GW - 10

GENERAL CORRESPONDENCE

YEAR(S):

09/2005

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DISCHARGE PLAN

FOR

SID RICHARDSON GASOLINE COMPANY'S

JAL NO. 3 PLANT

LEA COUNTY, NEW MEXICO

Prepared By:

Sid Richardson Gasoline Company
Fort Worth, Texas

September 1993

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Fort Worth, Texas

September 1993

Revised October 22, 1993

RECEIVED

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OIL CONSERVATION DIV.
SANTA FE

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DISCHARGE PLAN INDEX

APPENDICES

REVISIONS
For Dishcarge Plan

Rev.	Revisions	Date
0	Original Issue - Rewrite Of Entire Plan	09-10-93
1	Revised paragraph 14, page 4 of Appendix H "Drain Line Testing Procedure."	10-22-93

I. TYPE OF OPERATION

The main purpose of the Jal No. 3 Plant facility is natural gas processing. The main processes that occur at the plant are: compression, sweetening, dehydration, cryogenic extraction of ethane and heavier hydrocarbons, steam generation and power generation. A Sulfur Recovery Unit is being added under a permit issued by the NMED. A brief description of the main processes follows:

A. COMPRESSION

Plant compressors are used for inlet, refrigeration and residue recompression. The plant has fifteen engine driven compressor units totalling 27,200 horsepower and three gas turbine-driven centrifugal compressor units totalling 22,800 horsepower. Entrained liquids are removed from the inlet gas streams with gas-liquid separators. Compressor engines in the "A" and "B" Compressor buildings and Generator engines in the Auxiliary Building use water for lubricating oil cooling and engine jacket cooling in closed loops systems. The gas turbine-driven centrifugal compressors use Ambitrol in their cooling systems.

B. SWEETENING

After compression of the inlet gas to approximately 600 psig, H_2S and CO_2 is removed by contacting the stream with an aqueous solution of monoethanolamine (MEA) in two contactor vessels (V-50, V-4302). The rich amine is then stripped of the H_2S and CO_2 in two MEA stills (V-56, V-4301). The lean amine is recirculated back to the two contactor vessels. Sweetened gas leaves the overhead of the amine contactors and goes to the glycol contactors. The H_2S and CO_2 leave the still overhead and are currently flared but will be sent to the Sulfur Recovery Unit (SRU) when it is complete.

C. DEHYDRATION

Sweetened inlet gas enters two Glycol Contactors (V-5101,V-5102) for initial dehydration by contacting the stream with an aqueous solution of triethyleneglycol (TEG). The partially dehydrated gas leaves the overhead of the contactors and goes to the molecular sieve dehydration vessels (V-205A,B,C,D) in the Cryogenic Plant for final dehydration. The rich TEG solution is regenerated in the Glycol Reboiler (E-5101) and returned to the contactors. The molecular sieve is regenerated with hot inlet gas; the water saturated regeneration gas is then cooled in the Regeneration Gas Cooler (E-209) and the water and gas is then separated in the Regeneration Gas Scrubber (V-206); removed water is sent to the closed drain system; recovered hydrocarbon liquid is sent to the Compressor Liquids Separator.

D. CRYOGENIC PLANT

The Cryogenic Plant extracts 80 to 85 percent of the ethane (C_2) and heavier hydrocarbons from the dehydrated gas stream. Rich gas is cooled through a series of inlet heat exchangers and finally in the Chiller (E-202, C_3 refrigeration system) to approximately -35 °F at the Chiller Separator (V-201) where the majority of the butanes and heavier hydrocarbons are separated. Liquids from V-201 are fed to the bottom feed of the Demethanizer (V-203). Vapors from V-201 continue through another set of heat exchangers and are cooled to approximately -95 °F at the Expander Separator (V-202). Liquids separated at V-202 are fed to the Demethanizer and the vapors go to the Turbo-expander (EK-201). The cold vapors enter the Turbo-expander at approximately 540 psig and go to the top of the Demethanizer at approximately 160 psig and -165 °F. The Demethanizer strips the methane from the ethane and heavier hydrocarbons; the methane residue gas leaves the top of the Demethanizer at approximately -165 °F and is used to cool the gas though the inlet exchangers. The residue gas is then recompressed, first by the compressor driven by the Turbo-expander, EK-201, and finally by the Recompressors in the "A" Compressor plant and leaves the plant in the residue gas pipeline. The ethane and heavier hydrocarbons leave the bottom of the Demethanizer at approximately 35 °F, are warmed to approximately 55 °F by inlet gas in the Product/Inlet Exchanger (E-292) and are pumped into the liquid product pipeline at approximately 900 psig.

E. SULFUR RECOVERY

Hydrogen Sulfide and Carbon Dioxide from the Amine Unit will flow to the Sulfur Recover Unit (SRU). The unit will use a standard Claus, three bed process to recover 95 percent of the sulfur in the inlet stream. The recovered elemental sulfur will be sold and trucked from the plant. Sulfur Dioxide, a byproduct of the Claus process, is burned in the incinerator.

F. STEAM GENERATION

Steam is generated by three gas-fired boilers and a waste heat boiler utilizing the turbine exhaust gases from the compressor in the "C" Compressor Plant. The gas-fired boilers are capable of producing 80,000 pounds per hour of steam and the waste heat boiler can produce 85,000 pounds per hour. The waste heat boiler is the primary steam source for the facility.

G POWER GENERATION

Electricity is generated with three 300 KW generators driven by three 449 horsepower natural gas engines.

II. OPERATOR/LEGALLY RESPONSIBLE PARTY & LOCAL REPRESENTATIVE

A. OPERATOR/LEGALLY RESPONSIBLE PARTY

Mr. E.F. Gunn, Manager, Environmental Health & Safety
Sid Richardson Gasoline Co.
201 Main Street
Fort Worth, TX 76102
Telephone no. 817-390-8640

B. LOCAL REPRESENTATIVE

Mr. George W. Washburn, Plant Manager
Sid Richardson Gasoline Co.
Jal #3 Gasoline Plant
P. O. Box 1311
Jal, NM 88252
Telephone no. 505-395-2068

III. LOCATION OF DISCHARGE/FACILITY

The plant is located 3-1/2 miles North of Jal, NM on Hwy. #18 and 1 mile East. The plant consists of 90 Acres located in Section 33, T-24-S, R-37-E, N. M. P. M., Lea County, New Mexico. See Appendix A for the Site Location Topographic Map.

IV. LANDOWNERS

A. Lee Partners , Ltd. dba Sid Richardson Gasoline Co.
201 Main Street
Fort Worth, TX 76102

B. El Paso Natural Gas Co.
P. O. Box 1492
El Paso, TX 79901

C. May Woolworth
403 West D Ave.,
San Angelo, TX

V. FACILITY DESCRIPTION

See Appendix B for the facility plot plan, Drawing No. 9234-PP-201, sheets 1 through 3.

VI. SOURCES, QUANTITIES & QUALITY OF EFFLUENT & WASTE SOLIDS

A. SOURCES & QUANTITIES

1. SEPARATORS

Inlet, intermediate and discharge separators (scrubbers) separate gas, hydrocarbon liquid and water throughout the facility. Recovered hydrocarbon liquids average 483,500 gallons/month; produced water averages 198,300 gallons/month.

2. BOILERS

Steam is generated by three gas-fired boilers and a waste heat boiler utilizing the turbine exhaust gases in the "C" Compressor Plant. The boiler drums and evaporator vessels produce 108,000 gallons/month of high solids concentration blowdown water. Boiler water treatment chemicals are listed in Appendix F.

3. ENGINE COOLING WATER

Cooling water is used for engine jacket water and oil cooling in the engines in the "A" and "B" Compressor and the Auxiliary Building. The water is cooled in the coils of atmospheric (fin-fans) type coolers. The systems are closed loop and evaporation accounts for almost all of the water losses. The turbine-driven compressors, "C" Compressor Plant and "A" Compressor Plant Boosters, use a closed loop system with Ambitrol as a coolant; the systems are drained only in unusual circumstances. Cooling water additives are listed in Appendix F.

4. COOLING TOWERS

Two cooling towers, "A" and "B" Plant, are used to provide gas and other process cooling in the facility. "A" Plant blowdown averages 172,800 gallons/month and "B" Plant blowdown averages 293,700 gallons/month. Cooling tower water treating chemicals are listed in Appendix F.

5. SEWAGE

The quantity of sewage from the rest room and kitchen facilities in the plant office, recreation hall, wash house and instrument technicians house is very small and is not measured.

6. WASTE LUBRICANTS AND MOTOR OILS

Generation of used lubricants and motor oils averages 900 gallons/month. Lubricants and motor oils employed at the facility are listed in Appendix F.

7. WASTE AND SLOP OIL

Heavy hydrocarbons are recovered in the plant scrubbers and inlet separators; recovered heavy hydrocarbons average 19,995 gallons/month.

8. USED FILTERS

Used engine/compressor lube system oil filters (38/month), glycol dehydrator system sock filters (9/month), inlet scrubber sock filters (18/month) and inlet scrubber mist pads (1/month) are generated as a waste at the facility.

9. SOLIDS AND SLUDGES

Solids and sludges build up slowly in the inlet separators and the Classifier Tank. The quantity is very small and is not measured.

10. CLEANING OPERATIONS USING SOLVENTS/DEGREASERS

Parts cleaning and degreasing generates approximately 100 gallons/month of waste solvent. The types of solvents/degreasers used are listed in Appendix F.

11. WATER TREATING

Water treating filter backwashing and regeneration of the Zeolite treater beds require 357,300 gallons/month. Water treating chemicals are listed in Appendix F.

12. FLOOR AND EQUIPMENT DRAINS

Equipment will be washed approximately once a year, using approximately 10,000 gallons of raw water. The water may contain hydrocarbons from the lubricating oil and natural gas condensate as well as solvents/degreasers. Heat exchanger bundles may require periodic cleaning.

B. QUALITY CHARACTERISTICS OF COMMINGLED WASTE STREAM.

All waste water flows into the plant drain system which ends at the Classifier Tank. The waste water is then filtered and pumped into the disposal well. The quality characteristics of the commingled waste stream is shown in the laboratory analysis contained in Appendix D. Two samples of the commingled waste stream were taken at the suction of the disposal well pumps on separate days by Martin Water Laboratories, Inc. and TraceAnalysis, Inc. using standard industry practices and in accordance with WQCC recommendations. Material Safety Data Sheets (MSDS) for all material used or encountered at the facility are contained in Appendix F.

VII. TRANSFER & STORAGE OF PROCESS FLUIDS & EFFLUENTS

A. SUMMARY OF ON SITE COLLECTION AND STORAGE SYSTEMS

All drains in the facility, unless indicated otherwise below, flow to the Classifier Tank (steel, twenty foot diameter, below-grade). The two compartment tank classifies incoming liquids by gravity separation. Oil rises to the surface, solids settle to the bottom and water passes through an opening in the lower section of the partition. The lighter liquids (oil and hydrocarbons) are decanted by overflowing into a below-grade Waste Oil Storage Tank. Periodically the hydrocarbons are removed by vacuum truck and sold. Classified waste water is then pumped through a filter into a 1,500 barrel surge tank and then pumped into the disposal well. Appendices C and G contain flow schematics and plan drawing of the classifier area and drain system.

All vessels and separators are above ground unless otherwise indicated. The below-grade tanks are protected from corrosion by a four coat epoxy paint system on all exterior surfaces; the classifier tank is coated internally with the same material. All below grade piping is either plastic, coated and wrapped steel, or vitrified clay pipe. Equipment and piping are included in the plant cathodic protection system.

An epoxy-coated, forty-five foot diameter by sixteen foot deep open-top steel tank with a working capacity of approximately 95,000 gallons is used as a contingency reservoir. The tank has a 1.7 day retention capacity in the event of equipment failure, well problems or other system disabling occurrences. Waste water is pumped back into the classifier when normal operation is resumed.

1. SEPARATORS

Compression Liquids from the Second and Third Stage Discharge Separators in the "B" and "C" Compressor Plants, the second stage discharge of Compressor #9 in the "A" Compressor Plant, the "A" Plant Amine Contactor Inlet Separator, The Inlet Separator (V-204) and Regeneration Gas Scrubber (V-206) in the Cryogenic Plant are sent to the Compression Liquids Separator. Water from the Compression Liquids Separator goes into the high pressure drain system; recovered hydrocarbon liquids are sent to Product Storage Tanks (V-8117, V-8118) and trucked off-site. Liquids from the remainder of the separators are dumped into the high and low pressure drain systems.

2. BOILERS

Boiler blowdown water flows into the Boiler Blowdown Scrubber and then into a buried Blowdown Tank. The water then flows in an open drain system line to the Classifier Tank. Water from the Evaporator flows directly to the Blowdown Tank.

3. ENGINE COOLING WATER

Normal engine maintenance requires periodic draining of the engine cooling water. The coolant is drained into a mobile holding tank. Upon completion of the maintenance, the coolant is then returned to the engine. If the coolant is not returned to the engine it is poured into the open drain system.

4. COOLING TOWERS

Cooling tower blowdown water goes into a cooling tower blowdown system line and flows to the Classifier Tank.

5. SEWAGE

Sewage flows through a sewer line to the Classifier Tank.

6. WASTE LUBRICANTS AND MOTOR OILS

Used waste lubricants and motor oils are collected in a mobile tank, temporarily stored in the "A" Plant used Lube Oil Storage Tank (buried) and then trucked off the facility by a waste oil reclaimer (See Appendix E).

7. WASTE AND SLOP OIL

Used and slop oil flows through the high and low pressure closed drain system to the Classifier Tank.

8. USED FILTERS

Used filters are placed in a mobile steel storage bin. Oil from the filters is periodically drained from the bin into the open drain system. The drained filters are then removed from the plant by an approved recycler.

9. SOLIDS AND SLUDGES

Solids and sludges are removed from tanks and vessels using a vacuum truck from an approved hauler(See Appendix E); no solids or sludges are stored in the facility.

10. CLEANING OPERATIONS USING SOLVENTS/DEGREASERS

Solvents and degreasers are drained into the low pressure drain system.

11. WATER TREATING

Filter backwash water is piped to a buried collection sump and then flows into the boiler blowdown system line and the classifier.

12. FLOOR AND EQUIPMENT DRAINS

Wash-down water runoff flows to the floor drains and into the open drain system. Hydrocarbons and waste water from heat exchanger bundles are contained in curbed areas which are connected to the open drain system.

B. WATER AND WASTE-WATER FLOW SCHEMATICS

Flow schematics are contained in Appendix C.

C. DISCHARGE POTENTIAL OF TRANSFER AND STORAGE COLLECTION UNITS

1. All tanks and separators are above ground unless indicated otherwise in above paragraph VII. A.

2. All machinery fluids are collected, transferred and processed as indicated in above paragraph VII. A.

D. METHODS USED TO PREVENT UNINTENTIONAL AND INADVERTENT DISCHARGES FROM REACHING THE GROUND SURFACE AND POLLUTING

1. All storage tanks within the plant which contain fluids other than fresh water have concrete containment walls around the tanks in accordance with OCD requirements. The only exception is the above ground storage tanks (No. 29, 30, 31) where inlet liquids from the "A" Plant Booster Compressors Inlet Scrubbers are stored -- See proposed modification in Paragraph F, below.

2. Chemical and drum storage areas are paved, curbed and drain into the open drain system. Several individual storage tanks sit in fiberglass drip/spill containment basins. The only exception is the Methanol Storage Tank -- See proposed modification in Paragraph F, below.

3. All sumps and below-grade tanks are visually inspected annually.

4. All above ground tanks are on gravel pads.

E. UNDERGROUND PIPELINES

The plant drain system is shown on Drawing No. 1J3-1-P69 in Appendix G. Details of existing testing procedures are contained in Appendix H.

F. PROPOSED MODIFICATIONS

1. A berm will be constructed around Storage Tanks 29, 30 and 31 in accordance with OCD recommendations and requirements.

2. A curbed concrete pad will be constructed under the Methanol Storage Tank.

VIII. EFFLUENT DISPOSAL

A. EXISTING ON-SITE EFFLUENT DISPOSAL FACILITIES

All waste-water is routed through the classifier to remove suspended solids and oil. The classified water is then filtered and pumped into the disposal well (Woolworth Estate -SWD No. 1E located in Unit E of Sec. 33, T-24-S, R-37-E). The average injection rate into the well is 1,662,000 gallons/month. The waste-water is injected into the San Andres Formation at a depth of approximately 4,700 feet. The well was completed in compliance with NMOCD administrative order No. SWD-231 dated November 6, 1980. The

location of the well is shown on the Site Location Topographic (Appendix A)and on the Jal No. 3 Plot Plan, Dwg No. 9234-P-300, sheet 1 of 3 (Appendix B).

B. OFF-SITE DISPOSAL

All effluents with the exception of waste water are trucked off-site and handled in accordance with OCD and NMED regulations. Recycling and disposal contractors will be approved by the NMED or OCD, as appropriate, for the hauling and final disposition of effluents. See Appendix E for a list of hauling and disposal contractors.

IX. INSPECTION, MAINTENANCE AND REPORTING

A. INSPECTION PROCEDURES FOR COLLECTION, STORAGE AND DISPOSAL UNITS.

During plant shutdowns, and at least annually, all sumps and below grade tanks will be cleaned out and visually inspected for leaks. The plant maintains inspection records and schedules and will notify OCD in the event of any reportable leak.

B. PROCEDURES FOR CONTAINMENT OF PRECIPITATION AND RUNOFF.

Areas where leaks or spills can occur are curbed to prevent precipitation from carrying contaminants out of the area; curbing and well drained areas prevent precipitation runoff from flowing into and overflowing the drain system.

X. SPILL/LEAK PREVENTION & REPORTING (CONTINGENCY PLANS)

The plant is manned 24 hours a day; operators and maintenance personnel are trained to be aware of spills and leaks and to take immediate action to prevent or mitigate pollution. Small spills will be adsorbed with soil and shoveled into drums. Large spills will be contained with temporary berms; free liquids will be removed with a vacuum truck and the contaminated soil shoveled into drums. Drums containing contaminated soil will be disposed off-site by an OCD approved disposal contractor. Verbal and written notification of leaks and spills will be made to the OCD in accordance with OCD Rule 116.

XI. SITE CHARACTERISTICS

A. HYDROLOGIC FEATURES

1. BODIES OF WATER NEAR PLANT SITE

There are no bodies of water or groundwater discharge sites within one mile of the facility. Water courses in the area are generally ephemeral washes. The plant gets its' water from water wells located in Secs. 6 and 7, T-25-S, R-38-E (Hubb 1 through 5) and Secs 25 and 36, T-24-S, R-37-E (Cooper 1 through 8). Other water wells in the vicinity is the Crawford Ranch well located in Sec 31, T-24-S, R-37-E. See the Site Location Topographic in Appendix A for well locations.

2. GROUND WATER MOST LIKELY AFFECTED BY DISCHARGE.

The Ogallala aquifer is the principal source of potable water in the area. The depth to the aquifer is approximately 90 feet; the total dissolved solids (TDS) concentration for the ground water most likely to be affected by the discharge is 2,208 mg/l. A sample of well water was taken from the Crawford Ranch well and the Hubb No. 2 well in accordance with OCD recommended methods. The samples were taken and analyzed by Martin Water Laboratories, Inc. in accordance with OCD recommended procedures. See Appendix E. for complete analysis of the samples. See the Site Location Topographic in Appendix A for well locations.

3. FLOW DIRECTION OF GROUND WATER MOST LIKELY AFFECTED BY DISCHARGE

The Ogallala aquifer slopes to the southeast with a hydraulic gradient of about 10-12 feet per mile and imparts an easterly or southeasterly movement to the groundwater. References: Cronin, 1969; El Paso Natural Gas Company, Discharge Plan, March 1981.

B. GEOLOGIC DESCRIPTION OF DISCHARGE SITE

Reference: El Paso Natural Gas Company, Discharge Plan, October 1983.

1. SOIL TYPES

The Jal No. 3 facility is located on the Berino-Cacique loamy fine sands soil association and the Pyote and Maljamar soils series.

The Pyote and Maljamar fine sands are well drained soils with moderately rapid permeability formed in wind deposited materials. The Pyote soil is fine sand over sandy loam subsoil to a depth of 48 to 60 inches where a fine sandy loam C horizon is encountered. The Maljamar fine sand soil series has a sandy clay loam subsoil with an indurated chaliche horizon at approximately 50 inches.

The Berino-Cacique association consists of approximately 50% Berino loamy fine sand and 40% Cacique loamy fine sand. Cacique soils occur only in association with Berino soils. Both Berino and Cacique soils are moderately permeable and have very slow runoff. The Berino soil has a light sandy clay loam subsoil with caliche at depths ranging from 29 to 60 inches. Cacique loamy fine sand is a shallow soil with indurated caliche at 20 to 34 inches.

2. NAME OF AQUIFER

The Ogallala formation is the principal source of potable ground water in the area.

3. COMPOSITION OF THE AQUIFER

The Ogallala formation is alluvial consisting of sand, gravel, silt and clay.

4. DEPTH TO ROCK AT BASE OF ALLUVIUM

The Ogallala overlies the relatively impermeable Chicle Formation; however, the depth is unknown.

C. FLOOD PROTECTION

1. FLOODING POTENTIAL

The plant has a very low flooding potential. The plant is situated in the Pecos River Basin. The Basin in southern Lea County has no perennial streams, and only a few ephemeral streams and broad shallow drainages that may flow following thunderstorms. Most precipitation quickly soaks into the soil or evaporates. The land surface in the plant area has little relief, falling approximately 30 feet per mile.

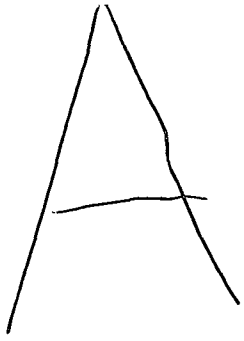
2. FLOOD PROTECTION MEASURES

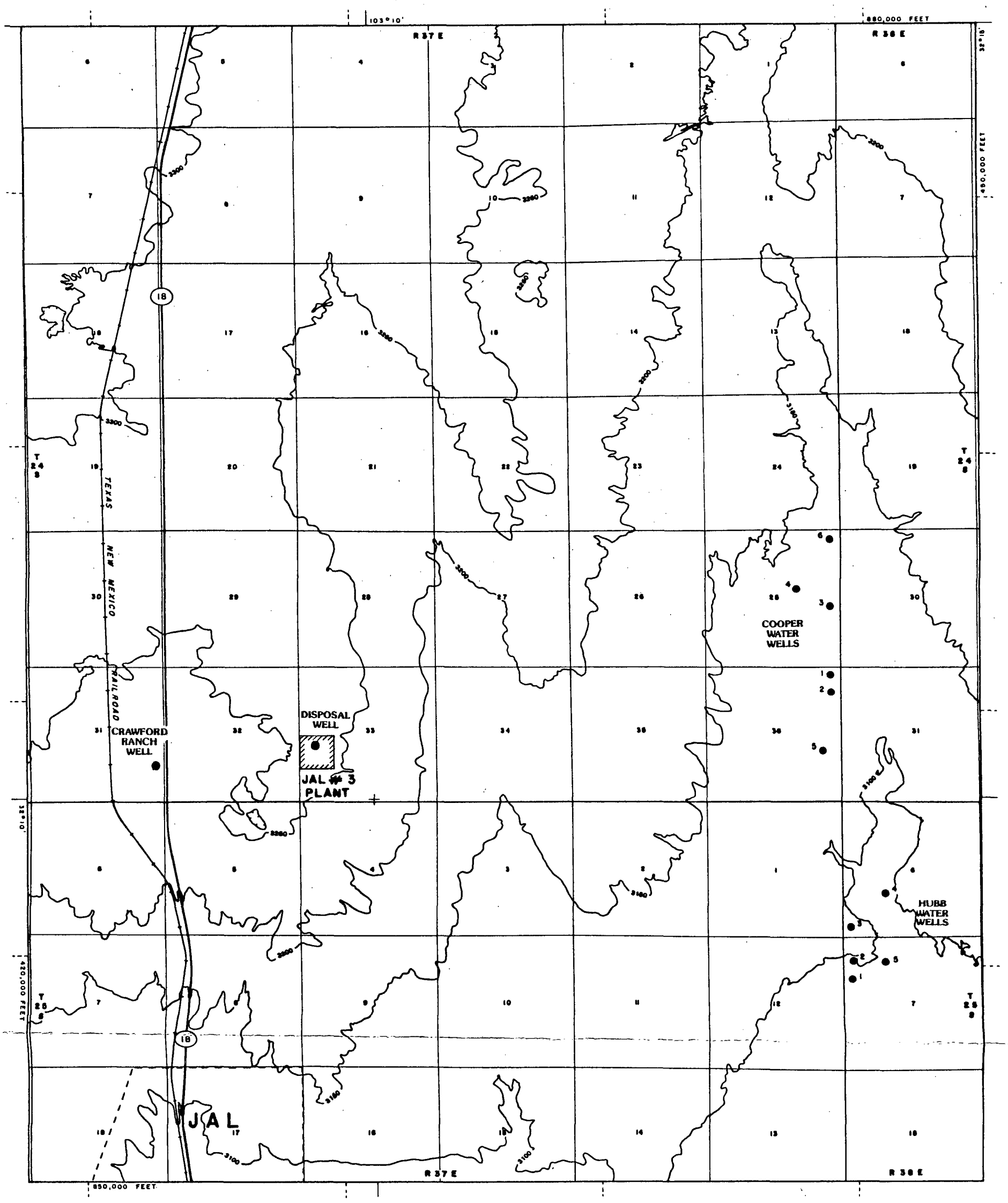
The plant is bounded on the west and south by major caliche roads and a cinder block wall along the majority of the west and southwest sides. Very little surface water can run into the plant. All storage tanks containing liquids other than water are bermed to prevent surface runoff contamination from leaving the plant.

XII. REFERENCES

A. Cronin, J. G., Ground Water in the Ogallala Formation in the Southern High Plains of Texas and New Mexico, Hydrologic Investigation Atlas HA-330, U. S. Geological Survey, Washington, D. C. 1969.

B. El Paso Natural Gas Company, Discharge Plan for El Paso Natural Gas Company's Jal No. 3 Plant, Lea County, New Mexico, October 1983.





COMPILED FROM U.S.G.S. QUADRANGLES
CONTOUR INTERVAL: 50'

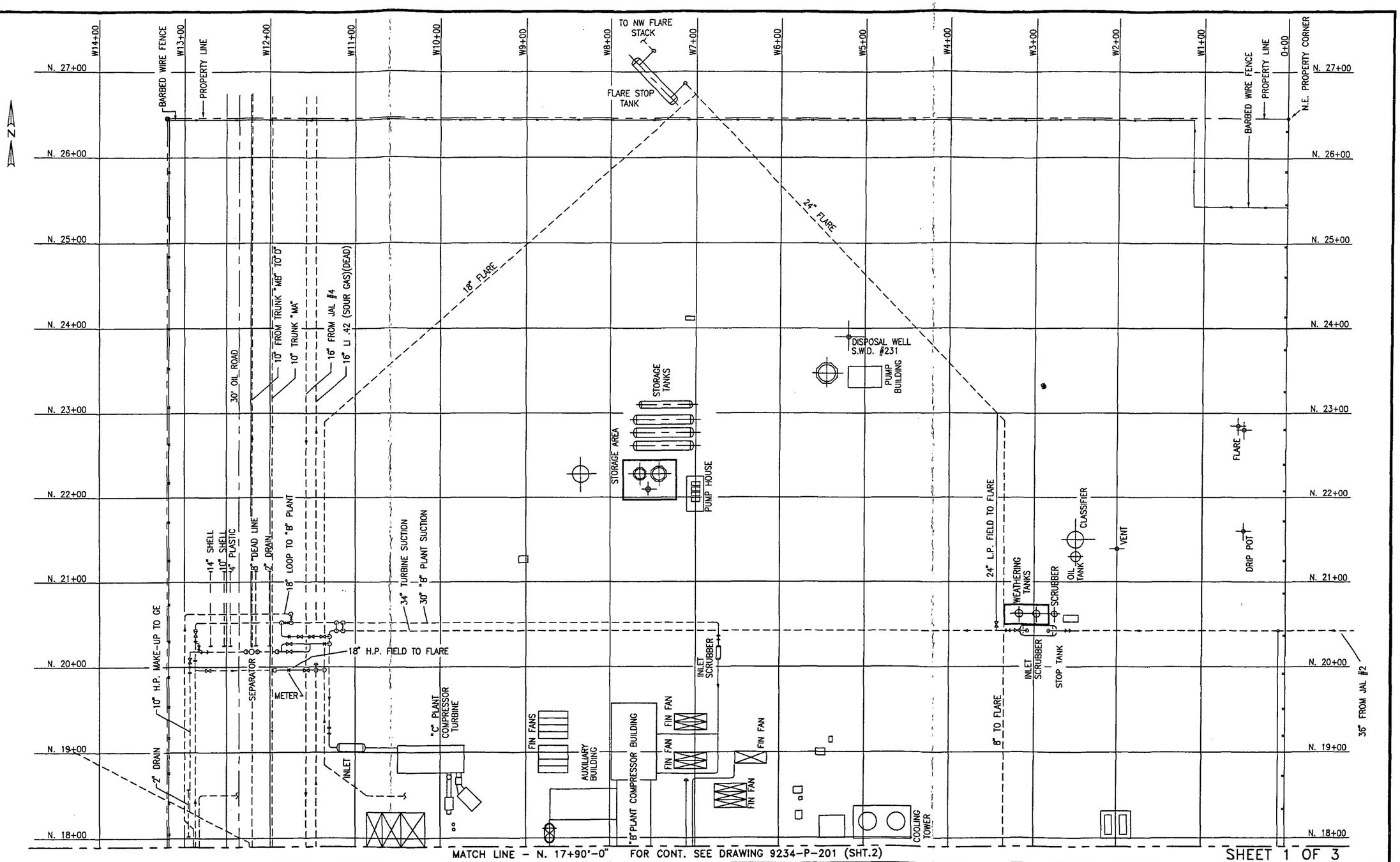
Sid Richardson Gasoline Co.

JAL #3 SITE LOCATION TOPOGRAPHIC

Portion of Lea County,
New Mexico

Scale: 1" = 4,000' Date: Aug. 1993 Drawn By: A.P.

B



MATCH LINE – N. 17+90'-0" FOR CONT. SEE DRAWING 9234-P-201 (SHT.2)

SHEET 1 OF 3

MK	DATE	REVISIONS	BY	APP	NUMBER	REFERENCE DRAWINGS
0	10-9-92	FOR CUSTOMER APPROVAL	MC			
1		ISSUED FOR BID	MC			
2	5/10/93	ADDED 18" LOOP AS BUILT	JAM			
3	9-25-93	REVISED PER AS-BUILT	kbs			

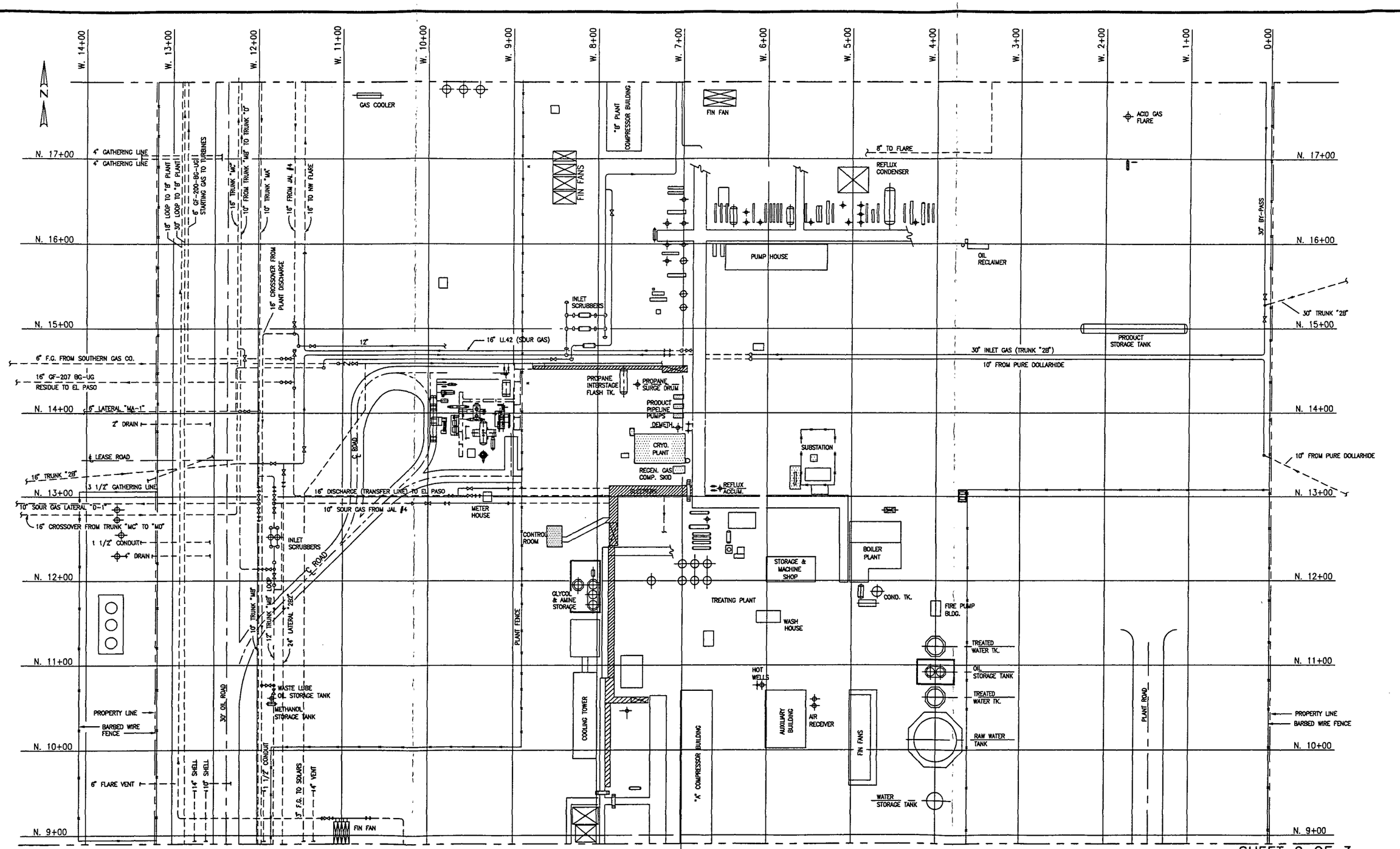
OPD

OPTIMIZED PROCESS DESIGNS
ENGINEERS AND CONSTRUCTORS
HOUSTON, TEXAS

SID RICHARDSON CARBON & GASOLINE CO.
FORT WORTH, TEXAS

PLOT PLAN
JAL No. 3 GASOLINE PLANT
LEA COUNTY, NEW MEXICO

DES:	SCALE: 1"=50'	JOB No. 9234	
DR: J.vanWAGNER	FILE: 9234P201	DWG. No.	REV.
CH:		9234-P-201	3
APP:	DATE: 7-20-92		



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SHEET 2 OF 3

NOTES:

INDICATES EQUIPMENT BEING ADDED FOR OPD JOB NO. 9234

INDICATES PROPOSED PIPEWAY AS INDICATED.

MK	DATE	REVISIONS	BY	APP	NUMBER	REFERENCE DRAWINGS
0	7/21/92	FOR CUSTOMER APPROVAL	MC			
1	10/1/92	ISSUE FOR BID (PRELIM.)	MC			
2		ISSUE FOR BID	MC			
3	9/25/93	REVISED PER AS-BUILT	kbs			

OPD

OPTIMIZED PROCESS DESIGNS
ENGINEERS AND CONSTRUCTORS
HOUSTON, TEXAS

SID RICHARDSON CARBON & GASOLINE CO.
FORT WORTH, TEXAS

PLOT PLAN
JAL No. 3 GASOLINE PLANT
LEA COUNTY, NEW MEXICO

DES:	SCALE: 1"=50'	JOB No. 9234	
DR: MDC	FILE: 9234201A	DWG. No.	REV.
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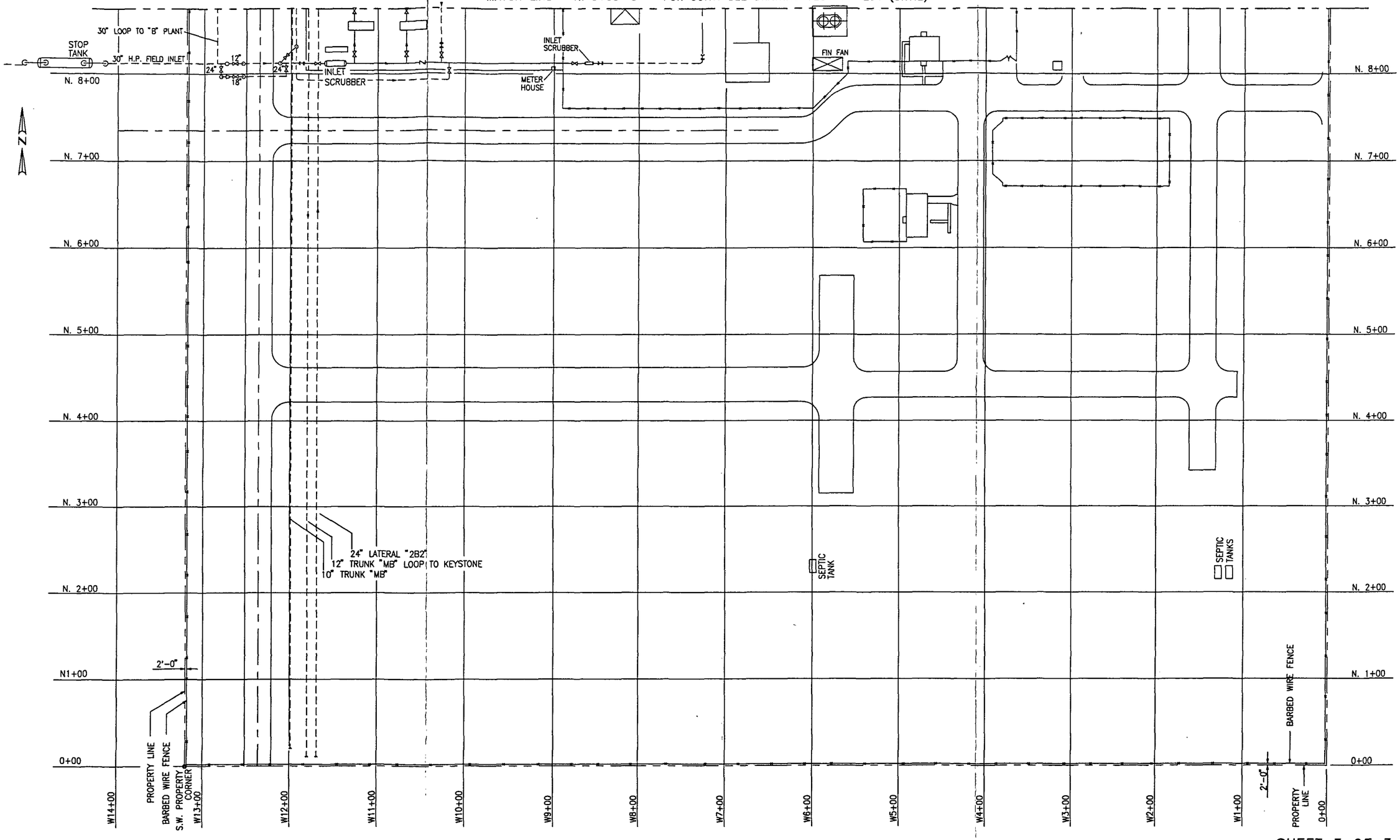

SHEET 3 OF 3

MK	DATE	REVISIONS	BY	APP	NUMBER	REFERENCE DRAWINGS
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1	/	ISSUED FOR BID	MC			
2	10/4/93	REVISED PER AS-BUILT	DRO			

OPTIMIZED PROCESS DESIGNS
ENGINEERS AND CONSTRUCTORS
HOUSTON, TEXAS

SID RICHARDSON CARBON & GASOLINE CO.
FORT WORTH, TEXAS

PLOT PLAN
JAL No. 3 GASOLINE PLANT
LEA COUNTY, NEW MEXICO

DES:	SCALE: 1"=50'	JOB No. 9234	
DR: J.vanWAGNER	FILE: 92342018	DWG. No.	REV.
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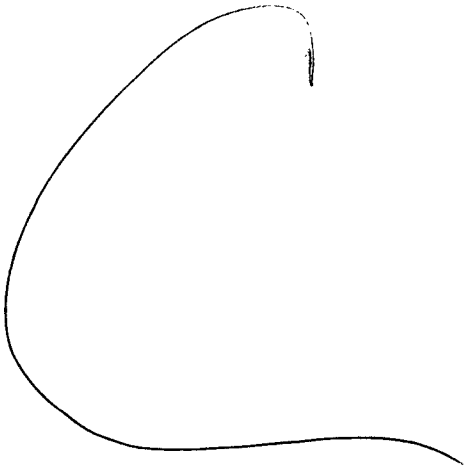
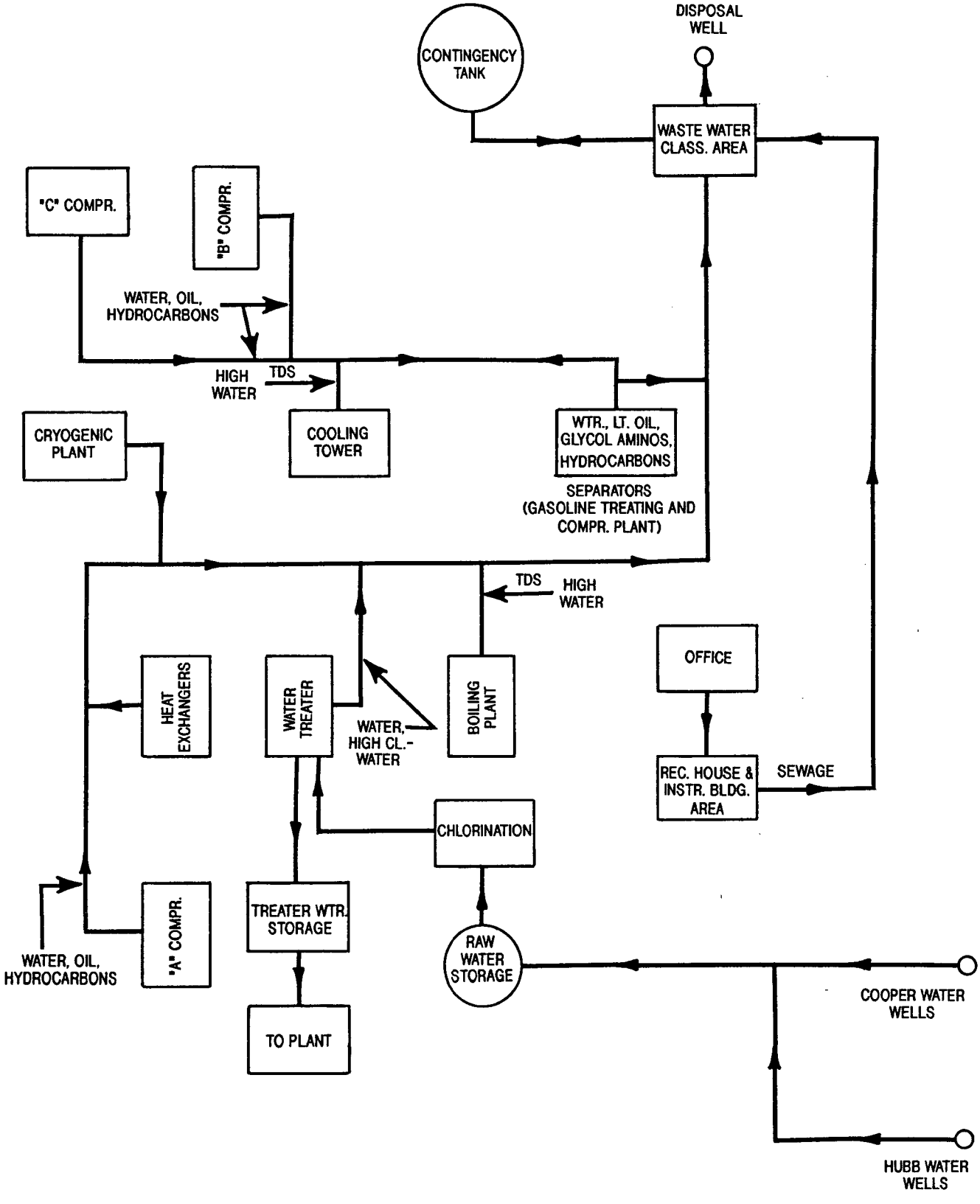
APP:	DATE: 9-09-92		

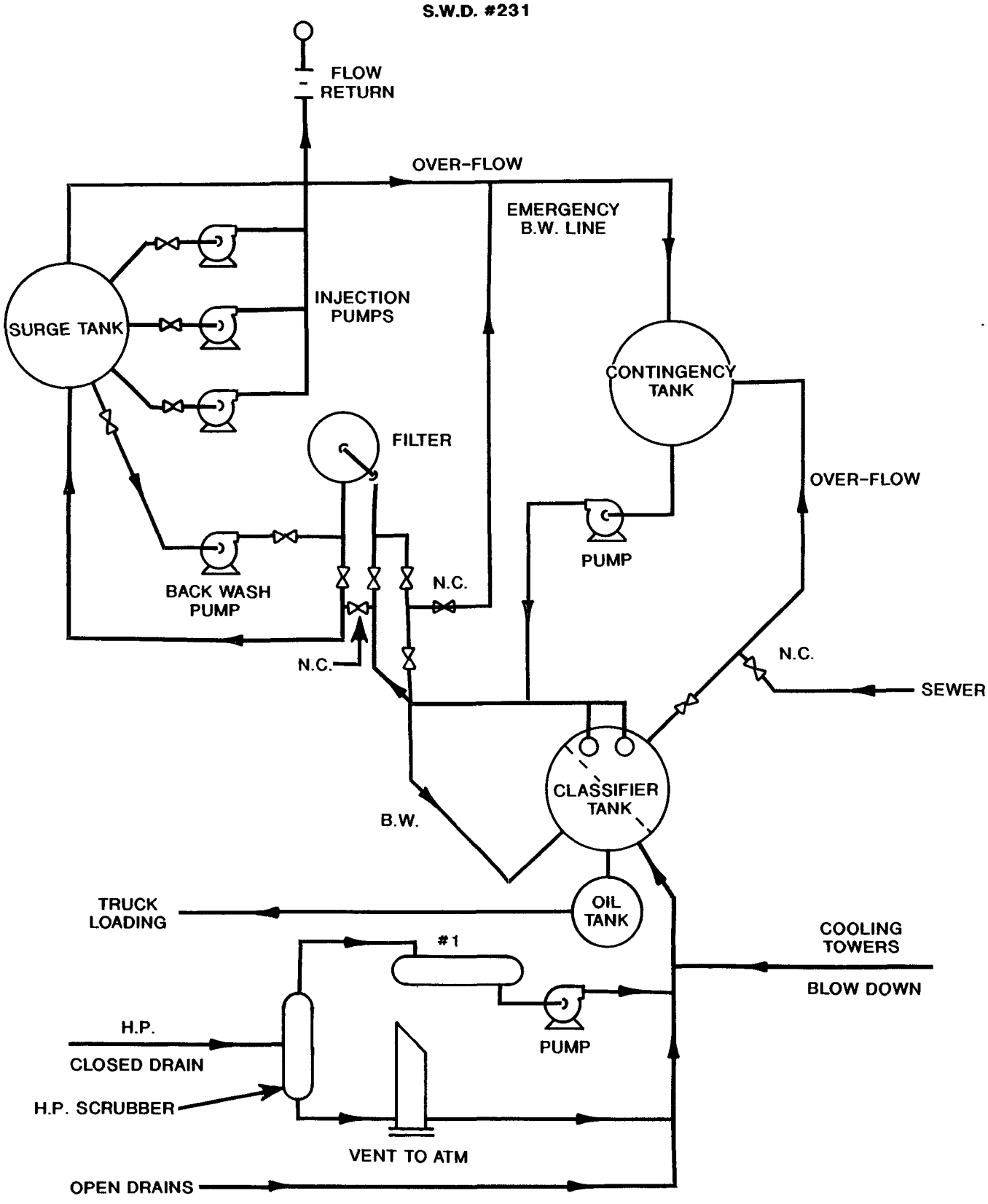




Sid Richardson Gasoline Co.

JAL NO. 3 PLANT WATER & WASTE WATER FLOW SCHEMATIC

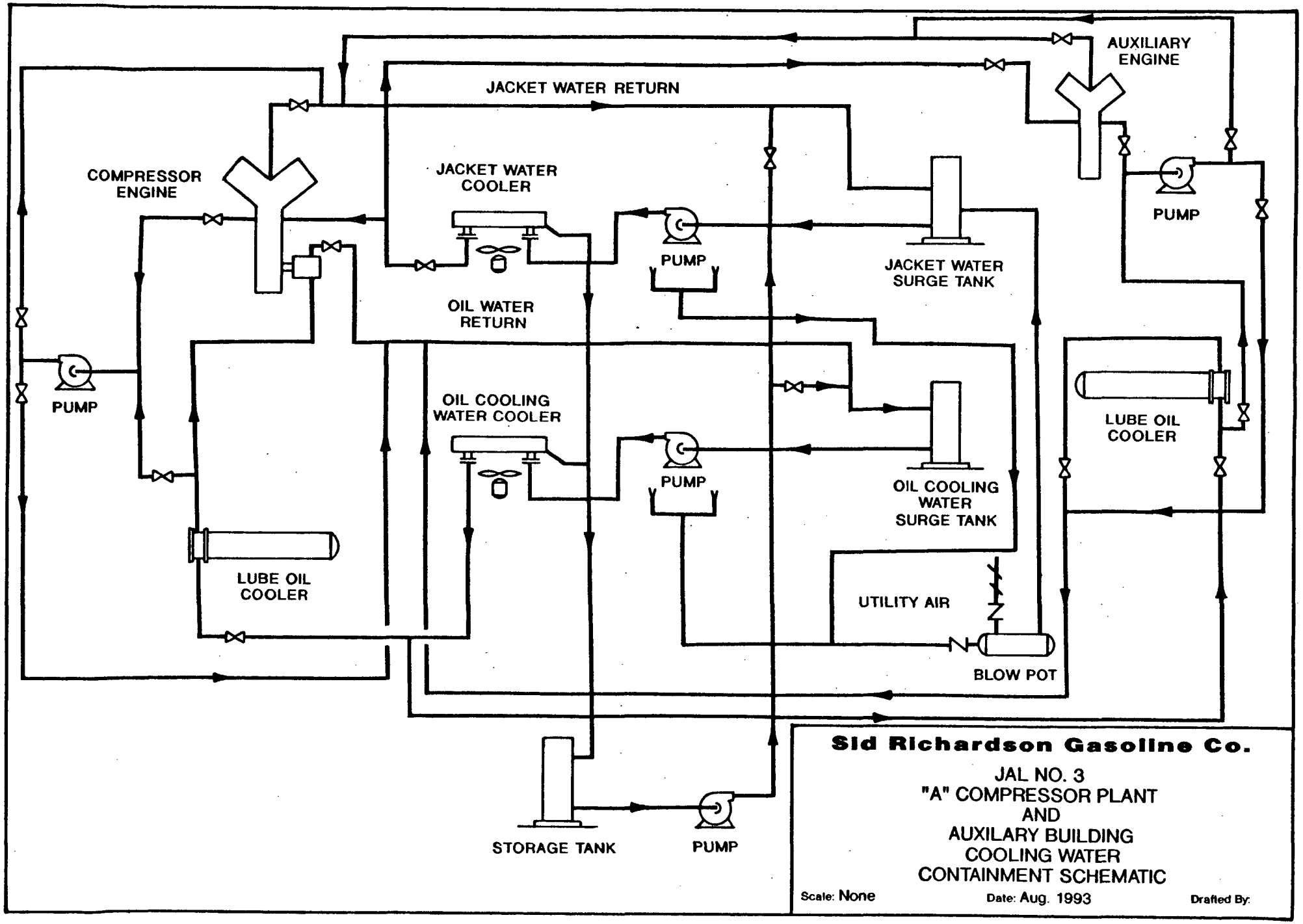
Scale: None Date: Aug. 1993 Drafted By:



Sid Richardson Gasoline Co.

JAL NO. 3 PLANT
WASTEWATER CLASSIFIER
AREA
FLOW DIAGRAM

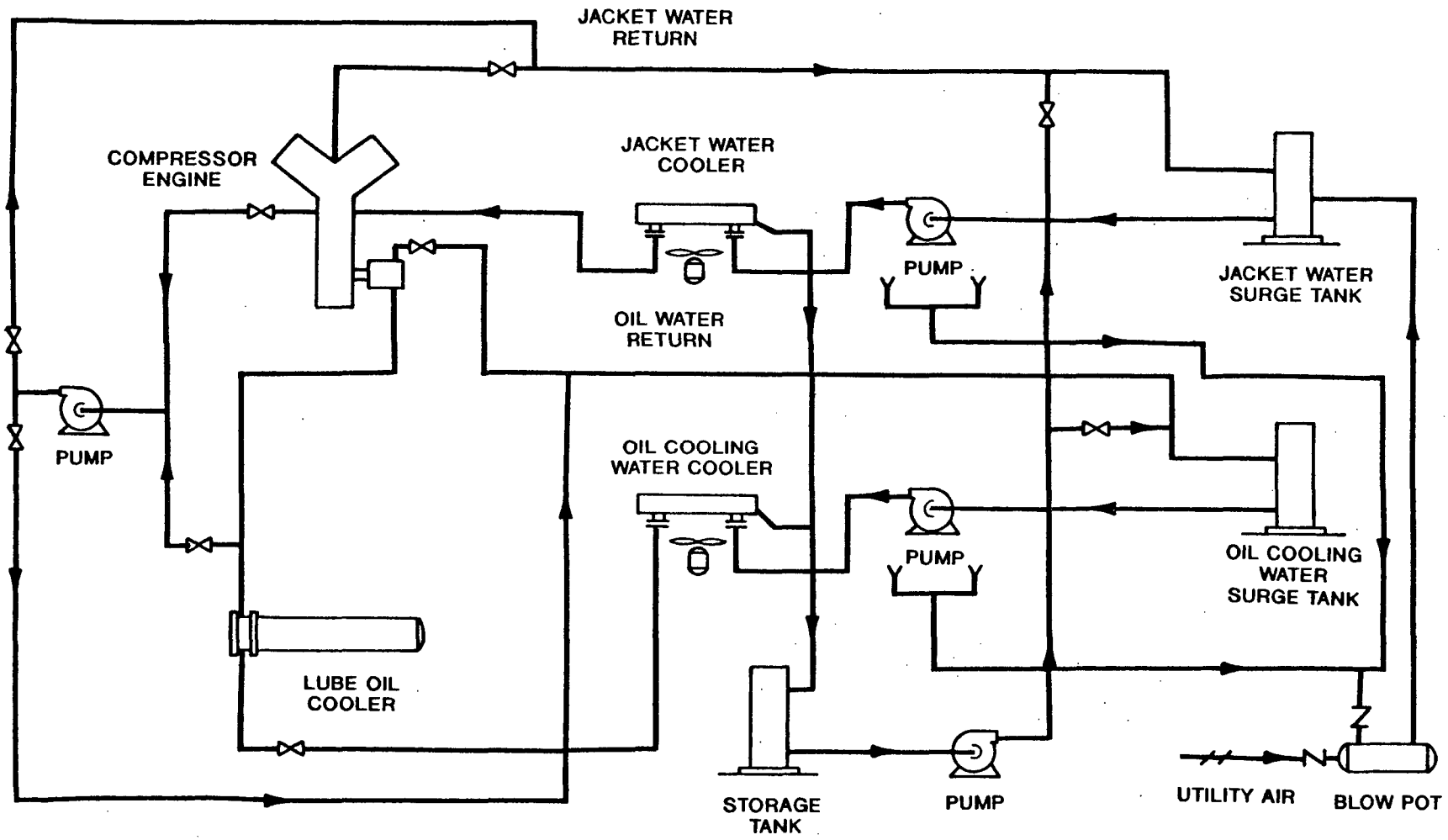
Scale: None Date: Aug. 1993 Drafted By:



Sid Richardson Gasoline Co.

JAL NO. 3
"A" COMPRESSOR PLANT
AND
AUXILARY BUILDING
COOLING WATER
CONTAINMENT SCHEMATIC

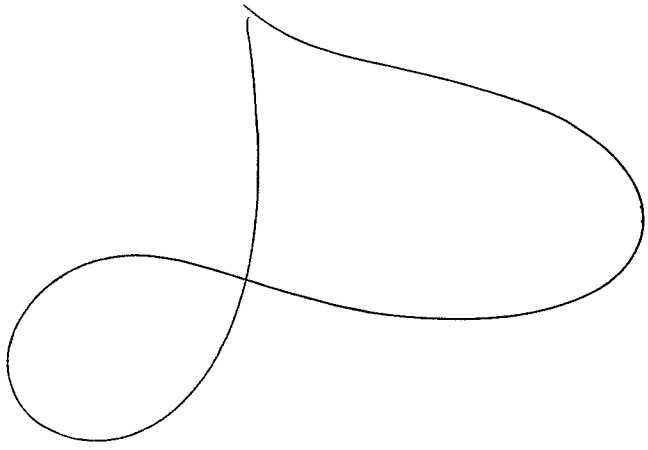
Scale: None Date: Aug. 1993 Drafted By:



Sid Richardson Gasoline Co.

JAL NO.3
"B" COMPRESSER PLANT
COOLING WATER
CONTAINMENT SCHEMATIC

Scale: None Date: Aug. 1993 Drafted By:



Martin Water Laboratories, Inc.
WATER CONSULTANTS SINCE 1953
BACTERIAL AND CHEMICAL ANALYSES

P.O. BOX 1468
MONAHANS, TEXAS 79756
PH. 943-3234 or 563-1040

709 W. INDIANA
MIDLAND, TEXAS 79701
PHONE 683-4521

To: Mr. Larry Copeland
201 Main Street, Suite 3000
Fort Worth, TX 76102

Laboratory No. 89385
Sample received 8-4-93
Results reported 8-17-93

Company: Sid Richardson Gasoline Company
County: Lea, NM
Field:
Lease: Jal Plant #3

Subject: To make the determinations listed below on water samples taken by Tom Elrod, Martin Water Laboratories, on 8-4-93.

Source of sample:
#1. Raw water - taken from Crawford Ranch house water supply well. 8-4-93
#2. Raw water - taken from Hubb water supply well #2. 8-4-93
#3. Disposal water - taken from Woolworth #1-E disposal well. 8-4-93

PARAMETER, mg/l	#1	#2	#3	EPA MAXIMUM CONTAMINANT LEVEL FOR DRINKING WATER
Arsenic, as As	<0.01	0.023	<0.01	0.05
Chromium, as Cr	<0.03	<0.03	<0.03	0.05
Copper, as Cu	<0.01	<0.01	0.11	0.05
Lead, as Pb	<0.01	<0.01	0.008	0.05
Mercury, as Hg	<0.002	<0.002	<0.002	0.002
Benzene	<0.004	<0.004	3.03	0.005
Toluene	<0.004	<0.004	10.9	--
Ethylbenzene	<0.004	<0.004	0.46	--
Xylene	<0.004	<0.004	2.56	--

Notation: Test methods in compliance with U.S. Environmental Protection Agency Regulations (SW-846; Third Edition - Nov. 1986).

Remarks: The undersigned certifies the above to be true and correct to the best of his knowledge and belief.

W. Reagan White, B.S.

P. O. BOX 1468
MONAHANS, TEXAS 79756
PH. 943-3234 OR 563-1040

Martin Water Laboratories, Inc.

709 W. INDIANA
MIDLAND, TEXAS 79701
PHONE 683-4521

RESULT OF WATER ANALYSES

LABORATORY NO. 89385
SAMPLE RECEIVED 8-4-93
RESULTS REPORTED 8-17-93

TO: Mr. Larry Copeland
201 Main Street, Suite 3000
Fort Worth, TX 76102

COMPANY Sid Richardson Gasoline Company LEASE Jal Plant #3
FIELD OR POOL
SECTION ____ BLOCK ____ SURVEY ____ COUNTY Lea STATE NM
SOURCE OF SAMPLE AND DATE TAKEN:
NO. 1 Raw water - taken from Crawford Ranch House water supply well. 8-4-93
NO. 2 Raw water - taken from Hubb water supply well #2. 8-4-93
NO. 3 Disposal water - taken from Woolworth #1-E disposal well. 8-4-93
NO. 4
REMARKS: Samples taken by Tom Elrod, Martin Water Laboratories, Inc.

CHEMICAL AND PHYSICAL PROPERTIES	NO. 1	NO. 2	NO. 3	NO. 4
Specific Gravity at 60° F.				
pH When Sampled				
pH When Received	7.08	7.14	7.12	
Bicarbonate as HCO_3	229	190	146	
Supersaturation as $CaCO_3$				
Undersaturation as $CaCO_3$				
Total Hardness as $CaCO_3$	300	390	820	
Calcium as Ca	107	104	236	
Magnesium as Mg	8	32	56	
Sodium as ~~XXXXXXXX~~	78	159	393	
Sulfate as SO_4	154	325	886	
Chloride as Cl	91	179	469	
Iron as Fe				
Barium as Ba				
Turbidity, Electric				
Color as Pt				
Total Solids, Calculated	672	997	2,208	
Temperature °F.				
Carbon Dioxide, Calculated				
Dissolved Oxygen,				
Hydrogen Sulfide				
Resistivity, ohms/m at 77° F.				
Suspended Oil				
Filtrable Solids as mg/l				
Volume Filtered, ml				
Potassium, as K	5	9	22	
Carbonate, as CO_3	0	0	0	
Results Reported As Milligrams Per Liter				
Additional Determinations And Remarks				
Metaphosphate, as PO_4	0.5	0.0	0.0	
Orthophosphate, as PO_4	6.1	0.0	0.0	

The undersigned certifies the above to be true and correct to the best of his knowledge and belief.

Form No. 3

By W. Reagan White
W. Reagan White, B.S.

TRACE ANALYSIS, INC.
6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

ANALYTICAL RESULTS FOR
SID RICHARDSON GASOLINE
Attention: Michael McConnell
201 Main Street
First City Bank Tower
Ft. Worth, TX

September 07, 1993
Receiving Date: 09/02/93
Sample Type: Water
Project No: NA
Project Location: Lea County NM

Analysis Date: 09/03/93
Sampling Date: 09/01/93
Sample Condition: Intact & Cool
Sample Received by: SC
Project Name: Jal #3 Plant

TA#	Field Code	BENZENE (ppb)	TOLUENE (ppb)	ETHYL-BENZENE (ppb)	M,P,O XYLENE (ppb)	TOTAL BTEX (ppb)
T13018	WEI-SWD	6,398	8,496	1,686	3,281	19,861
QC	Quality Control	198	201	199	596	
Detection Limit		1	1	1	1	
% Precision		100	100	100	100	
% Extraction Accuracy		121	113	115	115	
% Instrument Accuracy		99	101	100	100	

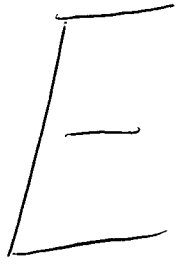
METHODS: EPA SW 846-8020.
BTEX SPIKE AND QC: Sample and Blank Spiked with 200 ppb EACH VOLATILE ORGANICS.

BS

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

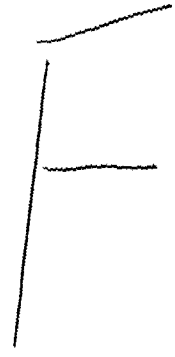
9-7-93

Date



HAULING AND DISPOSAL CONTRACTORS

Water:	Chaparral Service, Inc. P.O. Drawer 1769 Eunice, NM 88231
Liquids:	Petro Source Partners LTD 723 N. Bridge Dumas, TX 79029
	EOTT Energy Corp. P.O. Box 4666 Houston, TX 77210-4666
Oil:	EOTT Energy Corp. P.O. Box 4666 Houston, TX 77210-4666
Filters:	Q.P.S. Monahans, TX 79756 915-943-8400
Oily Rags:	Western Uniform P.O. Box 5218 Amarillo, TX 79117



MAJOR CHEMICALS & LUBRICANTS STORED AND USED AT JAL #3

Water Treating Chemicals	Components	Average Usage Per Month
Calgon Freeguard 1152	Zinc Chloride <40%	200 Gal.
Ultramine 120 (liquid)	Volatile Amines	55 Gal.
Hymol 82 (powder)	Phospho - organic complex	15 lbs.
Caustic (dry bead)	Sodium hydroxine	25 lbs.
Chlorine gas (liquid)	Chlorine	200 lbs.
Sulfuric acid (liquid) 97%	$H_2SO4 - H_2O$	300 Gal.
Lubricants		
Mobil Pegasus 485	Petroleum Motor Oil	3100 Gal.
Mobil Pegasus 490	Petroleum Motor Oil	806 Gal.
Mobil Pegasus 395	Petroleum Motor Oil	133 Gal.
Shell Turbo 32	Petroleum Motor Oil	365 Gal.
Marvel Mystery Oil	Petroleum Hydrocarbon Mixture	8 Gal.
Shell Tellus 100	Petroleum Motor Oil	15 Gal.
Tribol 890	Synthetic Motor Oil	NA
Lubricate # 105 Grease	Petroleum Lubricant	NA
Shell Mysella	30 wt. Petroleum Motor Oil	1 Gal.

Water Treating Chemicals	Components	Average Usage Per Month
Moly. Alloy Wet Gas Comp. Oil (828-40)	Petroleum Lubricant	NA
Ford hydraulic Fluid	Petroleum Lubricant	NA
Moly. Alloy 90# Gear Oil	Petroleum Lubricant	NA
Chevron RPM Aviation Hydraulic Oil	Petroleum Hydraulic Oil	NA
Shell Carnea 32	Petroleum Lubricant	NA
Shell Tellus 68	Petroleum Lubricant	NA
Shell Turbo Oil 46	Petroleum Lubricant	355 Gal.
Shell Turbo Oil 150	Petroleum Lubricant	25 Gal.
Process Fluids		
Gas Sweetening Amine	MEA (Monoethanolamine)	322 Gal.
Gas Dehydrating Glycol	DEG (Diethylene Glycol)	215 Gal.
Ambitrol Coolant	Glycols & Corrosion Inhibitors	230 Gal.

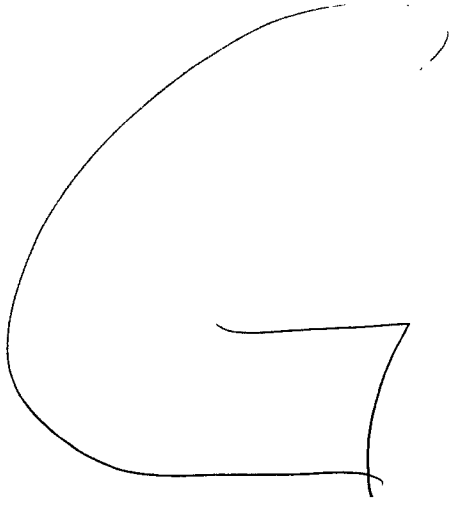
MSDS INDEX

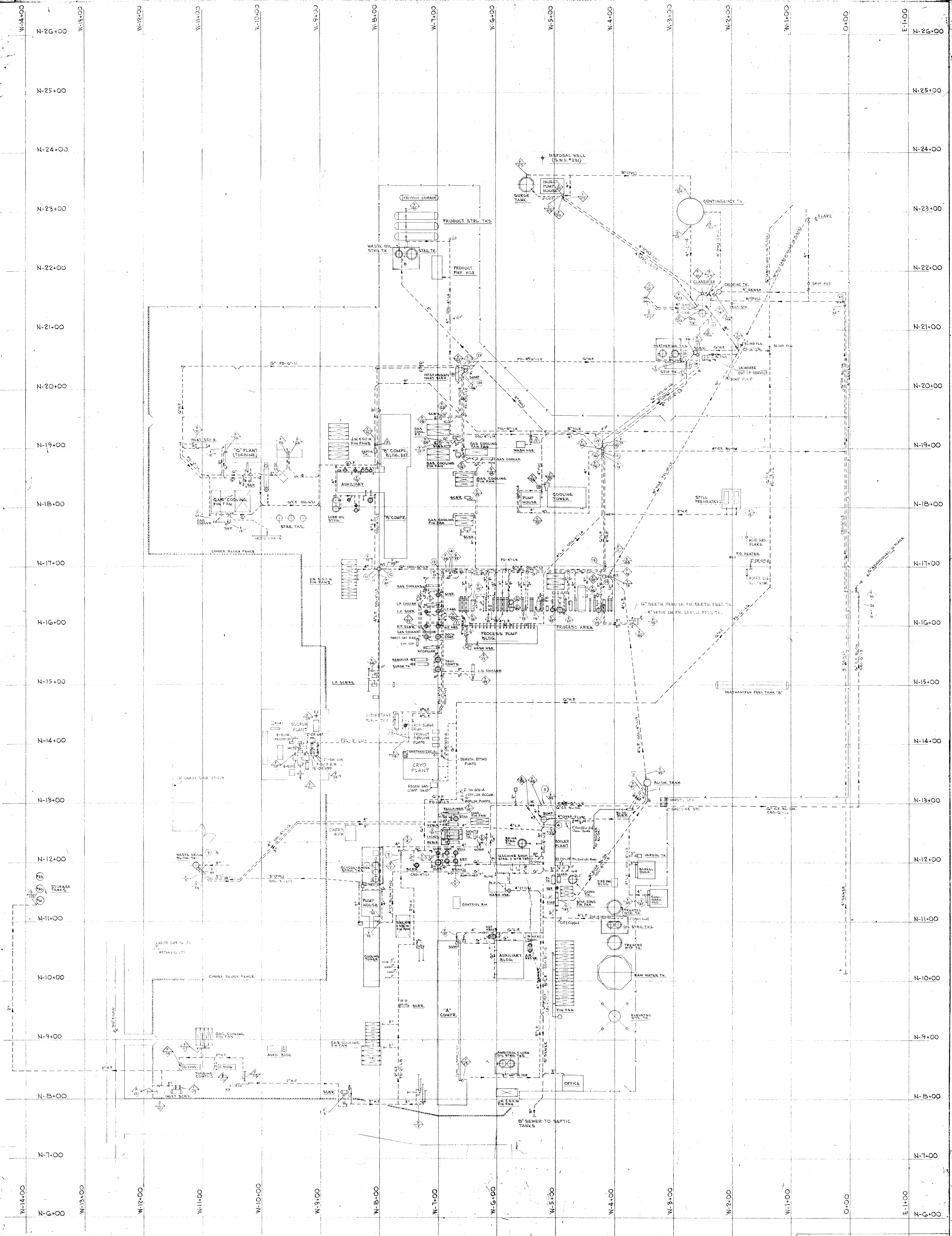
CALGON BUROLOCK 2221
CALGON CL-10
CALGON CL-362
CALGON H-150 MICROBIOCIDE
CALGON H-300 MICROBIOCIDE
CALGON H-303 WB
CALGON H-640 MICROBIOCIDE
CALGON LSD-329
CALGON pHree GUARD + 1152
CALGON pHree GUARD 1000N
CALGON pHree GUARD+ 120
CALGON POTASSIUM PERMANGANATE REAGENT
CALGON PRE-TEST 97
CALGON SODIUM BISULFATE
CALGON ULTRAMINE 120
CALGON, LCS-20
CARROLL COMPANY PRETTY POTTY BOWL CLEAN
CAUSTIC SODA 1
CHELL TURBO 220 OIL
CHEMCO BEGONE
CHEMCO CHEMSOLV
CHEMCO DEFENDER LUBRICANT
CHEMCO ELECTRO-SPRAY
CHEMCO PRIDE HAND CLEANER
CHEMOLA 745 HAND CLEANER
CHEVRON AVIATION HYDRALIC FLUID A
CHEVRON CRUDE OIL
CHORMINE T
CLC CALCIUM HYPOCLORIC
CO2
DEVCON PLASTIC STEEL
DEVCON SILICON
DIESEL FUEL OIL NO. 2 D
DRESSER-RAND PARTS OIL
EATONS AC90 RODENTICIDE
ERUSTICATOR
FORMAGASET NO. 2 SEALANT
FREON 12
FREON 22
GASOLINE, NATURAL
GASOLINE, UNLEADED

GAS, DRY NATURAL
GAS, FIELD SALES (UNPROCESSED)
GAS, SOUR NATURAL
GLYCERIN
GORE-TEX JOINT SEALANT
HELIUM
HET-LUBE KOPR-KOTE
HTH. CALCIUM HYPOCHORITE
HYDROGEN SULFIDE
IMPERIAL OIL GRADE 30 QUAL #MP-320
JOE'S HAND CLEANER
K & W COPPER-COAT GASKET COMPOUND
KILZ SEALER
KOLOR KUT WATER FINDING PASTE
KRYLON BATTERY PROTECTANT
KRYLON BELT DRESSING
KRYLON SPRAY PAINT
LA-CO SLIC-TITE TEFLON TAPE
LAVA SOAP
LEAD ACETATE TRIHYDRATE
LIQUID CHLORINE
LSI #1650 LUBE
LSI # 3085 LUBE
LUBRIPLATE NO. 105 GREASE
MANTEK BREAK-AWAY GASKET REMOVER
MANTEK DRI-GUARD LUBRICANT
MAR-HYDE TAL-STRIP PAINT REMOVER
MARVEL MYSTERY OIL
MERCURY METHANE-ETHANE MIXTURE
MOBIL PEAGSUS 390
MOBIL PEAGSUS 490
MONOETHANOL AMINE
MYSTIK JT-6 GREASE
NITROGEN
OXYGEN P 1.10-PHENANTHROLINE N ETHANOL
PAINT THINNER
PAINT (VALSPAR)
PENNWALT ERUSTICATOR
PENNZOIL 10W-40 MOTOR OIL
PERMALUBE
PHILLIPS GPA-NGL STANDARD

POLYCEL INSULATING FOAM
POLYGUARD #600 PIPE PRIMER
PRIMER (VALSPAR)
PROPANE
RECTOR SEAL PIPE THREAD COMPOUND
RESORCINAL IN 2N NaOH
RIGID DARK THREAD CUTTING OIL
RUST-OLEUM PAINT
SEALWELD VALVE CLEANER
SHELL CORENA K460 OIL
SHELL TELLUS 68 OIL
SHELL TURBO 32 OIL
SHELL TURBO 46 OIL
SNOOP LEAK INDICATOR
SODIUM CARBONATE, ANHYDROUS
SODIUM HYDROXIDE, ION
SPRAY WAY GLASS CLEANING AGENT
STECO TAP MAGIC THREADING OIL
SULFURIC ACID
SUMMIT SUM-KOOL
TEXACO ANTI-FREEZE
THERVO HAND CLEANER
THREE-M (3M) DUCT TAPE
THREE-M (3M) SCOTCHBRITE 7447
THREE-M (3M) SUPER 88 ELECTRICAL TAPE
TOLVENE
TRIBOL MOLUB-ALLOY 90/220 GEAR OIL
TRIETHYLENE GLYCOL
VAL-CHEM EPOXY ENAMEL
VARSOL
VELVAN-SHEEN MOP DRESSING
WAGNER GERM FREE SPRAY
WATER-GEL
WD-40 SPRAY LUBE
XYLENE
ZEP 40 SPRAY LUBE
ZEP FORMULA 50
ZEP HEAD-TO-TOE
ZEP MAGNET
ZEP MVP
ZEP SEPLON SPRAY LUBRICANT

ZEPTOX II
ZEP WOOD DOCTOR
ZEP ZEP-OFF GASKET REMOVER
ZEPELER





LEGEND:

- ◇F FILL & VENT TAPS
- ⬡ ISOLATION BLIND TAPS
- △ MECHANICAL JOINT

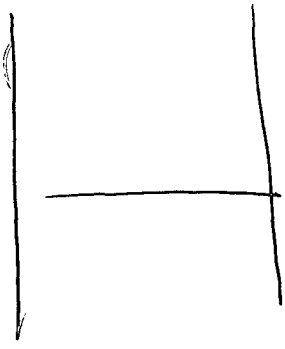
REV.	DESCRIPTION	DATE	BY	APP.
3	AS-BUILT	10/93	lbs	

SID RICHARDSON GASOLINE CO.

JAL No. 3 PLANT

DRAIN LINES

DRAWN: 10-11-83 | BY.: KAPKA | SCALE: 1"=40' | W.O. | DWG. No. 1J3-1-P69 | REV. 3



DRAIN LINE TESTING PROCEDURE

FOR

SID RICHARDSON GASOLINE CO.

JAL NO. 3 PLANT

LEA COUNTY, NEW MEXICO

SEPTEMBER 1993

This drain line testing plan sets forth the methods and procedures which Sid Richardson Gasoline Co. proposes to use to verify the integrity of the underground drain system at Jal No. 3 Plant.

The purpose of this testing is to ensure that waste water flowing through this piping system is contained and does not contribute to the degradation of groundwater quality in the general area of Jal No. 3 Plant.

The plan has attempted to allow the flexibility of testing some smaller, low-volume sections of drain piping without a total plant shutdown. This will decrease the amount of time required for testing during shutdown.

Record keeping and reporting have been addressed in the General Instructions sections. All charts, worksheets and resulting reports will be retained for a minimum of five years.

Detailed instructions are given for testing each major section of drain line. As each section is tested all lateral (smaller drains) which flow into the main header will be subjected to the same test pressure. This will assure that all underground piping is tested.

DRAIN LINE TESTING PROCEDURE FOR JAL NO. 3 PLANT

Introduction

The following procedures are arranged to allow testing of various sections of the drain system with the plant in operation. Some sections will require a plant shutdown to permit testing.

If the total system is to be tested during a plant shutdown, the test sequence should be arranged so that water from one section can be routed into the next section to be tested where possible. This should shorten filling time and provide more economical use of water.

Water used in testing will be raw water from the plant water system. Use of fire hydrants and hoses will be required in some locations to provide sufficient volume and pressure for filling and testing. In most cases, test pressures will be below normal line pressure in plant water mains making use of hydrostatic test pump unnecessary. Some higher pressures may require a pump.

The test pressures and duration used in this procedure exceed those specified for drainage and vent systems as set forth in the 1979 ICBO Code, Sections 1004 (a) 1 and 1005. The International Conference of Building Officials (ICBO) Plumbing Code of the Uniform Plumbing Code describe the procedures to be utilized in this testing procedure. The pressures and duration required in the ICBO Code are 4.3 psi and 15 minutes, respectively.

General Instructions

1. Before attempting to test any section of drain line, verify the sources of effluent and vapors entering the line. Any line which could contain significant amounts of Hydrogen Sulfide (H_2S) will be opened and tested observing all prescribed safety precautions and procedures.

2. Line numbers and sizes, tap numbers and locations on valves, stopple fittings and containment aprons are shown on drawing No. 1J3-1-P69 "Drain Lines". The entire test procedure is directly related to information on this drawing.

3. All drain and block valves which are lubricated plug valves, should be lubricated in the closed position to minimize possibility of leakage.

4. Before installing expandable plugs, clean the interior portion of the pipe where plug seal will contact pipe wall to assure proper sealing.

5. Use new gaskets when installing blind plates in flange unions and tighten flange bolts evenly to prevent tilting of flange faces and leakage.

6. Filling a test section should always be from the lowest tap, venting at the higher taps to displace as much air or gas from the line as possible. Air or gas in the line, especially large amounts, may cause instability in pressure readings.

7. Test pressures given for each section to be tested are 10 psi (Vitrified clay tile lines will be an exception to this procedure. Test pressure on clay tile lines will not exceed 5 psig.) above the maximum recorded pressure for that section of line. Test pressure should be applied only after system pressure is stabilized at some lower pressure. The test duration will be one (1) hour.

8. After test pressure has been applied and stabilized, the system will be isolated and test will begin. This is to be a static pressure test. Introduction of additional pressure will void the previous time interval and will require restarting test.

9. If a section will not maintain the static test pressure for the required time, provided there is no valve, fitting or flange leakage, the section of drain line will be considered faulty. At that point it may be necessary to further isolated smaller sections of the line or expose the entire line until the leaking portion can be located and replaced or repaired.

    a. It should be noted that leakage can occur around the plug of a valve unless a sealing type grease is used to lubricate the valve in the closed position.

    b. Leakage will occur around the seal of an expandable plug unless the inside pipe surfaces are thoroughly cleaned prior to inserting the plug.

    c. Improper tightening of flange unions or faulty, used, or dirty gasket will cause leakage at the blind plate installations.

    d. Other points to check for system leakage are: loose screwed fittings and valves, stem packing (or bonnet) leakage on gate or globe valve, worn seating surfaces in ball valves, unseated gate or globe valves, and faulty resilient seats in butterfly valves.

10. Test pressures will be recorded on a circular chart which will be retained as a permanent record.

11. At the end of testing interval, remove chart from recorder before unscrewing unit from pressure tap to prevent irrelevant pen markings, ink spillage, or other chart damage.

12. Each chart will have the following information recorded on the back:

    a. Date
    b. Tap number,
    c. Line number,
    d. Initials of person changing chart,
    e. Signature of person supervising testing,

These charts will be retained at the plant office for reference and inspection as required.

13. When the integrity of the drain system or a section of the system has been verified, the system, or section, will be returned to normal service.

14. All drains will be tested every 5 years and a written report sent to the West Texas Area Manager with copies to Fort Worth Engineering and file at the Plant.

15. Because the classifier tank is intended to be operated at atmospheric pressure any pressure or vacuum testing of this tank can cause damage to the tank and/or coating system. Therefore, the only possible method of testing the classifier tank will involve filling the tank with water and gauging any drop in level over an 8 hour period. This test will be performed annually.

16. For same reason specified for the classifier tank, pressure or vacuum testing of the oil tank is precluded. The tank will be filled with water and gauged to verify the maintenance of a constant level for a 4 hour period. This test will also be performed annually.

Line : CBD-4/6"-L1 - "A" Plant Cooling Tower Blowdown Line To Junction Of CBD-6"-L2

1. Close 2" gate valve at the "A" Plant cooling tower.Open valve on tap F39.

2. Install expandable plug in apron drain north of the water treater building.

3. Close 4" valve at junction with ODL-8"-L12.

4. Close 6" valve at junction with CBD-6"-L2. Open valve on tap F38.

5. Using tap F38, fill the line with water until all air/gas is displaced through vent valve.

6. Close valve on tap F39 and install properly zeroed 60# recorder on this tap. Stabilized system pressure using fill tap, F38.

7. Raise pressure to 20 psig on system, stabilize test pressure then begin static pressure test as specified in General Instructions, Item 8.

8. If test pressure cannot be maintained on isolated system as specified, refer to General Instructions, Item 9.

9. At the end of the testing period, chart shall be removed and retained for permanent record and will be identified as indicated in General Instructions, Item 12. Remove recorder.

10. Release test pressure. Open 6" valve at junction with CBD-6"L2 (if CBD-6"L2 is to be tested leave valve closed).

11. Remove expandable plugs from apron drain: North of water treater building.

12. Return to normal operating position (2) block valves on drains at:

    a.) Cooling tower blowdown line

    b.) 4" valve at junction with ODL-8"-L2

13. Close and plug all fill and vent valves.

Line: CBD-6"-L2 - "A" Plant Cooling Tower Blowdown Line From Junctions Of CBD-6"-L1 to CBD-6"-L3.

1. Close 6" valve at junction with CBD-6"-L1. Close 4" valve at sump northwest of the Boiler Plant. Install blind plate at 6" ANSI 150# flanges at junction with CBD-6"-L3, (28).

2. Open valve on Tap F51.

3. Using Tap F48, fill the lines with water until all air/gas is displaced through the vent valve.

4. Close the valve on Tap F51 and install properly zeroed 60# recorder on the taps. Stabilize the system pressure using fill Tap F48.

5. Raise the pressure to 20 psig on the system, stabilize the test pressure and then begin static pressure test as specified in the General Instructions, Item 8.

6. If test pressure cannot be maintained on the isolated system as specified, refer to General Instructions, Item 9.

7. At the end of the test period, chart shall be removed and retained for permanent record and will be identified as indicated in General Instructions, Item 12. Remove the recorder. Release the test pressure. Open 6" and 4" valves. Remove blind plate. Close and plug all fill and vent valves.

Line: CBD-6"-L3- Cooling Tower Blowdown Line from Junction with CBD-6"-L2 (at East side of Plant to Classifier) and 4" CT BL-Dn From The Gasoline Plant Cooling Tower Side Stream Filter.

1. Install blind plate in 6" ANSI 150 flange union at junction with CBD-6"-L2, (28). Open valve on tap F50.

2. Close valve on 4" drain from side stream filter at Gasoline Plant cooling tower. Open valve on tap F95.

3. Open valve on vent tap F53 at check valve east of classifier.

4. Close 2" ball valve on pump discharge on flare line drip pot.

5. Close (2) valve at classifier for:

    a. 8" Primary Inlet Line
    b. 8" Emergency By-Pass to Contingency Tank

6. Install blind plate in 8" ANSI 150 flange union on discharge line from sewage effluent contact tank. Install blind plate on 6" ANSI 150 flange union at connection with ODL-6"-L6. Open vent valve on tap F54A.

7. Close valve at junction of 8" steel inlet line with 8" tile line in 4" diameter x 8′ deep valve box. Open vent valve on tap F54.

8. Using tap F54, fill the line with water until all air/gas is displaced through vent valve. Close valves on taps F95, F53, and F54A.

9. Close valve on tap F50 and install properly zeroed 60# recorder on this tap. Stabilize system pressure using fill tap, F54.

10. Raise pressure to 20 psig on system, stabilize test pressure then begin static pressure test as specified in General Instructions, Item 8.

11. If test pressure cannot be maintained on isolated system as specified, refer to General Instructions, Item 9.

12. At the end of the testing period, chart shall be removed and retained for permanent record and will be identified as indicated in General Instructions, Item 12. Remove recorder.

13. Release test pressure. Open 8" valve on primary inlet to classifier.

14. Return to normal operating position valves at: Junction of Steel Line and Tile Line in 4′ x 8′ Deep Valve Box -8" (1). Emergency By-pass to Contingency Tank - 8" (1). Pump Discharge from Flare Line Drip Pot - 2" (1)

15. Remove blind plates from the following locations:
    a. 8" Discharge from Sewage Effluent Contact

    b. Tank 4" drain from side stream filter at Gasoline Plant Cooling Tower Blowdown.

    c. 6" at Junction with CBD-6"-L2 at East Side of Plant.

    d. 6" at junction with ODL-6"-L6.

16. Close and plug all fill and vent valves.

Line: ODL-6"L1 - Open Drain from "B" Plant Area to North Drain Sump

1. Install vented expandable plug in open drain in box at inlet scrubber (V9101). Open valve on plug vent (F71).

2. Install vented expandable plug in apron drain under west end of "C" Plant building. Open valve on plug vent (F70).

3. Install (2) vented expandable plugs in apron drains at 3rd stage gas cooler (E9104) south of fin fan unit. Open valve on plug vent (F69).

4. Install vented expandable plug in apron drain at east end of "C" Plant building. Open valve on plug vent (F68).

5. Install expandable plug in funnel drain at condensate blowdown vessel (V6104).

6. Close 2" valve on sump pump discharge in basement of "B" compressor building.

7. Install blind flange in 6" ANSI 150 flange union at north drain sump, (21). Open valve on tap F67.

8. Using tap F67, fill the line with water until all air/gas is displaced through vent valves. Close and plug valves on vents at taps F68, F69, and F70.

9. Close valve on tap F71 and install properly zeroed 60# recorder on this tap. Stabilize system pressure using fill tap, F67.

10. Raise pressure to 10 psig on system, stabilize test pressure then begin static pressure test as specified in General Instructions, Item 8.

11. If test pressure cannot be maintained on isolated system as specified, refer to General Instructions, Item 9.

12. At the end of the testing period, chart shall be removed and retained for permanent record and will be identified as indicated in General Instructions, Item 12. Remove recorder.

13. Release test pressure. Remove blind plate from 6" flange union at drain sump.

14. Remove (6) expandable plugs from open drains at:

    a.) Condensate Blowdown Vessel (V6104) - (1)
    b.) Apron Drain East End of "C" Plant Building - (1)
    c.) Apron Drains 3rd Stage Discharge Scrubber - (2)
    d.) Apron Drain West End Of "C" Plant Building - (1)
    e.) Open Drain in Box at Inlet Scrubber (V9101) - (1)

15. Open valve on sump pump discharge in "B" Plant building basement.

16. Close and plug all fill and vent valves.

Line: ODL-4"-L2 Open Drain from "B" Plant Auxiliary Building to West Drain Sump South of "B" Compressor Building.

1. Install (2) expandable plugs in funnel drains in building at:

    a.) Air Compressor Coolant Drain
    b.) Drinking Fountain Drain

2. Close (5) ball valves on drains from vertical vessels on north side of auxiliary building. Open valve on tap F73.

3. Lubricate in closed position (2) plug valves on drains from lube oil storage tanks south of building.

4. Install expandable plug in funnel drain at low surge tank (V9106).

5. Close (2) gate valves on oil cooling water and jacket water side stream filters.

6. Install (2) expandable plugs in open floor drains on south side of auxiliary building.

7. Install expandable plug in open drain at jacket water surge tank.

8. Install blind plant in 4" ANSI 150 flange union at west drain sump, (10). Open valve on tap F72.

9. Using tap F72, fill the line with water until all air/gas is displaced through valve.

10. Close valve on tap F73 and install properly zeroed 60# recorder on this tap. Stabilize system pressure using fill tap, F72.

11. Raise pressure to 10 psig on system, stabilize test pressure then begin static pressure test as specified in General Instructions, Item 8.

12. If test pressure cannot be maintained on isolated system as specified, refer to General Instructions, Item 9.

13. At the end of the testing period, chart shall be removed and retained for permanent record and will be identified as indicated in General Instructions, Item 12. Remove recorder.

14. Release test pressure. Remove blind plate from 4" flange union at drain sump.

15. Remove (6) expandable plugs from open drains at:

    a.) Jacket Water Surge Tank - (1)
    b.) Low Surge Tank (V9106) - (1)
    c.) Auxiliary Building-South Side Floor Drains North Side Air compressor and Drinking Fountain - (4)

16. Return to normal operating position (9) block valves at:

    a.) Vertical Air Receivers North of Building - (5)
    b.) Lube Oil Storage Tanks - (2)
    c.) Oil Cooling and Jacket Water Sidestream Filters - (2)

17. Close and plug vent and fill valves.

Line ODL-6"L3 - Open Drain From Gasoline Plant Process Area to North Drain Sump

1. Install blind plate in 6" ANSI 150 flange union at west sump at south end of "B" compressor building (12). Open valve on tap F50.

2. Install blind flange in 4" ANSI 150 flange union at junction with ODL-4"-L7 (13).

3. Install vented expandable plugs in (2) apron drains at inter coolers (E4303, E8101, E8102) and open valve on south plug (F82).

4. Install expandable plug in open drain at "B" compressor 2nd stage scrubber. Install vented expandable plug in open drain at "B" compressor 3rd stage scrubber and open valve on vent F59.

5. Install expandable plug in open drain under cold rich oil flash tank (V8105).

6. Install expandable plug in funnel drain from reabsorber (V8106).

7. Close 2" gate valve in open drain from fuel gas scrubber. Open valve on tap F81.

8. Install vented expandable plug in (2) apron drains at oil-oil exchangers (E8104) and open valve on south plug F83.

9. Install vented expandable plug in open drain under hot rich oil flash tank (V8104) and open valve on vent F84.

10. Install vented plug in funnel drain at hot vent condenser separator (V8109) and open valve on vent F25.

11. Install expandable plug in funnel drain from still (V8111).

12. Install expandable plug in open drain from still water draw-off (V8112).

13. Install vented expandable plug in open drain from still reflux accumulator (V8113) and open valve on vent F85.

14. Install vented expandable plug in funnel drain from deethanizer feed tank "A" (V8114) and open valve on vent F86.

15. Install (3) expandable plugs in funnel drains at deethanizer (V8115). Install (2) vented expandable plugs in funnel drains at reflux condenser and open valves on vents F79, F80.

16. Install blind plate in 6" ANSI 150 flange union at north drain sump (17). Open valve on tap F75.

17. Using tap F75, fill the line with water until all air/gas is displaced through vent valve. Close and plug valves on all taps and vents except F50.

18. Close valve on tap F50 and install properly zeroed 60# recorder on this tap. Stabilize system pressure using fill tap, F75.

19. Raise pressure to 20 psig on system, stabilize test pressure then begin static pressure test as specified in General Instructions, Item 8.

20. If test pressure cannot be maintained on isolated system as specified, refer to General Instructions, Item 9.

21. At the end of the testing period, chart shall be removed and retained for permanent record and will be identified as indicated in General Instructions, Item 12. Remove recorder.

22. Release test pressure. Remove blind plate from 6" flange union at north drain sump.

23. Remove blind plate from 6" flange union at west drain sump.

24. Remove blind plate from 4" flange union at junction with ODL-4"L7.

25. Remove (17) expandable plugs from funnels and open drains at:

    a.) Reflux condenser - (2)
    b.) Deethanizer - (3)
    c.) Deethanizer feed tank (1)
    d.) Still reflux accumulator - (1)
    e.) Still water drain-off - (1)
    f.) Still - (1)
    g.) Hot vent condenser separator - (1)
    h.) Hot rich oil tank - (1)
    i.) Oil-oil exchangers - (2)
    j.) Reabsorber - (1)
    k.) Cold rich oil flash tank - (1)
    l.) Inter coolers - (2)

26. Return to normal operating position block valve on drain at fuel gas scrubber.

27. Close and plug all vent valves at taps.

Line: ODL-4"-L4 - Open Drain from Process Pump Building to North Drain Sump

1. Install (18) 2" expandable plugs in funnel drains from pump base drains along north wall of process pump building.

2. Close 1" ball valve on drain from air volume bottle on south side of pump building. Open valve on tap F77.

3. Install blind in 4" ANSI 150 flange union at north drain sump (16). Open valve on tap F76.

4. Using tap F76, fill the line with water until all air/gas is displaced through vent valve.

5. Close valve on tap F77 and install properly zeroed 60# recorder on this tap. Stabilize system pressure using fill tap, F76.

6. Raise pressure to 10 psig on system, stabilize test pressure then begin static pressure test as specified in General Instructions, Item 8.

7. If test pressure cannot be maintained on isolated system as specified, refer to General Instructions, Item 9.

8. At the end of the testing period, chart shall be removed and retained for permanent record and will be identified as indicated in General Instructions, Item 12. Remove recorder.

9. Release test pressure. Remove blind plate from 4" flange union at north drain sump (16).

10. Remove (18) expandable plugs from pump drains.

11. Return to normal operating position block valve on volume bottle drain.

12. Close and plug fill and vent valves.

Line: ODL-4"-L5-Open Drain from Inlet Scrubbers to Sump

1. Lubricate in closed position (5) plug valves on dumps of inlet scrubber.Close (2) globe valves on control valve by-pass piping. Open valve on tap F88.

2. Install blind plate 4" ANSI 150 flange union at drain sump south of "B" compressor building (11). Open valve on tap F87.

3. Using tap F87, fill the line with water until all air/gas is displaced through vent valve.

4. close valve on tap F88 and install properly zeroed 60# recorder on this tap. Stabilize system pressure using fill tap, F87.

5. Raise pressure to 10 psig on system, stabilize test pressure then begin static pressure test as specified in General Instructions, Item 8.

6. If test pressure cannot be maintained on isolated system as specified, refer to General Instructions, Item 9.

7. At the end of the testing period, chart shall be removed and retained for permanent record and will be identified as indicated in General Instructions, Item 12. Remove recorder.

8. Release test pressure. Remove blind plate from 4" flange union at drain sump (11).

9. Return to normal operating position block valves on drains of inlet scrubbers.

10. Close and plug fill and vent valves.

Line: ODL-6"-L6 - Open Drain from North Drain Sump to 8" Classifier Feed Line

1. Install blind plate in 4" ANSI 150 flange union at north side of drain sump (18). Open valves on tap F73.

2. Install blind plate in 4" ANSI 150 flange union at tie into 8 classifier feed line. Open valve on tap F74A (first test will require hot tapping new connection).

3. Using tap F74A, fill the line with water until all air/gas is displaced through vent valve.

4. Close valve on tap F73 and install properly zeroed 60# recorder on this tap. Stabilize system pressure using fill tap, F74A.

5. Raise pressure to 10 psig on system, stabilize test pressure then begin static pressure test as specified in General Instructions, Item 8.

6. If test pressure cannot be maintained on isolated system as specified, refer to General Instructions, Item 9.

7. At the end of the testing period, chart shall be removed and retained for permanent record and will be identified as indicated in General Instructions, Item 12. Remove recorder.

8. Release test pressure. Remove (2) blind plate from flange unions.

9. Close and plug fill and vent taps.

Line: ODL-4"-L7 - Open Drain from Area Of Refrigeration Surge Tank To Junction with ODL-6"-L3.

1. Install expandable plugs in the following funnel drains at:

    a.) Dehydration Contactors - (2) 2"
    b.) Solution Contactor - (1) -2"
    c.) Sweet Gas Scrubber - (1) 2"
    d.) High Pressure Absorber - (1) 2"
    e.) High Pressure Scrubber - (1) 2"
    f.) Low Pressure Absorber - (1) 2"
    g.) Low Pressure Scrubber - (1) 2"
    h.) "B" Compressor 3rd Stage Final Scrubber

2. Install expandable, vented plugs in the following apron drains at:

    a.) Lean Oil Chiller - (1)
    b.) Low Pressure Chiller - (1)
    c.) "B" Compressor 3rd Stage Gas Coolers - (2)

3. Open valve on tap F48 in old refrigeration compressor area. Open valve on expandable plug vent at lean oil chiller apron drains F49. Open valve on expandable plug vent at 3rd stage gas coolers drain apron F55.

4. Install blind plate in 4" ANSI 150 flange union at junction with ODL-6"-L3 (13). Open valve on tap F57.

5. Using tap F57, fill the line with water until all air/gas is displaced through vent valve. Close and plug valves on taps F49 and F55.

6. Close valve on tap F48 and install properly zeroed 60# recorder on this tap. Stabilize system pressure using fill tap, F57.

7. Raise pressure to 20 psig on system, stabilize test pressure then begin static pressure test as specified in General Instructions, Item 8.

8. If test pressure cannot be maintained on isolated system as specified, refer to General Instructions, Item 9.

9. At the end of the testing period, chart shall be removed and retained for permanent record and will be identified as indicated in General Instructions, Item 12. Remove recorder.

10. Release test pressure. Remove blind plate from flange union at junction with ODL-6"-L3, (unless ODL-6"-L3 is next section to be tested.)

11. Remove (10) expandable plugs from funnel drains at:

    a.) Dehydration Contactors - (2)
    b.) Solution contactor - (1)
    c.) Sweet Gas Scrubber - (1)
    d.) High Pressure Absorber - (1)
    e.) High Pressure Scrubber - (1)
    f.) Low Pressure Absorber - (1)
    g.) Low Pressure Scrubber - (1)
    h.) "B" Compressor 3rd Stage Final Scrubber - (1)

12. Remove (4) vented expandable plugs from apron drains at:

    a.) Lean Oil Chiller - (1)
    b.) Low Pressure Chiller - (1)
    c.) "B" Compressor 3rd Stage Gas Coolers - (2)

13. Close and plug all fill and vent valves.

Line: ODL-4"-L9 - Open Drain from Barrel Dock to Blowdown Tank

1. Install blind flange in 4" ANSI 150 flange union on east side of fiberglass sump (3). Open valve on tap F40.

2. Close 2" valve on cross-over from 10" boiler blowdown line.

3. Install (3) expandable plugs in apron drains at aprons on storage docks east of fire pump building. Open vent valve in plug at wash pad.

4. Install blind flange in flange union on south side of boiler blowdown tank (2). Open valve on tap F41.

5. Using tap F41, fill the line with water until all air/gas is displaced through vent valve. Close and plug valve on tap F40.

6. Close valve on tap F42 and install properly zeroed 60# recorder on this tap. Stabilize system pressure using fill tap, F41.

7. Raise pressure to 10 psig on system, stabilize test pressure then begin static pressure test as specified in General Instructions, Item 8.

8. If test pressure cannot be maintained on isolated system as specified, refer to General Instructions, Item 9.

9. At the end of the testing period, chart shall be removed and retained for permanent record and will be identified as indicated in General Instructions, Item 12. Remove recorder.

10. Release test pressure. Remove blind flange at south side of boiler blowdown tank (2).

11. Remove (3) expandable plugs from apron drains.

12. Remove blind flange at east side of fiberglass sump (3).

13. Close and plug all fill and vent taps.

Line: ODL-8"-L10 - Open Drain from "A" Compressor to Junction with ODL-8"-L12 at Boiler Plant

1. Open valve on Tap 29A.

2. Close 2" ball valve on discharge of sump pump in north end of compressor building basement. Open valve on tap F32.

3. Install expandable plug in apron drain at north east corner of compressor building.

4. Install expandable plug in drain off AC blowdown.

5. Install expandable plug in apron drain at south end of evaporator.

6. Install blind plate in 8" ANSI 150 flange union at junction with ODL-8"-L12 (102). Open valve on tap F31.

7. Using tap F31, fill the line with water until all air/gas is displaced through vent valve. Close and plug valves on tap F32.

8. Close valve on tap F29 and install properly zeroed 60# recorder on this tap. Stabilize system pressure using fill tap, F31.

9. Raise pressure to 20 psig on system, stabilize test pressure then begin static pressure test as specified in General Instructions, Item 8.

10. If test pressure cannot be maintained on isolated system as specified, refer to General Instructions, Item 9.

11. At the end of the testing period, chart shall be removed and retained for permanent record and will be identified as indicated in General Instructions, Item 12. Remove recorder.

12. Release test pressure. Remove blind plate from 8" flange union at junction with ODL-8"-L12 (leave plate in place if ODL-8"-L12 is the next section to be tested (102)).

13 Remove expandable plugs from apron drains at:

    a.) North east corner of compressor building
    b.) South end of evaporator

14. Open block valves on discharge of (2) sump pumps in basement of compressor building.

15. Close and plug all fill and vent valves.

Line: ODL-8"L12 - Open Drain From Treating Plant Area to Fiberglass Sump.

1. If blind plate is not in position from test of ODL-8"-L10, install blind plate in 8" ANSI 150 flange union at junction with ODL-8"-L10. Open valve on tap F33.

2. Install 2" expandable plug in open drain at south end of boiler building. Install 1" expandable plugs in drains off boiler feed water pump. Close ½" gate valve on drain line from pump packing.

3. Install 8" expandable plug in drain from water treater back wash sump at east end of water treater building.

4. Install 2" expandable plugs in drains on South side of machine stop.

5. Close (2) 1" valves on pump drains through south side of water treater building.

6. Lubricate in closed position 4" plug in sump West of South side of the water treating building. Open valves on tap F35.

7. Install (3) expandable plugs in apron drains at solution heat exchangers. Open vent valves in (2) west plugs F37.

8. Close 4" valve at junction with cooling tower blowdown line.

9. Install blind plate in 8" ANSI 150 flange union at fiberglass sump inlet (4). Open valves on tap F36.

10. Using tap F36, fill the line with water until all air/gas is displaced through vent valve. Close and plug valves on taps F33 and F37.

11. Close valve on tap F35 and install properly zeroed 60# recorder on this tap. Stabilize system pressure using fill tap, F36.

12. Raise pressure to 20 psig on system, stabilize test pressure then begin static pressure test as specified in General Instructions, Item 8.

13. If test pressure cannot be maintained on isolated system as specified, refer to General Instructions, Item 9.

14. At the end of the testing period, chart shall be removed and retained for permanent record and will be identified as indicated in General Instructions, Item 12. Remove recorder.

15. Release test pressure. Remove blind plate from flange union at fiberglass sump (4).

16. Remove expandable plugs from:

    a.) Exchanger drain aprons - (3)
    b.) Water treater building sump and trench - (2)
    c.) South end of boiler building - (3)

17. Return to normal operating position (4) block valves on drains at:

    a.) Drain line from pump packing at boiler building - (1)
    b.) Pump drains at south side of water treater building - (2)
    c.) Sump outlet at west side of treating plant - (1)

18. Remove blind plate from 8" ANSI 150 flange union at junction with ODL-8"-L10 (102).

19. Close and plug all fill and vent valves.

Line ODL-4"-L14 - Open Drain from Product Storage Tanks to North Drain Sump.

1. Install (3) expandable plugs in funnel drains under product storage tanks. Open valve on tap F61.

2. Close 2" valve on south east corner of product pump house.

3. Install blind plate in 4" ANSI 150 flange union at north drain sump (19). Open valve on tap F62.

4. Install (2) vented expandable plugs in apron drains at chemical and acid storage areas on north side of gasoline plant cooling tower. Open valves on plug vents F93 and F94.

5. Using tap F62, fill the line with water until all air/gas is displaced through vent valve. Close valve on Taps F93 and F94.

6. Close valve on tap F61 and install properly zeroed 60# recorder on this tap. Stabilize system pressure using fill tap, F62.

7. Raise pressure to 10 psig on system, stabilize test pressure then begin static pressure test as specified in General Instructions, Item 8.

8. If test pressure cannot be maintained on isolated system as specified, refer to General Instructions, Item 9.

9. At the end of the testing period, chart shall be removed and retained for permanent record and will be identified as indicated in General Instructions, Item 12. Remove recorder.

10. Release test pressure. Remove blind plate from 4" flange union at north drain sump (19).

11. Remove expandable plugs from drains at product storage tanks and in apron drains at chemical and acid storage areas.

12. Open 2" valve at product pump building.

13. Close and plug fill and vent taps.

Line: ODL-6"-L15 - Open Drain from "B" Compressor Area to North Drain Sump

1. Install (2) vented expandable plugs in pit drains at "B" Plant 3rd stage discharge cooler E9129. Open valve on east plug vent F65.

2. Install expandable plug in pit drain at 3rd stage discharge scrubber V9131.

3. Install expandable plug in pit drain for automatic drainers on header liquid boots DR-9114, DR-9115.

4. Install expandable plug in pit drain for automatic drainer (DR-9113) on header liquid boot north of 2nd and 3rd stage scrubbers.

5. Install (2) vented expandable plugs in pit drains at 2nd stage suction scrubber V9127 and 3rd stage scrubber V9128. Open vent on plug in 3rd stage suction scrubber pit F64.

6. Install (2) vented expandable plugs in pit drains at 2nd stage suction scrubber V9127 and 3rd stage scrubber V9130. Open vent on plug 3rd stage suction scrubber pit F63.

7. Install expandable plug in pit drain at intermediate inlet scrubber V9126.

8. Open drain block valves and high point vents on gas cooling fin fans.

9. Install blind plate in 6" ANSI 150 flange union at north drain sump (20). Open valve on tap F66.

10. Using tap F66, fill the line with water until all air/gas is displaced through valves. Close and plug valves on taps F63 and F64. Close block valves on gas cooling fin fans.

11. Close valve on tap F65 and install properly zeroed 60# recorder on this tap. Stabilize system pressure using fill tap, F66.

12. Raise pressure to 10 psig on system, stabilize test pressure then begin static pressure test as specified in General Instructions, Item 8.

13. If test pressure cannot be maintained on isolated system as specified, refer to General Instructions, Item 9.

14. At the end of the testing period, chart shall be removed and retained for permanent record and will be identified as indicated in General Instructions, Item 12. Remove recorder.

15. Release test pressure. Remove blind plate from 6" flange union at north drain sump (20).

16. Remove expandable plugs from drains at:

    a.) Intermediate inlet scrubber V9126 - (1)
    b.) North 2nd and 3rd stage scrubbers V9129, V9130 - (2)
    c.) South 2nd and 3rd stage scrubbers V9127, V9128 - (2)
    d.) Header drains north of scrubber V9127 - (1)
    e.) Header drains west of 3rd stage gas cooing fin fan - (1)
    f.) 3rd stage gas coolers - (2)

17. Close and plug vent and fill valves.

Line: ODL-4"-L16 - Apron Drains to Steel Sump West of the Treating Plant Pump House

1. Close 2" ball valve on drains from MEA reclaimer vessel.

2. Close 2" ball valve on drain from MEA reboiler.

3. Close 2" gate valve on drain from elevated condensate receiver.

4. Install expandable plugs in (2) apron drains at west end of vessels. Install expandable plug in (1) apron drain at east end of vessels. Open vent valve in plug F43.

5. Install (2) 2" expandable plugs in funnel drains on pumps.

6. Install blind plate in 4" ANSI 150 flange union at steel sump. Open valve on tap F44 (9).

7. Using tap F44, fill the line with water until all air/gas is displaced through vent valves.

8. Close valve on tap F43 and install properly zeroed 60# recorder on this tap. Stabilize system pressure using fill tap, F44.

9. Raise pressure to 20 psig on system, stabilize test pressure then begin static pressure test as specified in General Instructions, Item 8.

10. If test pressure cannot be maintained on isolated system as specified, refer to General Instructions, Item 9.

11. At the end of the testing period, chart shall be removed and retained for permanent record and will be identified as indicated in General Instructions, Item 12. Remove recorder.

12. Release test pressure. Remove blind plate from 4" flange union at sump (9).

13. Remove (5) expandable plugs from:

    a.) 2" funnel drains at pumps - (2)
    b.) West apron drains - (2)
    c.) East apron drain - (1)

14. Return to normal operating position block valves on drains at:

    a.) MEA reclaimer
    b.) MEA reboiler
    c.) Condensate receiver

15. Close and plug all fill and vent valves.

Line: ODL-3"-L17 - Open Drain from Treating Plant Pump House to the Steel Sump at West of the Treating Plant Pump House.

1. Open valve on tap F60.

2. Close 2" valve on pump drains at north end of treating plant pump house.

3. Install blind flange between check valve and 2" ANSI 150 flange at west end of solution sump.

4. Install blind flange in 3" ANSI 150 flange union at steel sump (8). Open valve on tap F45.

5. Using tap F45, fill the line with water until air/gas is displaced through vent valve.

6. Close valve on tap F60 and install properly zeroed 60# recorder on this tap. Stabilize system pressure using fill tap, F45.

7. Raise pressure to 20 psig on system, stabilize test pressure then begin static pressure test as specified in General Instructions, Item 8.

8. If test pressure cannot be maintained on isolated system as specified, refer to General Instructions, Item 9.

9. At the end of the testing period, chart shall be removed and retained for permanent record and will be identified as indicated in General Instructions, Item 12. Remove recorder.

10. Release test pressure. Remove blind plate from 8" flange union at steel sump (8).

11. Remove blind plate from 2" check valve/flange.

12. Return to normal operation position block valves on drains at pump drains at north end of pump building.

13. Close and plug all fill and vent valves.

Line: ODL-8"-L18 - Evaporator Blowdown Line to Blowdown Tank

1. Close valve on evaporator blowdown/drain at bottom of vessel. Open valve on tap F47.

2. Install blind plate in 8" ANSI 150 flange union at blowdown tank (1). Open valve on tap F46.

3. Using tap F46, fill the line with water until all air/gas is displaced through vent valve.

4. Close valve on tap F47 and install properly zeroed 60# recorder on this tap. Stabilize system pressure using fill tap, F46.

5. Raise pressure to 10 psig on system, stabilize test pressure then begin static pressure test as specified in General Instructions, Item 8.

6. If test pressure cannot be maintained on isolated system as specified, refer to General Instructions, Item 9.

7. At the end of the testing period, chart shall be removed and retained for permanent record and will be identified as indicated in General Instructions, Item 12. Remove recorder.

8. Release test pressure. Remove blind plate from 8" flange union at tank (1).

9. Return blowdown valve to normal operating position.

10. Close and plug all fill and vent valves.

Line: ODL-4"-L19 - Open Drain from Boiler Blowdown Tank to Gasoline Plant Drain Sump

1. Close valve on discharge of transfer pump and deactivate electrical circuit to pump motor. Open valve on tap F49.

2. Install blind plate in 4" ANSI 150 flange union at gasoline plant drain sump (29). Open valve on tap F78.

3. Using tap F78, fill the line with water until all air/gas is displaced through vent valve.

4. Close valve on tap F49 and install properly zeroed 60# recorder on this tap. Stabilize system pressure using fill tap, F78.

5. Raise pressure to 10 psig on system, stabilize test pressure then begin static pressure test as specified in General Instructions, Item 8.

6. If test pressure cannot be maintained on isolated system as specified, refer to General Instructions, Item 9.

7. At the end of the testing period, chart shall be removed and retained for permanent record and will be identified as indicated in General Instructions, Item 12. Remove recorder.

8. Release test pressure. Remove blind plate from 4" flange union at sump (29).

9. Return 4" valve to normal operating position and reactivate electrical circuit to pump motor.

10. Close and plug fill and vent valves.

Line: PD-6"-L1- Pressure Drain from "C" Compressor Area to Junction with PD-4"/6"-L2

1. Close 1" ball valve on line from automatic drainer from fuel gas separator V9117. Open valve on tap F20.

2. Close (3) 1" gate valves on lines from automatic drainers from header boots at pulsation dampener PD-9101.

3. Lubricate in closed position 2" plug valve on dump from 2nd stage line separator V9103.

4. Lubricate in closed position 2" plug valve on dump from 3rd stage line separator V9104.

5. Close (2) 1" ball valves on lines from automatic drainers from header boots South of line separators.

6. Close (3) 2" ball valves on drains from outlet of 2nd stage fin fan coils.

7. Lubricate in closed position 2" plug valve on automatic drainer from fin fan 3rd stage outlet header.

8. Lubricate in closed position 1½" plug valve on dump from 3rd stage final separator. Open valve on tap F19.

9. Close 1" ball valve on line from automatic drainer from horizontal boot under inlet scrubber V9101.

10. Close valve on GE discharge line drain.

11. Install blind plate in 6" ANSI 150 flange union at junction with PD-4"/6"-L2 (22). Open valve on tap F18.

12. Using tap F18, fill the line with water until all air/gas is displaced through vent valves. Close and plug valves on taps F19 and F21.

13. Close valve on tap F20 and install properly zeroed 100# recorder on this tap. Stabilize system pressure using fill tap, F27.

14. Raise pressure to 50 psig on system, stabilize test pressure then begin static pressure test as specified in General Instructions, Item 8.

15. If test pressure cannot be maintained on isolated system as specified, refer to General Instructions, Item 9.

16. At the end of the testing period, chart shall be removed and retained for permanent record and will be identified as indicated in General Instructions, Item 12. Remove recorder.

17. Release test pressure. Remove blind plate from 6" flange union at junction with PD-4"/6"-L2 (22).

18. Return to normal operating position (14) block valves on drains at:

    a.) Inlet scrubber dump
    b.) 3rd stage final separator dump
    c.) 3rd stage fin fan header drainer
    d.) 2nd stage fin fan coils
    e.) Header boots South of 2nd and 3rd stage line separators
    f.) 2nd stage line separator dump V9103.
    g.) 3rd stage line separator dump V9104.
    h.) Header boots at pulsation dampener PD-9101.
    i.) Fuel gas separator drainer V9117.

19. Close and plug all fill and vent valves.

Line: PD-4"/6"-L2 - Pressure Drain from "B" Compressor Area to High Pressure Blowdown Scrubber.

1. Close (2) 1" gate valves from inlet header drainers in pit at east end of 1st / 2nd stage fin fan unit F9106.

2. Close 2" ball valve and 2" gate valve on drain from 3rd stage discharge scrubber. Open valve on tap F14.

3. Close (2) ball valves on 3rd stage suction scrubber V9128 and 2nd stage suction scrubber V9127 dumps. Open valve on tap F15.

4. Close 1" gate valve from header drainer in pit at east end of 1st / 2nd stage fin fan unit F9107.

5. Close (2) ball valves on 3rd stage suction scrubber V9130 and 2nd stage suction scrubber V9129 dumps. Open valve on tap F16.

6. Close (2) ball valves and (2) gate valves on drains from intermediate inlet scrubber.

7. Install blind plate in 6" ANSI 150 flange union at junction with PD-6"-L1 near intermediate scrubber (22).

8. Close 2" gate valve on pump discharge at open drain collection sump near intermediate scrubber.

9. Install blind plate between 6" ANSI 150 flange and check valve in line at High Pressure Blowdown Scrubber (25). Open valve on tap F17.

10. Using tap F14, fill the line with water until all air/gas displaced through vent valves F15, F16, and F17. Close and plug all vent valves.

11. Close valve on tap F17 and install properly zeroed 100 recorder on this tap. Stabilize system pressure using fill tap, F14.

12. Raise pressure to 50 psig on system, stabilize test pressure then begin static pressure test as specified in General Instructions, Item 8.

13. If test pressure cannot be maintained on isolated system as specified, refer to General Instructions, Item 9.

14. At the end of the testing period, chart shall be removed and retained for permanent record and will be identified as indicated in General Instructions, Item 12. Remove recorder.

15. Release test pressure. Remove blind plate from 6" check valve joint at High Pressure Blowdown Scrubber (25). Remove blind plate from 6" ANSI 150 flange union at junction with PD-6"-L1 near intermediate scrubber (22). (Leave blind plate in place if PD-6"-L1 is the next section tested.)

16. Return to normal operating position block valves on drains at:

    a.) Discharge of sump pump - (1) "2
    b.) Intermediate inlet scrubber drains - (4) 2"
    c.) Vessel drains on (2) 3rd stage and (2) 2nd stage suction scrubbers - (4) 2"
    d.) Vessel drains on 3rd stage discharge scrubber - (2) 2"
    e.) Header drains at fin fans - (3) 1"

17. Close and plug all fill and vent valves.

Line: PD-4"-L3 - Pressure Drain from Gasoline Plant Area to High Pressure Blowdown Scrubber in Classifier Area

1. Install blind plate in 4" ANSI 150 flange union at north east corner of gasoline plant process area (15). Open valve on tap F11.

2. Lubricate in the closed position (2) 2" plug valves and close (2) globe valve in the drain piping from the (2) still preheaters (Born oil heaters).

3. Install blind plate between 4" ANSI 150 flange and check valve at high pressure blowdown scrubber (24). Open valve on tap F13.

4. Using tap F11, fill the line with water until all air/gas is displaced through vent valves, F12, and F13. Close and plug valve on tap F12.

5. Close valve on tap F13 and install properly zeroed 100 recorder on this tap. Stabilize system pressure using fill tap, F11.

6. Raise pressure to 50 psig on system, stabilize test pressure then begin static pressure test as specified in General Instructions, Item 8.

7. If test pressure cannot be maintained on isolated system as specified, refer to General Instructions, Item 9.

8. At the end of the testing period, chart shall be removed and retained for permanent record and will be identified as indicated in General Instructions, Item 12. Remove recorder.

9. Release test pressure. Remove blind plate from 4" flange/check valve union (24). Remove blind plate from 4" flange union at gasoline plant junction with PD-4"-L4 (leave in place if PD-4"-14 is to be tested.)

10. Return to normal operating position (4) block valves on drains at (2) still preheaters (oil heaters).

11. Close and plug all fill and vent valves.

Line: PD-4"-L4 - Pressure Drain Through North Side of Process Area of Gasoline Plant to Junction with PD-4"-L3

1. Install blind plate in 4" ANSI 150 flange union at junction with PD-4"-L15 (14). Open valve on tap F22.

2. Close 2" gate valve on drain from cold rich oil flash tank V8105. Open valve on tap F23.

3. Close 2" ball valve on drain from hot rich oil flash tank V8108. Open valve on tap F25.

4. Close 2" ball valve on drain from hot vent condenser E8106. Open valve on tap F26.

5. Close 2" gate valve on drain from still stripping steam evaporator E8114. Open vale on tap F26.

6. Close 2" ball valve on drain from oily condensate classifier V8121.

7. Close 2" ball valve on drain from oil reclaimer V8110.

8. Close 2" globe valve on drain from still V8111. Open valve on tap F27.

9. Close valve on drain from deethanizer V8115. Open valve on tap F29.

10. Install blind plate in 4" ANSI 150 flange union (north of low pressure drain sump) at junction with PD-4"-L3 (15). Open valve on tap F28.

11. Using tap F22, fill the line with water until all air/gas is displaced through vent valve. Close and plug valves on taps F23, F24, F25, F26, F27, and F29.

12. Close valve on tap F28 and install properly zeroed 100# recorder on this tap. Stabilize system pressure using fill tap, F22.

13. Raise pressure to 50 psig on system, stabilize test pressure then begin static pressure test as specified in General Instructions, Item 8.

14. If test pressure cannot be maintained on isolated system as specified, refer to General Instructions, Item 9.

15. At the end of the testing period, chart shall be removed and retained for permanent record and will be identified as indicated in General Instructions, Item 12. Remove recorder.
16. Release test pressure. Remove blind plate from 4" flange union at junction with PD-4"-L3 (15). (Leave plate in place if PD-4"-L3 is next section to be tested.)

17. Return to normal operating position (7) block valves on drains at:

    a.) Deethanizer V8115 - (1)
    b.) Still V8111 - (1)
    c.) Oily condensate classifier V8121 - (1)
    d.) Still stripping steam evaporator E8114 - (1)
    e.) Hot vent condenser E8106 - (1)
    f.) Hot rich oil flash tank V8108 - (1)
    g.) Cold rich oil flash tank V8105 - (1)

18. Close and plug all fill and vent valves.

Line PD-4"-L5 - Pressure Drain from Propane Interstage Flash Tank to Junction with PD-4"-L4

1. Lubricate in closed position (3) plug valves on drains at:

    a.) Propane surge tank - (1)
    b.) Interstage Flash Tank - (1)
    c.) Conversion to Sulfur plant Drains

2. Open valve on Tap F56A (First test will require hot tapping of new connection.)

3. Close (8) valves on drains from the following vessels:

    a.) Lean oil chiller - (1) 2" gate
    b.) High pressure chiller - (1) 2" gate
    c.) Gas cooler at high pressure absorber - (1) 2" globe
    d.) High pressure scrubber - (1) 1" gate
    e.) High pressure absorber - (1) 2" gate
    f.) Low pressure scrubber - (1) 1" gate
    g.) Low pressure absorber - (1) 2" gate
    h.) Low pressure chiller - (1) 2" gate

4. Install blind plate in 4" ANSI 150 flange union at junction with PD-4"-L4 (14). Open valve on tap F58.

5. Using tap F58, fill the line with water until all air/gas is displaced through vent valve.

6. Close valve on tap F56 and install properly zeroed 100# recorder on this tap. Stabilize system pressure using fill tap, F58.

7. Raise pressure to 50 psig on system, stabilize test pressure then begin static pressure test as specified in General Instructions, Item 8.

8. If test pressure cannot be maintained on isolated system as specified, refer to General Instructions, Item 9.

9. At the end of the testing period, chart shall be removed and retained for permanent record and will be identified as indicated in General Instructions, Item 12. Remove recorder.

10. Release test pressure. Remove blind plate from 4" flange union at junction with PD-4"-L4. (Leave plate in place if required for next section.)

11. Return to normal operating position (17) block valves on drains from equipment listed in items 1,2, and 3 above.

12. Close and plug fill and vent valves.

Line: PD-6"-L6 - Pressure Drain Header to Classifier

1. Install blind plate in 6" ANSI 150 flange union in header north of reclaimer. (Plate may be in place from previous test of PD-6"-L7.) Open valve on tap F9.

2. Close block valve where 2" DR-1103-A enters cryogenic skid and all block valves on product pipeline and booster pumps.

3. Close block valves on 2" DR-613-A at discharge of the flare liquids knock out drum pump.

4. Install blind plate in 6" ANSI 150 flange union at high pressure blowdown scrubber in classifier area (26). Open valve on tap F10.

5. Using tap F9, fill the line with water until all air/gas is displace through vent valve.

6. Close valve on tap F10 and install properly zeroed 100# recorder on this tap. Stabilize system pressure using fill tap, F9.

7. Raise pressure to 50 psig on system, stabilize test pressure then begin static pressure test as specified in General Instructions, Item 8.

8. If test pressure cannot be maintained on isolated system as specified, refer to General Instructions, Item 9.

9. At the end of the testing period, chart shall be removed and retained for permanent record and will be identified as indicated in General Instructions, Item 12. Remove recorder.

10. Release test pressure. Remove blind plate from high pressure blowdown scrubber and flange union north of reclaimer.

11. Open all block valves on 2" DR-1103-A and 2" Dr-613-A.

12. Close and plug all vent and fill valves.

Line: PD-6"-L7 - Pressure Drain in Treating Plant Area

1. Install blind plate between flange and 2" check valve at junction with PD-2"-L8 (7). Open valve on tap F4.

2. Lubricate in the closed position one (1) 1½" plug valve and close one (1) ball valve on the dumps from the H.P. inlet scrubber.

3. Lubricate in the closed position plug valves on the drains from the following vessels:

    a.) Remote absorber "A" V-80 - (1) 1½"
    b.) Remote absorber "B" V-81 - (1) 1½"
    c.) MEA Still, V-56 - (1) 1½"
    d.) MEA Contactor, V-50 - (1) 1½"
    e.) Sweet gas scrubber "A", V-51, (1) 2"
    f.) Residue gas scrubber, 102" I.D. - (3) 2"

4. Open valves on taps F5, F6 and F7.

5. Close drain valves on Amine Reflux pumps and Amine Reflux accumulator vessel.

6. Close valve on 2" DR-709-B where it enters the dehydration skid at the Cryogenic plant.

7. Install blind plate in 6" ANSI 150 flange union in header north of reclaimer. Open valve on tap F8.

8. Using tap F8, fill the system with water until air/gas is displace form lines. Close and plug vent valves on taps F4, F6 and F7.

9. Close valve on tap F5 and install properly zeroed 100# recorder at this tap. Stabilize system pressure using fill tap, F8.

10. Raise pressure to 50 psig on system, stabilize test pressure then begin static pressure test as specified in General Instructions, Item 8.

11. If test pressure cannot be maintained on isolated system as specified, refer to General Instructions, Item 9.

12. At the end of the testing period, chart shall be removed and retained for permanent record and will be identified as indicated in General Instructions, Item 12. Remove recorder.

13. Release test pressure. Remove blind plate from 2" check valve/flange at junction with PD-2"-L8. Remove blind plate from 6" flange union north of reclaimer. (Leave blind plate in place if PD-6"-L6 is the next section to be tested.)

14. Return to normal operating position (12) block valves on vessel drains at :

    a.) Remove absorbers, A & B
    b.) MEA Still
    c.) MEA Contactor
    d.) Sweet gas scrubber
    e.) Residue gas scrubber
    f.) High pressure inlet scrubbers

15. Close and plug all vent and fill valves.

Line: PD-2"-L8 - Pressure Drain at West Side of "A" Compressor

1. Close 1" ball valve on bottom of accumulator vessel south of turbine unit No. C-9106.

2. Close two (2) 1" ball valves, one (1) gate valve and lubricate in closed position one (1) 2" plug valve on scrubber south of gas cooling fin fan. Open valve on tap F3.

3. Lubricate in closed position 2" plug valves on drains at North and South end of compressor headers. Open valve on tap F2.

4. Lubricate in closed position two (2) 2" plug valves on gas cooling fin fan header drains.

5. Lubricate in closed position six (6) 2" plug valves on drains of intermediate scrubber.

6. Lubricate in closed position 2" plug valve on south end of header at cooling tower.

7. Install blind plate between 2" ANSI 150 flange and check valve at junction with line PD-6"-L7 (7). Open valve on tap F1.

8. Using tap F1, fill the system with water until air/gas is displaced from lines. Close and plug vent valves F2 and F3.

9. Close valve on tap F3 and install properly zeroed 100# recorder on this tap. Stabilize system pressure using fill tap, F1.

10. Raise pressure to 50 psig on system, stabilize test pressure then begin static pressure test as specified in General Instructions, Item 8.

11. If test pressure cannot be maintained on isolated system as specified, refer to General Instructions, Item 9.

12. At the end of the testing period, chart shall be removed and retained for permanent record and will be identified as indicated in General Instructions, Item 12. Remove recorder.

13. Release test pressure. Remove blind plate from 2" check valve/flange at junction with PD-2"-L7. (Unless PD-6"-L7 is next section to be tested.)

14. Return to normal operating position block valve on drains at:

    a.) South end of cooling tower
    b.) Intermediate scrubber
    c.) Gas cooling fin fan header
    d.) North and South ends of compressor headers
    e.) Scrubber south of gas cooling fin fan
    f.) Accumulator vessel south of turbine, C9106

15. Close and plug all fill and vent valves.

Line: TDL-15"-L1 - 15" Vitrified Clay Pipe Header on Backwash Drain System from Gasoline Plant Process Area Exchangers to Drain Sump.

NOTE: Extreme care should be exercised when inserting expandable plugs in all tile lines or funnels to avoid over tightening or over expanding plugs and breaking tile pipe. Proper pre-cleaning of sealing area inside the tile will aid in proper sealing.

1. In the 12" tile funnels, install (12) vented expandable plugs at the following exchangers:

   a.) MEA Contactor "B" residue gas cooler E4309 - (1)
   b.) "B" plant 3rd stage gas coolers E9103 - (2)
   c.) Low pressure absorber gas upper intercooler E8102 - (1)
   d.) Low pressure absorber gas lower intercooler #8101 - (1)
   e.) MEA contactor "B" intercooler E4103 - (1)
   f.) Reabsorber intercooler E8103 - (1)
   g.) Lean oil cooler E8105 - (1)
   h.) Hot vent condenser E8106 - (1)
   i.) Still final condenser E8109 - (1)
   j.) Deethanizer reflux condenser E8112 - (1)
   k.) Deethanizer product cooler E8113 - (1)

2. Open valves on all plug vents.

3. Cap sewage effluent line from process area wash room septic tank:

   a.) Loosen (2) 4" cast iron mechanical compression sleeves on spool in 4" sewer drain, located at northwest corner of process pump building.

   b.) Remove spool from tile drain line.

   c.) Install 4" mechanical line cap (blind end mechanical sleeve) on section to be tested with vent outlet on top.

   d.) Open valve on tap in line cap F98.

   e.) Brace test cap with thrust block to prevent end thrust movement of cap. Care should be taken to avoid unnecessary force on loose end of tile line to septic tank to prevent breakage.

4. Install vented expandable plug in 15" line into gasoline plant drain sump. Plug vent is to be on high side of plug for proper venting and filling.

5. With all plug vents open:

   a.) Use tap F99 to fill the line with water until all air/gas is displaced through vent valves.

   b.) Close and plug vent valves on expandable plugs in exchanger backwash drains, except at exchanger E4309, tap F97.

6. Close valve on tap F97 and install properly zeroed #60 recorder and calibrated 0-15 psi pressure gauge on tee manifold on this tap. Stabilize system pressure using fill tap, F99.

7. Raise pressure to 5 psig on system, stabilize test pressure then begin static pressure test as specified in General Instructions, Item 8. **DO NOT EXCEED 5 PSIG PRESSURE ON THIS LINE.**

8. If test pressure cannot be maintained on isolated system as specified, refer to General Instructions, Item 9.

9. At the end of the testing period, chart shall be removed and retained for permanent record and will be identified as indicated in General Instructions, Item 12. Remove recorder/gauge manifold.

10. Release test pressure. Remove expandable plug from 15" line at drain sump.

11. Remove test cap from 4" sewage effluent line and replace spool with mechanical compression sleeves.

12. Remove (12) expandable plugs from 12" tile funnels under exchangers as listed in item 1a through k.

13. Return system to service.

Line: TDL-8"-L2 & L4 - Tile Drain Line from "B" Compressor Plant Septic Tank to 8" Valve in 4' x 8 ' Deep Valve Box

NOTE: Extreme care should be exercised when inserting expandable plugs in all tile lines or funnels to avoid over tightening or over expanding plugs and breaking tile pipe. Proper pre-cleaning of sealing area inside the tile will aid in proper sealing.

1. Install blind late in 8" ANSI 150 flange union at gasoline plant drain sump. Open valve on tap F90.

2. Loosen (2) 8" iron compression sleeves on spool at outlet of "B" Plant septic tank and remove spool from tile drain line. Install 8" mechanical line cap (blind end mechanical sleeve) on section to be tested with vent outlet on top. Open valve on tap in line cap F91. Brace test cap with thrust block to prevent end thrust movement of cap. Care should be taken to avoid unnecessary force on stub end of tile on septic tank outlet.

3. Close valve at junction of 8" steel inlet line with 8" tile line in 4' X 8" deep valve box. Install 8" pipe nipple in valve on tap F92 (for filling line) and open valve. Open vent of sump pump discharge line.

4. Using tap F92, fill the line with water until all air/gas is displaced through vent valve. Close and plug vent valves on tap F90, and vent of sump pump discharge line.

5. Close valve on tap F91 and install properly zeroed 60# recorder and calibrated 0-15 psi pressure gauge on tee manifold o this tap. Stabilize system pressure using fill tap, F92.

6. Raise pressure to 5 psig on system, stabilize test pressure then begin static pressure test as specified in General Instructions, Item 8. **DO NOT EXCEED 5 PSIG PRESSURE ON THIS LINE.**

7. If test pressure cannot be maintained on isolated system as specified, refer to General Instructions, Item 9.

8. At the end of the testing period, chart shall be removed and retained for permanent record and will be identified as indicated in General Instructions, Item 12. Remove recorder/gauge manifold.

9. Release test pressure. Open valve at steel/tile line junction and all vents until line is drained.

10. Remove (3) mechanical line caps from line at:

    a.) Skimmer basin in classifier area
    b.) "B" compressor plant septic tank

11. Return to normal operating position valves at side stream filters.

12. Remove blind plate from 8" flange union at gasoline plant drain sump.

13. Close and plug all fill and vent valves.

Line: 4"-PVC-L100 - Classifier Pump Discharge Line to Filter at Injection Pump House

1. Close 4" inlet and bypass valves at filter.

2. Close (2) 4" valves on classifier pump discharge lines.

3. Using tap F100, fill the line with water until all air/gas is displaced through vent valve.

4. Close tap F101 and install properly zeroed 60# recorder at this tap. Stabilize the system using fill tap F100.

5. Raise pressure to 10 psig on system, stabilize test pressure then begin static pressure test as specified in General Instructions, Item 8.

6. If test pressure cannot be maintained on isolated system as specified, refer to General Instructions, Item 9.

7. At the end of the testing period, chart shall be removed and retained for permanent record and will be identified as indicated in General Instructions, Item 12. Remove recorder.

8. Release test pressure. Open 4" valves. close and plug all fill and vent valves.

Line: 8"/4" PVC-L101 Drain and Overflow Lines From Surge Tank to Contingency Tank

1. Close 4" valve at filter in injection pump house.

2. Close 4" drain valve on water surge tank.

3. Unbolt 8" 150# flange on overflow line on water surge tank and install blind plate.

4. Install expandable plug with a vent valve (F104) in 8"-PVC-L101. Open vent valve F104. Open vent valve F103 F103 (first test will require installation of vent valve F102 and F103.)

5. Using tap F102, fill the lines with water until all air/gas is displaced through the vent valves. Close all vent valves.

6. Install properly zeroed 60# recorder at tap F103. Stabilize the system using fill tap F102.

7. Raise pressure to 10 psig on system, stabilize test pressure then begin static pressure test as specified in General Instructions, Item 8.

8. If test pressure cannot be maintained on isolated system as specified, refer to General Instructions, Item 9.

9. At the end of the testing period, chart shall be removed and retained for permanent record and will be identified as indicated in General Instructions, Item 12. Remove recorder.

10. Release test pressure and return all connections to their original positions.

Line: 8" PVC-L102 - Classifier Overflow Line to Contingency Tank

1. Install expandable plug with a vent valve (F106) at the contingency tank. Open vent valve.

2. Close 8" valve at classifier. Close 8" bypass valve at classifiers.

3. Using Tap F105, fill the lines with water until all air/gas is displaced through the vent valve. Close the event valve F106.

4. Install properly zeroed 60# recorder at Tap F105. Stabilize the system using Tap F106.

5. Raise pressure to 10 psig on system, stabilize test pressure then begin static pressure test as specified in General Instructions, Item 8.

6. If test pressure cannot be maintained on isolated system as specified, refer to General Instructions, Item 9.

7. At the end of the testing period, chart shall be removed and retained for permanent record and will be identified as indicated in General Instructions, Item 12. Remove recorder.

8. Release test pressure and return all valves and vents to their original positions.

Line: 8" PVC-L103, 4"-L104, 4"-L105; Filter Backwash and Return Line from Truck Loading to Classifier and Contingency Tank

1. Close 4" valve on filter backwash line at injection pump building. Open vent valve F107 (Initial test will require installation of vent valve).

2. Install 4" expandable plugs with vent valves at the contingency tank and the classifier.

3. Install blind flange with vent tap on 4" valve at the truck loading stations. Using tap F110, fill the line with water until all air/gas is displace through the vent valves. Close the vent valves.

4. Install a properly zeroed 60# recorder at tap F107. Stabilize the system using tap F110.

5. Raise pressure to 10 psig on system, stabilize test pressure then begin static pressure test as specified in General Instructions, Item 8.

6. If test pressure cannot be maintained on isolated system as specified, refer to General Instructions, Item 9.

7. At the end of the testing period, chart shall be removed and retained for permanent record and will be identified as indicated in General Instructions, Item 12. Remove recorder.

8. Release test pressure and remove all plugs and return all valves and vents to their original positions.

Line: 4"-L106, Line from Oil Storage Tank at Classifier to Truck Loading Station

1. Install expandable plug in 4 inch line at oil tank. Open vent valve F112 (initial test will require installation of vent valve.)

2. Install blind flange with vent tap on 4" valve at the truck loading station. Using tap fill, fill the lines with water until all air/gas is displaced through the vent valve F112. Close the vent valves.

3. Install a properly zeroed 60# recorder at tap F111. Stabilize the system using the same tap.

4. Raise pressure to 10 psig on system, stabilize test pressure then begin static pressure test as specified in General Instructions, Item 8.

5. If test pressure cannot be maintained on isolated system as specified, refer to General Instructions, Item 9.

6. At the end of the testing period, chart shall be removed and retained for permanent record and will be identified as indicated in General Instructions, Item 12. Remove recorder.

7. Release test pressure and remove all plugs and return all valves to their original positions.

Line: 6"-L107 Filter Backwash Pump Suction Line

1. Turn off the backwash pump.

2. Close the 6" valve on the suction of the backwash pump.

3. Using water from the surge tank fill the line until all air/gas is displaced through the vent valve tap F113.

4. Close the 6" valve at the water surge tank.

5. Install a properly zeroed 60# recorder at tap F113.

6. Raise pressure to 10 psig on system, stabilize test pressure then begin static pressure test as specified in General Instructions, Item 8.

7. If test pressure cannot be maintained on isolated system as specified, refer to General Instructions, Item 9.

8. At the end of the testing period, chart shall be removed and retained for permanent record and will be identified as indicated in General Instructions, Item 12. Remove recorder.

9. Release test pressure and remove all plugs and return all valves and vents to their original positions.

Line: PDL-3"-L108, 2" DR-647, 1½" DR-639, 2" SW-618; Drains From Sulfur Plant to Tie Into PDL-4"-L5

1. Install blind plate at 150# flange connection to PDL-4"L5, (103).

2. Close 2" valve at discharge from SRU inlet separator pump, P-S103A/B on 2" SW-618.

3. Close 2 - 1½" drain valves from the waste heat boiler (E-S102) on 1½" DR-639.

4. Close 2" valves on the drain line from the 2nd and 3rd stage condenser (E-S104) on 2" DR-647.

5. Using tap F114, fill the lines with water until all air/gas in displaced the vent valves at taps F115, F116, F117, F118 (first test may require the installation of taps).

6. Raise pressure to 10 psig on system, stabilize test pressure then begin static pressure test as specified in General Instructions, Item 8.

7. If test pressure cannot be maintained on isolated system as specified, refer to General Instructions, Item 9.

8. At the end of the testing period, chart shall be removed and retained for permanent record and will be identified as indicated in General Instructions, Item 12. Remove recorder.

9. Release test pressure, remove the blind plate at 103 and return all valve and vents to their original position.

Line: 2"-L109, Drains From Turbine Compressors, C-9105 & C-9106 And Inlet Scrubber To Storage Tank # 31

1. Close (4) 2" valves at turbine compressor, gas cooling fin fan and discharge lines.

2. Close (3) 2" valves at inlet scrubber and inlet line.

3. Close 2" valve at storage tank #31.

4. Using tap F119, fill the lines with water until all air/gas is displaced through the vent valves.

5. Install a properly zeroed 60# recorder at tap F120. Stabilize the system using fill tap F119.

6. Raise pressure to 10 psig on system, stabilize test pressure then begin static pressure test as specified in General Instructions, Item 8.

7. If test pressure cannot be maintained on isolated system as specified, refer to General Instructions, Item 9.

8. At the end of the testing period, chart shall be removed and retained for permanent record and will be identified as indicated in General Instructions, Item 12. Remove recorder.

9. Release test pressure and return all connections to their original position.