCER, D-416, TAIL GAS, HEIGHT: 6 FT; DIAMETER: 3 FT 6 IN A/N: 486507 Permit to Construct Issued:	D171				

* (1)(1A)(1B)Denotes RECLAIM emission factor
(2)(2A)(2B)Denotes RECLAIM emission rate
(3) Denotes RECLAIM concentration limit
(4) Denotes BACT emission limit
(5)(5A)(5B)Denotes command and control emission limit
(6) Denotes air toxic control rule limit
(7) Denotes NSR applicability limit
(8)(8A)(8B)Denotes 40 CFR limits(e.g. NSPS, NESHAPS, etc.)
(9) See App B for Emission Limits
(10) See Section J for NESHAP/MACT requirements

** Refer to Section F and G of this permit to determine the monitoring, recordkeeping and reporting requirements for this device.

† This permit to construct was issued to the previous operator at a prior date. The equipment was constructed and the permit was subsequently transferred to this operator

FACILITY PERMIT TO OPERATE
PARAMOUNT PETR CORP (EIS USE)

SECTION H: PERMIT TO CONSTRUCT AND TEMPORARY PERMIT TO OPERATE

The operator shall comply with the terms and conditions set forth below:

Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions * And Requirements	Conditions
PIT, ACCUMULATOR, SULFUR, COVERED, WIDTH: 12 FT; DEPTH: 10 FT; LENGTH: 52 FT A/N: 486507 Permit to Construct Issued:	D172	C175 D250		**H2S**: 10 PPMV (5) **[RULE 468, 10-8-1976]**; **SOX**: 500 PPMV (5) **[RULE 407,4-2-1982]**	
EDUCTOR, SERVING SULFUR PIT, VENTED TO TAIL GAS INCINERATOR	D838				
CONDENSER, X-411, FIRST, HEIGHT: 22 FT 6.5 IN; DIAMETER: 2 FT 7 IN A/N: 486507 Permit to Construct Issued:	D645				
CONDENSER, X-412, SECOND, HEIGHT: 16 FT 8.5 IN; DIAMETER: 2 FT 7 IN A/N: 486507 Permit to Construct Issued:	D646				
CONDENSER, X-413, THIRD, HEIGHT: 17 FT 6 IN; DIAMETER: 2 FT A/N: 486507 Permit to Construct Issued:	D647			**H2S**: 10 PPMV (5) **[RULE 468, 10-8-1976]**; **SOX**: 500 PPMV (5) **[RULE 407,4-2-1982]**	
FURNACE, REACTION, H-401, 50 LTD OF SULFUR MAXIMUM CAPACITY, WITH ONE ACID GAS BURNER A/N: 486507 Permit to Construct Issued:	D691				C1.39
HEATER, INLINE REHEATER, H-403, FIRST STAGE, WITH ONE ACID GAS BURNER, 0.33 MMBTU/HR A/N: 486507 Permit to Construct Issued:	D692				
HEATER, INLINE REHEATER, H-404, SECOND STAGE, WITH ONE ACID GAS BURNER, 0.28 MMBTU/HR A/N: 486507 Permit to Construct Issued:	D693				
BLOWER, COMBUSTION AIR, F-402 A/N: 486507 Permit to Construct Issued:	D690				

* (1)(1A)(1B)Denotes RECLAIM emission factor
(2)(2A)(2B)Denotes RECLAIM emission rate
(3) Denotes RECLAIM concentration limit
(4) Denotes BACT emission limit
(5)(5A)(5B)Denotes command and control emission limit
(6) Denotes air toxic control rule limit
(7) Denotes NSR applicability limit
(8)(8A)(8B)Denotes 40 CFR limits(e.g. NSPS, NESHAPS, etc.)
(9) See App B for Emission Limits
(10) See Section J for NESHAP/MACT requirements

** Refer to Section F and G of this permit to determine the monitoring, recordkeeping and reporting requirements for this device.

† This permit to construct was issued to the previous operator at a prior date. The equipment was constructed and the permit was subsequently transferred to this operator

FACILITY PERMIT TO OPERATE
PARAMOUNT PETR CORP (EIS USE)

SECTION H: PERMIT TO CONSTRUCT AND TEMPORARY PERMIT TO OPERATE

The operator shall comply with the terms and conditions set forth below:

Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions * And Requirements	Conditions
REACTION FURNACE, X-414, WASTE HEAT BOILER A/N: 486507 Permit to Construct Issued:	D839				
BLOWER, F-401, COMBUSTION AIR, STEAM TURBINE DRIVE A/N: 486507 Permit to Construct Issued:	D840				
System 3: TAIL GAS INCINERATOR					S18.7 S18.8
INCINERATOR, H-402, PROCESS GAS, REFINERY GAS, JOHN ZINK VERTICAL TYPE, 10 MMBTU/HR WITH BURNER, JOHN ZINK, MODEL DB-24-82 A/N: 436741 Permit to Construct Issued:	C175	D172	NOX: MAJOR SOURCE** SOX: MAJOR SOURCE**	**CO**: 2000 PPMV REFINERY GAS (5) **[RULE 407, 4-2-1982]**; **PM**: 0.1 GRAINS/SCF REFINERY GAS (5) **[RULE 409, 8-7-1981]** **PM**: (9) **[RULE 404,2-7-1986]**	A72.1 B61.2 C8.4 D28.3 D28.4 D90.2 D90.7 D323.1 E71.4 H23.4, I1.2, I1.3
FUGITIVE EMISSIONS, MISCELLANEOUS A/N: 436741 Permit to Construct Issued:	D718				H23.2
Process 8 : LOADING/UNLOADING FACILITIES					
System 26 : SULFUR TRUCK LOADING RACK					
LOADING ARM, TANK TRUCK, SULFUR, OVERHEAD SWIVEL TYPE A/N: 436715 Permit to Construct Issued:	D250	D172		**SOX**: 500 PPMV (5) **[RULE 407,4-2-1982]**	D90.4
EDUCTOR, SERVING SULFUR LOADING RACK VENTED TO SULFUR PIT A/N: 436715 Permit to Construct Issued:	D841				
System 28 : SPENTCAUSTIC LOADING RACK					
KNOCK OUT POT, D-221, SPENT CAUSTIC TRUCK LOADING RACK, DIAMETER: 3 FT; HEIGHT: 4 FT A/N: 486514 Permit to Construct Issued:	D842				

* (1)(1A)(1B)Denotes RECLAIM emission factor
(2)(2A)(2B)Denotes RECLAIM emission rate
(3) Denotes RECLAIM concentration limit
(4) Denotes BACT emission limit
(5)(5A)(5B)Denotes command and control emission limit
(6) Denotes air toxic control rule limit
(7) Denotes NSR applicability limit
(8)(8A)(8B)Denotes 40 CFR limits(e.g. NSPS, NESHAPS, etc.)
(9) See App B for Emission Limits
(10) See Section J for NESHAP/MACT requirements

** Refer to Section F and G of this permit to determine the monitoring, recordkeeping and reporting requirements for this device.

† This permit to construct was issued to the previous operator at a prior date. The equipment was constructed and the permit was subsequently transferred to this operator

FACILITY PERMIT TO OPERATE
PARAMOUNT PETR CORP (EIS USE)

SECTION H: PERMIT TO CONSTRUCT AND TEMPORARY PERMIT TO OPERATE

The operator shall comply with the terms and conditions set forth below:

Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions * And Requirements	Conditions
LOADING ARM, TANK TRUCK BOTTOM LOADING, SPENT CAUSTIC, 2 LOADING ARMS A/N: 486514 Permit to Construct Issued:	D843				E336.2
Process 9 : OIL AND WATER SEPARATION SYSTEM					P13.1
System 2 : WASTEWATER SEPARATION FAC (HYDROPROCESSING AREA)					
SUMP, CISTERN,CIRCULAR, COVERED WITH VAPOR TIGHT STEEL PLATE, DIAMETER: 4 FT 4 IN A/N: 486510 Permit to Construct Issued:	D261			VOC: 500 PPMV (5) [RULE 1176, 9-13-1996]	E336.6 H23.21
CARBON ADSORBER, CISTERN ACTIVATED CARBON, 180 LBS, USED FOR BACK-UP ONLY A/N: 486510 Permit to Construct Issued:	C844				
FLOATATION UNIT, WEMCO, INDUCED, A/N: 486510 Permit to Construct Issued:	D262			VOC: 500 PPMV (5) [RULE 1176, 9-13-1996]	E336.6 H23.21
CARBON ADSORBER, WEMCO ACTIVATED CARBON, 180 LBS, USED FOR BACK-UP ONLY A/N: 486510 Permit to Construct Issued:	C845				
TOWER, W-203, AIR STRIPPER A/N: 486510 Permit to Construct Issued:	D504			VOC: 500 PPMV (5) [RULE 1176, 9-13-1996]	E336.2 H23.21
DRAIN SYSTEM COMPONENT A/N: 486510 Permit to Construct Issued:	D648			VOC: 500 PPMV (5) [RULE 1176, 9-13-1996]	H23.13
BLOWER, F-1, 1 HP A/N: 486510 Permit to Construct Issued:	D846				
POT, KNOCK OUT, M-101A, HEIGHT: 3 FT 6 IN; DIAMETER: 12 IN A/N: 486510 Permit to Construct Issued:	D847				

* (1)(1A)(1B)Denotes RECLAIM emission factor
(2)(2A)(2B)Denotes RECLAIM emission rate
(3) Denotes RECLAIM concentration limit
(4) Denotes BACT emission limit
(5)(5A)(5B)Denotes command and control emission limit
(6) Denotes air toxic control rule limit
(7) Denotes NSR applicability limit
(8)(8A)(8B)Denotes 40 CFR limits(e.g. NSPS, NESHAPS, etc.)
(9) See App B for Emission Limits
(10) See Section J for NESHAP/MACT requirements

** Refer to Section F and G of this permit to determine the monitoring, recordkeeping and reporting requirements for this device.

† This permit to construct was issued to the previous operator at a prior date. The equipment was constructed and the permit was subsequently transferred to this operator

FACILITY PERMIT TO OPERATE
PARAMOUNT PETR CORP (EIS USE)

SECTION H: PERMIT TO CONSTRUCT AND TEMPORARY PERMIT TO OPERATE

The operator shall comply with the terms and conditions set forth below:

Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions * And Requirements	Conditions
DRUM, KNOCK OUT, D-758, HEIGHT: 6 FT; DIAMETER: 4 FT A/N: 486510 Permit to Construct Issued:	D848				
COMPRESSOR, C-701 A, 7.5 HP, 1 STAGE, 2 CYLINDERS, A/N: 486510 Permit to Construct Issued:	D849				
COMPRESSOR, C-701 B, 7.5 HP, 1 STAGE, 2 CYLINDERS, A/N: 486510 Permit to Construct Issued:	D850				
FUGITIVE EMISSIONS, MISCELLANEOUS A/N: 486510 Permit to Construct Issued:	D708				H23.2
Process 10 : STORAGE TANKS					
System 1 : FIXED ROOF TANKS					S13.4, S31.4
FILTER, DIESEL, FD-720, HEIGHT: 8 FT 3.25 IN; DIAMETER: 2 FT 4 IN A/N: 486518 Permit to Construct Issued:	D851				
Process 13 : MISCELLANEOUS					
System 6 : FUEL GAS SYSTEM					S13.2, S15.2, S18.4
VESSEL, D-704, LPG A/N: 486516 Permit to Construct Issued:	D393				
DRUM, D-712, FUEL GAS A/N: 486516 Permit to Construct Issued:	D394				
DRUM, D-807, CRUDE UNIT FUEL GAS, HEIGHT: 19 FT 6 IN; DIAMETER: 4 FT 1 IN A/N: 486516 Permit to Construct Issued:	D492				
EDUCTOR, FUEL GAS, 2 TOTAL A/N: 486516 Permit to Construct Issued:	D745				

* (1)(1A)(1B)Denotes RECLAIM emission factor
(2)(2A)(2B)Denotes RECLAIM emission rate
(3) Denotes RECLAIM concentration limit
(4) Denotes BACT emission limit
(5)(5A)(5B)Denotes command and control emission limit
(6) Denotes air toxic control rule limit
(7) Denotes NSR applicability limit
(8)(8A)(8B)Denotes 40 CFR limits(e.g. NSPS, NESHAPS, etc.)
(9) See App B for Emission Limits
(10) See Section J for NESHAP/MACT requirements

** Refer to Section F and G of this permit to determine the monitoring, recordkeeping and reporting requirements for this device.

† This permit to construct was issued to the previous operator at a prior date. The equipment was constructed and the permit was subsequently transferred to this operator

FACILITY PERMIT TO OPERATE
PARAMOUNT PETR CORP (EIS USE)

SECTION H: PERMIT TO CONSTRUCT AND TEMPORARY PERMIT TO OPERATE

The operator shall comply with the terms and conditions set forth below:

Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions * And Requirements	Conditions
TANK, D-275, WATER WASH TRAIN, IN SERIES WITH FILTER COALESCER D-714, HEIGHT: 19 FT; DIAMETER: 4 FT A/N: 486516 Permit to Construct Issued:	D746				
VESSEL, D-714, COALESCER FILTER, IN SERIES WITH TANK D-725, HEIGHT: 9 FT; DIAMETER; 1 FT 8 IN A/N: 486516 Permit to Construct Issued:	D747				
FUGITIVE EMISSIONS, MISCELLANEOUS A/N: 486516 Permit to Construct Issued.	D621				H23.2

* (1)(1A)(1B)Denotes RECLAIM emission factor
(2)(2A)(2B)Denotes RECLAIM emission rate
(3) Denotes RECLAIM concentration limit
(4) Denotes BACT emission limit
(5)(5A)(5B)Denotes command and control emission limit
(6) Denotes air toxic control rule limit
(7) Denotes NSR applicability limit
(8)(8A)(8B)Denotes 40 CFR limits(e.g. NSPS, NESHAPS, etc.)
(9) See App B for Emission Limits
(10) See Section J for NESHAP/MACT requirements

** Refer to Section F and G of this permit to determine the monitoring, recordkeeping and reporting requirements for this device.

† This permit to construct was issued to the previous operator at a prior date. The equipment was constructed and the permit was subsequently transferred to this operator

FACILITY PERMIT TO OPERATE
PARAMOUNT PETR CORP (EIS USE)

SECTION H: PERMIT TO CONSTRUCT AND TEMPORARY PERMIT TO OPERATE

The operator shall comply with the terms and conditions set forth below:

PROCESS CONDITIONS

P13.1 All devices under this process are subject to the applicable requirements of the following rules or regulations:

Contaminant	Rule	Rule/Subpart
VOC	District Rule	1176

[RULE 1176, 9-13-1996]

[Processes subject to this condition : 9]

SYSTEM CONDITIONS

S4.2 The following condition(s) shall apply to all affected devices listed under Section H of this system for fugitive emissions of volatile organic compounds (VOC):

All components are subject to District Rule 1173 and 40CFR60 Subpart GGG.

All new components in VOC service as defined in Rule 1173, except valves and flanges shall be inspected quarterly using EPA reference method 21. All new valves and flanges in VOC service except those specifically exempted by Rule 1173 shall be inspected monthly using EPA Method 21.

All new components in VOC service except for pumps, compressors, and drains, a leak greater than 200 ppm but less than 1,000 ppm measured as methane above background as measured using EPA Method 21, shall be repaired within 14 days of detection. Components shall be defined as any valve, fitting, pump, compressor, pressure relief device, diaphragm, hatch, sight-glass, and meter, which are not exempted by Rule 1173.

All pumps, compressors, and drains, a leak greater than 500 ppm but less than 1,000 ppm measured as methane above background as measured using EPA Method 21, shall be repaired within 14 days of detection.

All new valves in VOC service shall be of leakless type, except those specifically exempted by Rule 1173 approved by the District in writing in the following applications:

heavy liquid service, control valves, instrument piping/tubing, applications requiring torsional valve stem motion, applications where valve failures could pose safety hazard (e.g. drain valves with valve stems in horizontal position), retrofits with space limitations, and valves not commercially available at the time of Permit to Construct issuance.

FACILITY PERMIT TO OPERATE
PARAMOUNT PETR CORP (EIS USE)

SECTION H: PERMIT TO CONSTRUCT AND TEMPORARY PERMIT TO OPERATE

The operator shall comply with the terms and conditions set forth below:

If 98.0 percent or greater of the new valve and the new flange population inspected is found to leak gaseous or liquid volatile organic compounds at a rate less than 200 ppm for two consecutive months, then the operator shall revert to a quarterly inspection program with the approval of the executive officer. This condition shall not apply to leakless valves.

The operator shall keep records of the monthly inspection (and quarterly where applicable), subsequent repair, and reinspection, in a manner approved by the District.

The operator shall provide to the District, no later than 90 days after initial startup, a recalculation of the fugitive emissions based on actual components installed and removed from service. The operator shall also submit a process instrumentation diagram(s) with a listing of all non-leakless type valves categorized by tag no., size, type, service, operating conditions (temperature and pressure), body material, application, and reasons why leakless valves were not used.

For the purpose of this condition, leakless valve shall be defined as a valve equipped with sealed bellow or equivalent as approved in writing by the District prior to installation.

[**RULE 1173, 5-13-1994**; RULE 1173, 12-6-2002; **RULE 1303(a)(1)-BACT, 5-10-1996**; RULE 1303(a)(1)-BACT, 12-6-2002; **RULE 1303(b)(2)-Offset, 5-10-1996**; RULE 1303(b)(2)-Offset, 12-6-2002; **40CFR60, Subpart GGG, 6-7-1985**]

[Systems subject to this condition: Process 1, System 7; Process 2, System 1; Process 15, System 1]

S13.2 All devices under this process are subject to the applicable requirements of the following rules or regulations:

Contaminant	Rule	Rule/Subpart
VOC	District Rule	1123

[RULE 1123, 12-7-1990]

[Systems subject to this condition : Process 1, System 1, 2, 4, 5, 6, 7: Process 2, System 1, 3, 4; Process 3, System 1: Process 6, system 1, 2, 4, 5, 6, 7; Process 13, System 6; Process 15, System 1, 2, 4; Process 16, System 1, 2, 3]

S13.3 All devices under this process are subject to the applicable requirements of the following rules or regulations:

Contaminant	Rule	Rule/Subpart
VOC	District Rule	1166

[**RULE 1166, 7-14-1995**; RULE 1166, 5-11-2001]

FACILITY PERMIT TO OPERATE
PARAMOUNT PETR CORP (EIS USE)

SECTION H: PERMIT TO CONSTRUCT AND TEMPORARY PERMIT TO OPERATE

The operator shall comply with the terms and conditions set forth below:

[Systems subject to this condition : Process 13, System 3]

S13.4 All devices under this process are subject to the applicable requirements of the following rules or regulations:

Contaminant	Rule	Rule/Subpart
VOC	District Rule	463

[RULE 463, 5-6-2005]

[Systems subject to this condition : Process 10, System 1]

S15.1 The vent gases from all affected devices of this process/system shall be vented as follows:

All vent gases under normal operating conditions shall be directed to the tail gas treating unit.

This process/system shall not be operated unless the tail gas treating unit is in full use and has a valid permit to receive vent gases from this system.

[RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 12-6-2002; **RULE 1303(b)(2)-Offset, 5-10-1996**; RULE 1303(b)(2)-Offset, 12-6-2002]

[Systems subject to this condition: Process 7, System 1]

S15.2 The vent gases from all affected devices of this process/system shall be vented as follows:

Until January 1, 2009, or until the flare vapor recovery system is operational, (whichever is earlier), all emergency vent gases shall be directed to a blowdown flare system. This process/system shall not be operated unless the blowdown flare system is in full use and has valid permit to receive vent gases from this system.

After January 1, 2009, or until the flare vapor recovery system is operational (whichever is earlier), all emergency vent gases shall be directed to a blowdown flare system and/or flare vapor recovery system. This process/system shall not be operated unless the blowdown flare system and/or flare vapor recovery system are in full use and have valid permits to receive vent gases from this system.

After January 1, 2009, or until the flare vapor recovery system is operational, (whichever is earlier), all normal vent gases shall be directed to a flare vapor recovery system (Process 15, System 1). This process/system shall not be operated unless the flare vapor recovery system is in full use and has valid permit to receive vent gases from this system.

FACILITY PERMIT TO OPERATE
PARAMOUNT PETR CORP (EIS USE)

SECTION H: PERMIT TO CONSTRUCT AND TEMPORARY PERMIT TO OPERATE

The operator shall comply with the terms and conditions set forth below:

[**RULE 1303(a)(1)-BACT, 5-10-1996**; RULE 1303(a)(1)-BACT, 12-6-2002; **RULE 1303(b)(2)-Offset, 5-10-1996**; RULE 1303(b)(2)-Offset, 12-6-2002]

[Systems subject to this condition: Process 1, System 1, 2, 4, 5, 6, 7; Process 2, System 1, 3, 4; Process 3, System 1; Process 6, System 1, 2, 4, 5, 6, 7; Process 7, System 2; Process 10, System 3; Process 13, System 6; Process 16, System 1, 2, 3]

S15.5 The vent gases from all affected devices of this process/system shall be vented as follows:

All acid gas shall be directed to the Sulfur Recovery Unit (Process 7, System 1) with the standby caustic absorber (Process 6, System6).

This process/system may vent to the standby caustic absorber during start up, shut down and malfunction of the Sulfur Recovery Unit.

This process/system shall not be operated unless the sulfur recovery unit or caustic scrubber is in full use and has a valid permit to receive vent gases from this system.

[**RULE 1303(a)(1)-BACT, 5-10-1996**; RULE 1303(a)(1)-BACT, 12-6-2002; **RULE 1303(b)(2)-Offset, 5-10-1996**; RULE 1303(b)(2)-Offset, 12-6-2002]

[Systems subject to this condition: Process 6, System 2, 7]

S15.6 The vent gases from all affected devices of this process/system shall be vented as follows:

All sour gas shall be directed to the amine/fuel gas treating unit (Process 6, System 1) with the standby caustic absorber (Process 6, System 6).

This process/system shall not be operated unless the amine/fuel gas treating unit is in full use and has a valid permit to receive vent gases from this system.

[**RULE 1303(a)(1)-BACT, 5-10-1996**; RULE 1303(a)(1)-BACT, 12-6-2002; **RULE 1303(b)(2)-Offset, 5-10-1996**; RULE 1303(b)(2)-Offset, 12-6-2002]

[Systems subject to this condition: Process 1, System 1, 2, 4, 5, 6; Process 2, System 1, 3, 4]

S15.7 The vent gases from all affected devices of this process/system shall be vented as follows:

All vent gases under normal operating conditions shall be directed to tail gas incinerator.

FACILITY PERMIT TO OPERATE
PARAMOUNT PETR CORP (EIS USE)

SECTION H: PERMIT TO CONSTRUCT AND TEMPORARY PERMIT TO OPERATE

The operator shall comply with the terms and conditions set forth below:

This process/system shall not be operated unless the tail gas incinerator is in full use and has a valid permit to receive vent gases from this system.

[RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 12-6-2002; **RULE 1303(b)(2)-Offset, 5-10-1996**; RULE 1303(b)(2)-Offset, 12-6-2002]

[Systems subject to this condition: Process 6, System 6; Process 7, System 2]

S15.10 The vent gases from all affected devices of this process/system shall be vented as follows:

All emergency vent gases shall be directed to tail gas incinerator.

This process/system shall not be operated unless the tail gas incinerator is in full use and has a valid permit to receive vent gases from this system.

[RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 12-6-2002; **RULE 1303(b)(2)-Offset, 5-10-1996**; RULE 1303(b)(2)-Offset, 12-6-2002]

[Systems subject to this condition: Process 7, System 1]

S15.11 The vent gases from all affected devices of this process/system shall be vented as follows:

All vent gases shall be directed to tail gas incinerator.

This process/system shall not be operated unless the tail gas incinerator is in full use and has a valid permit to receive vent gases from this system.

[RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 12-6-2002; **RULE 1303(b)(2)-Offset, 5-10-1996**; RULE 1303(b)(2)-Offset, 12-6-2002]

[Systems subject to this condition: Process 13, System 3]

S18.4 All affected devices listed under this process/system shall be used only to receive, recover, and/or dispose of vent gases routed from the system(s) or process(es) listed below, in addition to specific devices identified in the "connected to" column:

Catalytic Reforming Unit (Process: 3, System: 1)

Amine/Fuel Gas Treating Unit (Process: 6, System: 1)

FACILITY PERMIT TO OPERATE
PARAMOUNT PETR CORP (EIS USE)

SECTION H: PERMIT TO CONSTRUCT AND TEMPORARY PERMIT TO OPERATE

The operator shall comply with the terms and conditions set forth below:

Naphtha Splitter (Process: 1, System: 7)

Isomerization (Penex Plus) Process (Process: 16, System: 1, 2 & 3)

[RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 12-6-2002; **RULE 1303(b)(2)-Offset, 5-10-1996**; RULE 1303(b)(2)-Offset, 12-6-2002]

[Systems subject to this condition: Process 13, System 6]

S18.5 All affected devices listed under this process/system shall be used only to receive, recover, and/or dispose of vent gases routed from the system(s) or process(es) listed below, in addition to specific devices identified in the "connected to" column:

Treating/Stripping (Process: 6, System: 2 & 7)

[RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 12-6-2002; **RULE 1303(b)(2)-Offset, 5-10-1996**; RULE 1303(b)(2)-Offset, 12-6-2002]

[Systems subject to this condition: Process 7, System 1]

S18.7 All affected devices listed under this process/system shall be used only to receive, recover, and/or dispose of vent gases routed from the system(s) or process(es) listed below, in addition to specific devices identified in the "connected to" column:

Sulfur Recovery Unit (Process: 7, System: 1 & 2)

Soil Vapor Extraction (Process: 13, System: 3)

Caustic Storage & Scrubbing Unit (Standby for Amine/Fuel Gas Treating & SRU) (Process: 6, System: 6)

[RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 12-6-2002; **RULE 1303(b)(2)-Offset, 5-10-1996**; RULE 1303(b)(2)-Offset, 12-6-2002]

[Systems subject to this condition: Process 7, System 3]

S31.3 The following BACT requirements shall apply to VOC service fugitive components associated with the devices that are covered by application number(s) 477619 (Naphtha Hydrodesulfurization Unit, HDS #1), 477621 (Naphtha Splitter), 458560 (Flare Vapor Recovery System), 486510, Wastewater Separation Facility (Hydroprocessing Area):

All open-ended lines shall be equipped with cap, blind flange, plug, or a second valve.

FACILITY PERMIT TO OPERATE
PARAMOUNT PETR CORP (EIS USE)

SECTION H: PERMIT TO CONSTRUCT AND TEMPORARY PERMIT TO OPERATE

The operator shall comply with the terms and conditions set forth below:

All pressure relief valves shall be connected to a closed vent system.

All new light liquid pumps shall utilize double seals.

All compressors shall be equipped with a seal system with a higher pressure barrier fluid.

Prior to start of construction of the Naphtha Splitter, under A/N 477621, the operator shall replace Valve No. 1017 with a bellows-seal valve.

All new valves in VOC service, except those specifically exempted by Rule 1173 and those in heavy liquid service as defined in Rule 1173, shall be bellows seal valves, except as approved by the District, in the following applications: heavy liquid service, control valve, instrument piping/tubing, applications requiring torsional valve stem motion, applications where valve failure could pose safety hazard, retrofits/special applications with space limitations, and valves not commercially available.

All new valves and major components in VOC service as defined by Rule 1173, except those specifically exempted by Rule 1173 and those in heavy liquid service as defined in Rule 1173, shall be distinctly identified from other components through their tag numbers (e.g., numbers ending in the letter "N"), and shall be noted in the records.

All new components in VOC service as defined in Rule 1173, except valves and flanges, shall be inspected quarterly using EPA Reference Method 21. All new valves and flanges in VOC service, except those specifically exempted by Rule 1173, shall be inspected monthly using EPA Reference Method 21.

If 98.0 percent or greater of the new (non-bellows seal) valves and the new flange population inspected is found to leak gaseous or liquid volatile organic compounds at a rate less than 200 ppmv for two consecutive months, then the operator may change to a quarterly inspection program with the approval of the District.

The operator shall revert from quarterly to monthly inspection program if less than 98.0 percent of the new (non-bellows seal) valves and the new flange population inspected is found to leak gaseous or liquid volatile organic compounds at a rate of less than 200 ppmv.

All components in VOC service except for pumps, compressors, and drains, a leak greater than 200 ppm but less than 1,000 ppm measured as methane above background as measured using EPA Method 21, shall be repaired within 14 days of detection. Components shall be defined as any valve, fitting, pressure relief device, diaphragm, hatch, sight-glass, and meter, which are not exempted by Rule 1173. A leak greater than 1,000 ppm shall be repaired according to Rule 1173.

All pumps, compressors, and drains, a leak greater than 500 ppm but less than 1,000 ppm measured as methane above background as measured using EPA Method 21, shall be repaired within 14 days of detection. A leak greater than 1,000 ppm shall be repaired according to Rule 1173.

The operator shall keep records of the monthly inspection (quarterly where applicable), subsequent repair, and reinspection, in a manner approved by the District. Records shall be kept and maintained for at least five years, and shall be made available to Executive Officer of his authorized representative upon request.

[RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 12-6-2002; **RULE 1303(b)(2)-Offset, 5-10-1996;**

FACILITY PERMIT TO OPERATE
PARAMOUNT PETR CORP (EIS USE)

SECTION H: PERMIT TO CONSTRUCT AND TEMPORARY PERMIT TO OPERATE

The operator shall comply with the terms and conditions set forth below:

RULE 1303(b)(2)-Offset, 12-6-2002]

[Systems subject to this condition: Process 1, System 7; Process 2, System 1; Process 15, System 1]

S31.4 The following BACT requirements shall apply to VOC service fugitive components associated with the devices that are covered by application number(s) 486518 (Diesel Tank Farm Filter):

All open-ended lines shall be equipped with cap, blind flange, plug, or a second valve.

All pressure relief valves shall be connected to a closed vent system.

All new light liquid pumps shall utilize double seals.

All compressors shall be equipped with a seal system with a higher pressure barrier fluid.

All new valves in VOC service, except those specifically exempted by Rule 1173 and those in heavy liquid service as defined in Rule 1173, shall be bellows seal valves, except as approved by the District, in the following applications: heavy liquid service, control valve, instrument piping/tubing, applications requiring torsional valve stem motion, applications where valve failure could pose safety hazard, retrofits/special applications with space limitations, and valves not commercially available.

All new valves and major components in VOC service as defined by Rule 1173, except those specifically exempted by Rule 1173 and those in heavy liquid service as defined in Rule 1173, shall be distinctly identified from other components through their tag numbers (e.g., numbers ending in the letter "N"), and shall be noted in the records.

All new components in VOC service as defined in Rule 1173, except valves and flanges, shall be inspected quarterly using EPA Reference Method 21. All new valves and flanges in VOC service, except those specifically exempted by Rule 1173, shall be inspected monthly using EPA Reference Method 21.

If 98.0 percent or greater of the new (non-bellows seal) valves and the new flange population inspected is found to leak gaseous or liquid volatile organic compounds at a rate less than 100 ppmv for two consecutive months, then the operator may change to a quarterly inspection program with the approval of the District.

The operator shall revert from quarterly to monthly inspection program if less than 98.0 percent of the new (non-bellows seal) valves and the new flange population inspected is found to leak gaseous or liquid volatile organic compounds at a rate of less than 100 ppmv.

All components in VOC service except for pumps, compressors, and drains, a leak greater than 100 ppm but less than 1,000 ppm measured as methane above background as measured using EPA Method 21, shall be repaired within 14 days of detection. Components shall be defined as any valve, fitting, pressure relief device, diaphragm, hatch, sight-glass, and meter, which are not exempted by Rule 1173. A leak greater than 1,000 ppm shall be repaired according to Rule 1173.

All pumps, compressors, and drains, a leak greater than 500 ppm but less than 1,000 ppm measured as methane above

The operator shall comply with the terms and conditions set forth below:

background as measured using EPA Method 21, shall be repaired within 14 days of detection. A leak greater than 1,000 ppm shall be repaired according to Rule 1173.

The operator shall keep records of the monthly inspection (quarterly where applicable), subsequent repair, and reinspection, in a manner approved by the District. Records shall be kept and maintained for at least five years, and shall be made available to Executive Officer of his authorized representative upon request.

[RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 12-6-2002; **RULE 1303(b)(2)-Offset, 5-10-1996**; RULE 1303(b)(2)-Offset, 12-6-2002]

[Systems subject to this condition: Process 10, System 1]

A. Emission Limits

A72.1 The operator shall maintain this equipment to achieve a minimum overall control efficiency of 95 percent for ROG during the normal operation of the equipment it vents.

[RULE 1176, 9-13-1996]

[Devices subject to this condition: C175]

B. Material/Fuel Type Limits

B61.2 The operator shall not use fuel gas containing the following specified compounds:

Compound	ppm by volume
H2S greater than	160

The H2S concentration limit shall be based on a rolling 3-hr averaging period.

[40CFR60 Subpart J, 6-24-2008]

[Devices subject to this condition: C175]

C. Throughput or Operating Parameter Limits

FACILITY PERMIT TO OPERATE
PARAMOUNT PETR CORP (EIS USE)

SECTION H: PERMIT TO CONSTRUCT AND TEMPORARY PERMIT TO OPERATE

The operator shall comply with the terms and conditions set forth below:

C1.39 The operator shall limit the sulfur feed rate to no more than 50 long tons/day.

For the purpose of this condition, sulfur feed rate shall be defined as the feed rate and content of hydrogen sulfide in the acid gas stream not the output of the Claus plant.

The purpose of this condition is to ensure that the equipment operates in a manner that will not trigger NSPS applicability under modification provisions of 40 CFR 60 Subpart A.

The operator shall maintain records in a manner approved by the District to demonstrate compliance with this condition.

[40 CFR 60 Subpart A, 5-16-2007]

[Devices subject to this condition: D691]

C6.8 The operator shall use this equipment in such a manner that the flow being monitored, as indicated below, does not exceed 400 CFM.

To comply with this condition, the operator shall install and maintain a(n) flow meter to accurately indicate the flow rate of the incinerator inlet vapor stream. In case a pressure sensor device is used in place of flow meter, a conversion chart shall be made available to indicate the corresponding flow rate, in CFM, to the pressure reading.

[RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 12-6-2002; **RULE 1303(b)(2)-Offset, 5-10-1996**; RULE 1303(b)(2)-Offset, 12-6-2002; **RULE 463, 5-6-2005]**

[Devices subject to this condition: D623]

C6.12 The operator shall use this equipment in such a manner that the percent spent caustic being monitored, as indicated below, does not exceed 70 percent.

The operator shall monitor the spent caustic concentration of the recirculating NaOH scrubbing solution once a day.

The operator shall maintain records in a manner approved by the District, to demonstrate compliance with this condition.

This condition shall only apply when the exhaust gas from the caustic scrubber (Device C167) is being vented to the flare (Device C396).

[RULE 1304(a)(4)-Periodic Monitoring, 12-12-1997; RULE 407, 4-2-1982]

[Devices subject to this condition: C167]

FACILITY PERMIT TO OPERATE
PARAMOUNT PETR CORP (EIS USE)

SECTION H: PERMIT TO CONSTRUCT AND TEMPORARY PERMIT TO OPERATE

The operator shall comply with the terms and conditions set forth below:

C8.1 The operator shall use this equipment in such a manner that the temperature being monitored, as indicated below, is not less than 1400 Deg F.

To comply with this condition, the operator shall install and maintain a (n) temperature gauge to accurately indicate the temperature in the firebox or in the ductwork immediately downstream from the firebox.

The measuring device or gauge shall be accurate to within plus or minus 50 degrees F. It shall be calibrated once every 12 months.

The operator shall also install and maintain a device to continuously record the parameter being measured.

[RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 12-6-2002; **RULE 1303(b)(2)-Offset, 5-10-1996**; RULE 1303(b)(2)-Offset, 12-6-2002; **RULE 1304(a)(4)-Periodic Monitoring, 12-12-1997**; **RULE 470, 5-7-1976]**

[Devices subject to this condition: C175]

C8.3 The operator shall use this equipment in such a manner that the flow rate being monitored, as indicated below, is not less than 80 gpm.

The operator shall monitor the flow rate of the recirculating NaOH scrubbing solution once a day.

The operator shall maintain records in a manner approved by the District, to demonstrate compliance with this condition.

This condition shall only apply when the exhaust gas from the caustic scrubber (Device C167) is being vented to the flare (Device C396).

[RULE 3004(a)(4)-Periodic Monitoring, 12-12-1997; RULE 407, 4-2-1982]

[Devices subject to this condition: C167]

C8.4 The operator shall use this equipment in such a manner that the temperature being monitored, as indicated below, is not less than 1400 Deg F.

To comply with this condition, the operator shall install and maintain a(n) temperature gauge to accurately indicate the temperature in the firebox or in the ductwork immediately downstream from the firebox.

The measuring device or gauge shall be accurate to within plus or minus 50 degree F. It shall be calibrated once every 12 months.

The operator shall install and maintain a device to continuously record the parameter being measured.

FACILITY PERMIT TO OPERATE
PARAMOUNT PETR CORP (EIS USE)

SECTION H: PERMIT TO CONSTRUCT AND TEMPORARY PERMIT TO OPERATE

The operator shall comply with the terms and conditions set forth below:

[RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 12-6-2002; **RULE 3004(a)(4)-Periodic Monitoring, 12-12-1997; RULE 468, 10-8-1976]**

[Devices subject to this condition: C175]

D. Monitoring/Testing Requirements

D28.3 The operator shall conduct source test(s) in accordance with the following specifications:

The test shall be conducted within 60 days after achieving maximum production rate, but no later than 180 days after initial start-up.

The District shall be notified of the date and time of the test at least 10 days prior to the test.

The test shall be conducted to determine the Benzene at the inlet and outlet.

The test shall be conducted to determine the VOC emissions at the inlet and outlet.

[RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 12-6-2002; **RULE 1303(b)(2)-Offset, 5-10-1996**; RULE 1303(b)(2)-Offset, 12-6-2002]

[Devices subject to this condition: C175]

D90.4 The operator shall sample and analyze the SOx concentration of outlet of the tank truck according to the following specifications:

The operator shall sample at the outlet of the tank truck, once the loading rack is in operation (not in the idled mode), and analyze to determine compliance with sulfur compounds concentration limit of Rule 407.

[RULE 3004(a)(4)-Periodic Monitoring, 12-12-1997; RULE 407, 4-2-1982]

[Devices subject to this condition: D250]

D90.7 The operator shall continuously monitor the H2S concentration in the fuel gases before being burned in this device according to the following specifications:

The operator shall use an NSPS Subpart J approved instrument meeting the requirements of 40CFR60 Subpart J to monitor the parameter.

FACILITY PERMIT TO OPERATE
PARAMOUNT PETR CORP (EIS USE)

SECTION H: PERMIT TO CONSTRUCT AND TEMPORARY PERMIT TO OPERATE

The operator shall comply with the terms and conditions set forth below:

The operator shall also install and maintain a device to continuously record the parameter being monitored.

The operator may monitor the H2S concentration at a single location for fuel com bustion devices, if monitoring at this location accurately represents the concentration of H2S in the fuel gas being burned in this device.

[40CFR60 Subpart J, 6-24-2008]

[Devices subject to this condition: C175]

D323.1 The operator shall conduct an inspection for visible emissions from all stacks and other emission points of this equipment whenever there is a public complaint of visible emissions, whenever visible emissions are observed, and on a bi-weekly basis whenever fuel oil is burned. The routine bi-weekly inspection shall be conducted while the equipment is in operation and during daylight hours.

If any visible emissions (not including condensed water vapor) are detected that last more than three minutes in any one hour, the operator shall verify and certify within 24 hours that the equipment causing the emission and any associated air pollution control equipment are operating normally according to their design and standard procedures and under the same conditions under which compliance was achieved in the past, and either:

1) Take corrective action(s) that eliminates the visible emissions within 24 hours and report the visible emissions as a potential deviation in accordance with the reporting requirements in Section K of this permit; or

2) Have a CARB-certified smoke reader determine compliance with the opacity standard, using EPA Method 9 or the procedures in the CARB manual "Visible Emissions Evaluation", within three business days and report any deviations to AQMD.

The operator shall keep the records in accordance with the recordkeeping requirements in Section K of this permit and the following records:

1) Stack or emission point identification;

2) Description of any corrective actions taken to abate visible emissions;

3) Date and time visible emission was abated; and

4) All visible emission observation records by operator or a certified smoke reader.

This condition shall become effective when the initial Title V permit is issued.

[RULE 3004(a)(4)-Periodic Monitoring, 12-12-1997; RULE 401, 3-2-1984; RULE 401, 11-9-2001]

[Devices subject to this condition: C175]

FACILITY PERMIT TO OPERATE
PARAMOUNT PETR CORP (EIS USE)

SECTION H: PERMIT TO CONSTRUCT AND TEMPORARY PERMIT TO OPERATE

The operator shall comply with the terms and conditions set forth below:

E. Equipment Operation/Construction Requirements

E17.1 The operator shall not use more than 1 of the following items simultaneously:

Device ID: D65 [Compressor, C-120, Clark, Reciprocating, IC driven (common to Kerosene HDS Unit)]

Device ID; D64 [Compressor, C-124, Worthington, Reciprocating, 1-Stage, 700 hp (common to Kerosene HDS)]

This condition shall not apply when changeover takes place from one compressor to another, for 1 hour.

[RULE 463, 5-6-2005]

[Devices subject to this condition: D64, D65]

E71.4 The operator shall not use this equipment to treat vapors containing halogenated HC compounds.

[RULE 1401, 3-7-2008]

[Devices subject to this condition: C175]

E336.1 The operator shall vent the vent gases from this equipment as follows:

All vent gases shall be directed to the tail gas incinerator (Device C175).

This equipment shall not be operated unless the tail gas incinerator (Device C175) are in full use and have a valid permit to receive vent gases from this equipment.

[RULE 1176, 9-13-1996; RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 12-6-2002]

[Devices subject to this condition: C167, D142]

E336.2 The operator shall vent the vent gases from this equipment as follows:

All vent gases shall be directed to the Sulfur Recovery Unit.

This equipment shall not be operated unless the Sulfur Recovery Unit is in full use and has a valid permit to receive vent gases from this equipment.

SECTION H: PERMIT TO CONSTRUCT AND TEMPORARY PERMIT TO OPERATE

The operator shall comply with the terms and conditions set forth below:

This equipment may vent to the tail gas incinerator during start up, shut down and malfunction of the Sulfur Recovery Unit.

[RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 12-6-2002; **RULE 463, 5-6-2005**]

[Devices subject to this condition: D168, D169, D504, D843]

E336.5 The operator shall vent the vent gases from this equipment as follows:

All vent gases shall be directed to the fuel gas system.

This equipment shall not be operated unless the fuel gas system is in full use and has a valid permit to receive vent gases from this equipment.

[RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 12-6-2002; **RULE 1303(b)(2)-Offset, 5-10-1996**; RULE 1303(b)(2)-Offset, 12-6-2002; **RULE 463, 5-6-2005]**

[Devices subject to this condition: D41, D42, D54, D64]

E336.6 The operator shall vent the vent gases from this equipment as follows:

All vent gases shall be directed to the Sulfur Recovery Unit.

This equipment shall not be operated unless the tail gas incinerator (C175), Sulfur Recovery Unit, or back up carbon is in full use and has a valid permit to receive vent gases from this equipment.

This equipment may vent to the tail gas incinerator or back up carbon during start up, shut down and malfunction of the Sulfur Recovery Unit.

[RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 12-6-2002; **RULE 1303(b)(2)-Offset, 5-10-1996**; RULE 1303(b)(2)-Offset, 12-6-2002; **RULE 463, 5-6-2005**]

[Devices subject to this condition: [D261, D262]

H. Applicable Rules

H23.2 This equipment is subject to the applicable requirements of the following rules or regulations:

FACILITY PERMIT TO OPERATE
PARAMOUNT PETR CORP (EIS USE)

SECTION H: PERMIT TO CONSTRUCT AND TEMPORARY PERMIT TO OPERATE

The operator shall comply with the terms and conditions set forth below:

Contaminant	Rule	Rule/Subpart
VOC	District Rule	1173

[RULE 1173, 5-13-1994; RULE 1173, 6-1-2007]

[Devices subject to this condition:]

H23.4 This equipment is subject to the applicable requirements of the following rules or regulations:

Contaminant	Rule	Rule/Subpart
VOC	40CFR60, SUBPART	J

[40CFR60 Subpart J, 6-24-2008]

[Devices subject to this condition: C175]

H23.13 This equipment is subject to the applicable requirements of the following rules or regulations:

Contaminant	Rule	Rule/Subpart
VOC	40CFR60, SUBPART	QQQ
VOC	District Rule	1176

[RULE 1176, 9-13-1996; 40CFR60 Subpart QQQ, 5-5-1989]

[Devices subject to this condition: D648]

H23.21 This equipment is subject to the applicable requirements of the following rules or regulations:

Contaminant	Rule	Rule/Subpart
VOC	District Rule	1176

[RULE 1176, 9-13-1996]

[Devices subject to this condition: D254, D255, D256, D257, D258, D261, D262, D266, D504, D717]/*3

FACILITY PERMIT TO OPERATE
PARAMOUNT PETR CORP (EIS USE)

SECTION H: PERMIT TO CONSTRUCT AND TEMPORARY PERMIT TO OPERATE

The operator shall comply with the terms and conditions set forth below:

H23.23 This equipment is subject to the applicable requirements of the following rules or regulations:

Contaminant	Rule	Rule/Subpart
VOC	District Rule	1173
VOC	40CFR60, SUBPART	GGG

[RULE 1173, 5-13-1994; RULE 1173, 6-1-2007; **40CFR60 SUBPART GGG,6-7-1985]**

[Devices subject to this condition: D247, D248, D610, D616, D700, D820, D830, D723, D726, D733, D744]]

H23.24 This equipment is subject to the applicable requirements of the following rules or regulations:

Contaminant	Rule	Rule/Subpart
VOC	District Rule	1173
VOC	40CFR60, SUBPART	GGGa

[RULE 1173, 5-13-1994; RULE 1173, 6-1-2007; **40CFR60 SUBPART GGGa, 6-2-2008]**

[Devices subject to this condition: D610, D808, D809]]

I. Administrative

I1.2 The operator shall comply with all the requirements of the Stipulated Order for Abatement, Case No. 2914-72, dated October 14, 2004, in accordance with the Findings and Decisions of the Hearing Board or as subsequently modified by the Hearing Board. The operator shall submit progress reports at least semi-annually, or more frequently if specified in the Findings and Decisions. The progress reports shall contain dates for achieving activities, milestones or compliance required in the schedule of compliance and dates when such activities, milestones or compliance were achieved; and an explanation of why any dates in the schedule of compliance were not, or will not be met, and any preventative or corrective measures adopted.

[RULE 3004(a)(10)(C) 12-12-1997]

[Devices subject to this condition: D29, D44, D45, D46, C175 C531]

I1.3 The operator shall comply with all the requirements of the Stipulated Order for Abatement, Case No. 2914-90, dated

FACILITY PERMIT TO OPERATE
PARAMOUNT PETR CORP (EIS USE)

SECTION H: PERMIT TO CONSTRUCT AND TEMPORARY PERMIT TO OPERATE

The operator shall comply with the terms and conditions set forth below:

August 26, 2008, in accordance with the Findings and Decisions of the Hearing Board or as subsequently modified by the Hearing Board. The operator shall submit progress reports at least semi-annually, or more frequently if specified in the Findings and Decisions. The progress reports shall contain dates for achieving activities, milestones or compliance required in the schedule of compliance and dates when such activities, milestones or compliance were achieved; and an explanation of why any dates in the schedule of compliance were not, or will not be met, and any preventative or corrective measures adopted.

[RULE 3004(a)(10)(C) 12-12-1997]

[Devices subject to this condition: C175]

PERMIT TO CONSTRUCT

COMPANY NAME:	PARAMOUNT PETROLEUM CORP ID No. 800183
MAILING ADDRESS:	14700 Downey Ave Paramount, CA 90745
EQUIPMENT LOCATION:	14700 Downey Ave Paramount, CA 90745
CONTACT PERSON:	June Christman (562) 748-4704

PROJECT SUMMARY

As required by the Stipulated Order for Abatement (Case No. 2914-90) issued by the AQMD Hearing Board on August 26, 2008, Paramount is proposing to reroute certain process vent streams with high hydrogen sulfide (H_2S) content from the H-402 Tail Gas Incinerator to the front of the Sulfur Recovery Unit (SRU) to ensure that future emissions from the miscellaneous refinery gas streams connected to and combusted by the incinerator meet the federal requirements of the fuel gas Standards of Performance for Petroleum Refineries.

EQUIPMENT DESCRIPTION

Additions to the Facility Permit are noted in underlines and deletions are noted in ~~strikeouts~~.

SECTION H: PERMIT TO CONSTRUCT AND TEMPORARY PERMIT TO OPERATE

Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions And Requirements	Conditions
Process 2: HYDROTREATING					
System 1: NAPHTHA HYDRODESULFURIZATION UNIT (HDS #1)				S4.2, S13.2, S15.2, S15.6, S31.3	
DRUM, D-104, HYDROSTRIPPER BOTTOMS, LENGTH: 15 FT; DIAMETER: 5 FT 6 IN A/N: ~~477619~~ 437036	D37				
COLUMN, D-108, HDS SEPARATOR, DIAMETER: 3 FT X 5 FT; HEIGHT: 82 FT	D38				

Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions And Requirements	Conditions
A/N: ~~477619~~ 437036					
KNOCK OUT POT, D-109, SEPARATOR, HEIGHT: 4 FT 6 IN: DIAMETER: 1 FT 6 IN A/N: ~~477619~~ 437036	D39				
COLUMN, W-107, H2S STRIPPER, HEIGHT: 57 FT; DIAMETER: 4 FT 6 IN A/N: ~~477619~~ 437036	D40				
VESSEL, D-125, STRIPPER OVERHEAD ACCUMULATOR, SEPARATOR, HEIGHT: 17 FT 6 IN: DIAMETER: 3 FT A/N: ~~477619~~ 437036	D806				
COMPRESSOR, C-301, 1250 HP., SIX CYLINDERS, RECIPROCATING (COMMON TO NAPHTHA HDS, GASOIL HDS, KEROSENE HDS AND CATALYTIC REFORMER UNIT) A/N: ~~477619~~ 437036	D41				E336.5
COMPRESSOR, C-302, 1250 HP., SIX CYLINDERS, RECIPROCATING (COMMON TO NAPHTHA HDS, GASOIL HDS, KEROSENE HDS AND CATALYTIC REFORMER UNIT) A/N: ~~477619~~ 437036	D42				E336.5
COMPRESSOR, C-121, CLARK, 1-STAGE, RECIPROCATING, 250 HP, (COMMON TO NAPHTHA HDS, KEROSENE HDS, AND GAS OIL HDS) A/N: ~~477619~~ 437036	D54				E336.5
COMPRESSOR, C-124, WORTHINGTON, RECIPROCATING, 1-STAGE, 700 HP, (COMMON TO KEROSENE HDS, NAPHTHA HDS AND GAS OIL HDS) A/N: ~~477619~~ 437036	D64				E17.1 E336.5
REACTOR, RA-103, NAPHTHA HDS, HEIGHT: 13 FT: DIAMETER: 7 FT A/N: ~~477619~~ 437036	D686				
REACTOR, RA-106, HDS, HEIGHT: 29 FT: DIAMETER: 6 FT 2.5 IN A/N: ~~477619~~ 437036	D687				

Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions And Requirements	Conditions
FUGITIVE EMISSIONS, MISCELLANEOUS A/N: ~~477619~~ 437036	D610				H23.24
System 3: KEROSENE HYDRODESULFURIZATION UNIT (HDS # 5)					S13.2, S15.2, S15.6
KNOCK OUT POT, D512, DISTILLATE HDS HEIGHT: 10 FT; DIAMETER: 3 FT A/N: ~~477619~~ 437035	D49				
VESSEL, SEPARATOR, D-502, PRODUCT, LENGTH:15 FT; DIAMETER; 5 FT A/N: ~~477619~~ 437035	D50				
DRUM, D-503, FRACTIONATOR REFLUX, HEIGHT: 12 FT; DIAMETER: 4 FT A/N: ~~477619~~ 437035	D51				
KNOCK OUT POT, D-505, SEPARATOR GAS, LENGTH: 6 FT; DIAMETER: 1 FT 8 IN A/N: ~~477619~~ 437035	D52				
FRACTIONATOR, W-501, DISTILLATE, HEIGHT: 50 FT: DIAMETER: 4 FT 8 IN A/N: ~~477619~~ 437035	D53				
COMPRESSOR, C-121, CLARK, 1-STAGE, RECIPROCATING, 250 HP, (COMMON TO NAPHTHA HDS, KEROSENE HDS, AND GAS OIL HDS) A/N: ~~477619~~ 437035	D54				E336.5
COMPRESSOR, C-124, WORTHINGTON, RECIPROCATING, 1-STAGE, 700 HP, (COMMON TO KEROSENE HDS, NAPHTHA HDS AND GAS OIL HDS) A/N: ~~477619~~ 437035	D64				E17.1 E336.5
COMPRESSOR, C-120, CLARK, RECIPROCATING, IC DRIVEN (COMMON TO KEROSENE HDS, AND GAS OIL HDS) A/N: ~~477619~~ 437035	D65				E17.1
REACTOR, RA-501, HEIGHT: 39 FT; DIAMETER: 7 FT 6 IN A/N: ~~477619~~ 437035	D758				
COMPRESSOR, C-301, 1250 HP., SIX	D41				E336.5

Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions And Requirements	Conditions
CYLINDERS, RECIPROCATING (COMMON TO NAPHTHA HDS, GASOIL HDS, KEROSENE HDS AND CATALYTIC REFORMER UNIT) A/N: ~~477619~~ 437036					
COMPRESSOR, C-302, 1250 HP., SIX CYLINDERS, RECIPROCATING (COMMON TO NAPHTHA HDS, GASOIL HDS, KEROSENE HDS AND CATALYTIC REFORMER UNIT) A/N: ~~477619~~ 437036	D42				E336.5
FUGITIVE EMISSIONS, MISCELLANEOUS A/N: ~~477619~~ 437035	D700				H23.2, H23.23
System 4: GAS OIL HYDRODESULFURIZATION (HDS # 3)					**S13.2, S15.2, S15.6**
DRUM, D-302,STRIPPER REFLUX, LENGTH: 10 FT; DAIMETER; 4 FT A/N: ~~481142~~ 437034	D55				
REACTOR, RA-305, HYDRODESULFURIZER, HEIGHT: 30 FT; DIAMETER: 10 FT A/N: ~~481142~~ 437034	D511				
TANK, SURGE, D-303, FEED, LENGTH: 20 FT; DIAMETER: 8 FT A/N: ~~481142~~ 437034	D56				
VESSEL, RECEIVER, D-306, HOT, LENGTH: 20 FT; DIAMETER: 8 FT A/N: ~~481142~~ 437034	D57				
VESSEL, RECEIVER, D-307, COLD, LENGTH: 16 FT; DIAMETER: 4 FT 6 IN A/N: ~~481142~~ 437034	D58				
KNOCK OUT POT, D-320, HDS BOOSTER CYLINDER, LENGTH: 10 FT; DIAMETER: 2 FT 6 IN A/N: ~~481142~~ 437034	D59				
KNOCK OUT POT, D-322, RECYCLE GAS COMPRESSOR, HEIGHT: 9 FT; DIAMETER: 5 FT	D60				

Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions And Requirements	Conditions
A/N: ~~481142~~ 437034					
POT, D-321, WATER INJECTION, HEIGHT: 4 FT 3 IN: DIAMETER: 1 FT 6 IN A/N: ~~481142~~ 437034	D61				
TOWER, W-301, RERUN TOWER, HEIGHT: 39 FT; DIAMETER: 8 FT 6 IN A/N: ~~481142~~ 437034	D62				
EVAPORATOR, D-122, LPG, HEIGHT:10 FT 1 IN: DIAMETER: 1 FT A/N: ~~481142~~ 437034	D63				
COMPRESSOR, C-301, 1250 HP., SIX CYLINDERS, RECIPROCATING (COMMON TO NAPHTHA HDS, GASOIL HDS, KEROSENE HDS AND CATALYTIC REFORMER UNIT) A/N: ~~481142~~ 437034	D41				E336.5
COMPRESSOR, C-302, 1250 HP., SIX CYLINDERS, RECIPROCATING (COMMON TO NAPHTHA HDS, GASOIL HDS, KEROSENE HDS AND CATALYTIC REFORMER UNIT) A/N: ~~481142~~ 437034	D42				E336.5
COMPRESSOR, C-121, CLARK, 1-STAGE, RECIPROCATING 250 HP., (COMMON TO NAPHTHA HDS, KEROSENE HDS AND GAS OIL HDS) A/N: ~~481142~~ 437034	D54				E336.5
COMPRESSOR, C-124, WORTHINGTON, RECIPROCATING, 1-STAGE, 700 HP, (COMMON TO KEROSENE HDS, NAPHTHA HDS AND GAS OIL HDS) A/N: ~~481142~~ 437034	D64				E17.1 E336.5
COMPRESSOR, C-120, CLARK, RECIPROCATING, IC DRIVEN (COMMON TO KEROSENE HDS, AND GAS OIL HDS) A/N: ~~481142~~ 437034	D65				E17.1
REACTOR, RA-301, HDS, HEIGHT, 46 FT; DIAMETER: 8 FT 6 IN	D493				

Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions And Requirements	Conditions
A/N: ~~481142~~ 437034					
REACTOR, RA-305, HYDRODESULFIZER, HEIGHT: 20 FT; DIAMETER: 7 FT A/N: ~~481142~~ 437034	D494				
SALT DRYER, D-319, DIAMETER: 4 FT; HEIGHT: 12 FT A/N: ~~481142~~ 437034	D832				
STRIPPER, W-302, RERUN TOWER OVERHEAD, HEIGHT: 39 FT; DIAMETER: 6 FT A/N: ~~481142~~ 437034	D833				
FUGITIVE EMISSIONS, MISCELLANEOUS A/N: ~~481142~~ 437034	D616				H23.2, H23.23
Process 6: TREATING/STRIPPING					
System 2: SOUR WATER STRIPPER UNIT					S13.2, S15.2, S15.5
COLUMN, W-453, SOUR WATER STRIPPER, HEIGHT: 38 FT 10 IN; DIAMETER: 2 FT 6 IN A/N: ~~419636~~ 485566	D144				
DRUM, D-204, SOUR WATER, HEIGHT: 17 FT 10.5 IN; DIAMETER: 5 FT A/N: ~~419636~~ 485566	D145				
KNOCK OUT POT, D-212, SOUR WATER STRIPPER OVHD, HEIGHT: 15 FT 9 IN; DIAMETER: 4 FT A/N: ~~419636~~ 485566	D146				
System 6: Caustic Storage & Scrubbing (Standby for Amine Treating & SRP)					S13.2, S15.2, S15.7
SCRUBBER, W-206, CAUSTIC WASH, STANDBY FOR AMINE/FUEL GAS TREATING UNIT & SRP, HEIGHT: 29 FT 8 IN; DIAMETER: 6 FT A/N: ~~328832~~ 486513	C167			SOX: 500 PPMV (5)[RULE 407, 4-2-1982]	C6.12 C8.3
STORAGE TANK, T-1000, SPENT CAUSTIC, 42000 GALS; DIAMETER: 21 FT 6 IN; HEIGHT: 16 FT	D168			SOX: 500 PPMV (5)[RULE 407, 4-2-1982]	E336.2

Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions And Requirements	Conditions
A/N: 104014					
STORAGE TANK, T-1001, FRESH SPENT CAUSTIC, 42000 GALS; DIAMETER: 21 FT 6 IN; HEIGHT: 16FT A/N: ~~104014~~ 364595	D169				E336.2
System 7: AMINE REGENERATION UNIT					S13.2, S15.2, S15.5
COLUMN, W-208, AMINE REGENERATOR HEIGHT: 49 FT; DIAMETER: 7 FT A/N: ~~458562~~ 482640	D134				
KNOCK OUT POT, D-206, AMINE REGENERATOR COLUMN OVERHEAD ACI D GAS, HEIGHT: 18 FT 6 IN; DIAMETER: 5 FT A/N: ~~458562~~ 482640	D139				
TANK, SURGE, D-213, LEAN AMINE, LENGTH: 20 FT; DIAMETER: 8 FT 6 IN A/N: ~~458562~~ 482640	D142				E336.1
SUMP, AMINE DRAIN SUMP, WIDTH: 4 5 FT; ~~DIAMETER: 6 FT~~ LENGTH: 4 5 FT; DEPTH: 10 FT A/N: ~~458562~~ 482640	D143				
TOWER, W-204, WASH WATER, HEIGHT: 29 FT 10 IN; DIAMETER: 2 FT 8IN A/N: ~~458562~~ 482640	D834				
LEAN AMINE FILTER, D-209, HEIGHT: 3 FT 10 IN; DIAMETER: 1 FT 2 IN A/N: 482640	D835				
LEAN AMINE FILTER, D-210, HEIGHT: 3 FT 5 IN; DIAMETER: 1 FT 8 IN A/N: 482640	D836				
FILTER, D-220, CARBON, HEIGHT: 7 FT; DIAMETER: 4 FT A/N: ~~458562~~ 482640	D837				
FUGITIVE EMISSIONS, MISCELLANEOUS A/N: ~~458562~~ 482640	D657				H23.2

Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions And Requirements	Conditions
Process 7: SULFUR RECOVERY UNIT					
System 1: SULFUR RECOVERY UNIT 2					S15.1, S15.10, S18.5
REACTOR, RA-411, FIRST- STAGE CONVERTER, HEIGHT: 12 FT; DIAMETER: 12 FT A/N: ~~417098~~ 486507	D689				
REACTOR, RA-412, SECOND-STAGE CONVERTER, HEIGHT: 19 FT 6 IN; DIAMETER: 8 FT A/N: ~~417098~~ 486507	D170				
VESSEL, COALESCER, D-416, TAIL GAS, HEIGHT: 6 FT; DIAMETER: 3 FT 6 IIN A/N: ~~417098~~ 486507	D171				
PIT, ACCUMULATOR, SULFUR, COVERED, WIDTH: 12 FT; DEPTH: 10 FT; LENGTH: 52 FT A/N: ~~417098~~ 486507	D172	C175 D250		H2S: 10 PPMV (5)[RULE 468, 10-8-1976]; SOX: 500 PPM (5) [RULE 407, 4-2-1982]	
EDUCTOR, SERVING SULFUR PIT, VENTED TO TAIL GAS INCINERATOR A/N: 486507	D838				
CONDENSER, X-411, FIRST, HEIGHT: 22 FT 6.5 IN; DIAMETER: 2 FT 7 IN A/N: ~~417098~~ 486507	D645				
CONDENSER, X-412, SECOND, HEIGHT: 16 FT 8.5 IN; DIAMETER: 2 FT 7 IN A/N: ~~417098~~ 486507	D646				
CONDENSER, X-413, THIRD, HEIGHT: 17 FT 6 IN; DIAMETER: 2 FT A/N: ~~417098~~ 486507	D647			H2S: 10 PPMV (5)[RULE 468, 10-8-1976]; SOX: 500 PPM (5) [RULE 407, 4-2-1982]	
FURNACE, REACTION, H-401, 50 LTD. OF SULFUR MAXIMUM CAPACITY, WITH ONE ACID GAS BURNER	D691				C1.39

Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions And Requirements	Conditions
A/N: ~~417098~~ 486507					
HEATER, INLINE REHEATER, H-403, FIRST STAGE, WITH ONE ACID GAS BURNER, 0.33 MMBTU/HR A/N: ~~417098~~ 486507	D692				
HEATER, INLINE REHEATER, H-404, SECOND STAGE, WITH ONE ACID GAS BURNER, 0.28 MMBTU/HR A/N: ~~417098~~ 486507	D693				
BLOWER, COMBUSTION AIR, F-402 A/N: ~~417098~~ 486507	D690				
REACTION FURNACE, X-414, WASTE HEAT BOILER A/N: 486507	D839				
BLOWER, F-401, COMBUSTION AIR, STEAM TURBINE DRIVE A/N: 486507	D840				
System 3: TAIL GAS INCINERATOR					**S18.7, S18.8**
INCINERATOR, H-402, PROCESS GAS, REFINERY GAS, JOHN ZINK VERTICAL TYPE, ~~5~~ 10 MMBTU/HR WITH BURNER, JOHN ZINK, MODEL DB-24-82 A/N: ~~368539~~ 436741	C175	D172	NOX: MAJOR SOURCE SOX: MAJOR SOURCE	CO: 2000 PPMV (5)[RULE 407,4-2-1982]; PM: 0.1 GRAINS/SCF (5) [RU 409,8-7-1981]; PM: (9)[RULE 404, 2-7-1986]	A72.1 B61.2 C8.4 D28.3 D28.4 D90.2 D90.7 D323.1 E71.4 H23.4 I1.2 I1.3
FUGITIVE EMISSIONS, MISCELLANEOUS A/N: ~~368539~~ 436741	D718				H23.2
Process 8: LOADING/UNLOADING FACILITIES					
System 26: SULFUR TRUCK LOADING RACK					
LOADING ARM, TANK TRUCK, SULFUR, OVERHEAD SWIVEL TYPE ~~VENTED TO ATMOSPHERE~~ A/N: ~~104011~~ 436715	D250	D172		SOX: 500 PPMV (5) [RULE 407, 4-2-1982]	D90.4
EDUCTOR, SERVING SULFUR LOADING RACK VENTED TO SULFUR PIT A/N: 436715	D841				

Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions And Requirements	Conditions
System 28: SPENT CAUSTIC LOADING RACK					
KNOCK OUT POT, D-221, SPENT CAUSTIC TRUCK LOADING RACK, DIAMETER: 3 FT; HEIGHT: 4 FT A/N: 486514	D842				
LOADING ARM, TANK TRUCK BOTTOM LOADING, SPENT CAUSTIC, 2 LOADING ARMS A/N: 486514	D843				E336.2
Process 9: OIL AND WATER SEPARATION SYSTEM					**P13.1**
System 2: WASTEWATER SEPARATION FAC (HYDROPROCESSING AREA)					
SUMP, CISTERN,CIRCULAR, COVERED WITH VAPOR TIGHT STEEL PLATE, DIAMETER; 4 FT 4 IN A/N: ~~302403~~ 486510	D261			VOC: 500 PPMV (5)[RULE 1176, 9-13-1996]	~~E336.1~~ E336.6 H23.21
CARBON ADSORBER, CISTERN ACTIVATED CARBON, 180 LBS, USED FOR BACK-UP ONLY A/N: ~~302403~~ 486510	C844				
FLOATATION UNIT, WEMCO, INDUCED, A/N ~~302403~~ 486510	D262			VOC: 500 PPMV (5)[RULE 1176, 9-13-1996]	~~E336.1~~ E336.6 H23.21
CARBON ADSORBER, WEMCO ACTIVATED CARBON, 180 LBS, USED FOR BACK-UP ONLY A/N: ~~302403~~ 486510	C845				
TOWER, W-203, AIR STRIPPER A/N: ~~302403~~ 486510	D504			VOC: 500 PPMV (5)[RULE 1176, 9-13-1996]	E336.2 H23.21
DRAIN SYSTEM COMPONENT A/N: ~~302403~~ 486510	D648			VOC: 500 PPMV (5)[RULE 1176, 9-13-1996]	H23.13
BLOWER, F-1, 1 HP A/N: ~~302403~~ 486510	D846				
POT, KNOCK OUT, M-101A, HEIGHT: 3 FT 6 IN; DIAMETER: 12 IN A/N: ~~302403~~ 486510	D847				
DRUM, KNOCK OUT, D-758, HEIGHT: 6 FT; DIAMETER: 4 FT	D848				

Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions And Requirements	Conditions
A/N: ~~302403~~ 486510					
COMPRESSOR, C-701 A, 7.5 HP, 1 STAGE, 2 CYLINDERS, A/N: ~~302403~~ 486510	D849				
COMPRESSOR, C-701 B, 7.5 HP, 1 STAGE, 2 CYLINDERS, A/N: ~~302403~~ 486510	D850				
FUGITIVE EMISSIONS, MISCELLANEOUS A/N: ~~302403~~ 486510	D708				H23.2
Process 10: STORAGE TANKS					
System 1: FIXED ROOF TANKS					S13.4, S31.4
FILTER, DIESEL, FD-720, HEIGHT: 8 FT 3.25 IN; DIAMETER: 2 FT 4 IN A/N: 486518	D851				
Process 13: MISCELLANEOUS					
System 6: FUEL GAS ~~MIX DRUM~~ SYSTEM					S13.2, S15.2,
VESSEL, D-704, LPG A/N: ~~447315~~ 486516	D393				
DRUM, D-712, FUEL GAS A/N: ~~447315~~ 486516	D394				
DRUM, D-807, CRUDE UNIT FUEL GAS, HEIGHT: 19 FT 6 IN; DIAMETER: 4 FT 1 IN A/N: ~~447315~~ 486516	D492				
EDUCTOR, FUEL GAS, 2 TOTAL A/N: ~~447315~~ 486516	D745				
TANK, D-275, WATER WASH TRAIN, IN SERIES WITH FILTER COALESCER D714, HEIGHT: 19 FT; DIAMETER: 4 FT A/N: ~~447315~~ 486516	D746				
VESSEL, D-714, COALESCER FILTER, IN SERIES WITH TANK D-725, HEIGHT: 9 FT; DIAMETER; 1 FT 8 IN A/N: ~~447315~~ 486516	D747				
FUGITIVE EMISSIONS, MISCELLANEOUS A/N: ~~447315~~ 486516	D621				H23.2

CONDITIONS

P13.1 All devices under this process are subject to the applicable requirements of the following rules or regulations:

Contaminant	Rule	Rule/Subpart
VOC	District Rule	1176

[Rule 1176, 9-13-1996]
[Processes subject to this condition: 9]

S4.2 The following condition(s) shall apply to all affected devices listed under Section H of this system for fugitive emissions of volatile organic compounds (VOC):

All components are subject to District Rule 1173 and 40CFR60 Subpart GGG.

All new components in VOC service as defined in Rule 1173, except valves and flanges shall be inspected quarterly using EPA reference method 21. All new valves and flanges in VOC service except those specifically exempted by Rule 1173 shall be inspected monthly using EPA Method 21.

All new components in VOC service except for pumps, compressors, and drains, a leak greater than 200 ppm but less than 1,000 ppm measured as methane above background as measured using EPA Method 21, shall be repaired within 14 days of detection. Components shall be defined as any valve, fitting, pump, compressor, pressure relief device, diaphragm, hatch, sight-glass, and meter, which are not exempted by Rule 1173.

All pumps, compressors, and drains, a leak greater than 500 ppm but less than 1,000 ppm measured as methane above background as measured using EPA Method 21, shall be repaired within 14 days of detection.

All new valves in VOC service shall be of leakless type, except those specifically exempted by Rule 1173 approved by the District in writing in the following applications:

heavy liquid service, control valves, instrument piping/tubing, applications requiring torsional valve stem motion, applications where valve failures could pose safety hazard (e.g. drain valves with valve stems in horizontal position), retrofits with space limitations, and valves not commercially available at the time of Permit to Construct issuance.

If 98.0 percent or greater of the new valve and the new flange population inspected is found to leak gaseous or liquid volatile organic compounds at a rate less than 200 ppm for two consecutive months, then the operator shall revert to a quarterly inspection program with the approval of the executive officer. This condition shall not apply to leakless valves.

The operator shall keep records of the monthly inspection (and quarterly where applicable), subsequent repair, and reinspection, in a manner approved by the District.

The operator shall provide to the District, no later than 90 days after initial startup, a recalculation of the fugitive emissions based on actual components installed and removed from service. The operator shall also submit a process instrumentation diagram(s) with a listing of all non-leakless type valves categorized by tag no., size, type, service, operating conditions (temperature and pressure), body material, application, and reasons why leakless valves were not used.

For the purpose of this condition, leakless valve shall be defined as a valve equipped with sealed bellow or equivalent as approved in writing by the District prior to installation.

[**RULE 1173, 5-13-1994**; RULE 1173, 12-6-2002; **RULE 1303(a)(1)-BACT, 5-10-1996**; RULE 1303(a)(1)-BACT, 12-6-2002; **RULE 1303(b)(2)-Offset, 5-10-1996**; RULE 1303(b)(2)-Offset, 12-6-2002; **40CFR60, Subpart GGG, 6-7-1985**]
[Systems subject to this condition: Process 1, System 7; Process 2, System 1; Process 15, System 1]

S13.2 All devices under this system are subject to the applicable requirements of the following rules or regulations:

Contaminant	Rule	Rule/Subpart
VOC	District Rule	1123

[Rule 1123, 12-7-1990]
[Systems subject to this condition: Process 1, System 1, 3, 4; Process 2, System 1, 3; Process 3, System 1, 3; Process 4 System 1; Process 5 System 1, 2, 3, 4; Process 6, System 1, 2, 3; Process 7, System 4, 5]

S13.3 All devices under this system are subject to the applicable requirements of the following rules or regulations:

Contaminant	Rule	Rule/Subpart
VOC	District Rule	1166

[Rule 1166, 12-7-1990]
[Systems subject to this condition: Process 13, System 3]

S13.4 All devices under this system are subject to the applicable requirements of the following rules or regulations:

Contaminant	Rule	Rule/Subpart
VOC	District Rule	463

[Rule 463, 5-6-2005]
[Systems subject to this condition: Process 10, System 1]

S15.1 The vent gases from all affected devices of this process/system shall be vented as follows:

All vent gases under normal operating conditions shall be directed to the tail gas treating unit.

This process/system shall not be operated unless the tail gas treating unit is in full use and has a valid permit to receive vent gases from this system.

[Rule 1303(a)(1)-BACT, 5-10-1996; Rule 1303(a)(1)-BACT, 12-6-2002; **Rule 1303(b)(2)-Offset, 5-10-1996**; Rule 1303(b)(2)-Offset, 12-6-2002]
[Systems subject to this condition: Process 7, System 1]

S15.2 The vent gases from all affected devices of this process/system shall be vented as follows:

Until January 1, 2009, or until the flare vapor recovery system is operational, (whichever is earlier), all emergency vent gases shall be directed to a blowdown flare system. This process/system shall not be operated unless the blowdown flare system is in full use and has valid permit to receive vent gases from this system.

After January 1, 2009, or until the flare vapor recovery system is operational (whichever is earlier), all emergency vent gases shall be directed to a blowdown flare system and/or flare vapor recovery system. This process/system shall not be operated unless the blowdown flare system and/or flare vapor recovery system are in full use and have valid permits to receive vent gases from this system.

After January 1, 2009, or until the flare vapor recovery system is operational, (whichever is earlier), all normal vent gases shall be directed to a flare vapor recovery system (Process 15, System 1). This process/system shall not be

operated unless the flare vapor recovery system is in full use and has valid permit to receive vent gases from this system.

[RULE 1303(a)(1)-BACT, 05/10/96; RULE 1303(b)(2)-Offset, 05/10/96]
[Systems subject to this condition: Process 1, System 1, 2, 4, 5, 6, 7; Process 2, System 1, 3, 4; Process 3, System 1; Process 6, System 1, 2, 4, 5, 6, 7; Process 7, System 2; Process 10, System 3; Process 13, System 6; Process 16, System 1, 2, 3]

S15.5 The vent gases from all affected devices of this process/system shall be vented as follows:

All acid gas shall be directed to the Sulfur Recovery Unit (Process 7, System 1) with the standby caustic absorber (Process 6, System6).

<u>This process/system may vent to the standby caustic absorber during start up, shut down and malfunction of the Sulfur Recovery Unit.</u>

This process/system shall not be operated unless the sulfur recovery unit <u>or caustic scrubber</u> is in full use and has a valid permit to receive vent gases from this system.

[Rule 1303(a)(1)-BACT, 5-10-1996; Rule 1303(a)(1)-BACT, 12-6-2002; **Rule 1303(b)(2)-Offset, 5-10-1996**; Rule 1303(b)(2)-Offset, 12-6-2002]
[Systems subject to this condition: Process 6, System 2, 7]

S15.6 The vent gases from all affected devices of this process/system shall be vented as follows:

All sour gas shall be directed to the amine/fuel gas treating unit (Process 6, System 1) with the standby caustic absorber (Process 6, System 6).

This process/system shall not be operated unless the amine/fuel gas treating unit is in full use and has a valid permit to receive vent gases from this system.

[Rule 1303(a)(1)-BACT, 5-10-1996; Rule 1303(a)(1)-BACT, 12-6-2002; **Rule 1303(b)(2)-Offset, 5-10-1996**; Rule 1303(b)(2)-Offset, 12-6-2002]
[Systems subject to this condition: Process 1, System 1, 2, 4, 5, 6; Process 2, System 1, 3, 4]

S15.7 The vent gases from all affected devices of this process/system shall be vented as follows:

All vent gases under normal operating conditions shall be directed to tail gas incinerator.

This process/system shall not be operated unless the tail gas incinerator is in full use and has a valid permit to receive vent gases from this system.

[Rule 1303(a)(1)-BACT, 5-10-1996; Rule 1303(a)(1)-BACT, 12-6-2002; **Rule 1303(b)(2)-Offset, 5-10-1996**; Rule 1303(b)(2)-Offset, 12-6-2002]
[Systems subject to this condition: Process 6, System 6; Process 7, System 2]

S15.10 The vent gases from all affected devices of this process/system shall be vented as follows:

All emergency vent gases shall be directed to tail gas incinerator.

This process/system shall not be operated unless the tail gas incinerator is in full use and has a valid permit to receive vent gases from this system.

[Rule 1303(a)(1)-BACT, 5-10-1996; Rule 1303(a)(1)-BACT, 12-6-2002; **Rule 1303(b)(2)-Offset, 5-10-1996**; Rule 1303(b)(2)-Offset, 12-6-2002]
[Systems subject to this condition: Process 7, System 1]

S15.11 The vent gases from all affected devices of this process/system shall be vented as follows:

All vent gases shall be directed to tail gas incinerator.

This process/system shall not be operated unless the tail gas incinerator is in full use and has a valid permit to receive vent gases from this system.

[Rule 1303(a)(1)-BACT, 5-10-1996; Rule 1303(a)(1)-BACT, 12-6-2002; **Rule 1303(b)(2)-Offset, 5-10-1996**; Rule 1303(b)(2)-Offset, 12-6-2002]
[Systems subject to this condition: Process 13, System 3]

S18.4 All affected devices listed under this process/system shall be used only to receive, recover, and/or dispose of vent gases routed from the system(s) or process(es) listed below, in addition to specific devices identified in the "connected to" column:

Catalytic Reforming Unit (Process: 3, System: 1)
Amine/Fuel Gas Treating Unit (Process: 6, System: 1)
Naphtha Splitter (Process: 1, System: 7)
Isomerization (Penex Plus) Process (Process: 16, System: 1, 2 & 3)

[Rule 1303(a)(1)-BACT, 5-10-1996; Rule 1303(a)(1)-BACT, 12-6-2002; **Rule 1303(b)(2)-Offset, 5-10-1996**; Rule 1303(b)(2)-Offset, 12-6-2002]
[Systems subject to this condition: Process 13, System 6]

S18.5 All affected devices listed under this process/system shall be used only to receive, recover, and/or dispose of vent gases routed from the system(s) or process(es) listed below, in addition to specific devices identified in the "connected to" column:

Treating/Stripping (Process: 6, System: 2 & 7)
~~Air Stripper Tower (Device 504) in (Process: 9, System: 2)~~

[Rule 1303(a)(1)-BACT, 5-10-1996; Rule 1303(a)(1)-BACT, 12-6-2002; **Rule 1303(b)(2)-Offset, 5-10-1996**; Rule 1303(b)(2)-Offset, 12-6-2002]
[Systems subject to this condition: Process 7, System 1]

S18.7 All affected devices listed under this process/system shall be used only to receive, recover, and/or dispose of vent gases routed from the system(s) or process(es) listed below, in addition to specific devices identified in the "connected to" column:

Sulfur Recovery Unit (Process: 7, System: 1 & 2)
Soil Vapor Extraction (Process: 13, System: 3)
Caustic Storage & Scrubbing Unit (Standby for Amine/Fuel Gas Treating & SRU) (Process: 6, System: 6) ***(Note: Consolidated from S18.8.)***

[Rule 1303(a)(1)-BACT, 5-10-1996; Rule 1303(a)(1)-BACT, 12-6-2002; **Rule 1303(b)(2)-Offset, 5-10-1996**; Rule 1303(b)(2)-Offset, 12-6-2002]
[Systems subject to this condition: Process 7, System 3]

~~S18.8~~ ~~All affected devices listed under this process/system shall be used only to receive, recover, and/or dispose of vent gases routed from the system(s) or process(es) listed below, in addition to specific devices identified in the "connected to" column:~~
~~Caustic Storage & Scrubbing Unit (Standby for Amine/Fuel Gas Treating & SRU) (Process: 6, System: 6)~~ ***(Note: See S18.7)***

[Rule 1303(a)(1)-BACT, 5-10-1996; Rule 1303(a)(1)-BACT, 12-6-2002; **Rule 1303(b)(2)-Offset, 5-10-1996**; Rule 1303(b)(2)-Offset, 12-6-2002]
~~[Systems subject to this condition: Process 7, System 3]~~

S31.3 The following BACT requirements shall apply to VOC service fugitive components associated with the devices that are covered by application number(s)

477619 (Naphtha Hydrodesulfurization Unit, HDS #1), 477621 (Naphtha Splitter), 458560 (Flare Vapor Recovery System), 486510, Wastewater Separation Facility (Hydroprocessing Area):

All open-ended lines shall be equipped with cap, blind flange, plug, or a second valve.

All pressure relief valves shall be connected to a closed vent system.

All new light liquid pumps shall utilize double seals.

All compressors shall be equipped with a seal system with a higher pressure barrier fluid.

Prior to start of construction of the Naphtha Splitter, under A/N 477621, the operator shall replace Valve No. 1017 with a bellows-seal valve.

All new valves in VOC service, except those specifically exempted by Rule 1173 and those in heavy liquid service as defined in Rule 1173, shall be bellows seal valves, except as approved by the District, in the following applications: heavy liquid service, control valve, instrument piping/tubing, applications requiring torsional valve stem motion, applications where valve failure could pose safety hazard, retrofits/special applications with space limitations, and valves not commercially available.

All new valves and major components in VOC service as defined by Rule 1173, except those specifically exempted by Rule 1173 and those in heavy liquid service as defined in Rule 1173, shall be distinctly identified from other components through their tag numbers (e.g., numbers ending in the letter "N"), and shall be noted in the records.
All new components in VOC service as defined in Rule 1173, except valves and flanges, shall be inspected quarterly using EPA Reference Method 21. All new valves and flanges in VOC service, except those specifically exempted by Rule 1173, shall be inspected monthly using EPA Reference Method 21.

If 98.0 percent or greater of the new (non-bellows seal) valves and the new flange population inspected is found to leak gaseous or liquid volatile organic compounds at a rate less than 200 ppmv for two consecutive months, then the operator may change to a quarterly inspection program with the approval of the District.

The operator shall revert from quarterly to monthly inspection program if less than 98.0 percent of the new (non-bellows seal) valves and the new flange

population inspected is found to leak gaseous or liquid volatile organic compounds at a rate of less than 200 ppmv.

All components in VOC service except for pumps, compressors, and drains, a leak greater than 200 ppm but less than 1,000 ppm measured as methane above background as measured using EPA Method 21, shall be repaired within 14 days of detection. Components shall be defined as any valve, fitting, pressure relief device, diaphragm, hatch, sight-glass, and meter, which are not exempted by Rule 1173. A leak greater than 1,000 ppm shall be repaired according to Rule 1173.

All pumps, compressors, and drains, a leak greater than 500 ppm but less than 1,000 ppm measured as methane above background as measured using EPA Method 21, shall be repaired within 14 days of detection. A leak greater than 1,000 ppm shall be repaired according to Rule 1173.

The operator shall keep records of the monthly inspection (quarterly where applicable), subsequent repair, and reinspection, in a manner approved by the District. Records shall be kept and maintained for at least five years, and shall be made available to Executive Officer of his authorized representative upon request.

[**Rule 1303(a)(1)-BACT, 5-10-1996**; Rule 1303(a)(1)-BACT, 12-6-2002; **Rule 1303(b)(2)-Offset, 5-10-1996**; Rule 1303(b)(2)-Offset, 12-6-2002]
[Systems subject to this condition: Process 1, System 7; Process 2, System 1; Process 15, System 1]

S31.4 The following BACT requirements shall apply to VOC service fugitive components associated with the devices that are covered by application number(s) 486518 (Diesel Tank Farm Filter):
All open-ended lines shall be equipped with cap, blind flange, plug, or a second valve.

All pressure relief valves shall be connected to a closed vent system.

All new light liquid pumps shall utilize double seals.

All compressors shall be equipped with a seal system with a higher pressure barrier fluid.

All new valves in VOC service, except those specifically exempted by Rule 1173 and those in heavy liquid service as defined in Rule 1173, shall be bellows seal valves, except as approved by the District, in the following applications: heavy liquid service, control valve, instrument piping/tubing, applications requiring torsional valve stem motion, applications where valve failure could pose safety

hazard, retrofits/special applications with space limitations, and valves not commercially available.

All new valves and major components in VOC service as defined by Rule 1173, except those specifically exempted by Rule 1173 and those in heavy liquid service as defined in Rule 1173, shall be distinctly identified from other components through their tag numbers (e.g., numbers ending in the letter "N"), and shall be noted in the records.

All new components in VOC service as defined in Rule 1173, except valves and flanges, shall be inspected quarterly using EPA Reference Method 21. All new valves and flanges in VOC service, except those specifically exempted by Rule 1173, shall be inspected monthly using EPA Reference Method 21.

If 98.0 percent or greater of the new (non-bellows seal) valves and the new flange population inspected is found to leak gaseous or liquid volatile organic compounds at a rate less than **100** ppmv for two consecutive months, then the operator may change to a quarterly inspection program with the approval of the District.

The operator shall revert from quarterly to monthly inspection program if less than 98.0 percent of the new (non-bellows seal) valves and the new flange population inspected is found to leak gaseous or liquid volatile organic compounds at a rate of less than **100** ppmv.

All components in VOC service except for pumps, compressors, and drains, a leak greater than **100** ppm but less than 1,000 ppm measured as methane above background as measured using EPA Method 21, shall be repaired within 14 days of detection. Components shall be defined as any valve, fitting, pressure relief device, diaphragm, hatch, sight-glass, and meter, which are not exempted by Rule 1173. A leak greater than 1,000 ppm shall be repaired according to Rule 1173.

All pumps, compressors, and drains, a leak greater than 500 ppm but less than 1,000 ppm measured as methane above background as measured using EPA Method 21, shall be repaired within 14 days of detection. A leak greater than 1,000 ppm shall be repaired according to Rule 1173.

The operator shall keep records of the monthly inspection (quarterly where applicable), subsequent repair, and reinspection, in a manner approved by the District. Records shall be kept and maintained for at least five years, and shall be made available to Executive Officer of his authorized representative upon request.

[**Rule 1303(a)(1)-BACT, 5-10-1996**; Rule 1303(a)(1)-BACT, 12-6-2002; **Rule 1303(b)(2)-Offset, 5-10-1996**; Rule 1303(b)(2)-Offset, 12-6-2002]
[Systems subject to this condition: Process 10, System 1]

A72.1 The operator shall maintain this equipment to achieve a minimum overall control efficiency of 95 percent for ROG during the normal operation of the equipment it vents.

[Rule 1176, 9-13-1996]
[Devices subject to this condition: C175]

B61.2 The operator shall not use fuel gas containing the following specified compounds:

Compound	ppm by volume
H2S greater than	160

The H2S concentration limit shall be based on a rolling 3-hr averaging period.

[40CFR60 Subpart J, 6-24-2008]
[Devices subject to this condition: C175]

C1.39 The operator shall limit the sulfur feed rate to no more than 50 long tons/day.

For the purpose of this condition, sulfur feed rate shall be defined as the feed rate and content of hydrogen sulfide in the acid gas stream not the output of the Claus plant.

The purpose of this condition is to ensure that the equipment operates in a manner that will not trigger NSPS applicability under modification provisions of 40 CFR 60 Subpart A.

The operator shall maintain records in a manner approved by the District to demonstrate compliance with this condition.

[40 CFR 60 Subpart A, 5/16/2007]
[Devices subject to this condition: D691]

C6.8 The operator shall use this equipment in such a manner that the flow being monitored, as indicated below, does not exceed 400 CFM.

To comply with this condition, the operator shall install and maintain a(n) flow meter to accurately indicate the flow rate of the incinerator inlet vapor stream. In case a pressure sensor device is used in place of flow meter, a conversion chart

shall be made available to indicate the corresponding flow rate, in CFM, to the pressure reading.

[Rule 1303, 3-11-1994; Rule 463, 5-6-2005]
[Devices subject to this condition: D623]

C6.12 The operator shall use this equipment in such a manner that the ~~pH~~ percent spent caustic being monitored, as indicated below, does not exceed 70 percent.

The operator shall monitor the spent caustic concentration of the recirculating NaOH scrubbing solution once a day.

The operator shall maintain records in a manner approved by the District, to demonstrate compliance with this condition.

This condition shall only apply when the exhaust gas from the caustic scrubber (Device C167) is being vented to the flare (Device C396).

[Rule 1304(a)(4)-Periodic Monitoring, 12-12-1997]
[Devices subject to this condition: C167]

C8.1 The operator shall use this equipment in such a manner that the temperature being monitored, as indicated below, is not less than 1400 Deg F.

To comply with this condition, the operator shall install and maintain a (n) temperature gauge to accurately indicate the temperature in the firebox or in the ductwork immediately downstream from the firebox.

The measuring device or gauge shall be accurate to within plus or minus 50 degrees F. It shall be calibrated once every 12 months.

The operator shall also install and maintain a device to continuously record the parameter being measured.

[Rule 1303, 3-11-1994; Rule 3004 5-6-2005]
[Devices subject to this condition: C175]

C8.3 The operator shall use this equipment in such a manner that the flow rate being monitored, as indicated below, is not less than 80 gpm.

The operator shall monitor the flow rate of the recirculating NaOH scrubbing solution once a day.

The operator shall maintain records in a manner approved by the District, to demonstrate compliance with this condition.

This condition shall only apply when the exhaust gas from the caustic scrubber (Device C167) is being vented to the flare (Device C396).

[Rule 3004, 3-11-1994; Rule 463, 5-6-2005]
[Devices subject to this condition: C167]

C8.4 The operator shall use this equipment in such a manner that the temperature being monitored, as indicated below, is not less than 1400 Deg F.

To comply with this condition, the operator shall install and maintain a(n) temperature gauge to accurately indicate the temperature in the firebox or in the ductwork immediately downstream from the firebox.

The measuring device or gauge shall be accurate to within plus or minus 50 degree F. It shall be calibrated once every 12 months.
The operator shall install and maintain a device to continuously record the parameter being measured.
[Rule 1303, 3-11-1994; Rule 3004 5-6-2005]
[Devices subject to this condition: C175]

D28.3 The operator shall conduct source test(s) in accordance with the following specifications:

The test shall be conducted within 60 days after achieving maximum production rate, but no later than 180 days after initial start-up.

The District shall be notified of the date and time of the test at least 10 days prior to the test.

The test shall be conducted to determine the Benzene at the inlet and outlet.

The test shall be conducted to determine the VOC emissions at the inlet and outlet.

[Rule 1303, 3-11-1994; Rule 3004 5-6-2005]
[Devices subject to this condition: C175]

D90.4 The operator shall sample and analyze the SOx concentration of outlet of the tank truck according to the following specifications:

The operator shall sample at the outlet of the tank truck, once the loading rack is

in operation (not in the idled mode), and analyze to determine compliance with sulfur compounds concentration limit of Rule 407.

[Rule 3004, 3-11-1994; Rule 463, 5-6-2005]
[Devices subject to this condition: D250]

D90.7 The operator shall continuously monitor the H2S concentration in the fuel gases before being burned in this device according to the following specifications:

The operator shall use an NSPS Subpart J approved instrument meeting the requirements of 40CFR60 Subpart J to monitor the parameter.

The operator shall also install and maintain a device to continuously record the parameter being monitored.

The operator may monitor the H2S concentration at a single location for fuel com bustion devices, if monitoring at this location accurately represents the concentration of H2S in the fuel gas being burned in this device.

D323.1 The operator shall conduct an inspection for visible emissions from all stacks and other emission points of this equipment whenever there is a public complaint of visible emissions, whenever visible emissions are observed, and on a bi-weekly basis whenever fuel oil is burned. The routine bi-weekly inspection shall be conducted while the equipment is in operation and during daylight hours.

If any visible emissions (not including condensed water vapor) are detected that last more than three minutes in any one hour, the operator shall verify and certify within 24 hours that the equipment causing the emission and any associated air pollution control equipment are operating normally according to their design and standard procedures and under the same conditions under which compliance was achieved in the past, and either:

1) Take corrective action(s) that eliminates the visible emissions within 24 hours and report the visible emissions as a potential deviation in accordance with the reporting requirements in Section K of this permit; or

2) Have a CARB-certified smoke reader determine compliance with the opacity standard, using EPA Method 9 or the procedures in the CARB manual "Visible Emissions Evaluation", within three business days and report any deviations to AQMD.

The operator shall keep the records in accordance with the recordkeeping requirements in Section K of this permit and the following records:

1) Stack or emission point identification;

2) Description of any corrective actions taken to abate visible emissions;

3) Date and time visible emission was abated; and

4) All visible emission observation records by operator or a certified smoke reader.

This condition shall become effective when the initial Title V permit is issued.

[Rule 3004(a)(4)-Periodic Monitoring, 12-12-1997; Rule 401, 11-9-2001]
[Devices subject to this condition: C175]

E17.1 The operator shall not use more than 1 of the following items simultaneously:
Device ID: D65 [Compressor, C-120, Clark, Reciprocating, IC driven (common to Kerosene HDS Unit)]

Device ID; D64 [Compressor, C-124, Worthington, Reciprocating, 1-Stage, 700 hp (common to Kerosene HDS)]

This condition shall not apply when changeover takes place from one compressor to another, for 1 hour.

[Rule 463, 3-11-1994; Rule 463, 5-6-2005]
[Devices subject to this condition: D64, D65]

E71.4 The operator shall not use this equipment to treat vapors containing halogenated HC compounds.

[Rule 1401, 3-4-2005]
[Devices subject to this condition: C175]

E336.1 The operator shall vent the vent gases from this equipment as follows:

All vent gases shall be directed to the ~~air stripper column (Device D504) or to the~~ tail gas incinerator (Device C175).

This equipment shall not be operated unless the tail gas incinerator (Device C175) are in full use and have a valid permit to receive vent gases from this equipment.

[Rule 1303(a)(1)-BACT, 5-10-1996; Rule 1303(a)(1)-BACT, 12-6-2002]
[Devices subject to this condition: C167, D142]

Note: D142, lean amine surge tank has always been present and is allowed to vent to H-402 per original permit A/N 104015.

E336.2 The operator shall vent the vent gases from this equipment as follows:

All vent gases shall be directed to the ~~tail gas incinerator (C175)~~ Sulfur Recovery Unit.

This equipment shall not be operated unless the ~~tail gas incinerator (C175)~~ Sulfur Recovery Unit is in full use and has a valid permit to receive vent gases from this equipment.

This equipment may vent to the tail gas incinerator during start up, shut down and malfunction of the Sulfur Recovery Unit.

[Rule 1303, 3-11-1994; Rule 463, 5-6-2005]
[Devices subject to this condition: D168, D169, D504, D843]

E336.5 The operator shall vent the vent gases from this equipment as follows:

All vent gases shall be directed to the fuel gas system.

This equipment shall not be operated unless the fuel gas system is in full use and has a valid permit to receive vent gases from this equipment.

[Rule 1303, 3-11-1994; Rule 463, 5-6-2005]
[Devices subject to this condition: D41, D42, D54, D64]

E336.6 The operator shall vent the vent gases from this equipment as follows:

All vent gases shall be directed to the Sulfur Recovery Unit.

This equipment shall not be operated unless the tail gas incinerator (C175), Sulfur Recovery Unit, or back up carbon is in full use and has a valid permit to receive vent gases from this equipment.

This equipment may vent to the tail gas incinerator or back up carbon during start up, shut down and malfunction of the Sulfur Recovery Unit.

[Rule 1303, 3-11-1994; Rule 463, 5-6-2005]
[Devices subject to this condition: [D261, D262]

H23.2 This equipment is subject to the applicable requirements of the following rules or

regulations:

Contaminant	Rule	Rule/Subpart
VOC	District Rule	1173

[**Rule 1173, 5-13-1994**; Rule 1173, 12-6-2002]
[Devices subject to this condition:]

H23.4 This equipment is subject to the applicable requirements of the following rules or regulations:

Contaminant	Rule	Rule/Subpart
H2S	40CFR60Subpart	J

[40CFR60 Subpart J, 6-24-2008]
[Devices subject to this condition: C175]

H23.13 This equipment is subject to the applicable requirements of the following rules or regulations:

Contaminant	Rule	Rule/Subpart
VOC	District Rule	1176
VOC	40CFR60, SUBPART	QQQ

[Rule 1176, 9-13-1996; 40CFR60 Subpart QQQ, 5-5-1989]
[Devices subject to this condition: D648]

H23.21 This equipment is subject to the applicable requirements of the following rules or regulations:

Contaminant	Rule	Rule/Subpart
VOC	District Rule	1176

[Rule 1176, 9-13-19946]
[Devices subject to this condition:]

H23.23 This equipment is subject to the applicable requirements of the following rules or regulations:

Contaminant	Rule	Rule/Subpart
VOC	District Rule	1173
VOC	40CFR60, SUBPART	GGG

[**Rule 1173, 5-13-1994;** RULE 1173, 6-1-2007; **40CFR60 Subpart GGG, 6-7-1985**]
[Devices subject to this condition: D723, D726, D733, D744]

H23.24 This equipment is subject to the applicable requirements of the following rules or regulations:

Contaminant	Rule	Rule/Subpart
VOC	District Rule	1173
VOC	40CFR60, SUBPART	GGGa

[**Rule 1173, 5-13-1994;** RULE 1173, 6-1-2007; **40CFR60 Subpart GGGa, 6-2-2008**]
[Devices subject to this condition: D610, D808, D809]

I1.2 The operator shall comply with all the requirements of the Stipulated Order for Abatement, Case No. 2914-72, dated October 14, 2004, in accordance with the Findings and Decisions of the Hearing Board or as subsequently modified by the Hearing Board. The operator shall submit progress reports at least semi-annually, or more frequently if specified in the Findings and Decisions. The progress reports shall contain dates for achieving activities, milestones or compliance required in the schedule of compliance and dates when such activities, milestones or compliance were achieved; and an explanation of why any dates in the schedule of compliance were not, or will not be met, and any preventative or corrective measures adopted.

[Rule 3004(a)(10)(C) 12-12-1997]
[Devices subject to this condition: D29, D44, D45, D46, C175C531]

I1.3 The operator shall comply with all the requirements of the Stipulated Order for Abatement, Case No. 2914-90, dated August 26, 2008, in accordance with the Findings and Decisions of the Hearing Board or as subsequently modified by the Hearing Board. The operator shall submit progress reports at least semi-annually, or more frequently if specified in the Findings and Decisions. The progress reports shall contain dates for achieving activities, milestones or compliance required in the schedule of compliance and dates when such activities, milestones or compliance were achieved; and an explanation of why any dates in the schedule of compliance were not, or will not be met, and any preventative or corrective measures adopted.

[Rule 3004(a)(10)(C) 12-12-1997]
[Devices subject to this condition: C175]

BACKGROUND

Paramount Petroleum Corporation (Paramount) operates a petroleum refinery located at 14700 Downey Avenue in the city of Paramount in the southern portion of Los Angeles County. Paramount processes crude oil into marketable products including gasoline, diesel fuel, jet fuel and other products. Emission sources at the refinery include combustion sources (heaters, boilers, and IC engines), fugitive components (pumps, valves, flanges, compressors, drains, etc.), cooling towers, storage tanks, flares and loading/unloading facilities. The South Coast Air Quality Management District (AQMD) identification number for the facility is 800183.

Paramount operates several incinerators at the refinery, one of which serves as an air pollution control device to control emissions of volatile organic compounds (VOC) and hydrogen sulfide (H_2S) from the refinery. The subject incinerator is the Tail Gas Treatment Unit Incinerator H-402 (Device ID C175).

Sulfur-laden gases from the refining process are directed to the Sulfur Recovery Unit, followed by the Tail Gas Unit. The exhaust stream from the Tail Gas Unit goes to Incinerator H-402 for final treatment. Several other streams are currently treated by H-402, including but not limited to streams coming from the refinery's caustic scrubber, WEMCO/cistern, caustic truck loading vapor recovery, Tanks 1000/1001, waste water stripper (these streams are collectively referred to as "miscellaneous refinery gas streams").

Some of the equipment at the refinery is subject to District Regulation IX, "New Source Performance Standards," which incorporates by reference the new source performance standards (NSPS) set forth in the Code of Federal Regulations at 40 CFR 60. Subpart J of the NSPS contains performance standards for new sources at petroleum refineries and is generally applicable to (a) fluid catalytic cracking unit catalyst regenerators at petroleum refineries, construction or modification of which commenced after June 11, 1973, (b) fuel gas combustion devices at petroleum refineries, construction or modification of which commenced after June 11, 1973, and (c) Claus sulfur recovery plants at petroleum refineries, construction or modification of which commenced after October 4,1976.

The Sulfur Plant NSPS is inapplicable to the refinery because Paramount's SRU was constructed in1973, prior to the applicability date of the Sulfur Plant NSPS and has not been modified to the extent that triggers its applicability. The exhaust stream from the tail gas unit that is combusted in H-402 is not subject to the Fuel Gas NSPS.

The District asserts that the "miscellaneous refinery gas streams" connected to and combusted by Incinerator H-402 are subject to the NSPS Subpart J Fuel Gas standards due to the modification of H-402 after the Subpart J applicability date.

H-402 was modified by increasing the burner rating and adding additional sulfur vent streams after the applicability date, and this modification was not part of or the continuation of the

original refinery expansion project. Therefore, the modifications between the mid-1970s to the present triggered the applicability of the Fuel Gas standards of NSPS as set forth in 40 CFR 60.100(b). The District further asserts that Paramount violates District Regulation IX whenever the concentration of H_2S in the "miscellaneous refinery gas streams" being combusted by H-402 is in excess of the concentration allowed by the Fuel Gas NSPS. Paramount disputes the District's interpretation and contends that the "miscellaneous refinery gas streams" are exempt from the Fuel Gas NSPS because they are specifically excluded form the definition of a "modification" that would trigger applicability of the Fuel Gas NSPS by both the alternative fuels exemption, 40 CFR 61/14(e)(4), and the air pollution reduction exemption, 40 CFR 60.14(e)(5). See Appendix A for the summary of the history of the construction and modification of the Incinerator H-402.

On August 26, 2008, the AQMD Hearing Board issued Stipulated Order for Abatement (Case No. 2914-90) requiring Paramount to implement a project to ensure that future emissions from the "miscellaneous refinery gas streams" connected to and combusted by Incinerator H-402 meet the federal requirements of the fuel gas NSPS.

Therefore, as required by the Stipulated Order for Abatement (Case No. 2914-90), Paramount is proposing to reroute certain process vent with high hydrogen sulfide (H_2S) content from H-402 Tail Gas Incinerator to the front of the Sulfur Recovery Unit (SRU). A copy of the Stipulated Order for Abatement and Findings and Decision of the Hearing Board Case No. 2914-90 is included in Attachment 1.
Additionally, this engineering evaluation summarizes and amends past requests made by Paramount for permit corrections to process units that are or were connected to H-402.

Lastly, an application is included for the installation of a tank farm diesel filter. Paramount requested that this be included in this project.

AQMD received the application package on August 19, 2008. Paramount submitted supplemental information from August 29, 2008 to May 11, 2009. Table 1 lists the applications submitted along with the equipment information and proposed permitting action requested. Table 2 lists permit processing tracking information and fees.

Table 1: LIST OF APPLICATIONS COVERED
IN THIS ENGINEERING EVALUATION

	A/N	*Equipment Description (Dev ID No)*	*Process No./System No*	*Proposed Permit Action*
1	364594	Storage Tanks T-1000 & T-1001, D168, D169	P6/S6 Treating/Stripping/ Caustic Storage and Scrubbing	To be canceled and superseded by A/N 486513
2	364595	Storage Tank T-1001, D169	P6/S6 Treating/Stripping/	Will be processed for Tank T-1001

	A/N	*Equipment Description (Dev ID No)*	*Process No./System No*	*Proposed Permit Action*
			Caustic Storage and Scrubbing	
3	419962	Treating/Stripping/Amine Regeneration Unit	P6/S7 Treating/Stripping/ Amine Regeneration Unit	Will be canceled and superseded by A/N 482640
4	419963	Caustic Loading Rack, Dxxx	P8/Sx Loading/Unloading Facilities	Will be canceled and superseded by A/N 486514
5	436714	Sulfur Recovery Unit	P7/S1 Sulfur Recovery Unit	Will be canceled and superseded by A/N 486507
6	436715	Sulfur Truck Loading Rack	P8/S26 Loading/Unloading Facilities/Sulflur Truck Loading Rack	To vent the sulfur rack vapor recovery to the sulfur pit via eductor
7	436741	Tail Gas Incinerator, H-402, C175	P7/S3 Sulfur Recovery Unit/Tail Gas Incinerator	To correct vents received and rating of the incinerator
8	437033	Wemco (D262), Cistern (D261), Wastewater Stripper (D504)	P9/S2 Oil and Water Separation System/Wastewater Separation Facility	To be canceled and superseded by A/N 486510
9	437034	Compressor C-124 (D64), Compressor C-120 (D65), Salt Dryer D-319 (Dxxx)	P2/S4 Hydrotreating/Gas Oil Hydro	To vent compressor crankcase and packing vents to the fuel gas system
10	437035	Compressor C-121 (D54)	P2/S3 Hydrotreating/Kerosene Hydro	To vent compressor crankcase and packing vents to the fuel gas system.
11	437036	Compressor C-301 (D41), Compressor C-302 (D42)	P2/S1 Hydrotreating/Naphtha Hydro	To vent compressor crankcase and packing vents to the fuel gas system.
12	438727	Amine/Fuel Gas Treating Unit	P6/S1 Treating/Stripping/ Amine/Fuel Gas Treating Unit	To be canceled. Application not needed & was filed erroneously.
13	438730	Wemco (D262), Cistern (D261), Wastewater Stripper (D504)	P9/S2 Oil and Water Separation System/Wastewater Separation	To be canceled and superseded by A/N 486510
14	482640	Amine Regeneration Unit	P6/S7 Treating/Stripping/ Amine Regeneration Unit	To vent to stand-by caustic absorber during emergency

	A/N	*Equipment Description (Dev ID No)*	*Process No./System No*	*Proposed Permit Action*
15	485566	Sour Water Stripper (D144)	P6/S2 Treating/Stripping/ Sour Water Stripper	To vent to stand-by caustic absorber during emergency
16	486507	Sulfur Recovery Unit	P7/S1 Sulfur Recovery Unit	Modify SRU to allow wastewater and caustic vent to SRU
17	486510	Wemco (D262), Cistern (D261), Wastewater Stripper (D504)	P9/S2 Oil and Water Separation System/Wastewater Separation	To vent the Wemco & Cistern to the front of the SRU
18	486513	Caustic Scrubber (C167)	P6/S6 Treating/Stripping/ Caustic Storage and Scrubbing	To allow to receive emergency vent from amine regeneration unit and sour water stripper
19	486514	Caustic Loading Rack	P8/Sx Loading/Unloading Facilities	Add caustic loading rack, vent to SRU, emergency vent to H-402
20	486516	Fuel Gas System	P13/S6 Miscellaneous/Fuel Gas Mix Drum	Allow fuel gas system to receive vent from compressor crank case and packing vents
21	486518	Diesel Tank Farm Filter	P10/S1 Fixed Roof Tank	New construction

Table 2: PERMIT ADMINISTRATION & APPLICATION TRACKING INFORMATION

	A/N	*Equipment Description*	*Status/ Type*	*BCAT/ CCAT*	*Previous A/N*	*Fee Paid*
1	364594	Storage Tanks T-1000 & T-1001, D168, D169	21/50	4B	104014	$3,400.65
2	364595	Storage Tank T-1001, D169	21/50	96	104012	$3,400.65
3	419962	Treating/Stripping /Amine Regeneration Unit	21/50	91	104015	$4,622.78
4	419963	Caustic Loading Rack, Dxxx	21/30	221105	221105	$2,117.61
5	436714	Sulfur Recovery Unit	20/50	289620	417098	$19,076.87
6	436715	Sulfur Truck Loading Rack	20/50	289112	104011	$2,437.95

	A/N	*Equipment Description*	*Status/ Type*	*BCAT/ CCAT*	*Previous A/N*	*Fee Paid*
7	436741	Tail Gas Incinerator, H-402, C175	20/50	96	368540	$3,364.77
8	437033	Wemco (D262), Cistern (D261), Wastewater Stripper (D504)	21/50	294904	419617	$526.11
9	437034	Compressor C-124 (D64), Compressor C-120 (D65), Salt Dryer D-319 (Dxxx)	21/50	000528	481144	$7,706.70
10	437035	Compressor C-121 (D54)	21/50	000528	481142	$7,706.70
11	437036	Compressor C-301 (D41), Compressor C-302 (D42)	21/50	000529	477619	$3,543.20
12	438727	Amine/Fuel Gas Treating Unit	21/50	25500	458562	$2,312.01
13	438730	Wemco (D262), Cistern (D261), Wastewater Stripper (D504)	21/50	294962	419617	$5,802.71
14	482640	Amine Regeneration Unit	20/60	91	104015	$3,008.18
15	485566	Sour Water Stripper (D144)	20/60	95	419636	$3,008.18
16	486507	Sulfur Recovery Unit	20/50	289620	417098	$31,476.84
17	486510	Wemco (D262), Cistern (D261), Wastewater Stripper (D504)	20/50	294800	171548	$6,717.77
18	486513	Caustic Scrubber (C167)	20/50	40	104014	$3,077.28
19	486514	Caustic Loading Rack	21/30	221105	419963	$4,103.04
20	486516	Fuel Gas Mix Drun	21/50	000522	447315	$6,717.77
21	486518	Diesel Tank Farm Filter	20/10	29950	N/A	$3,077.28
	TOTAL					***$123,917.82***

COMPLIANCE RECORD REVIEW

A review of the AQMD Compliance Database showed 39 Notices of Violation (NOV) and Notices to Comply (NC) issued to Paramount in the past five years (07/01/04 – 07/29/09). All notices are either closed or in compliance status. The notices that are not marked closed in the database are now in compliance status. The Stipulated Orders for Abatement (SOFA) are either closed or will be closed upon issuance of certain permits. Paramount is on a schedule to compliance on the Variance Cases. Table 3 lists the compliance summary of SOFA and Variances. A summary of the NOV and NC is provided in Attachment 2.

Table 3: COMPLIANCE SUMMARY OF ORDERS FOR ABATEMENT AND VARIANCES

Stipulated Order for Abatement/Variance Case No.	***Description***	***Status***
SOFA 2914-72	Crude Unit Heater Duty – SCR Installations	SCR has been installed on H-101/102/501/502 and placed in operation on 2/16/09. Paramount will be in full compliance with the order upon issuance of permits for Incinerators H-402 and H-907. This SOFA is discussed further below.
SOFA 2914-90	H-402 NSPS Sub J Fuel Gas Standard Applicability	Paramount will be in compliance with the order upon issuance of permits to reroute the vents from Tail Gas Incinerator H-402 to the front of the Sulfur Recovery Unit. This is the subject of this engineering evaluation.
SOFA 2914-91	Clean Fuels Leakless Valves	Valves replaced during turnaround. Paramount in full compliance with the order.
Variance 2914-87	Flare CEMS	Completing Increments of Progress. Complete by 10/9/09. In compliance with variance conditions.
Variance 2914-93 2914-96	Reformer By-pass Stacks	Original variance (2914-93) to perform turnaround work with bypasses open is complete and variance has ended. Variance 2914-96 allows limited use of bypass stacks through 6/15/10. Paramount is pursuing rule amendment.
Variance 2914-94	Turnaround work on wastewater system	Work completed. Variance terminated.
Variance 2914-95	Flare Gas Recovery System (FGRS) Startup	FGRS operating. Variance terminated.
Variance 2914-100	Operate H-501/502 without SCR while repairs are made	Repairing heaters H-101/102 and common SCR to H-101/102/501/502. Regular variance hearing scheduled for 6/11/09. In compliance with variance conditions.

Stipulated Order for Abatement Case No. 2914-72

In August 2004, the AQMD issued four Notices of Violation to Paramount alleging violations of AQMD Rule 203(a) for four heaters and two incinerators. The heaters and incinerators were periodically exceeding the firing rates (in MMBtu/hr) specified in the equipment descriptions of Paramount's facility permit. The AQMD alleged that these equipment descriptions constitute permit conditions that are enforceable through AQMD Rules 202, 203, and 2004(f).

Paramount was required to install ultra low-NOx burners (ULNB), which meet a NOx concentration limit of 15 ppmv, on the following heaters: H-601, H-602 H-802 and H-805. Paramount has completed installation of these burners. Paramount is also required to install Selective Catalytic Reduction (SCR) emission control technology to reduce the NOx emissions for heaters H-601 and H-802 (or substitute heater) to 5 ppmv or less. Paramount has completed the installation of the SCR for H-601. In place of H-802, Paramount has elected to install SCR for H-101, H-102 and H501/H502. Paramount was also required and had already submitted permit applications to change the permitted firing rate limits for Incinerators H-402 and H-907. The change in the firing rate for Incinerator H-402 is addressed in this engineering evaluation and the change in the firing rate for H-907 is covered separately under Application No. 435397. Paramount will be in full compliance with the order upon issuance of permits for Incinerators H-402 and H-907.

PERMIT HISTORY

SULFUR RECOVERY UNIT, A/N 486507

Permit to Construct		***Permit to Operate***		***Description of Permitting Activity***
A/N	***Issue Date***	***No***	***Issue Date***	
A-75171	04/06/73		Denied 10/23/75	PC for original construction of 25 LTD Claus SRU. PO denied for nuisance violations
C02392	12/16/75	M03696	4/24/78	Modifications to improve reliability
104013		M32813	9/16/83	Change of ownership from Douglas to Paramount
104013		R-M32813	4/27/84	Pacific Oasis to Paramount
139654		M60250	2/02/88	Replace Vessel D414 with identical Vessel D416
417098	08/13/03		8/13/03	Administrative changes to correct description of certain devices to reflect actual descriptions from the Command and Control permit.

TAIL GAS UNIT INCINERATOR, H-402, A/N 436741

Permit to Construct		***Permit to Operate***		***Description of Permitting Activity***
A/N	***Issue Date***	***No***	***Issue Date***	
			5/20/68	Original Construction
C02396	12/29/75	M03695	4/27/78	To increase rating from 5 to 10 MMBtu/hr and construct a taller stack
104012	9/16/83	M32812	9/16/83	Change of ownership from Douglas to Pacific Oasis
104012	4/27/84	R-M32812	4/27/84	Pacific Oasis to Paramount
368539	1/17/01			To vent soil vapor extraction system to the incinerator

SULFUR TRUCK LOADING RACK, A/N 436715

Permit to Construct		***Permit to Operate***		***Description of Permitting Activity***
A/N	***Issue Date***	***No***	***Issue Date***	
A-79443	3/27/74			PC denied
C02390		M03536	4/7/76	Douglas Oil Company
104011		M32811	9/16/83	Change of ownership from Douglas to Pacific Oasis
104011		R-M32811	4/27/84	Pacific Oasis to Paramount

GAS OIL HDS #3, A/N 437034

Permit to Construct		***Permit to Operate***		***Description of Permitting Activity***
A/N	***Issue Date***	***No***	***Issue Date***	
C25693		M24870		Douglas Oil Company
104249		M32841	9/16/83	Change of ownership from Douglas to Pacific Oasis
104249		R-M32841	4/27/84	Pacific Oasis to Paramount
301902		F22052		To upgrade Gas Oil HDS to increase production of the low sulfur gas oil and diesel fuel products.
481144			7/25/08	Admin change to modify equipment description on existing compressor

KEROSENE HDS #5, A/N 437035

Permit to Construct		***Permit to Operate***		***Description of Permitting Activity***
A/N	***Issue Date***	***No***	***Issue Date***	
C02388		M04013		Douglas Oil Company

Permit to Construct		*Permit to Operate*		*Description of Permitting Activity*
A/N	*Issue Date*	*No*	*Issue Date*	
104018		M32818	9/16/83	Change of ownership from Douglas to Pacific Oasis
104018		R-M32818	4/27/84	Pacific Oasis to Paramount
175679		D11655	11/8/89	
236157		D34261	11/28/90	To add compressor
419630		F68723	5/29/04	Administrative change to correct equipment description
481142			7/25/08	Administrative change to equipment description

NAPHTHA HDS #1, A/N 437036

Permit to Construct		*Permit to Operate*		*Description of Permitting Activity*
A/N	*Issue Date*	*No*	*Issue Date*	
C02387		M04014		Douglas Oil Company
104019		M32819	9/16/83	Change of ownership from Douglas to Pacific Oasis
104019		R-M32819	4/27/84	Pacific Oasis to Paramount
415932		F62276		Administrative change to correct equipment description
477619			7/25/08	Modification to add an overhead accumulator vessel and adding existing compressor

AMINE REGENERATION UNIT, A/N 482640

Permit to Construct		*Permit to Operate*		*Description of Permitting Activity*
A/N	*Issue Date*	*No*	*Issue Date*	
A-79442				Douglas Oil Company
104015			9/16/83	Change of ownership from Douglas to Pacific Oasis
104015			4/27/84	Pacific Oasis to Paramount
458562	7/25/08			Modification due to the installation of the new flare gas vapor recovery system

SOUR WATER STRIPPER, A/N 485566

Permit to Construct		*Permit to Operate*		*Description of Permitting Activity*
A/N	*Issue Date*	*No*	*Issue Date*	
C02395		M04016	5/25/78	Douglas Oil Company

Permit to Construct		*Permit to Operate*		*Description of Permitting Activity*
A/N	*Issue Date*	*No*	*Issue Date*	
104021		M32821	9/16/83	Change of ownership from Douglas to Pacific Oasis
104021		R-M32821	4/27/84	Pacific Oasis to Paramount
419636		F83863		Administrative change to correct equipment description

WASTEWATER, A/N 486510

Permit to Construct		*Permit to Operate*		*Description of Permitting Activity*
A/N	*Issue Date*	*No*	*Issue Date*	
A29047		P13726	4/19/66	Replace water collection pit
104257		M59466	9/16/83	Change of ownership from Douglas to Pacific Oasis
104257		R-M59466	4/27/84	Pacific Oasis to Paramount
171548	8/05/88	D10846	10/17/89	Installation of steel cover
243931		D38189	5/7/91	Inactive
302403	7/11/95	D99679	5/30/96	Modification of sump, separators, pumps, etc.

CAUSTIC SCRUBBER, A/N 486513

Permit to Construct		*Permit to Operate*		*Description of Permitting Activity*
A/N	*Issue Date*	*No*	*Issue Date*	
C02795	2/10/76	M03770	4/28/78	Douglas Oil Company
104014		M32814	9/16/83	Change of ownership from Douglas to Pacific Oasis
104014		R-M32814	4/27/84	Pacific Oasis to Paramount
328832			2/26/98	Modification of Caustic Wash Tower W-206 by providing capability to vent to H-402

FUEL GAS SYSTEM, A/N 486516

Permit to Construct		*Permit to Operate*		*Description of Permitting Activity*
A/N	*Issue Date*	*No*	*Issue Date*	
104029		M32829	9/16/83	Change of ownership from Douglas to Pacific Oasis
104029		R-M32829	4/27/84	Pacific Oasis to Paramount
202950		D12472	12/1/89	To add devices inadvertently left off the existing permit.

Permit to Construct		*Permit to Operate*		*Description of Permitting Activity*
A/N	*Issue Date*	*No*	*Issue Date*	
243700	3/31/92	D62924	9/29/92	Modify to add Drums D-712, D-713, D-714 and pumps P-763A and P-764B
424096	6/16/04			Change of condition to allow the addition of new sweet fuel gas vent streams from the new Penex Plus and Naphtha Splitter Units.
447315	12/22/05			Admin change to add condition S15.2 specifying that vent gas from the fuel gas system would be routed to the refinery flare system (Process 15, System 2) in emergency conditions.

FACILITY, EQUIPMENT AND NEAREST RECEPTOR LOCATION

This project is located within the boundary of the Paramount Refinery which resides at 14700 Downey Avenue in the City of Paramount. The refinery is bounded by Contreras street on the north, Downey Avenue on the west, Somerset Boulevard on the south and Lakewood Boulevard on the east. The refinery occupies approximately a half of the total acreage of the area known as the Somerset Ranch Area in the 1990 Paramount General Plan. The area is designated as mixed use that includes a combination of residential, commercial, and industrial and public uses.

The refinery is bounded on the north by Wirtz Elementary School and Cinderella Mobil Home Community along Contreras Avenue. A single-family residential neighborhood is located along Castana Avenue. There an Albertsons supermarket and a Walmart along Lakewood Boulevard. The Hazy 8 Motel, two trailer parks and a mix of commercial and light industrial uses are located to the east of the facility. Commercial businesses and single-family residences are located along Somerset Boulevard south of the site. The Southern Pacific railroad tracks and Departments of Water and Power easement separate the refinery from a commercial self-storage facility, the Somersatt Village condominiums and single-family neighborhood southwest of the site. The railroad tracks and electrical easement continue northwest across Downey Avenue and separate single and multiple-family residences located west of the site from Paramount High School on the northwest.

As described above, the nearest residential and commercial receptor locations are adjacent to the refinery. All of permit units proposed for this project are located within 1000 feet from the outer boundaries of two schools – Wirtz Elementary and Paramount High School. The other schools located nearest to the refinery include the Albert Baxter Elementary School, Paramount High School (West Campus) and Park Elementary School.

PROCESS AND PROJECT DISCUSSION

A. H-402 Project as Required by Stipulated Order for Abatement

Sulfur Recovery Unit (SRU) A/N 436714, A/N 486507

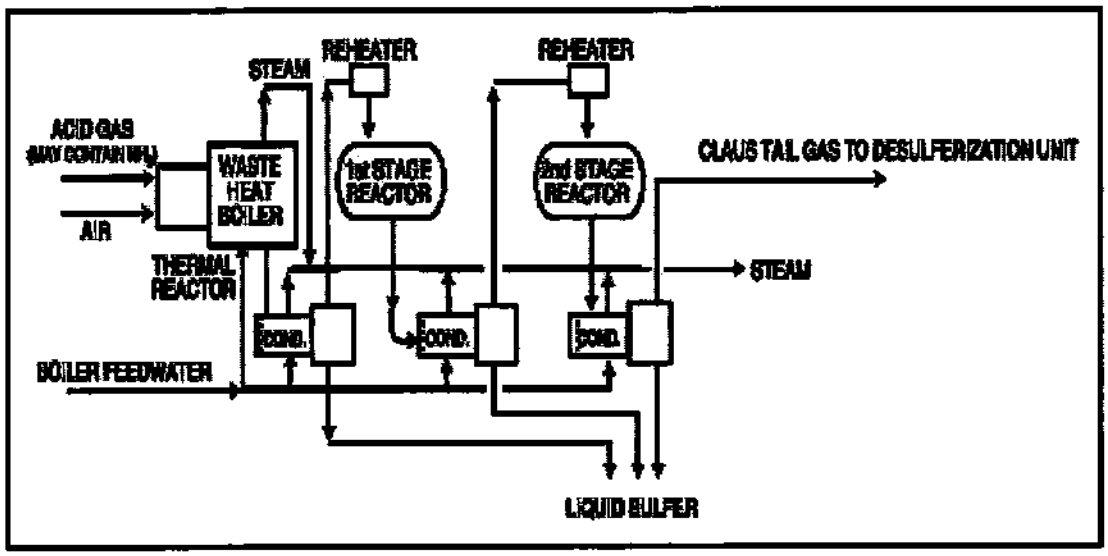
Hydrogen Sulfide, a by product of crude oil and natural gas processing, is recovered and converted to elemental sulfur by the Claus process. A typical Claus Sulfur Recovery Unit is shown below. First, one third of the H_2S is burned, limited by air supply, in a furnace to form SO_2. Second, the SO_2 and remaining H_2S enter a reactor where they form water and sulfur. The following equations illustrate these reactions.

$$2\,H_2S + 3O_2 \longrightarrow 2\,SO_2 + 2H_2O$$

$$2\,H_2S + SO_2 \longrightarrow 3S + 2H_2O$$

The sulfur vapors are cooled in a condenser and the liquid sulfur flows to a sulfur pit. The unreacted gases enter a series of reheaters, reactors and condensers to complete the reaction. The liquid sulfur from each of the condensers flows to the sulfur pit.

The unreacted gases which leave the third condenser are called the tail gases. They will include H_2S, SO_2 and elemental sulfur. In most cases, these will require final tail gas treatment for sulfur removal before they can be discharged.



(Source: Based on U.S. EPA Office of General Enforcement, *Petroleum Refinery Enforcement Manual*, 1980.)

Paramount operates a 50-long ton per day (LTD) Sulfur Recovery Unit consisting of one reaction furnace, two reactors (reheaters), two catalytic converters and three condensers. The final tail gas treatment uses the SCOT reduction scrubbing process. The tailgases are then incinerated in the H-402 Incinerator. Although the original Permit to Construct for the SRU issued on April 6, 1973 listed a capacity of 25 LTD, the District has determined that the original permit was incorrectly based on the nominal design of the capacity, rather than on the maximum design capacity of 50 LTD. See Appendix B for a summary of the District's complete review of the permitting files relating to the SRU.

This project involves removing five refinery process vent streams from H-402 incinerator, and redirecting these streams to the SRU. The vent streams will be blended with and replace a portion of the combustion air normally sent to the SRU reaction furnace.

The first stream is the air from the W-203 wastewater stripper. This stream will be sent through a knock-out (KO) drum to remove any condensate or water, and then pressured to the SRU reaction furnace inlet. SRU shutdown will divert this stream back to the H-402 incinerator. The second and third streams are the vapors from the WEMCO and the cistern, both part of the Hydroprocessing wastewater system. The fourth and fifth streams are the vapors from the reacted caustic tanks T-1000 & T-1001 and the spent caustic truck loading vapor recovery system. These streams are available at too low a pressure to be introduced to the SRU directly. Therefore, these streams will be sent to KO drum to remove any water, and will then be compressed to a pressure high enough to allow introduction to the SRU reaction furnace. These vapors will also be blended with the combustion air normally sent to the SRU reaction furnace. Two compressors will be provided, providing 100% spare capacity. Either SRU shutdown or compressor shutdown will divert these streams back to the H-402.

The sulfur pit (D172), is currently permitted as being connected to the Tail Gas Incinerator. Under this application an eductor driven by an air blower will be added to the existing vapor return line to more effectively move vapors to the incinerator for destruction.

H-402 Tail Gas Incinerator, A/N 436741

The incinerator follows the SCOT process for conversion of H_2S to SO_2 before the tail gas is vented to the atmosphere. Paramount operates this incinerator at 1400°F or higher to assure complete conversion to SO_2.

As required by the Stipulated Order for Abatement (Case No. 2914-90) issued by the AQMD Hearing Board on August 26, 2008, this report is to evaluate Paramount's proposal to reroute certain process vent with high hydrogen sulfide (H_2S) content from H-402 Tail Gas Incinerator to the front of the Sulfur Recovery Unit (SRU). A copy of the Stipulated Order for Abatement and Findings and Decision of the Hearing Board Case No. 2914-90 is included in Attachment 1.

Paramount has also requested that the duty described in the permit for H-402 be increased from 5 MMBTU/hr to 10MMBTU/hr. This request is to correct the permit, to fix an error that was made

in the past. The duty of H-402 was increased in the 1970s but the permit that was issued at the time did not specify a duty for H-402. At some later date, the original duty of 5MMBTU/hr was erroneously put back into the permit.

Wastewater Separation (Hydroprocessing Area), A/N 437033, A/N 486510

The WEMCO (D262) is a treating unit that removes oil and grease from the refinery wastewater. Head space vapors from the unit are collected by agitators that direct the vapors into the bottom of the unit liquid level. The vapors emerge as small bubbles that float up through the liquid. As these bubbles travel up through the liquid, they float oil, grease and solid particles to the top of the liquid level. Paddles skim the floated material, together with some clean water, off of the top of the liquid. The skimmed oily water mixture is directed to the Cistern (D261), which is a below grade collection sump. From the Cistern, the oily water mixture is pumped back to the API separator for bulk oil removal. Vapors are drawn off the WEMCO and Cistern and sent to H-402 Tail Gas Incinerator via a blower located at the WEMCO. These vapors are primarily nitrogen, which is used to sweep the head space of the WEMCO. The vapors also contain small quantities of hydrocarbon vapor and H_2S that are evolved in the wastewater treatment process.
This application is to reroute the vapors from WEMCO and Cistern that currently vent to H-402 Tail Gas Unit Incinerator to the front of the SRU and correct the permit to accurately reflect all the devices that are currently part of the system. The permit will be corrected to add backup carbon for WEMCO and Cistern (C845 and C844), existing blower F-1 (D846), existing knock-out drum M-101A (D847), new knock-out drum D-758 (D848) and Compressors C-701 A/B (D849/D850).

Sulfur Truck Loading Rack, A/N 436715

The Sulfur Tank Truck Loading Rack (D250) consists of one top loading arm (4"). The truck loading rack was never equipped with vapor recovery in the past. A vapor recovery unit is proposed to be installed to recover truck vapors to the sulfur pit. An eductor driven by an air blower will be used to effectively move vapors to the sulfur pit.

The connection of the Sulfur Tank Truck Loading Rack to the sulfur pit will reduce emissions during truck loading operations. According to the emissions calculations submitted by Paramount, the amount of H_2S displaced from truck on loading is 0.000748 lbs/hr.

Spent Caustic Tank Truck Loading, A/N 419963, A/N 486514

The spent caustic truck loading rack is not currently described in the permit. The loading rack has been in service since the caustic treating unit was installed. The Spent Caustic Tank Truck Loading Rack Knockout Pot D-221 (D842) is part of this system but is not currently listed in the permit. A/N 419963 was submitted on 9/2/2003 to permit the spent caustic loading rack and D-221. It should be added and listed as venting to the Tail Gas Incinerator. Vapors then are recovered during caustic loading pass through D-221 for condensate removal and are then routed to the Tail Gas Incinerator H-402.

Spent caustic is pumped from T-1000 and T-1001 to the truck via a single 2" loading hose. The truck is bottom loaded. Vapors displaced during loading are recovered off the truck via a second 2" hose. These displaced vapors are routed through a knock-out pot (D-221) to remove any entrained caustic. The vapors are then routed from D-221 to H-402 incinerator. Caustic collected in D-221 is drained to a dedicated caustic sump in the immediate area. This collected caustic is then pumped back to T-1000 and T-1001.

The spent caustic contains no hydrocarbons. It is composed of a mixture of sodium carbonate, sodium bisulfide, and sodium hydrosulfide salts in water. However, it may contain small amounts of H_2S.

Emissions from the loading of spent caustic can generate vapors containing hydrogen sulfide (H_2S). Spent caustic from tanks T-1000 and T-1001 is loaded into a tanker truck two to three times per week. An average of 4000 gallons is loaded each time. Routing this vent stream to the front of the SRU instead of the atmosphere reduces emissions and potential odors. According to the emissions calculations submitted by Paramount, the amount of H_2S from the spent caustic loading rack is 0.02282 lbs/hr.

Naphtha Hydrodesulfurization, A/N 437036

This process removes the organic sulfur from the sour naphtha product of the crude unit. Sour naphtha feed is combined with hydrogen. The hydrogen reacts with the sulfur to form hydrogen sulfide. There will be no changes to the process unit. This application is to connect crankcase and packing vents from compressors C-301 and C-302 (D41 and D42) to the fuel gas system. These vents will be essentially sweet H_2 containing small amounts of H_2S and some light ends (C1, C2, C3 and C4).

Kerosene Hydrodesulfurization, A/N 437035

This process removes the organic sulfur from the sour kerosene product of the crude unit. Sour kerosene feed is combined with hydrogen. The hydrogen reacts with the sulfur to form hydrogen sulfide. There will be no changes to the process unit. This application is to connect crankcase and packing vent from compressor C-121 (D54) to fuel gas system. These vents will be essentially sweet H2 containing small amounts of H_2S and some light ends (C1, C2, C3 and C4).

Gas Oil Hydrodesulfurization, A/N 437034

This process removes the organic sulfur from the sour gas oil product of the crude unit. Sour gas oil feed is combined with hydrogen. The hydrogen reacts with the sulfur to form hydrogen sulfide. There will be no changes to the process unit. This application is to connect crankcase and packing vent from compressor C-124 (D64) to fuel gas system. These vents will be essentially sweet H2 containing small amounts of H_2S and some light ends (C1, C2, C3 and C4).

Spent Caustic Storage Tank 1000, A/N 486513

Spent caustic is generated in the caustic scrubber W-206 (C167). Spent caustic may be dumped from W-206 to the spent caustic tanks as frequently as twice per day. W-206 is then refilled with

fresh caustic. The spent caustic introduced to T-1000/1001 displaces an equal volume of vapors (primarily air) from T-1000/1001. These displaced vapors flow to the front of the SRU.

According to the emissions calculations submitted by Paramount, the amount of H_2S displaced from T1000/1001 is 0.002853 lbs/hr.

Fuel Gas System, A/N 486516

The refinery's existing fuel gas system consists of two mix drums: Drum D-712 (D394) located in the hydroprocessing area of the refinery and Drum D-807 (D492) located in the crude area). It also consists of a LPG vaporizer and a water wash train. Each drum receives process gases from different sources in the refinery. One of the mix drums also receives the fuel gas from the other drum. The fuel gas mix drums receive only sweetened gases or gases with <160 ppm H_2S from the refinery processes. The total sulfur in the fuel gas is monitored by a GC/MS located downstream of each mix drum. The fuel gas mix drums operate on pressure differential which is maintained between 35-50 psi depending on fuel demand of the refinery heaters and boilers. The pressure of the mix drums is controlled by the LPG vaporizer D-704 (D393). LPG and natural gas from the city's pipeline are used to supplement the process gases.

The Fuel Gas System balance varies day to day depending on activities in the refinery. Typically, fuel gas flows from the Hydroprocessing Division D-712 to the Crude Units D-807; however, the flow can go the opposite direction. If there are fewer consumers of fuel gas on a given day because certain units may be down, and/or if the natural gas and/or LPG are being supplied directly to Crude Unit, the flow may be from the Crude Units to Hydroprocessing.
This application is for a change of condition of the fuel gas system to allow the addition of several new sweet fuel gas vent streams from compressor crankcase and packing vents. No actual physical changes will be made to the fuel gas system, however new vent streams will be tied into the system. The additional vent streams are not expected to impact emissions from the refinery. According to Paramount, the fuel gas system is adequate to handle the additional gas streams. Depending on operational needs, the fuel gas system pressure is maintained at 35-50 psi by vaporizing LPG. Additional gas can be vented to the system as long as the pressure exceeds the fuel gas system pressure.

There are no changes required in the description of the fuel gas system, however, condition E336.4 will be imposed to direct vent gases from subject compressors to the fuel gas system. Note that given the dynamics of the of the fuel gas system, the vent condition is used rather than the "connected to" column specifying that equipment vents to a certain fuel gas mix drum.

Since there are no emission increases associated with the change of condition for the fuel gas system, requirements of Regulations XIII & XIV do not apply.

Sour Water Stripper, A/N 485566

Stripping steam and wash water in various refining operations is condensed and removed from overhead condensate accumulators or product separators. This water contains impurities most

notably sulfur compounds and ammonia. Hydrogen sulfide and ammonia are removed in the sour water stripper. This unit strips H_2S and ammonia from the sour water to allow its use in the process units. The sour water from the process units is fed to a stripping tower, where heat, in the form of steam, is applied. The ammonia and H_2S contained in the water is released by the heat and exits the top of the tower. Any excess steam is condensed by cooling the overhead stream and returning the condensate to the tower. The ammonia and H_2S are directed to the Claus Units where they will be converted to sulfur and nitrogen. The stripped water from the tower bottom is returned to the process units for reuse. The Wastewater treatment facility treats the stripped sour water biologically to remove phenols and other contaminants and enable the treated water to be recycled.

This application is for modification of Process 6 System 2, the Sour Water Stripper, to add a condition to reflect the operation that the process may vent to the stand-by caustic absorber during start-up, shutdown and malfunction.

Amine Regeneration Unit, A/N 482640

Hydrogen sulfide is absorbed into a solution of amine by counter-current absorption in a tower. Clean gas is returned for refinery use and rich amine is sent to a regenerator where hydrogen sulfide is removed from the amine solution. Lean amine is returned to the absorber and acid gas is sent to the Sulfur Recovery Unit.

This application is for the modification of Process 6 System 7, the Amine Regeneration Unit, to add a condition to reflect the operation that the process may vent to the stand-by caustic absorber during start-up, shutdown and malfunction. It also corrects the description of the drain sump in the unit.

Lean Amine Filter D-209 (D835) and Carbon Filter D-220 (D837) were added to the unit in 1996 to address an amine foaming issue. The installation of these devices was for the purpose of reducing the risk of a process upset in the Amine Unit and resultant excess emissions and possibly odors.

Lean Amine Filter D-210 (D836) and the wash water tower W-204 (D834) were previously permitted under A/N 104015 and were erroneously omitted when it was converted to the Facility Permit.

There is an additional device within this system that should be listed as venting to the Tail Gas Incinerator in addition to those that are already included in the permit. This is the Lean Amine Feed Surge Drum D-213 (D142). This process vent was also previously permitted under permit 104015 and need to be put back in the permit. D-213 is a holding vessel for the lean amine inventory of the Amine Unit. The drum is blanketed by sweet natural gas. To prevent forming a vacuum in the vessel, natural gas flows into D-213 via a pressure regulator when the level falls. The natural gas flows out of D-213 to incinerator H-402 via another pressure regulator when the lean amine level rises. This is to avoid pressure build-up inside the vessel, which can upset the

Amine Unit pressure balance. The outflow of natural gas from D-213 always goes to H-402 incinerator, which is the only destination of the natural gas vent leaving D-213. The normal flow of natural gas into and out of the vessel is zero, as the flow of natural gas in and out of the drum responds only to the change in the liquid level. These level changes happen slowly and infrequently. The connection to the flare via pressure safety valve RV-218 is for emergency relief only to protect against vessel overpressure.

The Amine Regeneration section of the Amine Unit (P6S7) is correctly conditioned in the permit by conditions S15.2 and S15.5 to normally vent to the SRU or standby Caustic Scrubber and the flare in an emergency. However, vessel D-213 has always specifically vented to H-402 under normal conditions as described above and as documented in the former command and control permit.

B. Miscellaneous Permit Actions and Corrections

Caustic Scrubber, A/N 486513

Paramount operates a caustic scrubber system which is strictly a back-up system to control H_2S emissions. This system comprises a caustic wash tower W-206 (C167), two caustic tanks T-1000 & T-1001 (D168 and D169) and associated pumps, piping, etc. The caustic absorber removes H_2S from acid gases that would normally be routed to the SRU. There are two sources of acid gases that are routed to the SRU. The acid gases are produced from the amine regeneration system and the sour water stripper. The caustic absorber operation is required when the SRU is either not operable, or required to operate at excessive turndown ratio that are required during start up and shut down.

The caustic absorber is always inventoried with caustic so that it is ready for operation if there is a process upset or malfunction. The caustic is continuously circulated over packing in the top section of the absorber vessel, and the acid gas is introduced to the absorber vessel well below the absorber normal liquid level. The acid gases are introduced below the caustic liquid level to ensure good contacting is maintained between the acid gas and the caustic.

Condition C6.12 is changed to require monitoring of caustic strength not pH. This application is to allow to receive emergency vent from amine regeneration unit and sour water stripper.

Applications to be Canceled

1. Spent Caustic Storage Tank 1001, A/N 364594
   This application will be canceled and superseded by A/N 486513.
2. Tank T-1001, A/N 364595
   This application will be used for Tank T-1001 since this tank is a separate permit unit.
3. Tail Gas Incinerator,H-402, A/N 368539
   This application was to modify the permit for H-402 to allow additional devices to vent to it, to correct the permit to accurately reflect all the devices that currently vent to it and to

correct the heat input rating of H-402 form 5 MMBtu/hr to 12 MMBtu/hr. This application will be canceled and superseded by A/N 436741 where Paramount changed their request to correct rating to 10 MMBtu/hr.

4. Amine Regeneration Unit, A/N 419962
   This application was to add Filter D-209 and Carbon Filter D-220 to address an amine foaming issue and to add devices inadvertently left off from the command and control permit. This application will be canceled and all corrections will be evaluated in the processing of subsequent application submitted, A/N 482640.
5. Spent Caustic Tank Truck Loading, A/N 419963
   This application was to permit the spent caustic loading rack to vent to H-402. This application will be canceled and superseded by A/N 486514.
6. Sulfur Recovery Unit, A/N 436714
   This application will be canceled and superseded by A/N 486507.
7. Tail Gas Incinerator, H-402, A/N 436741
   This application was to allow additional devices to vent to the incinerator, to correct the permit to accurately reflect all the devices that currently vent to it and to correct the heat input rating of H-402 from 5 MMBtu/hr to 12 MMBtu/hr. This application will be canceled and all corrections will be evaluated in the processing of subsequent application submitted, A/N 438730, wherein Paramount requested the rating to be corrected to 10 MMBtu/hr instead of 12 MMBtu/hr.
8. Amine Fuel Gas Treating Unit, A/N 438727
   This is a duplicate application. This application will be canceled and fees will be refunded.
9. Oil and Water Separation System, A/N 438730
   This application was to allow vent to the Tai Gas Incinerator H-402 and to correct the permit to accurately reflect all the devices that are currently part of the system. This application will be canceled and all corrections will be evaluated in the processing of subsequent application submitted, A/N 486510.

C. New Construction

Tank Farm Diesel Filter, A/N 486518

This application is for the installation of an in-line diesel filter in the tank farm. The filter will be used for filtration of untreated diesel and distillates from various fixed roof tanks. Specifications for the filter are provided in Attachment 3. the model number of the filter Paramount is installing is 11M-D-143; where the "D" indicates diesel service and the filter housing dimensions and characteristics are the same as shown in the manufacturer's brochure as model 11M-314.

Figure 1 depicts the H-402 Project block venting flow diagram after all the modifications are completed.

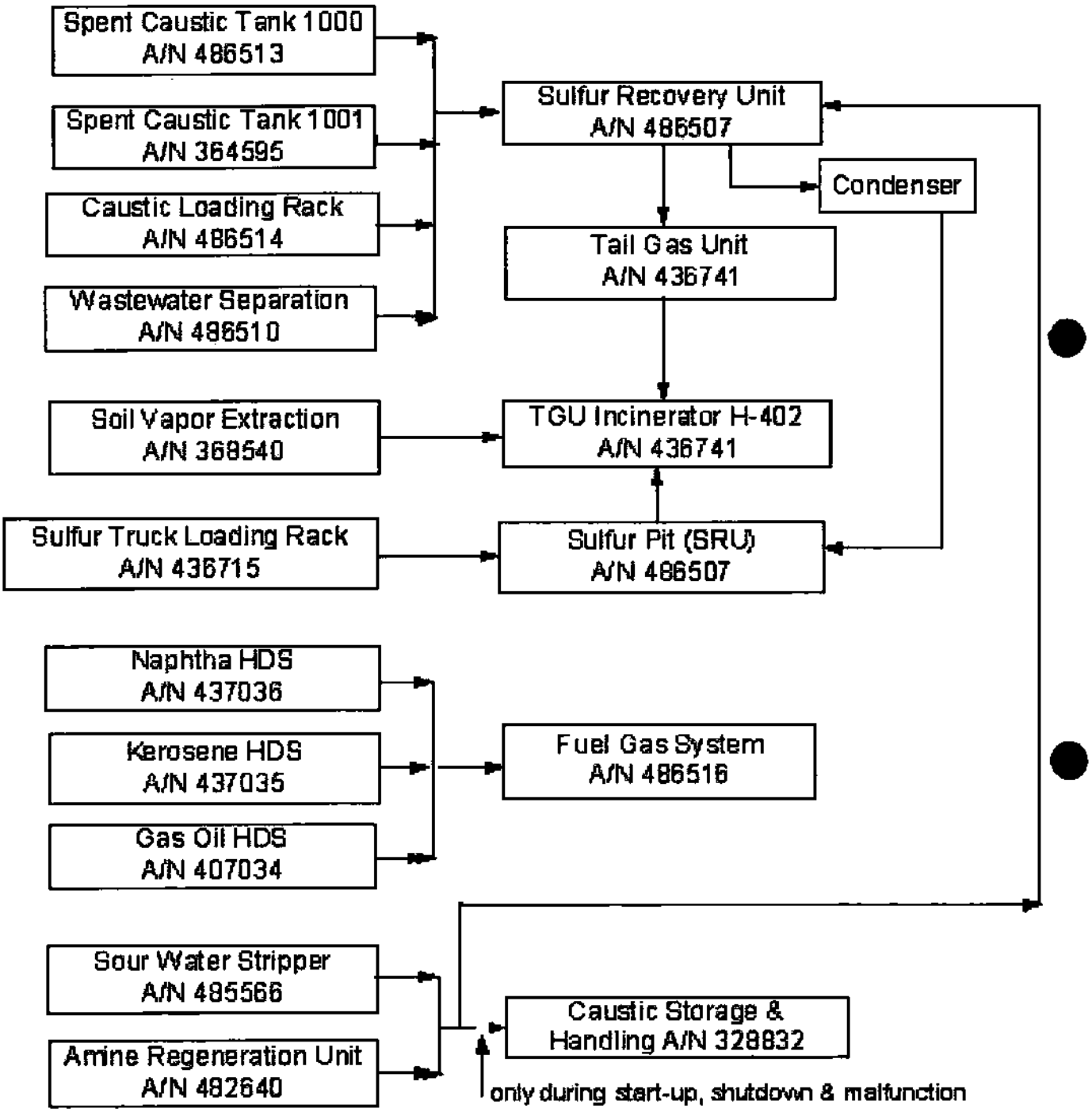


Figure 1: H-402 PROJECT BLOCK VENTING FLOW DIAGRAM

EMISSIONS CALCULATION

Criteria pollutant emissions are due to combustion in the H-402 Incinerator. Since there is no change in the H-402 Incinerator rating, there will be no change to the "potential to emit" emissions.

There will be an increase in fugitive VOC emissions due to the installation of additional components as described and itemized in Tables 4-8. The fugitive emissions are calculated based on emission factors derived from the Correlation Equation Method (AQMD's Guidelines for Fugitive Emissions Calculations, June 2003, Method 2). There will be an increase of 0.26 lbs/day of VOC for the Kerosene Hydrotreating, HDS #5 and 0.95 lbs/day for the Gas Oil Hydrotreating HDS #3. However, for the Hydroprocessing Wastewater Separation Facility, Paramount has opted to accept a reduced leak threshold of 200 ppm for Rule 1173 fugitive components, excluding pumps, compressors, and drains. The leak threshold for pumps, compressors, and drains will remain at 500 ppm. This results in an emissions decrease of 11.73 lbs/day. Attachment 4 contains the Guidelines for Fugitive Emissions Calculations). The VOC emissions associated with additional fugitive components that will be installed for the tank farm filter are 0.16 lbs/day. This project will result in a ***net emissions decrease of 10.36 lbs/day*** as summarized below in Table 4.

Table 4: MAX. POTENTIAL CHANGE IN ROG EMISSIONS

Application No.	***Source***	***Net Change, lb/day***
437035	Compressor Crankcase C121 Connection to Fuel Gas System	0.26
437034	Compressor Crankcase C120/C124 Connection to Fuel Gas System, 3HDS D319 Components	0.94
486510	Wastewater	-11.73
486518	Diesel Filter	0.16
TOTAL		***-10.37***

Table 5: FUGITIVE COMPONENTS COUNT AND EMISSIONS FOR C121 KEROSENE HYDROTREATING HDS # 5, A/N 437035

Source Unit		Service	No of Existing Components (1)	No. of New Components to be Installed (2)	Correlation Equation Factor, 500 ppm Screening Value	Pre-Modification Emissions (lbs/year)	Post Modification Emissions (lbs/year)
Valves	Sealed Bellows	All	24	0	0	0	0
	SCAQMD Approved I & M Program	Gas / Vapor	12	6	4.55	54.55	81.82
		Light Liquid	226	0	4.55	1027.34	1027.34
		Heavy Liquid	0	0	4.55	0 0	0
Pumps	Sealless Type	Light Liquid	0	0	0	0	0
	Double Mechanical Seals or Equivalent Seals	Light Liquid (3)	5	0	46.83	234.13	234.13
	Single Mechanical Seals	Heavy Liquid (4)	0	0	46.83	0	0
Compressors		Gas / Vapor	0	0	9.09	0	0
Flanges (ANSI 16.5-1988)		All	215	4	6.99	1502.89	1530.85
Connectors		All	0	13	2.86	0	37.20
Pressure Relief Valves		All	2	0	0	0	0
Process Drains with P-Trap or Seal Pot		All	0	0	9.09	0	0
Other (including fittings, hatches, sight-glasses, and meters)		All	1086	0	9.09	9871.29	9871.29
Total Emissions (lbs/year)						12690.19	12782.63
Emissions Increase (lbs/day)							0.26

(1) Any component existing prior to the modification.

(2) Any new component proposed to be installed due to the modification; this also includes new components to be installed to replace existing components.

(3) Light liquid and gas/liquid streams: Liquid or gas/liquid stream with a vapor pressure greater than that of kerosene (>0.1 psia @ 100°F or 689 Pa @ 38°C), based on the most volatile class present at 20% by volume.

(4) Heavy liquid: streams with a vapor pressure equal to or less than that of kerosene (<0.1 psia @ 100°F or 689 Pa @ 38°C), based on the most volatile class present at 20% by volume.

Table 6: FUGITIVE COMPONENTS COUNT AND EMISSIONS FOR C120, C124 and D319 GAS OIL HYDROTREATING HDS # 3, A/N 437034

Source Unit		Service	No of Existing Components (1)	No. of New Components to be Installed (2)	Correlation Equation Factor, 500 ppm Screening Value	Pre-Modification Emissions (lbs/year)	Post Modification Emissions (lbs/year)
Valves	Sealed Bellows	All	59	1	0		-
	SCAQMD Approved I & M Program	Gas / Vapor	232		4.55	1,054.61	1,054.61
		Light Liquid	260		4.55	1,181.89	1,181.89
		Heavy Liquid	146	15	4.55	663.67	731.86
Pumps	Sealless Type	Light Liquid			0		-
	Double Mechanical Seals or Equivalent Seals	Light Liquid (3)	8		46.83	374.60	374.60
	Single Mechanical Seals	Heavy Liquid (4)			46.83		-
Compressors		Gas / Vapor	2		9.09	18.18	18.18
Flanges (ANSI 16.5-1988)		All	589	24	6.99	4,117.22	4,284.98
Connectors		All	4873	37	2.86	13,943.52	14,049.39
Pressure Relief Valves		All	9	1	0		-
Process Drains with P-Trap or Seal Pot		All	34		9.09	309.50	309.50
Other (including fittings, batches, sight-glasses, and meters)		All	31		9.09	281.78	281.78
Total Emissions (lbs/year)						21,944.97	22,286.79
Emissions Increase (lbs/day)							0.94

(1) Any component existing prior to the modification.

(2) Any new component proposed to be installed due to the modification; this also includes new components to be installed to replace existing components.

(3) Light liquid and gas/liquid streams: Liquid or gas/liquid stream with a vapor pressure greater than that of kerosene (>0.1 psia @ 100°F or 689 Pa @ 38°C), based on the most volatile class present at 20% by volume.

(4) Heavy liquid: streams with a vapor pressure equal to or less than that of kerosene (<0.1 psia @ 100°F or 689 Pa @ 38°C), based on the most volatile class present at 20% by volume.

Table 7: FUGITIVE COMPONENTS COUNT AND EMISSIONS FOR HYDRO WASTEWATER SEPARATION FACILITY, A/N 486510

Source Unit		Service	No of Existing Components (1)	No. of New Components to be Installed (2)	Correlation Equation Factor, 500 ppm Screening Value	Pre-Mod Emissions (lbs/year)	Correlation Equation Factor, 200/500 ppm Screening Value	Post-Mod Emissions (lbs/year)
Valves	Sealed Bellows	All	37	18	0			
	SCAQMD Approved I & M Program	Gas / Vapor	48	71	4.55	218.20	2.29	272.83
		Light Liquid	449	0	4.55	2041.04	2.29	1029.41
		Heavy Liquid (3)	0	0	4.55		2.29	
Pumps	Sealless Type	Light Liquid	0	0				
	Double Mechanical Seals or Equivalent Seals	Light Liquid (3)	16		46.83	749.21	46.83	749.28
	Single Mechanical Seals	Heavy Liquid (4)	0	0	46.83			
Compressors		Gas / Vapor	1	2	9.09	9.09	9.09	27.27
Flanges (ANSI 16.5-1988)		All	444	170	6.99	3103.64	3.66	2247.56
Connectors		All	1974	266	2.86	5648.37	1.46	3265.43
Pressure Relief Valves		All	2	0				
Process Drains with P-Trap or Seal Pot		All	227	0	9.09	2063.34	9.09	2063.34
Other (including fittings, hatches, sight-glasses, and meters)		All	41	24	9.09	372.67	5.05	328.08
Total Emissions (lbs/year)						14,205.55		9,983.12
Emissions Increase (lbs/day)								-11.73

(1) Any component existing prior to the modification.

(2) Any new component proposed to be installed due to the modification; this also includes new components to be installed to replace existing components.

(3) Light liquid and gas/liquid streams: Liquid or gas/liquid stream with a vapor pressure greater than that of kerosene (>0.1 psia @ 100°F or 689 Pa @ 38°C), based on the most volatile class present at 20% by volume.

(4) Heavy liquid: streams with a vapor pressure equal to or less than that of kerosene (<0.1 psia @ 100°F or 689 Pa @ 38°C), based on the most volatile class present at 20% by volume.

Table 8: FUGITIVE COMPONENTS COUNT AND EMISSIONS FOR DIESEL FILTER, A/N 486518

Source Unit		Service	No of Existing Components (1)	No. of New Components to be Installed (2)	Correlation Equation Factor, 100 ppm Screening Value	Pre-Modification Emissions (lbs/year)	Post Modification Emissions (lbs/year)
Valves	Sealed Bellows	All		0			
	SCAQMD Approved I & M Program	Gas / Vapor		0	1.37	0	0
		Light Liquid		0	1.37		
		Heavy Liquid		9	1.37		12.33
Pumps	Sealless Type	Light Liquid		0			
	Double Mechanical Seals or Equivalent Seals	Light Liquid (3)		0	46.83		
	Single Mechanical Seals	Heavy Liquid (4)		0	17.21		
Compressors		Gas / Vapor		0	3.23		
Flanges (ANSI 16.5-1988)		All		6	2.24		13.44
Connectors		All		29	0.88		25.52
Pressure Relief Valves		All		1			
Process Drains with P-Trap or Seal Pot		All		0	9.09		
Other (including fittings, hatches, sight-glasses, and meters)		All		2	3.23		6.46
Total Emissions (lbs/year)						0	57.75
Emissions Increase (lbs/day)							0.16

(1) Any component existing prior to the modification.

(2) Any new component proposed to be installed due to the modification; this also includes new components to be installed to replace existing components.

(3) Light liquid and gas/liquid streams: Liquid or gas/liquid stream with a vapor pressure greater than that of kerosene (>0.1 psia @ 100°F or 689 Pa @ 38°C), based on the most volatile class present at 20% by volume.

(4) Heavy liquid: streams with a vapor pressure equal to or less than that of kerosene (<0.1 psia @ 100°F or 689 Pa @ 38°C), based on the most volatile class present at 20% by volume.

Baseline Emissions from Tail Gas Incinerator

Emissions are calculated in accordance with Rule 1306(f) Air Pollution Controls. Rule 1306 (f) states that for the modification of any source installed prior to October 8, 1976, resulting from the addition of air pollution controls installed solely to reduce the issuance of air contaminants, emissions shall be calculated from the maximum rated capacity.

Paramount has requested that the duty described in the permit for H-402 be increased from 5 MMBTU/hr to 10 MMBTU/hr. This request is to correct the permit, to fix an error that was made in the past. A Permit to Construct was issued on 12/29/75 to increase rating from 5 to 10 MMBTU/hr but the permit did not specify a duty for H-402. At some later date, the original duty of 5MMBTU/hr was erroneously put back into the permit. The emissions expected from this oxidizer are from the combustion of the refinery gas and the SOx emissions from the SRU stream. There will be no increase in emissions with the rerouting of the miscellaneous vent streams. Since there is no change in the maximum rating of the incinerator, there will be no change in emissions.

The maximum potential emissions will be based on the maximum rating of the burner (10 MMBTU/hr) using AER Form R-2 emission factor for refinery gas for ROG, CO, PM and NOX. The SOX emission factor is the default emission factor for refinery gas from Rule 2002. The refinery hydroprocessing fuel gas heat capacity as provided by Paramount is 1032 BTU/scf. The AEIS and NSR emissions are summarized below in Table 9:

Table 9: COMBUSTION EMISSIONS CALCULATIONS SUMMARY

Pollutants	*Emission Factor (lb/MMscf)*	*Fuel Flow (MMscf/hr)*	*Ave. Hourly (lb/hr)*	*Max Daily (lb/day)*	*30 Day Average (lb/day)*	*Max Yearly Emissions (lbs/yr)*
ROG	7	9.68E-03	0.07	1.63	1.65	594.19
NOx	161	9.68E-03	1.56	37.44	37.96	13,666.28
SOx	6.76	9.68E-03	0.065	1.57	1.59	573.23
SOx[1]	From SRU		107.00	2565	2601	936,225
CO	4.1	9.68E-03	0.04	0.95	0.97	348.02
PM	21	9.68E-03	0.20	4.88	4.95	1,782.56

Note: The reported RECLAIM emissions for both NOx and Sox for the last two years (2007 and 2008) are well below the calculated maximum emissions above.

[1]Baseline Emissions from Sulfur Recovery Unit (SRU)

SO_2 emissions are calculated using AP-42 SO_2 emission factor of 57 lb/ton of sulfur produced. The SRU has a maximum sulfur feed capacity of 50 long tons per day. Using 90% sulfur recovery, this is equivalent to 45 long tons of sulfur produced. In the absence of AP-42 emission factors for other criteria pollutant, it is assumed that there are negligible emissions of other criteria pollutant. The AEIS and NSR emissions are summarized below in Table 10.

Table 10: SO_2 EMISSIONS CALCULATIONS SUMMARY

Pollutants	*Emission Factors (lb/ton)*	*Average Hourly (lb/hr)*	*Max Daily (lb/day)*	*30 Day Average (lb/day)*	*Max Yearly Emissions (lbs/yr)*
SOx	57	107	2,565	2,601	936,225

Load from added vent streams to the SRU

This project involves removing five refinery process vent streams from H-402 Incinerator and redirecting these streams to the SRU. The purpose of calculating the extra load is to determine if design capacity of the SRU can accommodate the additional streams. As shown in the following table submitted by Paramount summarizing the stream characteristics and flow rates, the additional sulfur production attributed to this project is ***.01239 long tons per day***. This is equivalent to 0.025% of the 50 long tons per day maximum capacity. Therefore, the project will contribute a negligible additional demand on the SRU and the capacity is more than sufficient to accommodate the additional stream.

Table 11: ADDED VENT STREAMS TO THE SRU

Stream	*ppm, H_2S*	*Stream Flow Rate (scfm)*	*H_2S Contributed by Vent Streams (lb/min)*
Wastewater Stripper	5,500	30	0.01480
Spent Caustic Tanks TK-1000/10001/Spent Caustic Truck Loading	4,500	9	0.00363
Wemco-Cistern	5,000	4.6	0.00206
Total, lbs H_2S /min			0.02049
Total, long tons sulfur/day			***0.01239 LT/D***

RULES EVALUATION

PART 1: SCAQMD REGULATIONS

Rule 212 Standards for Approving and Issuing Public Notice (Amended Nov. 14, 1997)

212 (a) The applicant is required to show that the equipment, the use of which may cause the issuance of air contaminants or the use of which may eliminate, reduce, or control the issuance of air contaminants, is so designed, controlled, or equipped with such air

pollution control equipment that it may be expected to operate without emitting air contaminants in violation of provisions of Division 26 of the State Health and Safety Code of these rules. The operation of subject pieces of equipment is expected to comply with this requirement.

212(c)(1) Public notification is required if any new or modified permit unit, source under Regulation XX, or equipment under Regulation XXX may emit air contaminants located within 1000 feet from the outer boundary of a school. However, this subdivision shall not apply to a modification resulting in a reduction of emissions and no increase in health risk at any receptor location.

According to the guidelines set forth in the Policies and Procedures No. E2006-01 – Rule Implementation Guidance for Rule 212 Public Notice, a modification to an existing policy will trigger the public notice requirement unless the modification will result in a reduction of emissions of air contaminants form the facility and it can be shown that no increase in health risks will occur at any receptor location if the following criteria are met:

1. The modification does not result in any emissions being released closer to any school located within 1,000 feet from the facility. The source is within 1000 feet of a school with the Hydroprocessing Wastewater Treatment System being the equipment closest to the school. Paramount proposes that the system have a VOC leak threshold of 200 ppm for all components except pumps, compressors and drains, which will remain at the Rule 1173 mandated 500 ppm leak threshold. This restriction will result in 11.73 pounds per day reduction in VOC emissions from the wastewater treatment facility. Attachment 5 shows the general location of the wastewater treatment system.

2. The modified facility has a lower allowable potential to emit for all criteria air contaminants than the pre-modified facility. The facility will have a ***net emission decrease of 10.37 lbs of VOC per day.***

3. The maximum risk (MICR, HIA, and HIC) from the modified facility is no greater than the maximum risk (MICR, HIA, HIC) from the pre-modified facility.

Paramount performed a Tier 2 assessment screening pursuant to the Risk Assessment Procedures for Rules 1401 and 212 for both pre- and post- modification emissions. The Tier 2 Screening was performed using the Rule 1401 Calculator (April 30, 2008 version) from the District's webpage. The input parameters and Tier 2 screening submitted by Paramount and reviewed by the district are shown in Attachment 6 for the pre- and post-modification scenarios. The resulting calculated screening risk values are shown in Table 13.

Table 13: HEALTH RISK ASSESSMENT RESULTS

	Maximum Individual Cancer Risk (MICR)		*Chronic Hazard Index (HIC)*	*Acute Hazard Index (HIA)*
	MEIR[1]	*MEIW*[2]		
Pre-Modification	6.98E-06	1.59E-06	1.44E-03	5.48E-03
Post Modification	5.56E-06	1.26E-06	1.14E-03	4.36E-03
Reduction	Yes	Yes	Yes	Yes

[1]MEIR: Maximum Exposed Individual Resident
[2]MEIW: Maximum Exposed Individual Worker

The source is within 1000 feet of a school; however, this project does not result in any emissions or health risk increase. Public notification is therefore not required.

212(c)(2) Public notification is required if any new or modified facility has on-site increases exceeding any of the daily maximums specified in subdivision (g) of this rule. Since there is no increase in emissions with the operation of the proposed project, public notification is therefore not required.

212(c)(3) Public notification is required if the increase in maximum individual cancer risk (MICR), based on Rule 1401, exceeds one in a million (1×10^{-6}), due to a project's new construction or proposed modification. Since there is no increase in emissions

with the operation of the proposed project, public notification is therefore not required.

212(g) This subdivision sets forth the process for federal public notification and distribution and specifies the daily maximum emissions increase as follows:

Air Contaminant	Daily Maximum in lbs/day
Volatile Organic Compounds	30
Nitrogen Oxides	40
PM10	30
Sulfur Dioxide	60
Carbon Monoxide	220
Lead	3

Since there is no increase in emissions with the operation of the proposed project, federal public notification is not required.

Rule 401 Visible Emissions (Amended November 9, 2001)
Operation of the subject pieces of equipment is not expected to result in visible emissions. Therefore, compliance with this rule is expected.

Rule 402 Nuisance (Adopted May 7, 1976)
Operation of the subject pieces of equipment is not expected to result in a public nuisance. Therefore, compliance with this rule is expected.

Rule 404 Particulate Matter (Amended February 7, 1986)

404(a) PM concentration in the exhaust of tail gas incinerator, H-402, is 0.014 gr/dscf as shown in the calculation below. This is well under the limit of 0.152 gr/dscf from Table 404(a). Compliance is expected.

PM Concentration for Rule 404 Compliance
To calculate PM emission in grains/dscf, assume that the high fire for the burner is 10 MMBtu/hr, and the heating value of the gas is 1032 btu/cf. Thus,

Stack gas flow rate = 10 MMBtu/hr x 8710 dscf/MMBtu x 20.9 / ((20.9 – 3) x 60 min/hr = 1,694.96 dscfm

$$PM\ concentration = \frac{PM\left(\frac{lb}{hr}\right)\times 7000\left(\frac{gr}{lb}\right)\div 60\left(\frac{\min}{hr}\right)}{Exhaust\ Flow(DSCFM)} = \frac{0.20\times 7000\div 60}{1694.96}$$

$$= 0.014\left(\frac{grains}{dscf}\right)$$

Rule 407 Liquid and Gaseous Contaminants (Amended April 2, 1982)

407(a)(1) CO emissions from the tail gas incinerator, H-402, is expected to be well under the 2,000 ppmv limit specified in this rule. Compliance is expected.

407(a)(2) Since Paramount is a NOx/SOx RECLAIM facility, the SOx emission limits of this rule do not apply to the tail gas incinerator.

Rule 409 Combustion Contaminants (Amended August 7, 1981)

This rule limits particulate emissions from combustion to 0.1 grains per cubic foot @ 12% CO_2. Using the following equation, the resulting maximum combustion contaminant of 0.0004 grains /scf @ 12% CO_2 for the tail gas incinerator, H-402, as shown in Table 14, is less than that required in this rule. Compliance is expected.

$$Max\ Combustion\ Particulate = \frac{A\ x\ B}{C\ x\ D}\ x\ 7000\ \frac{gr}{lb}$$

where: A = PM10 emission rate, lb/hr
B = Rule specified %CO_2 in the oxidizer stack, 12%
C = Actual %CO_2 in the oxidizer stack
D = Stack Exhaust flow rate, scf/hr

Table 14: RULE 409 MAXIMUM COMBUSTION CONTAMINANT

Equipment	*Fuel Used*	*PM10 (lb/hr) (A)*	*% CO_2 in Exhaust (C)*[1]	*Stack Exhaust (scf/hr) (D)*[2]	*Max Combustion Particulate (gr/scf) @ 12%CO2*
H-402 Tail Gas Incinerator	Refinery Gas	0.20	4	101,697.77	0.0004

[1]%CO_2 in the exhaust is an estimated number from similar equipment
[2]Stack flow rate is 10 MMBtu/hr x 8710 dscf/MMBtu x 20.9 / ((20.9 – 3)

Reg IX Standards of Performance for New Stationary Sources (NSPS)

40 CFR 60, Subpart J: Standards of Performance for Petroleum Refineries

60.100 Applicability and designation of affected facility and reconstruction (Amended June 24, 2008)
The provisions of this subpart are applicable to any fluid catalytic cracking unit catalyst regenerator or fuel gas combustion device which commences construction, reconstruction or modification after June 11, 1973 and on or before May 14, 2007, or any Claus sulfur recovery plant which commences construction, reconstruction, or modification after October 4, 1976, and on or before May 14, 2007.

Sulfur Recovery Unit (SRU)
The SRU was originally constructed and permitted on April 6, 1973. Paramount has not physically altered the SRU, except to replace a vessel in kind in 1975. Paramount has not changed the method of operation of the SRU between 1975 and the present. The project in this engineering evaluation involves the connection of certain miscellaneous refinery gas streams to the SRU. The SRU was specifically constructed to process vent gas with high H_2S content and to combust the H_2S with limited air supply and convert it into SO_2 and molten sulfur. There will be no change in the maximum design capacity of the SRU. After a complete review of District files, it has been determined that the maximum design capacity of the SRU is 50 long tons per day. Attachment 7 includes a copy of engineering files for the SRU permit evaluation taken from District records.

According to EPA Applicability Determination Control No. 9700157, the NSPS applicability (under the MODIFICATION provisions of Part 60, A) is evaluated at the time of a physical or operational change based on a comparison of hourly potential emissions before and after the change. Since there is no change in the maximum processing capacity of the SRU, there will be no change in the hourly potential emissions before and after the change. This project does not constitute a "modification" and thus does not trigger applicability of an NSPS standard. See Attachment 8 for a copy of the EPA Applicability Determination document cited above.

Additionally, note that this project is not considered "reconstruction" per 40 CFR 60.15 that may render the SRU to be an affected facility. "Reconstruction" is defined as the replacement of components of an existing facility to such an extent that the fixed capital cost of the new components exceeds 50 percent of the fixed capital cost that would be required to construct a comparable entirely new facility and it is technically and economically feasible to meet the applicable standards

set forth in this part. This project involves piping, several knock-out pots and two blowers. Paramount recently obtained costs for new SRU, SWS, and Tail Gas Plant. This cost was approximately $60 million installed for an 80 LTD Unit. According to Paramount, using a design capacity proration number of 0.75 (i.e. ((50/80)0.6=0.75), the value of a 50LTD SRU Complex is approximately $45 million. The cost of the H-402 source Reduction Project is estimated to be $435,000, which is no where near the 50% of the replacement value of the complex.

For the reasons discussed above, 40 CFR 60 Subpart J still does not apply to the SRU.

To ensure that the SRU continues to operate in a manner that will not trigger NSPS applicability under modifications provisions of 40 CRR 60 Subpart A (that there will be no change in the hourly potential to emit before and after the modification, as discussed in the earlier paragraph), the maximum design capacity of the SRU is specified in the equipment description and Condition C1.39 is imposed to limit the sulfur feed rate (not the output of the Claus plant) to no more the 2.08 long tons/hr.

Tail Gas Incinerator, H-402, as a fuel combustion device

The duty is changed from 5 to 10 MMBTU/hr to correct the permit, to fix an error that was made in the past. The duty of H-402 was increased on 12/29/75 as clearly documented in the District's records, as shown in Attachment 9. At some later date, the original duty of 5 MMBTU/hr was erroneously put back into the permit. The District agreed to make this correction as part of the resolution of Stipulated Order For Abatement 2914-72. This project will reroute certain vent streams to the front of SRU. The only gas stream that remains to vent H-402 is the soil vapor extraction system. This gas qualifies as a fuel gas, therefore Subpart J applies to the incinerator. Existing Condition B61.2 limits the H_2S concentration to 160 ppm.

Paramount submitted an application for Subpart J CEMS certification for the fuel gas CEMS for miscellaneous vent streams inherently low in sulfur that are still routed to H-402. Paramount intends to submit a request to the EPA for exemption from monitoring as allowed in Subpart J for inherently low in sulfur fuel gases.

40 CFR 60 Subpart GGG: Standards of Performance for Equipment Leaks of VOC in Petroleum Refineries for Which Construction, Reconstruction, or Modification Commenced After January 4, 1983 and on or before November 7, 2006

§60.590a Applicability and designation of affected facility

This regulation is applicable to affected facilities in refineries that begin construction before November 7, 2006. The following are affected facilities under this subpart:

- Compressors
- The group of all equipment within a process unit

Equipment is defined as "each valve, pump, pressure relief device, sampling connection system, open-ended valve or line, and flange or other connection VOC service". From Subpart VVa (as referenced from GGGa), the definition of "in VOC service" is that "the piece of equipment contains or contacts a process fluid that is at least 10 percent VOC by weight.

§60.592 Standards

Subpart GGG refers to Subpart VV – Standards of Performance for Equipment leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry. All new component in VOC service are expected to meet the equipment standards and monitoring requirements in Sections 60.482-1 to 60.482-10 for pumps, valves, pressure relief devices, closed vent system, etc. In general, the equipment leak inspection and monitoring requirements of this regulation have been incorporated into Paramount's Inspection and Monitoring (I&M) Program for fugitive emissions. It is expected that Paramount will comply with the inspection, maintenance and recordkeeping requirements of this rule.

System condition (S4.2) is imposed noting that all affected fugitive components are subject to 40CFR60, Subpart GGG. Continued compliance is expected.

40 CFR 60 Subpart GGGa: Standards of Performance for Equipment Leaks of VOC in Petroleum Refineries for Which Construction, Reconstruction, or Modification Commenced After November 7, 2006

§60.590a Applicability and designation of affected facility

This regulation is applicable to affected facilities in refineries that begin construction after November 7, 2006. The following are affected facilities under this subpart:

- Compressors
- The group of all equipment within a process unit

Process unit is defined as components assembled to produce intermediate or final products from petroleum, unfinished petroleum derivatives, or other intermediates; a process unit can operate independently if supplied with

sufficient feed or raw materials and sufficient storage facilities for the product.

The new fugitive components being installed in the Hydroprocessing Wastewater Treatment are not subject to the requirements of this regulation, since the components associated with wastewater treatment systems are not considered part of a process unit as defined above..

Reg X National Emission Standards for Hazardous Air Pollutants (NESHAP)
40 CFR 61 **Subpart FF**: National Emission Standard for Benzene Waste Operations

§61.342 Standards: General (Amended May 25, 2001)
Paramount has provided data to the District showing that the total annual benzene quantity of the refinery's waste is less than 10 megagrams per year. In accordance to paragraph (a), the refinery is exempt from the requirements of paragraphs (b) and (c) of this section. Therefore, the refinery is not required to treat and manage its waste. However, the refinery is required to maintain a record in accordance to paragraph (g) in order to demonstrate its exempt status.

Reg XIII New Source Review (NSR)

Rule 1303: Requirements (Amended Dec. 6, 2002)
This rule allows the Executive Officer to deny a Permit to Construct for any new, modified or relocated source which results in an emission increase of any non-attainment air contaminant, any ozone depleting compound, or ammonia, unless BACT is used. This rule also requires modeling and offset (among other requirements) if there is a net increase in any non-attainment air contaminants for any new or modified source.

1303(a)(1) Best Available Control Technology (BACT)
BACT means the most stringent emission limitation or control technique which: (1) has been achieved in practice; or (2) is contained in any State Implementation Plan approved by the US EPA; or (3) is any other emission limitation or control technique approved by the Executive Officer and cost effective as compared to measures listed in the Air Quality Management Plan.

BACT is required for any increase in emissions that exceeds 1.0 lb/day on a maximum daily basis. As discussed in the Emissions Calculation Section of this evaluation, there will be an increase of 0.94 lbs/day in fugitive VOC emissions from the Gas Oil Hydrotreating, A/N 437034. The use of bellow-sealed valves and compliance with Rule 1173 are BACT for fugitive components.

Paramount will install BACT fugitive components and will continue to comply with the requirements of Rule 1173. Compliance is expected.

Note that according to rule interpretation from Kurt Wiese on August 1, 2006 (Attachment 10), BACT applies only to the equipment being modified. Thus, BACT is evaluated for the fugitive components only and not the entire permit unit.

1303(b)(1) Modeling

According to Rule 1303 Appendix A, modeling for VOC is not required.

1303(b)(2) Emission Offsets

Offsets are required according to District policy if project emission increases, including sum of all emission increases from all applications for that project are more than 0.5 lb/day for all non-attainment air contaminant and their precursors (excludes CO). Offset ratios shall be 1.2 to 1.0 for Emission Reduction Credits (ERC). As shown in Table 4, there is a 1.36 lbs/day increase in VOC emissions from Application Nos. 437034, 437035 and 486518. Paramount will provide ERC in the amount of 2 lbs/day (1.36 x 1.2 = 1.63~2.0).

1303(b)(3) Sensitive Zone Requirements

The facility is located in Zone 1. Therefore, emission reduction credits will be obtained from the same Zone 1. Compliance with this requirement is expected.

1303(b)(4) Facility Compliance

The facility must be in compliance with all applicable rules and regulations of the District. As discussed in the Compliance Record Review section, there are two outstanding Stipulated Orders For Abatement (SOFA): Case Nos. 2914-72 and 2914-90. However, as agreed in the meeting with Jay Chen, compliance to the SOFAs will be considered compliance to the requirements of Rule 1303(b)(4). Minutes of this meeting can be found in Attachment 14. Therefore, by issuing permits for subject pieces of equipment (Incinerators H-402 and H-907) covered by both SOFAs, the facility will be brought to compliance. Compliance with this requirement is expected.

1303(b)(5) Major Polluting Facilities

(A) Alternative Analysis: The facility must conduct an analysis of alternative sites, sizes, production processes, and environmental control techniques for such proposed source and demonstrate that the benefits of the proposed project outweigh the environmental and social costs associated with the project. Paramount complies with this requirement through 1303(b)(5)(D)(i).

(B) Statewide Compliance: The facility must demonstrate that all major stationary sources, as defined in the jurisdiction where the facilities are located, that are owned or operated by the facility in the State of California are subject to emission limitations and are in compliance or on a schedule for compliance with all applicable emission limitations and standards under the Clean Air Act. Paramount complies with this requirement by certification. The certification letter is included in Attachment 13.

(C) Protection of Visibility: This requirement does not apply since there is no increase in PM or NOx emissions.

(D) Compliance Through California Environmental Quality Act: The CEQA Applicability Form (400-CEQA) submitted by Paramount indicates that the project does not have any impacts which trigger the preparation of a CEQA document; therefore a CEQA analysis is not required.

Reg XIV Toxics and Other Non-Criteria Pollutants

Rule 1401: New Source Review of Toxic Air Contaminants (Amended March 4, 2005)

This rule specifies limits for maximum individual cancer risk (MICR), cancer burden, and noncancer acute and chronic hazard index (HI) from new permit units, relocations or modifications to existing permit units which emit toxic air contaminants listed in Table 1 of this rule.

RISK ASSESSMENT: Tier 1: Screening Emission Levels

The Multiple Pollutant Screening Level Procedure of Tier 1 is used to determine whether or not detailed risk analysis will be required. The nearest worker and residential receptor location of 100 meter is used.

Table 15: ANALYSIS FOR CANCINOGENIC AND/OR CHRONIC COMPOUNDS

A/N	*Toxic Air Contaminant*	*Wt % (1)*	*VOC Increase/yr (2)*	*Qyear (3)*	*PSL (4)*	*PSI (5)*
437035	Benzene	0.78	92.44	0.72	8.29E+00	8.69E-02
	Ethyl Benzene	0.83	92.44	0.77	5.17E+05	1.49E-06
	Hexane	6.28	92.44	5.81	1.81E+06	3.21E-06
	Hydrogen Sulfide	0.93	92.44	0.86	2.58E+03	3.33E-04
	Toluene	2.47	92.44	2.28	7.75E+04	2.94E-05
	Xylene	3.08	92.44	2.85	1.81E+05	1.57E-05
					Σ PSI	**8.69E-02**
437034	Benzene	0.78	341.82	2.67	8.29E+00	3.20E-01
	Ethyl Benzene	0.83	341.82	2.84	5.17E+05	5.49E-06
	Hexane	6.28	341.82	21.46	1.81E+06	1.19E-05
	Hydrogen Sulfide	0.93	341.82	3.17	2.58E+03	1.22E-03
	Toluene	2.47	341.82	8.44	7.75E+04	1.08E-04
	Xylene	3.08	341.82	10.52	1.81E+05	5.81E-05
					Σ PSI	**3.20E-01**
486518	Benzene	0.78	57.75	0.45	8.29E+00	5.42E-02
	Ethyl Benzene	0.83	57.75	0.47	5.17E+05	9.09E-07
	Hexane	6.28	57.75	3.62	1.81E+06	2.00E-06
	Hydrogen Sulfide	0.93	57.75	0.53	2.58E+03	2.05E-04
	Toluene	2.47	57.75	1.42	7.75E+04	1.83E-05
	Xylene	3.08	57.75	1.77	1.81E+05	9.77E-06
					Σ PSI	**5.42E-02**

(1) Provided by Paramount
(2) See Tables 5,6 & 8 of this report
(3) Annual emissions of each TAC (Qyear), lbs/yr
(4) Pollutant Screening Level (PSL), as contained in Table 1A of Attachment L, Risk Assessment Procedures, Version 7.0 (Revised July 11, 2008)
(5) Pollutant Screening Index = Q/PSL

Table 16: ANALYSIS FOR ACUTE COMPOUNDS

A/N	*Toxic Air Contaminant*	*Wt % (1)*	*Total VOC Emissions/hr (2)*	*Qhr (3)*	*PSL (4)*	*PSI (5)*
437035	Benzene	0.78	1.46	0.011	3.96E+00	2.77E03
	Toluene	2.47	1.46	0.036	9.91E+01	3.63E-04
	Xylene	3.08	1.46	0.044	5.89E+01	7.47E-04
					Σ PSI	**2.77E-03**
437034	Benzene	0.78	2.54	0.019	3.96E+00	4.79E-03
	Toluene	2.47	2.54	0.062	9.91E+01	6.25E-04
	Xylene	3.08	2.54	0.078	5.89E+01	3.22E-04
					Σ PSI	**4.79E-03**
486518	Benzene	0.78	0.0066	0.0005	3.96E+00	1.26E-04
	Toluene	2.47	0.0066	0.0001	9.91E+01	1.00E-06
	Xylene	3.08	0.0066	0.0002	5.89E+01	3.39E-06
					Σ PSI	**1.26E-04**

(1) Provided by Paramount
(2) See Tables 5, 6 & 8 of this report
(3) Total hourly emissions of each TAC (Qhour), lbs/hr
(4) Pollutant Screening Level (PSL), as contained in Table 1A of Attachment L, Risk Assessment Procedures, Version 7.0 (Revised July 11, 2008)
(5) Pollutant Screening Index = Q/PSL

Both the cumulative cancer/chronic risk and cumulative acute risk are well below 1; therefore no further risk screening assessment is required.

1401(d)(1) MICR and Cancer Burden

The cumulative increase in MICR shall not result in an increased MICR greater than one in one million, if the permit is constructed without T-BACT and greater than ten in one million if the permit unit is constructed with T-BACT. As shown in the Risk Analysis, Table 15, MICR is very well below the specified limit.

1401(d)(2) Chronic Hazard Index

The cumulative increase in total chronic HI for any target organ system shall not exceed 1.0 at any receptor location. As shown in the Risk Analysis, Table 15, chronic hazard index is very well below the specified limit.

1401(d)(3) Acute Hazard Index
The cumulative increase in total acute HI for any target organ system due to total emissions from the new, relocated or modified permit unit will not exceed 1.0 at any receptor location. The total emissions shall be calculated according to 1401(f)(4) based on maximum hourly basis from permit conditions which directly limit the emissions. As shown in the Risk Analysis, Table 16, acute hazard index is very well below the specified limit.

1401(d)(4) Risk Per Year
The risk per year shall not exceed 1/70 of the maximum allowable risk specified in (d)(1)(A) or (d)(1)(B). Since the MICR is less than 1 in a million, the facility complies with this requirement.

1401(d)(5) Operating conditions imposed pursuant to Rule 1401, which prohibit or limit the use or emission of toxic air contaminants, shall apply only to those toxic air contaminants listed in the version of Rule 1401 applicable at the time the permit conditions were imposed. There is no permit conditions prohibiting or limiting the use of toxic air contaminants for the subject storage tanks.

1401(d)(6) Federal New Source Review for Toxics
Section 112 of the federal Clean Air Act (CAA) defines major source as any stationary source or group of stationary sources located within a contiguous area and under common control that emits or has the potential to emit considering controls, in the aggregate, 10 tons per year or more of any hazardous air pollutant (HAP) or 25 tons per year or more of any combination of hazardous air pollutants (HAPs). Since Paramount does not emit more than 10 tons annually of a listed HAP or more than 25 tons annually of a combination of HAPs, it is not subject to this requirement.

Reg XVII Prevention of Significant Deterioration (PSD)

This regulation sets forth preconstruction review requirements for stationary sources to ensure that air quality in clean air areas does not significantly deteriorate while maintaining a margin for future industrial growth.

The SCAQMD is presently considered in attainment for the following criteria pollutants: NO_2, SO_2, CO and Lead; thus these pollutants are subject to PSD

regulations.

According to the guidance provided in Mohsen Nazemi's email dated August 14, 2007, the AQMD has signed a new Limited PSD Delegation agreement with EPA effective July 25, 2007. Therefore, effective July 25, 2007, the AQMD has PSD responsibility for all new PSD sources and all modifications to existing PSD sources where the applicant is requesting to use the existing Regulation XVII to determine PSD applicability for a modification and not the recent calculation methodology adopted by the EPA as part of the NSR Reform.

The requirements of this regulation are not applicable for the proposed changes covered in this engineering evaluation since there is no net increase in annual emissions of any of the attainment air contaminant.

Reg XX Regional Clean Air Incentives Market (RECLAIM)

Rule 2005: New Source Review for RECLAIM

Paramount is a Cycle 1 NOx and SOx RECLAIM facility. It is therefore subject to Reg XX.

2005(c) Requirements for Existing RECLAIM facilities

This subdivision requires BACT, modeling and proof of sufficient RECLAIM Trading Credits (RTC) for an application for a Facility Permit amendment that results in any increase in NOx and SOx emissions. According to 2005(d), "An increase in emissions occurs if a source's maximum hourly potential to emit immediately prior to the proposed modification is less than the source's post- modification maximum hourly potential to emit. There will be no change in the ratings of the SRU and the TGU Incinerator, therefore, there will be no increase in the maximum hourly potential to emit NOx or SOx emissions. This subdivision does not apply.

2005(g) Additional Federal Requirements for Major Stationary Sources

This subdivision lists additional requirements for application for a Facility Permit or an Amendment to a Facility Permit for a new, relocated or modified major stationary source, as defined in the Clean Air Act, 42, U.S.C. Section 7511a(e). Section 7511a(e)(2) defines modification as any change at a major stationary source which results in any increase in emissions. These applications will not increase NOx or SOx emissions; therefore this subdivision does not apply.

Rule 2011: Requirements for Monitoring, Reporting, and Recordkeeping for

Oxides of Sulfur (SOx) Emissions (Amended 5/6/05)
The tail gas incinerator H-402 is subject to this rule as a major source. A SOx CEMS is installed, maintained and operated to comply with the requirements of this rule.

Rule 2012: Requirements for Monitoring, Reporting, and Recordkeeping for Oxides of Nitrogen (NOx) Emissions (Amended 5/6/05)
The tail gas incinerator H-402 is subject to this rule as a major source. A NOx CEMS is installed, maintained and operated to comply with the requirements of this rule.

Reg XXX Title V Permits

Rule 3001(a): Applicability (Amended November 14, 1997)
The Title V Permit system is the air pollution control permit system required to implement the federal Operating Permit Program as required by Title V of the federal Clean Air Act as amended in 1990. Paramount has been designated as a Phase One Title V facility and has submitted A/N 337522 for their initial Title V permit on February 5, 1998. The final initial Title V permit was issued on February 27, 2009.

Rule 3005: Permit Revisions (Amended March 16, 2001)

The permits for this project will be issued as a revision of the Title V permit. Permit revisions are categorized into four types:

- Administrative revisions;
- Minor revisions;
- De minimis significant revisions; and
- Significant revisions.

As defined in Rule 3000(b)(12) a minor Title V permit revision is any revision that meet all of the criteria below:

1. Does not require or change a case-by-case evaluation of a RACT or MACT emission limitation
2. Does not require any significant change in monitoring terms or conditions in the permit, e. g. change in method, type, frequency, etc.
3. Does not require the relaxation of any recordkeeping or reporting requirement, term or condition in the permit
4. Does not result in an increase in emissions of a pollutant subject to New Source Review or HAP
5. Does not result in an installation of a new permit unit subject to a New Source Performance Standard (NSPS) pursuant to 40CFR 60, or a National Emission Standard for Hazardous Air Pollutants (NESHAP)

pursuant to 40 CFR Part 61 0r 63

6. Does not result in a modification or reconstruction of an existing permit unit, resulting in new or additional NSPS requirements pursuant to 40 CFR 60, or new or additional NESAHP requirements pursuant to 40 CFR Part 61 or 63
7. Does not establish or change a permit condition that the facility has accepted to avoid an applicable requirement
8. Does not result in an emission increase of RECLAIM pollutants over the facility's starting allocation plus NTCs or higher allocation amount which has previously undergone a significant permit revision process and
9. Does not violate a regulatory requirement
10. Or, the proposed revision must require the incorporation of an existing general permit and its associated requirements into another Title V permit.

This Title V permit revision meets all of the requirements above so it is a minor revision. The revision would be a de minimis revision if there is a net increase in VOC emissions. The table below shows that there is not a net VOC emissions increase for this Title V revision.

Table 17: MAX. POTENTIAL CHANGE IN ROG EMISSIONS

Application No.	*Source*	*Net Change, lb/day*
437035	Compressor Crankcase C121 Connection to Fuel Gas System	0.26
437034	Compressor Crankcase C120/C124 Connection to Fuel Gas System, 3HDS D319 Components	0.94
486510	Wastewater	-11.73
486518	Diesel Filter	0.16
TOTAL		***-10.37***

This minor Title V Permit revision will be sent to the EPA for a 45-day review. Public Notice is not required.

PART 2: STATE REGULATIONS

CEQA California Environmental Quality Act

CEQA requires that the environmental impacts of proposed projects be evaluated and that feasible methods to reduce, avoid or eliminate identified significant adverse impacts of these projects be considered. The CEQA Applicability Form

(400-CEQA) submitted by Paramount indicates that the project does not have any impacts which trigger the preparation of a CEQA document; therefore a CEQA analysis is not required.

PART 3: FEDERAL REGULATIONS

40 CFR 63 Subpart CC: National Emission Standards for Hazardous Air Pollutants (NESHAP) for Petroleum Refineries

§63.640 Applicability and designation of affected source (Amended May 25, 2001)

The refining process units and equipment located at the Paramount Refinery are subject to the requirements of this subpart addressing:

- miscellaneous process vents
- storage vessels
- wastewater streams,
- loading, and
- equipment leaks

Paramount has provided data to the District to show that Paramount Refinery is not a major HAP source which is defined as a source emitting 10 tpy of any single HAP or 25 tpy of all HAPs combined. Therefore, this subpart is not applicable because the refinery does not meet the criterion specified by paragraph (a)(1) of this section. Attachment 11 contains the Potential to Emit Hazardous Air Pollutants summary provided by Paramount to the District.

Note: Federal Rules 40CFR60 Subpart J, Subpart GGG and Subpart GGGa applicability are evaluated under Regulation IX above.

CONCLUSION AND RECOMMENDATION

The operation of the subject pieces of equipment is expected to comply with all applicable District, State and Federal Rules and Regulations. Therefore, issuance of Permits to Construct is recommended.

APPENDIX A

HISTORY OF PARAMOUNT'S TAIL GAS UNIT INCINERATOR H-402

5/20/68	Original construction
Prior to1975	No exact date can be located. The following streams vent to H-402: (1)Claus Sulfur Recovery Unit and associated equipment (2)SRU Pit Vent (3)Lean Amine Surge Drum
12/29/75	PC issued to increase rating from 5 to 10 MMBtu/hr; to construct taller stack and improve controls
1/17/01	PC issued to receive vent from soil vapor extraction system
Current	The following streams currently vent to H-402:SRU Tail Gas (1)Claus Sulfur Recovery Unit and associated equipment (2)SRU Pit Vent (3)Lean Amine Surge Drum (4)Caustic Scrubber (5)Sulfur Loading (6)SRU Pit Vent (7)Wastewater Separation (Wemco/Cistern) (8)Spent Caustic Tanks (9)Soil Vapor Extraction System
Proposed	Reroute the current streams venting to H-401 to the front of the Sulfur Recovery Unit excluding the Soil Vapor Extraction System

APPENDIX B

CAPACITY OF PARAMOUNT'S SULFUR RECOVERY UNIT

Paramount's Sulfur Recovery Unit (SRU) was issued a Permit to Construct on April 6, 1973 with a listed capacity of 25 long tons per day (LTD). Various documents in the District's files show that the maximum unit capacity of the SRU is 50 LTD, 64 LTD and that some downstream equipment is sized for even larger capacities. To determine the correct maximum capacity of the SRU, the District and Paramount started discussions and conducted more research pertaining to the District's permitting activities and Paramount's production logs of the SRU.

On February 10, 2009, Paramount provided sulfur production records showing that the SRU actually achieved rates above 25 LTD in the past for numerous days and achieved a maximum rate of 39 LTD between October and December 1988. According to Paramount, they could not locate any original SRU engineering drawings, data and reports. See Attachment 12 for the sulfur productions logs.

District files show that a letter, dated March 14, 1974, was received from Paramount (used to be Douglas Oil Company) from their Chief Engineer stating that they were applying for an application to alter the existing Scot Unit to provide additional capacity for increased tail gas rates resulting from the construction of a 50 LTD sulfur plant. See Attachment 7.

On February 12, 2009, a meeting was held with Jay Chen, Paul Park and Angelita Alfonso in attendance to discuss the preceding information. It was determined and concluded that the 25 LTD capacity listed in the original permit is the nominal capacity and not the design capacity of the SRU. It was agreed that the District will accept and impose the 50 LTD design capacity on the SRU to establish NSPS baseline.

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

ATTACHMENT 1: STIPULATED ORDER FOR ABATEMENT AND FINDINGS AND DECISION OF THE HEARING BOARD CASE NO. 2914-90

Sub I 10-4996

BEFORE THE HEARING BOARD OF THE SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

In the Matter of SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT, Petitioner, v. PARAMOUNT PETROLEUM CORPORATION, Respondent.	Case No. 2914-90 Facility I.D. No. 800183 **STIPULATED ORDER FOR ABATEMENT AND FINDINGS AND DECISION OF THE HEARING BOARD**

FINDINGS AND DECISION OF THE HEARING BOARD

This Petition for a Stipulated Order for Abatement was heard on the Hearing Board's Consent Calendar on August 26, 2008, pursuant to notice and in accordance with the provisions of California Health & Safety Code Section 40823 and District Rule 812. The following members of the Hearing Board were present: Edward Camarena, Chairman; Laurine E. Tuleja, Vice Chair; Joseph D. Auerbach, M.D.; Marti Klein; and Barry Read. Petitioner Executive Officer, represented by Joseph Panasiti, Senior Deputy District Prosecutor, did not appear. Respondent Paramount Petroleum Corporation ("Paramount"), represented by Catherine Wieman of the firm Weston Benshoof Rochefort Rubalcava & MacCuish, LLP, did not appear. The joint Stipulation to Place Matter on Consent Calendar; the Declaration of June M. Christman; and the Proposed Findings and Decision were received as evidence, and the case submitted. The public was given the opportunity to testify. The Hearing Board finds and decides as follows:

FINDINGS OF FACT

1. Petitioner is a body corporate and politic established and existing pursuant to Health and Safety Code Sections 40000, *et seq.* and 40400, *et seq.* and is the sole

and exclusive local agency with the responsibility for comprehensive air pollution control in the South Coast Air Basin.

2. Respondent Paramount operates a petroleum refinery (hereinafter, the "Refinery") within the South Coast Air Basin, located at 14700 Downey Avenue, Paramount, California 90723. The Refinery is subject to RECLAIM, and operates pursuant to Facility Permit No. 800183.

3. Paramount operates several incinerators at the Refinery, at least one of which acts as an air pollution control device to control emissions of volatile organic compounds (VOCs) and hydrogen sulfide (H_2S) from the Refinery. This incinerator, and its corresponding device number, is indicated below:

INCINERATOR	USE	DEVICE ID
H-402	TGTU Incinerator	C175

Sulfur-laden gases from the refining process are directed to the Refinery's Sulfur Recovery Unit, followed by the Tail Gas Unit. The exhaust stream from the Tail Gas Unit goes to the Tail Gas Treatment Unit Incinerator, H-402, for final treatment. Several other streams are currently treated by H-402, including but not limited to streams emanating from the Refinery's caustic scrubber, WEMCO/cistern, caustic truck loading vapor recovery, Tanks 1000/1001, Area-1 vapor recovery, and waste water stripper (these streams are collectively referred to herein as the "Miscellaneous Refinery Gas Streams").

4. Some of the equipment at the Refinery is subject to District Regulation IX, "New Source Performance Standards," which incorporates by reference the new source performance standards ("NSPS") set forth in the Code of Federal Regulations at 40 C.F.R. 60.1, *et seq.* Subpart J of the NSPS contains performance standards for new sources at petroleum refineries and is generally applicable to (a) fluid catalytic cracking unit catalyst regenerators at petroleum refineries, construction or modification of which commenced after June 11, 1973, (b) fuel gas combustion devices at petroleum refineries, construction or modification of which commenced after June 11, 1973, and (c) Claus sulfur recovery plants

at petroleum refineries, construction or modification of which commenced after October 4, 1976. *See* 40 C.F.R. 60.100(a), (b). There are two parts of Subpart J potentially applicable to sulfur emissions from equipment at the Paramount Refinery. The first limits the concentration of sulfur dioxide (SO_2) emissions from a refinery's sulfur recovery unit (the "Sulfur Plant NSPS"). *See* 40 C.F.R. 60.104(a)(2). The second prohibits the combustion in a fuel gas combustion device of fuel gas containing H_2S in excess of an established limit (the "Fuel Gas NSPS"). *See* 40 C.F.R. 60.104(a)(1). Implementation of the Fuel Gas NSPS is described in 40 C.F.R. 60.105, which provides that a refinery may implement the Fuel Gas NSPS by measuring either (1) SO_2 emissions into the atmosphere (40 C.F.R. 60.105(a)(3)), or (2) the concentration of H_2S in fuel gases entering a fuel gas combustion device (40 C.F.R. 60.105(a)(4)).

5. The Sulfur Plant NSPS is inapplicable to the Refinery, because the Refinery's sulfur recovery unit was constructed in 1973, prior to the applicability date of the Sulfur Plant NSPS.

6. The exhaust stream from the tail gas unit that is combusted in H-402 is not subject to the Fuel Gas NSPS.

7. The District asserts that the Miscellaneous Refinery Gas Streams connected to and combusted by H-402 are subject to the Fuel Gas NSPS because their connection to H-402 between the mid-1970s and the present triggered the applicability of the Fuel Gas NSPS, as set forth in 40 C.F.R. 60.100(b). The District further asserts that Paramount violates District Regulation IX whenever the concentration of H_2S in the Miscellaneous Refinery Gas Streams being combusted by H-402 is in excess of the concentration allowed by the Fuel Gas NSPS.

8. Paramount disputes the District's interpretation and contends that the Miscellaneous Refinery Gas Streams are exempt from the Fuel Gas NSPS because they are specifically excluded from the definition of a "modification" that would trigger applicability of the Fuel Gas NSPS by both the alternative fuels exemption, 40 C.F.R. 60.14(e)(4), and the air pollution reduction exemption, 40 C.F.R. 60.14(e)(5).

9. On May 8, 2008, the District filed a Petition for a Stipulated Order for Abatement alleging that Respondent has been operating in violation of District Rules.

10. Paramount is willing to make additional investments at its Refinery to ensure that future emissions from the Miscellaneous Refinery Gas Streams connected to and combusted by H-402 meet the requirements of the Fuel Gas NSPS. These changes will take some time to implement, including time for obtaining necessary permits to construct from the District. Paramount submitted applications for the necessary permits to construct on August 15, 2008. Paramount requested expedited permit processing, and paid all appropriate fees to the District. Paramount needs to continue to operate H-402 while these changes are being implemented.

CONCLUSION

1. The parties have stipulated to the issuance of this Order for Abatement, pursuant to Health and Safety Code Section 42451(b).

2. The Findings of Fact are based on Petitioner's and Respondent's stipulation to an uncontested prima facie case as of the date hereof.

3. The issuance of this Stipulated Order for Abatement will not constitute a taking of property without due process of law.

4. The adoption of the conditions set forth hereinafter is likely to result in compliant operations at Respondent's Refinery.

ORDER

THEREFORE, subject to the aforesaid statements and good cause appearing, Paramount is hereby ordered to cease operation of H-402 as currently configured or comply with the conditions set forth below:

1. Paramount shall implement a project to ensure that future emissions from the Miscellaneous Refinery Gas Streams connected to and combusted by H-402 meet the requirements of the Fuel Gas NSPS. Paramount will re-route certain Miscellaneous Refinery Gas Streams currently venting to H-402 to the front of the Refinery's existing sulfur recovery unit.

2. Paramount shall meet the following conditions:

a) Provided that the District issues the requisite permits on or before November 1, 2008, Paramount shall complete the re-routing of the Miscellaneous Refinery Gas Streams to the front of the Refinery's sulfur recovery unit by March 31, 2009.

3. This Order of Abatement is not and does not act as a variance, and Respondent is subject to all rules and regulations of the District, and to all applicable provisions of California law.

4. The Hearing Board shall retain jurisdiction over this matter until May 31, 2009, or 30 days after Paramount has notified the District that it has completed implementation of the remedial option detailed in Paragraph 1, whichever occurs first.

5. The Hearing Board may modify the Order for Abatement without the stipulation of the parties upon a showing of good cause therefore and upon making the findings required by Health and Safety Code Section 42451(a) and District Rule 806(a). Any modification of the Order shall be made only at a public hearing held upon 10 days published notice and appropriate written notice to Respondent.

FOR THE BOARD: Edward Camarena, Chair

DATED: 9/2/08

Prepared by Catherine M. Wieman.

Reviewed and approved by Joseph M. Panasiti.

1171639.3

PROOF OF SERVICE BY MAIL

I, the undersigned, declare that I am employed in the **County of Los Angeles, State of California**. I am over the age of eighteen years and I am not a party to the within action. My business address is **21865 Copley Drive, Diamond Bar, California 91765.**

On **September 5, 2008** I deposited in the **United States Mail** at **Diamond Bar, California**, an envelope sealed and addressed to

JOCELYN THOMPSON, ESQ
WESTON BENSHOOF
333 SOUTH HOPE STREET
16TH FLOOR
LOS ANGELES, CA 90071

JUNE CHRISTMAN
STEVE FARKAS, ESQ
PARAMOUNT PETROLEUM CORPORATION
14700 DOWNEY AVENUE
PARAMOUNT, CA 90723

CASE FILE NO. 2914-90

which, envelope contained a true and correct copy of the attached **Findings and Decision and/or Minute Orders** before the **Hearing Board**, which envelope was then sealed and placed for collection, mailing and deposit on the above date, in the **United States Postal Service**, following ordinary business practices.

I am readily familiar with the practice of this office for collection and processing of correspondence for mailing with the **United Sates Postal Service**; this correspondence would be deposited with the **United States Postal Service** on the above date in the ordinary course of business.

I declare under penalty of perjury under the laws of the **State of California** that the foregoing is true and correct.

Executed on **September 5, 2008** at **Diamond Bar, California**

Candy Boyajian

Candy Boyajian
Office Assistant

(FORMS CLERK OF THE SO

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

ATTACHMENT 2: SUMMARY OF NOV/NC

South Coast Air Quality Management District

NOV / NC Report

Notice No.	Type	Issued Date	Violation Date	Insp Id	Team	Facility Id	Facility Name	Final Action	Date	Asgmt. No	Follow-up Status	Follow-up Number	Inspector	Date	Violation Description
C67080	NC	07/29/04	07/29/04	HC03	C	800183	PARAMOUNT PETR CORP (EIS			839642	INCOMP		HC03	08/06/04	PROVIDE HOUR BY H
C86466	NC	10/22/04	10/15/04	HC03	C	800183	PARAMOUNT PETR CORP (EIS	CLO	10/22/04	852977	INCOMP		HC03	10/22/04	CONTAMINATED SOIL
C86469	NC	02/25/05	02/25/05	HC03	C	800183	PARAMOUNT PETR CORP (EIS	CLO	01/22/08	871279	INCOMP		RL04	01/22/08	SUBMIT DAILY CONTA
C95525	NC	09/14/05	09/14/05	SG02	C	800183	PARAMOUNT PETR CORP (EIS			905796	INCOMP		SG02	02/09/06	SUBMIT ALL R1176 RE
C95529	NC	01/12/06	01/12/06	SG02	C	800183	PARAMOUNT PETR CORP (EIS	CLO	01/22/08	966921	INCOMP		RL04	01/18/08	ENSURE THAT ALL CE
C95530	NC	02/09/06	02/09/06	SG02	C	800183	PARAMOUNT PETR CORP (EIS			966927	INCOMP		TR01		MAINTAIN RECORDS/
C95531	NC	02/09/06	02/09/06	SG02	C	800183	PARAMOUNT PETR CORP (EIS			929570	INCOMP		SG02	02/24/06	PROVIDE 2 YEARS OF
C95537	NC	06/14/06	06/14/06	SG02	C	800183	PARAMOUNT PETR CORP (EIS			942397	INCOMP		SG02	06/14/06	SUBMIT A REPORT T
D01661	NC	11/01/05	11/01/05	SG02	C	800183	PARAMOUNT PETR CORP (EIS			918831	INCOMP		SG02	11/18/05	REPAIR/REPLACE/RE
D01662	NC	11/01/05	11/01/05	SG02	C	800183	PARAMOUNT PETR CORP (EIS			918835	INCOMP		SG02	11/18/05	REPAIR/REPLACE/RE
D01663	NC	11/01/05	11/01/05	SG02	C	800183	PARAMOUNT PETR CORP (EIS			918838	INCOMP		SG02	11/18/05	REPAIR/REPLACE/RE
D01664	NC	11/03/05	11/03/05	SG02	C	800183	PARAMOUNT PETR CORP (EIS			918839	INCOMP		SG02	11/18/05	REPAIR/REPLACE/ RE
D01665	NC	12/22/05	12/22/05	SG02	C	800183	PARAMOUNT PETR CORP (EIS			921582	INCOMP		SG02	04/06/06	ENSURE THAT MISSIN
D01666	NC	12/22/05	12/22/05	SG02	C	800183	PARAMOUNT PETR CORP (EIS			921578	INCOMP		SG02	01/30/06	DEMONSTRATE TO IN
D01669	NC	11/22/05	11/18/05	SG02	C	800183	PARAMOUNT PETR CORP (EIS			916406	INCOMP		SG02	12/22/05	REPAIR/REPLACE/RE
D01671	NC	06/03/08	06/03/08	RC10	C	800183	PARAMOUNT PETR CORP (EIS			1050478	INCOMP		RC10		PLEASE PROVIDE A W
D01680	NC	10/31/08	09/01/07	CB09	C	800183	PARAMOUNT PETR CORP (EIS			1076985					ENSURE NOX AND SO
P39614	NOV	03/12/08	03/12/08	RL04	C	800183	PARAMOUNT PETR CORP (EIS	CLO	05/14/09	1038155	INCOMP		RL04	03/14/08	1) DISTRICT INSPECT
P39617	NOV	05/14/08	07/17/05	RL04	C	800183	PARAMOUNT PETR CORP (EIS	CLO	05/14/09	1047344	ABATEMENT		RL04	05/23/08	FAILURE TO INSTALL
P42607	NOV	01/14/05	12/17/04	HC03	C	800183	PARAMOUNT PETR CORP (EIS	CLO	05/14/09	865693	INCOMP		HC03	01/15/05	FAILURE TO COMPLY
P42611	NOV	03/18/05	01/14/05	HC03	C	800183	PARAMOUNT PETR CORP (EIS	CLO	05/14/09	875046	INCOMP		HC03	03/19/05	FAILURE TO COMPLY
P42613	NOV	03/18/05	01/14/05	HC03	C	800183	PARAMOUNT PETR CORP (EIS	CLO	05/14/09	875053	INCOMP		HC03	03/19/05	FAILURE TO COMPLY
P42710	NOV	05/24/05	05/23/05	ZS01	C	800183	PARAMOUNT PETR CORP (EIS	CLO	05/30/07	885619	INCOMP		ZS01	05/24/05	PUBLIC NUISANCE CA
P45644	NOV	08/07/08	01/19/07	RC10	C	800183	PARAMOUNT PETR CORP (EIS			1062237					FACILITY FAILED CON
P46844	NOV	04/04/06	03/24/06	KM03	S	800183	PARAMOUNT PETR CORP (EIS	CLO	05/30/07	932189	INCOMP		VD01	05/02/06	Failure to maintain stora
P47411	NOV	11/01/05	11/01/05	SG02	C	800183	PARAMOUNT PETR CORP (EIS	CLO	05/14/09	919822	INCOMP		SG02	11/03/05	Facility oper with light lic
P47412	NOV	11/01/05	11/01/05	SG02	C	800183	PARAMOUNT PETR CORP (EIS	CLO	05/14/09	919823	INCOMP		SG02	11/03/05	Facility operating with s
P47415	NOV	04/06/06	04/06/06	SG02	C	800183	PARAMOUNT PETR CORP (EIS	CLO	05/14/09	947394	INCOMP		SG02	04/06/06	FAILURE TO SUBMIT A
P47416	NOV	04/06/06	04/06/06	SG02	C	800183	PARAMOUNT PETR CORP (EIS	CLO	05/14/09	947395	INCOMP		SG02	04/06/06	FAILURE TO SUBMIT A
P47422	NOV	06/14/06	06/14/06	SG02	C	800183	PARAMOUNT PETR CORP (EIS	CLO	05/14/09	947405	INCOMP		SG02	06/14/06	FAILURE TO COMPLY
P48447	NOV	08/10/07	08/08/07	RL04	C	800183	PARAMOUNT PETR CORP (EIS	CLO	02/12/08	1006312	INCOMP		RL04	11/06/07	DISTRICT INSPECTION
P53502	NOV	11/14/08	11/03/08	CB09	C	800183	PARAMOUNT PETR CORP (EIS	CLO	05/05/09	1080410	INCOMP		CB09	01/15/09	1) FAILURE TO OPERA
P53506	NOV	03/03/09	02/17/09	CB09	C	800183	PARAMOUNT PETR CORP (EIS			1096866	INCOMP		CB09	03/03/09	THE FACILITY WAS F
P53507	NOV	03/20/09	03/11/09	CB09	C	800183	PARAMOUNT PETR CORP (EIS			1103593	INCOMP		CB09	03/20/09	The facility was found t
P53510	NOV	04/03/09	04/01/09	CB09	C	800183	PARAMOUNT PETR CORP (EIS			1103596	INCOMP		CB09	04/03/09	The facility was found t
P53511	NOV	05/19/09	05/14/09	CB09	C	800183	PARAMOUNT PETR CORP (EIS			1109659	INCOMP		CB09	05/21/09	FAILURE TO OPERAT
P53513	NOV	07/01/09	05/27/09	CB09	C	800183	PARAMOUNT PETR CORP (EIS			1116974	INCOMP		CB09	07/01/09	OPERATING INCINER

7/29/2009

South Coast Air Quality Management District

NOV / NC Report

Notice No.	Type	Issued Date	Violation Date	Insp Id	Team	Facility Id	Facility Name	Final Action	Date	Asgmt. No	Follow-up Status	Follow-up Number	Inspector	Date	Violation Description
P53516	NOV	07/01/09	04/25/09	CB09	C	800183	PARAMOUNT PETR CORP (EIS			1116976	INCOMP		CB09	07/01/09	OPERATING INCINERA
P53517	NOV	07/01/09	04/22/09	CB09	C	800183	PARAMOUNT PETR CORP (EIS			1116978	INCOMP		CB09	07/01/09	FAILURE TO OPERATE

Total: 39

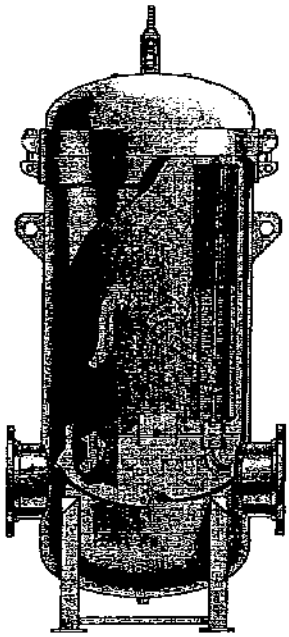
SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

ATTACHMENT 3: SPECIFICATIONS OF THE NEW TANK FARM DIESEL FILTER

FD-720

Facet International
a CLARCOR company

M Series Vertical Filter Housings



M Series vertical filter housings use any of Facet's M Series high efficiency filter cartridges. A single pass of product through the system removes solids such as rust, dirt, scale, granules and other particles commonly found in liquid process streams.

M Series vertical filter housings are available in three styles in several standard and custom sizes to accommodate specific flow and filtration requirements. They are designed with no internal moving parts to provide easy service and reduced maintenance costs. Each housing is manufactured using quality materials and workmanship to give long-lasting, dependable service.

M Series filter housings can be fitted with either multiple single-length cartridges, stacked 1, 2 or 3 high, or their double-length or triple-length equivalents.

STANDARD DESIGN FEATURES

- Body: Welded carbon steel construction — other materials available on request
- ASME Code, Section VIII, Div. 1 construction
- Designed for 150 psi (10.5 kg/cm²) @ 250°F —higher pressure and temperature ratings available on request
- Head closures: Style 1—thru-bolt Styles 2 and 3—swing bolt
- Head gasket: Buna-N o-ring—other materials available on request
- Inlet and outlet permanently marked
- Exterior: Multipurpose prime coated
- Headlift furnished on 20" (508 mm) and larger

STANDARD CONNECTIONS

- Inlet and outlet: Style 1—3000# NPT Styles 2 and 3—150# RF (ANSI) flanged
- Side and bottom drain: 3000# NPT
- Vent and relief valve: ¾" 3000# NPT
- Pressure gauge: ¼" 3000# NPT

OPTIONS

- Air Eliminator
- Differential pressure gauge
- Pressure relief valve
- Manual drain valve
- Interior epoxy coating

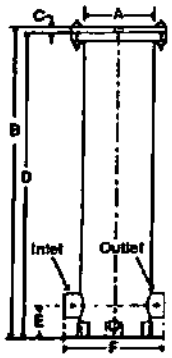
SMALLER HOUSINGS AVAILABLE — SEE All PURPOSE HOUSINGS SECTION

copyright 2006

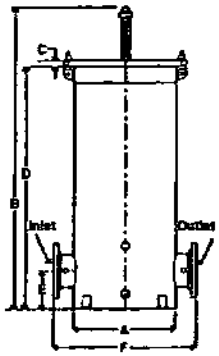
FD-720

Facet International
a CLARCOR company

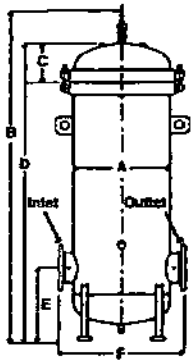
M Series
Vertical Filter Housings



STYLE 1



STYLE 2



STYLE 3

DATA

MODEL NUMBER	CONNECTIONS						ANCHOR BOLT PLAN					LIQUID VOLUME		WEIGHT WITH CARTRIDGES	
	INLET/ OUTLET		SIDE DRAIN		BOTTOM DRAIN		BOLT HOLE DIAMETER		BOLT CIRCLE		NO. OF BOLT HOLES				
	in.	mm.	in.	mm.	in.	mm.	in.	mm.	in.	mm.		gal.	ltr.	lbs.	kgs.
1M-114	2	51	NA	NA	¾	19	⅞	22	11⅝	295	3	5	19	175	79
1M-214	2	51	NA	NA	¾	19	⅞	22	11⅝	295	3	8	30	195	88
1M-314	2	51	NA	NA	¾	19	⅞	22	11⅝	295	3	11	42	215	98
2M-314	4	102	¾	19	¾	19	⅞	22	17	432	4	36	136	500	227
3M-314	4	102	¾	19	¾	19	⅞	22	19	483	4	48	182	550	249
4M-314	6	152	¾	19	¾	19	⅞	22	21	533	4	62	235	860	390
6M-314	6	152	¾	19	¾	19	⅞	22	23	584	4	78	295	940	426
11M-314	8	203	1½	38	1	25	⅞	22	25¼	641	4	175	662	1280	581
18M-314	10	254	1½	38	1	25	⅞	22	32⅝	829	4	350	1325	1975	896
27M-314	12	305	1½	38	1½	38	1	25	47½	1206	4	540	2044	2840	1288

MODEL NUMBER	DIMENSIONS												HOUSING STYLE	HEAD GASKET
	A		B		C		D		E		F			
	in.	mm.	in.	mm.	in.	mm.	in.	mm.	in.	mm.	in.	mm.		
1M-114	8⅝	219	24¼	616	¾	19	23½	596	4	102	12⅜	314	1	691627
1M-214	8⅝	219	38¾	984	¾	19	38	965	4	102	12⅜	314	1	691627
1M-314	8⅝	219	54½	1378	¾	19	53½	1359	4	102	12⅜	314	1	691627
2M-314	14	355	62¼	1581	1	25	53½	1359	6	152	24	610	2	607731
3M-314	14	406	62¼	1581	1	25	53½	1359	6	152	24	610	2	607731
4M-314	16	406	63¾	1619	1	25	55	1397	7½	191	26	660	2	609919
6M-314	20	508	73¼	1861	1¼	32	62¾	1594	7½	191	28	711	2	609920
11M-314	28	711	99¼	2521	11¼	286	89¼	2267	24	610	36	914	3	601299
18M-314	36	914	106¾	2711	14¼	362	95¼	2419	26	660	48	1219	3	601302
27M-314	42	1067	124½	3162	16¾	425	98¾	2508	29½	749	54	1371	3	602209

NOTES:
1. All dimensions, weights, and volumes are approximate and should be used for estimating only.
2. Cartridges are selected separately to fit specific application requirements.
3. Multiple stack cartridges can be replaced with one single-length equivalent. For example: 1M-214 = 1M-128 or 6M-314 = 6M-143, etc.

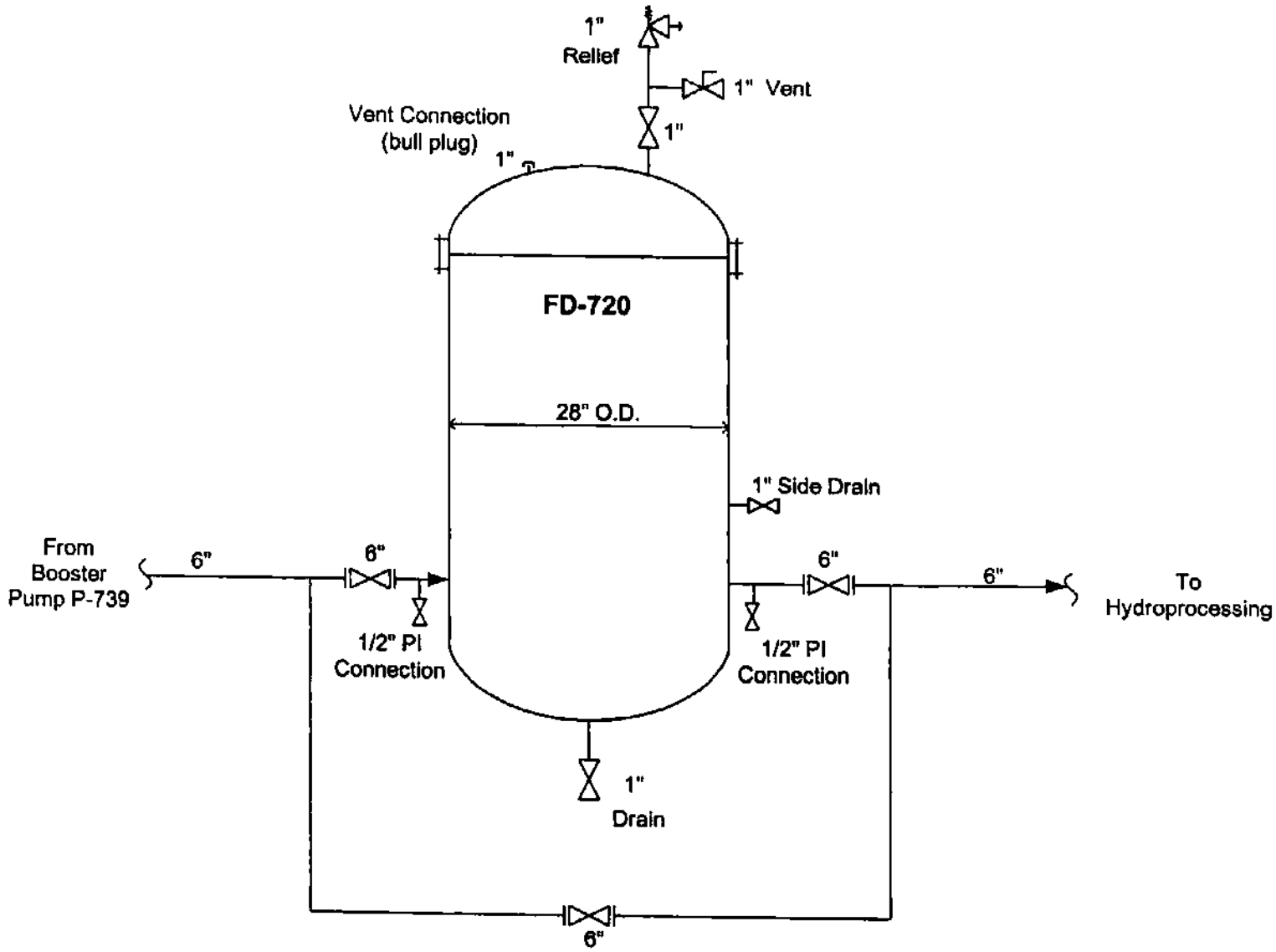
MODEL LEGEND

6 M 3 14

Number of Mounting Blocks — 6
M Series Housing — M
Number of Cartridges Per Block — 3
Nominal Cartridge Length — 14

copyright 2006

Facet I-1 Rev 04-2006 indd 22 2/14/2007 5:08:35 PM



Tank Farm Filter Schematic

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

ATTACHMENT 4: CORRELATION EQUATION METHOD GUIDELINES FOR FUGITIVE E MISSIONS CALCULATIONS, JUNE 2003

Guidelines for Fugitive Emissions Calculations

June 2003

Office of Planning, Rule Development, and Area Sources

South Coast Air Quality Management District

METHOD 2
Correlation Equation Method

APPLY THIS METHOD TO EACH COMPONENT WITH SCREENING DATA.

If an Inspection and Maintenance Program (i. e., Rule 1173 or Rule 1176) is in place at the facility and reliable site-specific screening data are available, the Correlation Equation Method can be used to calculate the fugitive emissions. Oil and Gas Production facilities may use the Correlation Equations and Factors for Refineries and Marketing Terminal. **Enter data from the following steps on Form P1, P1U, R3, or T1 (see form sample on page 20-23), of your Annual Emissions Report and submit the following supporting documentation:**

(1) A printed copy of process unit description and the linkage between the process unit code and the component ID as specified in Step 1 (refer to page 19);

(2) Data diskette(s) with the information specified in the Step 1 in the format shown on page 17 and 18. Note the number of diskette(s) enclosed in the box at the top of the Form P1, P1U, R3 or T1; and,

(3) A printed copy of the Summary Report as specified in Step 3 in the format shown on page 19.

Step 1 Number of Sources (Components)

(a) All components should be counted including Rule 1173 major and minor components, Rule 1176 components as well as Rule 1176 exempt components (i.e., components with potential emissions). Component identification and counting should also be conducted in accordance with the guidelines specified in the CAPCOA/ARB document, dated February 1999. Refer to page 2-4 for helpful diagrams and examples for component identification and screening. **[Heavy Liquid components are defined as components with liquid streams that contain less than or equal 10 percent by volume of volatile organic compound (VOC). Light liquid components are defined as components with liquid streams that contain more than 10 percent of VOC by volume]**

(b) For components that are not inspected and screening data is not available. Method 1 should be used. For components that are inspected under the I & M program but screening data is not maintained for screening values lower than the levels specified in District rules, Method 1 average (default) emission factors may be used.

(c) Facilities should provide a printed copy of the facility-specific process unit description and codes used in their data file(s) submittals. Refer to page 19 for examples of Process Units and Codes.

- If the process unit code is part of the component ID, identify such tagging system to link component ID with the process unit code.
- If the process unit code is not part of the component ID, the linkage between the two should be provided in a separate field in the data files(s) submittal.
- All components not directly associated with any process units should be described and listed by their geographical locations.
- Using the Screening Data Reporting File Format specified on page 17 and 18, provide the following information on diskette(s):
  - ***Indicate each component identification number***
  - ***Indicate the Process Units and Codes for each component*** *(Refer to page 19)*
  - ***Identify components by their accessibility***
    -Indicate either "A", for accessible or "T", for inaccessible
  - ***Identify components by component type***
    - Indicate connector, flange, open-ended line, pump, compressor, etc.
  - ***Identify components by service type***
    - Indicate light liquid, gas/vapor, heavy liquid, etc.
  - ***Indicate the date of inspection*** (not the date of data entry)
  - ***Indicate Inspection Date Screening Value (PPMv)***
    - Inspect and report all components and leak points associated with each component, e.g., flanges associated with a valve should be screened and reported separately (refer to page 2-4).
    - Record each component's screening value from the direct readings of the monitoring instrument. Screening values should include screening data recorded by individual facilities as well as the screening data recorded by District (through inspections) for each component for each reporting cycle.

- All screening should be conducted according to the applicable District rules as well as the CPACOA/ARB guidelines, dated February 1999.
- Screening values should be measured by a calibrated monitoring instrument using EPA Method 21 (Refer to Section "Monitoring Instrument Performance Quality Assurance" below)
- All readings must be taken at the interface of component leak points except for rotating shafts which can be taken within 1 cm (centimeter) of the shaft-seal interface.
- Report all screening values including those less than as well as greater than 1,000 PPMv, (i.e., from 0 PPMv up to 100,000 PPMv or greater). Do not subtract background concentration from the direct readings.
- For screening values exceeding the maximum instrument readings of 10,000 or 100,000 PPMv, report as 10,000 or 100,000 PPMv, respectively. (Use the 10,000 PPMv or 100,000 PPMv pegged factors for these screening values, without adjustment for background concentration, during emission calculations.)
- Screening values for components with "liquid leak" should always be reported as "999,999 PPMv". (For these readings, use the 100,000 PPMv pegged factors without adjustment for background concentration during emission calculations.)

[*Monitoring Instrument Performance Quality Assurance*

– *Monitoring instrument testing, calibration and measurements should follow EPA Method 21*

– *Facilities should exclusively use Flame Ionization Detectors(FIDs) for monitoring, calibrated with methane with no response factor correction applied.*

– *Records of calibration gas specification as required by EPA Method 21, including but not limited to gas manufacturer, PPMv value, and expiration date should be maintained at the facility for at least two years and made available upon request. Calibration of monitoring instrument should be conducted on a daily basis.*

– *Records of testing and calibration of a monitoring instrument and calibration gas should be maintained at the facility for at least 2 years and made available upon request.]*

- ***Indicate the date of repair*** (not the date of data entry)
- ***Indicate Repair Date Screening Value (PPMv)***
  - Indicate the screening value after the repair. Screening value should be reported "as measured" before the repair and after the repair.
  - Follow the same instruction under "Inspection Date Screening Value (PPMv)"
- ***Indicate Background Concentration (PPMv)***
  - A default background concentration of 5 PPMv should be used, if not measured for each component.
  - Report background concentration for each component, if a higher than 5 PPMv concentration is selected. In a separate hard copy, describe the method(s) and locations where measurements were taken.
  - Do not subtract the background concentration from pegged screening values (i.e., values exceeding the instrument's maximum readings) at 10,000 or 100,000 PPMv. (To calculate emissions, only use 10,000 PPMv or 100,000 PPMv pegged factors, whichever is applicable.) For non-pegged readings, subtract the background concentration from screening values during emission calculations.

(d) Enter the total number of components by type and service on the applicable forms (P1, P1U, R3 or T1).

Step 2 Emission Factor (Correlation Equation and Factors)

(a) Use the correlation equations and factors for each component type specified in Table IV-3a on page 10 of this document to calculate fugitive emissions.

(b) After calculating emissions (outlined in Step 3) for each component type, calculate a composite emission factor by dividing the total emissions for each component type by total number of components as follows:

Composite Emission Factor For a Component Type (pounds/source/year)
= (Sub-Total Emissions for a Component Type) / (Total Number of Components for a Component Type)

(c) Enter the composite emission factors on applicable Forms (P1, P1U, R3 or T1). Report emission factors in pounds/source/year, consistently.

Step 3 Sub-Total Emissions

(a) Calculate emissions (in pounds) by component type based on emission rates and correlation equations specified on page 10 of this guidelines document for the following screening ranges: (1) Default Zero Source Range; (2) Correlation Equations Range; (3) The 10,000 PPMv Pegged Source Range; and (4) The 100,000 PPMv Pegged Source Range. (Note that when default zero factors, 10,000 PPMv pegged factors and 100,000 PPMv pegged factors are used, you should not use the correlation equations for calculation emissions.)

- ***Default Zero Range Emissions:*** When the screening value, adjusted for background, equals to "0.0 (zero)" PPMv, use the default zero.
- ***Correlation Equations Range Emissions:*** When the non-pegged screening value (SV), adjusted for background, equals to a value between 0.0 (zero) PPMv and 10,000 PPMv or 100,000 PPMv, use the applicable Correlation Equations.
- ***10,000 PPMv Pegged Source Range Emissions:*** When the screening values are pegged at 10,000 PPMv, use 10,000 PPMv pegged factor. Do not adjust for background concentration.
- ***100,000 PPMv Pegged Source Range Emissions:*** When the screening values are pegged at 100,000 PPMv, use the 100,000 PPMv pegged factor. Do not adjust for background concentration.

(b) When a component inspection results in a higher or lower screening value than its previous inspection (e.g., between quarterly inspections), the average of the two calculated mass emission rates is used to calculate mass emissions during that reporting period.

(c) The emission rate from the first inspection of a component during each reporting period will be used to calculate mass emissions from the beginning of that reporting period (i.e., January 1 for calendar year annual emissions reporting and July 1 for fiscal year annual emissions reporting) through the date of the first inspection.

(d) The emission rate from the last inspection of a component during each reporting period will be used to calculate mass emissions from the date of the last inspection through the end of that reporting period (i.e., December 31 for calendar year annual emissions reporting, and June 30 for fiscal year annual emissions reporting).

(e) Enter sub-total emissions (in pounds) by component type and service on the applicable forms (P1, P1U, R3 or T1).

(f) Provide Summary Report (refer to example on page 19). In the Summary Report, include total number of records submitted and report total emissions by process unit code to assure the data integrity and to assist in identifying possible discrepancies. The facility-specific process unit code should be consistent with the hard copy provided to the District in facility submittals.

Step 4 Total Emissions

The sub-total of emissions from all categories of components should be added to calculate the total fugitive emissions from the facility. Enter total fugitive emissions (in pounds and in tons) on the applicable forms (P1, P1U, R3 or T1).

TABLE IV-3a: CAPCOA-REVISED 1995 EPA CORRELATION EQUATIONS AND FACTORS FOR REFINERIES AND MARKETING TERMINALS [a]

Component Type/ Service Type	Default Zero Factor [b] lb/hr [kg/hr]	Correlation Equation [c] lb/hr [kg/hr]	Pegged Factor [d] lb/hr [kg/hr]	
			10,000 ppmv	100,000 ppmv
Valves/All	1.7E-05 [7.8E-06]	5.00E-06(SV)^0.747 [2.27E-06(SV)^0.747]	0.141 [0.064]	0.304 [0.138]
Pump seals/All	4.2E-05 [1.9E-05]	1.12E-04(SV)^0.622 [5.07E-05(SV)^0.622]	0.196 [0.089]	1.342 [0.610] [e]
Others [f]/All	8.8E-06 [4.0E-06]	1.92E-05(SV)^0.642 [8.69E-06(SV)^0.642]	0.181 [0.082]	0.304 [0.138]
Connectors/All	1.7E-05 [7.5E-06]	3.37E-06(SV)^0.736 [1.53E-06(SV)^0.736]	0.066 [0.030]	0.075 [0.034]
Flanges/All	6.8E-07 [3.1E-07]	9.92E-06(SV)^0.706 [4.53E-06(SV)^0.706]	0.209 [0.095]	0.209 [0.095]
Open-ended lines/All	4.4E-06 [2.0E-06]	4.19E-06(SV)^0.724 [1.90E-06(SV)^0.724]	0.073 [0.033]	0.180 [0.082]

[a]Source: SBCAPCD Report, dated May 1, 1997, entitled *Review of the 1995 Protocol: The Correlation Equation Approach To Quantifying Fugitive Hydrocarbon Emissions At Petroleum Industry Facilities*. Technical corrections and adjustments were made to the refineries and marketing terminals bagged data, obtained by use of the blowthrough method, to account for the hydrocarbon leak flow rate.

[b]The default zero factors apply only when the screening value (SV), corrected for background, equals 0.0 ppmv (i.e., the screening value is indistinguishable from background reading). The default zero factors were based on the combined 1993 refinery and marketing terminal data only; default zero data were not collected from oil and gas production facilities.

[c]The correlation equations apply for actual screening values, corrected for background, between background and 9,999 ppmv and can be used for screening values up to 99,999 ppmv at the discretion of the local district.

[d]The 10,000 ppmv pegged factors apply for screening values, corrected for background, equal to or greater than 10,000 ppmv and are used when the correlation equations are used for screening values between background and 9,999 ppmv. The 100,000 ppmv pegged factors apply for screening values reported pegged at 100,000 ppmv and are used when the local district authorizes use of the correlation equations for screening values between background and 99,999 ppmv.

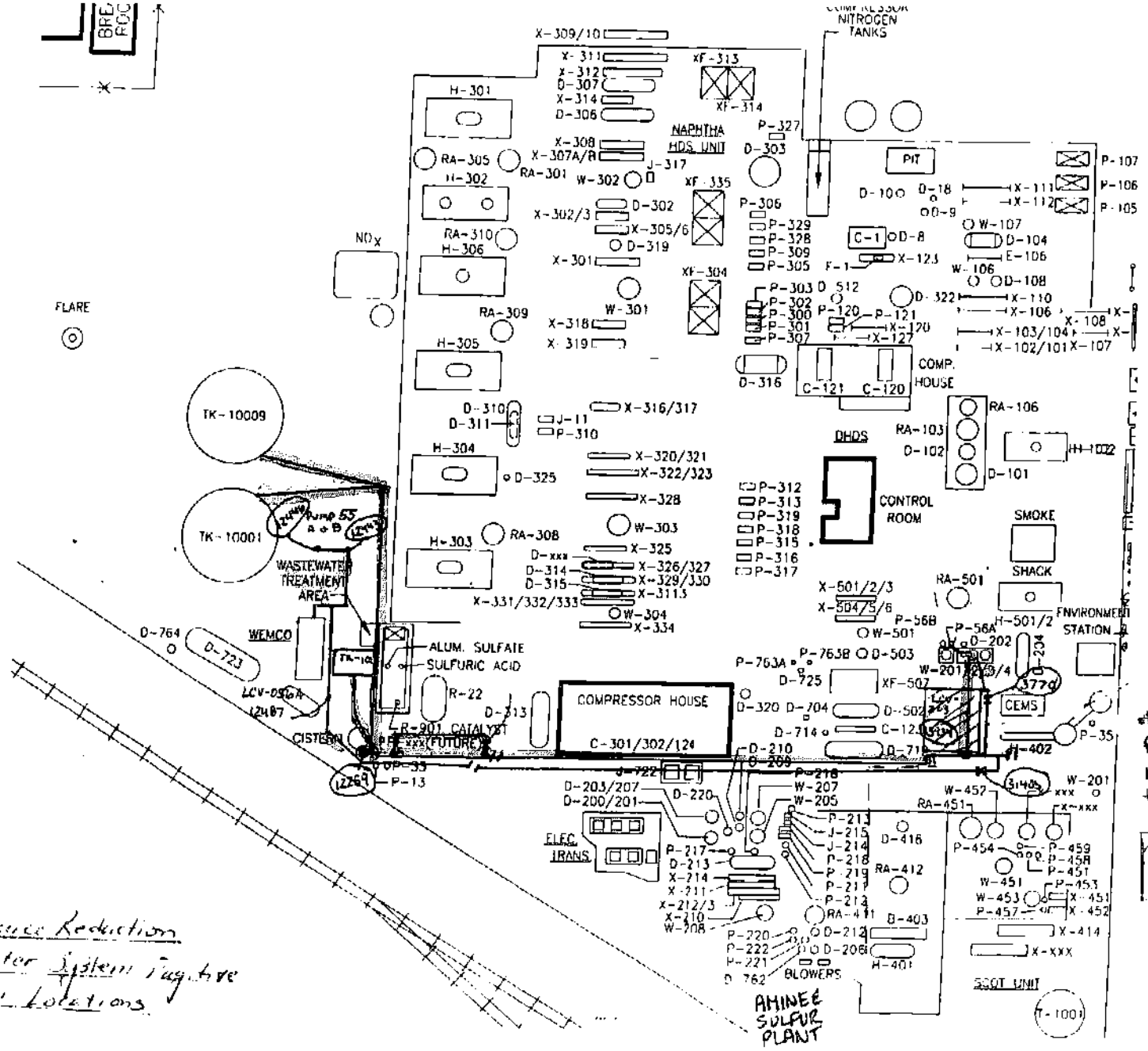
[e]Only 3 data points were available for the pump seals 100,000 ppmv pegged factor.

[f]The "other" component type includes instruments, loading arms, pressure relief valves, vents, compressors, dump lever arms, diaphragms, drains, hatches, meters, and polished rods stuffing boxes. This "others" component type should be applied for any component type other than connectors, flanges, open-ended lines, pumps, or valves. However, if an acceptable emission estimate exists which more accurately predicts emissions from the source, then that emission estimate applies (e.g., positive flowing junction boxes in SCAQMD). (For components such as junction box vents with positive flow, use the following correlation equation: 3.148E-04 $(SV)^{1.02}$ lb/hr [1.428E-04$(SV)^{1.02}$ kg/hr]).

Reference: California Implementation Guidelines for Estimating Mass Emissions of Fugitive Hydrocarbon Leaks at Petroleum Facilities, CAPCOA/ARB, February 1999

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

ATTACHMENT 5: GENERAL LOCATION OF THE WASTEWATER SEPARATION FACILITY (HYDROPROCESSING AREA)

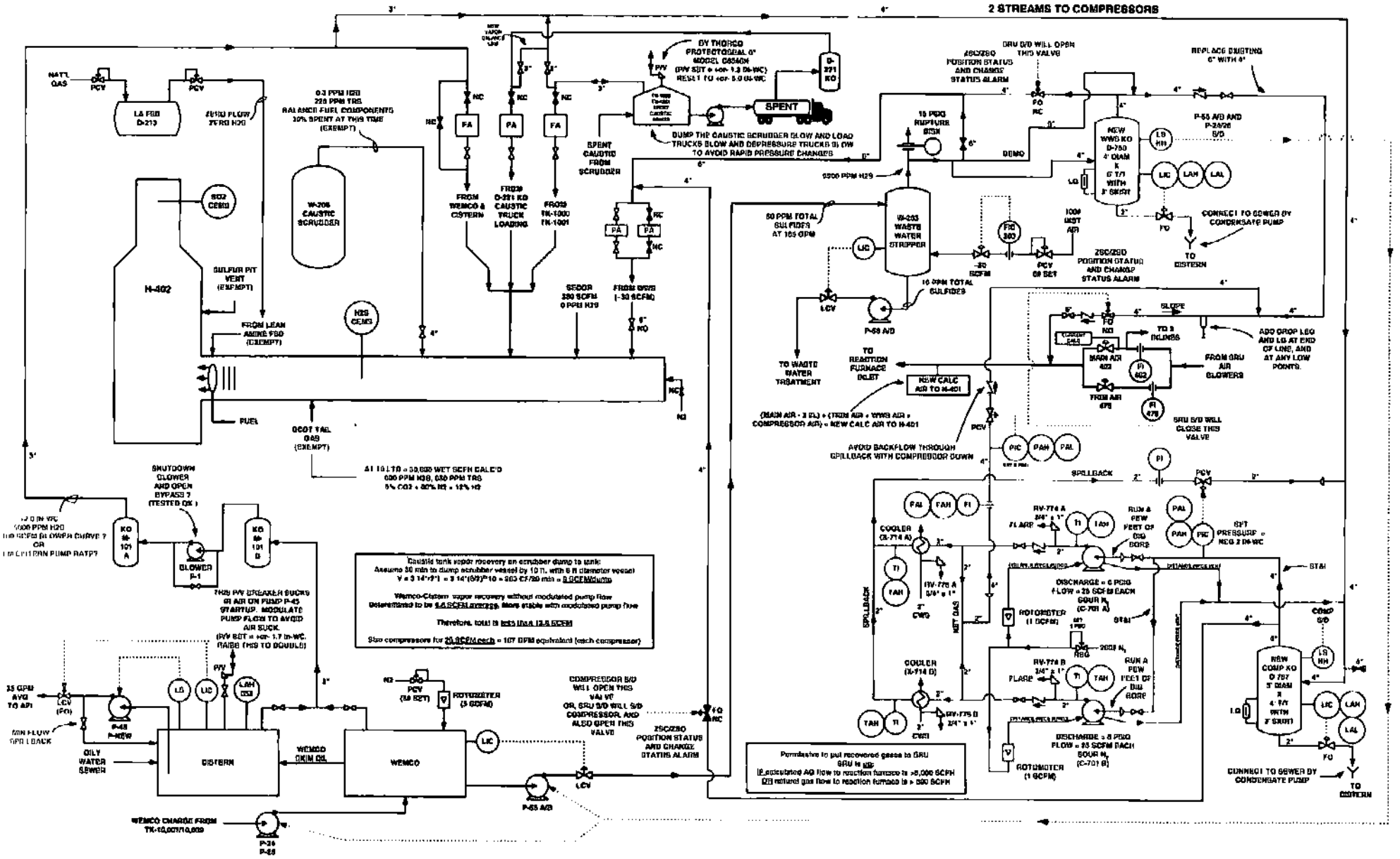


H-462 Source Reduction
Wastewater System Fugitive
Emission Locations

to W203 from Wemco
from W203 to outfall
both tie back to
tks 10001 & 9 when
needed

10/22/08

H-402 H2S Source Reduction
U:/vicio/H-402 H2S Source Reduction.vsd
Rev 7/31/2008



SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

ATTACHMENT 6: TIER 2 RISK ASSESSMENT SUBMITTED BY PARAMOUNT

TIER 2 SCREENING RISK ASSESSMENT

Application deemed complete date:	11/25/08
A/N:	
Fac:	800183

Stack Data		Units
Hour/Day	24	hr/day
Day/Week	7	day/wk
Week/Year	52	wk/yr
Emission Units	lb/hr	
		0
Control Efficiency	0.00	fraction range 0-1
Does source have TBACT?	NO	
Point or Volume Source ?	V	P or V
Stack Height or Building Height	0	feet
Area (For Volume Source Only)	10000	ft^2
Distance-Residential	120	meters — 393 ft
Distance-Commercial	100	meters — 328 ft
Meteorological Station	Vernon	

Source Type:	O - Other	
Screening Mode:	NO	

Emission Units	lb/hr	
S[illegible] output capacity	n/a	n/a

FOR USER-DEFINED CHEMICALS AND EMISSIONS, FILL IN THE TABLE BELOW

USER DEFINED CHEMICALS AND EMISSIONS				R1 - Uncontrolled	Efficiency Factor	R2 - Controlled
Code	Compound	lb/hr	Molecular Weight	lbs/hr	Fraction range 0-1	lbs/hr
[illegible]	Benzene (including benzene from gasoline)	1.01E-02	78.11	0.010054		0.010054
[illegible]	Ethyl benzene	5.01E-04	106.16	0.000501		0.000501
[illegible]3	Toluene (methyl benzene)	7.30E-03	92.13	0.007297		0.007297
[illegible]1	Xylenes (isomers and mixtures)	3.41E-03	106.2	0.003405		0.003405
				0		
				0		
				0		
				0		
				0		
				0		
				0		
				0		
				0		
				0		
				0		
				0		
				0		
				0		
				0		
				0		
				0		
				0		
				0		
				0		
				0		
				0		
				0		
				0		
				0		
				0		
				0		
				0		
				0		
				0		
				0		
				0		
				0		
				0		
				0		
				0		

ATTACHMENT

Risk Calculator Input Parameters

TIER 2 SCREENING RISK ASSESSMENT

Application deemed complete date:	11/25/08
A/N:	
Fac:	800183

Stack Data

		Units
Hour/Day	24	hr/day
Day/Week	7	day/wk
Week/Year	52	wk/yr
Emission Units	lb/hr	
		0
Control Efficiency	0.00	fraction range 0-1
Does source have TBACT?	NO	
Point or Volume Source ?	V	P or V
Stack Height or Building Height	0	feet
Area (For Volume Source Only)	10000	ft²
Distance-Residential	120	meters — 393 feet
Distance-Commercial	100	meters — 328 feet
Meteorological Station	Vernon	

Source Type:	0 - Other	
Screening Mode	NO	

Emission Units	lb/hr	
F[illegible] output capacity	n/a	n/a

FOR USER-DEFINED CHEMICALS AND EMISSIONS, FILL IN THE TABLE BELOW

USER DEFINED CHEMICALS AND EMISSIONS				R1 - Uncontrolled	Efficiency Factor	R2 - Controlled
Code	Compound	lb/hr	Molecular Weight	lbs/hr	Fraction range 0-1	lbs/hr
b[illegible]	Benzene (including benzene from gasoline)	8.00E-03	78.11	0.008		0.008
e[illegible]	Ethyl benzene	3.99E-04	106.16	0.000399		0.000399
t3	Toluene (methyl benzene)	5.81E-03	92.13	0.005806		0.005806
x1	Xylenes (isomers and mixtures)	2.71E-03	106.2	0.00271		0.00271
				0		
				0		
				0		
				0		
				0		
				0		
				0		
				0		
				0		
				0		
				0		
				0		
				0		
				0		
				0		
				0		
				0		
				0		
				0		
				0		
				0		
				0		
				0		
				0		
				0		
				0		
				0		
				0		
				0		
				0		
				0		
				0		

Angelita Alfonso

From: June Christman [JChristman@ppcla.com]
Sent: Wednesday, December 03, 2008 11:22 AM
To: Angelita Alfonso
Subject: Tier 2 Analysis

Angelita,
As discussed, attached is a worst-case comparison of toxic risks before and after completion of our H-402 Source Reduction Project. As discussed, most of the modifications we are evaluating in the refinery are to the Hydroprocessing (HP) wastewater system. There are several other minor piping revisions that may not have been evaluated in permit applications before that are also within the vicinity of the HP wastewater system, and so all fugems were included in the HP wastewater evaluation. The attached evaluation represents all the changes proposed in the permit package provided to you. As you can see, the risk after modifications are complete is calculated to be less than the risk before the modifications.

Also, please note that Paramount does not consider this evaluation to represent actual risk posed by the existing or modified equipment. The risk is overstated both based on the emissions estimate and the Tier 2 evaluation. However Paramount provides this evaluation for comparison purposes, to demonstrate the reduction of toxic health risk that will be accomplished with this project.

Please feel free to contact me with any questions you may have.

June Christman
Paramount Petroleum Corporation
(562) 748 4704

ENVIRONMENTAL AUDIT, INC.®

1000-A ORTEGA WAY • PLACENTIA, CA 92870-7162
714/632-8521 • FAX: 714/632-6754

MEMORANDUM

Project No. 2613

DATE: November 26, 2008

TO: June Christman
Paramount Petroleum

FROM: Marcia Baverman MB

RE: Health Risk Evaluation of Pre- and Post- Modifications

As requested by the South Coast Air Quality Management District (SCAQMD), Environmental Audit, Inc. (EAI) has completed a toxic health risk comparison of the pre- and post- modification emissions that Paramount Petroleum provided. EAI understands that the emissions provided are worst case scenarios and are not based on actual emissions. As such, the emissions are highly conservative.

Pursuant to the SCAQMD Rule Implementation Guidance, Rule 212, Public Notices, Item 2.a., the purpose of the evaluation is to document that the pre-modification emissions compared to the post-modification emissions results in a health risk reduction. This evaluation is not intended to quantify the risk for the purposes of threshold evaluations, and as such is merely a comparison using the same methodology of the pre- and post- modifications.

The methodology employed to perform the comparison is described below:

Emission Estimates: The toxic air contaminants (TACs) emissions were determined by applying the TAC speciation for the wastewater system to the fugitive volatile organic emissions (VOC) worst case pre-and post-modifications scenarios. The maximum calculated hourly emissions are presented in Table 1.

PLANNING, ENVIRONMENTAL ANALYSES AND
HAZARDOUS SUBSTANCES MANAGEMENT AND REMEDIATION

TABLE 1
Maximum Hourly TAC Emissions

Pollutant	Pre-Modifications	Post-Modifications
	Estimated Annual Emissions (lbs/yr)	
VOC	14205.55	11302.84
TAC	TAC Emissions (lb/hr)	
Benzene	0.0101	0.008
Ethyl benzene	0.0005	0.0004
Toluene	0.0072	0.0058
Xylenes	0.0031	0.0027

Health Risk Comparison: A simulated Tier 2 Risk assessment screening pursuant to the Risk Assessment Procedures for Rules 1401 and 212 was performed for both the pre- and post-modification emissions. The Tier 2 Screening was performed using the Rule 1401 Calculator (April 30, 2008 version) from the SCAQMD web-page. The input parameters are shown in Attachment A for the pre- and post-modification scenarios. The resulting calculated screening risk values are shown in Table 2.

TABLE 2
Screening Results

Scenario	Residential MICR	Commercial MICR	Maximum HIA	Maximum HIC
Pre-modifications	6.98e-6	1.59e-6	1.44e-3	5.48e-3
Post-modifications	5.56e-6	1.26e-6	1.14e-3	4.36e-3
Reduction	Yes	Yes	Yes	Yes

Conclusion: As shown in Table 2, the modifications result in a reduction for the maximum risk (MICR, HIA, and HIC). Therefore, the facility modification meets the criteria in the SCAQMD Rule Implementation Guidance, Rule 212, Public Notices, Item 2.a., such that no public notice is required.

If you have questions or comments, please contact me at 714/632-8521 ext. 237.

MRB:DBS:mc

Attachments

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

ATTACHMENT 7: EXCERPTS FROM THE SULFUR RECOVERY UNIT PERMIT FILE TAKEN FROM DISTRICT'S RECORDS

ATTACHMENT 2

AIR POLLUTION CONTROL DISTRICT - COUNTY OF LOS ANGELES

434 SOUTH SAN PEDRO STREET, LOS ANGELES, CALIF. 90013 MADISON 9-4711

APPLICATION NO. A-75171

Section 33 T

AUTHORITY TO CONSTRUCT

GRANTED AS OF 4-6-73

LEGAL OWNER OR OPERATOR:

Douglas Oil Company of California
14708 Downey Avenue
Paramount, California 90723

Attention: Mr. R. E. Boydston
Chief Engineer

Gentlemen:

The equipment described below and as shown on the approved plans and specifications and subject to the special condition, or conditions, listed.

EQUIPMENT DESCRIPTION AND CONDITIONS:

25 LT/D SULFUR PLANT

-CONDITIONS-

1. THIS EQUIPMENT MUST NOT BE OPERATED UNLESS IT IS VENTED ONLY TO AIR POLLUTION CONTROL EQUIPMENT WHICH IS IN FULL USE AND WHICH HAS BEEN ISSUED AN OPERATING PERMIT BY THE AIR POLLUTION CONTROL OFFICER.

2. A SAMPLE PORT AND CALIBRATED FLOW METER MUST BE INSTALLED IN THE TAIL GAS LINE TO THE SCOT AMINE UNIT.

Approval or denial of this application for permit to operate the above equipment will be made after an inspectio to determine if the equipment has been constructed in accordance with the approved plans and specifications an if the equipment can be operated in compliance with all Rules and Regulations of the Los Angeles County Air Pol lution Control District.

Please notify Mr. Herbert Whitehead at MAdison 9-4711 when construction of equipment is completed

It is the applicant's responsibility to comply with all laws, ordinances and regulations of other governments agencies which are applicable to the equipment to be constructed. For example, prior clearance must be obtaine from the Los Angeles County Health Department, Division of Industrial Hygiene, for the use of any toxic material

This AUTHORITY TO CONSTRUCT is NOT a PERMIT TO OPERATE!

IT WILL EXPIRE TWO YEARS FROM THE DATE SHOWN, or sooner, if any change of ownership or address, or modification occurs.

Robert G. Lunche
Acting AIR POLLUTION CONTROL OFFICER

By Helen Thompson
Helen Thompson
Permit Section

RGL:HT:dna

200344 REV 3/7

DOUGLAS
OIL COMPANY OF CALIFORNIA

March 14, 1974

Ms. Beth Malin
Permit Section
Air Pollution Control District
434 South San Pedro Street
Los Angeles, CA 90013

Dear Ms. Malin:

Attached is an application to alter the existing Scot Unit. We filed for an Authority to Construct the original unit on October 25, 1972 and received said authorization on December 14, 1972 under application number A-74432.

The alterations to the Scot Unit will provide additional capacity for increased tail gas rates resulting from the construction of a 50 LTD sulfur plant. Detail P&ID's of the proposed changes are submitted.

Very truly yours,

R. E. Boydston
Chief Engineer

REB:GMH:hh
Attachments
Ck. No. 52239 Enclosed

14708 DOWNEY AVE • PARAMOUNT, CALIFORNIA 90723 • TELEPHONE (213) 625-7541

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

ENGINEERING DIVISION····FIELD REPORT

NAME OF APPLICANT	APPL. NO.	INSPECTION DATE
DOUGLAS OIL COMPANY OF CALIFORNIA	C-02397 C-02795	9/22/77

HISTORY:

This equipment was found to be constructed as described.

In June, 1974, Douglas shut down the sulfur-recovery plants, amine strippers, reformer, and the various desulfurization plants for turnaround. During start-up of these various units, numerous complaints of H_2S odors were received. This was caused by the fact that the various HDS units have to be started up sequentially until H_2S concentration is built up to 5 tons per day before the sulfur plants can be put on-stream. The situation was aggravated by the fact that personnel were not sufficiently experienced in operation of sulfur-recovery equipment in L.A. County, and thus performed sloppily in disposal of H_2S contaminated liquids; thus, aggravating the H_2S odor problem. As a result, all HDS systems, sour-water strippers, sulfur-recovery plants, etc., were denied Permits to Operate. As a remedial measure, the applicant submitted an application for this caustic-scrubbing system to serve as a sulfur-control system during start-up, shutdown, or malfunction.

The 2,000 barrels of 10 percent caustic solution are sufficient to scrub 8.6 tons of H_2S. Since sulfur-recovery equipment will be put into operation when sulfur load reaches 5 tons per day, there is nearly 2 days' reserve caustic before recharging is necessary. This reserve should allow sufficient time for the sulfur-recovery system to be put on-stream.

This system will be used only when required. As yet, its use has not been required. Since the installation of this facility, the applicant has experienced one turnaround; however, they were able to effect a start-up of the various HDS units without the use of the caustic scrubber system.

This gas-scrubbing system is strictly a back-up system to control H_2S emissions. Its use, at the most, will be less than 2 days per year.

Caustic scrubbing is a common method for the removal of H_2S from the gas streams and is used widely for this purpose. Although, as yet, the caustic-scrubbing system has not been used here, it should perform adequately. Since it will be required only occasionally, it is impractical to inspect while in operation. However, this system should operate within the Rules and Regulations of the AQMD. Since the applicant submitted two applications, caustic-scrubbing system (Application No. C-02795), caustic-storage tank (Application No. C-02397), and since this is being considered as a single system according to our permit concept, Application No. C-02795 will be considered the dominant application and Application No. C-02397 will be cancelled. A Permit to Operate is recommended.

kc:11/15/77

SIGNATURE M. J. Misiak, Sr. AQ Engr.

16-500107 R-2-74-6

16-500118

AIR POLLUTION CONTROL DISTRICT - COUNTY OF LOS ANGELES

ENGINEERING DIVISION
APPLICATION PROCESSING AND CALCULATIONS

PAGES	PAGE
	1
APPL. NO. C-02795	DATE 12/8/76
PROCESSED BY MJM	CHECKED BY MW

APPLICANT

DOUGLAS OIL CO OF CA.,
P.O. BOX 198 PARAMOUNT CA 90723 (MAIL ADDRESS)
14708 DOWNEY AVE PARAMOUNT CA. (LOCATION)

EQUIPMENT DESCRIPTION FOR A/C

CAUSTIC SCRUBBING SYSTEM CONSISTING OF:

NW-10 CAUSTIC WASH TOWER
NP-13 FRESH CAUSTIC TRANSFER PUMP
NP-16 SPENT CAUSTIC TRANSFER PUMP

OPERATION

DOUGLAS OIL CO HAS EXPANDED THEIR PARAMOUNT REFINERY BY THE INSTALLATION OF A NEW REFORMER, NEW HDS UNITS, AND NEW SULFUR FACILITIES CONSISTING OF A TAIL GAS UNIT, CLAUS SULFUR RECOVERY UNIT AND NEW AMINE STRIPPING UNITS.
DURING START-UP AND SHUTDOWN OF THE VARIOUS HDS UNITS THERE ARE TIMES WHEN THE CLAUS AND TAIL-GAS UNITS ARE INOPERATIVE AND H_2S AND SO_2 EMISSIONS EXCEED THE LIMITS ALLOWED BY THE RULES AND REGULATIONS OF THE APCD. WITH THIS INSTALLATION ACID GAS FROM THE SOUR WATER STRIPPER AND AMINE REGENERATOR WILL BE DIVERTED FROM THE SULFUR PLANTS FOR SWEETENING PRIOR TO MIXING WITH THE FUEL GAS. IT IS ANTICIPATED THAT THIS EQUIPMENT WILL NOT BE USED MORE THAN ONCE A YEAR.

16-500118

AIR POLLUTION CONTROL DISTRICT - COUNTY OF LOS ANGELES

ENGINEERING DIVISION
APPLICATION PROCESSING AND CALCULATIONS

PAGES	PAGE
3	2
APPL. NO.	DATE
C-02795	12/8/76
PROCESSED BY	CHECKED BY
M-IM	[illegible]

CALCULATIONS

~~None~~ SEE P. 4

FIELD INSPECTION NOTES

1) CHECK EQUIPMENT DETAILS
2) CHECK OPERATION
3) CHECK FOR ODORS

EVALUATION

DURING START-UP AND SHUTDOWN THE VARIOUS H2S UNITS HAVE TO BE STARTED OR SHUTDOWN SEQUENTIALLY. UNDER THIS METHOD OF OPERATION THERE ARE PERIODS WHEN SUFFICIENT H_2S IS NOT AVAILABLE TO FEED THE CLAUS AND TAIL-GAS SULFUR RECOVERY UNITS. HOWEVER THERE IS MORE THAN ENOUGH H_2S IN THE STREAM TO RESULT IN EXCESSIVE EMISSIONS OF H_2S AND SO_2. DOUGLAS OIL CO. STOCK OF AMINE IS 10,000 GALLONS AND THIS ONLY IS SUFFICIENT TO ACCOUNT FOR 1.7 TONS OF H_2S. AFTER WHICH THE SOLUTION IS SATURATED AND THE FUEL GAS OVERLOADS WITH H_2S, THUS RESULTING IN VIOLATION OF SULFUR EMISSIONS TO ATMOSPHERE.

TO AVOID OVERLOADING OF FUEL GAS WITH H_2S THE SOUR GAS STREAMS FROM THE SOUR WATER STRIPPERS AND AMINE REGENERATOR ARE DIVERTED UPON CLAUS UNIT SHUTDOWN TO THE CAUSTIC WASH TOWER WHERE IT IS SWEETENED BEFORE MIXING WITH THE FUEL GAS.

THE SOUR GASES ARE SCRUBBED WITH 10% NaOH TO HALF STRENGTH IN THE WASH TOWER. THE SPENT CAUSTIC IS TRANSFERED TO A SPENT CAUSTIC STORAGE TANK FOR TRANSSHIPMENT OFF-SITE.

THEORETICALLY 2.35 LB NaOH ARE REQUIRED TO REMOVE

16-500118

AIR POLLUTION CONTROL DISTRICT - COUNTY OF LOS ANGELES

ENGINEERING DIVISION
APPLICATION PROCESSING AND CALCULATIONS

PAGES	PAGE
3	3
APPL. NO. C-02795	DATE 12/8/76
PROCESSED BY MJM	CHECKED BY [illegible]

1 LB H_2S. ASSUMING CAUSTIC DISPOSAL AT ½ STRENGTH THEN 4.7 LB NaOH ARE REQUIRED PER LB H_2S. HENCE TO TREAT 1 TON H_2S REQUIRES 94000 LB 10% NaOH. FRESH CAUSTIC CAPACITY IS 1000 BARRELS WHICH IS EQUIVALENT TO APPROXIMATELY 400,000 LB 10% NaOH. HENCE CAUSTIC TREATING CAPACITY BEFORE RECHARGING IS 400,000/94000 = 4.3 TONS H_2S. DOUGLAS OIL CO. CANNOT SATISFACTORILY OPERATE THE SULFUR PLANT AT LESS THAN 5 TONS PER DAY AND THEREFORE WHEN THE H_2S LOAD IS LESS THAN 5 TON SULFUR/DAY THE SOUR GAS WILL BE CAUSTIC SCRUBBED AND AT 4.3 TON SULFUR CAPACITY THE SOUR GASES CAN BE CAUSTIC SCRUBBED FOR ABOUT 1 DAY. THIS PERIOD SHOULD BE MORE THAN SUFFICIENT TO SHUTDOWN OR START-UP ALL THE HDS UNITS AND SULFUR PLANT.

THE PROVISION OF THIS CAUSTIC WASH SYSTEM SHOULD ALLOW THE HDS UNITS AND SULFUR PLANT TO BE STARTED UP OR SHUTDOWN IN AN ORDERLY FASHION WITHOUT VIOLATION OF THE RULES AND REGULATIONS.

AN AUTHORITY TO CONSTRUCT IS RECOMMENDED.

CALCULATIONS

AMINE CAPACITY - 10,000 GALLONS
SOLUBILITY OF H_2S IN AMINE IS APPROX 0.34 LB/GALLON
MAX. H_2S IN AMINE = $0.34 \text{ LB/GAL} \times 10{,}000 \text{ GAL} \times \frac{1 \text{ T}}{2000 \text{ LB}} = 1.7 \text{ TONS}$

H_2S REMOVAL CAPACITY IN CAUSTIC

CAUSTIC STORAGE CAPACITY IS 1000 BARRELS = 42,000 GALS
STRENGTH CAUSTIC IS 70% BY WT.
CAUSTIC STRENGTH @ DISPOSAL = 5%
ASSUME 10% CAUSTIC TO WEIGH 10#/GAL

THEORICALLY

$$\underset{80 \text{ LB}}{2NaOH} + \underset{34 \text{ LB}}{H_2S} \longrightarrow Na_2S + 2H_2O$$

HENCE 1 LB H_2S REQUIRES $\frac{80 \text{ LB}}{34 \text{ LB}} = 2.35$ LB NaOH

SINCE CAUSTIC IS SPENT @ 1/2 STRENGTH
REQUIREMENT OF 10% CAUSTIC = $2.35 \times 2 \times 10 = 47$ LB 10% CAUST. PER LB H_2S.

WT. H_2S THAT CAN BE TREATED

$$\frac{42{,}000 \text{ GALLON}}{47 \text{ LB/LB}} \times \frac{10 \text{ LB}}{\text{GALLON}} \times \frac{1 \text{ TON}}{2000 \text{ LB}} = 4.68 \text{ TONS}$$

TOTAL H_2S REMOVAL CAPACITY WITHOUT REGENERATION OF AMINE AND RECHARGING WITH FRESH CAUSTIC IS
$4.68 + 1.7 = 6.38$ TONS

MAX. CLAUS PLANT OPERATION IS 25 TON/DAY OR ≈ 1 TON PER HR. HENCE @ MAX. H_2S PRODUCTION PLANT CAN BE OPERATED FOR SIX HOURS. SINCE IN AN EMERGENCY NDS PLANTS CAN BE SHUT DOWN IN 5-10 MIN. MAX. H_2S POTENTIAL IS $\frac{70}{60} \times 2000$ LB = 370 LB/ AND WOULD DECREASE TO ZERO. HENCE H_2S REMOVAL WOULD BE AMPLE

16-500118

AIR POLLUTION CONTROL DISTRICT - COUNTY OF LOS ANGELES

ENGINEERING DIVISION
APPLICATION PROCESSING AND CALCULATIONS

PAGES	PAGE
2	1
APPL. NO. C-02337	DATE 12/16/75
PROCESSED BY HWM	CHECKED BY HCW 12/18/75

APPLICANT

DOUGLAS OIL CO OF CA.
14708 DOWNEY AVE PARAMOUNT CA 90723 (MAIL ADDRESS)
14708 DOWNEY AVE PARAMOUNT (LOCATION)

EQUIPMENT DESCRIPTION FOR A/C

SPENT CAUSTIC SYSTEM CONSISTING OF:

NT-11 TANK, 42,000 GALLON CAPACITY, 21'-6" DIA. X 16'H WITH A FIXED ROOF
SUMP, 4'-0" W X 4'-0" L X 6'-0" DEEP
NP-14, CAUSTIC SUMP PUMP
NP-15, SPENT CAUSTIC LOADING PUMP

OPERATION

THIS SYSTEM WILL BE USED TO STORE AND LOAD OUT SPENT CAUSTIC GENERATED IN THE CAUSTIC WASH TOWER NW-10 WHICH WILL BE USED TO DESULFURIZE SOUR GAS FROM THE SOUR WATER STRIPPER ACID GAS K.O DRUM AND FROM THE AMINE REGENERATOR ACID GAS K.O, DRUM WHEN THE CLAUS SULFUR PLANT IS SHUT DOWN OR STARTED-UP. IT IS ANTICIPATED THAT THIS WILL HAPPEN NOT MORE THAN ONCE A YEAR.

CALCULATIONS

NONE

16-50D118

AIR POLLUTION CONTROL DISTRICT • COUNTY OF LOS ANGELES

ENGINEERING DIVISION
APPLICATION PROCESSING AND CALCULATIONS

PAGES	PAGE
2	2
APPL. NO.	DATE
A-02397	12/16/75
PROCESSED BY	CHECKED BY
HJH	[illegible] 12/18/75

FIELD INSPECTION NOTES

1) CHECK TANK & PUMP DETAILS
2) CHECK TANK CONTENTS
3) CHECK FOR DOORS

EVALUATION

THIS TANK IS A TYPICAL FIXED ROOF TANK USED FOR THE STORAGE OF LIQUIDS. IT WILL BE USED TO STORE SPENT CAUSTIC SOLUTION WHICH HAS A NEGLIGIBLE VAPOR PRESSURE. TANK TURNOVER IS EXPECTED TO BE LESS THAN ONCE A YEAR.

THIS TANK SHOULD OPERATE WITHIN THE RULES AND REGULATIONS OF THE A.P.C.D. AN AUTHORITY TO CONSTRUCT SHOULD TO STANDARD CONDITION No. 46 IS RECOMMENDED.

CAUSTIC SYSTEM

Pumps

Number	Service	Manufacturer	Seal Type	Hp	Drive Type
P-206	Caustic Circ	Pacific	Packing	25	Motor
P-207	Caustic Circ	Pacific	Packing	25	Motor
P-208	Caustic Sump	Rupp	-	-	Motor
P-214	Caustic Return	Pacific	Packing	5	Motor
P-215	Caustic Return	Pacific	Packing	5	Motor

Towers

Number	Service	Diam x Height
W-206	Caustic Wash	Btm 6' O.D. x 15' Top 2'6" O.D. x 14'8"

Tanks

Number	Service	Capacity-Bbls
T-1000	Caustic Storage	1000
T-1001	Caustic Storage	1000

Relief Valves

Number	Location	Size	Set Press psig	To:
RV-209	W-206	3 x 4 x L	63	Flare

Sump

Number	Service	Size
-	Caustic Spill	4' x 4' x 6' Deep

AMINE TREATING UNIT AS DESCRIBED BY A-79442
AND MODIFIED AS FOLLOWS

RECEIVED

'75 NOV 25 PM 1 : 37

L.A. COUNTY
AIR POLLUTION
CONTROL DISTRICT

Description of Modifications

New knockout drums, hydrocarbon skimming facilities, amine strength control piping and alternate caustic treating facilities are provided to permit continued non-polluting operation at all times.

1. Knockouts are provided ahead of all amine contactors to avoid hydrocarbon contamination.

2. A knockout is provided on the amine regenerator overhead acid gas stream to eliminate water slugs to the sulfur recovery unit.

3. Hydrocarbon skimming facilities are provided for all amine levels to avoid hydrocarbon slugs to the sulfur recovery unit.

4. A line is provided to withdraw sour water from the amine system to permit maintenance of adequate amine concentration.

5. Caustic facilities are provided to remove H_2S and SO_2 from fuel and waste gases when the amine plant is not operating.

The addition of knockout drums to the amine treating unit is designed to increase the probability of maintaining high unit efficiency and to minimize the possibility of upsets in amine sweeting and sulfur recovery units.

The amine sweeting unit includes the amine contactors for sour gases from the Gas Oil HDS and Distillate HDS and refinery produced fuel gas. A knockout drum is to be installed in front of each contactor to prevent liquid hydrocarbons from entering the contactors. Location of the drums and connections are as follows:

Gas Oil HDS Amine Contactor Knockout Drum - (ND-13) - SD-2336-42-12-D

Distillate HDS Amine Contactor Knockout Drum - (ND-12) - SD-2336-42-4D

Fuel Gas Amine Contactor Knockout Drum - (ND-14) - SD-2336-42-12D, SD-2336-42-1L

If liquid hydrocarbons enter the contactors, the foaming that results will cause several problems. First, the foam will be carried out with the sweetened gas to the gas compressors. This will damage the compressors. Second, the amount of amine loss from the contactors will increase. Third, foaming will also occur in the amine regeneration reflux drum. This foam will be carried out with the acid gas to the sulfur recovery unit and cause upsets or possible shut-downs in that unit.

To further increase the protection of the sulfur recovery plant from liquid feeds from the amine regenerator, a new knockout drum (ND-10) is proposed. This drum is installed after the amine regenerator reflux drum and before the sulfur recovery unit (see Drawings SD-2336-42-12-D and SD-2336-42-3L). ND-10 is sized to remove liquid particles from the acid gas stream and give the operators more time to correct problems that can cause large liquid volumes to be sent to the sulfur recovery plant.

Level alarms are provided in the control room to inform the operators of any emergency situation in the knockout drums.

The hydrocarbon recovery system will provide the capability of collecting hydrocarbon liquid accumulating in various process vessels throughout the hydroprocessing area. The system will collect hydrocarbon liquid from the following vessels:

Distillate HDS Amine Contactor (W-201)
Distillate HDS Amine Contactor K.O. Drum (ND-12)
Gas Oil HDS Amine Contactor (W-207)
Gas Oil HDS Amine Contactor K. O. Drum (ND-13)
Low Pressure Amine Contactor (W-205)
Amine Regenerator (W-208)
Amine Regenerator Reflux Drum (D-212)
Lean Amine Surge Drum (D-213)

Refer to Drawings SD-2336-42-1-L and SD-2336-42-12-D.

The hydrocarbon recovery system consists of two drums, an HC-amine separator (ND-16) and a hydrocarbon accumulator (ND-15). The HC-amine separator (ND-16) is used to collect hydrocarbon liquid from the hydrocarbon-amine interface of W-201, W-207, W-205, W-208, D-212, and D-213. Hydrocarbon removal from the various process vessels will be conducted on an "as needed" batch operation. The liquid accumulated in ND-16 will be allowed to sit for a short period to separate the hydrocarbon liquid from any amine that may have been withdrawn during the operation. ND-16 will then be pressured with fuel gas and any amine accumulation pressured into the lean amine surge drum. Hydrocarbon accumulation will be drawn from above the interface and pressured into the hydrocarbon accumulator (ND-15).

The hydrocarbon accumulator will also collect the hydrocarbon liquid accumulating in the absorber knockout drums, ND-12, ND-13, and ND-14. Draining of the K.O. drums will also be conducted on as "as needed" batch operation. During draining operations, the hydrocarbon accumulator will float on fuel gas pressure, and allow any vapor flashing from the hydrocarbon streams to be utilized in the fuel gas system. The hydrocarbon collected in ND-15 will be pressured to sour naphtha storage.

When the low pressure amine contactor or Claus plant is not operating, the new caustic wash tower (NW-10) treats sour gas to remove sulfur. The caustic wash tower, as shown on Drawing SD-2336-42-12-D, is made up of two sections. The top section of the tower contains metal pall ring packing, caustic distributors, and demister pad. This section of the tower contacts the caustic with the gas in the 10 ft. high packed zone. When the sour fuel gas cannot go to the low pressure amine contactor, it can be treated indefinitely with the caustic wash tower. The lower section of the caustic tower is used as a storage drum of caustic which is sufficient to treat acid gas from the amine regenerator reflux drum and sour water stripper for 15 minutes. In the event of a Claus plant shutdown, the acid gas is automatically sent to the caustic wash tower while the distillate and gas oil HDS units are shut down. To treat the acid gas for longer than 15 minutes, the caustic circulation pumps (NA-13, 16 or 17) must be started. When the distillate and gas oil HDS units have been shut down (approx. 30 min.), the fuel gas is sent through the caustic wash.

Sour fuel gas from the crude units, distillate HDS fractionator overhead, and gas oil HDS reflux drum is treated with caustic in the upper portion of the caustic wash tower. To treat the fuel gas for long periods of time (greater than 24 hours) new caustic must be brought in and mixed in NT-10. The spent caustic must also be removed from NT-11 continually. Caustic from the bottom of the wash tower is recycled back up to the top of the wash tower to provide enough liquid flowing down the tower to keep the packing wet. A slip stream from the recycle stream is sent to the spent caustic tank NT-11. If the caustic wash tower is not used first to treat the amine regenerator and sour water stripper gas, the supply of caustic in the bottom of the wash tower is recycled to the top of the tower before fresh caustic from storage is brought in. A sample connection, at the suction of the spent caustic transfer pumps (NP-16,17) is used to monitor the caustic strength after passing against the sour gas.

APPLICATION NO. C-02795

The acid gas from the amine regenerator and sour water stripper knockout drums is automatically sent to the new caustic wash tower on a shutdown of the Claus plant. Six motor operated valves are tied into the Claus shutdown control system. The Claus shutdown signal opens the valves (NMOV-2,3,5) from the new amine regenerator knockout drum (ND-10), the new sour water stripper knockout drum (ND-11), and the line from the caustic wash tower to the flare. Valves (NMOV-1,4,6) to the Claus plant from the amine regenerator knockout drum, the sour water stripper knockout drum, and from the caustic wash tower to the fuel gas system close with the same signal. This passes the gas from the amine regenerator and sour water stripper through the caustic wash tower with the outlet gas going to the flare. There is enough caustic contained in the lower portion of the caustic wash tower to treat the acid gases for 15 minutes. This gives the operators time to start shutting the distillate and gas oil HDS units down. If additional time is required to completely shut the two HDS units down, the operators must bring in fresh caustic from storage and pump spent caustic to storage. When treating either fuel gas or acid gas from the amine regenerator and sour water stripper, the caustic is sampled at the suction of the spent caustic transfer pumps (NP-16,17). A simple

test of the spent caustic showing what amount of the caustic is unreacted will tell how much caustic is needed to treat the gas. The three flow indicators (NFI-10, 11, 12) are installed to balance the amount of caustic going into and coming out of the caustic wash tower.

Included in the caustic system is the caustic handling facility shown on Drawing SD-2336-42-8-B. Caustic is delivered in tank trucks in a 50 per cent solution. The caustic is pressured from the truck to the new caustic storage tank (NT-10) using plant air. Water to dilute the caustic to a 10 per cent solution is added to the tank through the sparger on the tank bottom. To mix the caustic and water, air is sent in through the sparger. The spent caustic from the wash tower is returned to the new spent caustic tank (NT-11). The spent caustic is loaded from the tank to trucks using the new loading pump (NP-15). The area around the two tanks and truck loading and unloading area is all cement and is bounded by a 6 inch curb. A sump with connecting drains is provided to catch any spills of caustic in the area. Spilled caustic or runoff from rain is pumped from the sump to the spent caustic tank.

Liberty
139654
SRU

ROUTING RECORD

DATE	FROM	TO	ACTION
1/3/86	RAA	YCC	I
1/27/86	YCC	P/S	P/C
12/18/87	RRS	SY	P/O

RECORD [illegible] VARIANCES:

ALPHA FILE

✓43012

AP 139654

Y	[illegible]	2/10/86
X	[illegible]	1/25/88 2/10/86

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

PERMIT to OPERATE

9150 FLAIR DRIVE, EL MONTE, CALIFORNIA 91731

M 60250

Operation under this permit must be conducted in compliance with all information included with the initial application and the initial permit conditions. The equipment must be properly maintained and kept in good operating condition at all times. In accordance with Rule 206, this Permit to Operate or copy must be posted on or within 8 meters of equipment.

LEGAL OWNER OR OPERATOR: PARAMOUNT PETROLEUM
14708 DOWNEY AVENUE

EQUIPMENT LOCATED AT: PARAMOUNT, CALIFORNIA

APPL. NO. 139654
PREVIOUS PERMIT NO. RM32813

EQUIPMENT DESCRIPTION AND CONDITIONS:

SULFUR-RECOVERY UNIT NO. 2 CONSISTING OF:

M-401	REACTION FURNACE, 3'-8" DIA. X 21'-0" L., WITH ONE ACID GAS BURNER.
RA-411	FIRST-STAGE CONVERTER, 12'-0" DIA. X 12'-0" H.
RA-412	SECOND-STAGE CONVERTER, 8'-0" DIA. X 19'-6" H.
	SULFUR-STORAGE PIT, 12'-0" W. X 52'-0" L. X 8' TO 10' DEEP, WITH VENT CONNECTION TO INCINERATOR H-402
D-413	CONDENSATE BLOWDOWN DRUM, 2'-0" DIA. X 7'-0" H.

This initial permit must be renewed by 09/01 ANNUALLY unless the equipment is moved, or changes ownership. If billing for annual renewal fee (Rule 301.f) not received by expiration date, contact office above.

This permit does not authorize the emission of air contaminants in excess of those allowed by Division 26 of the Health and Safety Code of the State of California or the Rules of the Air Quality Management District. This permit cannot be considered as permission to violate existing laws, ordinances, regulations or statutes of other government agencies.

EXECUTIVE OFFICER

BY RAQUEL M. PUERTA

DATE 02/02/88

572-6321

April 27, 1978

Appl. Nos. C-02396, C-02392
SECTOR CB

DOUGLAS OIL COMPANY OF CALIFORNIA
14708 Downey Avenue
Paramount, CA 90723

Attention: Mr. Joseph J. Lusardi
SENIOR ENGINEER

Gentlemen:
Transmitted herewith are the following permits authorizing you to operate the describe equipment:

Permit No.	Application No.	Equipment Description
M-03695	C-02396	WASTE GAS INCINERATOR (H-402)
M-03696	C-02392	SULFUR-RECOVERY UNIT NO. 2

Rule 206. A person granted a permit under Rule 203 shall not operate or use any equipment unless the entire permit to operate or a legible facsimile of the entire permit is affixed upon the equipment in such a manner that the permit number, equipment description, and the specified operating conditions are clearly visible and accessible. In the event that the equipment is so constructed that the permit to operate or the legible facsimile cannot be so placed, the entire permit to operate or the legible facsimile of the entire permit shall be mounted so as to be clearly visible in an accessible place within 8 meters (26 feet) of the equipment or as otherwise approved by the Air Pollution Control Officer.

These permits are being issued covering your application on file at the Air Quality Management District.

Very truly yours,

Eric E. Lemke
Chief Deputy APCO
Metropolitan Zone

EEL:HT:la
Encs.

Helen Thompson, Permit Section

South Coast
AIR QUALITY MANAGEMENT DISTRICT
METROPOLITAN ZONE
9150 FLAIR DRIVE, EL MONTE, CALIFORNIA 91731 • (213) 572-6322

26259
4/21

March 23, 1978

DOUGLAS OIL COMPANY OF CALIFORNIA
14708 Downey Avenue
Paramount, CA 90723

Request For Fee Due

Attention: Mr. Joseph J. Lunardi
SENIOR ENGINEER

Gentlemen:

Please refer to your application for permit to operate the equipment described on the attached page(s). This equipment has been inspected and found to be operating satisfactorily. If it has been determined that a conditional permit is necessary (under Rule 203), the conditions are so listed with the description. If not so listed, conditions are not required.

Pursuant to Rule 301 of the District Rules, adopted on January 7, 1977, an applicant is required to pay a fee for filing and a fee for a permit to operate.

Permits to operate are valid only for one year. All permits to operate are renewable one year after the date of issuance. On the anniversary of the date of issuance of your permit to operate, you will be notified by mail of the annual permit renewal fee due and payable.

The permit fee due at this time is shown in the last column of table below. Upon receipt of the amount indicated, your permit(s) to operate will be issued. NON-PAYMENT OF THE FEE BY APRIL 20, 1978 WILL RESULT IN THE AUTOMATIC CANCELLATION OF THIS APPLICATION AND THE LOSS OF THE FILING FEE. For further information, please call 572-6322.

Appl. No.	Fee Schedule	Rating	Permit Fee Due
C-02396	2	-	$550.00
C-02392	1	250.H.P.	700.00
		TOTAL FEE DUE:	$1,250.00

Very Truly Yours,
Eric E. Lemke
Chief Deputy APCO
Metropolitan Zone

EEL:HT:la
Enclosures

Helen Thompson, Permit Section

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
METROPOLITAN ZONE

ENGINEERING DIVISION

APPLICATION EMISSION DATA SHEET

☐ P/C

☒ P/O

DATE: 10-26-77

APPL. NO.: C-02392

NAME: DOUGLAS OIL COMPANY OF CALIFORNIA

ADDRESS: 14708 DOWNEY AVE, PARAMOUNT 90723

☐ Rule 213 Applicable (unit installed or permit to construct for unit issued on or subsequent to 10/8/76).

☒ Rule 213 not applicable (unit installed or permit to construct unit issued prior to 10/8/76).

Emissions From This Permit Unit: – NONE (AIR POLLUTION CONTROL UNIT)

Lb/Hr (Maximum Day of Week)

HC_____ NO_x_____ SO_2_____ CO_____ Part._____

Lb/Day (Maximum Day of Week)

HC_____ NO_x_____ SO_2_____ CO_____ Part._____

Altered Permit Unit ☐ Yes ☐ No Prior Permit No._____

If above is "Yes" enter emissions from previous permit unit:

Lb/Hr (Maximum Day of Week)

HC_____ NO_x_____ SO_2_____ CO_____ Part._____

Lb/Day (Maximum Day of Week)

HC_____ NO_x_____ SO_2_____ CO_____ Part._____

Reductions achieved concurrent with this application.

Appl. No.	H/C Total		NO_x		SO_2		CO		Part.	
	#/Hr	#/Day	#/Hr	#/Day	#/Hr	#/Day	#/Hr	#/Day	#/Hr	#/Day

BACT Evaluation: Date_____ Appl. No._____. Has BACT? ☐ Yes ☐ No.

Engineer H. L. Whitehead

332-600792

☐ A/C
☒ P/O
☐ CANCEL

INSTRUCTIONS TO PERMIT SECTION

APPLICATION NO. C-02392

DISPOSITION:

- ☒ APPROVED
- ☐ DENIED
- ☐ CANCELED - DON'T REFUND FILING FEE
- ☐ CANCELED - REFUND FILING FEE, SEE COMMENTS

PERMIT UNIT WORDING:

- ☐ BELOW
- ☒ ON FIELD REPORT DATED 9-21-77
- ☐ ON PAGE ____ OF PROCESS SHEETS
- ☐ ON ____

CONDITIONS:

- ☐ NONE
- ☒ NUMBERS LISTED NO. 3
- ☐ SPECIAL (SEE PERMIT UNIT WORDING & CONDITIONS)
- ☐ AS ON ____

PREVIOUS PERMIT NO(S) NONE

PERMIT UNIT WORDING & CONDITIONS:

SCHEDULE	1 H.P.*	2 1000s BTU*	3 KVA*	4 SQ. FT.*	5 GALLONS*	6 MISC.
RATING						
FEE						

*FOR ALTERATIONS SHOW ONLY INCREASES

- ☐ CHANGE OF OWNERSHIP
- ☐ CHANGE OF LOCATION
- ☐ CHANGE OF CONDITION
- ☐ ALT. NO RATING INCREASE
- ☐ ALT. INCREASE IN RATING
- ☐ GOVERNMENT APPLICATION

FEES

APPLICABLE FEE SCHEDULE	1
TOTAL FEE	$ 700
FILING FEE	$ —
REFUND	$ —
FEE BALANCE	$ 700

COMMENTS:

FEE CALCULATIONS

F402 BLOWER = 250 H.P.
RULE 40 SCHD 1 FEE = $1048
LESS FILING FEE = 52
NET DUE = $996

RULE 301 SCHD. 1 FEE = $700 *

* USE RULE 301 FEE SINCE LOWEST

RECOMMENDED BY H. W. Whitehead DATE 11/10/77 REVIEWING ENGINEER [illegible] DATE 11/17/77

AIR POLLUTION CONTROL DISTRICT - COUNTY OF LOS ANGELES
434 SOUTH SAN PEDRO STREET, LOS ANGELES, CALIF. 90013. MADISON 9-4711

ENGINEERING DIVISION····FIELD REPORT

NAME OF APPLICANT: DOUGLAS OIL COMPANY OF CALIFORNIA	DATE OF INSPECTION: 9-21-77
MAILING ADDRESS: 14708 Downey Avenue, Paramount, CA 90723	PERMIT APPL. NO.: C-02392
EQUIPMENT LOCATION (ADDRESS): 14708 Downey Avenue, Paramount, CA 90723	A.P.C.D. ZONE NO.:

REVIEW PERMIT IS REQUIRED: NEW CONSTRUCTION (x) CHANGE OF OWNERSHIP ( ) CHANGE OF LESSEE ( ) CHANGE OF LOCATION ( ) EQUIPMENT ALTERATION ( )

DATE CONSTRUCTION PERMIT AUTHORIZED: 12-16-75 BY HAW TIME SPENT MAKING INSPECTION: FROM 9:20 a.m. TO 10:00 a.m.

USUAL OPERATING SCHEDULE FOR THIS EQUIPMENT: Continuous

WEATHER: Clear WIND: 3 MPH ESTIMATED COST: BASIC EQUIPMENT: $ A.P.C. EQUIPMENT: $ 1,094,000

NAMES & TITLES OF PERSONS CONTACTED BY ENGINEER: Bill GueBelle, Environmental Engineer

FOR DUST & FUME PROCESSES ONLY:	PROCESS WEIGHT(S)	LBS./HR.	ALLOWED LOSSES:	LBS./HR.	ESTIMATED LOSSES:	LBS./HR

OFFICIAL EQUIPMENT DESCRIPTION, CALCULATION OF PROCESS WEIGHT(S), PROCESS DESCRIPTION AND FINDINGS:

SULFUR-RECOVERY UNIT NO. 2 CONSISTING OF:

H-401 REACTION FURNACE, 3'8" DIA. x 31'-0" L., WITH ONE ACID GAS BURNER.

RA-411 FIRST-STAGE CONVERTER, 12'-0" DIA. x 12'-0" H.

RA-412 SECOND-STAGE CONVERTER, 8'-0" DIA. x 19'-6" H.

------ SULFUR-STORAGE PIT, 12'-0" W. x 52'-0" L. x 8' TO 10' DEEP, WITH VENT CONNECTION TO INCINERATOR H-402.

D-413 CONDENSATE BLOWDOWN DRUM, 2'-0" DIA. x 7'-0" H.

D-414 TAIL-GAS COALESCER, 6'-0" DIA. x 11'-3" H., WITH VENT CONNECTION TO TAIL-GAS-TREATMENT UNIT AND EMERGENCY VENT CONNECTION TO INCINERATOR H-402.

H-403 FIRST-STAGE INLINE REHEATER, 2'-6" DIA. x 2'-3" L. FIREBOX, WITH ONE ACID GAS BURNER.

H-404 SECOND-STAGE INLINE REHEATER, 2'-6" DIA. x 2'-3" L. FIREBOX, WITH ONE ACID GAS BURNER.

X-414 REACTION FURNACE WASTE-HEAT BOILER, 150 PSIG STEAM, SHELL AND TUBE.

X-411 FIRST CONDENSER, 50 PSIG STEAM WASTE-HEAT BOILER, SHELL AND TUBE.

X-412 SECOND CONDENSER, 50 PSIG STEAM WASTE-HEAT BOILER, SHELL AND TUBE.

X-413 THIRD CONDENSER, 25 PSIG STEAM WASTE-HEAT BOILER, SHELL AND TUBE.

X-414 Waste Heat Boiler Shell & Tube

RECOMMENDED DISPOSITION: ( ) APPROVE FOR PERMIT. (x) APPROVE FOR PERMIT SUBJECT TO CONDITIONS LISTED BELOW. ( ) HOLD. SEE EXPLANATION BELOW. ( ) DENY PERMIT.

Standard Condition No. 3. Hold pending receipt of report by EPA on source test of tail-gas treatment unit made during week of 9-12-77

11/10/77 Source Test results (EPA) OK for P/O. H. A. Whitehead

REVIEWING ENGINEER: ( ) I CONCUR WITH RECOMMENDATIONS

SIGNATURE H. A. Whitehead

H. A. Whitehead, Senior A. P. Engineer

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

ENGINEERING DIVISION···FIELD REPORT

NAME OF APPLICANT	APPL. NO.	INSPECTION DATE
DOUGLAS OIL COMPANY	C-02392	9-21-77

F-401 REACTION COMBUSTION AIR BLOWER, HOFFMAN AGK 60, WITH MECHANICAL SEAL AND STEAM-TURBINE DRIVE.

F-402 REACTION COMBUSTION AIR BLOWER (SPARE), HOFFMAN AGK 60, WITH MECHANICAL SEAL AND 250-H.P. MOTOR.

x-

The sulfur-recovery unit was found to be installed essentially as specified by the permits to construct. However, the unit has two converter stages instead of three. At the projected sulfur-recovery load and with the tail-gas-treatment unit, Douglas estimated that compliance with Rule 468 could be accomplished with the two-stage Claus unit. Checks of tail-gas incinerator stack gas by Douglas indicate compliance. EPA ran a source test on the tail-gas unit incinerator stack during the week of 9-12-77, and test results should be reported (Douglas will be sure SCAQMD gets copy) in about a month.

This Claus sulfur-recovery unit is typical of those used in this area and was operating normally during the inspection. Douglas, from their operating experience with the unit, expects to be able to recover up to about 40 long tons per day of sulfur depending on sulfur content of various crude feeds to the refinery anticipated. The unit was recovering about 16-20 long tons per day with current crude oil feed. No leaks or odors were detected. The following operating conditions were typical of current operation:

Amine Acid Gas Feed Rate, SCFH	22,000	
SW Stripper Gas Feed Rate, SCFH	3,000	
Main Combustion Air Rate, SCFH	40,000	
Trim Air Rate, SCFH	1,600	
H_2S to SO_2 Ratio	1.6	
Converter Temperature, °F	IN	OUT
1st stage	473	609
2nd stage	457	452

This unit can operate in compliance with SCAQMD Rules and Regulations. A permit to operate is recommended. However, this will be held until source-test results of the sulfur tail-gas-treatment unit are received and verified as complying with Rule 468.

11: 10-5-77

SIGNATURE H. G. Whitehead

SULFUR RECOVERY UNIT

Vessels	Service	Size	RV	Gas Destination
RA-411	First Converter	12' x 12'	None	Second Condenser
RA-412	Second Converter	8' x 19'6" T-T	None	Third Condenser
D-414	Coalescer	6' x 11'3" T-T	None	SCOT Unit
D-413	Condensate Blowdown	2' x 7' T-T	None	Atmosphere
[redacted]-401	Reaction Furnace	3.7' ID x 20.[illegible]' L	None	WHB
D-212	SWS Feed K.O. Drum	4' OD x 15'9" T-T	RV-213	Reaction Furnace

SWS unit [illegible] drum

Exchangers	Service	Area-Ft^2	Shellside/Tubeside	Type
X-414	Waste Heat Boiler	1633 [redacted]	150 psig Stm-BFW/Acid Gas	Firetube 2-pass
X-411	First Condenser	1490	50 psig Stm-BFW/Acid Gas	Vertical 1-pass Tube Sheet
X-412	Second Condenser	915	Same	Same
X-413	Third Condenser	460	25 psig Stm-BFW/Acid Gas	Same

Blower	Service	Mfr	Seal Type	Motor Hp	Driver
F-401	Reaction Air	Hoffman	Mechanical	139	135 psig Steam Turbine
F-402	Reaction Air	Hoffman	Mechanical	250	Motor

Heaters	Service	Duty MM BTU/Hr
H-403	First Inline	0.33
H-404	Second Inline	0.28

Relief Valves	Location	Size	Set Pressure	Relieves to:
RV-410 & 411	Waste Heat Boiler	3 x 4	185	Atm
RV-414	X-411 Shellside	1 1/2 x 2	75	Atm
RV-416	X-412 Shellside	1 1/2 x 2	75	Atm
RV-418	X-413 Shellside	1 1/2 x 2	75	Atm
RV-420	D-414 Steam Coils	3/4 x 1	75	Atm
RV-415	RA-411 Steam Coils	3/4 x 1	150	Atm
RV-417	RA-412 Steam Coils	3/4 x 1	150	Atm
RV-419	F-401 Steam Supply	4 x 6	75	Atm
RV-213	D-212	4 x 6	50	Flare

RMK-gml
9-27-77

INSPECTION 9/21/77 HOW

SULFUR RECOVERY UNIT

CAN RECOVER UP TO ~ 40 LONG TON/DAY SULFUR DEPENDING ON SULFUR IN CRUDE BEING PROCESSED.

Vessels	Service	Size	RV	Gas Destination
RA-411	First Converter	12' x 12'	None	Second Condenser
RA-412	Second Converter	8' x 19'6" T-T	None	Third Condenser
D-414	Coalescer	6 [illegible]' x 11'-3" T-T	None	SCOT Unit (AND EMERGENCY [illegible] TO INCINERATOR (STEAM)
D-413	Condensate Blowdown	2' x 7' T-T	None	Atmosphere
H-401	Reaction Furnace	3.7' ID x [illegible]	None	WHB
—	SULFUR STORAGE PIT	12' W x 52' L x 8'-10' D 3.7 ID x 21' L	NONE	VENTED TO INCINERATOR

Exchangers	Service	Area-ft²	Shellside/Tubeside	Type
X-414	Waste Heat Boiler	1633	150 psig Stm-BFW/Acid Gas	Firetube 2-pass tu[illegible]
X-411	First Condenser	1490	50 psig Stm-BFW/Acid Gas	Vertical 1-pass [illegible] tube sheet (SHELL V[illegible]
X-412	Second Condenser	915	Same	Same
X-413	Third Condenser	460	[illegible]25 psig Stm-BFW/Acid Gas	Same

NOTE: SULFUR FROM CONDENSERS DRAINS TO SULFUR PIT VIA SEAL LEGS.

Pumps	Service	Mfg	Seal Type	Shutoff Pump Hp	Driver
P-405	Sulfur Loading	Chas. S. Lewis, SUBMERGED CENTRIFUGAL	None	10	Motor
P-406	Same	Same	None	10	Motor

SULFUR LOADING RACK PUMPS

SULFUR LOADING RACK PUMPS

Blower	Service	Mfg	Seal Type	Motor Hp	Driver
F-401	Reaction Air [illegible]	Hoffman, AGIL-60	Mechanical	139 [illegible]	135 psig Steam Turb[illegible]
F-402	Reaction Air [illegible]	Hoffman	Mechanical	250	Motor

Heaters	Service	Duty MM BTU/Hr	
H-403	First Inline	0.33	2'-6" DIA. x 2'3" L FIRE BOX - BURNS ACI[illegible]
H-404	Second Inline	0.28	" " " "

OPERATING CONDITIONS DURING INSPECTION:

AMINE ACID GAS RATE 22,000 SCFH
SW STRIPPER GAS RATE 3,000 SCFH
MAIN COMBUSTION AIR RATE 40,000 SCFH
TRIM AIR RATE 1,600 SCFH
H_2S TO SO_2 RATIO 1.6
SULFUR PRODUCTION ~ 16 - 18 TONS/DAY
CONVERTERS TEMP., °F IN OUT
1ST 473 [illegible]

SULFUR RECOVERY UNIT

Relief Valves	Location	Size	Set Pressure	Relieves to:
RV-410 & 411	Waste Heat Boiler	3 x 4	185	Atm STEAM
RV-414	X-411 Shellside	1-1/2 x 2	75	Atm STEAM
RV-416	X-412 Shellside	1-1/2 x 2	75	Atm STEAM
RV-418	X-413 Shellside	1-1/2 x 2	75	Atm STEAM
RV-420	D-414 Steam Coils	3/4 x 1	75	Atm STEAM
RV-415	RA-411 Steam Coils	3/4 x 1	150	Atm STEAM
RV-417	RA-412 Steam Coils	3/4 x 1	150	Atm STEAM
RV-419	F-402 Steam Coils	4 x 6	75	Atm STEAM

AIR POLLUTION CONTROL DISTRICT - COUNTY OF LOS ANGELES

434 SOUTH SAN PEDRO STREET, LOS ANGELES, CALIF. 90013

APPLICATION NUMBER
C-02392, C-0239
Sector CB

AUTHORITY TO CONSTRUCT

GRANTED AS OF 12/16/75

LEGAL OWNER OR OPERATOR: Douglas Oil Company of California
14708 Downey Avenue
Paramount, California 90723

Attention: Mr. Joseph J. Lusardi
Senior Engineer

Gentlemen:

The equipment described below and as shown on the approved plans and specifications and subject to the special condition, or conditions, listed.

EQUIPMENT DESCRIPTION AND CONDITIONS:

C-02392 SULFUR RECOVERY UNIT MODIFIED AS DESCRIBED IN APPLICATION NO. C-02392
SUBJECT TO THE FOLLOWING CONDITION

- CONDITION -

THIS EQUIPMENT MUST NOT BE OPERATED UNLESS IT IS VENTED ONLY TO AIR POLLUTION CONTROL EQUIPMENT WHICH IS IN FULL USE AND WHICH HAS BEEN ISSUED AN AUTHORITY TO CONSTRUCT BY THE AIR POLLUTION CONTROL OFFICER.

C-02394 TAIL GAS CLEAN UP UNIT MODIFIED AS DESCRIBED IN APPLICATION NO. C-02394.
SUBJECT TO THE FOLLOWING CONDITION

- CONDITION -

THE EQUIPMENT MUST NOT BE OPERATED UNLESS THE TREATED GAS FROM AMINE CONTRACTOR W-452 IS VENTED THROUGH THE BURNER OF INCINERATOR H-402

Approval or denial of this application for permit to operate the above equipment will be made after an inspectio to determine if the equipment has been constructed in accordance with the approved plans and specifications an if the equipment can be operated in compliance with all Rules and Regulations of the Los Angeles County Air Pol lution Control District.

Please notify Mr. Whitehead at 974-7498 when construction of equipment is completed

It is the applicant's responsibility to comply with all laws, ordinances and regulations of other governments agencies which are applicable to the equipment to be constructed. For example, prior clearance must be obtaine from the Los Angeles County Health Department, Division of Industrial Hygiene, for the use of any toxic material

This AUTHORITY TO CONSTRUCT is NOT a PERMIT TO OPERATE. IT WILL EXPIRE TWO YEARS FROM THE DATE SHOWN, or sooner, if any change of ownership or address, or modification occurs.

Robert G. Lunche
AIR POLLUTION CONTROL OFFICER

By Helen Thompson

RGL:HT:lo

16-50D118

AIR POLLUTION CONTROL DISTRICT • COUNTY OF LOS ANGELES

ENGINEERING DIVISION
APPLICATION PROCESSING AND CALCULATIONS

PAGES	PAGE
3	1
APPL. NO.	DATE
C-02392	12-5-7
PROCESSED BY	CHECKED BY

I: EQUIPMENT DESCRIPTION

THE SULFUR RECOVERY UNIT CONSTRUCTED UNDER APPLICATION NO A-75171 WILL BE MODIFIED AS FOLLOWS:

AMINE UNIT REFLUX DRUM – 1) INSTALL K.O. DRUM ~~AD-10~~ D-206, 5'-0" DIA. x 9'-6" H., IN ACID GAS FEED LINE FROM THE AMINE UNIT.

SOUR WATER REFLUX DRUM 2) INSTALL K.O. DRUM ~~AD-11~~ D-212, 3'-0" DIA. x 9'-6" H., IN THE SOUR WATER STRIPPER O.H. ACID GAS FEED LINE.

3) INSTALL IMPROVED INSTRUMENTATION INCLUDING:

a) A DURAG PHOTOMETRIC ANALYZER AND RECORDER CONTROLLER TO ACCURATELY MEASURE AND CONTROL THE H_2S TO SO_2 RATIO

b) A SECOND FIREEYE ON THE WASTE HEAT BOILER BURNER (B-403) AND ON EACH OF THE INLINE BURNERS [redacted]-403 & [redacted]-404

II HISTORY

THIS SULFUR RECOVERY UNIT WAS ORIGINALLY CONSTRUCTED UNDER APPLICATION NO. A-75171 AUTHORITY TO CONSTR ISSUED ON 4-6-73. HOWEVER, A PERMIT TO OPERATE WAS DENIED ON 10-23-75 ALONG WITH APPLICATIONS PENDING FOR OTHER UNI OF THE REFINERY – DESULFURIZER – SULFUR RECOVERY COMPL DUE TO NUMEROUS NUISANCE COMPLAINTS (RULE 51) AND VIOLATIONS OF RULES 53.2 AND 62. APPARENTLY BASED O THEIR EXPERIENCE OVER THE SEVERAL MONTHS, DOUGLAS SUBMITTED THE CURRENT APPLICATION WITH PROPOSED MODIFICATIONS OR. THE TO IMPROVE RELIABILITY AND STABILITY OF OPERATION. THESE CHANGES ALONG WITH MODIFICATIONS TO BE MADE TO OTHER UNITS OF THE COMPLEX ARE EXPECTED TO ELIMINATE SOURCES OF RULE VIOLATIONS.

III EQUIPMENT OPERATION

THE SULFUR RECOVERY UNIT IS A STANDARD CLAUS TYPE PROCESS AND CAN MAINTAIN BETTER THAN 96% RECOVERY OF SULFUR DURING NORMAL OPERATION. EFFICIEN

16-50D118

AIR POLLUTION CONTROL DISTRICT - COUNTY OF LOS ANGELES

ENGINEERING DIVISION
APPLICATION PROCESSING AND CALCULATIONS

PAGES	PAGE
3	2
APPL. NO. C-02392	DATE 12-5-7
PROCESSED BY Hen	CHECKED BY

POINTED UP SOME PROBLEM AREAS THAT COULD UPSET THE UNIT WITH LOSS OF EFFICIENCY OR CAUSE THE UNIT TO SHUTDOWN. ACID GAS FEED FROM THE SOUR WATER STRIPPER OVERHEAD AND FROM THE AMINE UNIT REGENERATOR WERE FED DIRECTLY TO THE SULFUR RECOVERY UNIT BURNER. ENTRAINMENT OF LIQUID HYDRO AND WATER IN THE ACID GAS FEED STREAMS AS A RES. OF OPERATING FLUCTUATIONS OR UPSETS IN THE SOUR WA STRIPPER OR AMINE UNITS COULD UPSET THE BURNER CONTROL IN THE SULFUR RECOVERY UNIT WITH LOS OF EFFICIENCY OR POSSIBLE SHUTDOWN. TO CORRECT THIS PROBLEM [redacted] PLETS.

EFFICIENT OPERATION OF THE SULFUR RECOVERY UNIT REQUIRES CONTROL OF THE BURNING OF THE ACID GAS TO MAINTAIN A RATIO OF 2 PARTS OF HYDROGEN SULF. TO ONE PART OF SULFUR DIOXIDE IN THE COMBUST PRODUCT. PREVIOUSLY ACID GAS FEED WAS MEASURED THE AMOUNT OF COMBUSTION AIR ADDED WAS CONTROLLED TO MAINTAIN THE DESIRED RATIO. THIS WORKED DURING STABLE OPERATING CONDITIONS, BUT DURING FLUCTUATING OR UPSET CONDITIONS THE CONTROL DID NOT MAINTAIN THE RATIO ADEQUATELY. TO IMPROVE CONTROL OF THE RATIO, [redacted]. THIS TYPE CONTROL IS USED IN MOST OTHER CLAUS UNITS OPERATED IN L.A COUNTY. THE PRIMARY ACID GAS BURNER AND THE SECOND INLINE SECOND AND THIRD STAGE BURNERS ARE EQUIPPED WITH SAFETY PEEPEYES THAT SHUTDOWN THE UNIT IF FLAME IS

OF THE FIREEYE TO SEE THE FLAME AT TIMES RESULTED IN NUISANCE SHUTDOWNS. TO INCREASE THE RELIABILITY OF THE SYSTEM [redacted] L B[redacted]. BOTH FIREEYES MUST DETECT NO FLAME BEFORE A SHUTDOWN WILL OCCUR. THIS SHOULD REDUCE THE POTENTIAL FOR RULES VIOLATIONS OCCU FROM STARTUPS, SHUTDOWNS AND UPSETS OF THIS UNIT.

IV EVALUATION

THE SULFUR RECOVERY UNIT IS A STANDARD CLAU TYPE PROCESS AND CAN MAINTAIN ADEQUATE RECOVERY OF SULFUR UNDER NORMAL CONDITION THE MODIFICATIONS PROPOSED CORRECT THE PRIM. SOURCES OF DISRUPTIONS OF THE UNIT EXPERI IN THE LAST SEVERAL MONTHS AFTER OPERATIO BEGAN. THESE CHANGES SHOULD HELP ASSURE A A MORE RELIABLE AND STABLE OPERATION AND THEREBY, WILL HELP AVOID VIOLATIONS OF RULES 51, 53.2 AND 62 THAT MAY OCCUR WHEN THE UNIT MALFUNCTIONS.

V CHECKING LIST

1) CALCULATIONS - NONE REQUIRED

2) FIELD INSPECTION
   a) VERIFY EQUIPMENT DETAILS AND FLOWS.
   b) CHECK FOR LEAKS AND ODORS

VI CONCLUSIONS AND RECOMMENDATIONS

THE PROPOSED CHANGES SHOULD IMPROVE THE RELIABILITY AND STABILITY OF THE SULFUR RECOVE UNIT. THIS SHOULD HELP ELIMINATE VIOLATION. OF APCD RULES RELATED TO DISRUPTIONS OF THIS UNIT. ISSUANCE OF AN AC IS RECOMMENDED.

SULFUR RECOVERY UNIT AS ORIGINALLY DESCRIBED
BY A-75171 AND MODIFICATION DESCRIBED
AS FOLLOWS:

RECEIVED

'75 NOV 20 PM 1:00

L.A. COUNTY
AIR POLLUTION
CONTROL DISTRICT

DESCRIPTION OF MODIFICATIONS

1. A photometric analyzer and recorder controller will be installed to accurately measure and control the ratio of H_2S to SO_2 thereby permitting peak conversion to sulfur at all times.

2. Install a second Fireye on the waste heat boiler and both inline burners to prevent nuisance shutdowns and the potential startup difficulties that are thus associated.

3. INSTALL SOUR WATER STRIPPER ON ACID GAS FEED K.O. DRUM (ND-11) AND AMINE ACID GAS FEED K.O. DRUM (ND-10). (SEE DESCRIPTION IN AMINE UNIT APPLICATION NO. C-023)

The Claus sulfur recovery process has two essential steps.

(1) Hydrogen sulfide is oxidized (burned) to form sulfur dioxide.

(2) Hydrogen sulfide reacts with the sulfur dioxide produced above to form elemental sulfur and water.

Step two requires (chemically) that exactly two parts of hydrogen sulfide react with one part of sulfur dioxide. If an excess or defficiency of one or the other occurs, then total conversion of the sulfur compounds to elemental sulfur will not occur and evolution in the atmosphere may result. The ratio of hydrogen sulfide to sulfur dioxide is controlled by the amount of hydrogen sulfide oxidized in step one. The latter is controlled by the amount of oxygen (air) which is added.

Previously, the amount of acid gas feed (mostly hydrogen sulfide) was measured and the amount of air added was controlled in ratio to the acid gas feed. Although this control was adequate in stable conditions it allowed less than the best operation in varying or upset conditions; particularly in acid gas feed composition variation.

A new control element will be added as shown on drawings SD-2336-42-3L & 11L
A DuPont photometric analyzer will be installed on the sulfur recovery unit outlet gas to analyze for hydrogen sulfide and sulfur dioxide. A controller will calculate the ratio and compare it to an adjustable set point of 2.0. If the ratio exceeds 2.0, additional air will be added. If the ratio does not reach 2.0, the air added will be reduced. Control of the air rate will be exercised by addition of a 1" trim air control valve which is installed in parallel with the main air control valve. The parallel control valve is used since changes in feed composition are usually small and the larger valve cannot control accurately.

For example, this revision has the potential to prevent hydrogen sulfide conversion from dropping to 70 percent from 93 percent when hydrocarbon in the feed increases from one to five percent. It also has benefits in the following tail gas cleanup unit (SCOT) which is the subject of another application. Greatly improved reliability and consistency of conversion are expected.

WORK LIST

SULFUR RECOVERY UNIT

1. Install a second burner Fireye on the reaction furnace and each of the two inline burners. The Fireye is to be installed on a swivel joint and rotated 90° from the present Fireye. The Fireyes are to be wired so that both must fail to cause a shutdown.

2. Install a DuPont photometric analyzer in the sample loop around the SCOT unit furnace as shown on P & I drawing SD-2336-42-11-L. Steam trace and insulate the analyzer. The analyzer must be located at least one foot above the process line.

3. Install the ratio calculator and controller, ARC-2, as shown on the enclosed specification sheet and one line diagram.

4. Provide the 1" control valve in a 1" trim air line around the 6" main air control as shown on SD-2336-42-3-L.

5. Provide a steam jacketed sulfur demister on the sample line as shown on drawing SD-2336-42-3-L. Steam to the jacket must be controlled to maintain a demister outlet temperature of 265°F.

6. Steam jacket the remainder of the sample line. The steam to this jacket must be controlled to maintain the sample to the analyzer at 300 +/- 10°F.

7. Provide steam to the analyzer steam eductor sample inducer.

8. Provide dry instrument air to purge the analyzer lens faces. This air is to be heated by wrapping the air line around the sample line jacket before insulating.

9. All areas of the sample line (valves, etc.) which are not jacketed must be heavily steam traced and insulated.

SULFUR RECOVERY UNIT AS ORIGINALLY DESCRIBED BY
A-75171 AND MODIFICATION DESCRIBED AS FOLLOWS:

DESCRIPTION OF MODIFICATIONS - continued

An additional burner Fireye has been added to the reaction furnace and each inline burner. This will increase the safety of the unit by discouraging operators from bypassing the shutdown system and will improve on-stream time by avoiding nuisance shutdowns. Both of these features are a result of the unreliability of the Fireye in "seeing" the flame and its mechanical unreliability. Duplicate systems will reduce the number of startups and shutdowns and the upsets which occur.

ENGINEERING CENTER
PONCA CITY, OKLAHOMA
SPECIFICATION SHEET
FLOW INSTRUMENTS

A.F.E. NO. _____
DATE 11-6-75 W.O. NO. _____
MADE BY RMK INQ. NO. _____
APP'D BY RMK REQ. NO. _____
B.M. NO. _____ P.O. NO. _____

PLANT PARAMOUNT REFINERY PROJECT PROPOSED HYDROPROCESSING REVISION SULFUR RECOVERY UNIT

1	I/D NO.		ARC-2					
2	SERVICE		CONTROL CLAUS TAIL GAS					
3			H_2S/SO_2 RATIO					
4	INSTRUMENT, TYPE		H_2S/SO_2 RATIO CONTROLLER					
5	LOCATION		BOARD					
6	ELEMENT TYPE		DUPONT PHOTOMETRIC ANALYSER					
7	LOCATION		SAMPLE LINE FROM FEED LINE TO H-452 SCOT FURNACE					
8	LINE SIZE, IN.	SCHEDULE	IN-1" OUT-1" 40					
9	BORE, IN.		–					
10	RANGE IN. H_2O		–					
11	METER FACTOR		–					
12	VALVE TYPE		ES					
13								
14	LOCATION		1" TRIM AIR LINE AROUND EXCV-113					
15	MATERIAL		C.S.					
16	BODY SIZE	PORT SIZE	1	1 5/16				
17	PLUG FORM		EQUAL %					
18	ΔP MIN	NOR MAX	2	6	9			
19	CALC Cv	VALVE Cv	300	.591				
20	AIR TO OPEN OR CLOSE		OPEN					
21	MAX. SHUTOFF ΔP		10					
22	FLUID		AIR					
23	TEMPERATURE °F		165					
24	PRESSURE PSIG		6.5					
25	°API (W.W.)		(29)					
26	SP. GR. AT STD. COND.		–					
27	SP. GR. AT P. & T.		–					
28	CP/CV. AT T.&P.	COMPRESSIBILITY	1.4	1.0				
29	VISCOSITY AT P. & T. , Cp		0.021					
30	RATE NORMAL , SCFH		4,725					
31	RATE MAX	MIN , SCFH	10,900	1,575				
32	NOTES							

1. CONTROLLER IS TO MAINTAIN H_2S/SO_2 RATIO AT 2.0
2. MAXIMUM RATE IS FOR A 30 LT/D CLAUS UNIT WITH SCOT RECYCLE AND 5% H.C. - ALSO ALLOWS FOR 10 PSIG INLET PRESSURE FROM A NEW BLOWER
   CV = 600
   MINIMUM RATE IS FOR A 5 LT/D CLAUS UNIT WITH SCOT RECYCLE AND NO H.C. CV = 90
   NORMAL RATE IS FOR A 15 LT/D CLAUS UNIT WITH SCOT RECYCLE AND NO H.C. CV = 300
   THIS VALVE TO PASS 10% OF TOTAL REQUIRED AIR FOR CASES ABOVE
3. SEE 60-8653-57-1-B (ARC-2)

SHEET _____ OF _____ REV _____

CONOCO

ENGINEERING CENTER
PONCA CITY, OKLAHOMA
SPECIFICATION SHEET

A F E NO
DATE 11-7-75 A O NO
MADE BY RMS INQ NO
APP D BY RMS REQ. NO.
S M. NO P. O NO.

PLANT PARAMOUNT REFINERY PROJECT PROPOSED HYDRO-TREATING REVISIONS

ITEM NO
SERVICE AE-2 CONTINUOUS MEASURSMENT & CONTROL OF H_2S/SO_2 RATIO

TYPE — DUPONT 462 ANALYZER

MOUNTING — LOCAL - SUITABLE FOR USE IN CLASS 1, GR. D, DIV. 1

POWER — 117 VAC @ 1000 W MAX

UTILITIES — STEAM @ 125 PSIG ; CLEAN AIR @ 30-70 PSIG

NO. OF STREAMS — ONE

OUTPUT — 4-20 MA

OPERATING T & P — 300°F, 3 PSIG

RANGES — 0-2% H_2S ; 0-1% SO_2 ; 0-4.0 RATIO

SAMPLE LINE — 1" IN 2" OUT

NOTES: 1. TWO CONTROL STATIONS & COMPUTING SYSTEM TO BE RACK MOUNTED ON REAR OF CONTROL PANEL. VENDOR TO SUPPLY ANALYZER COMPLETE W/SAMPLING SYSTEM & POWER SUPPLIES

2. DISTANCE BETWEEN FIELD UNIT AND CONTROL PANEL IS 25(

A 1341 S

SHEET 1 OF 1 REV

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

CONTINUATION OF PERMIT NO. M 60250
(MUST BE DISPLAYED WITH PERMIT)

APPL. NO. 139654

-CONDITIONS-

D-416 TAIL GAS COALESCER, 3'-6" DIAM. X 6'-0" H., WITH VENT CONNECTION TO TAIL-GAS-TREATMENT UNIT AND EMERGENCY VENT CONNECTION TO INCINERATOR H-402.

H-403 FIRST-STAGE INLINE REHEATER, 2'-6" DIA. X 2'-3" L. FIREBOX, WITH ONE ACID GAS BURNER.

H-404 SECOND-STAGE INLINE REHEATER, 2'-6" DIA. X 2'-3" L. FIREBOX, WITH ONE ACID GAS BURNER.

X-411 FIRST CONDENSER, 50 PSIG STEAM WASTE-HEAT BOILER, SHELL AND TUBE.
X-412 SECOND CONDENSER, 50 PSIG STEAM WASTE-HEAT BOILER, SHELL AND TUBE.
X-413 THIRD CONDENSER, 25 PSIG STEAM WASTE-HEAT BOILER, SHELL AND TUBE.
X-414 REACTION FURNACE WASTE-HEAT BOILER, 150 PSIG STEAM, SHELL AND TUBE.

F-401 REACTION COMBUSTION AIR BLOWER, HOFFMAN AGK 60, WITH MECHANICAL SEAL AND STEAM-TURBINE DRIVE.

F-402 REACTION COMBUSTION AIR BLOWER (SPARE), HOFFMAN AGK 60, WITH MECHANICAL SEAL AND 250-H.P. MOTOR.

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

:ONTINUATION OF PERMIT NO. M 60250
MUST BE DISPLAYED WITH PERMIT)

APPL. NO. 139654

-CONDITION-

THIS EQUIPMENT MUST NOT BE OPERATED UNLESS THE TAIL GAS COALESCER D-416 IS VENTED ONLY TO AIR POLLUTION EQUIPMENT WHICH IS IN FULL USE AND WHICH HAS BEEN ISSUED AN OPERATING PERMIT BY THE EXECUTIVE OFFICER.

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
9150 Flair Drive El Monte, CA 91731

ID 43012
App 104013
Perm # 132813

APPLICATION FOR PERMIT TO CONSTRUCT AND PERMIT TO OPERATE AND EXCAVATE
FOR FEE INFORMATION AND SMALL BUSINESS EXEMPTION
SEE REVERSE SIDE

PLEASE TYPE OR PRINT

SCAQMD USE: SEC | TS | ID NUMBER: 43012

1A. PERMIT TO BE ISSUED TO: Paramount Petroleum Corporation
BUSINESS LICENSE NAME OF ORGANIZATION THAT'S TO RECEIVE PERMIT

1B. Hawaii & Western Resources Inc.; Pasco Petroleum Co. Inc.; Roy M. Huffington Co.
NAME (OR NAMES) OF OWNER OR PRINCIPAL PARTNERS DOING BUSINESS AS (DBA) ABOVE ORGANIZATION

2A. MAILING ADDRESS: 14700 Downey Avenue (NUMBER, STREET) Paramount (CITY OR COMMUNITY) CA (STATE)
2B. 90723 (ZIP CODE)

3A. EQUIPMENT LOCATION (IF SAME ENTER "SAME"): 14708 Downey Avenue (NUMBER, STREET) Paramount (CITY OR COMMUNITY) CA 90723 (ZIP)
3B. Compton Blvd. (NEAREST INTERSECTING STREET)

4A. CONTACT PERSON (INITIALS & NAME): ~~J. M. Ruiz~~ Chuck Mulkey
4B. CONTACT PHONE NO. (AREA & NO.): (213) 531-2060 ext. 2617

5. EQUIPMENT: APPLICATION IS HEREBY MADE FOR PERMIT TO OPERATE THE FOLLOWING EQUIPMENT:
* New Claus Coalescer D-416 for SRU (See Attachment)

6. IF THIS EQUIPMENT HAD A PREVIOUS WRITTEN PERMIT, STATE NAME OF CORPORATION, COMPANY, OR INDIVIDUAL OWNER THAT OPERATED THIS EQUIPMENT, AND STATE PREVIOUS AIR POLLUTION CONTROL DISTRICT PERMIT NUMBER:
NAME: N/A
PREVIOUS PERMIT NUMBER: App 104013

7. PERMIT APPLICATION FOR EQUIPMENT:
- NEW CONSTRUCTION ☐
- ALTERATION ☒
- CHANGE OF LOCATION ☐
- REINSTATE NON-PAYMENT P/O FEES DUE ☐
- CHANGE OF OWNERSHIP ☐
- EXISTING EQUIPMENT IN OPERATION WITHOUT PRIOR PERMIT ☐
- CHANGE OF CONDITIONS ☐

8. TYPE OF ORGANIZATION:
- CORPORATION ☒
- PARTNERSHIP ☐
- INDIVIDUAL OWNER ☐
- LOCAL GOV'T AGENCY ☐
- STATE AGENCY ☐
- FEDERAL AGENCY ☐
- UTILITY ☐

9. ESTIMATED COST OF EQUIPMENT OR ALTERATION:
BASIC EQUIPMENT $ 35,000 AIR POLLUTION CONTROL EQUIPMENT $ 35,000

10. FOR THE NEW CONSTRUCTION, ALTERATION, TRANSFER OF OWNERSHIP OR LOCATION, WHAT IS
ESTIMATED STARTING DATE? 1/25/86 ESTIMATED COMPLETION DATE? 2/1/86

11. GENERAL NATURE OF BUSINESS: Petroleum Refining & Marketing
12. PRINCIPLE PRODUCT: Petroleum Products

13. DO YOU CLAIM CONFIDENTIALITY OF DATA? YES ☐ NO ☒
IF YES STATE NATURE OF DATA ON SEPARATE SHEET

14. NORMAL OPERATING HOURS OF SUBJECT EQUIPMENT:
HOURS/DAY 24
DAYS/WEEK 7
WEEKS/YEAR 52

15. HAS A CEQA DOCUMENT BEEN PREPARED FOR THIS PROJECT? YES ☐ NO ☒

16. ARE ALL COMPANIES FACILITIES IN CALIFORNIA IN COMPLIANCE WITH AIR POLLUTION RULES? YES ☒ NO ☐

18. SIGNATURE OF RESPONSIBLE MANAGER OF ORGANIZATION: J M Ruiz

17. OFFICIAL TITLE OF SIGNER: Environmental Coordinator

19. TYPED OR PRINTED NAME OF SIGNER: J. M. Ruiz
19. PHONE NO. (213) 531-2060 ext. 2617
20. DATE 12/5/85

SCAQMD USE

SIC NO.
EQUIP. CAT. NO.: 255000 / 14
SCHEDULE: 1/G DEC 24 1985
APPLICATION NO.: 139654
PERMIT NO.
TYPE: B OR E
WORK UNITS: A/C P/O
ASSIGNMENTS: 5 (UNIT, SHDR)
CLASS: 1
VALIDATION: 12/12/85
FILING FEE: $250.00
CHECK OR MONEY ORDER NO. 12226

Sent to	Returned From	Appt # Assigned	Post
12/13			
Completed Appt To Fed	[illegible]	To Returned From S/S	

AEIS SHEET

NAME OF FIRM PARAMOUNT PETROLEUM COMPANY I.D. 04 3 0 1 2

LOCATION ADDRESS 14700 DOWNEY AVE., PARAMOUNT, CA.

REASON FOR INACTIVATION: 1. ALTERATION 2. CHANGE OF OPERATOR 3. MOVED 4. REMOVED 5. OUT OF BUSINESS 6. BANKING ISSUED 7. OTHER ____

SUBS. APPLICATION NO. _____ INACTIVATION DATE __/__/__

ACTION CODE (A) C D A = ADD DATA C = CHANGE DATA D = DELETE DATA

*PERMIT NUMBER M60250

APPLICATION NUMBER 139654

*ISSUE DATE 02/02/88

**INSTALLATION DATE __/__/__

**EQUIPMENT B CAT. _____

**EQUIPMENT C CAT. __

**DESCRIPTION _____

PERMIT TYPE (B, C, or D) C

SCHEDULE/STEP 1 / G

*SECTION __

*SECTOR __

EMISSIONS	R_1	R_2
rHC		
tHC		
NO_x		
SO_2		
CO		
Part		
Other 1		
Other 2		
Other 3		

APC

Weeks Operated Per Year 52	Mon	Tues	Weds	Thurs	Fri	Sat	Sun
Daily Start Time	00	00	00	00	00	00	00
Daily Stop Time	24	24	24	24	24	24	24
*UTM Coordinates X							

*Not to be completed by the engineer.
**Fill out only if different from application.

Engineer R R Santos Date 12/18/87

SCAQMD
ENGINEERING DIVISION
NEW SOURCE REVIEW REGULATION XIII DATA SHEET

1 ☐ P/C 2 ☒ P/O 3 ☐ C/O

COMPANY ID# 043012
APPLICATION # 139684

COMPANY NAME PARAMOUNT PETROLEUM DATE 12/18/87
EQUIPMENT LOCATION 14700 DOWNEY AVE., PARAMOUNT, CA.

APPLICABLE NEW SOURCE RULE: (equip. installed or Class I applc'n rec'd...)
1 ☐ None (before 10-8-76)
2 ☐ Rule 213 (before 7-1-79 and on or after 10-8-76)
3 ☐ Original Reg XIII (before 1-1-83 and on or after 7-1-79)
4 ☐ 1st Revision Reg XIII (before 7-12-85 and on or after 1-1-83)
5 ☒ 2nd Revision Reg XIII (on or after 7-12-85)

SPECIAL CASES:
1 ☐ Banking Ref Applc'n #_____
2 ☐ Reg 13 Exempt
3 ☐ Mitigations 4 ☐ Tradeoffs
5 ☐ Toxic Materials
6 ☐ Banking Cert./Reg. Used
7 ☐ Rule 219 Exemptions
8 ☐ Alter.-Prev. App. #_____

EMISSION INCREASE OR DECREASE FROM THIS PERMIT UNIT CREDITED TO THIS LOCATION (Indicate "+" or "-"): [] 1.1 factor used for Max

CONTAMINANT	RHC	NO_x	SO_x	CO	Part	Lead	UnRHC
Max #/day	0						
Actual w/internal BACT #/day	0						
Actual w/o BACT #/day	0						

EGULATION XIII EXEMPT EMISSIONS (Indicate "+" or "-")
Exempt by Rule 1304 (____) (____) or Rule 213(f) (____) (____)

CONTAMINANT	RHC	NO_x	SO_x	CO	Part	Lead	UnRHC
Max #/day							
Actual #/day							

MITIGATIONS ACHIEVED CONCURRENT WITH THIS APPLC'N (Indicate "+" or "-")

APPLIC'N NUMBER	RHC #/day	NOx #/day	SO_x #/day	CO #/day	Part #/day	Lead #/day	UnRHC #/day

Engineer BRKanto Date 12/18/87 Reviewing Engineer L. Y. Date 1/25/88

NO NEW SOURCE RECORDS FOR THIS CO IN
ENG93D EMISSION THRESHOLD / NEWSOURCE

name: MOBIL OIL CORP
address: 22381 EL TORO RD
city: EL TORO

company id: 043102
date: 12/31/85
user: DRV

INCREASE (+) DECREASE (-) SUBSEQUENT TO 10-8-76

L#	I	M	date	appl	p/o	13 rl	RHC #/day	NOX #/day	SO2 #/day	CO #/day	PART #/day	LEAD #/day	UNRHC #/day

INSTRUCTIONS FOR PERMIT WORDING & FEE DATA

APPLICATION NO. 139654

NEED EIR? ☐ YES ☒ NO

DISPOSITION:
- ☐ APPROVED
- ☐ DENIED
- ☐ CANCELED — DON'T REFUND FILING FEE
- ☐ CANCELED — REFUND FILING FEE
- SEE COMMENTS

PERMIT UNIT WORDING:
- ☐ BELOW
- ☒ ON FIELD REPORT DATED 8/5/87
- ☐ ON PAGE _____ OF PROCESS SHEETS
- ☒ ON _____

CONDITIONS:
- ☐ NONE
- ☐ NUMBERS LISTED _____
- ☐ SPECIAL (SEE PERMIT UNIT WORDING & CONDITIONS)
- ☒ AS ON P. 5 OF 5 PP. OF FIELD R

PREVIOUS PERMIT NO. R-M 32813 DATED 8/5

PERMIT UNIT WORDING & CONDITIONS: _____

DISPOSITIONED

( ) P/C (X) P/O ( ) P/O NO P/C ( ) NOTICE TO APPLY WRITTEN

- ☐ CHANGE OF OWNERSHIP, large business
- ☐ CHANGE OF OWNERSHIP, small business
- ☐ CHANGE OF CONDITIONS
- ☐ ALTERATION
- ☐ FEDERAL GOVERNMENT
- ☐ GOVERNMENT (other)
- ☐ TIME & MATERIALS

SCHEDULE	① H.P.	② 1000s BTU	③ KVA	④ SQ. FT.	⑤ GALLONS	⑥ GASOLINE FUELING	⑦ EXCEPTIONS
RATING							
FEE							

1. PERMIT EVALUATION FEE — RULE 301.1(b)(1)
   - A. SCHEDULE _____ STEP _____ = FEE $ —0—
   - B. TIME & MATERIALS (T & M): HOURS _____ X $50/HOUR = FEE $ _____
   - C. CHANGE OF OWNERSHIP, large business or ALTERATION — EXCEPT T & M:
     SCHEDULE _____ STEP _____ = FEE _____ X 50% = FEE $ _____
   - D. ADDITIONAL FEE FOR NO P/C ABOVE FEE _____ X 50% = FEE $ _____
2. EIR/MODELING FEE — RULE 301.1(g): HOURS _____ X $50/HOUR = FEE $ _____
3. 301(d)(1)(C) CREDIT OR DIFFERENCE DUE TO INCORRECT INFORMATION

_____ ADJUSTED FEE $ _____

COMMENTS: EVALUATION FEE ALREADY CHARGED ON P/C.

TOTAL FEE —

REFUND _____

WORK UNITS ( )

RECOMMENDED BY R.R. Santos DATE 12/10/87 REVIEWING ENGINEER [illegible] DATE 1/25/88

PAGE OF PAGES

South Coast Air Quality Management District
Engineering Division ...Field Report

NAME OF APPLICANT: PARAMOUNT PETROLEUM	DATE OF INSPECTION: AUG. 5 1987
MAILING ADDRESS: 14700 DOWNEY AVENUE, PARAMOUNT, CA. 90723	PERMIT APPL. NO.: 139654
EQUIPMENT LOCATION (ADDRESS): SAME AS ABOVE	A.Q.M.D. OFFICE NO.:

WHICH PERMIT IS REQUIRED: NEW CONSTRUCTION ( ) CHANGE OF OWNERSHIP ( ) CHANGE OF LESSEE ( ) CHANGE OF LOCATION ( ) EQUIPMENT ALTERATION (X)

DATE CONSTRUCTION AUTHORIZED: 2/27/86 BY YCC | TIME SPENT MAKING INSPECTION: FROM 1:00 PM TO 2:00 P.M.

USUAL OPERATING SCHEDULE FOR THIS EQUIPMENT: CONTINUOUS, 365 DAYS/YR

WEATHER: SUNNY | WIND: 0-5 MPH SW | ESTIMATED COST: | BASIC EQUIPMENT $ | A.P.C. EQUIPMENT $

NAMES & TITLES OF PERSONS CONTACTED BY ENGINEER: CHARLES MULKEY, ENVIRONMENTAL COORDINATOR

FOR DEPT. & TEAM ENGINEERS ONLY:	INDEXED WEIGHT(S)	LBS./HR.	ALLOWED LOSSES:	LBS./HR.	ESTIMATED LOSSES:	LBS./HR.

OFFICIAL EQUIPMENT DESCRIPTION, CALCULATION OF PROCESS WEIGHT(S), PROCESS DESCRIPTION AND FINDINGS:

APPLICATION NO. 139654:

SULFUR-RECOVERY UNIT NO. 2 CONSISTING OF:

H-401 REACTION FURNACE, 3'-8" DIA. X 21'-0" L., WITH ONE ACID GAS BURNER.
RA-411 FIRST-STAGE CONVERTER, 12'-0" DIA. X 12'-0" H.
RA-412 SECOND-STAGE CONVERTER, 8'-0" DIA. X 19'-6" H.
----- SULFUR-STORAGE PIT, 12'-0" W. X 52'-0" L. X 8' TO 10' DEEP, WITH VENT CONNECTION TO INCINERATOR H-402.
D-413 CONDENSATE BLOWDOWN DRUM, 2'-0" DIA. X 7'-0" H.
D-416 TAIL GAS COALESCER, 3'-6" DIAM. X 6'-0" H., WITH VENT CONNECTION TO TAIL-GAS-TREATMENT UNIT AND EMERGENCY VENT CONNECTION TO INCINERATOR H-402.
H-403 FIRST-STAGE INLINE REHEATER, 2'-6" DIA. X 2'-3" L. FIREBOX, WITH ONE ACID GAS BURNER.
H-404 SECOND-STAGE INLINE REHEATER, 2'-6" DIA. X 2'-3" L. FIREBOX, WITH ONE ACID GAS BURNER.
X-411 FIRST CONDENSER, 50 PSIG STEAM WASTE-HEAT BOILER, SHELL AND TUBE.
X-412 SECOND CONDENSER, 50 PSIG STEAM WASTE-HEAT BOILER, SHELL AND TUBE.
X-413 THIRD CONDENSER, 25 PSIG STEAM WASTE-HEAT BOILER, SHELL AND TUBE.
X-414 REACTION FURNACE WASTE-HEAT BOILER, 150 PSIG STEAM, SHELL AND TUBE.

RECOMMENDED DISPOSITION: (X) APPROVE FOR PERMIT. ( ) APPROVE FOR PERMIT SUBJECT TO CONDITIONS LISTED BELOW. ( ) HOLD. SEE EXPLANATION BELOW ( ) DENY PERMIT.

REVIEWING ENGINEER: SIGNATURE RRSantos

( ) I CONCUR WITH RECOMMENDATIONS

South Coast Air Quality Management District
Engineering Division....Field Report

NAME OF APPLICANT	APPL. NO.	INSPECTION DATE
PARAMOUNT PETROLEUM	139654	8/5/87

F-401 REACTION COMBUSTION AIR BLOWER, HOFFMAN AGK 60, WITH MECHANICAL SEAL AND STEAM-TURBINE DRIVE.

F-402 REACTION COMBUSTION AIR BLOWER (SPARE), HOFFMAN AGK 60, WITH MECHANICAL SEAL AND 250-H.P. MOTOR.

BACKGROUND :

Subject Sulfur Recovery Unit No. 2 is currently being operated under PTO # R-M 32813 issued in April 1984. Application No. 139654 was filed to cover alteration of the SRU No. 2 by replacement of the old tail gas coalescer (D414) with a new one (D416). The new replacement (D416) was determined functionally identical with the old tail gas coalescer.

Also, as suggested by Engineering and Enforcement, a new control element was installed in the SRU system. The control element is an air demand analyzer which helps maintain the ratio of H_2S and SO_2 automatically. Previously, the H_2S and SO_2 ratio was

SIGNATURE B.R. Santos

South Coast Air Quality Management District
Engineering Division....Field Report

NAME OF APPLICANT	APPL. NO.	INSPECTION DATE
PARAMOUNT PETROLEUM	139654	8/5/87

being monitored, controlled and maintained by an operator manually.

PROCESS DESCRIPTION:

The Claus tail gas is routed through a coalescer from which condensate and liquid sulfur flows and collected in the sulfur pit. The effluent gas then goes to the SCOT tail gas treating unit for further removal of remaining sulfur compounds.

OBSERVATIONS:

The SRU No. 2 was in operation at time of inspection. The were no emissions or sulfur compound odors noted. The air demand analyzer incorporated with the control system of this unit was also in operation. The SO_2 monitor strip chart exhibited

SIGNATURE RRSantos

South Coast Air Quality Management District
Engineering Division....Field Report

NAME OF APPLICANT	APPL. NO.	INSPECTION DATE
PARAMOUNT PETROLEUM	139654	8/5/87

readings below 500 ppm SO_2.

CONCLUSIONS:

The new coalescer was installed in accordance with Permit to Construct issued 2/26/86.

Constant operator presence and attention previously required in the monitoring, control, and maintenance of the H_2S/SO_2 ratio were eliminated by the incorporation of the air demand analyzer in the units control system.

There was no emission increase effected by the subject alteration. Emissions for this site are within Reg. XIII Threshold Limits.

Subject unit is being operated in compliance with all applicable District Rules and Regulations.

SIGNATURE R R Santos

South Coast Air Quality Management District
Engineering Division....Field Report

NAME OF APPLICANT	APPL. NO.	INSPECTION DATE
PARAMOUNT PETROLEUM	139654	8/5/87

RECOMMENDATION:

Issue Permit to operate with the following condition:

1. THIS EQUIPMENT MUST NOT BE OPERATED UNLESS THE TAIL GAS COALESCER D-416 IS VENTED ONLY TO AIR POLLUTION CONTROL EQUIPMENT WHICH IS IN FULL USE AND WHICH HAS BEEN ISSUED AN OPERATING PERMIT BY THE EXECUTIVE OFFICER.

SIGNATURE R R Santos

South Coast
AIR QUALITY MANAGEMENT DISTRICT
9150 FLAIR DRIVE, EL MONTE, CA 91731 (818) 572-6200

MAILING ADDRESS: PARAMOUNT PETROLEUM CORPORATION
14700 DOWNEY AVENUE
PARAMOUNT, CA 90723

DATE: 02/02/88

ATTN: MR. CHUCK MULKEY

EQUIPMENT LOCATION:

14708 DOWNEY AVENUE
PARAMOUNT, CALIFORNIA

PERMIT NO(S)	APPL. NO(S)
M60250	139654

JBN

TRANSMITTED HEREWITH ARE THE PERMIT(S) LISTED ABOVE, AUTHORIZING YOU TO OPERATE THE DESCRIBED EQUIPMENT IN COMPLIANCE WITH RULE 206. (BILLING WHERE APPLICABLE WILL FOLLOW.)

RULE 206. A person granted a permit under Rule 203 shall not operate or use any equipment unless the entire permit to operate or a legible facsimile of the entire permit is affixed upon the equipment in such a manner that the permit number, equipment description, and the specified operating conditions are clearly visible and accessible. In the event that the equipment is so constructed that the permit to operate or the legible facsimile cannot be so placed, the entire permit shall be mounted so as to be clearly visible in an accessible place within 8 meters (26 FEET) of the equipment or as otherwise approved by the Executive Officer.

PARAMOUNT PETROLEUM CORPORATION
14708 Downey Avenue/Paramount, California 90723/(213) 531-2060
Telex 467196/706309 (S&D)

August 13, 1987

Mr. Sam York
South Coast Air Quality Management District
9150 Flair Drive
El Monte, California 91731

RE: Sulfur Plant Tests

Dear Mr. York:

Our consultants have completed their tests on the sulfur plant and have sent a preliminary report. We have also completed the installation of the air demand analyzer.

Our consultants, Western Research and Development, conducted surveys of efficiencies on the sulfur plant on two separate occassions in July. These surveys indicate that the Claus catalyst is still functional. The test results show that overall sulfur plant and SCOT Unit sulfur removal efficiency exceeds 99.8% sulfur removal (see attached report). Western Research's report details five items which can be changed to increase sulfur plant efficiency. We have proceeded to modify the temperatures as recommended and are evaluating the change in burning natural gas in the in-line burners. These changes, coupled with the installation of the air demand analyzer, should have increased the removal efficiency of the Claus plant to near optimum levels.

The completion of the air demand analyzer installation has helped to increase the stability of sulfur plant operation. Initially there were several problems with the analyzer but these have now been solved. Our operators have been checking the analyzer performance and the analyzer seems to be maintaining the correct ratio of H_2S and SO_2.

We are continuing to gather information from Western Research and other sources to improve our operating procedures and reduce problems with the sulfur plant and SCOT Unit. This information is also being used to implement an operator training program. We anticipate that the combination of revised procedures and training will result in smooth startups and shutdowns and may make it unnecessary to apply for a variance during these periods.

We feel that the changes in sulfur plant operation mentioned in this letter along with other changes which have not been mentioned here have increased the reliability and efficiency of the sulfur plant. We are continuing to seek additional changes which will further optimize sulfur plant and SCOT Unit performance.

We trust that this letter has answered any question you may have on our sulfur plant operation and that you will be able to expeditiously process the permit for the sulfur plant.

If you have any further questions please call me at 213/531-2060.

Sincerely,

PARAMOUNT PETROLEUM CORPORATION

Charles H. Mulkey
Environmental Coordinator

CHM:cz

South Coast
AIR QUALITY MANAGEMENT DISTRICT
9150 Flair Drive, El Monte, CA 91731

APPLICATION NUMBER
139654

PERMIT TO CONSTRUCT

GRANTED AS OF 02/27/86

LEGAL OWNER OR OPERATOR
PARAMOUNT PERTROLEUM CORP. UNIT NO. 22
14700 DOWNEY AVE.
PARAMOUNT, CA 90723

ATTENTION: MANNY RUIZ

The equipment described below and as shown on the approved plans and specifications and subject to the special condition, or conditions listed.

EQUIPMENT DESCRIPTION AND CONDITIONS:
LOCATED AT: 14708 DOWNEY AVE, PARAMOUNT, CA

ALTER SULFUR RECOVERY UNIT NO.2 (PERMIT NO. R-M 32813) BY INSTALLTION OF CLAUS COALESCER D-416 REPLACING D-414.

-CONDITION-

THIS EQUIPMENT MUST NOT BE OPERATED UNLESS IT IS VENTED ONLY TO AIR POLLUT CONTROL EQUIPMENT WHICH IS IN FULL USE AND WHICH HAS BEEN ISSUED AN OPERAT PERMIT BY THE EXECUTIVE OFFICER.

Approval or denial of this application for permit to operate the above equipment will be made after an inspection to determine if the equipment has been constructed in accordance with the approved plans and specifications and if the equipment can be operated in compliance with all Rules of the South Coast Air Quality Management District.

Please notify Y. C. CHAO at 572-6130 when construction of equipment is completed.

This Authority to Construct is based on the plans, specifications, and data submitted as it pertains to the release of air contaminants and control measures to reduce air contaminants. No approval or opinion concerning safety and other factors in design, construction or operation of the equipment is expressed or implied.

This Permit to Construct shall serve as a temporary Permit to Operate provided the Executive Officer is given prior notice of such intent to operate.

This Permit to Construct will become invalid if the Permit to Operate is denied or if this application is cancelled. THIS PERMIT TO CONSTRUCT SHALL EXPIRE TWO YEARS FROM THE DATE OF FILING OF APPLICATION unless an extension is granted by the Executive Officer.

MM:1j

J. A. Stuart, Executive Officer
M. Martin
M. MARTIN
RECORDS SECTION

SCAQMD
ENGINEERING DIVISION
NEW SOURCE REVIEW REGULATION XIII DATA SHEET

1 [X] P/C 2 [ ] P/O 3 [ ] C/O

COMPANY ID# 43012
APPLICATION # 139654

COMPANY NAME Paramont Petroleum Corporation DATE 1/23/86
EQUIPMENT LOCATION 1470 & P

APPLICABLE NEW SOURCE RULE: (equip. installed or Class I applc'n rec'd...)
1 [ ] None (before 10-8-76)
2 [ ] Rule 213 (before 7-1-79 and on or after 10-8-76)
3 [ ] Original Reg XIII (before 1-1-83 and on or after 7-1-79)
4 [ ] 1st Revision Reg XIII (before 7-12-85 and on or after 1-1-83)
5 [ ] 2nd Revision Reg XIII (on or after 7-12-85)

SPECIAL CASES:
1 [ ] Banking Ref Applc'n #_____
2 [X] Reg 13 Exempt
3 [ ] Mitigations 4 [ ] Tradeoffs
5 [ ] Toxic Materials
6 [ ] Banking Cert./Reg. Used
7 [ ] Rule 219 Exemptions
8 [ ] Alter.-Prev. App. #_____

EMISSION INCREASE OR DECREASE FROM THIS PERMIT UNIT CREDITED TO THIS LOCATION (Indicate "+" or "-"): [] 1.1 factor used for Max

CONTAMINANT	RHC	NO_x	SO_x	CO	Part	Lead	UnRHC
Max #/day							
Actual w/internal BACT #/day							
Actual w/o BACT #/day							

REGULATION XIII EXEMPT EMISSIONS (Indicate "+" or "-")
Exempt by Rule 1304 (a) (b) or Rule 213(f) (____) (____)

CONTAMINANT	RHC	NO_x	SO_x	CO	Part	Lead	UnRHC
Max #/day	0	—	—	—	—	—	—
Actual #/day	0	—	—	—	—	—	—

MITIGATIONS ACHIEVED CONCURRENT WITH THIS APPLC'N (Indicate "+" or "-")

APPLIC'N NUMBER	RHC #/day	NOx #/day	SO_x #/day	CO #/day	Part #/day	Lead #/day	UnRHC #/day

Engineer Y C C Date 1/27/86 Reviewing Engineer_____ Date_____

Revised 9/85

INSTRUCTIONS FOR PERMIT WORDING & FEE DATA

APPLICATION No. 139654

NEED EIR? ☐ YES ☒ NO

DISPOSITION:	PERMIT UNIT WORDING:	CONDITIONS:
☒ APPROVED	☐ BELOW	☒ NONE
☐ DENIED	☐ ON FIELD REPORT DATED _____	☒ STANDARD LETTER #3
☐ CANCELED – DON'T REFUND FILING FEE	☒ ON PAGE 1 OF PROCESS SHEETS dated 1/23/86	☐ SPECIAL (SEE PERMIT UNIT WORDING & CONDITIONS)
☐ CANCELED – REFUND FILING FEE		
SEE COMMENTS	☐ OR _____	☐ AS ON _____

PREVIOUS PERMIT NO.: R-M 32813

PERMIT UNIT WORDING & CONDITIONS:

(X) P/C ( ) P/O ( ) P/O NO P/C ( ) NOTICE TO APPLY WRITTEN

☐ CHANGE OF OWNERSHIP, large business ☒ ALTERATION ☐ TIME & MATERIALS

☐ CHANGE OF OWNERSHIP, small business ☐ FEDERAL GOVERNMENT

☐ CHANGE OF CONDITIONS ☐ GOVERNMENT (other)

SCHEDULE	(1) H P	(2) 1000s BTU	(3) KVA	(4) SQ. FT	(5) GALLONS	(6) GASOLINE PUMPING	(7) EXCEPTIONS
RATING	250						
	1G						

1. PERMIT EVALUATION FEE — RULE 301.1(b)(1)

A. SCHEDULE _____ STEP _____ = FEE $ _____

B. TIME & MATERIALS (T & M): HOURS _____ X $50/HOUR = FEE $ _____

C. CHANGE OF OWNERSHIP, large business or ALTERATION — EXCEPT T & M:
SCHEDULE 1 STEP G = FEE 170 X 50% = FEE $ 853.5

D. ADDITIONAL FEE FOR NO P/C: ABOVE FEE _____ X 50% = FEE $ _____

2. EIR/MODELING FEE — RULE 301.1(g): HOURS _____ X $50/HOUR = FEE $ _____

3. 301(d)(1)(C) CREDIT OR DIFFERENCE DUE TO INCORRECT INFORMATION

_____ ADJUSTED FEE $ _____

Comments: _____

TOTAL FEE 853.5

REFUND _____

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
ENGINEERING DIVISION
APPLICATION PROCESSING AND CALCULATIONS

PAGES	PAGE
3	1
APPL. NO. 139654	DATE 1/23/86
PROCESSED BY YCC	CHECKED BY

Evaluation of Permit to Construct

Company Name & Address

Paramount Petroleum Corporation
14700 Downey Avenue
Paramount, CA 90723

Equipment location:
14708 Downey Avenue
Paramount, CA 90723

Equipment Description

Alter Sulfur Recovery Unit No. 2 (Permit No. R-M 3: by installation of Claus coalescer D-416, replacing D-414.

History

The SRU No. 2 was granted a permit to operate (Permit No. R-M 32813) in April, 1984.

Process Description

The Claus tail gas is routed through a coalescer so that the condensate and liquid sulfur will be collected and flow to sulfur pit. The effluent gas is directed to SCOT tail gas treating unit for further removal of sulfur compounds.

Equipment Design Evaluation

The new coalescer D-416 is replacing the old coales

D-414. This functionally identical D-416 is expected to operate satisfactorily as the old vs According to the coalescer process design calculation, the demister used will be adequate to handle the SRU operating range 9-35 LT/D.

Emission Calculation

It is a closed system. No emission increase is anticipated by this replacement.

Conclusions

No emission change is anticipated. This alteration will be in compliance with Reg XIII. BACT is not required.

Recommendation

Approve Permit to Construct.

Coalescer Process Design Calculation

$V_{max} = k\sqrt{\frac{\rho_l - \rho_g}{\rho_g}}$ where: ρ_l = density of liquid
ρ_g = density of vapor

$k = 0.35 - 0.4$ from Perry's Handbook
$\rho_l = 111\ lb/ft^3$ from heater data sheet

$94.48\ mole/hr \times 379\ SCF/mole = 35807.9\ SCFH$

$\frac{2356.5\ lb/hr}{35807.9\ SCFH} = 0.066\ lb/SCF$

Corrected to 2 psig and 300 °F

$0.066\ lb/SCF \times \frac{14.7+2}{14.7} \times \frac{(460+60)}{(460+300)} = 0.0513\ lb/SCF$

$V_{max} = 0.38\sqrt{\frac{111 - 0.0513}{0.0513}} = 17.7\ ft/sec$

From the SRU operating range 9-35 LT/D sulfur production, check to see if the demister is doing properly.

$D = 3.16\ ft \qquad A = 7.8\ ft^2$

$7.8\ ft^2 \times 17.7\ ft/sec = 138.1\ ft^3/sec$

$138.1\ ft^3/sec \times \frac{460+60}{460+300} \times \frac{14.7+2}{14.7} = 107\ ft^3/sec$ at 0 p. and 60°,

$= 1019.6\ mole/hr$

$\frac{94.48\ mole/hr}{8.8\ LT/D} = \frac{1019.6\ mole/hr}{x}$

$x = 95\ LT/D$

It exceeds the maximum 35 LT/D limit. ∴ The dem

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

MEMORANDUM

DATE: 1/27/86

TO: Enforcement Division

FROM: Engineering Division

SUBJECT: P/C Phone Call

The following permits to construct have been approved by the Engineering Division and are now ready for typing. The applicant was notified by telephone on 1/27/86.

Company Paramount Petroleum Corporation

Address 14708 Downey Ave

Paramount, CA 90723

Processing Engineer GCC Unit 5

	APPLICATION NO.	DESCRIPTION
1.	139654	New Claus Coalescer D-416 for SRU replacing D-414
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		

Construction is expected to be completed within two months and the inspector should know about the following conditions:

S.Y. 1/27/86

SCAQMD ENGINEERING DIVISION

Time and Materials Charges
Summary Application Sheet

P/C [ ] P/O [X]
T & M Charges Apply
Yes [ ] No [ ]

APPL # 139654
I.D. # 043012
PARAMOUNT PETR CORP UNIT NO. 02
14700 DOWNEY AVE
PARAMOUNT

Contact: _____ Previous Permit No.: _____

Application:

Engineer's Initials YCC Date Assigned 1/3/86

Date Application Deemed Complete..... __/__/__

Verify Date Estimated for Completion of Construction 2/1/86

Estimated Date to Completion of Evaluation..... 1/3/87

Estimated Hours to Completion 10

EVALUATION	DATE COMPLETED	TOTAL HOURS*	COMMENTS
A/I	__/__/__		
FIELD EVALUATION	__/__/__		
SOURCE TEST	__/__/__		
ENG. EVAL.	__/__/__		

Engineer _____ DATE: __/__/__

Reviewing and Processing:

Supervisory Review and Approvals Completed : _____ __/__/__

Permit Typing Completed and Permit Mailed : _____ __/__/__

* List Total Hours Spent for Each Category of Work

SCAQMD ENGINEERING DIVISION

Time and Materials Charges
Summary Application Sheet

P/C [X] P/O [ ]
T & M Charges Apply
Yes [ ] No [ ]

APPL # 139654
I.D. # 040012
PARAMOUNT PETR CORP UNIT NO. 22
#4700 DOWNEY AV
PARAMOUNT

Contact: _____ Previous Permit No.: _____

Application:

Engineer's Initials YCC Date Assigned 1/3/86

Date Application Deemed Complete..... __/__/__

Verify Date Estimated for Completion of Construction 2/1/86

Estimated Date to Completion of Evaluation..... 1/31/86

Estimated Hours to Completion 10

EVALUATION	DATE COMPLETED	TOTAL HOURS*	COMMENTS
A/I	__/__/__		
FIELD EVALUATION	__/__/__		
SOURCE TEST	__/__/__		
ENG. EVAL.	1/27/86	10	

DATA ENTRY
ENGINEERING

Engineer YCC DATE: 1/27/86

Reviewing and Processing:

Supervisory Review and Approvals Completed : [signature] 1/27/86

Permit Typing Completed and Permit Mailed : _____ __/__/__

* List Total Hours Spent for Each Category of Work

PACIFIC OASIS

INTER-OFFICE MEMORANDUM

TO: M. Yi-Chia Chao DATE: 1/17/86

FROM: Pat Klutschbach

SUBJECT: Process / Mechanical Design Calcs

Enclosed are the process and mechanical data we discussed. For the coalescer vessel.

Regards,

P.J. Klutschbach

- Received 1/23/86

LETTER OF TRANSMITTAL

FROM

DATE: 1/10/86 JOB NO.:

RE: REPLACEMENT OF OLD CLAUS UNIT SPL COALES OR D416 FOR NEW COALES OR D416

TO: SCA & MD

ADDRESS: 9150 FLAIR DRIVE

CITY: EL MONTE, CA. 91731

ATTENTION: MS. YICHIA CHAO AIR QUALITY ENGR. II

PLEASE BE ADVISED

ARE SENDING YOU ☑ ATTACHED ☐ UNDER SEPARATE COVER VIA THE FOLLOWING:

☐ PRINTS ☐ PLANS ☐ SHOP DRAWINGS ☐ SAMPLES ☐ SPECIFICATIONS

☐ ARTWORK ☐ PROOFS ☐ PHOTOGRAPHS ☐ COPY OF LETTER ☐ CHANGE ORDER

☑ MECHANICAL & PROCESS DRAWINGS

	NO	DATE	COPIES	DESCRIPTION
1	1	1/10/86	1	PROCESS DESIGN DRAWING FOR D-416
2	7	1/10/86	1	MECHANICAL DESIGN DRAWINGS FOR D-416
3				
4				
5				

THESE ARE BEING TRANSMITTED AS INDICATED BELOW:

☑ AS REQUESTED ☐ APPROVED AS IS ☐ SUBMIT COPIES FOR DISTRIBUTION

☐ FOR APPROVAL ☐ APPROVED WITH CORRECTIONS ☐ RETURN CORRECTED

☑ FOR YOUR USE ☐ RETURNED WITH CORRECTIONS ☐ RETURNED AFTER LOAN TO US

☐ FOR YOUR COMMENTS ☐ RESUBMIT COPIES FOR APPROVAL ☐

☐ FOR BID(S) DUE

COMMENTS Per your Request enclosed are drawings for D-416 & Purchase Requisition

SIGNED: [signature]

ENGINEERING DIVISION....MEMORANDUM

File	Yi-Chia Chao	117186
		1396554

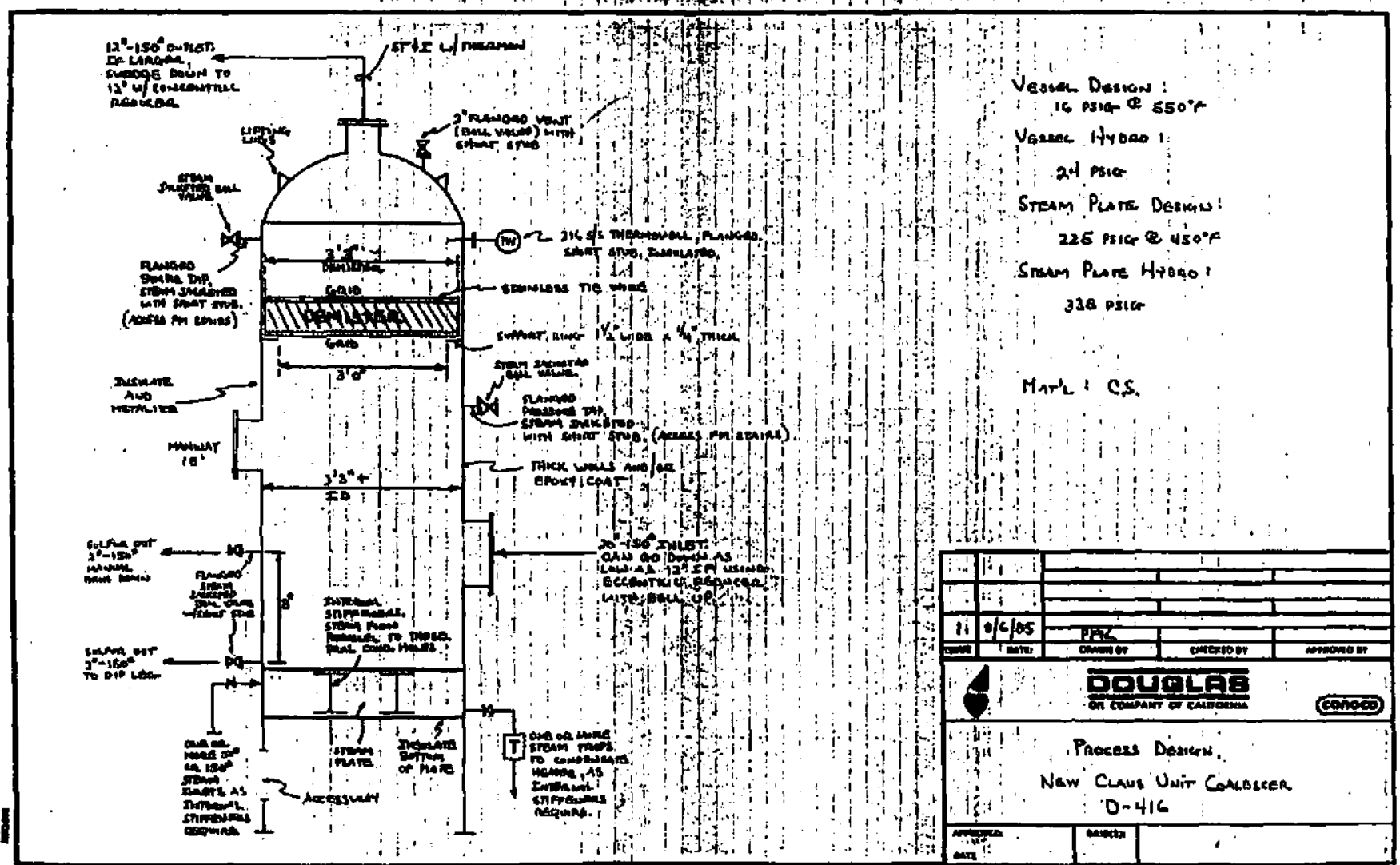
1/7 T/C with M. Ruiz. He said the coalescer D-416 will replace the old coalescer D-414, with vent connection to tail gas treatment system and emergency vent connection to incinerator H-402. The operating conditions will be the same. He would send me a detailed drawing of the coalescer.

1/14 Manny Ruiz called. He will be on vacation for the next two weeks. I could call Pat Kutschback (Tech. Div. of Eng.) to get info. He would like to have a verbal approval.

1/14 Drawings received.

1/16 I called Pat Kutschback. He will send me a copy of calculation

1/27 T/C with Pat Kutschback. He said the ΔP equation is empirical and is based on 99.5% efficiency and .6" thick packing. I asked a manual from Koch Engineering


12"-150# OUTLET IF LARGER, SWEDGE DOWN TO 12" W/ CONCENTRIC REDUCER
ST & I W/ THERMON
LIFTING LUGS
2" FLANGED VENT (BALL VALVE) WITH SHORT STUB
STEAM JACKETED BALL VALVE
FLANGED STAIRS TAP, STEAM JACKETED WITH SHORT STUB. (ACCESS FM STAIRS)
316 S/S THERMOWELL, FLANGED, SHORT STUB, INSULATED.
3'3" DEMISTER
GRID
DEMISTER
GRID
STAINLESS TIE WIRE
SUPPORT RING 1½" WIDE x ¼" THICK
3'0"
STEAM JACKETED BALL VALVE.
INSULATE AND METALIZE
FLANGED PRESSURE TAP, STEAM JACKETED WITH SHORT STUB. (ACCESS FM STAIRS)
MANWAY 18"
THICK WALLS AND/OR EPOXY COAT
3'3" + I.D.
20"-150# INLET. CAN GO DOWN AS LOW AS 12" I.D. USING ECCENTRIC REDUCER WITH BELL UP.
SULFUR OUT 2"-150# MANUAL BLOW DOWN
FLANGED STEAM JACKETED BALL VALVE WITH SHORT STUB
8"
INTERNAL STIFFENERS. STEAM FLOW PARALLEL TO THESE. DRAIN COND. HOLES.
SULFUR OUT 2"-150# TO DIP LEG
STEAM PLATE
INSULATE BOTTOM OF PLATE
ONE OR MORE STEAM TRAPS TO CONDENSATE HEADER, AS INTERNAL STIFFENERS REQUIRE.
ACCESSWAY
VESSEL DESIGN:
16 PSIG @ 550°F
VESSEL HYDRO:
24 PSIG
STEAM PLATE DESIGN:
225 PSIG @ 450°F
STEAM PLATE HYDRO:
338 PSIG
MAT'L: C.S.
11
9/6/85
PFK
DRAWN BY
CHECKED BY
APPROVED BY
DOUGLAS
OIL COMPANY OF CALIFORNIA
CONOCO
PROCESS DESIGN,
NEW CLAUS UNIT COALESCER
D-416
APPROVED
DATE
DRAWN

Bottom product from the amine contactor (stream 6), at 120°F, is withdrawn on LC located at the bottom of the tower and is transferred to the regenerator, W-453, via the rich amine pump, P-452, and the lean/rich exchangers, X-453 A and B, where it is heated to 212°F by heat exchange against lean solvent. Makeup water from filter L-451 is added as required at the suction of P-452. Feed to the regenerator enters the tower above the top of the packing. The regenerator is heated by reboiler, X-454, using steam at ca 50 psig, on FIC, as heat medium. Overhead vapor is cooled and partially condensed by an internal condenser, X-455, and top product (stream 8), at 104°F and 26.2 psia, is recycled to the Claus plant with flow rate monitored by FI and temperature by TI.

Bottom product from the regenerator (stream 5) is returned to the amine contactor on FRC via the lean amine pump, P-453, the lean/rich exchangers, X-453 A and B, and the lean amine cooler, X-452. In X-453 A and B, it is first cooled from 248°F to 155°F by heat exchange against regenerator feed, and is then further cooled to 104°F in X-452 against cooling water. Solvent cooling in X-452 is regulated by a TRC on the cooled solvent, which adjusts the cooling water flow through the lean amine cooler. A portion of the regenerator bottoms (ca 10%) is recirculated via FI from the discharge to suction of the lean amine pump, P-453, via the solvent filter, L-452.

Solvent makeup may be withdrawn from the amine makeup tank, D-452, and added to the system at the suction of rich amine pump, P-452, and solvent may be withdrawn from the system and routed to D-452 from the discharge of P-452. The latter routing was chosen by Douglas and is not recommended by Shell, since the hot fat solvent will normally contain H_2S and/or CO_2.

ORIGINAL SHELL DESIGN BASIS

Discussion of Plant Design

General Considerations

Capacity

The plant is designed to process 100 moles/sh of Claus plant tail gas, producing 70.7 moles/sh of vent gas containing less than 500 ppm H_2S, and 3.9 moles/sh of recycle acid gas containing ca 54% H_2S, from a feed of composition and quantity given below.

Additionally, it was specified that major equipment (including the reactor, blower and towers) be sized to handle 200% of the above design flow rates.

Feed Stream

The plant design material balance (shown in Table 1) is based on a "raw" tail gas rate and composition - e.g., as would exist were the SCOT unit not operating - as follows:

Component	Moles/sh	%m
H_2S	0.62	0.66
CO_2	2.20	2.33
SO_2	0.31	0.33
COS	0.30	0.32
CS_2	0.15	0.16
Sulfur as S_1	0.41	0.43
N_2	57.45	60.80
CO	0.30	0.32
H_2	1.69	1.79
H_2O	31.05	32.86
Total	94.48	100.00

SCOT FEED ← IE, OUT OF COALESCER

The SCOT unit design material balance, including the effect of recycling the acid gas to the Claus plant, was derived based on the following assumptions:

1. Claus plant sulfur recovery = 92.44%.
2. Ratio of H_2S to SO_2 in tail gas = 2.0 (molar).
3. Molar composition of S_1 in the tail gas as in "raw" tail gas.

The effects of changes in feed composition are discussed under Operating Considerations.

Solvent

Typical specifications for anhydrous diisopropanolamine which may be used in the process are as follows:

Specifications

Nitrogen compounds		
Diisopropanolamine (DIPA)	%w	95.0 min.
Monoisopropanolamine	%w	2.0 max.
Triisopropanolamine	%w	3.0 max.
Water content	%w	1.0 max.
Chlorine as chloride	ppm	5 max.
Ash content	%w	0.1 max.
Equivalent weight		131-135

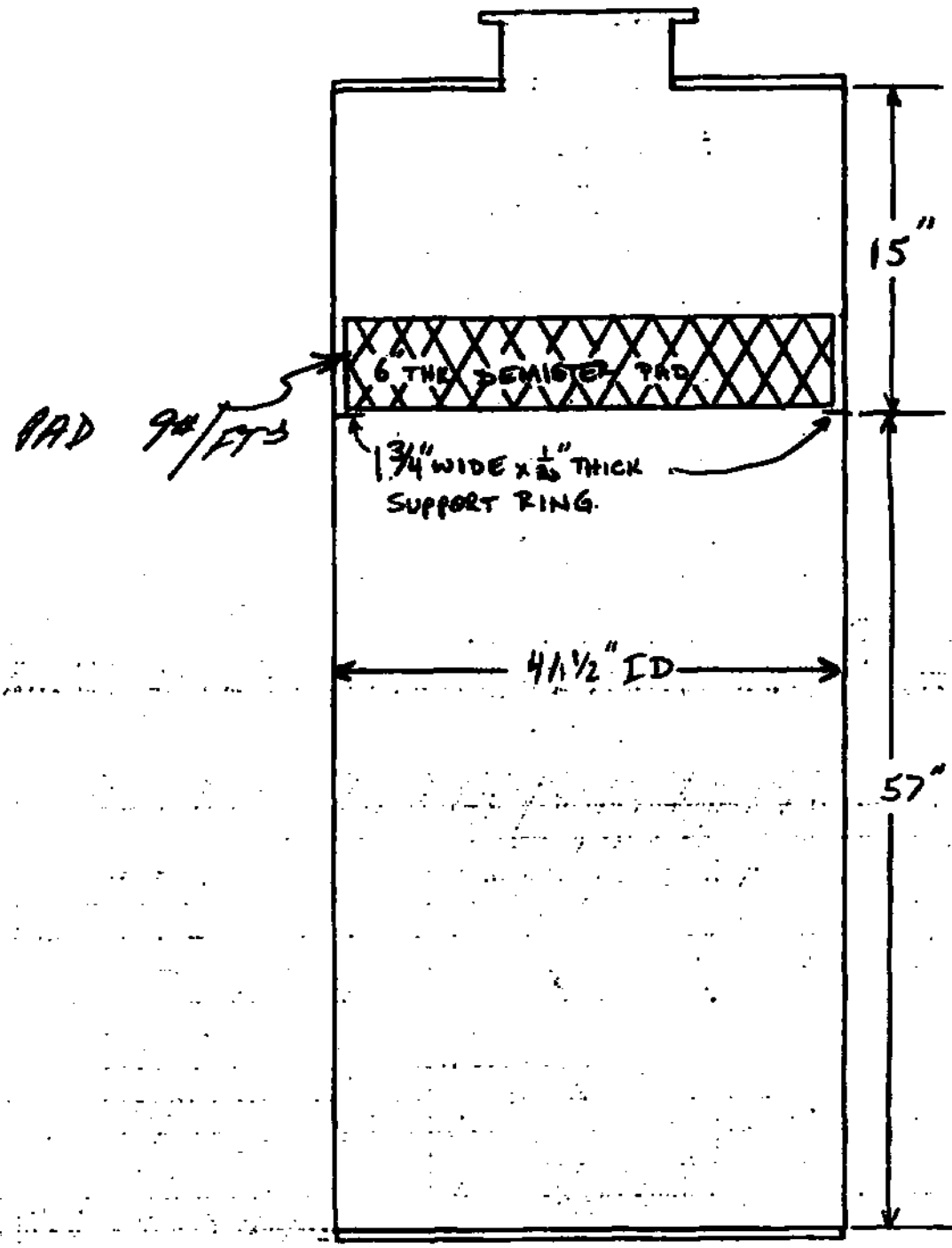
Typical Properties

Molecular weight of diisopropanolamine	133.19
Specific gravity at 45°C/20°C	0.980
Approximate freezing point	108°F (42°C)
Approximate viscosity at 45°C, centipoises	198
Approximate boiling point	480°F

Also, DIPA may be shipped containing 10%w water to reduce handling problems.

COALESCER

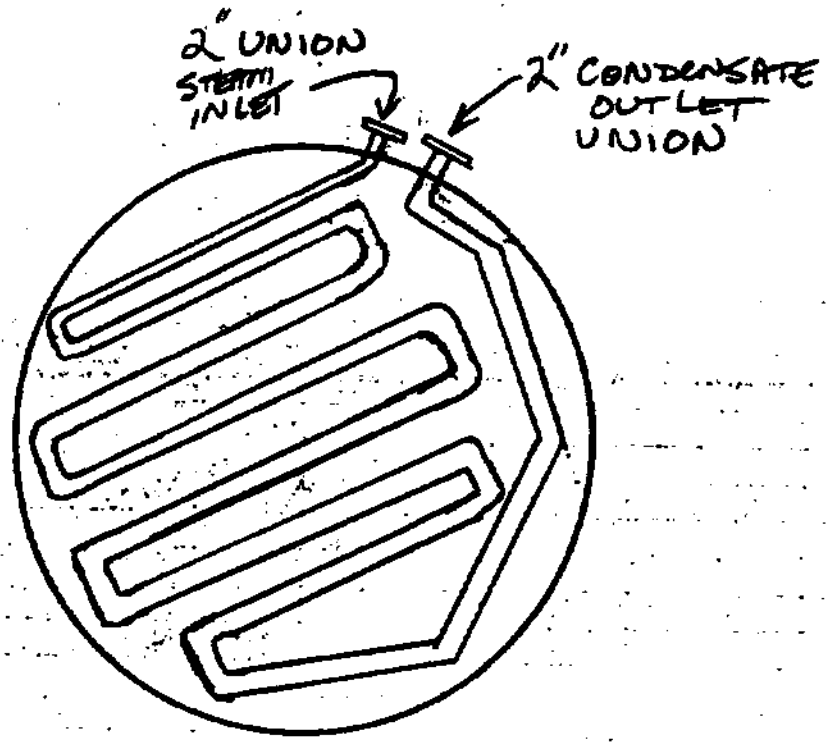
DEMISTER PAD INSTALLATION



R K RUGH

COALESCER

STEAM COIL

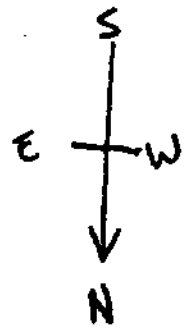


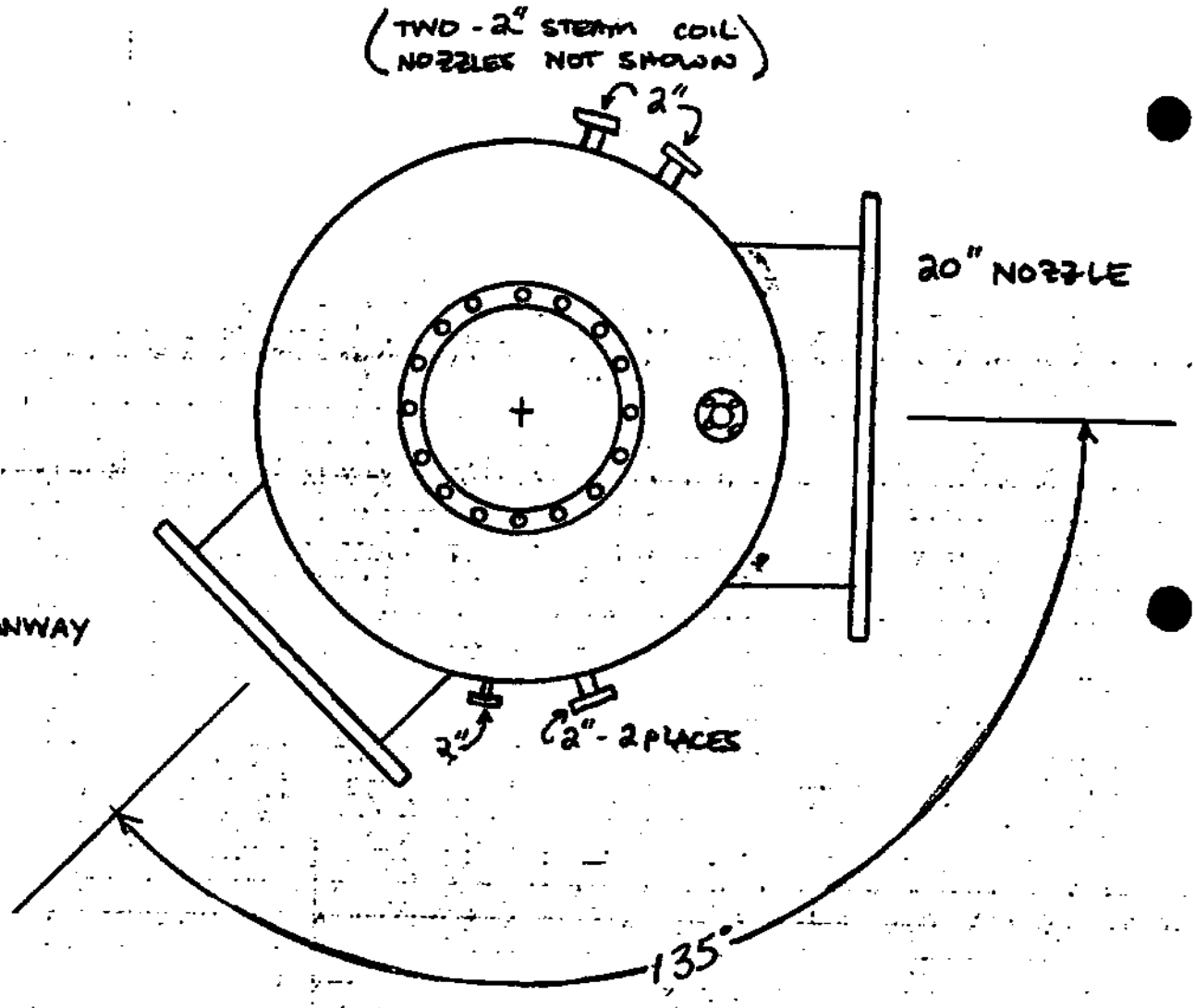
- STEAM COIL IS 2½"-SCH 160 PIPE
- STEAM COIL TO BE HELD IN PLACE BY U-BOLTS WELDED TO BOTTOM PLATE.

AK RUGH
8-22-85

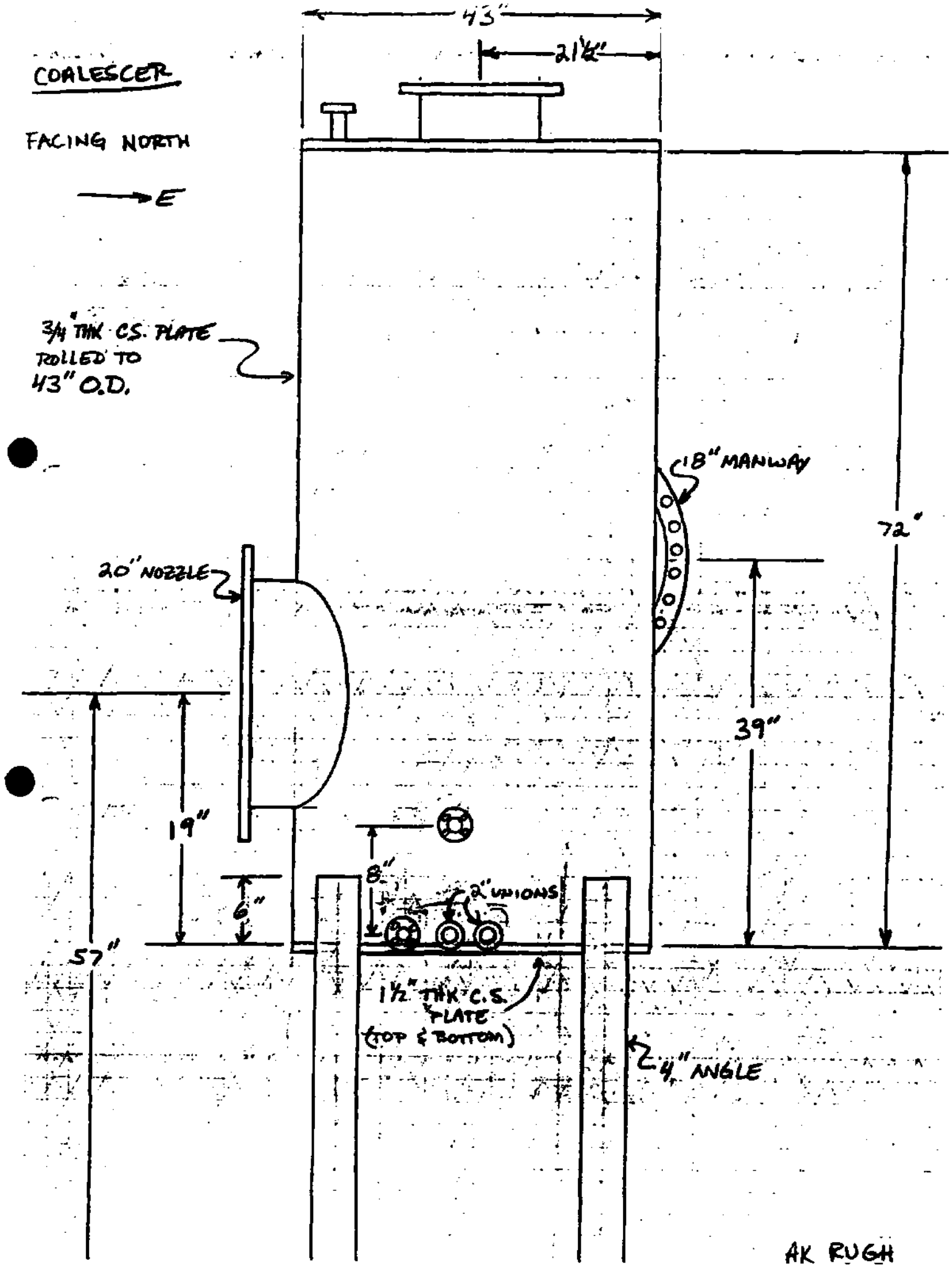
COALESCER

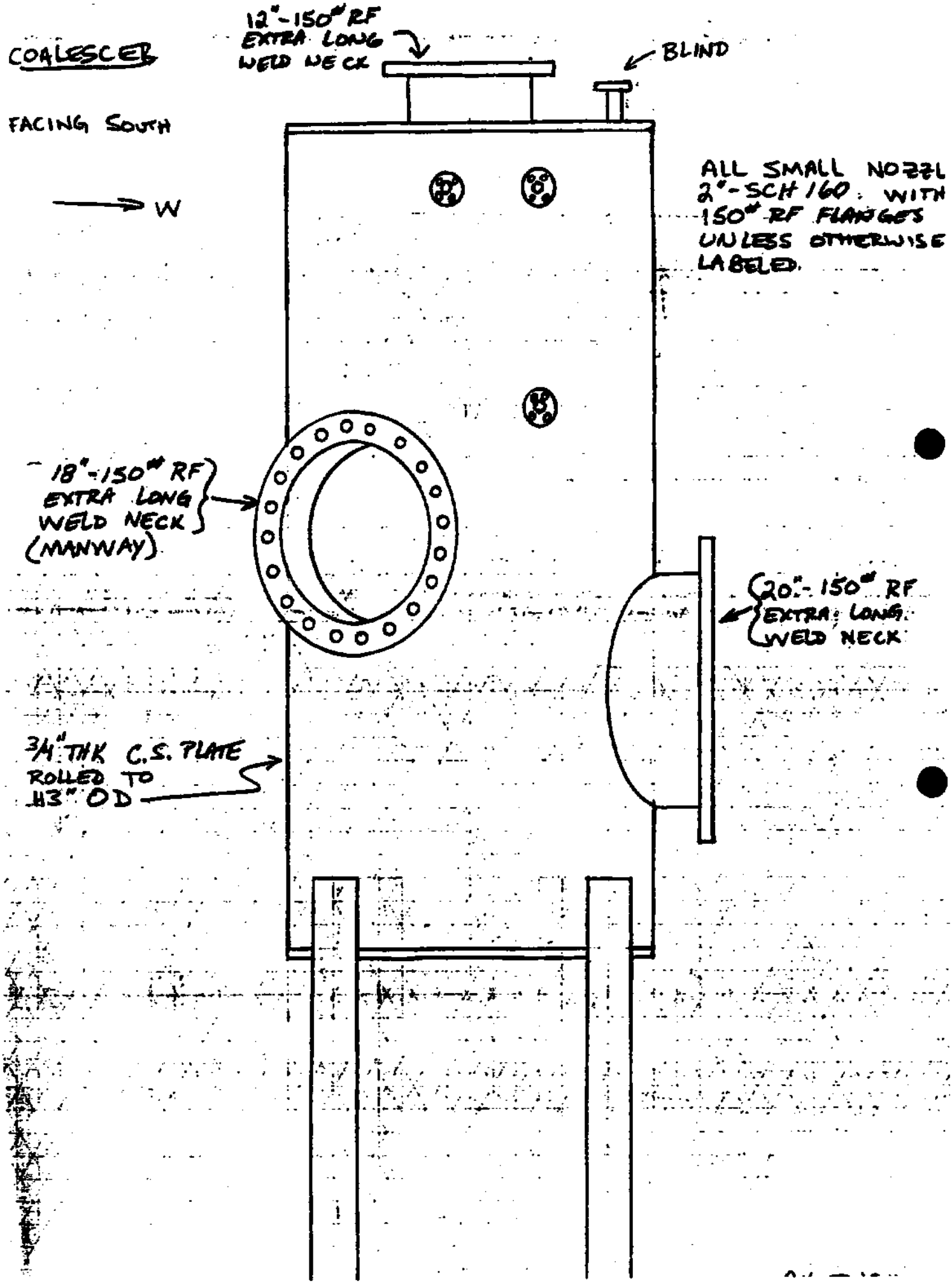
TOP VIEW





AK RUGH


COALESCER
FACING NORTH
E
43"
21½"
3/4" THK C.S. PLATE ROLLED TO 43" O.D.
18" MANWAY
72"
20" NOZZLE
39"
19"
8"
2" UNIONS
6"
57"
1½" THK C.S. PLATE (TOP & BOTTOM)
4" ANGLE
AK RUGH


COALESCER
FACING SOUTH
W
12"-150# RF EXTRA LONG WELD NECK
BLIND
ALL SMALL NOZZL 2"-SCH 160. WITH 150# RF FLANGES UNLESS OTHERWISE LABELED.
18"-150# RF EXTRA LONG WELD NECK (MANWAY)
20"-150# RF EXTRA LONG WELD NECK
3/4" THK C.S. PLATE ROLLED TO 43" OD

Purchase Order: 32631

PARAMOUNT PETROLEUM CORPORATION

Release No.:

Date: 8/5/85

Vendor 1 Koch Engr Co.	Ship to PARAMOUNT PETROLEUM CO
2 6880 Orangethorpe Ave	Attention of ATTENTION WAREHOUSE
3 Buena Park, CA. 90620	Street 8835 COMPTON BLVD.
4	City-State-Zip PARAMOUNT, CA 90723
5 Joe Ewach (714) 739-8853	Location/Department

Ship Via Bert Way ☐ Collect ☒ Prepaid	Work Order # 35-13-2636	Date Required 9-5-85
FOB ☐ Origin ☒ Destination Routing: Shipping Point:		Terms COD-Cashier Check
Vendor Code # A1205 M1205	Charge Code 8311-230-2636	Whse / Estimated Delivery 9-25-85

ITEM NO.	QTY.	U/M	COMPLETE MATERIAL DESCRIPTION	PRICE PER UN
1	1	EA	Koch Fleximesh Mist Eliminator, [redacted]	[redacted]
			Style # 4310 Demister Fabricated (41" dia)	
			of 317 L stainless steel (9 LB/FT³).	
			Supplied in 3 sections, 6 in. thick.	
			Price to include top and bottom	
			grids fabricated in 316 L	
			stainless steel with 316 L	
			tie wire, Also, ship a 5 ft.	
			length of 316 L tie wire for	
			attaching grid to support ring.	
				$743.00
				797.30

Confirmed To: [illegible] Date: 9-23-85 Ordered By: [illegible]

[illegible] Requested By: P.F. Kutschrach Copy To: [illegible]

COALESCER CALCULATIONS

SA 285 Gr A

- 2 E 6's - A

1/2"

15 PSI

3' 3" ID

Temp 650°F

- UG 27

$$t = \frac{PR}{SE - .6P} \qquad t = \frac{(15)(19.5)}{(11,300)(.7) - .6(15)}$$

$$= \frac{292.5}{7910 - 9}$$

$$= .037'' \text{ SHELL}$$

UCS 23

S = 11,300

P = 15

R = 19.5

E = 70%

$$t = d\sqrt{\frac{cP}{SE}} \qquad 36\sqrt{\frac{(.20)(15)}{(11,300)(.55)}}$$

d = 36"

min t = .80 HEAD

c = .20

P = 15

S = 11,300

E = .55

COALESCER CALCULATIONS

MECHANICAL DESIGN

DEFINITIONS

SA 285 GR A - MATERIAL IDENTIFICATION, CARBON STEEL IN THIS CASE

t = MATERIAL THICKNESS, IN THIS CASE MINIMUM ALLOWABLE

P = PRESSURE

S = ALLOWABLE STRESS OF THE MATERIAL

R = INTERNAL RADIUS OF THE VESSEL

E = EFFICIENCY OF THE WELD.

d = OUTSIDE DIAMETER OF THE VESSEL

C = A FACTOR DEPENDING ON METHOD OF ATTACHMENT OF THE HEAD.

UCS-23 IS THE ALLOWABLE STRESS CHART IN THE ASME PRESSURE VESSEL CODE.

7/30/85

NEW SRU COALESCER PROCESS DESIGN

① RE. STEVE BREWER 7/30/85, SRU OPERATING RANGE IS 9-35 LT/D.

② REFERENCE OLD SCOT HEATER DESIGN AND OLD SHELL DESIGN BASIS FOR STREAM PROPERTIES AND THRUPUT. ORIGINAL BASIS WAS 8.8 LT/D. — ATTACHED

③ CALC VELOCITY (MIN & MAX).

FM FLUOR DATA:

$$V_{MAX} = k_1 \sqrt{\frac{\rho_\ell - \rho_g}{\rho_g}}$$

$k_1 = 0.38$ — FLUOR DATA

DENSITY OF LIQUID AND GAS

$\rho_\ell = 111\ LB/FT^3$ — HEATER DATA SHEET

$\rho_g = 0.05178\ LB/FT^3$ — CALC BELOW

DESIGN BASIS AT 8.8 LT/D

$$\left(\frac{104\ \cancel{MOLES}}{HR}\right)\left(\frac{379\ SCF}{\cancel{MOLE}}\right) = 39{,}416\ \frac{S\,FT^3}{HR}$$

MASS FLOW = $2625\ \frac{LB}{HR}$

$$\therefore \left(\frac{2625\ LB}{\cancel{HR}}\right)\left(\frac{1\ \cancel{HR}}{39{,}416\ SFT^3}\right) = 0.0666\ \frac{LB}{S\,FT^3}\ @\ STP$$

CORRECT TO 2 PSIG AND 300°F:

INVERT

$$\frac{P_1 V_1 = n_1 R T_1}{P_2 V_2 = n_2 R T_2}$$

① ACTUAL, 2 PSIG & 300°F

② STD, 0 PSIG & 60°F

$$V_1 = \frac{T_1 P_2 V_2}{T_2 P_1} = \frac{(460+300)(14.7)\left(15.01\ \frac{S\,FT^3}{LB}\right)}{(460+60)(14.7+2)}$$

$= 19.3\ \frac{A\,FT^3}{LB}$ OR $0.05178\ \frac{LB}{A\,FT^3}$

$$\therefore \quad V_{MAX} = 0.38\sqrt{\frac{(111)-(0.05178)}{(0.05178)}} = \underline{\underline{17.6 \text{ FT/SEC}}}$$

$$V_{MIN} = 0.10\, V_{MAX} = (0.10)(17.6) = \underline{\underline{1.8 \text{ FT/SEC}}}$$

(4) APPLY VELOCITY CALC TO THRUPUT

SINCE BREWER STATED THAT THE OPERATING RANGE IS 9-35 LT/D, AND THE SHELL PROCESS DESIGN AND HEATER VENDOR DESIGN WAS AT 8.8 LT/D, ASSUME LOW END OPERATION (9 LT/D) IS AT DESIGN BASIS (8.8 LT/D) AND SIZE THIS LOW OPERATION AT V_{MIN} = 1.8 FT/SEC.

<u>V_{MIN} CALC</u>

AT 9 LT/D, LOW THRUPUT CASE:

$$\left(\frac{0.05178 \text{ LB}}{A \text{ FT}^3}\right)\left(\frac{1 \text{ HR}}{2625 \text{ LB}}\right)\left(\frac{60 \text{ MIN}}{\text{HR}}\right)\left(\frac{60 \text{ SEC}}{\text{MIN}}\right) = 0.0710 \frac{\text{SEC}}{A \text{ FT}^3}$$

OR, $14.08 \dfrac{A \text{ FT}^3}{\text{SEC}}$

V_{MIN} = 1.8 FT/SEC (SEE ABOVE CALC)

$$\therefore \quad \left(\frac{14.08 \text{ FT}^3}{\text{SEC}}\right)\left(\frac{1 \text{ SEC}}{1.8 \text{ FT}}\right) = 7.8 \text{ FT}^2$$

$$A = \pi R^2$$

$$R = \sqrt{\frac{A}{\pi}} = \sqrt{\frac{7.8}{3.14}} = 1.58 \text{ FT}$$

$\underline{\underline{D = 3.16 \text{ FT}}}$ FOR V_{MIN} @ 9 LT/D

V_{MAX} CALC

WITH THE DIAMETER OF THE DEMISTER FIXED AT 3.16 FT, HOW HIGH CAN WE RAISE THRUPUT UNTIL V_{MAX} IS ACHIEVED ?

$$\left(\frac{3.16\ FT^2}{1}\right)\left(\frac{17.6\ FT}{SEC}\right) = 55.6\ \frac{A\ FT^3}{SEC} \text{ AT } V_{MAX}.$$

$$\frac{P_1V_1 = n_1RT_1}{P_2V_2 = n_2RT_2}$$

① STD, ϕ PSIG & 60°F

② ACTUAL, 2 PSIG & 300°F

$$V_1 = \frac{T_1P_2V_2}{P_1T_2} = \frac{(60+460)(14.7+2)(55.6\ A\ FT^3/SEC)}{(14.7)(300+460)}$$

$$= 43.2\ S\ FT^3/SEC \text{ AT } V_{MAX}$$

$$= 155{,}584\ S\ FT^3/HR \text{ AT } V_{MAX}$$

$$\therefore \frac{MOLES}{HR} = \left(\frac{155{,}584\ S\ FT^3}{HR}\right)\left(\frac{1\ MOLE}{379\ S\ FT^3}\right)$$

$$= 410.5\ \frac{MOLES}{HR}$$

IF $\frac{104\ MOLES}{HR}$ EQUATES TO 8.8 LT/D (SEE DESIGN BASIS)

THEN $\left[\frac{410.5\ MOLES/HR}{104\ MOLES/HR}\right](8.8\ LT/D) = \underline{34.7\ LT/D}$ PERFECTO!

CHECK ΔP : $\Delta P = 1.5\left(\frac{V_{ACTUAL}}{V_{MAX}}\right)^2 = 1.5\left(\frac{17.6}{17.6}\right)^2 = 1.5$ IN-H_2O OK

SUMMARY OF PROCESS DESIGN –

A 3.16 FT. DIAMETER DEMISTER WILL COVER THE RANGE FROM 9 – 35 LT/D SULFUR PRODUCTION.

PARAMOUNT PETROLEUM CORPORATION
14708 Downey Avenue/Paramount, California 90723/(213) 531-2060
Telex 467196/706309 (S&D)

December 10, 1985

Mr. H. Whitehead
Senior Engineer
Engineering Division
South Coast Air Quality
Management District
9150 Flair Drive
El Monte, CA 91731

Dear Mr. Whitehead:

Enclosed are two applications for permits to construct and two checks for $250.00 each.

One application to construct is for the installation of a substitute pump on our Gasoline Vapor Recovery System, which we would like to have installed prior to your next visit to our various loading rack facilities.

The other permit to construct is for a new SRU Clauss Coalescer to be installed during our next refinery turnaround in late January of 1986. Our present Coalescer internals are in bad shape and we feel its wall thickness won't allow for much internal reinforcement.

I look forward to meeting with you here on the matter of the loading racks the first Friday in January, 1986. I would also like to wish you a Merry Christmas and a Happy New Year.

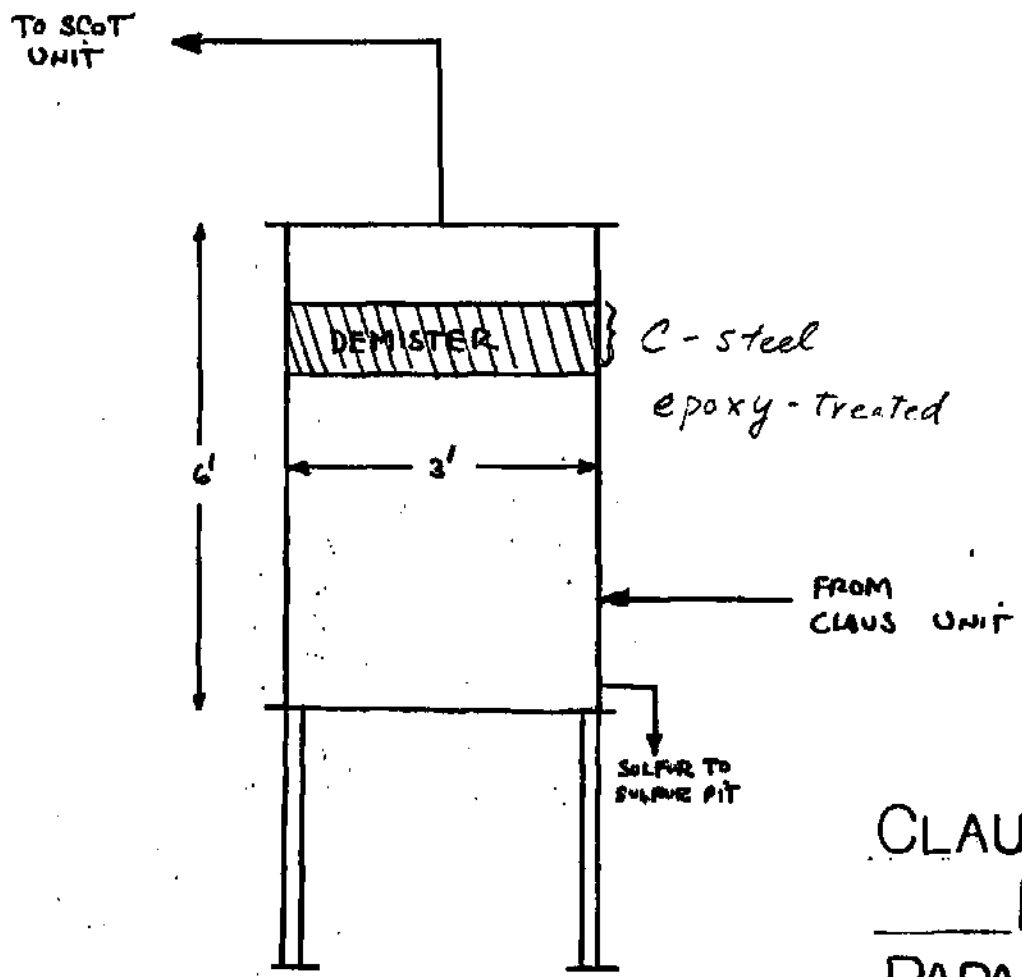
Cordially,

J. M. Ruiz
Environmental Coordinator

JR/11

Attachments

VOUCHER NO.	INVOICE DATE	INVOICE NO.	INVOICE AMOUNT	DISCOUNT AMOUNT	NET AMOUNT
	12/9/85				250.00
				TOTAL	250.00
				CHECK NO.	16226



CLAUS COALESCER
D-416
PARAMOUNT PETRO.

APPLICATION CONSOLIDATION

THE FOLLOWING MATERIAL WAS REMOVED FROM APPLICATION NO. 104 013

P/O NO. R-M 32813

NAME (APPLICANT): Paramount Petroleum Corporation

BY LJCC DATE 1/27/86

APPLICATION NO. 104013

600801

South Coast
AIR QUALITY MANAGEMENT DISTRICT
9150 FLAIR DRIVE, EL MONTE, CA 91731 (213) 572-6200

MAILING ADDRESS: PARAMOUNT PETROLEUM CORPORATION
14708 DOWNEY AVE.
PARAMOUNT, CA 90723

DATE: 04/27/84

ATTN: L. BRUCE BEAN/
R. T. WEAVER

EQUIPMENT LOCATION: *14708 DOWNEY AVE., PARAMOUNT
**2922 E. SOUTH ST., LONG BEACH

PERMIT NO(S)	APPL. NO(S)
*R-M 32804	104002
*R-M 32805	104004
*R-M 32806	104005
*R-M 32807	104006
*R-M 32808	104008
*R-M 32800	104009
*R-M 32810	104010
*R-M 32811	104011
*R-M 32812	104012
*R-[redacted]	[redacted]3
*R-M 32814	104014
*R-M 32815	104015
*R-M 32816	104016
*R-M 32817	104017

TRANSMITTED HEREWITH ARE THE PERMIT(S) LISTED ABOVE, AUTHORIZING YOU TO OPERATE THE DESCRIBEI EQUIPMENT IN COMPLIANCE WITH RULE 206. (BILLING WHERE APPLICABLE WILL FOLLOW.)

RULE 206. A person granted a permit under Rule 203 shall not operate or use any equipment unless the entire permit to operat or a legible facsimile of the entire permit is affixed upon the equipment in such a manner that the permit number, equipmer description, and the specified operating conditions are clearly visible and accessible. In the event that the equipment is so cor structed that the permit to operate or the legible facsimile cannot be so placed, the entire permit shall be mounted so as to b clearly visible in an ible place within 8 meters (26 FEET) of the equipment or as otherwise approved by the Executiv Officer.

PERMIT NO(S)	APPLICATION NO(S)
*R-M 32818	104018
*R-M 32819	104019
*R-M 32820	104020
*R-M 32821	104021
*R-M 32822	104022
*R-M 32823	104023
*R-M 32824	104024
*R-M 32825	104025
*R-M 32826	104026
*R-M 32829	104029
*R-M 32830	104030
*R-M 32832	104033
*R-M 32833	104034
*R-M 32834	104035
*R-M 32835	104036
*R-M 32836	104037
*R-M 32837	104244
*R-M 32838	104245
*R-M 32839	104246
*R-M 32840	104247
*R-M 32841	104249
*R-M 32842	104250
*R-M 32843	104251
*R-M 32844	104252
*R-M 32845	104254
*R-M 32846	104255
*R-M 32848	104258
*R-M 32849	104259
*R-M 32850	104260
*R-M 32851	104261
*R-M 32852	104262
*R-M 32853	104263
*R-M 32854	104264
*R-M 32855	104265
*R-M 32856	104266
*R-M 32857	104267
*R-M 32858	104271
*R-M 32859	104272
*R-M 32860	104273
*R-M 32861	104275
*R-M 32862	104276
*R-M 32863	104277
*R-M 32864	104278
*R-M 32865	104279
*R-M 32866	104280
*R-M 32867	104281
*R-M 32868	104282
*R-M 32869	104283
*R-M 32870	104284
*R-M 32871	104287
*R-M 32872	104289

PERMIT NO(S)	APPLICATION NO(S)
*R-M 32873	104291
*R-M 32874	104292
*R-M 32875	104293
*R-M 32876	104294
*R-M 32877	104295
*R-M 32878	104296
*R-M 32879	104297
*R-M 32880	104298
*R-M 32881	104300
*R-M 32882	104301
*R-M 32883	104302
*R-M 32884	104303
*R-M 32885	104304
*R-M 32886	104305
*R-M 32887	104306
*R-M 32888	104307
*R-M 32889	104308
*R-M 32890	104310
*R-M 32891	104328
*R-M 32892	104329
*R-M 32893	104330
*R-M 32894	104331
**R-M 32895	104334
**R-M 32896	104335
**R-M 32897	104336
**R-M 32898	104337
*R-M 32899	104318
*R-M 32900	104319
*R-M 33101	104320
*R-M 33102	104321
*R-M 33103	104322
*R-M 33104	104323
*R-M 33105	104324
*R-M 33106	104325
*R-M 33107	104327
*R-M 33108	104311
*R-M 33109	104312
*R-M 33110	104313
*R-M 33111	104314
*R-M 33112	104315
*R-M 33113	104316
*R-M 33114	104317

PLEASE NOTE:

The above referenced permits to operate have been revised due to a company name change. Revisions occurred as the result of a request by letter (dated 03/19/84) submitted by Paramount Petroleum Corporation (formerly Paci. Oasis). Permit nos. M 32827, M 32828, M 32831, M 32847 and M 35407 have not been included with this transmittal and will follow at a later date. Gasoline facility permits will also follow under a separate cover letter.

South Coast
AIR QUALITY MANAGEMENT DISTRICT
9150 E. FLAIR DRIVE, EL MONTE, CA 91731

SEP. 16, 1983

		PERMIT NO(S)	APPLICATION NO(S)	
	PACIFIC OASIS	M 32804	104002	
	14708 DOWNEY AVE.	M 32805	104004	
	PARAMOUNT, CA 90723	M 32806	104005	
		M 32807	104006	
		M 32808	104008	
MJM	ATTN: R.T. WEAVER	M 32809	104009	PAGE 1 OF 3 PAGES

RANSMITTED HEREWITH ARE THE PERMIT(S), LISTED ABOVE, AUTHORIZING YOU TO OPERATE THE ESCRIBED EQUIPMENT IN COMPLIANCE WITH RULE 206.

RULE 206. A person granted a permit under Rule 203 shall not operate or use any equipment unless the entire permit to operate or a legible facsimile of the entire permit is affixed upon the equipment in such a manner that the permit number, equipment description, and the specified operating conditions are clearly visible and accessible. In the event that the equipment is so constructed that the permit to operate or the legible facsimile cannot be so placed, the entire permit to operate or the legible facsimile of the entire permit shall be mounted so as to be clearly visible in an accessible place within 8 meters (26 FEET) of the equipment or as otherwise approved by the Executive Officer.

PACIFIC OASIS

....CONTINUED

PERMIT NO(S)	APPLICATION NO(S)
M 32810	104010
M 32811	104011
M 32812	104012
M 32813	104013
M 32814	104014
M 32815	104015
M 32816	104016
M 32817	104017
M 32818	104018
M 32819	104019
M 32820	104020
M 32821	104021
M 32822	104022
M 32823	104023
M 32824	104024
M 32825	104025
M 32826	104026
M 32827	104027
M 32828	104028
M 32829	104029
M 32830	104030
M 32831	104031
M 32832	104033
M 32833	104034
M 32834	104035
M 32835	104036
M 32836	104037
M 32837	104244
M 32838	104245
M 32839	104246
M 32840	104247
M 32841	104249
M 32842	104250
M 32843	104251
M 32844	104252
M 32845	104254
M 32846	104255
M 32847	104256
M 32848	104258
M 32849	104259
M 32850	104260
M 32851	104261
M 32852	104262
M 32853	104263
M 32854	104264
M 32855	104265
M 32856	104266
M 32857	104267
M 32858	104271
M 32859	104272
M 32860	104273
M 32861	104275
M 32862	104276

PACIFIC OASIS

....CONTINUED

PERMIT NO(S)	APPLICATION NO(S)
M 32863	104277
M 32864	104278
M 32865	104279
M 32866	104280
M 32867	104281
M 32868	104282
M 32869	104283
M 32870	104284
M 32871	104287
M 32872	104289
M 32873	104291
M 32874	104292
M 32875	104293
M 32876	104294
M 32877	104295
M 32878	104296
M 32879	104297
M 32880	104298
M 32881	104300
M 32882	104301
M 32883	104302
M 32884	104303
M 32885	104304
M 32886	104305
M 32887	104306
M 32888	104307
M 32889	104308
M 32890	104310
M 32891	104328
M 32892	104329
M 32893	104330
M 32894	104331
M 32895	104334*
M 32896	104335*
M 32897	104336*
M 32898	104337*
M 32899	104318
M 32900	104319
M 33101	104320
M 33102	104321
M 33103	104322
M 33104	104323
M 33105	104324
M 33106	104325
M 33107	104327
M 33108	104311
M 33109	104312
M 33110	104313
M 33111	104314
M 33112	104315
M 33113	104316
M 33114	104317

*EQUIPMENT LOCATED AT 2922 E. SOUTH ST., LONG BEACH

SCAQMD - ENGINEERING DIVISION
REG. XIII DATA SHEET

AQMD I.D. #_____

☐ P/C ☒ P/O APPLC'N # 104015

COMPANY NAME Pacific Oasis DATE _____

EQUIPMENT LOCATION 14708 Downey Ave Paramount

☐ Rule 213 Applicable (application received prior to 7-1-79) ☒ NOT SUBJECT NSR INSTALLED PRIOR 10/6

☐ Original Reg. XIII Applicable (application received on or subsequent to 7-1-79 and prior to 1-1-83)

☐ Revised Reg. XIII Applicable (application received on or subsequent to 1-1-83)

Special Cases: ☐ Mitigations ☐ Banking Ref. Applc'n # _____ ☐ Reg. XIII Exempt ☐ Toxic Materials ☐ Rule 219 Exemption(s)

Emissions Increase or Decrease From This Permit Unit Credited to This Location: (Indicate "+" or "-")

CONTAMINANT	RHC	NO_x	SO_2	CO	Part.	Lead	UnRHC
Maximum #/Day							
Actual w/BACT #/Day							
Actual w/o BACT #/Day							

Mitigations Achieved Concurrent With This Application (Indicate "+" or "-")

APPLICATION NUMBER	RHC #/Day	NO_x #/Day	SO_2 #/Day	CO #/Day	Part. #/Day	Lead #/Day	UnRHC #/Day

Regulation XIII Exempt Emissions - (Enter "+" or "-")

Exempt By 1304 (____) (____)

CONTAMINANT	RHC	NO_x	SO_2	CO	Part.	Lead	UnRHC
Max. #/Day							

SEE REVERSE

Revised 1/83 P__ of __ Engineer _____

INSTRUCTIONS FOR PERMIT WORDING & FEE DATA

Application No. 104013

DISPOSITION:	PERMIT UNIT WORDING:	CONDITIONS:
[X] APPROVED	[ ] BELOW	[ ] NONE
[ ] DENIED	[X] ON FIELD REPORT DATED 5/24/83 PGS. 1+2	[X] NUMBERS LISTED 3
[ ] CANCELED - DON'T REFUND FILING FEE	[ ] ON PAGE ____ OF PROCESS SHEETS	[ ] SPECIAL (SEE PERMIT UNIT WORDING & CONDITIONS)
[ ] CANCELED - REFUND FILING FEE SEE COMMENTS	[ ] ON _____	[ ] AS ON _____
[ ] EMISSION REDUCTION CREDIT		

PREVIOUS PERMIT NO. M03646

PERMIT UNIT WORDING & CONDITIONS:

Prorate AOF 4-1-8

[ ] P/C [✓] P/O LATE [ ] YES [✓] NO

[ ] CHANGE OF OWNERSHIP [ ] ALT. INCREASE IN RATING [ ] GOVERNMENT (OTHER) [ ] FEDERAL GOV'T
[ ] CHANGE OF CONDITION [ ] ALT. NO RATING INCREASE [ ] EMISSION REDUCTION

SCHEDULE	(1) H.P.	(2) 1000 x BTU	(3) KVA	(4) SQ. FT.	(5) GALLONS	(6) GASOLINE PUMPING	(7) EXCEPTIONS
RATING							

1. 301 (b) (1) ENGR'G EVAL. FEE: SCHED. _____ STEP _____ FEE _____
2. 301 (b) (1) REDUCTION ANAL. FEE:

Contaminant	HC	NO_X	SO_2	CO	Part	Total
LBS/DAY RED.						

X $2/LB - DAY FEE _____

3. 301 (f) MODELING FEE: _____ HRS. X $35.00 FEE _____
4. 301 (j) LATE FEE FOR NOT OBTAINING P/C: (PENALTY FEES)

Comments: P/O to Acipe Oasis

ENGINEERING ANALYSIS
FEE ( ) X 0.5 = PENALTY FEE _____
ANNUAL OPERATING
FEE ( ) X 0.5 = PENALTY FEE _____
REDUCTION ANALYSIS
FEE ( ) X 0.5 = PENALTY FEE _____
TOTAL FEE 0
REFUND _____

WORK UNITS ( )

RECOMMENDED BY [signature] DATE 6/6/83 REVIEWING ENGINEER [signature] DATE 6/13/83

GENERAL STANDARD CONDITIONS

3. This equipment must not be operated unless (it) (the) TAIL GAS COALESCER D414 _____ (is) (are) vented only to air pollution control equipment which is in full use and which has been issued (an operating permit) (a permit to construct) by the Executive Officer.

4. a. Fuel oil supplied at the burner must be (pa-)_____ or lighter grade.
   b. (pa-)_____ fuel oil supplied at the burner must be at a temperature of _____ °F or greater.
5. A temperature of not less than _____ °F must be maintained in the (afterburner) (combustion chamber) when the equipment it serves is in operation.
6. Not less than _____ gallons per minute of water (_____) at a pressure of _____ to _____ psig must be supplied to this scrubber when the equipment it serves is in operation.
7. This oven shall not be operated at temperatures above _____ °F.
8. Steam atomization only must be maintained during the entire period of fuel oil burning.
9. This equipment must not discharge to the atmosphere radioactive materials in excess of the permissible limits established by existing authorities.
10. Whenever air contaminants are vented to the boiler firebox, all burners must be continuously operated either with natural gas at a burner pressure of not less than _____ (psig) (inches water column) or with fuel oil at an equivalent heat input.

REFINERY UNIT 60D648-R2

45. When storing organic liquid having a vapor pressure of 77.5 mm Hg (1.5 psia) or greater under actual storage conditions, (this tank) (Tank Nos. _____, _____) must be connected to a vapor control system which has been issued an (operating permit) (permit to construct) by the Executive Officer.
46. This tank must not be used for storing organic liquid having a vapor pressure of 569 mm Hg (11 psia) or greater under actual storage conditions.
47. The hatch covers must be kept in good operating condition and must be closed at all times except during actual gauging operation.
48. This equipment must not be used for loading more than 73,700 liters (20,000 gallons) per day of organic liquids having a vapor pressure of 77.5 mm Hg (1.5 psia) or greater under actual loading conditions.
49. A vapor tight seal between the adapter and the compartment hatch must be maintained when loading organic liquids having a vapor pressure of 77.5 mm Hg (1.5 psia) or greater under actual loading conditions.
50. The vapor sphere must be prevented from venting by controlling the organic liquids loading operations so as not to exceed the effective total capacity of the compressor and the vapor sphere at any time.
51. This equipment must not be used to recover 7600 liters (201 gallons) or more per day of any petroleum or coal tar products.
52. The incinerator must be operated with a minimum of _____ percent excess air.
53. A minimum temperature of _____ °F must be maintained in the incinerator breeching.
66. When firing fuel oil, the oil must be preheated to a temperature sufficient to allow proper atomization at the burner.
67. This equipment must not be used for loading organic liquids having a vapor pressure of 77.5 mm Hg (1.5 psia) or greater under actual loading conditions.
68. This unit shall not be operated unless provided with a blow down-flare system and other control units approved by the Executive Officer to handle (emergency vent gases,) (hydrogen sulfide,) (spent caustic,) (effluent waste water,) and (sour water).
69. Facilities approved by the Executive Officer must be provided for incinerating effluent gases from the reactor(s) during regeneration cycles.
70. Refinery process gas from this unit to be used as fuel gas shall not contain sulfur compounds in excess of 800 ppm calculated as hydrogen sulfide at standard conditions.
96. This (boiler) (heater) may utilize oil-firing only to the extent that gaseous fuel is not available.
110. This equipment must not be used to process effluent from units which handle petroleum or coal tar products with a Reid vapor pressure of 25 mm Hg (0.5 psi) or greater.
111. The roof must be kept floating at all times except when supported on the legs for purposes of emptying the tank. When the roof is on its legs, the tank must be emptied of organic liquids as rapidly as possible and water must be used for refloating the roof.

ENGINEERING DIVISION....MEMORANDUM

TO	FROM	DATE
FILE	H. A. WHITEHEAD	6/13/83
REFERENCE		PERMIT APPL. NO.
TC JOHN POWELL, ENFORCEMENT		

SUBJECT: P/O'S FOR SRU + SCOT TAIL GAS UNITS

I TOLD JOHN THAT MATT MISNAK HAD INSPECTED THE SRU + TAIL GAS UNIT RECENTLY AND HAD FOUND NO CHANGES OR OPERATING PROBLEMS AND THAT WE PROPOSED ISSUING THE C/O PERMITS TO OPERATE UNLESS THAT HAD ANY SPECIFIC REASONS PENDING TO HOLD THEM UP. JOHN SAID THAT AFTER THE C/O THEY HAD EXPERIENCED SOME PROBLEMS WITH THE NEW OPERATORS FOLLOWING PROPER REPORTING PROCEDURES TO THE DISTRICT WHEN PROBLEMS OCCURRED AT THE SRU AND/OR TAIL GAS UNIT. HE SAID LATELY THEY SEEM TO BE DOING ALL RIGHT AND HE THOUGHT THERE WAS NO REASON TO HOLD UP THE PERMITS. I MENTIONED THE JUNE 10 EMERGENCY AND THE K.P. VARIANCE FILED WHICH INDICATED THEY HAD FOLLOWED PROPER REPORTING PROCEDURES ACCORDING THE RECEIPTION OF THEIR ACTIONS SUBMITTED. ALSO, THEY HAD STARTED UP THE BACK UP CAUSTIC SCRUBBER SYSTEM AS REQUIRED WHEN THE SRU HAD NO SHUTDOWN. I TOLD HIM WE WILL SEND THE APPLICATIONS THROUGH FOR P/O.

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

ENGINEERING DIVISION···FIELD REPORT

NAME OF APPLICANT: PACIFIC OASIS	DATE OF INSPECTION: 5-24-83
MAILING ADDRESS: 14708 Downey Ave., Paramount, CA 90723	PERMIT APPL. NO.: See below
EQUIPMENT LOCATION (ADDRESS): 14708 Downey Ave., Paramount	A.P.C.D. ZONE NO.:

REASON PERMIT IS REQUIRED: NEW CONSTRUCTION ( ) CHANGE OF OWNERSHIP (X) CHANGE OF LESSEE ( ) CHANGE OF LOCATION ( ) EQUIPMENT ALTERATION ( )

DATE CONSTRUCTION AUTHORIZED: BY

TIME SPENT MAKING INSPECTION: FROM 10:00 a.m. TO 1:00 p.m.

USUAL OPERATING SCHEDULE FOR THIS EQUIPMENT: Continuous

WEATHER: Clear WIND: Lt ESTIMATED COST: BASIC EQUIPMENT: $ A.P.C. EQUIPMENT: $

NAMES & TITLES OF PERSONS CONTACTED BY ENGINEER: Steve Brewer, Supervisor

FOR DUST & FUME PROCESSES ONLY: PROCESS* WEIGHT (s) LBS./HR. ALLOWED LOSSES: LBS./HR. ESTIMATED LOSSES: LBS./HR.

OFFICIAL EQUIPMENT DESCRIPTION, *CALCULATION OF PROCESS WEIGHT(S), PROCESS DESCRIPTION AND FINDINGS:

APPLICATION 104013 COST $1,094,000

SULFUR-RECOVERY UNIT NO. 2 CONSISTING OF:

H-401 REACTION FURNACE, 3'-8" DIA. X 21'-0" L., WITH ONE ACID GAS BURNER.

RA-411 FIRST-STAGE CONVERTER, 12'-0" DIA. X 12'-0" H.

RA-412 SECOND-STAGE CONVERTER, 8'-0" DIA. X 19'-6" H.

------ SULFUR-STORAGE PIT, 12'-0" W. X 52'-0" L. X 8' TO 10' DEEP, WITH VENT CONNECTION TO INCINERATOR H-402.

D-413 CONDENSATE BLOWDOWN DRUM, 2'-0" DIA. X 7'-0" H.

D-414 TAIL-GAS COALESCER, 6'-0" DIA. X 11'-3" H.,WITH VENT CONNECTION TO TAIL-GAS-TREATMENT UNIT AND EMERGENCY VENT CONNECTION TO INCINERATOR H-402.

H-403 FIRST-STAGE INLINE REHEATER, 2'-6" DIA. X 2'-3" L. FIREBOX, WITH ONE ACID GAS BURNER.

H-404 SECOND-STAGE INLINE REHEATER, 2'-6" DIA. X 2'-3" L. FIREBOX, WITH ONE ACID GAS BURNER.

X-411 FIRST CONDENSER, 50 PSIG STEAM WASTE-HEAT BOILER, SHELL AND TUBE.

X-412 SECOND CONDENSER, 50 PSIG STEAM WASTE-HEAT BOILER, SHELL AND TUBE.

X-413 THIRD CONDENSER, 25 PSIG STEAM WASTE-HEAT BOILER, SHELL AND TUBE.

X-414 REACTION FURNACE WASTE-HEAT BOILER,150 PSIG STEAM, SHELL AND TUBE.

RECOMMENDED DISPOSITION: ( ) APPROVE FOR PERMIT. ( ) APPROVE FOR PERMIT SUBJECT TO CONDITIONS LISTED BELOW. ( ) HOLD. SEE EXPLANATION BELOW. ( ) DENY PERMIT.

REVIEWING ENGINEER: SIGNATURE

South Coast Air Quality Management District
Engineering Division....Field Report

NAME OF APPLICANT	APPL. NO.	INSPECTION DATE
PACIFIC OASIS	See below	5-24-83

F-401 REACTION COMBUSTION AIR BLOWER, HOFFMAN AGK 60, WITH MECHANICAL SEAL AND STEAM-TURBINE DRIVE.

F-402 REACTION COMBUSTIONAIR BLOWER (SPARE), HOFFMAN AGK 60, WITH MECHANICAL SEAL AND 250-H.P. MOTOR.

~~APPLICATION 0-194015~~ ~~COST $900,000~~

AMINE UNIT CONSITING OF:

W-201 DISTILLATE HDS AMINE CONTACTOR, 3'-0" DIA. X 47'-0" H., WITH PRESSURE RELIEF VALVE TO FLARE.

W-205 LOW-PRESSURE AMINE CONTACTOR, 5'-6" DIA. X 49'-0" H., WITH PRESSURE RELIEF VALVE TO FLARE AND EMERGENCY BYPASS TO CAUSTIC SCRUBBER W-206.

W-207 GAS OIL HDS AMINE CONTACTOR, 4'-0" DIA. X 68'-8" H., WITH PRESSURE RELIEF VALVE TO FLARE.

W-208 AMINE REGENERATOR COLUMN, 7'-0" DIA. X 49'-0" H.

D-200 HYDROCARBON ACCUMULATOR DRUM, 5'-0" DIA. X 11'-0" H., WITH VENT TO FUEL GAS AND PRESSURE RELIEF VALVE TO FLARE.

D-201 HYDROCARBON/AMINE SEPARATOR DRUM, 5'-0" DIA. X 5'-0" H., WITH VENT TO FUEL GAS AND PRESSURE RELIEF VALVE TO FLARE.

D-202 DISTILLATE HDS AMINE CONTACTOR FEED KNOCKOUT DRUM, 3'-0" DIA. X 15'-0" H.

D-203 LOW-PRESSURE AMINE CONTACTOR FEED KNOCKOUT DRUM, 6'-0" DIA. X 12'-6" H., WITH PRESSURE RELIEF VALVE TO FLARE.

D-206 AMINE REGENERATOR COLUMN OVERHEAD ACID GAS KNOCKOUT DRUM, 5'-0" DIA. X 18'-6" H. VENTED TO SULFUR RECOVERY UNIT, WITH EMERGENCY VENT TO CAUSTIC SCRUBBER W-206, AND WITH PRESSURE RELIEF VALVE TO FLARE.

D-207 GAS OIL HDS AMINE CONTACTOR FEED KNOCKOUT DRUM, 6'-0" DIA. X 10'-6" H.

D-210 LEAN AMINE FILTER, 1'-8" DIA. X 3'-5" L.

D-211 GAS OIL HDS AMINE CONTACTOR OVERHEAD KNOCKOUT DRUM, 3'-0" DIA. X 6'-0" H., WITH PRESSURE RELIEF VALVE TO FLARE.

SIGNATURE M. V. Micisk, Engineer II

South Coast Air Quality Management District
Engineering Division....Field Report

NAME OF APPLICANT	APPL. NO.	INSPECTION DATE
PACIFIC OASIS	See below	5-24-83

D-213 LEAN AMINE SURGE DRUM, 8'-6" DIA. X 20'-0" L., GAS BLANKETED WITH PRESSURE CONTROL VENT TO INCINERATOR AND WITH PRESSURE RELIEF VALVE TO FLARE.

---- AMINE DRAIN SUMP, 4'-0" W. X 4'-0" L. X 6'-0" D., COVERED.

X-210 AMINE REGENERATOR COLUMN REBOILER, KETTLE-TYPE, SHELL AND TUBE.

X-211 AMINE REGENERATOR COLUMN OVERHEAD CONDENSER, SHELL AND TUBE.

X-212 AMINE REGENERATOR COLUMN FEED/BOTTOMS EXCHANGER, SHELL AND TUBE.

X-213 AMINE REGENERATOR COLUMN FEED/BOTTOMS EXCHANGER, SHELL AND TUBE.

X-214 LEAN AMINE COOLER, SHELL AND TUBE.

J-214 DISTILLATE HDS AMINE CONTACTOR LEAN AMINE PUMP, UNION RECIPROCATING TRIPLEX, PACKED WITH A 25-H.P. MOTOR.

J-215 DISTILLATE HDS AMINE CONTACTOR LEAN AMINE PUMP (SPARE), UNION RECIPROCATING TRIPLEX, PACKED WITH A 25-H.P. MOTOR.

P-221 AMINE REGENERATOR COLUMN REFLUX PUMP, GOULDS CENTRIFUGAL, WITH MECHANICAL SEAL AND 5-H.P. MOTOR.

P-211 AMINE REGENERATOR COLUMN RICH AMINE FEED PUMP, GOULD VERTICAL INLINE CENTRIFUGAL, WITH MECHANICAL SEAL AND 25-H.P. MOTOR.

P-212 AMINE REGENERATOR COLUMN RICH AMINE FEED PUMP (SPARE), GOULD VERTICAL INLINE CENTRIFUGAL, WITH MECHANICAL SEAL AND 25-H.P. MOTOR.

P-213 AMINE SUMP PUMP, GOULD SUBMERGED CENTRIFUGAL, WITH A 2-H.P. MOTOR.

P-216 GAS OIL HDS CONTACTOR LEAN AMINE PUMP, BINGHAM VERTICAL INLINE CENTRIFUGAL, WITH MECHANICAL SEAL AND 200-H.P. MOTOR.

P-217 GAS OIL HDS CONTACTOR LEAN AMINE PUMP (SPARE), BINGHAM VERTICAL INLINE CENTRIFUGAL, WITH MECHANICAL SEAL AND 200-H.P. MOTOR.

P-218 LOW-PRESSURE AMINE CONTACTOR LEAN AMINE PUMP, PACIFIC CENTRIFUGAL, WITH MECHANICAL SEAL AND 10-H.P. MOTOR.

SIGNATURE _____

M. J. Walsh Engineer II

South Coast Air Quality Management District
Engineering Division....Field Report

NAME OF APPLICANT	APPL. NO.	INSPECTION DATE
PACIFIC OASIS	See below	5-24-83

P-219 LOW-PRESSURE AMINE CONTACTOR LEAN AMINE PUMP (SPARE), PACIFIC CENTRIFUGAL, WITH MECHANICAL SEAL AND 10-H.P. MOTOR.

P-220 SPARE PUMP FOR P-222 (SOUR-WATER STRIPPER UNIT), PACIFIC CENTRIFUGAL, WITH PACKED GLAND AND 7.5-H.P. MOTOR.

P-222 PUMP, SOUR-WATER STRIPPER (SPARE), PACIFIC CENTRIFUGAL, WITH PACKED GLAND AND 7 1/2-H.P. MOTOR.

APPLICATION 104017 COST $2,280,000

CATALYTIC REFORMING UNIT CONSISTING OF:

D-311 STEAM DRUM, 4'-6" DIA. X 10' L., WITH PRESSURE RELIEF TO ATMOSPHERE.

D-312 MUD DRUM, 1'-3 3/8" DIA. X 9'-7" L.

D-313 SEPARATOR, 7'-0" DIA. X 20'-0" L., WITH PRESSURE RELIEF TO FLARE.

D-314 STABILIZER REFLUX DRUM, 5'-0" DIA. X 18'-0" L.

D-315 DE-ETHANIZER REFLUX DRUM, 3'-6" DIA. X 10'-0" L.

RA-308 REACTOR NO. 1, 6'-0" DIA. X 27'-5" H., FIXED-BED TYPE.

RA-309 REACTOR NO. 2, 6'-0" DIA. X 27'-5" H., FIXED-BED TYPE.

RA-310 REACTOR NO. 3, 6'-0" DIA. X 42'-5" H., FIXED-BED TYPE.

W-303 STABILIZER/DEPROPANIZER, 7'-0 DIA. X 65'-0" H., WITH PRESSURE RELIEF TO FLARE.

W-304 DE-ETHANIZER, 3'-6" DIA. X 64'-0" H., WITH PRESSURE RELIEF TO FLARE.

X-316 FEED/EFFLUENT EXCHANGER, SHELL AND TUBE.

X-317 FEED/EFFLUENT EXCHANGER, SHELL AND TUBE.

X-318 FEED/EFFLUENT EXCHANGER, SHELL AND TUBE.

X-319 FEED/EFFLUENT EXCHANGER, SHELL AND TUBE.

X-320 EFFLUENT CONDENSER, SHELL AND TUBE.

X-321 EFFLUENT CONDENSER, SHELL AND TUBE

SIGNATURE M. J. Mistak, Engineer II

South Coast Air Quality Management District
Engineering Division....Field Report

NAME OF APPLICANT	APPL. NO.	INSPECTION DATE
PACIFIC OASIS	See below	5-24-83

X-322 EFFLUENT CONDENSER, SHELL AND TUBE.

X-323 EFFLUENT CONDENSER, SHELL AND TUBE.

X-325 STABILIZER FEED/BOTTOMS EXCHANGER, SHELL AND TUBE.

X-326 STABILIZER BOTTOMS COOLER, SHELL AND TUBE.

X-327 STABILIZER BOTTOMS COOLER, SHELL AND TUBE.

X-328 STABILIZER REBOILER, SHELL AND TUBE.

X-329 STABILIZER CONDENSER, SHELL AND TUBE.

X-330 STABILIZER CONDENSER, SHELL AND TUBE.

X-331 DE-ETHANIZER BOTTOMS COOLER, FIN TUBE.

X-332 DE-ETHANIZER CONDENSER, SHELL AND TUBE.

X-333 DE-ETHANIZER REBOILER, SHELL AND TUBE.

-- TWO JACKET HEATERS.

-- EXHAUSTER.

P-312 PUMP DEPROPANIZER O.H. REFLUX/STRIPPER O.H. REFLUX (COMMON SPARE), PACIFIC, CENTRIFUGAL, WITH MECHANICAL SEAL AND 20-H.P. MOTOR (COMMON TO GAS-OIL HDS).

P-313 PUMP, DEPROPANIZER REFLUX, PACIFIC, CENTRIFUGAL, WITH MECHANICAL SEAL AND 20-H.P. MOTOR.

P-314 PUMP, DE-ETHANIZER CHARGE, WILSON-SNYDER RECIPROCATING, WITH PACKED GLAND AND STEAM DRIVE.

C-301 COMPRESSOR, COOPER-BESSEMER, SIX CYLINDERS, RECIPROCATING, WITH 1250-H.P. MOTOR, WITH PRESSURE RELIEF TO FLARE (COMMON TO NAPHTHA HDS AND GAS-OIL HDS).

C-302 COMPRESSOR, COOPER-BESSEMER, SIX CYLINDERS, RECIPROCATING, WITH 1250-H.P. MOTOR, WITH PRESSURE RELIEF TO FLARE (COMMON TO NAPHTHA HDS AND GAS-OIL HDS).

C-303 COMPRESSOR (SPARE), COOPER-BESSEMER, ONE CYLINDER, RECIPROCATING, WITH 250-H.P. MOTOR, WITH PRESSURE RELIEF TO FLARE (COMMON TO NAPHTHA HDS AND GAS-OIL HDS).

SIGNATURE

M. J. Misiak, Engineer II

South Coast Air Quality Management District
Engineering Division....Field Report

NAME OF APPLICANT	APPL. NO.	INSPECTION DATE
PACIFIC OASIS	See below	5-24-83

APPLICATION 104019 COST $2,000,000

NAPHTHA HYDRO TREATING UNIT CONSISTING OF:

D-104 HYDROSTRIPPER BOTTOMS DRUM 6'-5" DIA. X 15' H.

D-108 HDS SEPARATOR, 5' D. x 10' H. (BOTTOM)/3' D. X 52' H. (TOP), WITH PRESSURE RELIEF TO FLARE HEADER.

D-109 SEPARATOR K.O. DRUM, 2' D. X 6'H.

RA-103 REACTOR NO. 2, 7' D. X 13' H., FIXED-BED TYPE.

RA-106 REACTOR NO. 1, 6' D. X 29'-8" H., FIXED-BED TYPE.

W-107 HOT HYDROGEN STRIPPER, 4'-6" DIA. X 55'-0" H.

W-202 SWEET NAPHTHA FLASH DRUM, 1'-8" DIA. X 30'-6" H.

X-101 FEED/EFFLUENT EXCHANGER, SHELL AND TUBE.

X-102 FEED/EFFLUENT EXCHANGER, SHELL AND TUBE.

X-103 FEED/EFFLUENT EXCHANGER, SHELL AND TUBE.

X-104 FEED/EFFLUENT EXCHANGER, SHELL AND TUBE.

X-105 FEED/EFFLUENT EXCHANGER, SHELL AND TUBE.

X-106 FEED/EFFLUENT EXCHANGER, SHELL AND TUBE.

X-107 FEED/EFFLUENT EXCHANGER, SHELL AND TUBE.

X-108 EFFLUENT COOLER.

X-109 EFFLUENT COOLER.

X-110 EFFLUENT COOLER, SHELL AND TUBE.

X-111 STRIPPER FEED/REACTOR EFFLUENT EXCHANGER, SHELL AND TUBE.

X-112 STRIPPER FEED/BOTTOMS EXCHANGER, SHELL AND TUBE.

X-452 SWEET NAPHTHA COOLER, SHELL AND TUBE.

P-105 PUMP, CRU FEED, INGERSOLL-RAND, CENTRIFUGAL, WITH MECHANICAL SEAL AND 150-H.P. MOTOR.

P-106 PUMP, CRU FEED/STRIPPER FEED (COMMON SPARE), INGERSOLL-RAND, CENTRIFUGAL, WITH MECHANICAL SEAL AND 150-H.P. MOTOR.

SIGNATURE M. J. Mistak Engineer II

South Coast Air Quality Management District
Engineering Division....Field Report

NAME OF APPLICANT	APPL. NO.	INSPECTION DATE
PACIFIC OASIS	See below	5-24-83

P-107 PUMP, STRIPPER FEED, INGERSOLL-RAND, WITH MECHANICAL SEAL AND 150-H.P. MOTOR.

P-204 PUMP, SWEET NAPHTHA, PACIFIC, CENTRIFUGAL, WITH MECHANICAL SEAL AND 2-H.P. MOTOR.

P-205 PUMP, SWEET NAPHTHA (SPARE), PACIFIC, CENTRIFUGAL, WITH MECHANICAL SEAL AND 2-H.P. MOTOR.

P-327 PUMP, CHARGE (SPARE), PACIFIC, CENTRIFUGAL, WITH MECHANICAL SEAL AND 150-H.P. MOTOR.

P-328 PUMP, CHARGE, PACIFIC, CENTRIFUGAL, WITH MECHANICAL SEAL AND 300-H.P. MOTOR.

P-701 PUMP, BOOSTER, CENTRIFUGAL, WITH MECHANICAL SEAL AND 10-H.P. MOTOR.

P-758 PUMP, BOOSTER, CENTRIFUGAL, WITH MECHANICAL SEAL AND 15-H.P. MOTOR.

-- PUMP, BOOSTER, CENTRIFUGAL, WITH MECHANICAL SEAL AND 15-H.P. MOTOR.

C-301 COMPRESSOR, COOPER- BESSEMER, SIX CYLINDER, WITH 1,250-H.P. MOTOR, WITH PRESSURE RELIEF TO FLARE (COMMON TO REFORMER UNIT AND GAS-OIL HDS SYSTEM).

C-302 COMPRESSOR, COOPER-BESSEMER, SIX CYLINDER WITH 1,250-H.P. MOTOR, WITH PRESSURE RELIEF TO FLARE (COMMON TO REFORMER UNIT AND GAS-OIL HDS SYSTEM).

C-303 COMPRESSOR, COOPER-BESSEMER, ONE CYLINDER WITH 250-H.P. MOTOR, WITH PRESSURE RELIEF TO FLARE, (COMMON TO REFORMER UNIT AND GAS-OIL HDS SYSTEM).

APPLICATION 104020 COST $322,000

SULFUR RECOVERY TAIL GAS TREATMENT UNIT CONSISTING OF:

H-452 TAIL GAS PREHEATER, WITH ONE MAXON NO. 432M GAS BURNER, 1.5 MM BTU/HR, A 3/4-H.P. MAXON PRIMARY COMBUSTION AIR BLOWER, AND A 1-H.P. CINCINNATI SECONDARY AIR FAN.

RA-451 REACTOR, 8'-0" DIA. X 3'-6" H.

W-451 QUENCH TOWER, 3'-3" DIA. X 21'-4" H. WITH PRESSURE RELIEF VALVE TO FLARE.

SIGNATURE

M. J. Miatak, Engineer II

South Coast Air Quality Management District
Engineering Division....Field Report

NAME OF APPLICANT	APPL. NO.	INSPECTION DATE
PACIFIC OASIS	See below	5-24-83

W-452 AMINE CONTACTOR, 3'-0" DIA. X 33'-0" H., WITH OVERHEAD OFF-GAS VENTING TO INCINERATOR H-402 AND WITH PRESSURE RELIEF VALVE TO FLARE. RICH AMINE GOES TO REFINERY AMINE UNIT STRIPPER W-208.

X-201 QUENCH WATER COOLER, SHELL AND TUBE.

X-202 QUENCH WATER COOLER, SHELL AND TUBE.

P-451 QUENCH WATER CIRCULATION PUMP, INGERSOLL-RAND VERTICAL INLINE CENTRIFUGAL, WITH MECHANICAL SEAL AND 15-H.P. MOTOR AND 8"-SUCTION STRAINER.

P-454 RICH AMINE PUMP, INGERSOLL-RAND VERTICAL INLINE CENTRIFUGAL, WITH MECHANICAL SEAL AND 15-H.P. MOTOR.

P-459 RICH AMINE PUMP (SPARE), PACIFIC VERTICAL INLINE CENTRIFUGAL, WITH MECHANICAL SEAL AND 15-H.P. MOTOR.

P-458 QUENCH WATER CIRCULATION PUMP (SPARE), INGERSOLL-RAND VERTICAL INLINE CENTRIFUGAL, WITH MECHANICAL SEAL AND 15-H.P. MOTOR AND 8"-SUCTION STRAINER.

APPLICATION 104027 COST $105,000

LIGHT NAPHTHA MEROX TREATER CONSISTING OF:

D-890 LIGHT NAPHTHA-CAUSTIC TREATER, 4' DIA. X 15' H. WITH PRESSURE RELIEF TO THE REFINERY FLARE VIA FLARE K.O. DRUM D-806.

D-891 MEROX EXTRACTOR, 4'-6" DIA. X 36' H. WITH PRESSURE RELIEF TO THE REFINERY FLARE SYSTEM VIA FLARE K.O. DRUM D-806.

D-892 MEROX SETTLER, 8'-10" DIA. X 17' H. WITH PRESSURE RELIEF TO THE REFINERY FLARE SYSTEM VIA FLARE K.O. DRUM D-806. (COMMON TO THE HEAVY NAPHTHA-MEROX UNIT.)

D-893 OXIDIZER TANK, 3' DIA. X 9' H. (COMMON TO HEAVY NAPHTHA MEROX UNIT.)

D-894 DISULFIDE-SEPARATOR TANK, 4'-6" DIA. X 12' L. WITH A 1'-6" DIA. X 6' H. TOWER (COMMON TO HEAVY NAPHTHA MEROX UNIT).

D-895 CAUSTIC MIX DRUM 6' DIA. X 30'.

X-891 HEAT-EXCHANGER, OXIDIZER FEED/STEAM, FIN TUBE, 2-SECTION (COMMON TO HEAVY NAPHTHA MEROX UNIT).

P-891 MEROX SOLUTION PUMP, PACIFIC, CENTRIFUGAL, WITH MECHANICAL SEAL AND 5-H.P. MOTOR (COMMON TO HEAVY NAPHTHA MEROX UNIT.)

SIGNATURE M. J. Mustak, Engineer II

South Coast Air Quality Management District
Engineering Division....Field Report

NAME OF APPLICANT	APPL. NO.	INSPECTION DATE
PACIFIC OASIS	See below	5-24-83

P-892 EXTRACTOR PUMP, PACIFIC, CENTRIFUGAL, WITH MECHANICAL SEAL AND 10-H.P. MOTOR. (COMMON TO HEAVY NAPHTHA MEROX UNIT.)

APPLICATION NO. 104029 COST $200,000

LPG VAPORIZATION SYSTEM CONSISTING OF:

D-709 MIXED-BUTANE STORAGE TANK, PRESSURIZED, 9' DIA. X 63' L., WITH PRESSURE RELIEF TO FLARE.

D-710 MIXED-BUTANE STORAGE TANK, PRESSURIZED, 9' DIA. X 63' L., WITH PRESSURE RELIEF TO FLARE.

D-714 WATER DRUM FOR D-709, 12" DIA. X 2' H.

D-715 WATER DRUM FOR D-710, 12" DIA. X 2' H.

D-704 LPG VAPORIZER, VERTICAL-BAYONET TYPE, WITH PRESSURE RELIEF TO FLARE.

P-778 UNLOADING PUMP, WILSON SNYDER, INLINE, WITH MECHANICAL SEAL AND 10-H.P. MOTOR.

P-779 UNLOADING PUMP (SPARE), WILSON SNYDER, INLINE, WITH MECHANICAL SEAL AND 10-H.P. MOTOR.

P-705 CHARGE PUMP, VERTICAL, INLINE, WITH MECHANICAL SEAL AND 3-H.P. MOTOR.

P-706 CHARGE PUMP, (SPARE) VERTICAL INLINE, WITH MECHANICAL SEAL AND 3-H.P. MOTOR.

P-3839 CHARGE PUMP, BUTANE TO STABILIZER, VERTICAL, INLINE WITH MECHANICAL SEAL AND 25-H.P. MOTOR.

APPLICATION 104031 COST $850,000

LIGHT NAPHTHA FRACTIONATION UNIT CONSISTING OF:

W-860 DEPENTANIZER COLUMN, 5'-6" DIA. X 75'-0" H.

W-861 STABILIZER COLUMN, 2'-6" DIA. X 62'-0" H., WITH P/R VALVE VENTING TO THE REFINERY FLARE SYSTEM.

D-840 STABILIZER REFLUX DRUM, 4'-0" DIA. X 8'-6" H., WITH OFF-GASES VENTING TO THE AMINE UNIT.

D-860 DEPENTANIZER REFLUX DRUM, 5'-6" DIA. X 16'-0" L., WITH P/R VALVE VENTING TO THE REFINERY FLARE SYSTEM.

SIGNATURE M. J. Mrsiak, Engineer II

South Coast Air Quality Management District
Engineering Division....Field Report

NAME OF APPLICANT	APPL. NO.	INSPECTION DATE
PACIFIC OASIS	See below	5-24-83

X-841 HEAT EXCHANGER, STABILIZER FEED/STABILIZER BOTTOMS, SHELL AND TUBE.

X-860 HEAT EXCHANGER, DEPENTANIZER FEED/DEPENTANIZER BOTTOMS, SHELL AND TUBE.

X-861 HEAD EXCHANGER, DEPENTANIZER OVERHEAD COOLER, SHELL AND TUBE.

X-863 HEAT EXCHANGER, DEPENTANIZER OVERHEAD/DEPENTANIZER FEED, SHELL AND TUBE.

X-8116 DEPENTANIZER BOTTOMS COOLER, SHELL AND TUBE.

X-8117 DEPENTANIZER BOTTOMS COOLER, SHELL AND TUBE.

P-8616 STABILIZER REFLUX PUMP, PACIFIC CENTRIFUGAL, WITH MECHANICAL SEAL AND A 5-H.P. MOTOR.

P-860 DEPENTANIZER REFLUX PUMP, PEERLESS CENTRIFUGAL, WITH MECHANICAL SEAL AND A 40-H.P. MOTOR.

P-861 DEPENTANIZER REFLUX PUMP (SPARE), PEERLESS CENTRIFUGAL, WITH MECHANICAL SEAL AND A 40-H.P. MOTOR.

P-862 DEPENTANIZER REBOILER PUMP, PEERLESS CENTRIFUGAL, WITH MECHANICAL SEAL AND A 40-H.P. MOTOR.

P-863 DEPENTANIZER REBOILER PUMP (SPARE), PEERLESS CENTRIFUGAL, WITH MECHANICAL SEAL AND A 40-H.P. MOTOR.

These applications were submitted for a change of ownership but, due to possible alterations and a request from Enforcement, were inspected to verify equipment details and operation of the various units. The various units were found to be as described.

During this inspection, all the equipment was in operation. The Reformer and the Naphtha HDS Unit were each operating at a thruput of 6,000 barrels per day. No leaks or odors were observed. The Reformer was found to not have been altered. Previously the permit unit wording was lacking one page of equipment description. Alteration to the Naphtha HDS consisted of the addition of a Hydrostripper Bottoms Drum. The Light Naphtha Merox Treater was altered by the addition of a Caustic Mix Drum. This change does not result in the increase of any emission potential. This unit was in operation at a thruput of 6,000 barrels/day. No leaks or odors were detectable.

SIGNATURE

M. J. Misiak, Engineer II

South Coast Air Quality Management District
Engineering Division....Field Report

NAME OF APPLICANT	APPL. NO.	INSPECTION DATE
PACIFIC OASIS	See below	5-24-83

The Light Naphtha Fractionation Unit was altered by the removal of four Heat Exchangers and a stabilizer pump. This alteration does not affect the emission potential. Thruput of the unit was approximately 3,500 bbl/day. No leaks or odors were noticed.

The LPG vaporization system was altered by changing the service of two pumps and the addition of two charge pumps and one spare charge pump. The unit was in operation. No leaks or odors could be discerned.

The Amine Unit was altered by the addition of a spare sour water stripper pump. In addition, 3 other pumps were renumbered. The unit was in operation. No leaks or odors could be detected.

The Sulfur Recovery Unit No. 2 and the Scot Tail-Gas Unit were not altered, but were inspected because of a request by Enforcement to inspect prior to the issuance of a new P/O. The two units were inspected and found to be as described. Only a pump was found on the Tail Gas Unit whose I.D. number was changed. During the inspection, both units were operating satisfactorily. No leaks or odors were encountered.

During this inspection, all the units were operating within the Rules and Regulations of the AQMD and should continue to do so. Permits to Operate are recommended.

JMc: 6-2-83

SIGNATURE M. J. Wisiak, Engineer II

Liberty File for 002392

BDP SEGMENT 3

EQUIPMENT AND EMISSION INPUT FORM

NAME OF FIRM Pacific Oasis LOCATION ADDRESS 14708 Downey Av Paramount

REASON FOR INACTIVATION: 1. ALTERATION 2. CHANGE OF OPERATOR 3. MOVED 4. REMOVED 5. OUT OF BUSINESS

SUBS. APPLICATION NO. _____ INACTIVATION DATE _____

ACTION CODE E A C D ACTION CODE: A = ADD C = CHANGE D = DELETE

APPL. NO.	I. D. NO.	PERMIT NO.	P/O DATE MM/DD/YY	BILLING DATE YY/MM	SEDAN L.A. 1 S.B. 2 or RIV. 3	ENF. W.G.
104013	037368	M32813	09/16/83	1		

EQUIPMENT RATING	FEE SCHEDULE/STEP	EQ. CATEGORY NO. BASIC CONTROL	EQUIP. TYPE B C D	COST OF EQUIPMENT (x 100)	FEB. NO 0 FT. 2	COND. YES 1 3
0000250	116	255000/14		10940		

OPERATING WEEKS/YR		MON	TUES	WED	THURS	FRI	SAT	SUN
52	EMISSION START	00	00	00	00	00	00	00
	EMISSION STOP	24	24	24	24	24	24	24

POLLUTANTS	RHC	THC	NO_x	SO_2	CO	PART.	OTHER			
R1 (LBS/HR)				APC						
R2 (LBS/HR)										

DATE			ACTION
11/26/75	[illegible]	[illegible]	I
11-[illegible]-77	[illegible]	P/S	P/O
		P/S	P/O
3/[illegible]/83	[illegible]	RAA	[illegible] (C/O)
4/18/83	RAA	P/S	P/O
[illegible]			
[illegible]	[illegible]	[illegible]	[illegible] (C/O)
[illegible]			
[illegible]	[illegible]	P/S	[illegible] (C/O)

2/1/88 RRS P/S INACTIVATE

☐ P/C - 213 ENTRY

☐ P/O - 213 ENTRY

☐ P/C - EIS ENTRY

☐ P/O - EIS ENTRY

02392

02392

APPLICATION FOR PERMIT TO CONSTRUCT AND PERMIT TO OPERATE

PLEASE TYPE OR PRINT

SCAQMD USE

037368

1A. PERMIT TO BE ISSUED TO:
Pacific Gas

1B. Same as 1A

2A. MAILING ADDRESS:
14708 Downey Ave. | Paramount | Ca | 90723

3A. EQUIPMENT LOCATION (IF SAME ENTER "SAME"):
same | Compton Blvd.

4A. CONTACT PERSON (TITLE) & NAME:
R.E. Weaver

4B. CONTACT PHONE NO. (AREA CODE & NO.):
(213) 531-2060

5. EQUIPMENT APPLICATION IS HEREBY MADE FOR PERMIT TO CONSTRUCT AND REGISTERED OPERATE THE FOLLOWING EQUIPMENT:
Gas Treating-Sulfur Compound Removal
SRU #2

5A. PRIMARY AIR POLLUTION CONTROL EQUIP.:

5B. SECONDARY AIR POLLUTION CONTROL EQUIP.:

6A. ASSIGN OPERATION NUMBER: (THOUSANDS OF HOURS/YR.)

6B. ASSIGN EQUIP. MAIN MAINTENANCE UNIT:

7. IF THIS EQUIPMENT HAS A PREVIOUS VERSION PERMIT, STATE NAME OF CORPORATION, COMPANY, OR INDIVIDUAL WHICH THAT OPERATED THIS EQUIPMENT, AND STATE PREVIOUS AIR POLLUTION CONTROL DISTRICT PERMIT NUMBER:
Douglas Oil Company of California | M03698

8. PERMIT APPLICATIONS:
(A) NEW CONSTRUCTION ☐ 1
ALTERATION ☒ 2
CHANGE OF LOCATION ☐ 3
CHANGE OF OWNERSHIP ☒ 4

9. TYPE OF ORGANIZATION:
CORPORATION ☒ 1
PARTNERSHIP ☐ 2
INDIVIDUAL OWNER ☐ 3
LOCAL GOVT. AGENCY ☐ 4
STATE AGENCY ☐ 5
FEDERAL AGENCY ☐ 6
PUBLIC ☐ 7

10. NO. OF EMPLOYEES AT THIS LOCATION: 120

11. AREA OF: 6 - 0 (ACRES - TENTHS)

12. EXPIRATION DATE OF EQUIPMENT OR OPERATION:
BASIC EQUIPMENT $ _____ (35-39)
AIR POLLUTION CONTROL EQUIPMENT $ _____ (40-44)
ANNUAL MAINTENANCE COST OF CONTROL EQUIPMENT $ _____ (45-49)

13. FOR THE NEW CONSTRUCTION, ALTERATION, CHANGE OF OWNERSHIP OR LOCATION, WHAT IS ESTIMATED STARTING DATE? Dec. 15, 1982 ESTIMATED COMPLETION DATE? _____

14. GENERAL NATURE OF BUSINESS:
Petroleum Refining

15. PRINCIPAL PRODUCTS: (40-43)
Petroleum

16. ANNUAL THROUGHPUT BY QUARTERS:

DEC-FEB	MAR-MAY	JUN-AUG	SEP-NOV
25 %	25 %	25 %	25 %
(51-53)	(54-56)	(57-59)	(60-62)

17. IS THE CLAIM CONFIDENTIALITY OF DATA? YES [X] NO [ ] (IF YES, STATE NATURE OF DATA IN ITEM 23.)

18. NORMAL OPERATING HOURS OF SUBJECT EQUIPMENT:
HOURS/DAY 24
DAYS/WEEK 7
WEEKS/YEAR 52

19. SIGNATURE OF RESPONSIBLE OFFICER OF ORGANIZATION: R.E. Weaver

20. OFFICIAL TITLE OF SIGNER: Environmental Manager

21. TYPED OR PRINTED NAME OF SIGNER: R.E. Weaver

22. PHONE NO.: (213) 531-2060

23. DATE:

SCAQMD USE ONLY

STATE	COUNTY	DATE	CITY	DIST.	DATE
CA	LA				

SIC	NAICS							
2911	32411							

APPLICATION NO. 104012 | PERMIT NO. | TYPE | NEW | ASSIGNMENT | CLASS

APPLICATION 12/16/82 | FILING FEE 1070 | CHECK OR MONEY ORDER NO. 403224

PAYMENT | DATE OF PAYMENT | CASH NO.

Form 400A - REVISED 12-1-76. PRIOR VERSIONS NOT VALID

(CONTINUED ON reverse)

DOUGLAS OIL COMPANY OF CALIFORNIA — 14708 DOWNEY AVE. PARAMOUNT

COMPANY — ADDRESS

EIS/EDP Segment 3 Form

Card 31

Records Section Only — Sens. Appl. No.

Reason for Inactivation: 1. Alteration 2. Change of Operator 3. Moved 4. Removed 5. Out of Business

EDP Application Data

Card Col.	Description	Circle letter or number & insert appropriate data
1	Action to be Taken	New-N Change-C Inactivate-D Reactivate-R
4-5	Ent. Work Units	T T
6-14	Sec. & I.D. No.	Sec. C 8 I.D. 4 5 2 3 8 2 2
15	Class of Appl.	I-1 III-2
20-26	Equipment Rating	0 0 0 0 2 5 0
31-36	Appl. No.	C 0 2 7 9 2
39-45	Eq. Cat. No. & Type	Basic 2 5 5 0 0 0 Control 1 4 Type B C D
47-52	Permit No.	M 0 3 6 9 6
53	Permit Cond	Yes-1 No-0
56-57	Fee Sched & Step	Schedule L Step No. 7
58-61	P/C Date	Month 1 2 Year 7 5
63-68	Inactivation Date	Month Year
67	Disposition	PAID-1 P/C Denied-2 P/D Denied-3 Cancel-4 P/C 5
68-73	PAID Date	Month 0 4 Day 2 2 Year 7 8
74-78	Con. Dollars	1 0 9 4 0 x100

EIS/EDP Segment 3 Form

Card 32

EDP Emission Data (Base Permit Units & Spray Booths Only)

Card Col.	Description	Circle letter or number & insert appropriate data
1	Action to be Taken	New - N Change - C Delete - D
3	Load Code -1	
3-14	Appl. & Permit No.	Appl. C 0 2 7 9 2 Permit M 0 3 6 9 6
15-47	Emission Steps	
	Emission Step Air Pollutant	Reactive HC, Total HC, NO_x, SO_2, CO, Part.
43-78	Rates R_1 (lbs./hr.) R_2 (lbs./hr.)	
19-38 I & 9-14 3	Usage Factor (same as 19001) Child Code-7	
	Air Pollutant	
39-78	Rates: R_1 (lbs./hr.) R_2 (lbs./hr.)	

By H.S. Whitehead Date 10/26/77

Full Name

60D7

DO NOT REMOVE CARBONS OR SEPARATE
Three white copies must be submitted.
Yellow copy should be retained by applicant.

RECEIVED

AIR POLLUTION CONTROL DISTRICT - COUNTY OF LOS ANGELES
454 SOUTH SAN PEDRO STREET, LOS ANGELES, CALIF. 90013 MADISON 9-6711

APPLICATION FOR AUTHORITY TO CONSTRUCT AND PERMIT TO OPERATE

AIR POLLUTION CONTROL DISTRICT

APPLICATION INSTRUCTIONS

A. USE ONE APPLICATION FORM HCD-A FOR EACH PERMIT UNIT OF BASIC EQUIPMENT AND ANCILLARY EQUIPMENT. USE HCD-B FOR EACH PERMIT UNIT OF AIR POLLUTION CONTROL EQUIPMENT. CALL DIAL 4-4711, EXT. 2100 FOR ASSISTANCE.

B. A $40 FILING FEE MUST ACCOMPANY EACH APPLICATION. IN $10 FILING FEE WILL BE ACCEPTED FOR A CHANGE OF OWNERSHIP APPLICATION WHERE NO ALTERATION, ADDITION OR CHANGE OF LOCATION IS PROPOSED. THE TOTAL PERMIT FEE, WHICH MAY EXCEED THE $40 FILING FEE, MUST BE PAID BEFORE PERMIT TO OPERATE CAN BE ISSUED. MAKE CHECK OR MONEY ORDER PAYABLE TO: AIR POLLUTION CONTROL DISTRICT, COUNTY OF LOS ANGELES.

C. EACH APPLICATION MUST BE FILLED OUT CORRECTLY AND FILED IN DUPLICATE. ACCOMPANYING PLANS MUST BE IN DUPLICATE.

D. EACH APPLICATION MUST BE SIGNED BY A RESPONSIBLE MEMBER OF THE ORGANIZATION THAT WS TO OPERATE THE EQUIPMENT.

INCOMPLETE APPLICATIONS NOT ACCEPTABLE

1A. PERMIT TO BE ISSUED TO:
Douglas Oil Company of California
BUSINESS LICENSE NAME OF ORGANIZATION THAT IS TO OPERATE EQUIPMENT

1B.
Douglas Oil Company of California
NAME (OR NAMES) OF OWNER OR PRINCIPAL PARTNERS DOING BUSINESS AS (DBA) ABOVE ORGANIZATION

2A. MAILING ADDRESS:
14708 Downey Ave. | Paramount, CA | ZIP: 90723
NUMBER STREET | CITY OR COMMUNITY | STATE | ZIP CODE

3A. EQUIPMENT LOCATION ADDRESS:
14708 Downey Ave. | Paramount, CA
NUMBER STREET | CITY OR COMMUNITY | ZIP CODE

3B. Compton Blvd.
NEAREST INTERSECTING STREET

4. EQUIPMENT DESCRIPTION.
APPLICATION IS HEREBY MADE FOR AUTHORITY TO CONSTRUCT AND PERMIT TO OPERATE THE FOLLOWING EQUIPMENT:

25 LT/D Sulfur Plant - The equipment has been constructed under A-75171 and will be modified according to the attachments.

5. IF THIS EQUIPMENT HAS A PREVIOUS WRITTEN PERMIT, STATE NAME OF CORPORATION, COMPANY, OR INDIVIDUAL OWNER THAT OPERATED THIS EQUIPMENT, AND STATE PREVIOUS AIR POLLUTION CONTROL DEVICE PERMIT NUMBER.
25 LT/D Sulfur Plant | A-75171
NAME | PREVIOUS PERMIT NUMBER

6. PRIMARY APPLICATION REASON:
16 NEW CONSTRUCTION [X] 1
RELOCATION [ ] 2
CHANGE OF LOCATION [ ] 3
CHANGE OF OWNERSHIP [ ] 4

7. TYPE OF ORGANIZATION:
17 CORPORATION [X] 1
PARTNERSHIP [ ] 2
INDIVIDUAL OWNER [ ] 3
GOV'T. AGENCY [ ] 4

8. ESTIMATED COST OF EQUIPMENT OR ALTERATION:
AIR POLLUTION CONTROL EQUIPMENT: $ 1,094,000
BASIC EQUIPMENT: $

9. FOR THE NEW CONSTRUCTION, ALTERATION, TRANSFER OF OWNERSHIP OR LOCATION, WHAT IS THE
ESTIMATED STARTING DATE: Oct. 23, 1975 | ESTIMATED COMPLETION DATE: Oct. 23, 1976

10. GENERAL NATURE OF BUSINESS:
Petroleum Refinery

11. SIGNATURE OF RESPONSIBLE OWNER OF ORGANIZATION: Joseph J. Lusardi | 12. OFFICIAL TITLE OF SIGNER: Senior Engineer

13. TYPED OR PRINTED NAME OF SIGNER: Joseph J. Lusardi | 14. DATE: Nov. 13, 1975 | 15. PHONE NUMBER: 213/531-2060

FOR USE ONLY

ST. CODE NO. Y-6	CB4523	PRIMARY CODE: 21-22	18 AC.: 23-30	CLASS: 22 T [X] I [ ]	
DESIGNATOR: 23-30 4 DATE: CHEK.	BOOK UNITS: 31-34	APPLICATION NO.: 35-36 C 02392	EQUIP. CAT. NO.: 38-42	TYPE: 45	

VALIDATION 46-50 (BIT)

75

03 6 11 NOV 21 64 52

FORM 400-A

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

APPLICATION FOR PERMIT TO CONSTRUCT AND PERMIT TO OPERATE

PLEASE TYPE OR PRINT

22. SUPPLEMENTARY INFORMATION FOR EACH STACK OR EMISSION POINT:

STACK NO.	(a) HEIGHT	(b) DIAMETER	(c) TEMP.	(d) FLOW RATE	(e) VELOCITY
1					
2					
3					

(IF MORE THAN 3: LIST ON A SEPARATE SHEET)

(a) HEIGHT - DISTANCE ABOVE GROUND LEVEL TO DISCHARGE POINT, FEET.
(b) DIAMETER OF DISCHARGE POINT TO NEAREST TENTH FOOT. NOTE: IF NOT CIRCULAR INSERT DIAMETER OF EQUIVALENT CIRCULAR AREA. USING A MEASURED OR ESTIMATED CROSS-SECTIONAL AREA (A, IN SQUARE FEET), THE EQUIVALENT DIAMETER (D_e, IN FEET) MAY BE CALCULATED:

$$D_e = 1.128 \sqrt{A}$$

(c) TEMPERATURE AT DISCHARGE POINT IN °F, ACTUAL OR ESTIMATED TO NEAREST 50°F.
(d) FLOW RATE AT DISCHARGE POINT IN ACTUAL CUBIC FEET PER MINUTE (ACFM).
(e) VELOCITY OF DISCHARGE IN FT/SEC, DESIGN OR MEASURED RATE.

23. REMARKS

This permit is entitled to trade secret protection because it involves a process license agreement between Pacific Oasis and Chem Design Inc., which process is not patented and is known only to certain individuals within Pacific Oasis and Chem Design Inc. and, because the process has a commercial value which gives Pacific Oasis an opportunity to obtain a business advantage over competitors who do not know or use it. (Government Code § 6254.7(d)).

IF YOU WISH TO SPECIFY PROCESS INFORMATION AS PROPRIETARY OR CONFIDENTIAL, SPACE IS PROVIDED FOR THIS PURPOSE. HOWEVER, THE KINDS AND RATES OF EMISSIONS MAY NOT BE HELD CONFIDENTIAL. BY STATE LAW EMISSIONS ARE SUBJECT TO PUBLIC DISCLOSURE.

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

PERMIT to OPERATE

M

SECTOR

METRO ZONE - 434 South San Pedro Street, Los Angeles, California 90013

Operation under this permit must be conducted in compliance with all information included with the initial application and the mit conditions." The equipment must be properly maintained and kept in good operating condition at all times. In accordance w this Permit to Operate or copy must be posted on or within 8 meters of equipment.

LEGAL OWNER OR OPERATOR: DOUGLAS OIL COMPANY OF CALIFORNIA APPL. NO. C-02392

EQUIPMENT LOCATED AT: 14708 DOWNEY AVENUE
PARAMOUNT, CALIFORNIA

EQUIPMENT DESCRIPTION AND CONDITIONS:

SULFUR-RECOVERY UNIT NO. 2 CONSISTING OF:

H-401 REACTION FURNACE, 3'-8" DIA. X 21'-0" L., WITH ONE ACID GAS BURNER.
RA-411 FIRST-STAGE CONVERTER, 12'-0" DIA. X 12'-0" H.
RA-412 SECOND-STAGE CONVERTER, 8'-0" DIA. X 19'-6" H.
——— SULFUR-STORAGE PIT, 12'-0" W. X 52'-0" L. X 8' TO 10' DEEP, WITH VENT CONNECTION TO I CINERATOR H-402.
D-413 CONDENSATE BLOWDOWN DRUM, 2'-0" DIA. X 7'-0" H.
D-414 TAIL-GAS COALESCER, 6'-0" DIA. X 11'-3" H., WITH VENT CONNECTION TO TAIL-GAS-TREATMEN UNIT AND EMERGENCY VENT CONNECTION TO INCINERATOR H-402. (PAGE 1 OF 2 PAGES

s initial permit must be renewed by 4/27/79 or an earlier date if equipment is moved, altere ownership. If billing for annual renewal fee (Rule 301.f) not received by expiration date, contact Zone office a

This permit does not authorize the emission of air contaminants in excess of those allowed by Division 26 of the Health and Safety Code of the State of California or the Rules of the Air Quality Management District. This permit cannot be considered as permission to violate existing laws, ordinances, regulations or statutes of other government agencies.

AIR POLLUTION CONTR
HELEN THOMPSO
PERMIT SECTIO
BY
DATE 4/27/78

SCAPCD043 70000:a 8078

VOID UNLESS VALIDATED

CONTINUATION OF PERMIT NO. M-03696
(MUST BE DISPLAYED WITH PERMIT)

H-403 FIRST-STAGE INLINE REHEATER, 2'-6" DIA. X 2'-3" L. FIREBOX, WITH ONE ACID GAS BURNER
H-404 SECOND-STAGE INLINE REHEATER, 2'-6" DIA. X 2'-3" L. FIREBOX, WITH ONE ACID GAS BURNE
X-414 REACTION FURNACE WASTE-HEAT BOILER, 150 PSIG STEAM, SHELL AND TUBE.
X-411 FIRST CONDENSER, 50 SPIG STEAM WASTE-HEAT BOILER, SHELL AND TUBE.
X-412 SECOND CONDENSER, 50 PSIG STEAM WASTE-HEAT BOILER, SHELL AND TUBE.
X-413 THIRD CONDENSER, 25,PSIG STEAM WASTE-HEAT BOILER, SHELL AND TUBE.
F-401 REACTION COMBUSTION AIR BLOWER, HOFFMAN AGK 60, WITH MECHANICAL SEAL AND STEAM-TURBI DRIVE.
F-402 REACTION COMBUSTION AIR BLOWER (SPARE), HOFFMAN AGK 60, WITH MECHANICAL SEAL AND 25(H.P. MOTOR.

-CONDITION-

THIS EQUIPMENT MUST NOT BE OPERATED UNLESS THE TAIL GAS COALESCER D-414 IS VENTED ONLY TO AI POLLUTION CONTROL EQUIPMENT WHICH IS IN FULL USE AND WHICH HAS BEEN ISSUED AN OPERATING PERM BY THE AIR POLLUTION CONTROL OFFICER.

APPL. NO. C-02392

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

ATTACHMENT 8: EPA APPLICABILITY DETERMINATION CONTROL NO. 9700157

epa.gov/adi/index.cfm?
18&CFTOKEN=40884320&jsessionid=2e302fb6564ba82d81e42b3d315b273b5e44TR2a30&requesttimeout=180

Last updated on Wednesday, October 22nd, 2008.

Compliance Monitoring

Search Applicability Determination Index

Determination Detail

Control Number: 9700157

Category: NSPS
EPA Office: METD
Date: 09/07/1996
Title: Hourly Potential Emissions
Recipient: Harper, Jewell
Author: Miller, Mamie
Comments:

Subparts: Part 60, A General Provisions

Abstract:

Q. When is NSPS applicability evaluated under the MODIFICATION provisions?

A. Applicability is evaluated at the time of a physical or operational change based on a comparison of hourly potential emissions before and after the change.

Letter:

DATE: SEPTEMBER 7, 1995

MEMORANDUM

SUBJECT: NSPS MODIFICATION Applicability

FROM: Mamie R. Miller, Chief
Manufacturing Branch

Manufacturing, Energy, and Transportation Division

TO: Jewell A. Harper, Chief
Air Enforcement Branch
Air, Pesticides and Toxics Management Division Region IV

This is to follow up on an August 8, 1995 conference call with Brian Beals and David McNeal of your staff, regarding the July 7, 1995 memorandum I sent to you on interpretation of the New Source Performance Standard (NSPS) MODIFICATION provisions. The subject of the July memorandum and the conference call was to discuss the means for determining NSPS applicability, which is based on a comparison of hourly potential emissions before and after a physical or operational change. This discussion was spurred by review of a February 15, 1989 memorandum on the applicability of the NSPS for Bulk Gasoline Terminals to a Conoco source.

During our conference call, your staff indicated that in the case of Conoco and other similar sources, Region IV has been recommending that states periodically check whether actual emissions exceed pre-change emissions to determine the applicability of NSPS. Your staff further explained that when actual emissions increase 10% over post-change actual emission levels, the Region recommends that a test be performed to again assess applicability. As we discussed, NSPS applicability should instead be evaluated at the time the physical or operational change is proposed, based on hourly potential emissions.

We recommend that the applicability of NSPS to Conoco be reevaluated, and we strongly urge you to clarify to the states that they should apply the hourly potential emissions criteria when making their assessment. This final assessment, based on potential hourly emissions, will alleviate the states from the resource burden associated with periodically evaluating NSPS applicability, and will conform those applicability determinations with the correct method for establishing applicability. Correction, where needed, of a sources' applicability to NSPS will also be critical as we move forward in implementing the title V operating permits program.

If you would like to discuss this issue further, feel free to contact me at 202-564-7011, or Sally Mitoff of my staff at 202-564-7012.

cc: Rich Biondi
Sally Mitoff
Belinda Breidenbach
Julie Tankersley
Zofia Kosim, AED/ORE
Brian Beals, Region IV
David McNeal, Region IV

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

ATTACHMENT 9: EXCERPTS FROM THE TAIL GAS INCINERATOR H-402 PERMIT FILE TAKEN FROM DISTRICT'S RECORDS

INSTRUCTIONS TO PERMIT SECTION

☐ A/C
☒ P/O
☐ CANCEL

APPLICATION NO. C-02396

DISPOSITION:

☒ APPROVED
☐ DENIED
☐ CANCELED - DON'T REFUND FILING FEE
☐ CANCELED - REFUND FILING FEE, SEE COMMENTS

PERMIT UNIT WORDING:

☒ BELOW
~~☒ ON FIELD REPORT DATED 9-21-77~~
☐ ON PAGE ____ OF PROCESS SHEETS
☐ ON _____

CONDITIONS:

☐ NONE
☒ NUMBERS LISTED NO. 52 + NO 53
☐ SPECIAL (SEE PERMIT UNIT WORDING & CONDITIONS)
☐ AS ON _____

PREVIOUS PERMIT NO(S) P-25917

PERMIT UNIT WORDING & CONDITIONS:

WASTE GAS INCINERATOR (H-402), JOHN ZINK VERTICAL TYPE, 6'-0" DIA x 16'-0" H, WITH ONE JOHN ZINK DB-24-82 GAS BURNER, NATURAL DRAFT, WITH A 4'-0" DIA. x 150'-0" H. STACK.

~~AND SERVING~~
TAIL-GAS TREATING UNIT
SULFUR STORAGE PIT
LEAN AMINE SURGE DRUM D-213
EMERGENCY VENTS FROM SULFUR RECOVERY UNITS NO. 1 AND NO. 2
SOUR-WATER STRIPPER

SCHEDULE	① H.P.*	② 1000s BTU*	③ KVA*	④ SQ.FT.*	⑤ GALLONS*	⑥ MISC.
RATING						
FEE						

*FOR ALTERATIONS SHOW ONLY INCREASES

☐ CHANGE OF OWNERSHIP
☐ CHANGE OF LOCATION
☐ CHANGE OF CONDITION
☐ ALT. NO RATING INCREASE
☒ ALT. INCREASE IN RATING
☐ GOVERNMENT APPLICATION

FEES

APPLICABLE FEE SCHEDULE	2
TOTAL FEE	$ 550
FILING FEE	$ —
REFUND	$ —
FEE BALANCE	$ 550

COMMENTS:

FEE CALCULATIONS

PREVIOUS BURNER RATING - 5 MMBTU/HR
NEW BURNER RATING = 10 MMBTU/HR
Δ HEAT RATING = 5 MMBTU/HR
RULE 40 SCHD. 2 FEE = $786
LESS FILING FEE - 52
NET $734
RULE 301 SCHD. 2 FEE = $550 *
* USE RULE 301 FEE SINCE LOWEST

RECOMMENDED BY [signature] DATE 11-16-77 REVIEWING ENGINEER [signature] DATE 12/17/77

PAGE 1 OF 1 PAGES

600135-R6 88-10

GENERAL STANDARD CONDITIONS

60D135-R6 66-10

3. This equipment must not be operated unless (it) (the)_____ (is) (are) vented only to air pollution control equipment which is in full use and which has been issued an (operating permit) (authority to construct) by the Air Pollution Control Officer.
4. a. Fuel oil supplied at the burner must be (ps-)_____ or lighter grade.
   b. (ps-)_____ fuel oil supplied at the burner must be at a temperature of_____°F or greater.
   A temperature of not less than_____°F must be maintained in the (afterburner) (combustion chamber) when the equipment it serves is in operation.
5. Not less than_____ gallons per minute of water (_____) at a pressure of _____to_____psig must be supplied to this scrubber when the equipment it serves is in operation.
7. This oven must not be operated at temperatures above_____°F.
8. Steam atomization only must be employed during the entire period of fuel oil burning.
9. This equipment must not discharge to the atmosphere radioactive materials in excess of the permissible limits established by existing authorities.
10. Whenever air contaminants are vented to the boiler firebox, all burners must be continuously operated either with natural gas at a burner pressure of not less than_____(psig) (inches water column) or with fuel oil at an equivalent heat input.

REFINERY UNIT

60D638-R2

45. When storing organic liquid having a vapor pressure of 77.5 mm Hg (1.5 psia) or greater under actual storage conditions, (this tank) (Tank No._____) (Tank Nos._____, _____) must be connected to a vapor control system which has been issued an (operating permit) (permit to construct) by the Air Pollution Control Officer.
46. This tank must not be used for storing organic liquid having a vapor pressure of 569 mm Hg (11 psia) or greater under actual storage conditions.
47. The hatch covers must be kept in good operating considions and must be closed at all times except during actual gauging operation.
48. This equipment must not be used for loading more than 75,700 liters (20,000 gallons) per day of organic liquids having a vapor pressure of 77.5 mm Hg (1.5 psia) or greater under actual loading conditions.
49. A vapor tight seal between the adapter and the compartment hatch must be maintained when loading organic liquids having a vapor pressure of 77.5 mm Hg (1.5 psia) or greater under actual loading conditions, and all displaced vapors must be discharged to vapor control facilities which have been issued an (operating permit) (permit to construct) by the Air Pollution Control Officer.
50. The vapor sphere must be prevented from venting by controlling the organic liquids loading operations so as not to exceed the effective total capacity of the compressor and the vapor sphere at any time.
51. This equipment must not be used to recover 7600 liters (201 gallons) or more per day of petroleum products from any equipment which processes, refines, stores or handles hydrocarbons with a Reid vapor pressure of 25 mm Hg (0.5 psia) or greater.
52. The incinerator must be operated with a minimum of 20 per cent excess air.
53. A minimum temperature of 1200 °F must be maintained in the incinerator breeching.
66. When firing fuel oil, the oil must be preheated to a temperature sufficient to allow proper atomization at the burner.
67. This equipment must not be used for loading organic liquids having a vapor pressure of 77.5 mm HG (1.5 psia) or greater under actual loading conditions.
68. This unit shall not be operated unless provided with a blow down-flare system and other control units approved by the Air Pollution Control Officer to handle (emergency vent gases,) (hydrogen sulfide,) (spent caustic,) (effluent waste water,) and (sour water).
69. Facilities approved by the Air Pollution Control Officer must be provided for incinerating effluent gases from the reactor(s) during regeneration cycles.
70. Refinery process gas from this unit to be used as fuel gas shall not contain sulfur compounds in excess of 800 ppm calculated as hydrogen sulfide at standard conditions.
96. This (boiler) (heater) may utilize oil-firing only to the extent that gaseous fuel is not available.

ENGINEERING DIVISION····MEMORANDUM

TO: FILE	FROM: N. A. WHITEHEAD	DATE: 11-10-77
REFERENCE: T/C BILL GUERBELLE, DOUGLAS OIL		PERMIT APPL. NO.: C-02396

SUBJECT: EPA SOURCE TEST RESULTS
INCINERATOR STACK GASES
SULFUR TAIL GAS UNIT.

EPA MADE THREE 60 MINUTE TEST RUNS ON THE INCINERATOR STACK GASES WHICH BURNS THE TAIL GAS TREATMENT OFF GAS. AVERAGE SO_2 CONCENTRATION WAS ONLY 100 ppm AND TOTAL SULFUR COMPOUND EMISSION RATE WAS ONLY 5 lb/HR, ALL RUNS WERE WELL BELOW RULE 468 LIMITATIONS. ACCORDING TO QUANTITIES OF ACID GASES HANDLED 93.48% OF SO_2 EMISSIONS SHOULD BE ASSIGNED TO THE BASIC AMINE UNIT AND THE REMAINDER TO THE BASIC SOUR WATER STRIPPER UNIT.

∴ EMISSIONS AMINE UNIT = 5 lb/HR × 0.9348
= 4.67 lb/HR

SW STRIPPER UNIT = 5 − 4.67 = 0.33 lb/HR

BILL GUERBELLE WILL KEEP IN TOUCH WITH ED LARSSON ABOUT HAVING A COPY OF EPA SOURCE TEST SENT TO SCAQMD FOR INCLUSION IN FILE.

REVISIONS TO SULFUR RECOVERY UNIT INCINERATOR
COVERED BY OPERATING PERMIT P-25917

RECEIVED

'75 NOV 2 PM 1 0

AIR POLLUTION CONTROL DISTRICT

PROCESS DESCRIPTION

The following revisions will be made to the existing incinerator:

1. A new free-standing stack located east of the existing incinerator. The new stack will be 4'-0" O.D. by 150' high to provide sufficient draft in the firebox.

2. A new burner and dual burner Fireyes. The Fireyes will be installed in parallel so that both must fail to detect a flame before the unit is shut down.

3. A new temperature control valve on the fuel gas line to the burner to control firebox temperature.

4. High and low temperature alarms in the incinerator firebox and a high temperature shut down switch to protect the equipment.

5. A new draft indicator at the burner level in the firebox.

6. Both the fuel gas and the pilot gas lines to the burner will have two Maxon manual reset safety shut off solenoid valves with a vent valve. This will shut off fuel gas feeds as part of the automatic shutdown. A new steam line is also provided to add steam to the firebox upon automatic shutdown.

7. Flame arrestors will be installed on both the combined acid gas feed to the burner and the vent line from the sulfur pit. By-passes will be provided on the flame arrestors in case of plugging.

8. A new pilot gas line with pressure control valve will be installed to insure continuous pilot operation except during automatic shutdown.

These revisions will, in general, result in improved combustion in the incinerator due to increased indication and control of the process variables. Also, the burner management will shut down the unit when an unsafe situation occurs.

The primary feed to the incinerator will be tail gas from the SCOT unit. Start up lines for warming up the No. 1 and No. 2 SRU's are also tied in to the incinerator feed line. These lines tie in to a common header which is sloped to the incinerator to prevent accumulation of condensate in the line to the burner. New valves are required on each line before it enters the header. A flame arrestor is provided to prevent ignition in the line ahead of the burner. The vent line from the sulfur pit will continue to go to the firebox, and a new flame arrestor will also be provided on this line.

The maximum load case for the incinerator occurs with the No. 1 SRU operating at 6 LT/D while warming up the No. 2 SRU. This results in a

REVISIONS TO SULFUR RECOVERY UNIT INCINERATOR
COVERED BY OPERATING PERMIT P-25917

PROCESS DESCRIPTION - continued

heat release of 10 MBTU/HR. with 25% excess air and a firebox temperature of 1600°F. The firebox temperature will be controlled by a local TRC on the fuel gas line to the burner. This will make it necessary for the operator to see the incinerator operation before a temperature adjustment is made. Local flow indicators are also provided on the fuel gas line. The excess air to the burner will be controlled by manually adjusting the air register on the burner. A portable oxygen analyzer will be used to determine the percent O_2 in the stack.

The new burner management feature will result in automatic incinerator shutdown under two conditions. The first of these conditions is burner flame-out. Dual burner Fireyes will be installed 90° from each other to scan the burner flame. The Fireyes will be installed in parallel so that mechanical failure of one Fireye will not result in shutdown. A constant instrument air purge is required to keep the sight windows clean on the Fireyes. Automatic shutdown will occur only if both Fireyes fail to detect a flame.

The second shutdown condition occurs with high firebox temperature. The normal operating temperature range of the firebox will be 1200°F-1600°F. Shutdown will occur at a firebox temperature of 2300°F. High and low temperature alarms are provided for the firebox with a temperature indication on the control panel.

When the burner management receives a shutdown signal, it will automatically shut off the fuel gas feed to the burner. This will be done by the installation of two Maxon manual reset safety shut off solenoid valves with a vent valve on the fuel gas line. The same equipment will be installed on the pilot gas line to the burners. After the fuel gas feeds are shut off, an automatic valve will open, putting purge steam into the firebox.

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
METROPOLITAN ZONE

ENGINEERING DIVISION

APPLICATION EMISSION DATA SHEET

☐ P/C

☒ P/O

DATE: 10-26-77

APPL. NO.: C-02396

NAME: DOUGLAS OIL COMPANY OF CALIFORNIA

ADDRESS: 14708 DOWNEY AVE, PARAMOUNT, CALIF. 90723

☐ Rule 213 Applicable (unit installed or permit to construct for unit issued on or subsequent to 10/8/76).

☒ Rule 213 not applicable (unit installed or permit to construct unit issued prior to 10/8/76).

Emissions From This Permit Unit: NONE — AIR POLLUTION CONTROL UNIT

Lb/Hr (Maximum Day of Week)

HC_____ NO_x_____ SO_2_____ CO_____ Part._____

Lb/Day (Maximum Day of Week)

HC_____ NO_x_____ SO_2_____ CO_____ Part._____

Altered Permit Unit ☐ Yes ☐ No Prior Permit No._____

If above is "Yes" enter emissions from previous permit unit:

Lb/Hr (Maximum Day of Week)

HC_____ NO_x_____ SO_2_____ CO_____ Part._____

Lb/Day (Maximum Day of Week)

HC_____ NO_x_____ SO_2_____ CO_____ Part._____

Reductions achieved concurrent with this application.

Appl. No.	H/C Total		NO_x		SO_2		CO		Part.	
	#/Hr	#/Day	#/Hr	#/Day	#/Hr	#/Day	#/Hr	#/Day	#/Hr	#/Day

BACT Evaluation: Date_____ Appl. No._____. Has BACT? ☐ Yes ☐ No.

Engineer H. Whitehead

332-60D792

AIR POLLUTION CONTROL DISTRICT - COUNTY OF LOS ANGELES
434 SOUTH SAN PEDRO STREET, LOS ANGELES, CALIF. 90013. MADISON 9-4711

ENGINEERING DIVISION....FIELD REPORT

NAME OF APPLICANT: DOUGLAS OIL COMPANY OF CALIFORNIA	DATE OF INSPECTION: 9-21-77
MAILING ADDRESS: 14708 Downey Avenue, Paramount, CA 90723	PERMIT APPL. NO.: C-02396
EQUIPMENT LOCATION (ADDRESS): Same	A.P.C.D. ZONE NO.:

REASON PERMIT IS REQUIRED: NEW CONSTRUCTION ( ) CHANGE OF OWNERSHIP ( ) CHANGE OF LESSEE ( ) CHANGE OF LOCATION ( ) EQUIPMENT ALTERATION (X)

DATE CONSTRUCTION AUTHORIZED: 12-29-75 BY HAW TIME SPENT MAKING INSPECTION: FROM 2:30 p.m. TO 3:00 p.m.

USUAL OPERATING SCHEDULE FOR THIS EQUIPMENT: Continuous

WEATHER: Clear WIND: 5 MPH ESTIMATED COST: BASIC EQUIPMENT: $ A.P.C. EQUIPMENT: $ 210,000

NAMES & TITLES OF PERSONS CONTACTED BY ENGINEER: Bill Guebelle, Environmental Engineer

FOR DUST & FUME PROBLEMS ONLY: PROCESS* WEIGHT(S) LBS./HR. ALLOWED LOSSES: LBS./HR. ESTIMATED LOSSES: LBS./HR.

OFFICIAL EQUIPMENT DESCRIPTION, *CALCULATION OF PROCESS WEIGHT(S), PROCESS DESCRIPTION AND FINDINGS:

WASTE GAS INCINERATOR RECEIVING WASTE GAS FROM THE TAIL GAS TREATMENT UNIT, SULFUR STORAGE PIT, LEAN AMINE SURGE DRUM D-213 AND EMERGENCY VENT GAS FROM SULFUR RECOVERY UNITS NOS. 1 AND 2 AND SOUR-WATER STRIPPER CONSISTING OF:

H-402 INCINERATOR, JOHN ZINK VERTICAL-TYPE, 6'-0" DIA. x 16' H., WITH ONE JOHN ZINK DB-24-82 GAS BURNER, NATURAL DRAFT, WITH A 4'-0" DIA. x 150'-0" H. STACK.

The waste gas incinerator was found to be modified as specified in the permit to construct. The incinerator normally receives the off gas from the Tail Gas Treatment Unit Amine Absorber W-452, the molten sulfur storage pit vent gas, and the vent gas from the lean amine surge drum. During emergency conditions, the incinerator also receives sour gas vents from Sulfur Recovery Units Nos. 1 and 2 and from the Sour-Water Stripper Column W-453. The incinerator is operated at a high enough temperature and with sufficient excess air to convert sulfide gases to sulfur dioxide. The new tall stack was installed to minimize ground level concentrations of SO_2 and any unconverted H_2S during emergency conditions to avoid nuisance odor complaints from neighbors. A larger burner was installed in the incinerator, and burner controls were improved to provide better reliability of operation. During the inspection, the incinerator was operating normally at a firebox temperature of 1220°F and with 5.6% excess O_2 in the stack gas. Draft was 0.6" H_2O. There was no visible plume from the stack. A permit to operate is recommended but will be held in abeyance pending review of the results of an EPA source test during week of 9-12-77.

11: 10-19-77

RECOMMENDED DISPOSITION: ( ) APPROVE FOR PERMIT. ( ) APPROVE FOR PERMIT SUBJECT TO CONDITIONS LISTED BELOW. (X) HOLD, SEE EXPLANATION BELOW. ( ) DENY PERMIT.

Hold pending receipt of EPA source test of stack gases made during week of 9-12-77. 11-28-77 Fun P/S Haw

SIGNATURE H. A. Whitehead

H. A. Whitehead, Senior A. P. Engineer

REVIEWING ENGINEER:
( ) I CONCUR WITH RECOMMENDATIONS
( ) I DO NOT CONCUR WITH RECOMMENDATIONS
( ) SEE COMMENTS ON ATTACHED PAGE

PAGE 1 OF 1 PAGE 16-500106 R2-55

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

REQUEST FOR SOURCE TEST OR SAMPLE ANALYSIS

[illegible] TEST NO. C-2722

SOURCE LOCATION DATA

1. FIRM NAME Douglas Oil Co. PHONE NO. 531-2060
2. ADDRESS 14708 So. Downey Ave. CITY Paramount ZIP 92626
3. REPRESENTATIVE TO CONTACT Bill Gruebelle TITLE Engr.

REQUEST INITIATION DATA

4. REQUEST INITIATED BY John R. Powell DIVISION Enforcement 532-[illegible]
5. REQUEST APPROVED BY [illegible] DATE
6. REASON FOR REQUEST:
   - [ ] COURT OR HEARING BOARD ACTION
   - [ ] PERMIT PENDING
   - [x] SUSPECTED VIOLATION
   - [ ] PERIODIC TESTING
   - [ ]
   - [ ]

SOURCE AND SAMPLE DATA

7. TYPE OF REQUEST: [x] SOURCE TEST [ ] SAMPLE SUBMITTED FOR ANALYSIS
8. BASIC EQUIPMENT: (INCL. INDEX CODE NO.)
   Sulfur recovery unit No. 2 Application C-02392
9. CONTROL EQUIPMENT: (INCL. INDEX CODE NO.)
10. POINTS TO BE TESTED OR DESCRIPTION AND SOURCE OF EACH SAMPLE SUBMITTED:
    H-402 Incinerator Stack (applic. C-02396)
    (Sulfur recov unit vents to tail gas unit (applic C-02394) and tail-gas treater amine contactor vents to incinerator).
11. TEST FOR FOLLOWING CONSTITUENTS:

SO_2 Rule 468	HC *	[illegible]
NOx *	O_2 *	
CO *	AND RULE 219 (EQUIPMENT.)	
CO_2 *	* [illegible] AT EXHAUST	

12. SPECIAL INSTRUCTIONS:
    At the time of the test, a responsible company representative must be informed that a violation is suspected and should it be substatiated, by the test, legal action will be taken. No statement, whatsoever, should be made to the operator by District personnel concerning the manner in which this equipment is operated during the test.

ACTION BY SOURCE TESTING UNIT

13. DATE RECEIVED 12/29/77 PRIORITY A ASSIGNED TO TEAM NO. 3
14. TEST DATE: REPORT ISSUED:
15. ADDITIONAL TESTS: ADDL REPORTS ISSUED:
16. REMARKS:

COPY FOR: [ ] ORIGINATOR [ ] ENG. PROC. UNIT [ ] ENGR. FILES [ ] ENFORCEMENT [ ] EMISS. APPRAIS. [ ] SOURCE TESTING

60F518-A1

AIR POLLUTION CONTROL DISTRICT - COUNTY OF LOS ANGELES

434 SOUTH SAN PEDRO STREET, LOS ANGELES, CALIF. 90013

APPLICATION NUMBER: C-02396-97

Sector CB

AUTHORITY TO CONSTRUCT

GRANTED AS OF 12/29/75

LEGAL OWNER OR OPERATOR: Douglas Oil Company of California
14708 Downey Avenue
Paramount, California 90723

Attention: Mr. Joseph J. Lusardi
Senior Engineer

Gentlemen:

The equipment described below and as shown on the approved plans and specifications and subject to the special condition, or conditions, listed.

EQUIPMENT DESCRIPTION AND CONDITIONS:

C-02396
TAIL GAS INCINERATOR ALTERED AS INDICATED IN APPLICATION NO. C-02396.
(SUBJECT TO CONDITION NOS. 1 AND 2)

C-02397
SPENT CAUSTIC SYSTEM CONSISTING OF:
NT-11 TANK, 42,000 GALLON CAPACITY, 21'-6" DIA. x 16' H., WITH A FIXED ROOF.
SUMP, 4'-0" W. x 4'-0" L. x 6'-0" DEEP.
NP-14, CAUSTIC SUMP PUMP.
NP-15, SPENT CAUSTIC LOADING PUMP.
(SUBJECT TO CONDITION NO. 3)

(CONDITIONS)

1. A MINIMUM TEMPERATURE OF 1200°F MUST BE MAINTAINED IN THE INCINERATOR BURNERS.
2. TWO ACCESSIBLE PITOT TUBE TRAVERSE AND SAMPLE POINT 2½ INCHES IN DIAMETER MUST BE INSTALLED AT 90° IN THE STRAIGHT VERTICAL SECTION OF STACK AT LEAST SIX PIPE DIAMETERS DOWNSTREAM OF THE HORIZONTAL DUCT INTERSECTION.
3. WHEN STORING PETROLEUM DISTILLATE HAVING A VAPOR PRESSURE OF 1.5 PSIA OR GREATER UNDER ACTUAL STORAGE CONDITIONS, THIS TANK MUST BE CONNECTED TO A VAPOR CONTROL SYSTEM WHICH HAS BEEN ISSUED AN AUTHORITY TO CONSTRUCT BY THE AIR POLLUTION CONTROL OFFICER.

Approval or denial of this application for permit to operate the above equipment will be made after an inspection to determine if the equipment has been constructed in accordance with the approved plans and specifications and if the equipment can be operated in compliance with all Rules and Regulations of the Los Angeles County Air Pollution Control District.

Please notify Mr. H. Whitehead at 974-7498 [redacted] when construction of equipment is completed.

It is the applicant's responsibility to comply with all laws, ordinances and regulations of other governmental agencies which are applicable to the equipment to be constructed. For example, prior clearance must be obtained from the Los Angeles County Health Department, Division of Industrial Hygiene, for the use of any toxic material.

This AUTHORITY TO CONSTRUCT is NOT a PERMIT TO OPERATE!

IT WILL EXPIRE TWO YEARS FROM THE DATE SHOWN, or sooner, if any change of ownership or address, or modification occurs.

Robert G. Lunche
AIR POLLUTION CONTROL OFFICER

By _____
Helen Thompson
Permit Section

RGL:HT:fb

300344 REV. 3/73

INSTRUCTIONS TO PERMIT SECTION

☒ A/C
☐ P/O
☐ CANCEL

APPLICATION NO. C-02396

DISPOSITION:

☒ APPROVED
☐ DENIED
☐ CANCELED – DON'T REFUND FILING FEE
☐ CANCELED – REFUND FILING FEE, SEE COMMENTS

PERMIT UNIT WORDING:

☒ BELOW
☐ ON FIELD REPORT DATED _____
☐ ON PAGE ____ OF PROCESS SHEETS
☐ ON _____

PREVIOUS PERMIT NO(S) P-25917

CONDITIONS:

☐ NONE
1. ☒ NUMBERS LISTED STANDARD CONDITION NO. 53
2. ☒ SPECIAL (SEE PERMIT UNIT WORDING & CONDITIONS)
☐ AS ON _____

PERMIT UNIT WORDING & CONDITIONS:

TAIL GAS INCINERATOR ALTERED AS INDICATED IN APPLICATION NO. C-02396.

CONDITION

NO 2 – ~~A~~ TWO ACCESSIBLE PITOT TUBE TRAVERSE AND SAMPLE POINT 2½ INCHES IN DIAMETER MUST BE INSTALLED AT THE STRAIGHT VERTICAL SECTION OF STACK AT LEAST SIX PIPE DIAMETERS DOWNSTREAM OF THE HORIZONTAL DUCT INTERSECTION.

SCHEDULE	① H.P.*	② 1000s BTU*	③ KVA*	④ SQ.FT.*	⑤ GALLONS*	⑥ MISC.
RATING						
FEE						

*FOR ALTERATIONS SHOW ONLY INCREASES

☐ CHANGE OF OWNERSHIP
☐ CHANGE OF LOCATION
☐ CHANGE OF CONDITION
☐ ALT. NO RATING INCREASE
☐ ALT. INCREASE IN RATING
☐ GOVERNMENT APPLICATION

FEES

APPLICABLE FEE SCHEDULE
TOTAL FEE $
FILING FEE $
REFUND $
FEE BALANCE $

A/C ONLY

COMMENTS:

FEE CALCULATIONS

RECOMMENDED BY _____ DATE 12-12-75 REVIEWING ENGINEER _____ DATE 12/12/75

PAGE 1 OF 1 PAGES

60D135-86 68-10

GENERAL STANDARD CONDITIONS

600135-R6 68-10

3. This equipment must not be operated unless (it) (the)_____ (is) (are) vented only to air pollution control equipment which is in full use and which has been issued an (operating permit) (authority to construct) by the Air Pollution Control Officer.
4. a. Fuel oil supplied at the burner must be (ps-)_____ or lighter grade.
   b. (ps-)_____fuel oil supplied at the burner must be at a temperature of_____°F or greater.
5. A temperature of not less than_____°F must be maintained in the (afterburner) (combustion chamber) when the equipment it serves is in operation.
6. Not less than_____gallons per minute of water (_____) at a pressure of _____to_____psig must be supplied to this scrubber when the equipment it serves is in operation.
7. This oven must not be operated at temperatures above_____°F.
8. Steam atomization only must be employed during the entire period of fuel oil burning.
9. This equipment must not discharge to the atmosphere radioactive materials in excess of the permissible limits established by existing authorities.
10. Whenever air contaminants are vented to the boiler firebox, all burners must be continuously operated either with natural gas at a burner pressure of not less than_____(psig) (inches water column) or with fuel oil at an equivalent heat input.

REFINERY UNIT

600638-R-1

45. When storing petroleum distillate having a vapor pressure of 1.5 psia or greater under actual storage conditions, (this tank) (Tank No._____) (Tanks Nos._____) must be connected to a vapor control system which has been issued an (operating permit) (authority to construct) by the Air Pollution Control Officer.
46. This tank must not be used for storing petroleum distillate having a vapor pressure of 1.5 psia or greater under actual storage conditions.
47. The hatch covers must be kept in good operating conditions and must be closed at all times except during actual gauging operations.
48. This equipment must not be used for loading more than 20,000 gallons per day of organic liquids having a vapor pressure of 1.5 psia or greater under actual loading conditions.
49. A vapor tight seal between the adapter and the compartment hatch must be maintained when loading organic liquids having a vapor pressure of 1.5 psia or greater under actual loading conditions, and all displaced vapors must be discharged to vapor control facilities which have been issued an (operating permit) (authority to construct) by the Air Pollution Control Officer.
50. The vapor sphere must be prevented from venting by controlling the organic liquids loading operations so as not to exceed the effective total capacity of the compressor and the vapor sphere at any time.
51. This equipment must not be used to receive effluent water containing 200 gallons or more per day of petroleum products from any equipment which processes, refines, stores or handles hydrocarbons with a Reid vapor pressure of 0.5 pounds or greater
52. The incinerator must be operated with a minimum of_____per cent excess air.
53. A minimum temperature of 1200 °F must be maintained in the incinerator breeching.
60. Whenever photochemically reactive solvents are used in (the coating and drying process of which this equipment is a part) (this equipment) the organic materials discharged into the atmosphere must not exceed 40 pounds in any one day nor 8 pounds in any one hour, unless such discharge is controlled to comply with Rule 66.
66. When firing fuel oil, the oil must be preheated to a temperature sufficient to allow proper atomization at the burner.
67. This equipment must not be used for loading organic liquids having a vapor pressure of 1.5 psia or greater under actual loading conditions.
68. This unit shall not be operated unless provided with a blow down-flare system and other control units approved by the Air Pollution Control Officer to handle (emergency vent gases,) (hydrogen sulfide,) (spent caustic,) (effluent waste water,) and (sour water).
69. Facilities approved by the Air Pollution Control Officer must be provided for incinerating effluent gases from the reactor(s) during regeneration cycles.
70. Refinery process gas from this unit to be used as fuel gas shall not contain sulfur compounds in excess of 50 grains per 100 cubic feet or gaseous fuel calculated as hydrogen sulfide at standard conditions.
73. The organic materials discharged into the atmosphere from this equipment must not exceed 15 pounds in any one day nor 3 pounds in any one hour unless such discharge is controlled to comply with Rule 66.

6-50D118

AIR POLLUTION CONTROL DISTRICT • COUNTY OF LOS ANGELES

ENGINEERING DIVISION
APPLICATION PROCESSING AND CALCULATIONS

PAGES	PAGE
6	1
APPL. NO. C-02396	DATE 12-10-75
PROCESSED BY	CHECKED BY

I: EQUIPMENT DESCRIPTION

THE EXISTING INCINERATOR CURRENTLY ON THE ORIGINAL SMALL CLAUS SULFUR RECOVERY UNIT PERMIT NO P-25917 WILL BE ALTERED AS FOLLOWS: (WILL NOW BE CONSIDERED SEPARATE PERMIT UNIT PER H.E.C.).

✓ 1. A NEW FREE-STANDING STACK, 4'-0" DIA × 150' H., WILL BE INSTALLED AND CONNECTED TO THE EXISTING FIREBOX BY DUCTWORK (EXISTING SHORT STACK ON FIREBOX WILL BE REMOVED).

JOHN ZINK DB-24-82-D

2 A NEW BURNER WILL BE INSTALLED, NATURAL DRAFT, GAS FIRED WITH A PLENUM CHAMBER AND MUFFLER TO DIRECT WASTE GAS AND ANY LIQUID DROPLETS THROUGH THE BURNER FLAME.

3 INSTRUMENTATION WILL BE IMPROVED TO PROVIDE BETTER CONTROL AND SAFETY OF OPERATION INCLUDING THE FOLLOWING:

✓ a) DUAL BURNER FIREYES INSTALLED IN PARALLEL SO THAT BOTH MUST DETECT A FLAMEOUT BEFORE THE UNIT IS SHUTDOWN

✓ b) A NEW TEMPERATURE CONTROL VALVE ON FUEL GAS LINE TO THE BURNER TO CONTROL FIREBOX TEMPERATURE.

✓ c) HIGH AND LOW TEMPERATURE ALARMS IN THE FIREBOX AND A HIGH TEMPERATURE SHUTDOWN SWITCH.

d) A NEW DRAFT INDICATOR AT BURNER LEVEL IN THE FIRE BOX

✓ e) AUTOMATIC SHUTDOWN SOLENOID VALVES IN FUEL GAS AND PILOT LINES

✓ f) STEAM LINE CONNECTION TO FIREBOX WITH AUTOMATIC SOLENOID VALVE TO ADD PURGE STEAM TO FIREBOX UPON AUTOMATIC SHUTDOWN

OUT DO SATISFACTORY PURGE RECORDS PER TEST NOTICES

FLAME ARRESTOR IN COMBINED ACID GAS LINE TO BURNER AND IN SULFUR PIT VENT TO FIREBOX WITH BY PASSES IN CASE OF PLUGGING

✓ h) A NEW PILOT GAS LINE WITH PRESSURE CONTROL VALVE TO ASSURE CONTINUOUS PILOT OPERATION EXCEPT DURING AUTOMATIC SHUTDOWN.

II EQUIPMENT OPERATION

THE INCINERATOR WAS PREVIOUSLY USED TO BURN TAIL GAS FROM THE SMALL NO. 1 SULFUR RECOVERY UNIT. WITH THE INSTALLATION OF THE NEW REFORMER-DESULFURIZER - SULFUR RECOVERY SYSTEM, THE INCINERATOR NOW NORMALLY BURNS TREATED TAIL GAS FROM THE SCOT TAIL GAS CLEANUP UNIT AND VENTS FROM THE SULFUR STORAGE PIT. HOWEVER, DURING STARTUPS, OR EMERGENCY CONDITIONS DURING UPSETS THE TAIL GASES FROM THE EITHER THE NEW LARGER NO. 2 SULFUR RECOVERY UNIT OR THE OLD NO. 1 SULFUR RECOVERY UNIT OR BOTH CAN BE VENTED DIRECTLY TO THE INCINERATOR. ALSO UNDER CERTAIN STARTUP OR EMERGENCY CONDITIONS THE SOUR WATER STRIPPER ACID GAS VENTS CAN BE DIRECTED TO THE INCINERATOR. SINCE STARTUP OF THE NEW EXPANSION FACILITIES IN JUNE 1975, EXPERIENCE HAS SHOWN THAT THE INCINERATOR CONTROLS WERE INADEQUATE TO MAINTAIN GOOD COMBUSTION UNDER CERTAIN OF THE STARTUP OR EMERGENCY CONDITIONS. ALSO, THE EXISTING FIREBOX STACK IS TOO SHORT TO GIVE ADEQUATE DRAFT DURING THESE CONDITIONS AND APPARENTLY DOES NOT ADEQUATELY DISPERSE STACK GASES TO AVOID GROUND LEVEL CONCENTRATIONS OF ACID GASES DURING ADVERSE OPERATING CONDITIONS THAT MAY CAUSE NUISANCE OR COMPLAINTS. THE NEW BURNER AND IMPROVED CONTROLS AND THE TALLER STACK (2½ TIMES EXISTING STACK) TO BE INSTALLED AS DESCRIBED ABOVE SHOULD OVERCOME THE SHORTCOMINGS EXPERIENCED.

III EVALUATION

THE INCINERATOR ALTERATIONS WILL ALLOW HANDLING MAXIMUM ANTICIPATED LOAD CONDITIONS WHILE MAINTAINING FIREBOX TEMPERATURE IN RANGE OF 1200 - 1600°F WHICH IS IN PROPER RANGE TO CONVERT SULFUR COMPOUNDS TO SO_2 AND CO TO CO_2. THIS WILL MEET REQUIREMENTS OF RULES 53.2 AND 71. DURING NORMAL OPERATION THE ACTUAL QUANTITY

OF SULFUR COMPOUNDS REQUIRED TO BE BURNED TO SO_2 ARE FAR LESS IN THE TREATED GAS FROM THE SCOT UNIT THAN WAS PREVIOUSLY BURNED WHEN UNTREATED TAIL GAS FROM THE SMALL SULFUR RECOVERY UNIT WAS HANDLED BY THE INCINERATOR. THE TOTAL VOLUME OF GASES TO THE INCINERATOR WILL BE GREATER, HOWEVER. THE NEW BURNER, IMPROVED CONTROLS AND TALLER STACK SHOULD PROVIDE RELIABLE AND STABLE COMBUSTION CONDITIONS AND ASSURE COMPLIANCE WITH APCD RULES AND REGULATIONS.

IV CHECKING LIST

1) CALCULATIONS:

a) CHECK INCINERATOR DESIGN TO HANDLE LARGE NO. 2 CLAUS PLANT TAIL GAS IF SCOT TAIL GAS UNIT HAS EMERGENCY SHUTDOWN. THIS REPRESENTS LARGEST SULFUR COMPOUND SURGE TO INCINERATOR.

b) CHECK MAXIMUM GROUND LEVEL CONCENTRATION OF SO_2 IN a) ABOVE

2) FIELD INSPECTION

a) VERIFY WASTE GAS STREAMS BURNED IN INCINERATOR AND OPERATING CONDITIONS.

b) CHECK FOR ODOR AND OPACITY

c) AS PART OF S/T TO BE SCHEDULED FOR SCOT TAIL GAS UNIT VERIFY CONDITIONS THAT MUST BE ESTABLISHED FOR INCINERATOR - TEMPERATURE AND EXCESS AIR.

V CALCULATIONS

IF LARGE NO. 2 SULFUR RECOVERY UNIT IS OPERATING AT CURRENT MAXIMUM POSSIBLE LOAD (~25 LT/DAY) AND TAIL GAS DIVERTED TO INCINERATOR DUE TO EMERGENCY SHUTDOWN TAIL GAS UNIT, PER MATERIAL BALANCE APP. NO. A-75171 THE GAS RATE TO THE INCINERATOR WOULD BE 7312 lb/HR (MW ≈ 29) CONTAINING 396 lb/HR SULFUR COMPOUNDS AS SO_2.

16-500118

AIR POLLUTION CONTROL DISTRICT - COUNTY OF LOS ANGELES

ENGINEERING DIVISION
APPLICATION PROCESSING AND CALCULATIONS

PAGES	PAGE
6	4
APPL. NO. C-02396	DATE 12-12-75
PROCESSED BY [illegible]	CHECKED BY

FUEL GAS REQUIRED TO HEAT TAIL GAS TO 1500°F WITH 25% EXCESS AIR (ASSUME PROPERTIES OF AIR FOR TAIL GAS)

	TAIL GAS (T)	COMBUSTION AIR (C)
ENTHALPY @ 1500°F, BTU/SCF	28.24	28.24
ENTHALPY @ 105°F, BTU/SCF	0.83	
ENTHALPY @ 40°F (MINIMUM)		0
Δ ENTHALPY	27.41	28.24

NOTE: NEGLECT RELATIVELY SMALL AMOUNT SULFUR STORAGE PIT VENTS TO INCINERATOR

FUEL GAS REQUIRED (F):

$$F \frac{SCF}{HR} \times 958 \frac{BTU}{SCF} = T \frac{SCF}{HR} \times 27.41 \frac{BTU}{SCF} + C \frac{SCF}{HR} \times 28.24 \frac{BTU}{SCF} + (\text{HEAT OF H}_2\text{O VAPORIZATION})$$

$$T = \frac{7312 \text{ lb/HR}}{29 \text{ lb/MOL}} \times 379 \frac{SCF}{MOL} = 95{,}600 \text{ SCF/HR}$$

$$C = \frac{10.36 \text{ CF AIR (THEOR)}}{\text{FUEL GAS (F)}} \times 1.25 (\text{EXCESS AIR } 25\%) = \frac{12.95 \text{ CF AIR}}{\text{CF FUEL GAS (F)}}$$

$$F \times 958 = 95{,}600 \times 27.41 + 12.95 F \times 28.24$$

$$958 F = 2{,}620{,}000 + 366 F$$

$$592 F = 2{,}620{,}000$$

$$F = \underline{4{,}430 \text{ SCFH}} \text{ NATURAL GAS}$$

TOTAL HEAT RELEASE = $4{,}430 \text{ SCFH} \times 958 \frac{BTU}{SCF} = \underline{4{,}250{,}000 \text{ BTU/HR}}$

BURNER DESIGNED FOR HEAT RELEASE OF 10,000,000 BTU/HR MAXIMUM SO THIS WILL BE NO PROBLEM.

RESIDENCE TIME IN COMBUSTION CHAMBER:

DIMENSIONS: 5'-0" I.D. × 16' H = 315 CU. FT.

$$\text{TOTAL GASES} = 95{,}600 \frac{SCF}{HR} + \left(4{,}430 \frac{SCF}{\text{FUEL GAS}} \times \frac{14.1 \text{ SCF COMB. PROD}}{\text{SCF FUEL GAS}}\right)$$

$$= 95{,}600 + 64{,}700 = 160{,}300 \text{ SCFH}$$

$$\text{ACTUAL CF} = 160{,}300 \times \frac{1960°R}{520°R} = 615{,}000 \text{ CFH}$$

$$\text{RESIDENCE TIME} = \frac{315 \text{ CF} \times 3600 \frac{SEC}{HR}}{615{,}000 \text{ CF/HR}} = \underline{1.85 \text{ SECONDS}} \quad \text{OK}$$

0.3 TO 0.5 SECONDS NORMALLY CONSIDERED SUFFICIENT TO OXIDIZE CONTAMINANTS.

MAXIMUM GROUND LEVEL CONCENTRATION SO_2

$$C_{MAX} = \frac{(813{,}000)M}{V H^2 (MW)}$$

WHERE: C = GROUND LEVEL CONCENTRATION, ppm (v)
M = EMISSION RATE, TONS/DAY
V = WIND SPEED, MPH
H = EFFECTIVE STACK HEIGHT, FT
MW = MOLE WT. POLLUTANT GAS

M = 396 lb/HR = 4.75 TONS/DAY
V = 5 MPH (AVERAGE)
MW = 64
H = 150' + PLUME RISE (Δh)

$$\Delta h = \frac{\left(d^2 V_s \frac{T_s - T_a}{T_s}\right)^{0.75}}{U}$$

WHERE Δh = PLUME RISE, FT
U = WIND SPEED, MPH
d = STACK DIAM., FT
V_s = STACK VELOCITY, FT/MIN
T_a = AMBIENT AIR TEMP., °R
T_s = STACK GAS TEMP., °R
AND WHERE $d^2 V_s \frac{T_s - T_a}{T_s} < 40{,}000$

U = 5 MPH
d = 4 FT
T_a = 62°F + 460 = 522°R
T_s = 1050°F + 460 = 1510°R

$$V_s = \frac{160{,}300 \frac{SCF}{HR} \times \frac{1 HR}{60 MIN} \times \frac{1510°R}{520°R}}{\frac{\pi \times 4 \times 4 \ FT^2}{4}} = \frac{7750 C.F.M.}{12.6 \ FT^2} = 615 \ FT/MIN$$

$$\Delta h = \frac{\left(4 \times 4 \times 615 \times \frac{1510 - 522}{1510}\right)^{0.75}}{5} = \frac{(6440)^{.75}}{5} = \frac{720}{5} = 144 \ FT.$$

H = 150 + 144 = 294 FT.

$$C_{MAX} = \frac{813{,}000 \times 4.75}{5 \times (294)^2 \times 64} = 0.14 \ ppm \ SO_2$$

WELL BELOW STATE AMBIENT AIR 1 HR STANDARD OF 0.5 ppm. SHOULD NOT CAUSE ANY NUISANCE PROBLEMS. SINCE THRESHOLD ODOR LEVEL SO_2 IS 0.47 ppm.

VI CONCLUSIONS AND RECOMMENDATIONS

THE INCINERATOR APPEARS TO BE CAPABLE OF HANDLING ANY POTENTIAL VENT GAS LOADS AND OXIDIZING ANY CONTAMINANTS. THE NEW HIGH STACK SHOULD HELP AVOID GROUND LEVEL CONCENTRATIONS OF STACK GAS CONTAMINANTS THAT COULD CAUSE A NUISANCE (ODOR) PROBLEM. RECOMMEND ISSUANCE OF AN A/C SUBJECT TO FOLLOWING CONDITIONS:

1) A MINIMUM TEMPERATURE OF 1200°F MUST BE MAINTAINED IN THE INCINERATOR BREECHING.
2) TWO ACCESSIBLE PITOT TUBE TRAVERSE AND SAMPLE POINTS 2 1/2 INCHES IN DIAMETER INSTALLED AT 90° IN THE STRAIGHT VERTICAL SECTION OF STACK AT LEAST SIX PIPE DIAMETERS DOWNSTREAM OF HORIZONTAL DUCT INTERSECTION.

REVISIONS TO SULFUR RECOVERY UNIT INCINERATOR
COVERED BY OPERATING PERMIT P-25917

RECEIVED
'75 NOV 20 PM 1:0
AIR POLLUTION CONTROL DISTRICT

PROCESS DESCRIPTION

The following revisions will be made to the existing incinerator:

1. A new free-standing stack located east of the existing incinerator. The new stack will be 4'-0" O.D. by 150' high to provide sufficient draft in the firebox.

2. A new burner and dual burner Fireyes. The Fireyes will be installed in parallel so that both must fail to detect a flame before the unit is shut down.

3. A new temperature control valve on the fuel gas line to the burner to control firebox temperature.

4. High and low temperature alarms in the incinerator firebox and a high temperature shut down switch to protect the equipment.

5. A new draft indicator at the burner level in the firebox.

6. Both the fuel gas and the pilot gas lines to the burner will have two Maxon manual reset safety shut off solenoid valves with a vent valve. This will shut off fuel gas feeds as part of the automatic shutdown. A new steam line is also provided to add steam to the firebox upon automatic shutdown.

7. Flame arrestors will be installed on both the combined acid gas feed to the burner and the vent line from the sulfur pit. By-passes will be provided on the flame arrestors in case of plugging.

8. A new pilot gas line with pressure control valve will be installed to insure continuous pilot operation except during automatic shutdown.

These revisions will, in general, result in improved combustion in the incinerator due to increased indication and control of the process variables. Also, the burner management will shut down the unit when an unsafe situation occurs.

The primary feed to the incinerator will be tail gas from the SCOT unit. Start up lines for warming up the No. 1 and No. 2 SRU's are also tied in to the incinerator feed line. These lines tie in to a common header which is sloped to the incinerator to prevent accumulation of condensate in the line to the burner. New valves are required on each line before it enters the header. A flame arrestor is provided to prevent ignition in the line ahead of the burner. The vent line from the sulfur pit will continue to go to the firebox, and a new flame arrestor will also be provided on this line.

The maximum load case for the incinerator occurs with the No. 1 SRU operating at 6 LT/D while warming up the No. 2 SRU. This results in a

REVISIONS TO SULFUR RECOVERY UNIT INCINERATOR
COVERED BY OPERATING PERMIT P-25917

PROCESS DESCRIPTION - continued

heat release of 10 MBTU/HR. with 25% excess air and a firebox temperature of 1600°F. The firebox temperature will be controlled by a local TRC on the fuel gas line to the burner. This will make it necessary for the operator to see the incinerator operation before a temperature adjustment is made. Local flow indicators are also provided on the fuel gas line. The excess air to the burner will be controlled by manually adjusting the air register on the burner. A portable oxygen analyzer will be used to determine the percent O_2 in the stack.

The new burner management feature will result in automatic incinerator shutdown under two conditions. The first of these conditions is burner flame-out. Dual burner Fireyes will be installed 90° from each other to scan the burner flame. The Fireyes will be installed in parallel so that mechanical failure of one Fireye will not result in shutdown. A constant instrument air purge is required to keep the sight windows clean on the Fireyes. Automatic shutdown will occur only if both Fireyes fail to detect a flame.

The second shutdown condition occurs with high firebox temperature. The normal operating temperature range of the firebox will be 1200°F-1600°F. Shutdown will occur at a firebox temperature of 2300°F. High and low temperature alarms are provided for the firebox with a temperature indication on the control panel.

When the burner management receives a shutdown signal, it will automatically shut off the fuel gas feed to the burner. This will be done by the installation of two Maxon manual reset safety shut off solenoid valves with a vent valve on the fuel gas line. The same equipment will be installed on the pilot gas line to the burners. After the fuel gas feeds are shut off, an automatic valve will open, putting purge steam into the firebox.

WORK LIST
(REFERENCE DRAWING SD-2336-42-15-C)

1. Install a new free-standing stack 4'-0" x 150'-0" high, east of the existing incinerator.

2. Cut the existing stack at the base and install ductwork from this point to the new stack.

3. Install a new 14" line to collect the incinerator feeds and slope this line to the burner. Install new valves on each feed line before it ties into the header.

4. Install flame arrestors with by-passes in the acid gas feedline and the vent line from the sulfur pit.

5. Install a new burner and dual burner Fireyes 90° apart with parallel instrumentation.

6. Install a new 1" instrument air line to purge the sight windows on the Fireyes, and provide air to the ignitor.

7. Install a new 1" fuel gas line with TRC-2, FI-1, and FI-2 as shown.

8. Install a new 1/2" pilot gas line to the burner with PC-2 as shown.

9. Install dual Maxon, manual reset, safety shut-off solenoid valves with vent valve on the fuel gas and the pilot gas lines to the burners.

10. Install a 1-1/2" steam line with automatic valve to inject steam at the bottom of the firebox.

11. Install a draft indicator at the centerline of the burner on the firebox.

12. Install 3/4" sample connections at the top of the firebox and the top of the stack.

13. Install a firebox temperature indicator with high and low temperature alarms and a high temperature shut-down switch.

INCINERATOR SPECIFICATIONS
PROPOSED HYDROPROCESSING REVISIONS
PARAMOUNT REFINERY

General Description:

One naturally aspirated, gas fired, refractory lined, waste gas thermal oxidizer. Existing firebox will be used, and a new free-standing stack, 4'0" OD by 150'-0" high will be installed. The top 3 ft. of the stack is to be stainless steel to ASTM-240 in 321 or 327 SS.

Site Conditions:

Plant Elevation	78.64 ft.
Ambient Pressure	14.7 psia
Design Temperature	40° F./110° F.
Earthquake Zone	3
Wind	Conoco Standard R-1

Conditions of Service:

Inlet Temperature 105° F

Comp.	Moles/Day
N_2	7572.5
CO_2	483.4
H_2S	0.5
H_2O	1480.9
O_2	880.1
H_2	28.0
Total Flow	10445.3

Fuel Gas:

Normal Fuel Gas Analysis

Natural Gas	Mole %
Nitrogen	1.2
Carbon Dioxide	0.4
Methane	91.9
Ethane	4.9
Propane	1.2
i-Butane	0.3
n-Butane	0.1

Normal Operating Temperature - 1200° F.
LHV 958/BTU/ft.^{3}
Exit Gas Temperature - 1050° F. (estimated)

EQUIPMENT

The thermal oxidizer consists of a single burner, vertical incinerator, 6'-0" in diameter. The existing incinerator firebox will be used. The existing stack will be dismantled and ductwork installed from the top of the incinerator to a new free-standing stack. This new stack will be 4'-0" OD x 150' high.

STACK

The stack is to be made of A-283C and will be refractory lined with a 2300° F. maximum recommended service temperature. However, maximum service temperature in the stack will be 1800° F. Design skin temperature will be 380° F.

The following vendor supplied items apply to the stack and incinerator.

a. Thermowell connections are 1" NPT.
b. 2-3/4" flanged sample connections.
c. Platform at 16' 0" level on incinerator with caged ladder to ground level. The platform level corresponds to the top of the incinerator where ductwork to the new stack begins. The ladder and platform are to be OSHA standards.
d. 24" ID bolted access door.
e. Stack to be shop assembled for installation of fit up lugs and each section to have lifting lugs.
f. 1-4", 150# flanged connection for sulfur pit vent (to existing firebox-negative pressure zone).
g. 1-1/2" flanged connections for draft indication at burner level.
h. 1-1½", 150#, flanged connection at bottom of firebox for steam purge.
i. All external carbon steel surfaces will be sandblasted and painted per Conoco STD P-1.

BURNER

The burner will have the following features:

a. Natural Draft
b. Continuous gas pilot with electric ignitor.
c. Burner to be shop assembled including burner tile.
d. A burner muffler is to be supplied per Conoco STD K-7, 7.1, 7.2, or 7.3.

The tail gas will enter the burner through a plenum with a 14" OD flanged nozzle. Refractory is to be formed on the bottom 1/3 of the plenum for routing condensate which may collect at this point to the oxidizer. The incoming plenum will be sloped toward the burner.

REFRACTORY

The entire unit is to be lined with refractory having a maximum service temperature of 2300° F. All refractory will be shop installed by vendor except for those areas one foot on either side of the field weld connections. The refractory for lining these areas will be supplied by the vendor for field installation by others.

CONTROLS AND INSTRUMENTATION

A flame safeguard and high temperature protection system for fuel gas operation will be included with the following components:

* a. Two Fireye Model 1005 Type 450VS flame scanners.
* b. Two Fireye Model 4013 Type 25SU5 relays each with local alarm.
  c. Ignition transformer.
  d. Two Maxon manual reset safety shut-off solenoid valves with one vent valve on fuel gas and pilot gas.
  e. Ashcraft pressure gauges.

* The Fireye and relay shall be wired in parallel such that failure of one will not shut down unit.

PACIFIC OASIS

....CONTINUED

PERMIT NO(S)	APPLICATION NO(S)
M 32863	104277
M 32864	104278
M 32865	104279
M 32866	104280
M 32867	104281
M 32868	104282
M 32869	104283
M 32870	104284
M 32871	104287
M 32872	104289
M 32873	104291
M 32874	104292
M 32875	104293
M 32876	104294
M 32877	104295
M 32878	104296
M 32879	104297
M 32880	104298
M 32881	104300
M 32882	104301
M 32883	104302
M 32884	104303
M 32885	104304
M 32886	104305
M 32887	104306
M 32888	104307
M 32889	104308
M 32890	104310
M 32891	104328
M 32892	104329
M 32893	104330
M 32894	104331
M 32895	104334*
M 32896	104335*
M 32897	104336*
M 32898	104337*
M 32899	104318
M 32900	104319
M 33101	104320
M 33102	104321
M 33103	104322
M 33104	104323
M 33105	104324
M 33106	104325
M 33107	104327
M 33108	104311
M 33109	104312
M 33110	104313
M 33111	104314
M 33112	104315
M 33113	104316
M 33114	104317

*EQUIPMENT LOCATED AT 2922 E. SOUTH ST., LONG BEACH

Three white copies must be submitted.
Yellow copy should be retained by applicant.

AIR POLLUTION CONTROL DISTRICT - COUNTY OF LOS ANGELES
434 SOUTH SAN PEDRO STREET, LOS ANGELES, CALIF. 90013 MADISON 9-4711

APPLICATION FOR AUTHORITY TO CONSTRUCT AND PERMIT TO OPERATE

APPLICATION INSTRUCTIONS

A. USE ONE APPLICATION FORM 400-A FOR EACH PERMIT UNIT OF BASIC EQUIPMENT AND ONE APPLICATION FORM 400-A FOR EACH PERMIT UNIT OF AIR POLLUTION CONTROL EQUIPMENT. CALL MA 9-4711, EXT. 60365 FOR ASSISTANCE.

B. A $40 FILING FEE MUST ACCOMPANY EACH APPLICATION. (A $10 FILING FEE WILL BE ACCEPTED FOR A CHANGE OF OWNERSHIP APPLICATION WHERE NO ALTERATION, ADDITION OR CHANGE OF LOCATION HAS OCCURRED.) THE TOTAL PERMIT FEE, WHICH MAY EXCEED THE $40 FILING FEE, MUST BE PAID BEFORE PERMIT TO OPERATE CAN BE GRANTED. MAKE CHECK OR MONEY ORDER PAYABLE TO: AIR POLLUTION CONTROL DISTRICT, COUNTY OF LOS ANGELES.

C. EACH APPLICATION MUST BE FILLED OUT COMPLETELY AND FILED IN TRIPLICATE. ACCOMPANYING PLANS MUST BE IN DUPLICATE.

D. EACH APPLICATION MUST BE SIGNED BY A RESPONSIBLE MEMBER OF THE ORGANIZATION THAT IS TO OPERATE THE EQUIPMENT.

INCOMPLETE APPLICATIONS NOT ACCEPTABLE

1A. PERMIT TO BE ISSUED TO:
Douglas Oil Company of California
BUSINESS LICENSE NAME OF ORGANIZATION THAT IS TO RECEIVE PERMIT

1B. Douglas Oil Company of California
NAME (OR NAMES) OF OWNER OR PRINCIPAL PARTNERS DOING BUSINESS AS (dba) ABOVE ORGANIZATION

2A. MAILING ADDRESS: 14708 Downey Ave. (NUMBER, STREET) Paramount, CA (CITY OR COMMUNITY, STATE)

2B. 90723 (ZIP CODE)

3A. EQUIPMENT LOCATION ADDRESS: 14708 Downey Ave. (NUMBER, STREET) Paramount, CA (CITY OR COMMUNITY, ZIP CODE)

3B. Compton Blvd. (NEAREST INTERSECTING STREET)

4. EQUIPMENT DESCRIPTION.
APPLICATION IS HEREBY MADE FOR AUTHORITY TO CONSTRUCT AND PERMIT TO OPERATE THE FOLLOWING EQUIPMENT:

The tail gas incinerator, covered by Sulfur Recovery Plant Permit P-25917, will be altered according to the attachments.

5. IF THIS EQUIPMENT HAD A PREVIOUS WRITTEN PERMIT, STATE NAME OF CORPORATION, COMPANY, OR INDIVIDUAL OWNER THAT OPERATED THIS EQUIPMENT, AND STATE PREVIOUS AIR POLLUTION CONTROL DISTRICT PERMIT NUMBER.
Sulfur Recovery Plant (NAME) P-25917 (PREVIOUS PERMIT NUMBER)

6. PERMIT APPLICATION REASON: 16
- NEW CONSTRUCTION [ ] 1
- ALTERATION [X] 2
- CHANGE OF LOCATION [ ] 3
- CHANGE OF OWNERSHIP [ ] 4

7. TYPE OF ORGANIZATION: 17
- CORPORATION [X] 1
- PARTNERSHIP [ ] 2
- INDIVIDUAL OWNER [ ] 3
- GOV'T. AGENCY [ ] 4

8. ESTIMATED COST OF EQUIPMENT OR ALTERATION:
AIR POLLUTION CONTROL EQUIPMENT $ ____ BASIC EQUIPMENT $ ____

9. FOR THE NEW CONSTRUCTION, ALTERATION, TRANSFER OF OWNERSHIP OR LOCATION, WHAT IS THE ESTIMATED STARTING DATE? Jan. 1, 1976 ESTIMATED COMPLETION DATE? Jan. 1, 1977

10. GENERAL NATURE OF BUSINESS:
Petroleum Refinery

11. SIGNATURE OF RESPONSIBLE MEMBER OF ORGANIZATION: Joseph J. Lusardi

12. OFFICIAL TITLE OF SIGNER: Senior Engineer

13. TYPED OR PRINTED NAME OF SIGNER: Joseph J. Lusardi

14. DATE: Nov. 13, 1975

15. PHONE NUMBER: 213/531-2060

APCD USE ONLY

ST. LIST NO. 2-6	I.D. NO.: 7-14 CB4523	ALPHA LIST: 71-78	TS NO.: 79-80	CLASS: 18 [X] 1 [ ] 2 [ ] 3
ASSIGNMENT: 19-20 6 (UNIT, ENGR.)	WORK UNITS: 21-24 (A/C, P/O)	APPLICATION NO.: 31-36 02396	EQUIP. CAT. NO.: 38-45	TYPE: 46 B OR C
VALIDATION 25-29 (11:) 75				

FORM 400-A 5005 76A795B

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

ANNUAL PERMIT - BILLING CHANGE REQUEST

Card Col.	ITEM	ENTRIES
	BUSINESS NAME OF FIRM	Douglas Oil Co. of Calif.
20-26	EQUIPMENT RATING	0 0 1 0 0 0 0
27-30	BILLING DATE	_ _ _ _ YYMM
31-36	APPL. NO.	C 0 2 5 2 6
47-52	PERMIT NO.	M 6 3 6 9 5
56-57	FEE SCHED. & STEP	SCHEDULE 2 STEP 6
68-73	P/O DATE	MONTH 0 4 DAY 2 7 YEAR 7 8

SIGNED OFF BY:

ENGINEERING Thrash DATE 7-12-79

ANNUAL RENEWALS [illegible] COUNTERSIGNED _____

572-6321

April 27, 1978

Appl. Nos. C-02396, C-02392
SECTOR CB

DOUGLAS OIL COMPANY OF CALIFORNIA
14708 Downey Avenue
Paramount, CA 90723

Attention: Mr. Joseph J. Lusardi
SENIOR ENGINEER

Gentlemen:
Transmitted herewith are the following permits authorizing you to operate the described equipment:

Permit No.	Application No.	Equipment Description
M-03695	C-02396	WASTE GAS INCINERATOR (H-402)
M-03696	C-02392	SULFUR-RECOVERY UNIT NO. 2

Rule 206. A person granted a permit under Rule 203 shall not operate or use any equipment unless the entire permit to operate or a legible facsimile of the entire permit is affixed upon the equipment in such a manner that the permit number, equipment description, and the specified operating conditions are clearly visible and accessible. In the event that the equipment is so constructed that the permit to operate or the legible facsimile cannot be so placed, the entire permit to operate or the legible facsimile of the entire permit shall be mounted so as to be clearly visible in an accessible place within 8 meters (26 feet) of the equipment or as otherwise approved by the Air Pollution Control Officer.

These permits are being issued covering your application on file at the Air Quality Management District.

Very truly yours,

Eric E. Lemke
Chief Deputy APCO
Metropolitan Zone

EEL:HT:la
Encs.

Helen Thompson, Permit Section

Rev. 1/77 30D170

YOUR INVOICE NUMBER			CHECK DATE	NET AMOUNT
03-467	[illegible]		40179	125000
			TOTAL ▶	125000

DOUGLAS OIL COMPANY OF CALIFORNIA 26259

South Coast
AIR QUALITY MANAGEMENT DISTRICT
METROPOLITAN ZONE
9150 FLAIR DRIVE, EL MONTE, CALIFORNIA 91731 • (213) 572-6321

March 23, 1978

DOUGLAS OIL COMPANY OF CALIFORNIA
14708 Downey Avenue
Paramount, CA 90723

Request For Fee Due

Attention: Mr. Joseph J. Lusardi
SENIOR ENGINEER

Gentlemen:

Please refer to your application for permit to operate the equipment described on the attached page(s). This equipment has been inspected and found to be operating satisfactorily. If it has been determined that a conditional permit is necessary (under Rule 203), the conditions are so listed with the description. If not so listed, conditions are not required.

Pursuant to Rule 301 of the District Rules, adopted on January 7, 1977, an applicant is required to pay a fee for filing and a fee for a permit to operate.

Permits to operate are valid only for one year. All permits to operate are renewable one year after the date of issuance. On the anniversary of the date of issuance of your permit to operate, you will be notified by mail of the annual permit renewal fee due and payable.

The permit fee due at this time is shown in the last column of table below. Upon receipt of the amount indicated, your permit(s) to operate will be issued. NON-PAYMENT OF THE FEE BY APRIL 24, 1978 WILL RESULT IN THE AUTOMATIC CANCELLATION OF THIS APPLICATION AND THE LOSS OF THE FILING FEE. For further information, please call 572-6322.

Appl. No.	Fee Schedule	Rating	Permit Fee Due
C-02396	2	-	$550.00
C-02392	1	250.H.P.	700.00
		TOTAL FEE DUE:	$1,250.00

Very Truly Yours,
Eric E. Lemke
Chief Deputy APCO
Metropolitan Zone

EEL:HT:la
Enclosures

Helen Thompson, Permit Section

30D2 Rev. 1/78

ALPHA

ROUTING RECORD

DATE	FROM	TO	ACTION
11/26/75	[illegible]	Haw	I
[illegible] 75	Haw	P/S	P/C [illegible]
11-10-77	Haw	P/S	P/C
NOV 17 1977	[illegible]	P/S	P/O
3/[illegible]/83	Haw	[illegible]	[illegible] C/O
4/18/83	RAA	P/S	P/O
4/19/83	Haw	P/S	P/O (C/O)

REFERENCE TO OTHER AFCD RECORDS [illegible]

☐ P/C - 213 ENTRY

☐ P/O - 213 ENTRY [illegible] 4/28/83

☒ P/C - EIS ENTRY

■ P/O - EIS ENTRY

AP 104012

02396

PACIFIC OASIS PARAMOUNT PPL LANDFILL 10
INCINERATOR, H-402
PET. [illegible]

SOUTH COAST AIR QUAL. MANAGEMENT DISTRICT

PERMIT to OPERATE

9150 FLAIR DRIVE, EL MONTE, CALIFORNIA 91731

PERMIT NO.
R-M 32812

[illegible] This permit must be conducted in compliance with all information included with the initial application and the initial permit conditions. The equipment must be properly maintained and kept in good operating condition at all times. In accordance with Rule 206, this Permit to Operate or copy must be posted on or within 8 meters of equipment.

LEGAL OWNER OR OPERATOR: PARAMOUNT PETROLEUM CORPORATION

EQUIPMENT LOCATED AT: 14708 DOWNEY AVENUE
PARAMOUNT, CALIFORNIA

APPL. NO. 104012
PREVIOUS PERMIT NO. M 03695

EQUIPMENT DESCRIPTION AND CONDITIONS:

WASTE GAS INCINERATOR (H-40Z), JOHN ZINK VERTICAL TYPE, 6'-0" DIA. X 16'-0" H., WITH ONE JOHN ZINK DB-24-82 GAS BURNER, NATURAL DRAFT, WITH A 4'-0" DIA. X 150'-0" H. STACK.

AND SERVING

- TAIL-GAS TREATING UNIT
- SULFUR STORAGE PIT
- LEAN AMINE SURGE DRUM D-213
- EMERGENCY VENTS FROM SULFUR RECOVERY UNITS NO. 1 AND NO. 2
- SOUR WATER STRIPPER

FILE COPY

PAGE 1 OF 2 PAGES

This initial permit must be renewed by 12/01/84 unless the equipment is moved, or changes ownership. If billing for annual renewal fee (Rule 301.f) not received by expiration date, contact office above.

This permit does not authorize the emission of air contaminants in excess of those allowed by Division 26 of the Health and Safety Code of the State of California or the Rules of the Air Quality Management District. This permit cannot be considered as permission to violate existing laws, ordinances, regulations or statutes of other government agencies.

EXECUTIVE OFFICER

BY VIRGINIA MOY

DATE 04/27/84

SOUTH COAST AIR QUALITY ; ANAGEMENT DISTRICT

R-M 32812

VARIGATION OF PERMIT NO.
(MUST BE DISPLAYED WITH PERMIT)

APPL. NO. 104012

-CONDITIONS-

1. THE INCINERATOR MUST BE OPERATED WITH A MINIMUM OF 20 PERCENT EXCESS AIR.

2. A MINIMUM TEMPERATURE OF 1200°F MUST BE MAINTAINED IN THE INCINERATOR BREECHING.

** PERMIT NO. R-M 32812 SUPERSEDES PERMIT NO. M 32812 ISSUED 09/16/83 **

FILE COPY

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

PERMIT to OPERATE

9150 FLAIR DRIVE, EL MONTE, CALIFORNIA 91731

M 32812

This permit must be conducted in compliance with all information included with the initial application and the initial permit conditions. The equipment must be properly maintained and kept in good operating condition at all times. In accordance with Rule 206, this Permit to Operate or copy must be posted on or within 8 meters of equipment.

LEGAL OWNER OR OPERATOR: PACIFIC OASIS
14708 DOWNEY AVENUE
PARAMOUNT, CALIFORNIA

EQUIPMENT LOCATED AT:

APPL. NO. 104012
PREVIOUS PERMIT NO. M 03695

EQUIPMENT DESCRIPTION AND CONDITIONS:

WASTE GAS INCINERATOR (H-40Z), JOHN ZINK VERTICAL TYPE, 6'-0" DIA. X 16'-0" H., WITH ONE JOHN ZINK DB-24-82 GAS BURNER, NATURAL DRAFT, WITH A 4'-0" DIA. X 150'-0" H. STACK.

AND SERVING
- TAIL-GAS TREATING UNIT
- SULFUR STORAGE PIT
- LEAN AMINE SURGE DRUM D-213
- EMERGENCY VENTS FROM SULFUR RECOVERY UNITS NO. 1 AND NO. 2
- SOUR WATER STRIPPER

PAGE 1 OF 2 PAGES

This initial permit must be renewed by 12/01/83 unless the equipment is moved, or changes ownership. If billing for annual renewal fee (Rule 301.I) not received by expiration date, contact office above.

This permit does not authorize the emission of air contaminants in excess of those allowed by Section 26 of the Health and Safety Code of the State of California or the Rules of the Air Quality Management District. This permit cannot be considered as permission to violate existing laws, ordinances, regulations or statutes of other government agencies.

XXXXXXXXXX

VOID UNLESS VALIDATED

EXECUTIVE OFFICER

BY VIRGINIA MOY

DATE 09/16/83

7AP235M-REV. 2-81

APPLICATION FOR PERMIT TO CONSTRUCT AND PERMIT TO OPERATE

PLEASE TYPE OR PRINT

SCAQMD USE: 2-3 | 4-5 | 6-12 037368 (SEC / YR / ID NUMBER)

1A. PERMIT TO BE ISSUED TO: Pacific Oasis
BUSINESS LICENSE NAME OF ORGANIZATION THAT IS TO RECEIVE PERMIT

1B. Same as 1A
NAME (OR NAMES) OF OWNER OR PRINCIPAL PARTNERS DOING BUSINESS IN (USA) ABOVE ORGANIZATION

2A. MAILING ADDRESS: 14708 Downey Ave. (NUMBER, STREET) Paramount (CITY OR COMMUNITY) Ca (STATE)

2B. 90723 (ZIP CODE)

3A. EQUIPMENT LOCATION (IF SAME ENTER "SAME"): same (NUMBER, STREET, CITY OR COMMUNITY, ZIP CODE)

3B. Compton Blvd. (NEAREST INTERSECTING STREET)

4A. CONTACT PERSON (INITIALS & NAME): R.T. Weaver

4B. CONTACT PHONE NO. (AREA & NO.): (213) 531-2060

5. EQUIPMENT: APPLICATION IS HEREBY MADE FOR PERMIT TO CONSTRUCT AND PERMIT TO OPERATE THE FOLLOWING EQUIPMENT:

Incineration, CONT Equipment, Direct Flame
H-402 (SCOT Incinerator)

5B. PRIMARY AIR POLLUTION CONTROL EQUIP.

5C. SECONDARY AIR POLLUTION CONTROL EQUIP.

5D. BOILER OPERATING CAPACITY _____ (THOUSANDS OF BTU/HR.) % BOILER STEAM USED FOR SPACE HEAT _____

6. IF THIS EQUIPMENT HAD A PREVIOUS WRITTEN PERMIT, STATE NAME OF CORPORATION, COMPANY, OR INDIVIDUAL OWNER THAT OPERATED THIS EQUIPMENT, AND STATE PREVIOUS AIR POLLUTION CONTROL DISTRICT PERMIT NUMBER.

Douglas Oil Company of California (NAME) M03695 (PREVIOUS PERMIT NUMBER)

DC-6 C02396

7. PERMIT APPLICATION: 23 NEW CONSTRUCTION ☐ 1; ALTERATION ☐ 2; CHANGE OF LOCATION ☐ 3; CHANGE OF OWNERSHIP ☒ 4

8. TYPE OF ORGANIZATION: 25 CORPORATION ☒ 1; PARTNERSHIP ☒ 2; INDIVIDUAL OWNER ☐ 3; LOCAL GOV'T. AGENCY ☐ 4; STATE AGENCY ☐ 5; FEDERAL AGENCY ☐ 6; UTILITY ☐ 7

9. NO. OF EMPLOYEES AT THIS LOCATION: 120 (15-18)

10. AREA OF: 6 . 0 (ACRES TO TENTHS)

11. ESTIMATED COST OF EQUIPMENT OR ALTERATION: BASIC EQUIPMENT $ _____ (25-31); AIR POLLUTION CONTROL EQUIPMENT $ _____ (32-38); ANNUAL MAINTENANCE COST OF CONTROL EQUIPMENT $ _____ (39-45)

12. FOR THE NEW CONSTRUCTION, ALTERATION, TRANSFER OF OWNERSHIP OR LOCATION, WHAT IS ESTIMATED STARTING DATE? Dec. 15, 1982 ESTIMATED COMPLETION DATE? _____

13. GENERAL NATURE OF BUSINESS: Petroleum Refining

14. PRINCIPAL PRODUCT: Petroleum (46-55)

15. % ANNUAL THROUGHPUT BY QUARTERS:

DEC-FEB	MAR-MAY	JUN-AUG	SEP-NOV
25 %	25 %	25 %	25 %
56-57	58-59	60-61	62-63

16A. DO YOU CLAIM CONFIDENTIALITY OF DATA? YES ☐ % NO ☒ % IF YES, STATE NATURE OF DATA IN ITEM 23.

16. NORMAL OPERATING HOURS OF SUBJECT EQUIPMENT: HOURS/DAY 24; DAYS/WEEK 7; WEEKS/YEAR 52 (65-70)

17. SIGNATURE OF RESPONSIBLE MEMBER OF ORGANIZATION: R T Weaver

18. OFFICIAL TITLE OF SIGNER: Environmental Manager

19. TYPED OR PRINTED NAME OF SIGNER: R.T. Weaver

20. PHONE NO.: (213) 531-2060

21. DATE:

SCAQMD USE ONLY

STATE: 13-14	COUNTY 15-18	MACR 19-20	CITY 21-24	NEDS I.D. NO. 25-28	DATE: 29-33
C.R. 34-36	L.C. 37-38	SIC 39-42	IPP 43-44	ST. LIST NO. 45-49	ALPHA LIST NO. 50-57	EQUIP. CAT. NO. 58-61
APPLICATION NO. 17-18: 104012	PERMIT NO. 19-24	TYPE 25	WORK UNITS 26-29	ASSIGNMENT 30-31	CLASS 32
VALIDATION 33-37	FILING FEE: $ 100	CHECK OR MONEY ORDER NO. 403200	42-49
	PERMIT FEE: $	CHECK OR MONEY ORDER NO.	50-53

Form 400A - REVISED 12-1-76. PRIOR VERSIONS NOT VALID

(Continued on reverse)

11 of 126 - 1

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
M 32812

CONTINUATION OF PERMIT NO. _____
(MUST BE DISPLAYED WITH PERMIT)

-CONDITIONS-

1. THE INCINERATOR MUST BE OPERATED WITH A MINIMUM OF 20 PERCENT EXCESS AIR.

2. A MINIMUM TEMPERATURE OF 1200°F MUST BE MAINTAINED IN THE INCINERATOR BREECHING.

FILE SEGMENT 3

EQUIPMENT AND EMISSION INPUT FORM

NAME OF FIRM: Pacific Oasis LOCATION ADDRESS: 14708 Downey Ave, Paramount

REASON FOR INACTIVATION: 1. ALTERATION 2. CHANGE OF OPERATOR 3. MOVED 4. REMOVED 5. OUT OF BUSINESS

SUBS. APPLICATION NO. _____ INACTIVATION DATE __ __ __

ACTION CODE E D (A C) ACTION CODE: A = ADD C = CHANGE D = DELETE

APPL. NO.	I. D. NO.	PERMIT NO.	P/O DATE MM/DD/YY	BILLING DATE YY/MM	SEDAB L.A. 1 S.B. 2 or RIV. 3	ENF. W.U.
104012	037368	M32812	08/16/83	12/83		

EQUIPMENT RATING	FEE SCHEDULE/STEP	EQ. CATEGORY NO. BASIC	CONTROL	EQUIP. TYPE B (C) D	COST OF EQUIPMENT (x 100)	PER. NO 0 FT. 2	COND. YES 1 (3)
0010000	2/F		05		02100		

OPERATING WEEKS/YR		MON	TUES	WED	THURS	FRI	SAT	SUN
52	EMISSION START	00	00	00	00	00	00	00
	EMISSION STOP	24	24	24	24	24	24	24

POLLUTANTS	RHC	THC	NO_x	SO_2	CO	PART.	OTHER			
R1 (LBS/HR)	000	000	000	000	000	000		---	---	---
R2 (LBS/HR)	000	000	000	000	000	000		---	---	---

CHANGE OF OWNERSHIP

COMPLETED BY Robert A. Antonopolis DATE 4/18/83

EDPEQ 1/81

DOUGLAS OIL COMPANY OF CALIFORNIA 14708 DOWNEY AVE., PARAMOUNT, CA. 90723

COMPANY ADDRESS

EIS/EDP Segment 3 Form

W. 11/21/79, EIL 5/22/80 Card 31

Records Station Only Subs. Appl. No.

Reason for Inactivation: 1. Alteration 2. Change of Operator 3. Moved 4. Removed 5. Out of Business

EDP Application Data

Card Col.	Description	Circle letter or number & insert appropriate data
1	Action to be Taken	(New-E) Change-C Inactivate-D Reactivate-R
4-5	Enf. Work Units	4 5
6-14	Sec. & I.D. No.	Sec. C B 6 7 I.D. 4 5 8 3 8 2 ~~0 7 9~~ 8 9 10 11 12 13 14
18	Class of Appl.	(I-1) III-2
20-26	Equipment Rating	0 0 1 0 0 0 0 20 21 22 23 24 25 26
31-36	Appl. No.	C 0 2 3 9 6 31 32 33 34 35 36
38-46	Eq. Cst. No. & Type	Basic 38 39 40 41 42 43 Control 0 5 44 45 Type B (C) D
47-52	Permit No.	M 0 3 6 9 5 47 48 49 50 51 52
53	Permit Cond.	(Yes-1) No-0
56-57	Fee Sched & Step	Schedule 2 Step No. 6
58-61	P/C Date	Month 1 2 58 59 Year 7 5 60 61
63-66	Inactivation Date	Month 63 64 Year 65 66
67	Disposition	(P/O-1) P/C Denied-2 P/O Denied-3 Cancel-4 P/C 5
68-73	P/O Date	Month 0 5 68 69 Day 2 0 70 71 Year 6 8 72 73
74-78	Cost, Dollars	0 2 1 0 0 74 75 76 77 78 x100

04-27-78

EIS/EDP Segment 3 Form

Card 32

EDP Emission Data (Basic Permit Units & Spray Booths Only)

Card Col.	Description	Circle letter or number & insert appropriate data
1	Action to be taken	New - E Change - C Delete - D
2	Card Code -1	
3-14	Appl. & Permit No.	Appl C 0 2 3 9 6 Permit M 0 3 6 9 5 (15-18) Mon (19-22) Tue (23-26) Wed (27-30) Thu (31-34) Fri (35-38) Sat (39-42) Sun
15-42	Emission Start	
	Emission Stop	
	Air Pollutant	(43-49) Reactive HC (49-54) Total HC (55-60) NO_x (61-66) NO_2 (67-72) CO (73-78) Part.
43-78	Rates R_1 (lbs./hr)	
	R_2 (lbs./hr)	
79-80 1 & 3-14	Usage Factor (same as above)	
2	Card Code-2	(25-33) Other (34-37) Other (38-41) Other (42-50) Other (51-59) Other (60-68) Other (69-71) Other
	Air Pollutant	
15-71	Rates R_1 (lbs./hr)	
	R_2 (lbs./hr)	

By H. A. Whitehead Date 10-26-77

Full Name

60D787

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

ENGINEERING DIVISION - APPLICATION EMISSION DATA SHEET

☐ P/C ☐ Trade-Off - No Application Required DATE: 4/18/83

☒ P/O ☐ Trade-Off - Application Required APPL. NO.: 104012

COMPANY NAME: Pacific Oasis

EQUIPMENT ADDRESS: 14708 Downey Ave, Paramount CA

☐ Regulation XIII Applicable (unit installed or permit to construct issued on or subsequent to 10-8-76).

☒ Regulation XIII Not Applicable (unit installed or permit to construct issued prior to 10-8-76, or previously exempt by Rule 219).

Emission Increase or Decrease From This Permit Unit Credited to This Location:

Contaminant	HC	NO_x	SO_2	CO	Part.	Unr HC
Lbs/Day	0	0	0	0	0	0

COMPLETE FOR TRADE-OFFS ONLY

Emissions Increase or Decrease From This Permit Unit Credited to the Following Location:

Contaminant	HC	NO_x	SO_2	CO	Part.	Unr HC
Lbs/Day						

COMPANY NAME: _____

EQUIPMENT ADDRESS: _____

DO NOT COMPLETE FOR TRADE-OFFS

Reductions Achieved Concurrent With This Application

Appl. No.	HC	NO_x	SO_2	CO	Part.	Unr HC
	#/Day	#/Day	#/Day	#/Day	#/Day	#/Day

Engineer Robert A. Antonopulos

INSTRUCTIONS FOR PERMIT WORDING & FEE DATA

Application No. 104012

DISPOSITION	PERMIT UNIT WORDING:	CONDITIONS:
[X] APPROVED	[ ] BELOW	[ ] NONE
[ ] DENIED	[ ] ON FIELD REPORT DATED ____	[X] NUMBERS LISTED 52, 53 (on back)
[ ] CANCELED - DON'T REFUND FILING FEE	[ ] ON PAGE ____ OF PROCESS SHEETS	[ ] SPECIAL (SEE PERMIT UNIT WORDING & CONDITIONS)
[ ] CANCELED - REFUND FILING FEE. SEE COMMENTS	[X] ON PREVIOUS PERMIT, M03695	[ ] AS ON ____
[ ] EMISSION REDUCTION CREDIT		

PREVIOUS PERMIT NO. M03695 (Renewal - Billing Cycle 11)(12/1/83)

PERMIT UNIT WORDING & CONDITIONS:

[ ] P/C [X] P/O LATE [ ] YES [X] NO

[X] CHANGE OF OWNERSHIP [ ] ALT. INCREASE IN RATING [ ] GOVERNMENT (OTHER) [ ] FEDERAL GOV'T

[ ] CHANGE OF CONDITION [ ] ALT. NO RATING INCREASE [ ] EMISSION REDUCTION

SCHEDULE	(1) H.P	(2) 1000# BTU	(3) KVA	(4) SQ. FT.	(5) GALLONS	(6) GASOLINE FUELING	(7) EXCEPTIONS
RATING		19000					
FEE							

1. 301 (b) (1) ENGR'G EVAL. FEE: SCHED. ____ STEP ____ FEE ____
2. 301 (b) (1) REDUCTION ANAL. FEE: Prorate AOF 5/16/83-12/1/83 $209.08

$\frac{13}{24} \times 386 =$ [illegible] FEE ____

Contaminant	HC	NO_X	SO_2	CO	Part	Total
LBS/DAY RED.						

X $2/LB - DAY ____

3. 301 (f) MODELING FEE: ____ HRS. X $35.00 FEE ____
4. 301 (j) LATE FEE FOR NOT OBTAINING P/C: (PENALTY FEES)

Comments: C/O From Douglas Oil to Pacific Oasis

ENGINEERING ANALYSIS ____
FEE ( ) X 0.5 = PENALTY FEE ____
ANNUAL OPERATING ____
FEE ( ) X 0.5 = PENALTY FEE ____
REDUCTION ANALYSIS ____
FEE ( ) X 0.5 = PENALTY FEE ____
TOTAL FEE ~~NONE~~ $209.08
REFUND ____

WORK UNITS (3)

RECOMMENDED BY RAA DATE 4/18/83 REVIEWING ENGINEER [illegible] DATE 4/19/83

PAGE 1 OF 1 PAGES

GENERAL STANDARD CONDITIONS

3 This equipment must not be operated unless (it) (the) _____

_____ (is) (are) vented only to air pollution control equipment which is in full use and which has been issued (an operating permit) (a permit to construct) by the Executive Officer

4. a. Fuel oil supplied at the burner must be (ps-)_____ or lighter grade.
   b. (ps-)_____ fuel oil supplied at the burner must be at a temperature of_____ °F or greater.
5. A temperature of not less than_____ °F must be maintained in the (afterburner) (combustion chamber) when the equipment it serves is in operation.
6 Not less than_____ gallons per minute of water (_____) at a pressure of_____ to_____ psig must be supplied to this scrubber when the equipment it serves is in operation
7 This oven must not be operated at temperatures above_____ °F.
8. Steam atomization only must be employed during the entire period of fuel oil burning.
9 This equipment must not discharge to the atmosphere radioactive materials in excess of the permissible limits established by existing authorities.
10. Whenever air contaminants are vented to the boiler firebox, all burners must be continuously operated either with natural gas at a burner pressure of not less than_____ (psig) (inches water column) or with fuel oil at an equivalent heat input.

REFINERY UNIT 60806 18-87

46. When storing organic liquid having a vapor pressure of 77.5 mm Hg (1.5 psia) or greater under actual storage conditions, (this tank) (Tank Nos _____) must be connected to a vapor control system which has been issued an (operating permit) (permit to construct) by the Executive Officer.
46. This tank must not be used for storing organic liquid having a vapor pressure of 569 mm Hg (11 psia) or greater under actual storage conditions.
47. The hatch covers must be kept in good operating condition and must be closed at all times except during actual gauging operation.
48. This equipment must not be used for loading more than 75,700 liters (20,000 gallons) per day of organic liquids having a vapor pressure of 77.5 mm Hg (1.5 psia) or greater under actual loading conditions.
49. A vapor tight seal between the adapter and the compartment hatch must be maintained when loading organic liquids having a vapor pressure of 77.5 mm Hg (1.5 psia) or greater under actual loading conditions.
50. The vapor sphere must be prevented from venting by controlling the organic liquids loading operations so as not to exceed the effective total capacity of the compressor and the vapor sphere at any time.
51. This equipment must not be used to recover 7600 liters (201 gallons) or more per day of any petroleum or coal tar products.
52. The incinerator must be operated with a minimum of 20 percent excess air.
53. A minimum temperature of 1200 °F must be maintained in the incinerator breeching.
66. When firing fuel oil, the oil must be preheated to a temperature sufficient to allow proper atomization at the burner.
67. This equipment must not be used for loading organic liquids having a vapor pressure of 77.5 mm Hg (1.5 psia) or greater under actual loading conditions.
68. This unit shall not be operated unless provided with a blow down-flare system and other control units approved by the Executive Officer to handle (emergency vent gases,) (hydrogen sulfide,)(spent caustic,)(effluent waste water,) and (sour water).
69. Facilities approved by the Executive Officer must be provided for incinerating effluent gases from the reactor(s) during regeneration cycles.
70. Refinery process gas from this unit to be used as fuel gas shall not contain sulfur compounds in excess of 800 ppm calculated as hydrogen sulfide at standard conditions.
96. This (boiler)(heater) may utilize oil-firing only to the extent that gaseous fuel is not available.
110. This equipment must not be used to process effluent from units which handle petroleum or coal tar products with a Reid vapor pressure of 25 mm Hg (0.5 psi) or greater.
111. The roof must be kept floating at all times except when supported on the legs for purposes of emptying the tank. When the roof is on its legs, the tank must be emptied of organic liquids as rapidly as possible and water must be used for refloating the roof.

South Coast
AIR QUALITY MANAGEMENT DISTRICT
9150 FLAIR DRIVE, EL MONTE, CA 91731 (213) 572-6200

MAILING ADDRESS: PARAMOUNT PETROLEUM CORPORATION
14708 DOWNEY AVE.
PARAMOUNT, CA 90723

DATE: 04/27/84

ATTN: L. BRUCE BEAN/
R. T. WEAVER

EQUIPMENT LOCATION: *14708 DOWNEY AVE., PARAMOUNT
**2922 E. SOUTH ST., LONG BEACH

PERMIT NO(S)	APPL. NO(S)
*R-M 32804	104002
*R-M 32805	104004
*R-M 32806	104005
*R-M 32807	104006
*R-M 32808	104008
*R-M 32800	104009
*R-M 32810	104010
*R-M 32811	104011
*R-M 32812	104012
*R-M 32813	104013
*R-M 32814	104014
*R-M 32815	104015
*R-M 32816	104016
*R-M 32817	104017

TRANSMITTED HEREWITH ARE THE PERMIT(S) LISTED ABOVE, AUTHORIZING YOU TO OPERATE THE DESCRIBED EQUIPMENT IN COMPLIANCE WITH RULE 206. (BILLING WHERE APPLICABLE WILL FOLLOW.)

RULE 206. A person granted a permit under Rule 203 shall not operate or use any equipment unless the entire permit to operate or a legible facsimile of the entire permit is affixed upon the equipment in such a manner that the permit number, equipment description, and the specified operating conditions are clearly visible and accessible. In the event that the equipment is so constructed that the permit to operate or the legible facsimile cannot be so placed, the entire permit shall be mounted so as to be clearly visible in an accessible place within 8 meters (26 FEET) of the equipment — otherwise approved by the Executive Officer.

PERMIT NO(S)	APPLICATION NO(S)
*R-M 32818	104018
*R-M 32819	104019
*R-M 32820	104020
*R-M 32821	104021
*R-M 32822	104022
*R-M 32823	104023
*R-M 32824	104024
*R-M 32825	104025
*R-M 32826	104026
*R-M 32829	104029
*R-M 32830	104030
*R-M 32832	104033
*R-M 32833	104034
*R-M 32834	104035
*R-M 32835	104036
*R-M 32836	104037
*R-M 32837	104244
*R-M 32838	104245
*R-M 32839	104246
*R-M 32840	104247
*R-M 32841	104249
*R-M 32842	104250
*R-M 32843	104251
*R-M 32844	104252
*R-M 32845	104254
*R-M 32846	104255
*R-M 32848	104258
*R-M 32849	104259
*R-M 32850	104260
*R-M 32851	104261
*R-M 32852	104262
*R-M 32853	104263
*R-M 32854	104264
*R-M 32855	104265
*R-M 32856	104266
*R-M 32857	104267
*R-M 32858	104271
*R-M 32859	104272
*R-M 32860	104273
*R-M 32861	104275
*R-M 32862	104276
*R-M 32863	104277
*R-M 32864	104278
*R-M 32865	104279
*R-M 32866	104280
*R-M 32867	104281
*R-M 32868	104282
*R-M 32869	104283
*R-M 32870	104284
*R-M 32871	104287
*R-M 32872	104289

PERMIT NO(S)	APPLICATION NO(S)
*R-M 32873	104291
*R-M 32874	104292
*R-M 32875	104293
*R-M 32876	104294
*R-M 32877	104295
*R-M 32878	104296
*R-M 32879	104297
*R-M 32880	104298
*R-M 32881	104300
*R-M 32882	104301
*R-M 32883	104302
*R-M 32884	104303
*R-M 32885	104304
*R-M 32886	104305
*R-M 32887	104306
*R-M 32888	104307
*R-M 32889	104308
*R-M 32890	104310
*R-M 32891	104328
*R-M 32892	104329
*R-M 32893	104330
*R-M 32894	104331
**R-M 32895	104334
**R-M 32896	104335
**R-M 32897	104336
**R-M 32898	104337
*R-M 32899	104318
*R-M 32900	104319
*R-M 33101	104320
*R-M 33102	104321
*R-M 33103	104322
*R-M 33104	104323
*R-M 33105	104324
*R-M 33106	104325
*R-M 33107	104327
*R-M 33108	104311
*R-M 33109	104312
*R-M 33110	104313
*R-M 33111	104314
*R-M 33112	104315
*R-M 33113	104316
*R-M 33114	104317

PLEASE NOTE:

The above referenced permits to operate have been revised due to a company name change. Revisions occurred as the result of a request by letter (dated 03/19/84) submitted by Paramount Petroleum Corporation (formerly Pacific Oasis). Permit nos. M 32827, M 32828, M 32831, M 32847 and M 35407 have not been included with this transmittal and will follow at a later date. Gasoline facility permits will also follow under a separate cover letter.

South Coast
AIR QUALITY MANAGEMENT DISTRICT
9150 E. FLAIR DRIVE, EL MONTE, CA 91731 SEP. 16, 1983

	PERMIT NO(S)	APPLICATION NO(S)	
PACIFIC OASIS	M 32804	104002	
14708 DOWNEY AVE.	M 32805	104004	
PARAMOUNT, CA 90723	M 32806	104005	
	M 32807	104006	
	M 32808	104008	
MJM ATTN: R.T. WEAVER	M 32809	104009	PAGE 1 OF 3 PAGES

RANSMITTED HEREWITH ARE THE PERMIT(S), LISTED ABOVE, AUTHORIZING YOU TO OPERATE THE ESCRIBED EQUIPMENT IN COMPLIANCE WITH RULE 206.

RULE 206. A person granted a permit under Rule 203 shall not operate or use any equipment unless the entire permit to operate or a legible facsimile of the er :e permit is affixed upon the equipment in such a manner that the permit number, equipment description, and the specified operating conditions are clearly visible and accessible. In the event that the equipment is so constructed that the permit to operate or the legible facsimile cannot be so placed, the entire permit to operate or the legible facsimile of the entire permit shall be mounted so as to be clearly visible in an accessible place within 8 meters (26 FEET) of the equipment or as otherwise approved by the Executive Officer.

SEP. 16, 1983

PACIFIC OASIS

....CONTINUED

PERMIT NO(S)	APPLICATION NO(S)
M 32810	104010
M 32811	104011
M 32812	104012
M 32813	104013
M 32814	104014
M 32815	104015
M 32816	104016
M 32817	104017
M 32818	104018
M 32819	104019
M 32820	104020
M 32821	104021
M 32822	104022
M 32823	104023
M 32824	104024
M 32825	104025
M 32826	104026
M 32827	104027
M 32828	104028
M 32829	104029
M 32830	104030
M 32831	104031
M 32832	104033
M 32833	104034
M 32834	104035
M 32835	104036
M 32836	104037
M 32837	104244
M 32838	104245
M 32839	104246
M 32840	104247
M 32841	104249
M 32842	104250
M 32843	104251
M 32844	104252
M 32845	104254
M 32846	104255
M 32847	104256
M 32848	104258
M 32849	104259
M 32850	104260
M 32851	104261
M 32852	104262
M 32853	104263
M 32854	104264
M 32855	104265
M 32856	104266
M 32857	104267
M 32858	104271
M 32859	104272
M 32860	104273
M 32861	104275
M 32862	104276

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

ATTACHMENT 10: RULE INTERPRETATION OF BACT APPLICABILITY TO ONLY THE EQUIPMENT BEING MODIFIED

Paul Park

From: Pang Mueller
Sent: Tuesday, August 01, 2006 5:48 PM
To: Jay Chen; Mohsen Nazemi
Cc: Tran Vo; Paul Park; Bob Sanford
Subject: FW: Request rule interpretation of the Chevron's Coker Drums BACT Issue

Pang Mueller
Sr. Manager Refinery/Energy and RECLAIM Administration
South Coast Air Quality Management District
Phone (909) 396-2433 Fax (909) 396-3870
e-mail: pmueller@aqmd.gov

-----Original Message-----
From: Kurt Wiese
Sent: Tuesday, August 01, 2006 5:46 PM
To: Pang Mueller
Subject: RE: Request rule interpretation of the Chevron's Coker Drums BACT Issue

I agree because 1303(a)(1) specifies that BACT should be applied only to the equipment actually modified.

-----Original Message-----
From: Pang Mueller
Sent: Wednesday, July 05, 2006 3:47 PM
To: Kurt Wiese
Cc: Mohsen Nazemi; Tran Vo; Paul Park
Subject: Request rule interpretation of the Chevron's Coker Drums BACT Issue

Kurt:

This email is to confirm our telephone conversation last week regarding a BACT issue that has come up in our evaluation of Chevron's Heavy Crude Project. The issue is the applicability of BACT to the coke drums in the Delayed Coking Unit. As you know from previous discussions, the coke drums at all of the refineries emit PM10 and VOC during a depressurization step of the decoking cycle. You sent me an e-mail earlier (see attached) indicating the Rule 404 does not apply to emissions during this step. The permit unit boundary for the Delayed Coking Units is large and contains several process units such as the coke drums, heat exchangers, fractionation columns, etc. Within this permit unit boundary, there are many fugitive components that emit VOC.

As part of their Heavy Crude Project, Chevron is making modifications to "debottleneck" portions of the Delayed Coking Unit so that it can handle the increased amount of heavy residuum that would come from the Vacuum Crude Unit when processing heavier crude oils. The coke drums are not being directly modified but the modifications to other portions of the Delayed Coking Unit and the Coker Blowdown System will allow Chevron to speed up portions of the coking and decoking batch cycles such that Chevron would be able to shorten the cycles from the current 30 hours down to 24 hours. Under current process limitations, the total number of combined cycles for the 6

drums is limited to 4.8 per day. Following the proposed modifications, the unit will be capable of performing up to 6 cycles per day.

In our meeting last Tuesday, You and Brad Hogin concurred that it would be appropriate to issue the Delayed Coking Unit permit with an enforceable permit condition that limits the length of the coke drum cycles to a minimum of 30 hours. This would effectively limit the total number of the combined cycles for the 6 drums to the current level of 4.8 cycles/day and the VOC emissions from the coke drums to current levels. Should Chevron desire to reduce the duration of the coke drum cycle (increase the capability to 6 cycles per day), Chevron could submit applications for a change in this permit condition and installation of BACT at a later time. Meanwhile, the CEQA document will analyze the project for the maximum of 6 cycles per day and would evaluate the worst case construction impacts for the installation of BACT and determine whether the impacts were significant and what the impact is on the DEIR for the Heavy Crude Project.

During our meeting of last Tuesday, I had forgotten that there is also an increase in VOC emissions from new fugitive components being installed. Under the proposed modifications to the Coking Unit, there is an increase in the estimated VOC emissions for fugitive components of 6 lb/day even after compliance with BACT for fugitive components that are being installed under the proposed modifications. These fugitive components are not located at the coke drums, but at other devices within the same Delayed Coking permit unit. Bob Sanford and I met with Mohsen Nazemi last Thursday to discuss whether BACT would be required on the coke drums if there were no increases in emissions from the coke drums, but increases in VOC emissions from fugitive components associated with other devices in the same permit unit. Based on past practice, AQMD does not require all devices within the same permit unit at a refinery to be retrofitted with BACT if these sources are not being modified and increases in emissions are only due to emissions from fugitive components associated other modified devices within the same permit unit. Similarly, if there are increases in emissions at a process unit such as a coke drum, BACT will be required for the coke drums, but not for all existing fugitive components within the same permit unit. In another word, several hundreds or thousands of fugitive components are not required to be retrofitted with BACT if a coke drum is modified resulting in an increase of greater than one pound of VOC. Only the new or modified fugitive components are subject to BACT. Mohsen asked me to call you to discuss the situation and request your legal opinion regarding this issue considering our past practice. Base on the rule language in Regulation XIII, a person may interpret that each time new fugitive components are installed or a device within a large permit unit is modified resulting in increases in emissions of more than one pound, all fugitive components and emission sources within that permit unit must be retrofitted with BACT.

The question I called to discuss on Thursday of last week is whether the BACT analysis for the Delayed Coking Unit at Chevron can be bifurcated consistent with past practice such that the increase in VOC emissions from fugitive components at other locations within the same permit unit does not trigger BACT for VOC for the coke drums, which will have no increase in estimated VOC emissions with the limit on the cycle time.

There are several permit units in the refineries that are similar to the Coker Unit in that they contain fugitive components that emit VOC and process related vents that emit VOC. These permit units include the FCCUs, Hydrogen Plants, and CRUs. Other

permit units that include fugitive components as well as non-fugitive component VOC emission sources include loading racks, storage tanks, and wastewater systems. There has been some past practice in which the BACT evaluation for the fugitive components has been treated separately from the process vent or other non-fugitive VOC emission source. For example, installation of new fugitive components in the FCCU with an increase in VOC emissions of greater than 1 lb/day has not triggered BACT for the FCC Regenerator or installation of new fugitive components in a loading rack has not triggered BACT for VOC emissions from truck loading operation portion.

Please confirm that it is appropriate to separate the BACT evaluation for VOC emissions from the Coke Drums in Chevron's Delayed Coking Unit from the BACT evaluation for VOC emissions in the unit. Thank you!

Pang Mueller
Sr. Manager Refinery/Energy and RECLAIM Administration
South Coast Air Quality Management District
Phone (909) 396-2433 Fax (909) 396-3870
e-mail: pmueller@aqmd.gov

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

ATTACHMENT 11: POTENTIAL TO EMIT HAZARDOUS AIR POLLUTANTS SUBMITTED BY PARAMOUNT

PARAMOUNT PETROLEUM

14700 Downey Avenue
P.O. Box 1418
Paramount, CA 90723
(562) 531-2060

January 12, 2009

Mr. Thomas Lee
Air Quality Engineer
South Coast Air Quality Management District
21865 East Copley Drive
Diamond Bar, CA 91765

Re: Paramount Petroleum Corporation: Potential to Emit (PTE) Hazardous Air Pollutants (HAPs)

Dear Mr. Lee:

Pursuant to your email dated December 9, 2008, please find Attachment 1, Paramount Petroleum Corporation's (Paramount's) revised hazardous air pollutants (HAPs) potential to emit (PTE) for its refinery located at 14700 Downey Avenue, Paramount, California. Although the HAP analysis presented for Paramount in 2005 evaluated the current refinery configuration, based in part on the District's questions on the HAP inventory, we have recalculated the HAP PTE for Paramount. For reasons described below, the HAP PTE has decreased significantly. Total PTE HAP emissions are 3.8 tons per year (TPY) and the maximum emissions of any single HAP are 1.7 TPY of hexane.

The 2005 HAPs PTE estimate was significantly greater than the current estimate primarily because the 2005 estimate included compounds (ammonia, copper, propylene, zinc, cyclohexane, 1,2,4-trimethyl benzene and anthracene) that are not HAPs and the estimation method for the fugitive emissions are different. The 2005 fugitive emissions were based on default emission factors that overstate emissions while the current fugitive emission estimate is based on actual VOC measurements. The total VOC emissions are calculated using correlation equations, then a factor is added to estimate PTE from actual emissions and the VOCs are speciated.

As requested, Paramount has specifically addressed the following compounds that were not included in the 2005 submittal of PTE for HAPs.

1. 1,1,2,2-Tetrachloroethane
2. 1,1,2-Trichloroethane
3. 1,2-Dichloropropane
4. 1,3-Dichloropropene

5. Trichloroethylene
6. Hexachlorocyclohexanes

The first four HAPs are included in Attachment 1. Trichloroethylene is no longer used at this facility. The amount of trichloroethylene included in the 2006 annual emissions report was carried over from previous years' estimate by mistake. However, tetracholroethylene (perchloroethylene) is currently used in this facility and is included in the attached HAPS PTE. The inclusion of hexachlorocyclohexane in the 2006 AER submission was an error. Paramount meant to report cyclohexane, but the AER application did not include cyclohexane and hexachlorocyclohexane was substituted in error. Hexachlorocyclohexane is not a typical component of crude but is a synthetic compound usually used in insecticides. The 2006 AER will be revised to delete hexachlorocyclohexane. Cyclohexane is not included in the attached HAP PTE since it is not HAP.

Please feel free to call me at 562-748-4704 or email at jchristman@ppcla.com if you need further clarification or have any questions.

Sincerely,

June Christman
Managing Director, Environmental Affairs

Attachment 1

Paramount Petroleum Corporation
Paramount Refinery

Hazardous Air Pollutants Potential to Emit			
CHEMICAL	**CAS NO.**	**Emissions (lbs/yr)**	**Emissions (tons/yr)**
1,1,2,2-Tetrachloroethane	79345	8.38E-02	4.2E-05
1,1,2-Trichloroethane (vinyl trichloride)	79005	6.65E-02	3.3E-05
1,2-Dichloropropane	78875	5.62E-02	2.8E-05
1,3-Butadiene	106-99-0	4.20E+00	2.1E-03
1,3-Dichloropropene	542756	5.52E-02	2.8E-05
Acetaldehyde	75-07-0	8.05E+01	4.0E-02
Acrolein	107-02-8	1.86E+01	9.3E-03
Arsenic	7440-38-2	1.13E+00	5.6E-04
Benzene	71-43-2	7.73E+02	3.9E-01
Cadmium	7440-43-9	2.14E+00	1.1E-03
Carbon Tetrachloride	56-23-5	7.68E-02	3.8E-05
Chlorine	7782-50-5	2.90E-01	1.5E-04
Chloroform	67-66-3	5.97E-02	3.0E-05
Chromium (Hexavalent)	18540-29-9	8.72E-01	4.4E-04
Cumene	98828	9.71E-01	4.9E-04
Ethylbenzene	100-41-4	1.59E+02	7.9E-02
Ethylene Dibromide	106-93-4	9.28E-02	4.6E-05
Ethylene Dichloride	107-06-2	4.95E-02	2.5E-05
Formaldehyde	50-00-0	1.17E+03	5.8E-01
Hexane	110-54-3	3.44E+03	1.72E+00
Hydrochloric Acid	7647-01-0	2.33E+00	1.2E-03
Hydrogen Sulfide	7783-06-4	4.61E+00	2.3E-03
Lead	7439-92-1	1.04E-01	5.2E-05
Manganese	7439-96-5	1.13E+01	5.6E-03
Mercury	7439-97-6	1.37E+00	6.8E-04
Methanol	67-56-1	5.73E+00	2.9E-03
Methyl Ethyl Ketone (MEK)	78-93-3	4.24E-03	2.1E-06
Methyl Tert-Butyl Ether (MTBE)	1634-04-4	1.31E+00	6.6E-04
Methylene Chloride	75-09-2	4.19E-02	2.1E-05
Naphthalene	91-20-3	2.76E+01	1.4E-02
Nickel	7440-02-0	1.86E+00	9.3E-04
PAHs	1-15-0	1.25E+01	6.2E-03
Phenol	108-95-2	4.61E+00	2.3E-03
Propylene Oxide	75-56-9	2.90E-05	1.5E-08
Selenium	7782-49-2	2.75E-02	1.4E-05
Styrene	100-42-5	1.41E-01	7.1E-05
Tetrachloroethylene	127184	1.12E+02	5.6E-02
Toluene	108-88-3	1.38E+03	6.9E-01
Vinyl Chloride	75-01-4	3.12E-02	1.6E-05
Xylenes	1330-20-7	3.48E+02	1.7E-01
Total HAPs		**7,559**	**3.8**

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

ATTACHMENT 12: PARAMOUNT'S SULFUR PRODUCTION LOG

CONFIDENTIAL

#1 OPERATOR Joe W.

HYDROPROCESSING SUMMARY

MIDNIGHT 10/11/88 TO MIDNIGHT 10/12/88

NAPHTHA DESULFURIZER

PROCESS OPR Connie B.

AVG. ____ CHARGE RATE 6222 BPD
RA-106 DIFF PSI 40
RA-103 DIFF PSI 5
SWT FEED Ø BPD

RA-106 INLET TEMP 625°F
H-101 STATUS on
H-102 STATUS off

REFORMER

AVG. ____ CHARGE RATE 6500 BPD
7.1 REFORMATE YIELD 5432
REFORMATE YIELD 83.6 %
RUNDOWN TANK 25000
OCTANE TARGET 99.0
OCTANE ACTUAL 98.6
MOISTURE PPM
DRAGER\ANALYZER \ 19.4
H2S PPM Trace
HCL PPM Trace

REACTOR TEMPERATURES

	#1	#2	#3	TOTAL
INLET	952	952	952	
OUTLET	825	895	942	
DIFF	127	57	10	194

INJECTION TARGETS

METHANOL Ø PPM (H2O)
EDC \ PPM (C1)
RANAREX .28 PPM

H2\HYDRO RATIO 6.0
%AS PER CHART

DISTILLATE DESULFURIZER

AVG. ____ CHARGE RATE 3916 BPD
DIE\JET-A 20003
4.3 YIELD 4085 BPD
CHARGE TANK 20005
RD TANK 50002

RA-501
INLET TEMP 680
DIFF PSI 53
90 NAP YIELD 225
TK\UNIT Flash Twr.

GAS OIL DESULFURIZER

AVG. ____ CHG RATE 8504
7.2 GAS OIL 9043
6.7 DIESEL 2211
4.3 NAPHTHA 374

TANK 150001
TANK 150002
TANK 50002
TK\UNIT Flash Twr.

TEMPERATURES

	IN	OUT	DIFF
RA-301	707	731	24
RA-305	731	727	-4

SRU OPR Leo/Harry

SULFUR RECOVERY UNIT

ACID GAS 578 MMSCFD
SULFUR 34 TONS\DAY
STORAGE 50 INCHES
LOADS OUT 1 24HRS
INC. SO2 100 PPM (500 MAX)
TG H2S 250 PPM
INC. O2 9 % (21 %)
AMINE STRENGTH 15% (WED)

RA-411 IN 485 TEMP
RA-412 IN 449 TEMP
RA-411 DIFF .1 PSI
RA-412 DIFF .2 PSI
TOTAL DIFF .3 PSI
INC. TEMP 1317 (1250 MIN)
CAUSTIC UNIT ON/OFF ____

UTILITIES

LPG TO FUEL 5569 GAL\DAY
H2S IN FUEL 20 PPM (800 MAX)
WASTE WATER 412,130 GAL\DAY (275 GPM)
H2O2 USEAGE 703 GAL\DAY
SULFIDES Ø (24 HR AVG.)
OIL/GREASE 28 PPM (75 PPM MAX)
H2O2 TK Gg. 5'9"

STEAM LB\HR
REFORMER 16813
GO WHB Ø
SRU 3593
NITROGEN 227 INCHES
*FLARE GAS 7.0 UNITS
*FLARE STM 4.8 UNITS

1 OPERATOR Joe W.

HYDROPROCESSING SUMMARY

MIDNIGHT 10/12/88 TO MIDNIGHT 10/13/88

NAPHTHA DESULFURIZER

ROCESS OPR Connie

VG. yw
CHARGE RATE 6465 BPD
RA-106 DIFF PSI 50
RA-103 DIFF PSI 15
SWT FEED Ø BPD

RA-106 INLET TEMP 625
H-101 STATUS on
H-102 STATUS off

REFORMER

VG. yw
CHARGE RATE 6800 BPD
9.2 REFORMATE YIELD 5508
REFORMATE YIELD 81 %
RUNDOWN TANK 25000
OCTANE TARGET 99.0
OCTANE ACTUAL 99.8
MOISTURE PPM
DRAGER\ANALYZER \14.1
H2S PPM 1.0
HCL PPM Trace

REACTOR TEMPERATURES

	#1	#2	#3	TOTAL
INLET	960	961	961	
OUTLET	833	907	954	
DIFF	127	54	7	188

INJECTION TARGETS

METHANOL Ø PPM(H2O)
EDC 1 PPM(C1)
RANAREX .30 PPM

H2\HYDRO RATIO 6.3
*AS PER CHART

DISTILLATE DESULFURIZER

'G. yw
CHARGE RATE 6852 BPD
DIE\JET-A
9.4 YIELD 7030 BPD
CHARGE TANK 20005
RD TANK 50002

RA-501
INLET TEMP 664
DIFF PSI 50
NAP YIELD 174
TK\UNIT Flash Twr.

GAS OIL DESULFURIZER

3. yw
CHG RATE 6634 TANK 150001
5.9 GAS OIL 7410 TANK 150002
8.2 DIESEL 2640 TANK 50002
NAPHTHA Ø TK\UNIT Flash Twr.

TEMPERATURES

	IN	OUT	DIFF
RA-301	707	732	25
RA-305	732	726	-6

J OPR Leo/Harry

SULFUR RECOVERY UNIT

ACID GAS 595 MMSCFD
SULFUR 35 TONS\DAY
STORAGE 12 3/4" INCHES
LOADS OUT 1 24HRS
INC. SO2 100 PPM (500 MAX)
TG H2S 300 PPM
INC. O2 9.2 % (21 %)
AMINE STRENGTH ____ (WED)

RA-411 IN 474 TEMP
RA-412 IN 496 TEMP
RA-411 DIFF .01 PSI
RA-412 DIFF .02 PSI
TOTAL DIFF .3 PSI
INC. TEMP 1365 (1250 MIN)
CAUSTIC UNIT ON/OFF ____

UTILITIES

LPG TO FUEL 1876 GAL\DAY
H2S IN FUEL 40 PPM (800 MAX)
WASTE WATER 153370 GAL\DAY(275 GPM)
H2O2 USEAGE 244 GAL\DAY
SULFIDES 8 (24 HR AVG.)
OIL/GREASE 18 (75 PPM MAX)
H2O2 TK Gg. 5'7" FT\IN

STEAM LB\HR
REFORMER 16588
GO WHB —
SRU 44992
NITROGEN 262 INCHES
*FLARE GAS 3.5 UNITS
*FLARE STM 7.3 UNITS

*HYDROPROCESSING CHART UTFR-001\050 (2500 LBS\PER HR.)

#1 OPERATOR Leo

HYDROPROCESSING SUMMARY

MIDNIGHT 10/14 ~ TO MIDNIGHT 10/15/88

NAPHTHA DESULFURIZER

PROCESS OPR Chuck/Mike

AVG. 465
CHARGE RATE 6464 BPD
RA-106 DIFF PSI 50
RA-103 DIFF PSI 10
SWT FEED -0- BPD

RA-106 INLET TEMP 625
H-101 STATUS ON
H-102 STATUS OFF

REFORMER

AVG. 465
CHARGE RATE 6760 BPD
REFORMATE YIELD 5436
REFORMATE YIELD 80%
RUNDOWN TANK 25001
OCTANE TARGET 100.0
OCTANE ACTUAL 99.4
MOISTURE PPM
DRAGER ANALYZER 13.1
H2S PPM TRACE
HCL PPM TRACE

REACTOR TEMPERATURES

	#1	#2	#3	TOTAL
INLET	961	959	958	
OUTLET	832	906	952	
DIFF	129	53	6	188

INJECTION TARGETS
METHANOL -0- PPM(H2O)
EDC 1 PPM(C1)
RANAREX .30 PPM

H2\HYDRO RATIO 6.2
*AS PER CHART

DISTILLATE DESULFURIZER

AVG. 465
CHARGE RATE 7245 BPD
DIE\JET-A JET A
YIELD 7125 BPD
CHARGE TANK 20005
RD TANK 12502

RA-501
INLET TEMP 649
DIFF PSI 60
NAP YIELD 797
TK\UNIT FLASH TOWER

GAS OIL DESULFURIZER

AVG. 465
CHG RATE 6683
GAS OIL 6908
DIESEL 2112
NAPHTHA -0-

TANK 150001
TANK 150002
TANK 150002
TK\UNIT FLASH TOWER

TEMPERATURES

	IN	OUT	DIFF
RA-301	705	737	32
RA-305	737	732	-5

J OPR Leo

SULFUR RECOVERY UNIT

ACID GAS 552.5 MMSCFD
SULFUR 32.5 TONS\DAY
STORAGE 53" INCHES
LOADS OUT -0- 24HRS
INC. SO2 80 PPM (500 MAX)
TG H2S 300 PPM
INC. O2 9% % (21 %)
AMINE STRENGTH - (WED)

RA-411 IN 481 TEMP
RA-412 IN 450 TEMP
RA-411 DIFF .1 PSI
RA-412 DIFF .2 PSI
TOTAL DIFF 3.0 PSI
INC. TEMP 1365 (1250 MIN)
CAUSTIC UNIT ON/OFF ON

UTILITIES

LPG TO FUEL 070 GAL\DAY
H2S IN FUEL 30 PPM (800 MAX)
WASTE WATER 239675 GAL\DAY(275 GPM)
H2O2 USEAGE 415 GAL\DAY
SULFIDES -0- (24 HR AVG.)
OIL/GREASE 32 (75 PPM MAX)
H2O2 TK Gg. 5'2" FT\IN

STEAM LB\HR
REFORMER 180360
GO WHB W.O.W. TO REPAIR.
SRU 4829
NITROGEN 261 INCHES
*FLARE GAS 3.0 UNITS
*FLARE STM 6.0 UNITS

*HYDROPROCESSING CHART UTFR-001\050 (2500 LBS\PER HR.)

#1 OPERATOR K.C.

HYDROPROCESSING SUMMARY

MIDNIGHT OCT 15 1988 TO MIDNIGHT OCT 16 1988

NAPHTHA DESULFURIZER

PROCESS OPR Mike

AVG. ____ CHARGE RATE 6464 BPD
RA-106 DIFF PSI 50
RA-103 DIFF PSI 10
SWT FEED 0 BPD

RA-106 INLET TEMP 625
H-101 STATUS ON
H-102 STATUS OFF

REFORMER

AVG. ____ CHARGE RATE 6767 BPD
REFORMATE YIELD 5436
REFORMATE YIELD 80 %
RUNDOWN TANK 25001
OCTANE TARGET 100
OCTANE ACTUAL 100
MOISTURE PPM
DRAGER\ANALYZER ___\11.7
H2S PPM Trace
HCL PPM Trace

REACTOR TEMPERATURES

	#1	#2	#3	TOTAL
INLET	965	966	965	
OUTLET	837	916	962	
DIFF	128	50	3	181

INJECTION TARGETS

METHANOL 3.0 PPM (H2O)
EDC 1.0 PPM (C1)
RANAREX .31 PPM

H2\HYDRO RATIO 6.
%AS PER CHART

DISTILLATE DESULFURIZER

AVG. ____ CHARGE RATE 7538 BPD
DIE\JET-A JET A
YIELD 1312 BPD
CHARGE TANK 20005
RD TANK/2502/50002@6pm

RA-501
INLET TEMP 675
DIFF PSI 60
NAP YIELD 778
TK\UNIT flash tower

GAS OIL DESULFURIZER

AVG. ____ CHG RATE 6974
GAS OIL 6728
DIESEL 2376
NAPHTHA 87

TANK 150001
TANK 150002
TANK 50002
TK\UNIT flash tower

TEMPERATURES

	IN	OUT	DIFF
RA-301	697	725	____
RA-305	725	723	2

GTU OPR Chuck

SULFUR RECOVERY UNIT

ACID GAS 544 MMSCFD
SULFUR 32 TONS\DAY
STORAGE 62 INCHES
LOADS OUT 1 24HRS
INC. SO2 100 PPM (500 MAX)
TG H2S 400 PPM
INC. O2 8.9 % (21 %)
AMINE STRENGTH _____ (WED)

RA-411 IN 478 TEMP
RA-412 IN 456 TEMP
RA-411 DIFF .1 PSI
RA-412 DIFF .2 PSI
TOTAL DIFF .3 PSI
INC. TEMP 1365 (1250 MIN)
CAUSTIC UNIT ON/OFF _____

UTILITIES

LPG TO FUEL 913 GAL\DAY
H2S IN FUEL 40 PPM (800 MAX)
WASTE WATER 344920 GAL\DAY (275 GPM)
H2O2 USEAGE 263 GAL\DAY
SULFIDES 0 (24 HR AVG.)
OIL/GREASE 27 (75 PPM MAX)
H2O2 TK Gg. 4'11" FT\IN

STEAM LB\HR
REFORMER 18648
GO WHB 1773
SRU 4716
NITROGEN 258 INCHES
*FLARE GAS 3.0 UNITS
*FLARE STM 45 UNITS

#1 OPERATOR [illegible]

HYDROPROCESSING SUMMARY

MIDNIGHT 10-16-88 TO MIDNIGHT 10-17-88

NAPHTHA DESULFURIZER

PROCESS OPR Mike

AVG. yes CHARGE RATE 6354 BPD
RA-106 DIFF PSI 50
RA-103 DIFF PSI 10
SWT FEED 0 BPD

RA-106 INLET TEMP 625
H-101 STATUS ON
H-102 STATUS OFF

REFORMER

AVG. yes CHARGE RATE 6766 BPD
REFORMATE YIELD 5285
REFORMATE YIELD 78 %
RUNDOWN TANK 25001
OCTANE TARGET 100
OCTANE ACTUAL 99.8
MOISTURE PPM
DRAGER\ANALYZER \10.2
H2S PPM TRACE
HCL PPM TRACE

REACTOR TEMPERATURES

	#1	#2	#3	TOTAL
INLET	964	964	964	
OUTLET	835	913	960	
DIFF	129	51	4	184

INJECTION TARGETS

METHANOL 30 PPM(H2O)
EDC 1.0 PPM(Cl)
RANAREX .33 PPM

H2\HYDRO RATIO 6
*AS PER CHART

DISTILLATE DESULFURIZER

AVG. yes CHARGE RATE 7342 BPD
DIE\JET-A JET A
YIELD 7122 BPD
CHARGE TANK 20005
RD TANK 12501

RA-501
INLET TEMP 680
DIFF PSI 65
NAP YIELD 577
TK\UNIT Flash Tower

GAS OIL DESULFURIZER

AVG. ____ CHG RATE 7314 TANK 150001
GAS OIL 7410 TANK 150002
DIESEL 2607 TANK 50002
NAPHTHA 87 TK\UNIT Flash Tower

TEMPERATURES

	IN	OUT	DIFF
RA-301	688	720	-32
RA-305	720	717	3

STU OPR Chuck

SULFUR RECOVERY UNIT

ACID GAS 570 MMSCFD
SULFUR 33.5 TONS\DAY
STORAGE 72 INCHES
LOADS OUT 0 24HRS
INC. SO2 110 PPM (500 MAX)
TG H2S 400 PPM
INC. O2 .82 % (21 %)
AMINE STRENGTH ____ (WED)

RA-411 IN 477 TEMP
RA-412 IN 449 TEMP
RA-411 DIFF .1 PSI
RA-412 DIFF .3 PSI
TOTAL DIFF 3.0 PSI
INC. TEMP 1362 (1250 MIN)
CAUSTIC UNIT ON/OFF OFF

UTILITIES

LPG TO FUEL 0 GAL\DAY
H2S IN FUEL 30 PPM (800 MAX)
WASTE WATER 306700 GAL\DAY (275 GPM)
H2O2 USEAGE 287 GAL\DAY
SULFIDES 0 (24 HR AVG.)
OIL/GREASE 29 (75 PPM MAX)
H2O2 TK Gg. 4'7 5/8" FT\IN

STEAM LB\HR
REFORMER 18,036
GO WHB 1773
SRU 4941
NITROGEN 258 INCHES
*FLARE GAS 3.0 UNITS
*FLARE STM 4.2 UNITS

*HYDROPROCESSING CHART UTFR-001\050 (2500 LBS\PER HR.)

1 OPERATOR RC

HYDROPROCESSING SUMMARY

MIDNIGHT 10-17 TO MIDNIGHT 10-18-88

NAPHTHA DESULFURIZER

ROCESS OPR YES

/G. ____ CHARGE RATE 6303 BPD
RA-106 DIFF PSI 50
RA-103 DIFF PSI 10
SWT FEED Ø BPD

RA-106 INLET TEMP 627
H-101 STATUS ON
H-102 STATUS OFF

REFORMER

/G. ____ CHARGE RATE 6593 BPD
REFORMATE YIELD 5059
REFORMATE YIELD 77 %
RUNDOWN TANK 25001
OCTANE TARGET 100
OCTANE ACTUAL 99.6
MOISTURE PPM
~~BRAGER~~\ANALYZER \ 8.6
H2S PPM 1.0
HCL PPM TRC

REACTOR TEMPERATURES

	#1	#2	#3	TOTAL
INLET	965	964	965	
OUTLET	837	916	961	
DIFF	128	48	4	180

INJECTION TARGETS

METHANOL 3 PPM (H2O)
EDC 1 PPM (C1)
RANAREX .33 PPM

H2\HYDRO RATIO 6.3
*AS PER CHART

DISTILLATE DESULFURIZER

/G. ____ CHARGE RATE 6852 BPD @7pm
DIE\JET-A JET DN circ DIESEL
YIELD 6742 BPD
CHARGE TANK 20005
RD TANK 12502

RA-501
INLET TEMP 642
DIFF PSI 515
NAP YIELD 623
TK\UNIT Flash tower

GAS OIL DESULFURIZER

G. ____ CHG RATE 6804 TANK 150001
GAS OIL 6782 TANK 150,002
DIESEL 2409 TANK 50002
NAPHTHA 200 TK\UNIT Flash tower

TEMPERATURES

	IN	OUT	DIFF
RA-301	679	712	33
RA-305	712	708	4

U OPR YES

SULFUR RECOVERY UNIT

ACID GAS 527 MMSCFD
SULFUR 31 TONS\DAY
STORAGE 82 INCHES
LOADS OUT Ø 24HRS
INC. SO2 100 PPM (500 MAX)
TG H2S 400 PPM
INC. O2 8.7 % (21 %)
AMINE STRENGTH ____ (WED)

RA-411 IN 498 TEMP
RA-412 IN 453 TEMP
RA-411 DIFF 2 PSI
RA-412 DIFF .2 PSI
TOTAL DIFF 2.6 PSI
INC. TEMP 1365 (1250 MIN)
CAUSTIC UNIT ~~ON~~/OFF OFF

UTILITIES

LPG TO FUEL Ø GAL\DAY
H2S IN FUEL 20 PPM (300 MAX)
WASTE WATER 190390 GAL\DAY (275 GPM)
H2O2 USEAGE 170 GAL\DAY
SULFIDES .4 (24 HR AVG.)
OIL/GREASE 20 (75 PPM MAX)
H2O2 TK Gg. 4-5/4 FT\IN

STEAM LB\HR
REFORMER 17425
GO WHB 1723
SRU 4267
NITROGEN 252 INCHES
*FLARE GAS 3.2 UNITS
*FLARE STM 5.2 UNITS

*HYDROPROCESSING CHART UTFR-001\050 (2500 LBS\PER HR.)

OPERATOR DAVE T

HYDROPROCESSING SUMMARY

MIDNIGHT 10-19-88 TO MIDNIGHT 10-20-88

*NAPHTHA DESULFURIZER

OCESS OPR TERRI

G.____ CHARGE RATE 6222 BPD
RA-106 DIFF PSI 35
RA-103 DIFF PSI 5
SWT FEED 0 BPD

RA-106 INLET TEMP 650
H-101 STATUS ON
H-102 STATUS OFF

REFORMER

G.____ CHARGE RATE 6592 BPD
REFORMATE YIELD 5285
REFORMATE YIELD 80 %
RUNDOWN TANK 25,001
OCTANE TARGET 98.0
OCTANE ACTUAL 98.5
MOISTURE PPM
DRAGER\ANALYZER 8.0
H2S PPM .5
HCL PPM TRACE

REACTOR TEMPERATURES

	#1	#2	#3	TOTAL
INLET	955	955	955	
OUTLET	833	909	950	
DIFF	122	46	5	173

INJECTION TARGETS

METHANOL 3.0 PPM(H2O)
EDC 2.0 PPM(Cl)
RANAREX .32 PPM

H2\HYDRO RATIO 6.5
*AS PER CHART

DISTILLATE DESULFURIZER

G.____ CHARGE RATE 4503 BPD
DIE\JET-A DIESEL
YIELD 4748 BPD
CHARGE TANK 10,007
RD TANK 10,007

RA-501
INLET TEMP 730
DIFF PSI N/O
NAP YIELD 439
TK\UNIT 125,002

GAS OIL DESULFURIZER

G.____ CHG RATE 7144 TANK 150,001
GAS OIL 6908 TANK 150,002
DIESEL 2838 TANK 50,002
NAPHTHA 504 TK\UNIT 125,002

TEMPERATURES

	IN	OUT	DIFF
RA-301	680	707	27
RA-305	707	703	4

OPR DAVE

SULFUR RECOVERY UNIT

ACID GAS 663 MMSCFD
SULFUR 39 TONS\DAY
STORAGE 51 INCHES
LOADS OUT 4 24HRS
INC. SO2 200 PPM (500 MAX)
TG H2S 500 PPM
INC. O2 9.5 % (21 %)
AMINE
STRENGTH 22.3 (WED)

RA-411 IN 465 TEMP
RA-412 IN 432 TEMP
RA-411 DIFF 2.5 PSI
RA-412 DIFF 2.7 PSI
TOTAL DIFF 3.9 PSI
INC. TEMP 1366 (1250 MIN)
CAUSTIC
UNIT ON/OFF OFF

UTILITIES

LPG TO FUEL 714 GAL\DAY
H2S IN FUEL 15 PPM (800 MAX)
WASTE WATER 345620 GAL\DAY (275 GPM)
H2O2 USEAGE 170 GAL\DAY
SULFIDES 0 (24 HR AVG.)
OIL/GREASE 18 (75 PPM MAX)
H2O2 TK Gg. 4-1 FT\IN

STEAM LB\HR
REFORMER 211399
GO WHB 12,129
SRU 5445
NITROGEN 296 INCHES
*FLARE GAS 5.8 UNITS
*FLARE STM 3.0 UNITS

*HYDROPROCESSING CHART UTFR-001\050 (2500 LBS\PER HR.)

#1 OPERATOR WAVE 1

HYDROPROCESSING SUMMARY

MIDNIGHT 10/20/88 TO MIDNIGHT 10/21/88

NAPHTHA DESULFURIZER

ROCESS OPR ALFRED, JOE

VG. ____ CHARGE RATE 6384 BPD
RA-106 DIFF PSI 50
RA-103 DIFF PSI 5
SWT FEED 0 BPD

RA-106 INLET TEMP 644
H-101 STATUS ON
H-102 STATUS OFF

REFORMER

VG. ____ CHARGE RATE 6766 BPD
REFORMATE YIELD 5209
REFORMATE YIELD 77 %
RUNDOWN TANK 25,001
OCTANE TARGET 100
OCTANE ACTUAL 98.6
MOISTURE PPM
DRAGER ANALYZER 79
H2S PPM .25
HCL PPM TRACE

REACTOR TEMPERATURES

	#1	#2	#3	TOTAL
INLET	965	965	965	
OUTLET	842	922	984	
DIFF	123	43	1	167

INJECTION TARGETS
METHANOL 3.0 PPM(H2O)
EDC 2.0 PPM(C1)
RANAREX .32 PPM

H2\HYDRO RATIO 6.-
*AS PER CHART

DISTILLATE DESULFURIZER

VG. ____ CHARGE RATE 3720 BPD
DIE\JET-A Diesel
YIELD 3798 BPD
CHARGE TANK 20,005
RD TANK 10,007

RA-501
INLET TEMP 718
DIFF PSI 45
NAP YIELD 366
TK\UNIT FLASH TWR.

GAS OIL DESULFURIZER

G. ____ CHG RATE 7484
GAS OIL 7536
DIESEL 2838
NAPHTHA 156

TANK 150,001
TANK 150,002
TANK 10,008
TK\UNIT FLASH TWR

TEMPERATURES

	IN	OUT	DIFF
RA-301	686	711	25
RA-305	711	707	4

U OPR WAVE

SULFUR RECOVERY UNIT

ACID GAS 612 MMSCFD
SULFUR 36 TONS\DAY
STORAGE 55 INCHES
LOADS OUT 0 24HRS
INC. SO2 130 PPM (500 MAX)
TG H2S 500 PPM
INC. O2 9.5 % (21 %)
AMINE
STRENGTH 22.3 (WED)

RA-411 IN 466 TEMP
RA-412 IN 467 TEMP
RA-411 DIFF .2 PSI
RA-412 DIFF .2 PSI
TOTAL DIFF 3.3 PSI
INC. TEMP 366 (1250 MIN)
CAUSTIC
UNIT ON/OFF OFF

UTILITIES

LPG TO FUEL 2007 GAL\DAY
H2S IN FUEL 30 PPM (800 MAX)
WASTE WATER 302780 GAL\DAY(275 GPM)
H2O2 USEAGE 421 GAL\DAY
SULFIDES 0 (24 HR AVG.)
OIL/GREASE 24 (75 PPM MAX)
H2O2 TK Gg. 3.8 FT\IN

STEAM LB\HR
REFORMER 20,788
GO WHB W.O.W
SRU 4938
NITROGEN 245 INCHES
*FLARE GAS 3.0 UNITS
*FLARE STM 6.6 UNITS

*HYDROPROCESSING CHART UTFR-001\050 (2500 LBS\PER HR.)

HYDROPROCESSING SUMMARY

MIDNIGHT 10/22 TO MIDNIGHT 10/22

NAPHTHA DESULFURIZER

PROCESS OPR Guy - Connie

AVG. ____ CHARGE RATE 6142 BPD
RA-106 DIFF PSI 45
RA-102 DIFF PSI 5
SWT FEED 9 BPD

RA-106 INLET TEMP 650
H-101 STATUS on
H-102 STATUS off

REFORMER

AVG. ____ CHARGE RATE 6332 BPD
REFORMATE YIELD 5134
REFORMATE YIELD 81.08 %
RUNDOWN TANK 2500 bl
OCTANE TARGET 98
OCTANE ACTUAL 98.8
MOISTURE PPM 5.5
DRAGER ANALYZER \
H2S PPM Trace
HCL PPM Trace

REACTOR TEMPERATURES

	#1	#2	#3	TOTAL
INLET	952	950	952	
OUTLET	831	905	945	
DIFF	121	45	7	173

INJECTION TARGETS

METHANOL 3.0 PPM(H2O)
EDC 2.0 PPM(C1)
RANAREX .218 PPM

H2\HYDRO RATIO 6
*AS PER CHART

DISTILLATE DESULFURIZER

AVG. ____ CHARGE RATE 6657 BPD
DIE\JET-A Jet-A
YIELD 6647 BPD
CHARGE TANK 20005
RD TANK 20003

RA-501
INLET TEMP 671
DIFF PSI 50
NAP YIELD 137.0
TK\UNIT Flash Tower

GAS OIL DESULFURIZER

AVG. ____ CHG RATE 7144
GAS OIL 7636
DIESEL 2904
NAPHTHA 219.5

TANK 15001
TANK 15002
TANK 50002
TK\UNIT Flash Tower

TEMPERATURES

	IN	OUT	DIFF
RA-301	694	720	26
RA-305	720	716	4

TU OPR Harry - Chad

SULFUR RECOVERY UNIT

ACID GAS 544 MMSCFD
SULFUR 32 TONS\DAY
STORAGE 66 INCHES
LOADS OUT 0 24HRS
INC. SO2 144 PPM (500 MAX)
TG H2S 500 PPM
INC. O2 9.8 % (21 %)
AMINE STRENGTH 22.8 (WED)

RA-411 IN 490 TEMP
RA-412 IN 459 TEMP
RA-411 DIFF .2 PSI
RA-412 DIFF .1 PSI
TOTAL DIFF .3 PSI
INC. TEMP 1362 (1250 MIN)
CAUSTIC UNIT ON/OFF on

UTILITIES

LPG TO FUEL 0 GAL\DAY
H2S IN FUEL 50 PPM (800 MAX)
WASTE WATER 170620 GAL\DAY(275 GPM)
H2O2 USEAGE 81 GAL\DAY
SULFIDES 0 (24 HR AVG.)
OIL/GREASE — (75 PPM MAX)
H2O2 TK Gg. 3-2 3/4 FT\IN

STEAM LB\HR
REFORMER 15896
GO WHB 0
SRU 3722
NITROGEN 205 INCHES
*FLARE GAS 2.6 UNITS
*FLARE STM 5.4 UNITS

*HYDROPROCESSING CHART UTFR-001\050 (2500 LBS\PER HR.)

HYDROPROCESSING SUMMARY

MIDNIGHT 10/23 TO MIDNIGHT 10/24

NAPHTHA DESULFURIZER

PROCESS OPR Chuck Conne

AVG. ____ CHARGE RATE ____ BPD
RA-106 DIFF PSI 45
RA-103 DIFF PSI ____
SWT FEED ____ BPD

RA-106 INLET TEMP 652
H-101 STATUS ____
H-102 STATUS ____

REFORMER

AVG. ____ CHARGE RATE 6322 BPD
REFORMATE YIELD 4283 bbls
REFORMATE YIELD 60 %
RUNDOWN TANK 25001
OCTANE TARGET 94
OCTANE ACTUAL 93
MOISTURE PPM
DRAGER\ANALYZER <5.5
H2S PPM ____
HCL PPM <.5

REACTOR TEMPERATURES

	#1	#2	#3	TOTAL
INLET	954	953	954	
OUTLET	833	909	909	
DIFF	121	44	5	170

INJECTION TARGETS

METHANOL 30 PPM(H2O)
EDC 20 PPM(Cl)
RANAREX .3 PPM

H2\HYDRO RATIO
*AS PER CHART

DISTILLATE DESULFURIZER

AVG. ____ CHARGE RATE ____ BPD
DIE\JET-A ____
YIELD 6552 BPD
CHARGE TANK 20,003
RD TANK 20,003

RA-501
INLET TEMP 666
DIFF PSI 50
NAP YIELD ____
TK\UNIT ____

GAS OIL DESULFURIZER

AVG. ____ CHG RATE 7904
GAS OIL 8259
DIESEL 2871
NAPHTHA 161

TANK 150001
TANK 150002
TANK 150002
TK\UNIT ____

TEMPERATURES

	IN	OUT	DIFF
RA-301	695	720	25
RA-305	720	716	4

STU OPR HAFE/BRYL

SULFUR RECOVERY UNIT

ACID GAS 552 MMSCFD
SULFUR 32½ TONS\DAY
STORAGE 74" INCHES
LOADS OUT 0 24HRS
INC. SO2 50 PPM (500 MAX)
TG H2S 500 PPM
INC. O2 10 % (21 %)
AMINE STRENGTH ____ (WED)

RA-411 IN 480 TEMP
RA-412 IN 450 TEMP
RA-411 DIFF .2 PSI
RA-412 DIFF .2 PSI
TOTAL DIFF .2 PSI
INC. TEMP 1372 (1250 MIN)
CAUSTIC UNIT ON/OFF off

UTILITIES

LPG TO FUEL 5224 GAL\DAY
H2S IN FUEL 80 PPM (800 MAX)
WASTE WATER 358640 GAL\DAY (275 GPM)
H2O2 USEAGE 112 GAL\DAY
SULFIDES 0 (24 HR AVG.)
OIL/GREASE 6 PPM (75 PPM MAX)
H2O2 TK Gg. 3'03¼ FT\IN

STEAM LB\HR
REFORMER 15885
GO WHB 0
SRU 3705
NITROGEN 242 INCHES
*FLARE GAS 13.0 UNITS
*FLARE STM 5.0 UNITS

*HYDROPROCESSING CHART UTFR-001\050 (2500 LBS\PER HR.)

HYDROPROCESSING SUMMARY

MIDNIGHT 10/25 TO MIDNIGHT 10/26/88

NAPHTHA DESULFURIZER

PROCESS OPR Bwl

AVG. Yes
CHARGE RATE 4686 BPD
RA-106 DIFF PSI 40
RA-103 DIFF PSI 10
SWT FEED 0 BPD

RA-106 INLET TEMP 644
H-101 STATUS ON
H-102 STATUS OFF

REFORMER

AVG. Yes
CHARGE RATE 4773 BPD
REFORMATE YIELD 4152
REFORMATE YIELD 87 %
RUNDOWN TANK 25701
OCTANE TARGET 98
OCTANE ACTUAL 97.9
MOISTURE PPM
DRAGER\ANALYZER \ 47
H2S PPM max
HCL PPM max

REACTOR TEMPERATURES

	#1	#2	#3	TOTAL
INLET	950	950	950	
OUTLET	833	909	946	
DIFF	117	41	4	162

INJECTION TARGETS

METHANOL 3.0 PPM(H2O)
EDC 2.0 PPM(C1)
RANAREX .32 PPM

H2\HYDRO RATIO 6
*AS PER CHART

DISTILLATE DESULFURIZER

AVG. Yes
CHARGE RATE 6657 BPD
DIE JET-A
YIELD 5775 BPD
CHARGE TANK 20005
RD TANK 12502

RA-501
INLET TEMP 666
DIFF PSI 50
NAP YIELD 779
TK\UNIT FLASH TOWER

GAS OIL DESULFURIZER

AVG. Yes
CHG RATE 7314
GAS OIL 7034
DIESEL 2739
NAPHTHA 218

TANK 50008
TANK 150002
TANK 50002
TK\UNIT FLASH TOWER

TEMPERATURES

	IN	OUT	DIFF
RA-301	690	715	25
RA-305	715	710	5

STU OPR Chuck

SULFUR RECOVERY UNIT

ACID GAS 561 MMSCFD
SULFUR 33 TONS\DAY
STORAGE 85 1/2 INCHES
LOADS OUT 0 24HRS
INC. SO2 100 PPM (500 MAX)
TG H2S 500 PPM
INC. O2 9.5 % (21 %)
AMINE STRENGTH 22.0 10/19/88 (WED)

RA-411 IN 480 TEMP
RA-412 IN 497 TEMP
RA-411 DIFF .2 PSI
RA-412 DIFF .2 PSI
TOTAL DIFF 3.0 PSI
INC. TEMP 1363 (1250 MIN)
CAUSTIC UNIT ON/OFF ON

UTILITIES

LPG TO FUEL 2687 GAL\DAY
H2S IN FUEL 40 PPM (800 MAX)
WASTE WATER 297380 GAL\DAY (275 GPM)
H2O2 USEAGE 304 GAL\DAY
SULFIDES 0 (24 HR AVG.)
OIL/GREASE 27 (75 PPM MAX)
H2O2 TK Gg. 2-3 1/8 FT\IN

STEAM LB\HR
REFORMER 15285
GO WHB 0
SRU 3818
NITROGEN 235 INCHES
*FLARE GAS 3.0 UNITS
*FLARE STM 6.0 UNITS

*HYDROPROCESSING CHART UTFR-001\050 (2500 LBS\PER HR.)

HYDROPROCESSING SUMMARY

MIDNIGHT 10-25-88 TO MIDNIGHT 10-26-88

NAPHTHA DESULFURIZER

PROCESS OPR Bond

AVG FRC-131 CHARGE RATE 6141 (AVG.) BPD 808.1 (x Factor)
RA-106 DIFF PSI 45 (RX IN - RX OUT)
RA-103 DIFF PSI 10 (RX-106 out RX 103 IN)
SWT FEED 0 BPD

RA-106 INLET TEMP 650 TI-011
H-101 STATUS ON ON
H-102 STATUS OFF off

REFORMER

AVG FRC-351 CHARGE RATE 6333 (AVG.) BPD X67.5 (x Factor)
FR-374 REFORMATE YIELD 5134 BBLS
REFORMATE YIELD 81 %
RUNDOWN TANK 25001
OCTANE TARGET 98.0
OCTANE ACTUAL 98.2
MOISTURE PPM
DRAGER\ANALYZER 4.9
H2S PPM Trace
HCL PPM Trace

REACTOR TEMPERATURES

	#1	TI	#2	TI	#3	TI	TOTAL
INLET	952	058	951	065	952	072	
OUTLET	829	059	906	066	946	073	
DIFF	123		45		6		174

INJECTION TARGETS
METHANOL 3 PPM(H2O)
EDC 2 PPM(C1)
RANAREX .31 PPM

H2\HYDRO RATIO
*AS PER CHART

DISTILLATE DESULFURIZER

AVG FRC-501 CHARGE RATE 6657 (AVG.) BPD 979 (x Factor)
DIE\JET-A JET A
FR-505 YIELD 5325 BPD 950
CHARGE TANK 20005 FR-506
RD TANK 20003

RA-501
INLET TEMP 667 TI-161
DIFF PSI 45# RX IN - RX-OUT
NAP YIELD 7.0 x 91.6 = 691 BBLS
TK\UNIT FLASH TOWER

GAS OIL DESULFURIZER

AVG. FRC-301	CHG RATE	8334	1701 (Factor)	TANK	50008
FR-325	GAS OIL	9043	1256	TANK	150002
FR-335	DIESEL	2475	330	TANK	50002
FR-331	NAPHTHA	131	87.0	TK\UNIT	FLASH TOWER

TEMPERATURES

	IN	TI	OUT	TI	DIFF
RA-301	701	106	725	107	24
RA-305	725	107	721	108	-4

GTU OPR Chuck

SULFUR RECOVERY UNIT

FR-401 ACID GAS 578 MMSCFD
FR-401 SULFUR 34 TONS\DAY
STORAGE 79½ INCHES
LOADS OUT ONE 24HRS
INC. SO2 250 PPM (500 MAX)
TG H2S 450 PPM
INC. O2 9.5 % (21 %)
AMINE
STRENGTH 20.2 (WED)

RA-411 IN 477 TEMP 216 (TI)
RA-412 IN 448 TEMP 226
RA-411 DIFF .2 PSI #1 cond out - #1 Rx out
RA-412 DIFF .3 PSI #2 RE Ate out - #2 Rx
TOTAL DIFF .5 PSI SRU inlet Press
INC. TEMP 1365 (1250 MIN)
CAUSTIC
UNIT ON/OFF ON

UTILITIES

LPG TO FUEL 528 GAL\DAY
H2S IN FUEL 60 PPM (800 MAX)
WASTE WATER 209140 GAL\DAY(275 GPM)
H2O2 USEAGE 194 GAL\DAY
SULFIDES 0 (24 HR AVG.)
OIL/GREASE 27 (75 PPM MAX)
H2O2 TK Gg. 2-6½ FT\IN

STEAM LB\HR AVG. Factor
REFORMER 5.2 x 3057 = 15896
GO WHB Not working 1773 = 0
SRU 3.5 x 1123 = 3931
NITROGEN 228 INCHES
*FLARE GAS 3.0 UNITS
*FLARE STM 5.0 UNITS

*HYDROPROCESSING CHART UTFR-001\050 (2500 LBS\PER HR.)

1 OPERATOR YES

HYDROPROCESSING SUMMARY

MIDNIGHT 10-26 TO MIDNIGHT 10-27

NAPHTHA DESULFURIZER

ROCESS OPR TWO

VG. ____ CHARGE RATE 6142 BPD
RA-106 DIFF PSI 30
RA-103 DIFF PSI 10
SWT FEED Ø BPD

RA-106 INLET TEMP 657
H-101 STATUS ON
H-102 STATUS OFF

REFORMER

VG. ____ CHARGE RATE 6303 BPD
REFORMATE YIELD 5134
REFORMATE YIELD 81 %
RUNDOWN TANK 25001
OCTANE TARGET 97.5-98.0
OCTANE ACTUAL 98.2
MOISTURE PPM
~~DRAGER~~\ANALYZER \4.7
H2S PPM .5
HCL PPM Ø

REACTOR TEMPERATURES

	#1	#2	#3	TOTAL
INLET	951	949	951	
OUTLET	832	906	945	
DIFF	119	43	6	168

INJECTION TARGETS
METHANOL 3.0 PPM(H2O)
EDC 2.0 PPM(C1)
RANAREX .30 PPM : H2\HYDRO RATIO 6.
*AS PER CHART

DISTILLATE DESULFURIZER

VG. ____ CHARGE RATE 6657 BPD
~~DIE~~\JET-A JET
YIELD 6555 BPD
CHARGE TANK 20,005
RD TANK 20,003

RA-501
INLET TEMP 668
DIFF PSI 35
NAP YIELD 659
TK\UNIT Flash tower

GAS OIL DESULFURIZER

G. yes

	GO	Diesel		Gasoil	Diesel
CHG RATE	8334	7144	TANK	150001	10007
GAS OIL	8917	7300	TANK	150002	
DIESEL	2244	7936	TANK	50002	50002
NAPHTHA	296		TK\UNIT	Flash tower	

TEMPERATURES

	IN	OUT	DIFF
RA-301	650	677	27
RA-305	677	673	4

O OPR YES

SULFUR RECOVERY UNIT

ACID GAS 629 MMSCFD
SULFUR 37 TONS\DAY
STORAGE 81 INCHES
LOADS OUT 1 24HRS
INC. SO2 90 PPM (500 MAX)
TG H2S 500 PPM
INC. O2 9.0 % (21 %)
AMINE
STRENGTH 22.8 (WED)

RA-411 IN 477 TEMP
RA-412 IN 465 TEMP
RA-411 DIFF ? PSI
RA-412 DIFF .3 PSI
TOTAL DIFF 3.2 PSI
INC. TEMP 1366 (1250 MIN)
CAUSTIC
UNIT ON/OFF OFF

UTILITIES

LPG TO FUEL 5230 GAL\DAY
H2S IN FUEL 30 PPM (800 MAX)
WASTE WATER 410100 GAL\DAY(275 GPM)
H2O2 USEAGE 848 GAL\DAY
SULFIDES Ø (24 HR AVG.)
OIL/GREASE 17 (75 PPM MAX)
H2O2 TK Gg. 6-2½ FT\IN

STEAM LB\HR
REFORMER 15591
GO WHB 1773
SRU 4043
NITROGEN 228 INCHES
*FLARE GAS 2.8 UNITS
*FLARE STM 5.6 UNITS

*HYDROPROCESSING CHART UTFR-001\050 (2500 LBS\PER HR.)

1 OPERATOR RC

HYDROPROCESSING SUMMARY

MIDNIGHT 10-27 TO MIDNIGHT 10-28

NAPHTHA DESULFURIZER

ROCESS OPR TT & RC

/G. ____ CHARGE RATE 6061 BPD
RA-106 DIFF PSI 30
RA-103 DIFF PSI 10
SWT FEED Ø BPD

RA-106 INLET TEMP 638
H-101 STATUS ON
H-102 STATUS OFF

REFORMER

/G. ____ CHARGE RATE 6332 BPD
REFORMATE YIELD 5134
REFORMATE YIELD 81 %
RUNDOWN TANK 25001
OCTANE TARGET 97.5-98.0
OCTANE ACTUAL 98.3
MOISTURE PPM
~~DRAGER~~\ANALYZER \4.6
H2S PPM 1.0
HCL PPM .5

REACTOR TEMPERATURES

	#1	#2	#3	TOTAL
INLET	951	949	950	
OUTLET	831	906	944	
DIFF	120	43	6	169

INJECTION TARGETS
METHANOL 3.0 PPM(H2O)
EDC 2.0 PPM(C1)
RANAREX .30 PPM

H2\HYDRO RATIO 6.2
*AS PER CHART

DISTILLATE DESULFURIZER

G. ____ CHARGE RATE 6559 BPD
~~DIE~~\JET-A JET
YIELD 6650 BPD
CHARGE TANK 20005
RD TANK 20003 Switched to 12502 @ 60 pm

RA-501
INLET TEMP 653
DIFF PSI 50
NAP YIELD 522
TK\UNIT Flash/crude

GAS OIL DESULFURIZER

G. ____ CHG RATE 7994
GAS OIL Ø
DIESEL 9546
NAPHTHA 1815

TANK 10007
TANK 59002
TANK ~~[illegible]~~
TK\UNIT Flash/crude

TEMPERATURES

	IN	OUT	DIFF
RA-301	631	655	24
RA-305	655	652	3

OPR JKW

SULFUR RECOVERY UNIT

ACID GAS 561 MMSCFD
SULFUR 33 TONS\DAY
STORAGE 66 INCHES
LOADS OUT 2 24HRS
INC. SO2 130 PPM (500 MAX)
TG H2S 450 PPM
INC. O2 9.3 % (21 %)
AMINE
STRENGTH 22.8 (WED)

RA-411 IN 492 TEMP
RA-412 IN 469 TEMP
RA-411 DIFF .2 PSI
RA-412 DIFF .4 PSI
TOTAL DIFF 2.6 PSI
INC. TEMP 1364 (1250 MIN)
CAUSTIC
UNIT ON/OFF OFF

UTILITIES

LPG TO FUEL 5084 GAL\DAY
H2S IN FUEL 40 PPM (800 MAX)
WASTE WATER 361610 GAL\DAY(275 GPM)
H2O2 USEAGE 117 GAL\DAY
SULFIDES Ø (24 HR AVG.)
OIL/GREASE 3 (75 PPM MAX)
H2O2 TK Gg. 6-1 FT\IN

STEAM LB\HR
REFORMER 15285
GO WHB 886
SRU 3930
NITROGEN 223 INCHES
*FLARE GAS 6.3 UNITS
*FLARE STM 6.7 UNITS

*HYDROPROCESSING CHART UTFR-001\050 (2500 LBS\PER HR.)

1 OPERATOR_____

HYDROPROCESSING SUMMARY

MIDNIGHT 10-28-88 TO MIDNIGHT 10-29-88

NAPHTHA DESULFURIZER

OCESS OPR AL J. CHERLYN T.

G.____ CHARGE RATE 5980 BPD
RA-106 DIFF PSI 45
RA-103 DIFF PSI 5
SWT FEED 0 BPD

RA-106 INLET TEMP 652
H-101 STATUS ON
H-102 STATUS OFF

REFORMER

G.____ CHARGE RATE 6332 BPD
REFORMATE YIELD 5058
REFORMATE YIELD 79 %
RUNDOWN TANK 25001
OCTANE TARGET 97.5-98.0
OCTANE ACTUAL 98.4
MOISTURE PPM
DRAGER\ANALYZER 4.4
H2S PPM .5
HCL PPM TRACE

REACTOR TEMPERATURES

	#1	#2	#3	TOTAL
INLET	951	949	950	
OUTLET	831	908	946	
DIFF	120	41	4	165

INJECTION TARGETS

METHANOL 3 PPM(H2O)
EDC 2 PPM(C1)
RANAREX .31 PPM

: H2\HYDRO RATIO 6.0
*AS PER CHART

DISTILLATE DESULFURIZER

G.____ CHARGE RATE 4992 BPD
DIE\JET-A JET-A
YIELD 5128 BPD
CHARGE TANK 20005
RD TANK 20003

RA-501
INLET TEMP 672
DIFF PSI 25
NAP YIELD 531
TK\UNIT FLASH TWR

GAS OIL DESULFURIZER

ON DIESEL

G.____ CHG RATE 8844
GAS OIL ——
DIESEL 12274
NAPHTHA 435

TANK 10007
TANK ——
TANK 50002
TK\UNIT FLASH TWR

TEMPERATURES

	IN	OUT	DIFF
RA-301	627	649	+22
RA-305	649	647	-2

OPR DAVE V.

SULFUR RECOVERY UNIT

ACID GAS 476 MMSCFD
SULFUR 28 TONS\DAY
STORAGE 66 INCHES
LOADS OUT 1 24HRS
INC. SO2 7002 PPM (500 MAX)
TG H2S 375 PPM
INC. O2 10.5 % (21 %)
AMINE STRENGTH 22.8 (WED)

RA-411 IN 484 TEMP
RA-412 IN 463 TEMP
RA-411 DIFF .4 PSI
RA-412 DIFF .5 PSI
TOTAL DIFF 1.8 PSI
INC. TEMP 1364 (1250 MIN)
CAUSTIC UNIT ON/OFF OFF

UTILITIES

LPG TO FUEL 2205 GAL\DAY
H2S IN FUEL 30 PPM (300 MAX)
WASTE WATER 358810 GAL\DAY (275 GPM)
H2O2 USEAGE 83 GAL\DAY
SULFIDES 0 (24 HR AVG.)
OIL/GREASE 26 (75 PPM MAX)
H2O2 TK Gg. 6-0 FT\IN

STEAM LB\HR
REFORMER 15,285
GO WHB 1000
SRU 3799
NITROGEN 211 INCHES
*FLARE GAS 5.9 UNITS
*FLARE STM 4.2 UNITS

*HYDROPROCESSING CHART UTFR-001\050 (2500 LBS\PER HR.)

#1 OPERATOR [illegible]

HYDROPROCESSING SUMMARY

MIDNIGHT 10-29-88 TO MIDNIGHT 10-30-88

NAPHTHA DESULFURIZER

PROCESS OPR A. Johnson

AVG. ____ CHARGE RATE 6061 BPD
RA-106 DIFF PSI 45
RA-103 DIFF PSI 5
SWT FEED Ø BPD

RA-106 INLET TEMP 682
H-101 STATUS ON
H-102 STATUS OFF

REFORMER

AVG. ____ CHARGE RATE 6332 BPD
REFORMATE YIELD 5058
REFORMATE YIELD 80 %
RUNDOWN TANK 35,001
OCTANE TARGET 97.5-97.8
OCTANE ACTUAL 97.6
MOISTURE PPM
DRAGER\ANALYZER \4.5
H2S PPM .5
HCL PPM TRACE

REACTOR TEMPERATURES

	#1	#2	#3	TOTAL
INLET	950	948	949	
OUTLET	831	908	945	
DIFF	119	40	4	63

INJECTION TARGETS

METHANOL 3.0 PPM(H2O)
EDC 2.0 PPM(C1)
RANAREX .30 PPM

H2\HYDRO RATIO 6
*AS PER CHART

DISTILLATE DESULFURIZER

AVG. ____ CHARGE RATE 2447 BPD
DIE\JET-A 2574
YIELD 3040 BPD
CHARGE TANK 20,005
RD TANK 12,561

RA-501
INLET TEMP 722
DIFF PSI 25
NAP YIELD 458
TK\UNIT FLASH TOWER

GAS OIL DESULFURIZER

AVG. ____ CHG RATE 7484
GAS OIL 7536
DIESEL 2706
NAPHTHA 820

TANK 150,001
TANK 150,001
TANK 150,001
TK\UNIT FLASH TOWER

TEMPERATURES

	IN	OUT	DIFF
RA-301	683	708	25
RA-305	708	704	4

SRU OPR D. Ventura

SULFUR RECOVERY UNIT

ACID GAS 544 MMSCFD
SULFUR 32 TONS\DAY
STORAGE 74 INCHES
LOADS OUT Ø 24HRS
INC. SO2 100 PPM (500 MAX)
TG H2S 300 PPM
INC. O2 10.5 % (21 %)
AMINE STRENGTH 22.8 (WED)

RA-411 IN 471 TEMP
RA-412 IN 441 TEMP
RA-411 DIFF 3 PSI
RA-412 DIFF .1 PSI
TOTAL DIFF 2.4 PSI
INC. TEMP 1367 (1250 MIN)
CAUSTIC UNIT ON/OFF OFF

UTILITIES

LPG TO FUEL 4828 GAL\DAY
H2S IN FUEL 30 PPM (800 MAX)
WASTE WATER 407,550 GAL\DAY (275 GPM)
H2O2 USEAGE 83 GAL\DAY
SULFIDES Ø (24 HR AVG.)
OIL/GREASE 26 (75 PPM MAX)
H2O2 TK Gg. 5'4" FT\IN

STEAM LB\HR
REFORMER 16,508
GO WHB —
SRU 4551
NITROGEN 210 INCHES
*FLARE GAS N/A UNITS
*FLARE STM 5.0 UNITS

*HYDROPROCESSING CHART UTFR-001\050 (2500 LBS\PER HR.)

1 OPERATOR WAVE 1

HYDROPROCESSING SUMMARY

MIDNIGHT 10-30-88 TO MIDNIGHT 10-31-88

NAPHTHA DESULFURIZER

ROCESS OPR CHERLYN T.

VG. ____ CHARGE RATE 6060 BPD
RA-106 DIFF PSI 45
RA-103 DIFF PSI 5
SWT FEED 0 BPD

RA-106 INLET TEMP 654
H-101 STATUS ON
H-102 STATUS OFF

REFORMER

VG. ____ CHARGE RATE 6332 BPD
REFORMATE YIELD 5056
REFORMATE YIELD 80 %
RUNDOWN TANK 25000
OCTANE TARGET 975
OCTANE ACTUAL 97.9
MOISTURE PPM
DRAGER\ANALYZER .46
H2S PPM TRACE
HCL PPM .7

REACTOR TEMPERATURES

	#1	#2	#3	TOTAL
INLET	950	949	949	
OUTLET	834	917	947	
DIFF	116	38	2	156

INJECTION TARGETS

METHANOL 3.0 PPM(H2O)
EDC 2.0 PPM(C1)
RANAREX .32 PPM

H2\HYDRO RATIO 6.3
*AS PER CHART

DISTILLATE DESULFURIZER

G. ____ CHARGE RATE 2349 BPD
DIE\JET-A DIESEL
YIELD 3039 BPD
CHARGE TANK 10000
RD TANK 50002

RA-501
INLET TEMP 711
DIFF PSI 25
NAF YIELD 275
TK\UNIT FLASH TOWER

GAS OIL DESULFURIZER

G. ____ CHG RATE 6974
GAS OIL 7913
DIESEL 2574
NAPHTHA 156

TANK 150001
TANK 50008
TANK 50002
TK\UNIT FLASH TOWER

TEMPERATURES

	IN	OUT	DIFF
RA-301	688	718	30
RA-305	718	714	4

J OPR DAVE V.

SULFUR RECOVERY UNIT

ACID GAS 570 MMSCFD
SULFUR 34 TONS\DAY
STORAGE 86 INCHES
LOADS OUT 0 24HRS
INC. SO2 500 PPM (500 MAX)
TG H2S 600 PPM
INC. O2 10.0 % (21 %)
AMINE STRENGTH 228 (WED)

RA-411 IN 466 TEMP
RA-412 IN 456 TEMP
RA-411 DIFF .3 PSI
RA-412 DIFF .1 PSI
TOTAL DIFF 2.6 PSI
INC. TEMP 1364 (1250 MIN)
CAUSTIC UNIT ON/OFF OFF

UTILITIES

LPG TO FUEL 0 GAL\DAY
H2S IN FUEL 30 PPM (800 MAX)
WASTE WATER 71,010 GAL\DAY(275 GPM)
H2O2 USEAGE 83 GAL\DAY
SULFIDES Unpounded (24 HR AVG.)
OIL/GREASE 102 (75 PPM MAX)
H2O2 TK Gg. 5-10 FT\IN

STEAM LB\HR
REFORMER 15,896
GO WHB
SRU 5318
NITROGEN 205 INCHES
*FLARE GAS N/E UNITS
*FLARE STM 6.2 UNITS

*HYDROPROCESSING CHART UTFR-001\050 (2500 LBS\PER HR.)

OPERATOR J.C.W.

HYDROPROCESSING SUMMARY

MIDNIGHT 11-10-88 TO MIDNIGHT 11-11-88

NAPHTHA DESULFURIZER

OCESS, OPR Hardy, Bob

G.____ CHARGE RATE 5899 BPD
RA-106 DIFF PSI 47
RA-103 DIFF PSI 13
SWT FEED 0 BPD

RA-106 INLET TEMP 661
H-101 STATUS ON
H-102 STATUS OFF

REFORMER

G.____ CHARGE RATE 6245 BPD
REFORMATE YIELD 5379
REFORMATE YIELD 86 %
RUNDOWN TANK 25001
OCTANE TARGET 99.5-100
OCTANE ACTUAL 99.7
MOISTURE PPM
DRAGER\ANALYZER \3.5
H2S PPM .5
HCL PPM 2.0

REACTOR TEMPERATURES

	#1	#2	#3	TOTAL
INLET	962	962	961	
OUTLET	848	932	966	
DIFF	114	30	+5	139

INJECTION TARGETS
METHANOL 3.0 PPM(H2O)
EDC 1.0 PPM(C1)
RANAREX .37 PPM

H2\HYDRO RATIO 7.7
*AS PER CHART

DISTILLATE DESULFURIZER

.____ CHARGE RATE 6069 BPD
DIE\JET-A 6461
YIELD 6270 BPD
CHARGE TANK 20005
RD TANK 12502

RA-501
INLET TEMP 663
DIFF PSI 55
NAP YIELD 641
TK\UNIT CRUDE K 12,5002

GAS OIL DESULFURIZER

.____ CHG RATE 9185
GAS OIL 6287
DIESEL 1762
NAPHTHA 87

TANK 150001
TANK 50008
TANK 50002
TK\UNIT CRUDE K

TEMPERATURES

	IN	OUT	DIFF
RA-301	720	739	19
RA-305	739	733	6

OPR Crane, Dan

SULFUR RECOVERY UNIT

ACID GAS 546 MMSCFD
SULFUR 34 TONS\DAY
STORAGE 72 INCHES
LOADS OUT 3 24HRS
INC. SO2 160 PPM (500 MAX)
TG H2S 475 PPM
INC. O2 10 % (21 %)
AMINE
STRENGTH — (WED)

RA-411 IN 452 TEMP
RA-412 IN 434 TEMP
RA-411 DIFF .2 PSI
RA-412 DIFF .1 PSI
TOTAL DIFF 2.4 PSI
INC. TEMP 1368 (1250 MIN)
CAUSTIC
UNIT ON/OFF

UTILITIES

LPG TO FUEL 0 GAL\DAY
H2S IN FUEL 30 PPM (800 MAX)
WASTE WATER 369830 GAL\DAY(275 GPM)
H2O2 USEAGE 845 GAL\DAY
SULFIDES 0 (24 HR AVG.)
OIL/GREASE 14 (75 PPM MAX)
H2O2 TK Gg. 3'11" FT\IN

STEAM LB\HR
REFORMER 14674
GO WHB —
SRU 6584
NITROGEN 27.8 INCHES
*FLARE GAS — UNITS
*FLARE STM 9.0 UNITS

*HYDROPROCESSING CHART UTEP-001\OFR (OFAA \ BS\PER HR)

OPERATOR_____

HYDROPROCESSING SUMMARY

MIDNIGHT 11-9-88 TO MIDNIGHT 11-10-88

NAPHTHA DESULFURIZER

OCESS OPR Buel - Harry

3.____ CHARGE RATE 5979 BPD
RA-106 DIFF PSI 65
RA-103 DIFF PSI 55
SWT FEED 0 BPD

RA-106 INLET TEMP 647
H-101 STATUS ON
H-102 STATUS OFF

REFORMER

3.____ CHARGE RATE 6245 BPD
REFORMATE YIELD 4691
REFORMATE YIELD 75 %
RUNDOWN TANK 25001
OCTANE TARGET 99.5-100
OCTANE ACTUAL 99.8
MOISTURE PPM
DRAGER\ANALYZER \3.7
H2S PPM Trace
HCL PPM 1.0

REACTOR TEMPERATURES

	#1	#2	#3	TOTAL
INLET	962	961	961	
OUTLET	843	928	966	
DIFF	119	33	+5	147

INJECTION TARGETS

METHANOL 3.0 PPM(H2O)
EDC 1.0 PPM(C1)
RANAREX .36 PPM

H2\HYDRO RATIO 6.8
*AS PER CHART

DISTILLATE DESULFURIZER

.____ CHARGE RATE 4000 BPD
DIE\JET-A
YIELD 3961 BPD
CHARGE TANK 20005/2
RD TANK 50002/1050/

RA-501
INLET TEMP 676
DIFF PSI 40
NAP YIELD 641
TK\UNIT 125002 CODE R

GAS OIL DESULFURIZER

.____ CHG RATE 9000
GAS OIL 6202
DIESEL 1849
NAPHTHA 87

TANK 150001
TANK 50008
TANK 50002
TK\UNIT 12500

TEMPERATURES

	IN	OUT	DIFF
RA-301	722	742	20
RA-305	742	735	7

OPR DAN - Conlie

SULFUR RECOVERY UNIT

ACID GAS 546 MMSCFD
SULFUR 32 TONS\DAY
STORAGE 95 INCHES
LOADS OUT 2 24HRS
INC. SO2 120 PPM (500 MAX)
TG H2S 500 PPM
INC. O2 10.0 % (21 %)
AMINE STRENGTH — (WED)

RA-411 IN 403 TEMP
RA-412 IN 400 TEMP
RA-411 DIFF .25 PSI
RA-412 DIFF .3 PSI
TOTAL DIFF 2.8 PSI
INC. TEMP 1368 (1250 MIN)
CAUSTIC UNIT ON/OFF

UTILITIES

LPG TO FUEL 0 GAL\DAY
H2S IN FUEL 30 PPM (800 MAX)
WASTE WATER 40,862 GAL\DAY (275 GPM)
H2O2 USEAGE 339 GAL\DAY
SULFIDES 0 (24 HR AVG.)
OIL/GREASE 16 (75 PPM MAX)
H2O2 TK Gg. 4'4" FT\IN

STEAM LB\HR
REFORMER 16813
GO WHB 0
SRU 4432
NITROGEN 278 INCHES
*FLARE GAS — UNITS
*FLARE STM 2.0 UNITS

*HYDROPROCESSING CHART UTES-001\OFD (SEAS LOG\PER HR.)

OPERATOR DAVE V.

HYDROPROCESSING SUMMARY

MIDNIGHT 11-8-88 TO MIDNIGHT 11-9-88

AL J.

NAPHTHA DESULFURIZER

OCESS OPR CHERLYN T.

S.____ CHARGE RATE 6142 BPD
RA-106 DIFF PSI 45
RA-103 DIFF PSI 5
SWT FEED 0 BPD

RA-106 INLET TEMP 647
H-101 STATUS ON
H-102 STATUS OFF

REFORMER

S.____ CHARGE RATE 6333 BPD
REFORMATE YIELD 5738
REFORMATE YIELD 91 %
RUNDOWN TANK 25001
OCTANE TARGET 99.5-100
OCTANE ACTUAL 99.7
MOISTURE PPM
DRAGER\ANALYZER 3.8
H2S PPM .5
HCL PPM 1.7

REACTOR TEMPERATURES

	#1	#2	#3	TOTAL
INLET	965	963	964	
OUTLET	841	929	971	
DIFF	124	34	+7	151

INJECTION TARGETS

METHANOL 3 PPM (H2O)
EDC 1 PPM (C1)
RANAREX .35 PPM

H2\HYDRO RATIO 6.9
*AS PER CHART

4 HR RUN

DISTILLATE DESULFURIZER

.____ CHARGE RATE 2545 BPD
DIE JET-A DIE
YIELD 2850 BPD
CHARGE TANK 10007
RD TANK 50002

RA-501
INLET TEMP 731
DIFF PSI 40
NAP YIELD 641
TK\UNIT CRUDE TK

GAS OIL DESULFURIZER

.____ CHG RATE 9015
GAS OIL 9169
DIESEL 1914
NAPHTHA 157

TANK 150001
TANK 50008
TANK 10007
TK\UNIT CRUDE TK

TEMPERATURES

	IN	OUT	DIFF
RA-301	716	738	+22
RA-305	738	733	5

OPR DAVE V.

SULFUR RECOVERY UNIT

ACID GAS 621 MMSCFD
SULFUR 37 TONS\DAY
STORAGE 83 INCHES
LOADS OUT 1 24HRS
INC. SO2 210 PPM (500 MAX)
TG H2S 425 PPM
INC. O2 9.8 % (21 %)
AMINE
STRENGTH 23.6 (WED)

RA-411 IN 446 TEMP
RA-412 IN 428 TEMP
RA-411 DIFF .2 PSI
RA-412 DIFF .1 PSI
TOTAL DIFF 3.2 PSI
INC. TEMP 1368 (1250 MIN)
CAUSTIC
UNIT ON/OFF OFF

UTILITIES

LPG TO FUEL 0 GAL\DAY
H2S IN FUEL 20 PPM (800 MAX)
WASTE WATER 379490 GAL\DAY (275 GPM)
H2O2 USEAGE 83 GAL\DAY
SULFIDES 0 (24 HR AVG.)
OIL/GREASE 18 (75 PPM MAX)
H2O2 TK Gg. 4-4½ FT\IN

STEAM LB\HR
REFORMER 17119
GO WHB
SRU 5065
NITROGEN 258 INCHES
*FLARE GAS ____ UNITS
*FLARE STM 7.0 UNITS

*HYDROPROCESSING CHART UTER-OCI\050 (2500 LBS\PER HR.)

#1 OPERATOR YES

HYDROPROCESSING SUMMARY

MIDNIGHT 11-6 TO MIDNIGHT 11-7-88

NAPHTHA DESULFURIZER

PROCESS OPR YES

AVG. ____ CHARGE RATE 6061 BPD
RA-106 DIFF PSI 45
RA-103 DIFF PSI 10
SWT FEED Ø BPD

RA-106 INLET TEMP 648
H-101 STATUS ON
H-102 STATUS OFF

REFORMER

AVG. ____ CHARGE RATE 6376 BPD
REFORMATE YIELD 4756
REFORMATE YIELD 25 %
RUNDOWN TANK 25001
OCTANE TARGET 99.5-100
OCTANE ACTUAL 99.6
MOISTURE PPM
~~DRAGER~~\ANALYZER \4.0
H2S PPM .5
HCL PPM 1.5

REACTOR TEMPERATURES

	#1	#2	#3	TOTAL
INLET	960	961	960	
OUTLET	836	923	963	
DIFF	124	38	-3	159

INJECTION TARGETS

METHANOL 3.0 PPM(H2O)
EDC 1.0 PPM(C1)
RANAREX .34 PPM

H2\HYDRO RATIO 7 C
*AS PER CHART

DISTILLATE DESULFURIZER

AVG. ____ CHARGE RATE 2545 BPD
DIE\~~JET~~ DIESEL
YIELD 3040 BPD
CHARGE TANK 10007
RD TANK 50002

RA-501
INLET TEMP 721
DIFF PSI 35
NAP YIELD 421
TK\UNIT Flash tower

GAS OIL DESULFURIZER

AVG. ____ CHG RATE 7654
GAS OIL 7661
DIESEL 3234
NAPHTHA 261

TANK 150001
TANK 50008
TANK 50002
TK\UNIT Flash tower

TEMPERATURES

	IN	OUT	DIFF
RA-301	712	735	23
RA-305	735	729	6

TU OPR YES

SULFUR RECOVERY UNIT

ACID GAS 612 MMSCFD
SULFUR 36 TONS\DAY
STORAGE 91 INCHES
LOADS OUT Ø 24HRS
INC. SO2 110 PPM (500 MAX)
TG H2S 400 PPM
INC. O2 10 % (21 %)
AMINE STRENGTH 23.6 (WED)

RA-411 IN 456 TEMP
RA-412 IN 437 TEMP
RA-411 DIFF .2 PSI
RA-412 DIFF .3 PSI
TOTAL DIFF 2.0 PSI
INC. TEMP 1367 (1250 MIN)
CAUSTIC UNIT ON/OFF OFF

UTILITIES

LPG TO FUEL Ø GAL\DAY
H2S IN FUEL 20 PPM (800 MAX)
WASTE WATER 374920 GAL\DAY (275 GPM)
H2O2 USEAGE 128 GAL\DAY
SULFIDES Ø (24 HR AVG.)
OIL/GREASE 17 (75 PPM MAX)
H2O2 TK Gg. 4-7½ FT\IN

STEAM LB\HR
REFORMER 17119
GO WHB 886
SRU 4492
NITROGEN 118 INCHES
*FLARE GAS 8/0 UNITS
*FLARE STM 6.2 UNITS

*HYDROPROCESSING CHART UTFR-001\D50 (2500 LBS\PER HR.)

#1 OPERATOR RC

HYDROPROCESSING SUMMARY

MIDNIGHT 11-5 TO MIDNIGHT 11-6-88

NAPHTHA DESULFURIZER

PROCESS OPR RC

AVG: ____ CHARGE RATE 6061 BPD
RA-106 DIFF PSI 45
RA-103 DIFF PSI 10
SWT FEED Ø BPD

RA-106 INLET TEMP 650
H-101 STATUS ON
H-102 STATUS OFF

REFORMER

AVG. ____ CHARGE RATE 6332 BPD
REFORMATE YIELD 4756
REFORMATE YIELD 75 %
RUNDOWN TANK 25001
OCTANE TARGET 99.5-100
OCTANE ACTUAL 99.7
MOISTURE PPM
~~DRAGER~~ ANALYZER \4.1
H2S PPM .5
HCL PPM 2.0

REACTOR TEMPERATURES

	#1	#2	#3	TOTAL
INLET	962	961	962	
OUTLET	838	923	965	
DIFF	124	38	+3	159

INJECTION TARGETS
METHANOL 3.0 PPM (H2O)
EDC 1.0 PPM (Cl)
RANAREX .34 PPM

H2\HYDRO RATIO 7.6
*AS PER CHART

DISTILLATE DESULFURIZER

AVG. ____ CHARGE RATE 3916 (JET) / 2545 (DIESEL) BPD
DIE\JET-A DIESEL @ 5 PPM
YIELD 4178/3324 BPD
CHARGE TANK 20005 / 10007 (Diesel)
RD TANK 12502 / 50002

RA-501
INLET TEMP 728
DIFF PSI 35
NAP YIELD 430
TK\UNIT Flash tower

GAS OIL DESULFURIZER

AVG. ____ CHG RATE 8764
GAS OIL 7536
DIESEL 3234
NAPHTHA 261

TANK 150,001
TANK 50008
TANK 50,002
TK\UNIT Flash tower

TEMPERATURES

	IN	OUT	DIFF
RA-301	712	735	23
RA-305	735	728	7

STU OPR TJ-JK W

SULFUR RECOVERY UNIT

ACID GAS 612 MMSCFD
SULFUR 36 TONS\DAY
STORAGE 80 INCHES
LOADS OUT Ø 24HRS
INC. SO2 180 PPM (500 MAX)
TG H2S 600 PPM
INC. O2 10.0 % (21 %)
AMINE STRENGTH 23.6 (WED)

RA-411 IN 440 TEMP
RA-412 IN 431 TEMP
RA-411 DIFF .2 PSI
RA-412 DIFF .3 PSI
TOTAL DIFF 3.0 PSI
INC. TEMP 1367 (1250 MIN)
CAUSTIC UNIT ON/OFF OFF

UTILITIES

LPG TO FUEL Ø GAL\DAY
H2S IN FUEL 40 PPM (800 MAX)
WASTE WATER 349360 GAL\DAY (275 GPM)
H2O2 USEAGE 127 GAL\DAY
SULFIDES Ø (24 HR AVG.)
OIL/GREASE 21 (75 PPM MAX)
H2O2 TK Gg. 4-9 FT\IN

STEAM LB\HR
REFORMER 16508
GO WHB 886
SRU 4492
NITROGEN 132 INCHES
*FLARE GAS 8/0 UNITS
*FLARE STM 6.0 UNITS

*HYDROPROCESSING CHART UTFR-001\050 (2500 LBS\PER HR.)

#1 OPERATOR RC

HYDROPROCESSING SUMMARY

MIDNIGHT 11-4 TO MIDNIGHT 11-5

NAPHTHA DESULFURIZER

ROCESS, OPR TJ & RC

VG. ____ CHARGE RATE 6060 BPD
RA-106 DIFF PSI 45
RA-103 DIFF PSI 10
SWT FEED Ø BPD

RA-106 INLET TEMP 650
H-101 STATUS ON
H-102 STATUS OFF

REFORMER

VG. ____ CHARGE RATE 6332 BPD
REFORMATE YIELD 4907
REFORMATE YIELD 77 %
RUNDOWN TANK 25007
OCTANE TARGET 99.5-100
OCTANE ACTUAL 99.5
MOISTURE PPM
~~BRAGER~~\ANALYZER \4.3
H2S PPM .5
HCL PPM 1.0

REACTOR TEMPERATURES

	#1	#2	#3	TOTAL
INLET	958	958	957	
OUTLET	837	919	959	
DIFF	121	39	+2	15

INJECTION TARGETS
METHANOL 3.0 PPM(H2O)
EDC 1.0 PPM(C1)
RANAREX .33 PPM

H2\HYDRO RATIO 6.9
*AS PER CHART

DISTILLATE DESULFURIZER

G. ____ CHARGE RATE 3916 BPD
DIE\JET-A ~~4178~~
YIELD 4178 BPD
CHARGE TANK 20005
RD TANK 12502

RA-501
INLET TEMP 674
DIFF PSI 30
NAP YIELD 430
TK\UNIT Flash Tower

GAS OIL DESULFURIZER

G. yes CHG RATE 8845
GAS OIL 9546
DIESEL 2772
NAPHTHA 174

TANK 150,001
TANK 50,008
TANK 50,002
TK\UNIT Flash tower

TEMPERATURES

	IN	OUT	DIFF
RA-301	704	728	-24
RA-305	728	724	4

J OPR JW

SULFUR RECOVERY UNIT

ACID GAS 569.5 MMSCFD
SULFUR 33.5 TONS\DAY
STORAGE 70.5 INCHES
LOADS OUT 2 24HRS
INC. SO2 160 PPM (500 MAX)
TG H2S 600 PPM
INC. O2 9.8 % (21 %)
AMINE
STRENGTH 23.6 (WED)

RA-411 IN 467 TEMP
RA-412 IN 435 TEMP
RA-411 DIFF 2 PSI
RA-412 DIFF .3 PSI
TOTAL DIFF 2.2 PSI
INC. TEMP 1365 (1250 MIN)
CAUSTIC
UNIT ON/OFF OFF

UTILITIES

LPG TO FUEL Ø GAL\DAY
H2S IN FUEL 1.0 PPM (800 MAX)
WASTE WATER 372260 GAL\DAY(275 GPM)
H2O2 USEAGE 128 GAL\DAY
SULFIDES Ø (24 HR AVG.)
OIL/GREASE 19 (75 PPM MAX)
H2O2 TK Gg. 4-10½ FT\IN

STEAM LB\HR
REFORMER 14674
GO WHB 886
SRU 4043
NITROGEN 137 INCHES
*FLARE GAS 8/0 UNITS
*FLARE STM 6.3 UNITS

*HYDROPROCESSING CHART [illegible]

1 OPERATOR Yeo

HYDROPROCESSING SUMMARY

MIDNIGHT 11/3/88 TO MIDNIGHT 11/4/88

NAPHTHA DESULFURIZER

PROCESS OPR Burl/Mike

AVG. Yes
CHARGE RATE 6060 BPD
RA-106 DIFF PSI 50
RA-103 DIFF PSI 10
SWT FEED 0 BPD

RA-106 INLET TEMP 650
H-101 STATUS on
H-102 STATUS OFF

REFORMER

AVG. Yes
CHARGE RATE 6333 BPD
REFORMATE YIELD 5059
REFORMATE YIELD 79 %
RUNDOWN TANK 25001
OCTANE TARGET 98.0
OCTANE ACTUAL 98.3
MOISTURE PPM
DRAGER\ANALYZER 4.0
H2S PPM TRACE
HCL PPM TRACE

REACTOR TEMPERATURES

	#1	#2	#3	TOTAL
INLET	948	948	948	
OUTLET	828	905	945	
DIFF	120	43	3	166

INJECTION TARGETS
METHANOL 3 PPM(H2O)
EDC 1 PPM(C1)
RANAREX .31 PPM

H2\HYDRO RATIO 6.
*AS PER CHART

DISTILLATE DESULFURIZER

AVG. Yes
CHARGE RATE 4014 BPD
DIE\JET-A
YIELD 4180 BPD
CHARGE TANK 20005
RD TANK 20003

RA-501
INLET TEMP 673
DIFF PSI 30
NAP YIELD 458
TK\UNIT FLASH TOWER

GAS OIL DESULFURIZER

AVG. Yes
CHG RATE 9015
GAS OIL 9546
DIESEL 2739
NAPHTHA 244

TANK 150001
TANK 50008
TANK 50002
TK\UNIT FLASH TOWER

TEMPERATURES

	IN	OUT	DIFF
RA-301	696	720	24
RA-305	720	716	4

FU OPR Chuck

SULFUR RECOVERY UNIT

ACID GAS 578 MMSCFD
SULFUR 34 TONS\DAY
STORAGE 79 3/4 INCHES
LOADS OUT ONE 24HRS
INC. SO2 140 PPM (500 MAX)
TG H2S 550 PPM
INC. O2 10.0 % (21 %)
AMINE
STRENGTH 23.6 (WED)

RA-411 IN 442 TEMP
RA-412 IN 425 TEMP
RA-411 DIFF .2 PSI
RA-412 DIFF .2 PSI
TOTAL DIFF .4 PSI
INC. TEMP 1366 (1250 MIN)
CAUSTIC
UNIT ON/OFF ON

UTILITIES

LPG TO FUEL 0 GAL\DAY
H2S IN FUEL 40 PPM (800 MAX)
WASTE WATER 364180 GAL\DAY(275 GPM)
H2O2 USEAGE 145 GAL\DAY
SULFIDES 0 (24 HR AVG.)
OIL/GREASE 22 (75 PPM MAX)
H2O2 TK Gg. 4-11 7/8 FT\IN

STEAM LB\HR
REFORMER 15285
GO WHB N.W.
SRU 4155
NITROGEN 142 INCHES
*FLARE GAS N.W. UNITS
*FLARE STM 6.0 UNITS

*HYDROPROCESSING CHART UTFR-001\050 (2500 LBS\PER HR.)

1 OPERATOR George

HYDROPROCESSING SUMMARY

MIDNIGHT 11/2/88 TO MIDNIGHT 11/3/88

NAPHTHA DESULFURIZER

ROCESS OPR Burl/Mike

AVG. Yes

CHARGE RATE 6060 BPD
RA-106 DIFF PSI 55
RA-103 DIFF PSI 5
SWT FEED 0 BPD

RA-106 INLET TEMP 645
H-101 STATUS ON
H-102 STATUS OFF

REFORMER

AVG. Yes

CHARGE RATE 6329 BPD
REFORMATE YIELD 4555
REFORMATE YIELD 72 %
RUNDOWN TANK 25001
OCTANE TARGET 97.5-98.0
OCTANE ACTUAL 98.2
MOISTURE PPM
DRAGER\ANALYZER 4-4
H2S PPM Trace
HCL PPM .5

REACTOR TEMPERATURES

	#1	#2	#3	TOTAL
INLET	950	949	949	
OUTLET	829	907	947	
DIFF	121	42	2	165

INJECTION TARGETS

METHANOL 3.0 PPM(H2O)
EDC 1.0 PPM(C1)
RANAREX .31 PPM

H2\HYDRO RATIO 6.0
*AS PER CHART

DISTILLATE DESULFURIZER

AVG. Yes

CHARGE RATE 3035 BPD
DIE\JET-A Jet-A
YIELD 3325 BPD
CHARGE TANK 20005
RD TANK 20003

RA-501
INLET TEMP 675
DIFF PSI 30
NAP YIELD
TK\UNIT FLASH TOWER

GAS OIL DESULFURIZER

AVG. Yes

CHG RATE 7825
GAS OIL 8164 TANK 150001
DIESEL 2342 TANK 50008
NAPHTHA 418 TANK 50002
TK\UNIT FLASH TOWER

TEMPERATURES

	IN	OUT	DIFF
RA-301	686	712	26
RA-305	712	708	4

TU OPR Chuck

SULFUR RECOVERY UNIT

ACID GAS 510 MMSCFD
SULFUR 30 TONS\DAY
STORAGE 78 1/4 INCHES
LOADS OUT 2 24HRS
INC. SO2 130 PPM (500 MAX)
TG H2S 450 PPM
INC. O2 10.0 % (21 %)
AMINE STRENGTH 23.6 (WED)

RA-411 IN 446 TEMP
RA-412 IN 423 TEMP
RA-411 DIFF .15 PSI
RA-412 DIFF .2 PSI
TOTAL DIFF .35 PSI
INC. TEMP 1366 (1250 MIN)
CAUSTIC UNIT ON/OFF ON

UTILITIES

LPG TO FUEL 0 GAL\DAY
H2S IN FUEL TRACE PPM (800 MAX)
WASTE WATER 368110 GAL\DAY (275 GPM)
H2O2 USEAGE 239 GAL\DAY
SULFIDES 0 (24 HR AVG.)
OIL/GREASE 12 (75 PPM MAX)
H2O2 TK Gg. 5-1 3/8 FT\IN

STEAM LB\HR
REFORMER 15285
GO WHB 0
SRU 4043
NITROGEN 145 INCHES
*FLARE GAS 8.0 UNITS
*FLARE STM 7.0 UNITS

*HYDROPROCESSING CHART UTFR-001\050 (2500 LBS\PER HR.)

OPERATOR Geo

HYDROPROCESSING SUMMARY

MIDNIGHT 11/11/88 TO MIDNIGHT 11/12/88

OCESS, OPR Bud/Mike

NAPHTHA DESULFURIZER

G. Yes

CHARGE RATE 5899 BPD
RA-106 DIFF PSI 45
RA-103 DIFF PSI 10
SWT FEED 0 BPD

RA-106 INLET TEMP 654
H-101 STATUS ON
H-102 STATUS OFF

REFORMER

G. Yes

CHARGE RATE 6245 BPD
REFORMATE YIELD 4606
REFORMATE YIELD 74 %
RUNDOWN TANK 25001
OCTANE TARGET 99.5-100
OCTANE ACTUAL 100.2
MOISTURE PPM
DRAGER\ANALYZER \3.3
H2S PPM TRACE
HCL PPM 1.0

REACTOR TEMPERATURES

	#1	#2	#3	TOTAL
INLET	962	962	962	
OUTLET	848	932	967	
DIFF	114	30	+5	139

INJECTION TARGETS

METHANOL 3 PPM(H2O)
EDC 1 PPM(C1)
RANAREX .38 PPM

H2\HYDRO RATIO 7.2
*AS PER CHART

DISTILLATE DESULFURIZER

G. Yes

CHARGE RATE 5385 BPD
DIE\JET-A
YIELD 5570 BPD
CHARGE TANK 20005
RD TANK 20003

RA-501
INLET TEMP 654
DIFF PSI 50
NAP YIELD 366
TK\UNIT 125002

GAS OIL DESULFURIZER

G. Yes

CHG RATE 9185 TANK 15001
GAS OIL 6202 TANK 50008
DIESEL 1958 TANK 50002
NAPHTHA 87 TK\UNIT 125001

TEMPERATURES

	IN	OUT	DIFF
RA-301	721	738	17
RA-305	738	733	5

J OPR Chuck

SULFUR RECOVERY UNIT

ACID GAS 536 MMSCFD
SULFUR 32 TONS\DAY
STORAGE 29 1/2 INCHES
LOADS OUT NO 24HRS
INC. SO2 140 PPM (500 MAX)
TG H2S 650 PPM
INC. O2 10.4 % (21 %)
AMINE STRENGTH — (WED)

RA-411 IN 454 TEMP
RA-412 IN 432 TEMP
RA-411 DIFF .1 PSI
RA-412 DIFF .2 PSI
TOTAL DIFF 2.4 PSI
INC. TEMP 1366 (1250 MIN)
CAUSTIC UNIT ON/OFF OFF

UTILITIES

LPG TO FUEL 0 GAL\DAY
H2S IN FUEL 60 PPM (800 MAX)
WASTE WATER 352020 GAL\DAY(275 GPM)
H2O2 USEAGE 204 GAL\DAY
SULFIDES 0 (24 HR AVG.)
OIL/GREASE 10 (75 PPM MAX)
H2O2 TK Gg. 3-8 1/2 FT\IN

STEAM LB\HR
REFORMER 16202
GO WHB —
SRU 3369
NITROGEN 225 INCHES
*FLARE GAS N/W UNITS
*FLARE STM 6.4 UNITS

*HYDROPROCESSING CHART UTEP-001\REP (GEAR LOG\REP UP)

#1 OPERATOR YGD

HYDROPROCESSING SUMMARY

MIDNIGHT 11/12 TO MIDNIGHT 11/13/88

PROCESS OPR Bul/Mko

NAPHTHA DESULFURIZER

AVG. Yg
CHARGE RATE 5818 BPD
RA-106 DIFF PSI 40
RA-103 DIFF PSI 10
SWT FEED 0 BPD

RA-106 INLET TEMP 657
H-101 STATUS ON
H-102 STATUS OFF

REFORMER

AVG. Yg
CHARGE RATE 6072 BPD
REFORMATE YIELD 4530
REFORMATE YIELD 75 %
RUNDOWN TANK 25001
OCTANE TARGET 99.5-100.0
OCTANE ACTUAL 99.6
MOISTURE PPM
DRAGER\ANALYZER \3.3
H2S PPM TRACE
HCL PPM 1.0

REACTOR TEMPERATURES

	#1	#2	#3	TOTAL
INLET	962	960	960	
OUTLET	848	930	965	
DIFF	114	30	+5	139

INJECTION TARGETS
METHANOL 3 PPM(H2O)
EDC 1 PPM(C1)
RANAREX .37 PPM

H2\HYDRO RATIO 7.
*AS PER CHART

DISTILLATE DESULFURIZER

AVG Yg
CHARGE RATE 5090 BPD
DIE\JET-A
YIELD 4940 BPD
CHARGE TANK 20005
RD TANK 20003

RA-501
INLET TEMP 651
DIFF PSI 50
NAP YIELD 256
TK\UNIT CRUDE TANK

GAS OIL DESULFURIZER

AVG. Yg
CHG RATE 9015
GAS OIL 6035
DIESEL 1940
NAPHTHA 87

TANK 150001
TANK 50008
TANK 50002
TK\UNIT CRUDE

TEMPERATURES

	IN	OUT	DIFF
RA-301	720	739	19
RA-305	739	733	6

GTU OPR Chuck

SULFUR RECOVERY UNIT

ACID GAS 518 MMSCFD
SULFUR 30.5 TONS\DAY
STORAGE 87 3/4 INCHES
LOADS OUT 0 24HRS
INC. SO2 80 PPM (500 MAX)
TG H2S 350 PPM
INC. O2 10.5 % (21 %)
AMINE
STRENGTH — (WED)

RA-411 IN 455 TEMP
RA-412 IN 437 TEMP
RA-411 DIFF .1 PSI
RA-412 DIFF .2 PSI
TOTAL DIFF 2.3 PSI
INC. TEMP 1365 (1250 MIN)
CAUSTIC
UNIT ON/OFF ON

UTILITIES

LPG TO FUEL 0 GAL\DAY
H2S IN FUEL 40 PPM (800 MAX)
WASTE WATER 304080 GAL\DAY(275 GPM)
H2O2 USEAGE 126 GAL\DAY
SULFIDES 0 (24 HR AVG.)
OIL/GREASE 9 (75 PPM MAX)
H2O2 TK Gg. 3-6 3/4 FT\IN

STEAM LB\HR
REFORMER 15896
GO WHB 0
SRU 3369
NITROGEN 265 INCHES
*FLARE GAS N/W UNITS
*FLARE STM 6.8 UNITS

*HYDROPROCESSING CHART UTFR-001\050 (2500 LBS\PER HR.)

OPERATOR Yes

HYDROPROCESSING SUMMARY

MIDNIGHT 11/13/88 TO MIDNIGHT 11/14/88

NAPHTHA DESULFURIZER

PROCESS OPR Burl / Mike

Yes

CHARGE RATE 5256 BPD
RA-106 DIFF PSI 50
RA-103 DIFF PSI 10
SWT FEED 0 BPD

RA-106 INLET TEMP 655
H-101 STATUS ON
H-102 STATUS OFF

REFORMER

Yes

CHARGE RATE 5894 BPD
REFORMATE YIELD 4454
REFORMATE YIELD ____ %
RUNDOWN TANK 25001
OCTANE TARGET 99.5-100.0
OCTANE ACTUAL 99.7
MOISTURE PPM
DRAGER\ANALYZER 13.2
H2S PPM TRACE
HCL PPM 1.0

REACTOR TEMPERATURES

	#1	#2	#3	TOTAL
INLET	959	959	959	
OUTLET	845	928	963	
DIFF	114	31	+4	141

INJECTION TARGETS

METHANOL 3 PPM(H2O)
EDC 1 PPM(C1)
RANAREX .37 PPM

H2\HYDRO RATIO 7.2
*AS PER CHART

DISTILLATE DESULFURIZER

Yes

CHARGE RATE 5788 BPD
DIE\JET-A
YIELD 5225 BPD
CHARGE TANK 20005
RD TANK 20003

RA-501
INLET TEMP 643
DIFF PSI 40
NAP YIELD 183
TK\UNIT CRUDE TANK

GAS OIL DESULFURIZER

Yes

CHG RATE 9015
GAS OIL 6035 TANK 15001
DIESEL 1853 TANK 50008
NAPHTHA 87 TANK 50002
TK\UNIT CRUDE TANK

TEMPERATURES

	IN	OUT	DIFF
RA-301	722	740	18
RA-305	740	733	7

OPR Chuck

SULFUR RECOVERY UNIT

ACID GAS 476 MMSCFD
SULFUR 28 TONS\DAY
STORAGE 9674 INCHES
LOADS OUT 0 24HRS
INC. SO2 40 PPM (500 MAX)
TG H2S 350 PPM
INC. O2 10.5 % (21 %)
AMINE STRENGTH — (WED)

RA-411 IN 465 TEMP
RA-412 IN 450 TEMP
RA-411 DIFF .2 PSI
RA-412 DIFF .2 PSI
TOTAL DIFF 2.0 PSI
INC. TEMP 1366 (1250 MIN)
CAUSTIC UNIT ON/OFF ON

UTILITIES

LPG TO FUEL 0 GAL\DAY
H2S IN FUEL 35 PPM (800 MAX)
WASTE WATER 264130 GAL\DAY (275 GPM)
H202 USEAGE 125 GAL\DAY
SULFIDES 0 (24 HR AVG.)
OIL/GREASE 19 (75 PPM MAX)
H202 TK Gg. 35 1/4 FT\IN

STEAM LB\HR.
REFORMER 16202
GO WHB N/A
SRU
NITROGEN 263 INCHES
*FLARE GAS N/A UNITS
*FLARE STM 3144 UNITS

*HYDROPROCESSING CHART UTFR-001\050 (2500 LBS\PER HR.)

HYDROPROCESSING SUMMARY

MIDNIGHT 12-4 TO MIDNIGHT 12-5-88

NAPHTHA DESULFURIZER

[illegible] BP

[illegible] Y CHARGE RATE 6869 BPD
RA-106 DIFF PSI 55
RA-103 DIFF PSI 5
SWT FEED 920 BPD

RA-106 INLET TEMP 657
H-101 STATUS ON
H-102 STATUS OFF

REFORMER

[illegible] Y CHARGE RATE 6332 BPD
REFORMATE YIELD 4607
REFORMATE YIELD 23 %
RUNDOWN TANK 25001
OCTANE TARGET 99.5-100.0
OCTANE ACTUAL 99.3
MOISTURE PPM
~~BRACER~~\ANALYZER \3.5
H2S PPM 1
HCL PPM 2

REACTOR TEMPERATURES

	#1	#2	#3	TOTAL
INLET	966	966	965	
OUTLET	870	948	972	
DIFF	96	18	+7	102

INJECTION TARGETS

METHANOL 3.0 PPM(H2O)
EDC 1.0 PPM(C1)
RANAREX .39 PPM

H2\HYDRO RATIO 8
*AS PER CHART

DISTILLATE DESULFURIZER

[illegible] Y CHARGE RATE 4992 BPD
~~DIE~~ JET-A JET
YIELD 4843 BPD
CHARGE TANK 20,005
RD TANK 12501

RA-501
INLET TEMP 643
DIFF PSI 45
NAP YIELD 293
TK\UNIT FLASH TOWER

GAS OIL DESULFURIZER

[illegible] Y CHG RATE 5273
GAS OIL 3398
DIESEL 1109
NAPHTHA 121

TANK 150,001
TANK 50008
TANK 50003
TK\UNIT FLASH TOWER

TEMPERATURES

	IN	OUT	DIFF
RA-301	740	751	11
RA-305	751	744	7

U OPR JW

SULFUR RECOVERY UNIT

ACID GAS 459 MMSCFD
SULFUR 27 TONS\DAY
STORAGE 62 INCHES
LOADS OUT ~~0~~ 24HRS
INC. SO2 50 PPM (500 MAX)
TG H2S 140 PPM
INC. O2 9.8 % (21 %)
AMINE
STRENGTH 18.2 (WED)

RA-411 IN 468 TEMP
RA-412 IN 425 TEMP
RA-411 DIFF .2 PSI
RA-412 DIFF .1 PSI
TOTAL DIFF 1.9 PSI
INC. TEMP 1361 (1250 MIN)
CAUSTIC
UNIT ON/OFF OFF

UTILITIES

LPG TO FUEL Ø GAL\DAY
H2S IN FUEL Ø PPM (800 MAX)
WASTE WATER 344300 GAL\DAY(275 GPM)
H2O2 USEAGE 85 GAL\DAY
SULFIDES Ø (24 HR AVG.)
OIL/GREASE 10 (75 PPM MAX)
H2O2 TK Gg. 47 3/4 FT\IN

STEAM LB\HR
REFORMER 15285
GO WHB Ø
SRU 3369
NITROGEN 169 INCHES
*FLARE GAS 4.6 UNITS
*FLARE STM 6.4 UNITS

*HYDROPROCESSING CHART UTFR-001\050 (2500 LBS\PER HR.)

OPERATOR D. Turnbeum

HYDROPROCESSING SUMMARY

MIDNIGHT 12-6-88 TO MIDNIGHT 12-7-88

A. Johnson

NAPHTHA DESULFURIZER

PROCESS OPR. C. Thompson

AVG. ____ CHARGE RATE 5899 BPD
RA-104 DIFF PSI 50
RA-105 DIFF PSI 5
SWT FEED 1020 BPD

RA-104 INLET TEMP 649
H-101 STATUS ON
H-102 STATUS ~~OFF~~

REFORMER

AVG. ____ CHARGE RATE 5465 BPD
REFORMATE YIELD 3775
REFORMATE YIELD 69 %
RUNDOWN TANK 25001
OCTANE TARGET 99.5-100
OCTANE ACTUAL 99.8
MOISTURE PPM
DRAGER\ANALYZER 2.5
H2S PPM .6
HCL PPM 1.2

REACTOR TEMPERATURES

	#1	#2	#3	TOTAL
INLET	969	967	969	
OUTLET	878	953	977	
DIFF	91	14	+8	97

INJECTION TARGETS

METHANOL 3 PPM (H2O)
EDC 7 PPM (C1)
RANAREX 140 PPM

H2\HYDRO RATIO 7.
*AS PER CHART

DISTILLATE DESULFURIZER

AVG. ____ CHARGE RATE 6265 BPD
DIE\~~JET-A~~ Jet A
YIELD 6365 BPD
CHARGE TANK 20005
RD TANK 20003

RA-501
INLET TEMP 637
DIFF PSI 60
NAP YIELD 921
TK\UNIT FLASH TWR

GAS OIL DESULFURIZER

AVG. ____ CHG RATE 5273
GAS OIL 3483
DIESEL 1194
NAPHTHA 87

TANK 150.001
TANK 50.008
TANK 50.003
TK\UNIT FLASH TWR

TEMPERATURES

	IN	OUT	DIFF
RA-301	745	754	9
RA-305	754	745	9

GTU OPR. D. Ventura

SULFUR RECOVERY UNIT

ACID GAS 488 MMSCFD
SULFUR 28.17 TONS\DAY
STORAGE 58 INCHES
LOADS OUT 1 24HRS
INC. SO2 40 PPM (500 MAX)
TG H2S 100 PPM
INC. O2 10.2 % (21 %)
AMINE STRENGTH 17% (WED)

RA-411 IN 455 TEMP
RA-412 IN 429 TEMP
RA-411 DIFF .2 PSI
RA-412 DIFF .2 PSI
TOTAL DIFF 1.4 PSI
INC. TEMP 1354 (1250 MIN)
CAUSTIC UNIT ON/OFF ON

UTILITIES

LPG TO FUEL 0 GAL\DAY
H2S IN FUEL 10 PPM (800 MAX)
WASTE WATER 386610 GAL\DAY (275 GPM)
H2O2 USEAGE 83 GAL\DAY
SULFIDES 0 (24 HR AVG.)
OIL/GREASE 4 (75 PPM MAX)
H2O2 TK Gg. 4-5 1/4 FT\IN

STEAM LB\HR
REFORMER 17,425
GO WHB
SRU 3292
NITROGEN 163 INCHES
*FLARE GAS 4.5 UNITS
*FLARE STM 5.6 UNITS

*HYDROPROCESSING CHART UTFR-001\050 (2500 LBS\PER HR.)

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

ATTACHMENT 13: STATEWIDE COMPLIANCE CERTIFICATE

PARAMOUNT PETROLEUM
a subsidiary of ALON USA
14700 Downey Avenue
P.O. Box 1418
Paramount, CA 90723
(562) 531-2060

RECEIVED
MAY 13 2009
STATIONARY SOURCE COMPLIANCE
REFINERY/ENERGY & OCS TEAM

May 11, 2009

South Coast Air Quality Management District
Engineering/Compliance – Refinery, Energy & RECLAIM
21865 East Copley Drive
Diamond Bar, CA 91765
Attn: Ms. Angelita Alfonso

Subject: H-402 Source Control and H-907 Odor Control Projects
Demonstration of Statewide Compliance
Paramount Refinery Facility ID 800183

Based on reasonable inquiry and to the best of my knowledge and belief, the major stationary sources, as defined in the jurisdiction where the facilities are located, that are owned by Paramount Petroleum Corporation (Paramount) in the State of California as listed below are subject to emission limitations and are in compliance or on a schedule for compliance with all applicable emission limitations and standards under the Clean Air Act.

Paramount Refinery, 14700 Downey Avenue, Paramount, CA 90723
Edgington Oil Company, 2400 E. Artesia Blvd., Long Beach, CA 90805
Alon USA Bakersfield, 1201 China Grade Loop, Bakersfield, CA 93308
Elk Grove Refinery, 10090 Waterman Road, Elk Grove, CA 95624
Lakewood Tank Farm, 2920 E. 56th Way, Long Beach, CA 90712
Mojave Terminal, 1873 Purdy Road, Mojave, Ca 93501

Attachment 1 which summaries recent variances, Order for Abatement and NOVs for Paramount's refinery is provided for your information. Also, enclosed are Form 400A and Paramount's check for $843.83, the balance necessary for you to process a facility permit amendment for a Title V facility.

Please contact June Christman at 562-748=4704 if you have any questions regarding this letter.

Sincerely,

Jimmy Crosby
VP of Refining and Supply

Attachment 1
Paramount Petroleum Corporation
Compliance Summary

NOV/NTC/Case Number	Description	Current Activities	Status
SAO 2914-72	Crude Unit Heater Duty – SCR Installations	H-101/102/501/502 SCR is last project under SAO.	Paramount has satisfied the requirements of this SAO. The H-101/102/501/502 SCR was installed and placed in operation on 2/16/09.
SAO 2914-90	H-402 NSPS Sub J Fuel Gas Standard Applicability	Concurrently permitting project, prepping for field work.	In compliance with SAO – open. Petition for extension filed 5/7/09. H-402 Source Reduction Project will resolve this SAO.
SAO 2914-91	Clean Fuels Leakless Valves	None	Paramount has satisfied the requirements of this SAO
NOV P45644	Reformer By-pass Stacks	None	NOV settlement response sent to the District 11/4/08. Violation corrected, bypass stacks closed. Variance 2914-96 granted to allow limited use of bypass stacks through 6/15/10.
NOV P53502	Flare Recorder Malfunction	None	Settled, alleged violation corrected.
Variance 2914-87	Flare CEMS	Completing Increments of Progress	Complete by 10/9/09. In compliance with variance conditions.
Variance 2914-93 Variance 2914-96	Reformer By-pass Stacks	Pursuing rule amendment	Original variance (2914-93) to perform turnaround work with by-passes open is complete and variance has ended. Variance 2914-96 allows

			limited use of bypass stacks through 6/15/10.
Variance 2914-94	Turnaround work on wastewater system.	None	Work completed, variance terminated.
NOV P53506	Public Nuisance	None	Alleged violation corrected
Variance 2914-95	Flare Gas Recovery System (FGRS) Startup	None	FGRS operating, variance terminated.
NOV P53507	Public Nuisance	None	Alleged violation corrected
NOV P53510	Public Nuisance	None	Alleged violation corrected
Variance 2914-100	Operate H-501/502 without SCR while repairs are made.	Repairing heaters H-101/102 and common SCR to H-101/102/501/502.	Regular variance hearing scheduled for 6/11/09. In compliance with variance conditions.

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

ATTACHMENT 14: MINUTES OF INTERNAL MEETING REGARDING PARAMOUNT'S STIPULATED ORDERS FOR ABATEMENT AFFECTING PERMIT ISSUANCE

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

INTEROFFICE MEMORANDUM

TO: A/N 486507 FILE

FROM: ANGELITA ALFONSO Angelita S Alfonso

SUBJECT: MINUTES OF INTERNAL MEETING REGARDING PARAMOUNT'S OUTSTANDING STIPULATED ORDERS FOR ABATEMENT AFFECTING PERMIT ISSUANCE

DATE: 4/24/2009

A meeting was held on April 15, 2009 at the AQMD Conference Room 3C. In attendance were Jay Chen, Tran Vo, Paul Park, Khang Nguyen, Bob Sanford and Angelita Alfonso of the Refinery Permitting and Joe Panasiti of Counsel.

As directed by Mohsen Nazemi from the April 14th meeting, this internal meeting was held to discuss Paramount's compliance status on the outstanding Stipulated Orders for Abatement (SOFAs). A determination is needed to be able to issue permits for pending projects with increase in emissions because compliance to the SOFAs will be considered compliance to the requirements of Rule 1303(b) (4) Facility Compliance.

It was agreed that the only open SOFA was Case No. 2914-72. Under this SOFA, Paramount was ordered to comply with six items. It was determined that Paramount already complied with all the orders requiring their action. There are still two outstanding issues requiring action from the District to consider this SOFA closed. First, permits for Incinerators H-402 and H-907 should be issued with the correct rating. It was agreed to issue permits for H-402 and H-907 concurrently along with other related applications specifically the rerouting of miscellaneous process vents from Incinerator H-402 to the front of the Sulfur Recovery Unit (SOFA Case No. 2914-90). Paramount should provide offset for the increase in emissions. Second, this SOFA has to be extended since the Hearing Board has jurisdiction over this matter only until April 30, 2009. Joe Panasiti agreed to extend the SOFA another 90 days to allow completion of permit processing.

Also discussed in this meeting was the requirement in the SOFA that NOX emissions on Heaters 101/102/501/502 shall be controlled to a level not to exceed 5 ppm averaged over 3 hours at 3 percent oxygen. According to Jay Chen, since requirement is already incorporated in the permit issued for the heaters, and that the SCRs have already been installed and operating, we do not have to wait for the results of the source tests to show compliance to the SOFA. Paramount was in the process of scheduling the source tests for the heaters.

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

INTEROFFICE MEMORANDUM

TO: A/N 486507 FILE

FROM: ANGELITA ALFONSO Angelita S Alfonso

SUBJECT: MINUTES OF MEETING WITH PARAMOUNT REGARDING NETTING PROJECT EMISSIONS AND PERMIT MORATORIUM

DATE: 4/24/2009

CC:

A meeting was held on April 14, 2009 at the AQMD Conference Room 3A. In attendance were Mohsen Nazemi, Jay Chen, Tran Vo, Paul Park and Angelita Alfonso of the District and June Christman of Paramount Petroleum.

The meeting was requested by Paramount to discuss the status of the permit applications for their two projects involving Incinerators H-402 and H-907. There has been an outstanding issue in finalizing the permits for these incinerators and other related pieces of equipment due to the permit moratorium. Since Paramount has three outstanding Stipulated Orders for Abatement (SOFAs), a determination is needed if Paramount can avail of the emissions netting proposal for both projects to show decrease in emissions so as not to trigger Rule 1303(b)(4) Facility Compliance.

In this meeting, Mohsen agreed to the netting proposal only to within a permit unit. He stated we can not proceed with netting emissions for concurrent modifications across different permit units. He asked staff to look into the facility's compliance status of the SOFAs. If the SOFAS can be closed, then the permits will be issued provided Paramount provides ERCs for the emissions increase. If the SOFAs can not be closed, Mohsen asked Paramount to reevaluate the project fugitive emissions with the permitting staff to see if reductions can be obtained within the permit unit.

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

END OF ENGINEERING EVALUATION