GW - 312

PERMITS, RENEWALS, & MODS Application

ACKNOWLEDGEMENT OF RECEIPT
OF CHECK/CASH

I hereby acknowledge receipt of check No. _____ dated 7/10/09

or cash received on _____ in the amount of $ 4000 00

from Chevron

for GW-312

Submitted by: Lawrence Romero Date: 7/29/09

Submitted to ASD by: Lawrence Romero Date: 7/29/09

Received in ASD by: _____ Date: _____

Filing Fee _____ New Facility _____ Renewal _____

Modification _____ Other _____

Organization Code 521.07 Applicable FY 2004

To be deposited in the Water Quality Management Fund.

Full Payment _____ or Annual Increment _____

Chevron NA Exploration Prod Co
A Division of Chevron U.S.A., Inc.
PO Box 9034
Concord CA 94524

CHECK DATE: 07/10/2009
CHECK NO: 0025751797
PAYEE REF: 0010267079
COMPANY NO: 0064
MAIL CODE: 11EC0

Chevron

NEW MEXICO OIL CONSERVATION DIV
1220 S SAINT FRANCIS DR
SANTA FE, NM 87505

ADDRESS INQUIRIES TO: PO Box 9034, Concord, CA 94524-1934
PHONE CONTACT: 925-827-7741 FAX CONTACT: 925-680-3534

INVOICE DATE	INVOICE #.	OUR REFERENCE #.	GROSS AMT.	DISC. AMT.	NET AMT.
10/23/2008	081023NEW	0019029848	$4,000.00		$4,000.00
BUCKEYE CO2 PLANT DISCHARGE PLAN					
GW-312					

DETACH AND RETAIN THIS STUB FOR YOUR RECORDS

CHECK # 0025751797 ATTACHED BELOW

DISCHARGE PERMIT

APPROVAL CONDITIONS

1. Payment of Discharge Plan Fees: All discharge permits are subject to WQCC Regulations. Every billable facility that submits a discharge permit application will be assessed a filing fee of $100.00, plus a flat fee (*see* WQCC Regulation 20.6.2.3114 NMAC). The Oil Conservation Division ("OCD") has received the required $100.00 filing fee. The flat fee for a Gas processing plant is $4000.00. Please submit this amount with a signed copy of the permit and return to the OCD within 30 days. Checks should be made out to the New Mexico Water Quality Management Fund.

2. Permit Expiration, Renewal Conditions and Penalties: Pursuant to WQCC Regulation 20.6.2.3109.H.4 NMAC, this permit is valid for a period of five years. **The permit will expire on April 19, 2014** and an application for renewal should be submitted no later than 120 days before that expiration date. Pursuant to WQCC Regulation 20.6.2.3106.F NMAC, if a discharger submits a discharge permit renewal application at least 120 days before the discharge permit expires and is in compliance with the approved permit, then the existing discharge permit will not expire until the application for renewal has been approved or disapproved. ***Expired permits are a violation of the Water Quality Act {Chapter 74, Article 6, NMSA 1978} and civil penalties may be assessed accordingly.***

3. Permit Terms and Conditions: Pursuant to WQCC Regulation 20.6.2.3104 NMAC, when a permit has been issued, the owner/operator must ensure that all discharges shall be consistent with the terms and conditions of the permit. In addition, all facilities shall abide by the applicable rules and regulations administered by the OCD pursuant to the Oil and Gas Act, NMSA 1978, Sections 70-2-1 through 70-2-38.

4. Owner/Operator Commitments: The owner/operator shall abide by all commitments submitted in its April 2009 discharge plan application, including attachments and subsequent amendments and these conditions for approval. Permit applications that reference previously approved plans on file with the division shall be incorporated in this permit and the owner/operator shall abide by all previous commitments of such plans and these conditions for approval.

5. Modifications: WQCC Regulation 20.6.2.3107.C and 20.6.2.3109 NMAC addresses possible future modifications of a permit. The owner/operator (discharger) shall notify the OCD of any facility expansion, production increase or process modification that would result in any significant modification in the discharge of water contaminants. The Division Director may require a permit modification if any water quality standard specified at 20.6.2.3103 NMAC is being or will be exceeded, or if a toxic pollutant as defined in WQCC Regulation 20.6.2.7 NMAC is present in ground water at any place of withdrawal for present or reasonably foreseeable future use, or that the Water Quality Standards for Interstate and Intrastate streams as specified in 20.6.4 NMAC are being or may be violated in surface water in New Mexico.

6. Waste Disposal and Storage: The owner/operator shall dispose of all wastes at an OCD-approved facility. Only oil field RCRA-exempt wastes may be disposed of by injection in a Class II well. RCRA non-hazardous, non-exempt oil field wastes may be disposed of at an OCD-

approved facility upon proper waste determination pursuant to 40 CFR Part 261. Any waste stream that is not listed in the discharge permit application must be approved by the OCD on a case-by-case basis.

A. **OCD Part 35 Waste:** Pursuant to OCD Part 35 (19.15.35.8 NMAC) disposal of certain non-domestic waste without notification to the OCD is allowed at NMED permitted solid waste facilities if the waste stream has been identified in the discharge permit and existing process knowledge of the waste stream does not change.

B. **Waste Storage:** The owner/operator shall store all waste in an impermeable bermed area, except waste generated during emergency response operations for up to 72 hours. All waste storage areas shall be identified in the discharge permit application. Any waste storage area not identified in the permit shall be approved on a case-by-case basis only. The owner/operator shall not store oil field waste on-site for more than 180 days unless approved by the OCD.

7. **Drum Storage:** The owner/operator must store all drums, including empty drums, containing materials other than fresh water on an impermeable pad with curbing. The owner/operator must store empty drums on their sides with the bungs in place and lined up on a horizontal plane. The owner/operator must store chemicals in other containers, such as tote tanks, sacks, or buckets on an impermeable pad with curbing.

8. **Process, Maintenance and Yard Areas:** The owner/operator shall either pave and curb or have some type of spill collection device incorporated into the design at all process, maintenance, and yard areas which show evidence that water contaminants from releases, leaks and spills have reached the ground surface.

9. **Above Ground Tanks:** The owner/operator shall ensure that all aboveground tanks have impermeable secondary containment (e.g., liners and berms), which will contain a volume of at least one-third greater than the total volume of the largest tank or all interconnected tanks. The owner/operator shall retrofit all existing tanks before discharge permit renewal. Tanks that contain fresh water or fluids that are gases at atmospheric temperature and pressure are exempt from this condition.

10. **Labeling:** The owner/operator shall clearly label all tanks, drums, and containers to identify their contents and other emergency notification information. The owner/operator may use a tank code numbering system, which is incorporated into their emergency response plans.

11. **Below-Grade Tanks/Sumps and Pits/Ponds.**

A. All below-grade tanks and sumps must be approved by the OCD prior to installation and must incorporate secondary containment with leak detection into the design. The owner/operator shall retrofit all existing systems without secondary containment and leak detection before discharge permit renewal. All existing below-grade tanks and sumps without secondary containment and leak detection must be tested annually or as specified herein. Systems that have secondary containment with leak detection shall have a monthly inspection of the leak detection system to determine if the primary containment is leaking. Small sumps or depressions in

secondary containment systems used to facilitate fluid removal are exempt from these requirements if fluids are removed within 72 hours.

B. All pits and ponds, including modifications and retrofits, shall be designed by a certified registered professional engineer and approved by the OCD prior to installation. In general, all pits or ponds shall have approved hydrologic and geologic reports, location, foundation, liners, and secondary containment with leak detection, monitoring and closure plans. All pits or ponds shall be designed, constructed and operated so as to contain liquids and solids in a manner that will protect fresh water, public health, safety and the environment for the foreseeable future. The owner/operator shall retrofit all existing systems without secondary containment and leak detection before discharge permit renewal.

C. The owner/operator shall ensure that all exposed pits, including lined pits and open top tanks (8 feet in diameter or larger) shall be fenced, screened, netted, or otherwise rendered non-hazardous to wildlife, including migratory birds.

D. The owner/operator shall maintain the results of tests and inspections at the facility covered by this discharge permit and available for OCD inspection. The owner/operator shall report the discovery of any system which is found to be leaking or has lost integrity to the OCD within 15 days. The owner/operator may propose various methods for testing such as pressure testing to 3 pounds per square inch greater than normal operating pressure and/or visual inspection of cleaned tanks and/or sumps, or other OCD-approved methods. The owner/operator shall notify the OCD at least 72 hours prior to all testing.

12. Underground Process/Wastewater Lines:

A. The owner/operator shall test all underground process/wastewater pipelines at least once every five (5) years to demonstrate their mechanical integrity, except lines containing fresh water or fluids that are gases at atmospheric temperature and pressure. Pressure rated pipe shall be tested by pressuring up to one and one-half times the normal operating pressure, if possible, or for atmospheric drain systems, to 3 pounds per square inch greater than normal operating pressure, and pressure held for a minimum of 30 minutes with no more than a 1% loss/gain in pressure. The owner/operator may use other methods for testing if approved by the OCD.

B. The owner/operator shall maintain underground process and wastewater pipeline schematic diagrams or plans showing all drains, vents, risers, valves, underground piping, pipe type, rating, size, and approximate location. All new underground piping must be approved by the OCD prior to installation. The owner/operator shall report any leaks or loss of integrity to the OCD within 15 days of discovery. The owner/operator shall maintain the results of all tests at the facility covered by this discharge permit and they shall be available for OCD inspection. The owner/operator shall notify the OCD at least 72 hours prior to all testing.

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water are considered Class V injection wells under the EPA UIC program. Class V wells that inject domestic waste only, must be permitted by the New Mexico Environment Department (NMED).

14. Housekeeping: The owner/operator shall inspect all systems designed for spill collection/prevention and leak detection at least monthly to ensure proper operation and to prevent over topping or system failure. All spill collection and/or secondary containment devices shall be emptied of fluids within 72 hours of discovery. The owner/operator shall maintain all records at the facility and available for OCD inspection.

15. Spill Reporting: The owner/operator shall report all unauthorized discharges, spills, leaks and releases and conduct corrective action pursuant to WQCC Regulation 20.6.2.1203 NMAC and OCD Part 29 (19.15.29 NMAC). The owner/operator shall notify both the OCD District Office and the Santa Fe Office within 24 hours and file a written report within 15 days. The OCD does not consider covering contaminated areas a remediation of the spill/release.

16. OCD Inspections: The OCD performed an inspection of this facility on April 21, 2009. Mr. Mark Garner and Mr. Kim Klahsen witnessed the inspection. The OCD concluded the following (all photos are in the attached inspection photo sheet):

1. **Photo 2 - 4:** The cement secondary containment shows signs of lost integrity. Seepage is shown through cracks in the cement berm and there is hydrocarbon staining outside the containment area. Owner/operator shall clean up all contaminated soil and implement a best management practice to prevent such results and shall properly address all future releases.
2. **Photo 5 & 6:** Owner/operator shall submit to the OCD the following information on this below grade tank:
    1. The total volume capacity of tank.
    2. A copy of the monitoring record of the leak detection system.

The facility is in overall good condition. Owner/operator shall submit to the OCD resolution to the above stated request and information by **August 15, 2009**.

17. Storm Water: The owner/operator shall implement and maintain run-on and runoff plans and controls. The owner/operator shall not discharge any water contaminant that exceeds the WQCC standards specified in 20.6.2.3101 NMAC or 20.6.4 NMAC (Water Quality Standards for Interstate and Intrastate Streams) including any oil sheen in any stormwater run-off. The owner/operator shall notify the OCD within 24 hours of discovery of any releases and shall take immediate corrective action(s) to stop the discharge.

18. Unauthorized Discharges: The owner/operator shall not allow or cause water pollution, discharge or release of any water contaminant that exceeds the WQCC standards listed in 20.6.2.3101 NMAC or 20.6.4 NMAC (Water Quality Standards for Interstate and Intrastate Streams) unless specifically listed in the permit application and approved herein. ***An unauthorized discharge is a violation of this permit.***

19. Vadose Zone and Water Pollution: The owner/operator shall address any contamination through the discharge permit process or pursuant to WQCC 20.6.2.4000-.4116 NMAC (Prevention

and Abatement of Water Pollution). The OCD may require the owner/operator to modify its permit for investigation, remediation, abatement, and monitoring requirements for any vadose zone or water pollution. Failure to perform any required investigation, remediation, abatement and submit subsequent reports will be a violation of the permit.

20. Additional Site Specific Conditions: N/A

21. Transfer of Discharge Permit (WQCC 20.6.2.3111) Prior to any transfer of ownership, control, or possession (whether by lease, conveyance or otherwise) of a facility with a discharge permit, the transferor shall notify the transferee in writing of the existence of the discharge permit, and shall deliver or send by certified mail to the department a copy of such written notification, together with a certification or other proof that such notification has in fact been received by the transferee.

Upon receipt of such notification, the transferee shall have the duty to inquire into all of the provisions and requirements contained in such discharge permit, and the transferee shall be charged with notice of all such provisions and requirements as they appear of record in the department's file or files concerning such discharge permit. The transferee (new owner/operator) shall sign and return an original copy of these permit conditions and provide a written commitment to comply with the terms and conditions of the previously approved discharge permit.

22. Closure Plan and Financial Assurance: Pursuant to 20.6.2.3107 NMAC an owner/operator shall notify the OCD when any operations of the facility are to be discontinued for a period in excess of six months. Prior to closure, or as a condition of this permit, or request from the OCD, the operator will submit an approved closure plan, modified plan, and/or provide adequate financial assurance.

23. Certification: (Owner/Operator), by the officer whose signature appears below, accepts this permit and agrees to comply with all submitted commitments, including these terms and conditions contained here. **Owner/Operator** further acknowledges that the OCD may, for good cause shown, as necessary to protect fresh water, public health, safety, and the environment, change the conditions and requirements of this permit administratively

Conditions accepted by: "I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment."

Chevron USA
Company Name-print name above

Rodney Bailey
Company Representative- print name

Rodney Bailey
Company Representative- Signature

Title Waste & Water Team Leader

Date: 7-14-09

OCD Inspection: Chevron Buckeye CO2 Gas Plant GW - 312

Inspector(s): Leonard Lowe

Company Rep: Mark Garner and Kim Klahsen

Date: 05.21.09 Time: 12:50 – 14:15

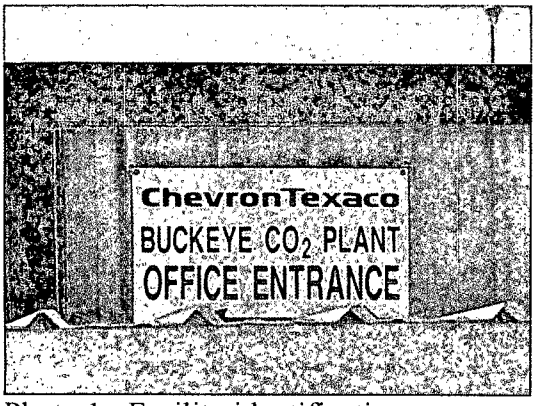

Photo 1: Facility identification.

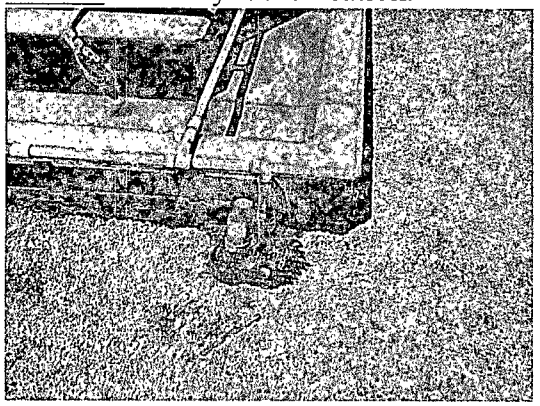

Photo 2: Secondary containment with residual staining.

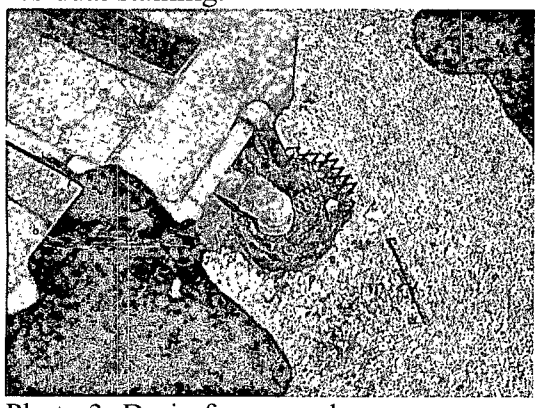

Photo 3: Drain for secondary containment.

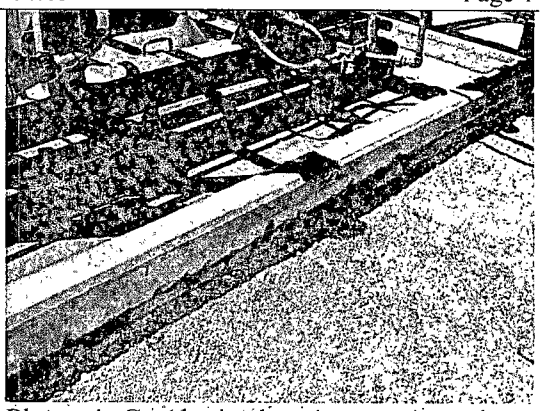

Photo 4: Cracks in the cement secondary containment.

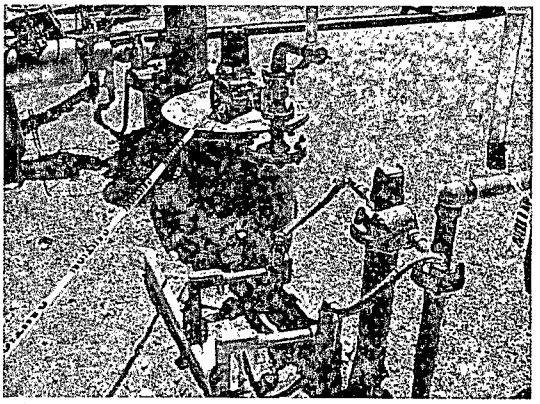

Photo 5: Below grade tank.

Photo 6: Below grade tank with port.

New Mexico Energy, Minerals and Natural Resources Department

Bill Richardson
Governor
Joanna Prukop
Cabinet Secretary

Mark Fesmire
Division Director
Oil Conservation Division

July 1, 2009

Mr. Rodney Bailey
Chevron USA
HCR 60 Box 425
Lovington, New Mexico 88260

Re: Renewal Discharge Permit, GW-312
Chevron's Buckeye CO_2 Plant
SE/4 Section 36, Township 17 South, Range 34 East, NMPM,
Lea County, New Mexico

Dear Mr. Bailey:

Pursuant to Water Quality Control Commission (WQCC) Regulations 20.6.2.3104 - 20.6.2.3114 NMAC, the Oil Conservation Division (OCD) hereby approves the **Chevron USA** discharge permit for the above referenced site contingent upon the conditions specified in the enclosed **Attachment to the Discharge Permit**. Enclosed are two copies of the conditions of approval. **Please sign and return one copy to the New Mexico Oil Conservation Division (OCD) Santa Fe Office within 30 days of receipt of this letter including permit fees.**

Please be advised that approval of this permit does not relieve the owner/operator of responsibility should operations result in pollution of surface water, ground water or the environment. Nor does approval of the permit relieve the owner/operator of its responsibility to comply with any other applicable governmental authority's rules and regulations.

If you have any questions, please contact Leonard Lowe of my staff at (505-476-3492) or E-mail leonard.lowe@state.nm.us. On behalf of the staff of the OCD, I wish to thank you and your staff for your cooperation during this discharge permit review.

Sincerely,

Glenn von Gonten
Acting Environmental Bureau Chief

Attachments-1
xc: OCD District Office

ATTACHMENT

DISCHARGE PERMIT
APPROVAL CONDITIONS

1. **Payment of Discharge Plan Fees:** All discharge permits are subject to WQCC Regulations. Every billable facility that submits a discharge permit application will be assessed a filing fee of $100.00, plus a flat fee (*see* WQCC Regulation 20.6.2.3114 NMAC). The Oil Conservation Division ("OCD") has received the required $100.00 filing fee. The flat fee for a Gas processing plant is $4000.00. Please submit this amount with a signed copy of the permit and return to the OCD within 30 days. Checks should be made out to the New Mexico Water Quality Management Fund.

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21. Transfer of Discharge Permit (WQCC 20.6.2.3111) Prior to any transfer of ownership, control, or possession (whether by lease, conveyance or otherwise) of a facility with a discharge permit, the transferor shall notify the transferee in writing of the existence of the discharge permit, and shall deliver or send by certified mail to the department a copy of such written notification, together with a certification or other proof that such notification has in fact been received by the transferee.

Upon receipt of such notification, the transferee shall have the duty to inquire into all of the provisions and requirements contained in such discharge permit, and the transferee shall be charged with notice of all such provisions and requirements as they appear of record in the department's file or files concerning such discharge permit. The transferee (new owner/operator) shall sign and return an original copy of these permit conditions and provide a written commitment to comply with the terms and conditions of the previously approved discharge permit.

22. Closure Plan and Financial Assurance: Pursuant to 20.6.2.3107 NMAC an owner/operator shall notify the OCD when any operations of the facility are to be discontinued for a period in excess of six months. Prior to closure, or as a condition of this permit, or request from the OCD, the operator will submit an approved closure plan, modified plan, and/or provide adequate financial assurance.

23. Certification: (Owner/Operator), by the officer whose signature appears below, accepts this permit and agrees to comply with all submitted commitments, including these terms and conditions contained here. **Owner/Operator** further acknowledges that the OCD may, for good cause shown, as necessary to protect fresh water, public health, safety, and the environment, change the conditions and requirements of this permit administratively

Conditions accepted by: "I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment."

_____
Company Name-print name above

_____
Company Representative- print name

_____
Company Representative- Signature

Title_____

Date:_____

OCD Inspection: Chevron Buckeye CO2 Gas Plant GW - 312

Inspector(s): Leonard Lowe

Company Rep: Mark Garner and Kim Klahsen

Date: 05.21.09 Time: 12:50 – 14:15

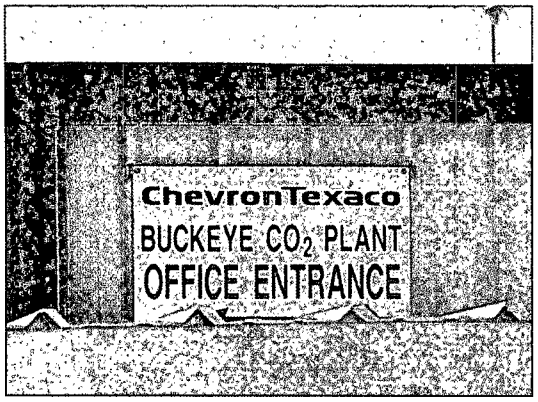


Photo 1: Facility identification.

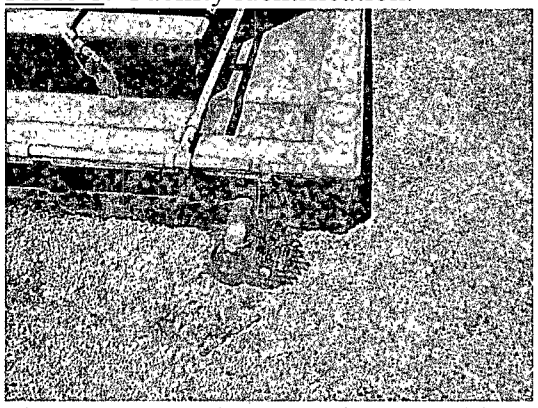


Photo 2: Secondary containment with residual staining.

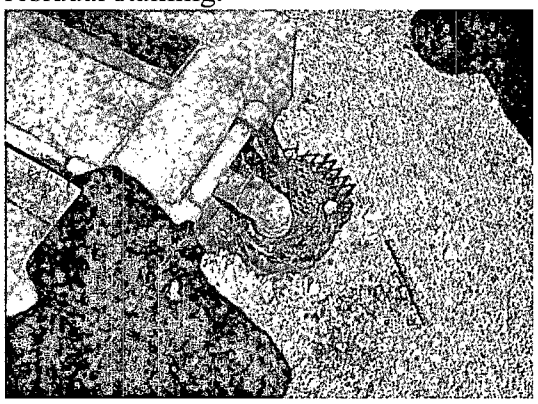


Photo 3: Drain for secondary containment.

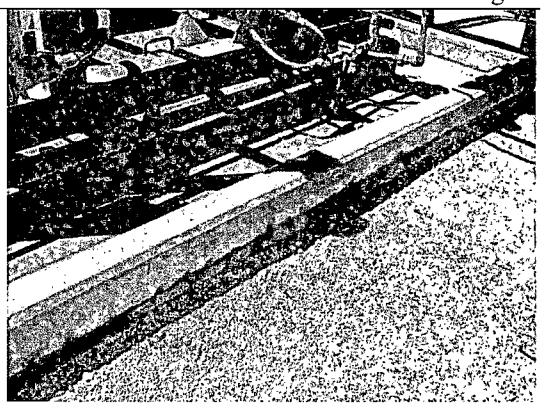


Photo 4: Cracks in the cement secondary containment.

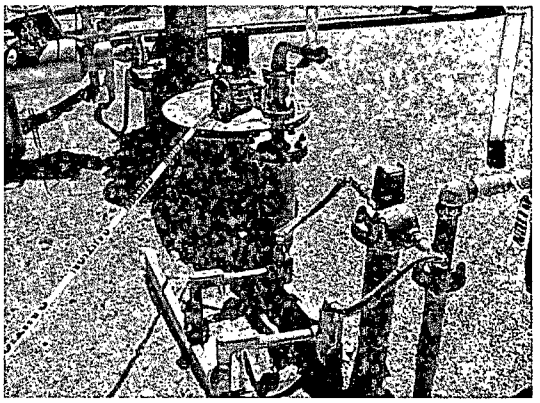


Photo 5: Below grade tank.

Photo 6: Below grade tank with port.

Lowe, Leonard, EMNRD

From: Lowe, Leonard, EMNRD
Sent: Wednesday, April 29, 2009 8:49 AM
To: Bailey, Rodney G
Cc: 'mgarner@chevron.com'
Subject: GW-312, Chevron CO2 Plant Discharge Plan Admin. Complete
Attachments: GW-312, Admin Complete Letter.pdf; GW-312, Renewal Draft Permit.pdf; GW-312, OCD PN.pdf

Mr. Rodney Bailey,

The OCD has determined your discharge plan application to be **administratively complete**.

Attached are documents for your record.

Please submit to the OCD your version of the public notice for review.

Thank you for your attention.

llowe

Leonard Lowe
Environmental Engineer
Oil Conservation Division/EMNRD
1220 S. St. Francis Drive
Santa Fe, N.M. 87505
Office: 505-476-3492
Fax: 505-476-3462
E-mail: leonard.lowe@state.nm.us
Website: http://www.emnrd.state.nm.us/ocd/

New Mexico Energy, Minerals and Natural Resources Department

Bill Richardson
Governor
Joanna Prukop
Cabinet Secretary
Reese Fullerton
Deputy Cabinet Secretary

Mark Fesmire
Division Director
Oil Conservation Division

April 29, 2009

Dear Mr. Bailey

Re: Discharge Plan Renewal Permit GW-312
Chevron USA
Buckeye CO_2 Plant
Lea County, New Mexico

The New Mexico Oil Conservation Division (NMOCD) Environmental Bureau has received Chevron USA's request and initial fee, dated April 9, 2009, to renew GW-312 for their Buckeye CO_2 Plant located in the SE/4 of Section 36, Township 17 South, Range 34 East, NMPM, Lea County, New Mexico. The initial submittal provided the required information in order to deem the application "administratively" complete.

Therefore, the New Mexico Water Quality Control Commission regulations (WQCC) notice requirements of 20.6.2.3108 NMAC must be satisfied and demonstrated to the NMOCD. NMOCD will provide public notice pursuant to the WQCC notice requirements of 20.6.2.3108 NMAC to determine if there is any public interest.

If there are any questions regarding this matter, please do not hesitate to contact me at (505) 476-3492 or leonard.lowe@state.nm.us. On behalf of the staff of the NMOCD, I wish to thank you and your staff for your cooperation during this discharge permit review.

Sincerely,

Leonard Lowe
Environmental Engineer

LRL/lrl

xc: OCD District I Office, Hobbs

New Mexico Energy, Minerals and Natural Resources Department

Bill Richardson
Governor
Joanna Prukop
Cabinet Secretary
Reese Fullerton
Deputy Cabinet Secretary

Mark Fesmire
Division Director
Oil Conservation Division

April 29, 2009

Mr. Rodney Bailey
Chevron USA
HCR 60 Box 425
Lovington, New Mexico 88260

Re: Renewal Discharge Permit, GW-312
Chevron's Buckeye CO_2 Plant
SE/4 Section 36, Township 17 South, Range 34 East, NMPM,
Lea County, New Mexico

Dear Mr. Bailey:

Pursuant to Water Quality Control Commission (WQCC) Regulations 20.6.2.3104 - 20.6.2.3114 NMAC, the Oil Conservation Division (OCD) hereby approves the discharge permit for the **Chevron USA.,** (owner/operator) for the above-referenced site contingent upon the conditions specified in the enclosed **Attachment to the Discharge Permit.** Enclosed are two copies of the conditions of approval. **Please sign and return one copy to the New Mexico Oil Conservation Division (OCD) Santa Fe Office within 30 days of receipt of this letter including permit fees.**

Please be advised that approval of this permit does not relieve the owner/operator of responsibility should operations result in pollution of surface water, ground water or the environment. Nor does approval of the permit relieve the owner/operator of its responsibility to comply with any other applicable governmental authority's rules and regulations.

If you have any questions, please contact Leonard Lowe of my staff at (505-476-3492) or E-mail leonard.lowe@state.nm.us. On behalf of the staff of the OCD, I wish to thank you and your staff for your cooperation during this discharge permit review.

Sincerely,

Glenn von Gonten
Acting Environmental Bureau Chief

Attachments-1
xc: OCD District Office

ATTACHMENT

DISCHARGE PERMIT

APPROVAL CONDITIONS

1. **Payment of Discharge Plan Fees:** All discharge permits are subject to WQCC Regulations. Every billable facility that submits a discharge permit application will be assessed a filing fee of $100.00, plus a flat fee (*see* WQCC Regulation 20.6.2.3114 NMAC). The Oil Conservation Division ("OCD") has received the required $100.00 filing fee. The flat fee for a Gas processing plant is $4000.00. Please submit this amount with a signed copy of the permit and return to the OCD within 30 days. Checks should be made out to the New Mexico Water Quality Management Fund.

2. **Permit Expiration, Renewal Conditions and Penalties:** Pursuant to WQCC Regulation 20.6.2.3109.H.4 NMAC, this permit is valid for a period of five years. **The permit will expire on April 19, 2014** and an application for renewal should be submitted no later than 120 days before that expiration date. Pursuant to WQCC Regulation 20.6.2.3106.F NMAC, if a discharger submits a discharge permit renewal application at least 120 days before the discharge permit expires and is in compliance with the approved permit, then the existing discharge permit will not expire until the application for renewal has been approved or disapproved. ***Expired permits are a violation of the Water Quality Act {Chapter 74, Article 6, NMSA 1978} and civil penalties may be assessed accordingly.***

3. **Permit Terms and Conditions:** Pursuant to WQCC Regulation 20.6.2.3104 NMAC, when a permit has been issued, the owner/operator must ensure that all discharges shall be consistent with the terms and conditions of the permit. In addition, all facilities shall abide by the applicable rules and regulations administered by the OCD pursuant to the Oil and Gas Act, NMSA 1978, Sections 70-2-1 through 70-2-38.

4. **Owner/Operator Commitments:** The owner/operator shall abide by all commitments submitted in its April 2009 discharge plan application, including attachments and subsequent amendments and these conditions for approval. Permit applications that reference previously approved plans on file with the division shall be incorporated in this permit and the owner/operator shall abide by all previous commitments of such plans and these conditions for approval.

5. **Modifications:** WQCC Regulation 20.6.2.3107.C and 20.6.2.3109 NMAC addresses possible future modifications of a permit. The owner/operator (discharger) shall notify the OCD of any facility expansion, production increase or process modification that would result in any significant modification in the discharge of water contaminants. The Division Director may require a permit modification if any water quality standard specified at 20.6.2.3103 NMAC is being or will be exceeded, or if a toxic pollutant as defined in WQCC Regulation 20.6.2.7 NMAC is present in ground water at any place of withdrawal for present or reasonably foreseeable future use, or that the Water Quality Standards for Interstate and Intrastate streams as specified in 20.6.4 NMAC are being or may be violated in surface water in New Mexico.

6. **Waste Disposal and Storage:** The owner/operator shall dispose of all wastes at an OCD-approved facility. Only oil field RCRA-exempt wastes may be disposed of by injection in a Class

II well. RCRA non-hazardous, non-exempt oil field wastes may be disposed of at an OCD-approved facility upon proper waste determination pursuant to 40 CFR Part 261. Any waste stream that is not listed in the discharge permit application must be approved by the OCD on a case-by-case basis.

A. **OCD Part 35 Waste:** Pursuant to OCD Part 35 (19.15.35.8 NMAC) disposal of certain non-domestic waste without notification to the OCD is allowed at NMED permitted solid waste facilities if the waste stream has been identified in the discharge permit and existing process knowledge of the waste stream does not change.

B. **Waste Storage:** The owner/operator shall store all waste in an impermeable bermed area, except waste generated during emergency response operations for up to 72 hours. All waste storage areas shall be identified in the discharge permit application. Any waste storage area not identified in the permit shall be approved on a case-by-case basis only. The owner/operator shall not store oil field waste on-site for more than 180 days unless approved by the OCD.

7. **Drum Storage:** The owner/operator must store all drums, including empty drums, containing materials other than fresh water on an impermeable pad with curbing. The owner/operator must store empty drums on their sides with the bungs in place and lined up on a horizontal plane. The owner/operator must store chemicals in other containers, such as tote tanks, sacks, or buckets on an impermeable pad with curbing.

8. **Process, Maintenance and Yard Areas:** The owner/operator shall either pave and curb or have some type of spill collection device incorporated into the design at all process, maintenance, and yard areas which show evidence that water contaminants from releases, leaks and spills have reached the ground surface.

9. **Above Ground Tanks:** The owner/operator shall ensure that all aboveground tanks have impermeable secondary containment (e.g., liners and berms), which will contain a volume of at least one-third greater than the total volume of the largest tank or all interconnected tanks. The owner/operator shall retrofit all existing tanks before discharge permit renewal. Tanks that contain fresh water or fluids that are gases at atmospheric temperature and pressure are exempt from this condition.

10. **Labeling:** The owner/operator shall clearly label all tanks, drums, and containers to identify their contents and other emergency notification information. The owner/operator may use a tank code numbering system, which is incorporated into their emergency response plans.

11. **Below-Grade Tanks/Sumps and Pits/Ponds.**

A. All below-grade tanks and sumps must be approved by the OCD prior to installation and must incorporate secondary containment with leak detection into the design. The owner/operator shall retrofit all existing systems without secondary containment and leak detection before discharge permit renewal. All existing below-grade tanks and sumps without secondary containment and leak detection must be tested annually or as specified herein. Systems that have secondary containment with leak detection shall have a monthly inspection of the leak detection system to determine if the primary containment is leaking. Small sumps or depressions in

secondary containment systems used to facilitate fluid removal are exempt from these requirements if fluids are removed within 72 hours.

B. All pits and ponds, including modifications and retrofits, shall be designed by a certified registered professional engineer and approved by the OCD prior to installation. In general, all pits or ponds shall have approved hydrologic and geologic reports, location, foundation, liners, and secondary containment with leak detection, monitoring and closure plans. All pits or ponds shall be designed, constructed and operated so as to contain liquids and solids in a manner that will protect fresh water, public health, safety and the environment for the foreseeable future. The owner/operator shall retrofit all existing systems without secondary containment and leak detection before discharge permit renewal.

C. The owner/operator shall ensure that all exposed pits, including lined pits and open top tanks (8 feet in diameter or larger) shall be fenced, screened, netted, or otherwise rendered non-hazardous to wildlife, including migratory birds.

D. The owner/operator shall maintain the results of tests and inspections at the facility covered by this discharge permit and available for OCD inspection. The owner/operator shall report the discovery of any system which is found to be leaking or has lost integrity to the OCD within 15 days. The owner/operator may propose various methods for testing such as pressure testing to 3 pounds per square inch greater than normal operating pressure, and/or visual inspection of cleaned tanks and/or sumps, or other OCD-approved methods. The owner/operator shall notify the OCD at least 72 hours prior to all testing.

12. Underground Process/Wastewater Lines:

A. The owner/operator shall test all underground process/wastewater pipelines at least once every five (5) years to demonstrate their mechanical integrity, except lines containing fresh water or fluids that are gases at atmospheric temperature and pressure. Pressure rated pipe shall be tested by pressuring up to one and one-half times the normal operating pressure, if possible, or for atmospheric drain systems, to 3 pounds per square inch greater than normal operating pressure, and pressure held for a minimum of 30 minutes with no more than a 1% loss/gain in pressure. The owner/operator may use other methods for testing if approved by the OCD.

B. The owner/operator shall maintain underground process and wastewater pipeline schematic diagrams or plans showing all drains, vents, risers, valves, underground piping, pipe type, rating, size, and approximate location. All new underground piping must be approved by the OCD prior to installation. The owner/operator shall report any leaks or loss of integrity to the OCD within 15 days of discovery. The owner/operator shall maintain the results of all tests at the facility covered by this discharge permit and they shall be available for OCD inspection. The owner/operator shall notify the OCD at least 72 hours prior to all testing.

13. Class V Wells: The owner/operator shall close all Class V wells (e.g., septic systems, leach fields, dry wells, etc.) that inject non-hazardous industrial wastes or a mixture of industrial wastes and domestic wastes unless it can be demonstrated that ground water will not be impacted in the reasonably foreseeable future. Leach fields and other wastewater disposal systems at OCD-regulated facilities that inject non-hazardous fluid into or above an underground source of drinking water are considered Class V injection wells under the EPA UIC program. Class V wells that

inject domestic waste only, must be permitted by the New Mexico Environment Department (NMED).

14. Housekeeping: The owner/operator shall inspect all systems designed for spill collection/prevention and leak detection at least monthly to ensure proper operation and to prevent over topping or system failure. All spill collection and/or secondary containment devices shall be emptied of fluids within 72 hours of discovery. The owner/operator shall maintain all records at the facility and available for OCD inspection.

15. Spill Reporting: The owner/operator shall report all unauthorized discharges, spills, leaks and releases and conduct corrective action pursuant to WQCC Regulation 20.6.2.1203 NMAC and OCD Part 29 (19.15.29 NMAC). The owner/operator shall notify both the OCD District Office and the Santa Fe Office within 24 hours and file a written report within 15 days.

16. OCD Inspections: The OCD will perform an inspection of this facility. Any findings will be addressed here.

17. Storm Water: The owner/operator shall implement and maintain run-on and runoff plans and controls. The owner/operator shall not discharge any water contaminant that exceeds the WQCC standards specified in 20.6.2.3101 NMAC or 20.6.4 NMAC (Water Quality Standards for Interstate and Intrastate Streams) including any oil sheen in any stormwater run-off. The owner/operator shall notify the OCD within 24 hours of discovery of any releases and shall take immediate corrective action(s) to stop the discharge.

18. Unauthorized Discharges: The owner/operator shall not allow or cause water pollution, discharge or release of any water contaminant that exceeds the WQCC standards listed in 20.6.2.3101 NMAC or 20.6.4 NMAC (Water Quality Standards for Interstate and Intrastate Streams) unless specifically listed in the permit application and approved herein. ***An unauthorized discharge is a violation of this permit.***

19. Vadose Zone and Water Pollution: The owner/operator shall address any contamination through the discharge permit process or pursuant to WQCC 20.6.2.4000-.4116 NMAC (Prevention and Abatement of Water Pollution). The OCD may require the owner/operator to modify its permit for investigation, remediation, abatement, and monitoring requirements for any vadose zone or water pollution. Failure to perform any required investigation, remediation, abatement and submit subsequent reports will be a violation of the permit.

20. Additional Site Specific Conditions: N/A

21. Transfer of Discharge Permit (WQCC 20.6.2.3111) Prior to any transfer of ownership, control, or possession (whether by lease, conveyance or otherwise) of a facility with a discharge permit, the transferor shall notify the transferee in writing of the existence of the discharge permit, and shall deliver or send by certified mail to the department a copy of such written notification, together with a certification or other proof that such notification has in fact been received by the transferee.

Upon receipt of such notification, the transferee shall have the duty to inquire into all of the provisions and requirements contained in such discharge permit, and the transferee shall be charged with notice of all such provisions and requirements as they appear of record in the department's file or files concerning such discharge permit. The transferee (new owner/operator) shall sign and return an original copy of these permit conditions and provide a written commitment to comply with the terms and conditions of the previously approved discharge permit.

22. Closure Plan and Financial Assurance: Pursuant to 20.6.2.3107 NMAC an owner/operator shall notify the OCD when any operations of the facility are to be discontinued for a period in excess of six months. Prior to closure, or as a condition of this permit, or request from the OCD, the operator will submit an approved closure plan, modified plan, and/or provide adequate financial assurance.

23. Certification: (Owner/Operator), by the officer whose signature appears below, accepts this permit and agrees to comply with all submitted commitments, including these terms and conditions contained here. **Owner/Operator** further acknowledges that the OCD may, for good cause shown, as necessary to protect fresh water, public health, safety, and the environment, change the conditions and requirements of this permit administratively

Conditions accepted by: "I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment."

_____
Company Name-print name above

_____
Company Representative- print name

_____
Company Representative- Signature

Title _____

Date _____

NOTICE OF PUBLICATION

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION

Notice is hereby given that pursuant to New Mexico Water Quality Control Commission Regulations (20.6.2.3106 NMAC), the following discharge permit application(s) has been submitted to the Director of the New Mexico Oil Conservation Division ("NMOCD"), 1220 S. Saint Francis Drive, Santa Fe, New Mexico 87505, Telephone (505) 476-3440:

(GW-312) Mr. Rodney Bailey, Chevron USA, HCR 60 Box 425, Lovington, New Mexico 88260, has submitted a renewal application for the previously approved discharge plan for their Buckeye CO_2 Plant, located in the SE/4 of Section 36, Township 17 South, Range 34 East, NMPM, Lea County. The facility treats CO_2 enriched natural gas. Approximately 5400 gals/day of waste water, 1100 bbls of lube oil and 110 – 130 gals/4 years of used oil are generated and stored in onsite. Groundwater most likely to be affected by a spill, leak or accidental discharge is at a depth of approximately 115 – 120 feet, with a total dissolved solids concentration of approximately 414 mg/L. The discharge plan addresses how oilfield products and waste will be properly handled, stored, and disposed of, including how spills, leaks, and other accidental discharges to the surface will be managed in order to protect fresh water.

The NMOCD has determined that the application is administratively complete and has prepared a draft permit. The NMOCD will accept comments and statements of interest regarding this application and will create a facility-specific mailing list for persons who wish to receive future notices. Persons interested in obtaining further information, submitting comments or requesting to be on a facility-specific mailing list for future notices may contact the Environmental Bureau Chief of the Oil Conservation Division at the address given above. The administrative completeness determination and draft permit may be viewed at the above address between 8:00 a.m. and 4:00 p.m., Monday through Friday, or may also be viewed at the NMOCD web site http://www.emnrd.state.nm.us/ocd/. Persons interested in obtaining a copy of the application and draft permit may contact the NMOCD at the address given above. Prior to ruling on any proposed discharge permit or major modification, the Director shall allow a period of at least thirty (30) days after the date of publication of this notice, during which interested persons may submit comments or request that NMOCD hold a public hearing. Requests for a public hearing shall set forth the reasons why a hearing should be held. A hearing will be held if the Director determines that there is significant public interest.

If no public hearing is held, the Director will approve or disapprove the proposed permit based on information available, including all comments received. If a public hearing is held, the director will approve or disapprove the proposed permit based on information in the permit application and information submitted at the hearing.

Para obtener más información sobre esta solicitud en español, sirvase comunicarse por favor: New Mexico Energy, Minerals and Natural Resources Department (Depto. Del Energia, Minerals y Recursos Naturales de Nuevo México), Oil Conservation Division (Depto. Conservacio´n Del Petróleo), 1220 South St. Francis Drive, Santa Fe, New México (Contacto: Dorothy Phillips, 505-476-3461)

GIVEN under the Seal of New Mexico Oil Conservation Commission at Santa Fe, New Mexico, on this **29th** day of April 2009.

STATE OF NEW MEXICO

OIL CONSERVATION DIVISION

S E A L

Mark Fesmire, Director

ACKNOWLEDGEMENT OF RECEIPT
OF CHECK/CASH

I hereby acknowledge receipt of check No._____ dated 3/18/09

or cash received on _____ in the amount of $ 100 00

from Chevron

for GW-312

Submitted by: Lawrence Romero Date: 4/14/09

Submitted to ASD by: Lawrence Romero Date: 4/14/09

Received in ASD by: _____ Date: _____

Filing Fee ✓ New Facility _____ Renewal ✓

Modification _____ Other _____

Organization Code 521.07 Applicable FY 2004

To be deposited in the Water Quality Management Fund.

Full Payment _____ or Annual Increment _____

Rodney Bailey
Waste & Water Team
Lead

Chevron North America
Exploration and Production
Mid Continent Business Unit/HES
15 Smith Rd
Midland, Texas 79705
Office 432-687-7123
Cell 432-894-3519
Fax 866-569-5650

April 9, 2009

Leonard Lowe
Environmental Engineer
Oil Conservation Division/EMNRD
1220 S. St. Francis Drive
Santa Fe, N.M. 87505

Dear Mr. Lowe
Attached is Chevron's discharge permit GW-312 for the Buckeye CO2 Gas Processing Plant located in the Southeast Quarter of Section 36, Township 17 South, Range 34 East Lea County New Mexico. Also included is a check for filing fees.
The discharge plan also requires line testing, sump inspections and a wastewater sample collected at the 3/4 inch valve on the flare separator boot. This information is being gathered and will be submitted in the next few weeks.

If you have any questions please call me

Sincerely,

Rodney Bailey
Waste & Water Team Lead
Chevron North America

TETRA TECH

GROUNDWATER DISCHARGE PLAN

CHEVERON U.S.A. GW-312

BUCKEYE CO2 PLANT

LEA COUNTY, NEW MEXICO

APRIL 2009

Prepared by:

Tetra Tech
1910 N. Big Spring St.
Midland, Texas 79705
(432) 682-4559
Fax (432) 682-3946

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Revised June 10, 2003

Submit Original
Plus 1 Copy
to Santa Fe
1 Copy to Appropriate
District Office

DISCHARGE PLAN APPLICATION FOR SERVICE COMPANIES,GAS PLANTS, REFINERIES, COMPRESSOR, GEOTHERMAL FACILITES AND CRUDE OIL PUMP STATIONS

(Refer to the OCD Guidelines for assistance in completing the application)

☐ New ☒ Renewal ☐ Modification

1. Type: CO_2 Plant BUCKEYE GW-312
2. Operator: Chevron USA

   Address: HCR 60, Box 425, Lovington, NM 88260

   Contact Person: Mark Garner Phone: 575-396-4916 Ext. 21
3. Location: Southeast/4 _____/4 Section 36 Township 17-South Range 34-East
   Submit large scale topographic map showing exact location.
4. Attach the name, telephone number and address of the landowner of the facility site.
   See Attached.
5. Attach the description of the facility with a diagram indicating location of fences, pits, dikes and tanks on the facility.
   Same As Previously Submitted.
6. Attach a description of all materials stored or used at the facility.
   Same As Previously Submitted.
7. Attach a description of present sources of effluent and waste solids. Average quality and daily volume of waste water must be included.
   See Attached.
8. Attach a description of current liquid and solid waste collection/treatment/disposal procedures.
   See Attached.
9. Attach a description of proposed modifications to existing collection/treatment/disposal systems.
   See Attached.
10. Attach a routine inspection and maintenance plan to ensure permit compliance.
    See Attached. Same As Previously Submitted
11. Attach a contingency plan for reporting and clean-up of spills or releases.
    See Attached. Same As Previously Submitted
12. Attach geological/hydrological information for the facility. Depth to and quality of ground water must be included.
    See Attached. Same As Previously Submitted
13. Attach a facility closure plan, and other information as is necessary to demonstrate compliance with any other OCD rules, regulations and/or orders. ***Same As Previously Submitted.***

14. CERTIFICATIONI hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.

Name: Rodney Bailey Title: Waste & Water Team Leader

Signature: Rodney Bailey Date: 4-14-09

E-mail Address: bailerg@chevron.com

NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

BILL RICHARDSON
Governor
Joanna Prukop
Cabinet Secretary

Mark E. Fesmire, P.E.
Director
Oil Conservation Division

January 27, 2005

Jesse Navarrette
Chevron/Texaco U.S.A. Inc.
HCR 60, Box 425
Lovington, New Mexico 88260

RE: Buckeye CO2 Gas Processing Plant
Discharge Permit GW-312

Dear Mr. Jesse Navarrette:

The ground water discharge permit GW-312 for the Chevron/Texaco U.S.A. Inc. Buckeye CO2 Gas Processing Plant located in the Southeast Quarter of Section 36, Township 17 South, Range 34 East, NMPM, Lea County, New Mexico, is hereby approved under the conditions contained in the enclosed attachment. The discharge permit consists of the application dated January 15, 1999, and the attached discharge permit approval conditions. **Please sign and return one copy to the New Mexico Oil Conservation Division (OCD) Santa Fe Office within 30 working days of receipt of this letter.**

The discharge permit was submitted pursuant to Section 3106 of the New Mexico Water Quality Control Commission (WQCC) Regulations. It is approved pursuant to Section 3109.A. Please note Sections 3109.E and 3109.F, which provide for possible future amendments or modifications of the permit. Please be advised that approval of this permit does not relieve Chevron/Texaco U.S.A. Inc. of liability should operations result in pollution of surface water, ground water, or the environment.

Please be advised that all exposed pits, including lined pits and open tanks (tanks exceeding 16 feet in diameter), shall be screened, netted, or otherwise rendered nonhazardous to wildlife including migratory birds.

Please note that Section 3104 of the regulations provides: "When a facility has been approved, discharges must be consistent with the terms and conditions of the permit." Pursuant to Section 3107.C., Chevron/Texaco U.S.A. Inc. is required to notify the Director of any facility expansion, production increase, or process modification that would result in any change in the discharge of water quality or volume.

Pursuant to Section 3109.G.4., this permit is for a period of five years. This approval will expire on April 19, 2009 and Chevron/Texaco U.S.A. Inc. should submit an application in ample time before this date. Note that under Section 3106.F. of the regulations, if a discharger submits a discharge permit renewal application at least 120 days before the discharge permit expires and is in compliance with the approved permit, then the existing discharge permit will not expire until the application for renewal has been approved or disapproved. It should be noted that all discharge permit facilities will be required to submit the results of an underground drainage testing program as a requirement for discharge permit renewal.

The discharge permit application for the Chevron/Texaco U.S.A., Inc. facility is subject to WQCC Regulation 3114 discharge permit fees. Every billable facility submitting a discharge permit will be assessed a fee equal to the filing fee of $100 plus a flat fee of $4000.00 for Gas Processing Permitts. The OCD has received the filing fee. The flat fee may be paid in a single payment due on the date of the discharge permit approval or in five equal installments over the expected duration of the discharge permit. Installment payments shall be remitted yearly, with the first installment due on the date of the discharge permit approval.

Please make all checks payable to:	**Water Quality Management Fund** **C/o: Oil Conservation Division** **1220 South Saint Francis Drive** **Santa Fe, New Mexico 87505.**

If you have any questions, please contact Wayne Price of my staff at (505-476-3487) or E-mail wprice@state.nm.us. On behalf of the staff of the OCD, I wish to thank you and your staff for your cooperation during this discharge permit review.

Sincerely,

Roger C. Anderson
Environmental Bureau Chief
RCA/lwp
Attachment-1
xc: OCD Hobbs Office

ATTACHMENT TO THE DISCHARGE PERMIT GW-312
Chevron/Texaco U.S.A. Inc. Buckeye CO2 Gas Processing Plant
located in SE/4 Sec 36-Ts17S-R34E
Lea County, New Mexico
DISCHARGE PERMIT APPROVAL CONDITIONS
(January 27, 2005)

1. Payment of Discharge Permit Fees: The $100.00 filing fee has been submitted, please submit the $4000.00 required flat fee, which may be paid in a single payment due at the time of approval, or in equal annual installments over the duration of the permit, with the first payment due upon receipt of this approval.

2. Commitments: Chevron/Texaco U.S.A. Inc. will abide by all commitments submitted in the discharge permit application dated August 26, 2004 and all previous submittals.

3. Waste Disposal: All wastes will be disposed of at an OCD approved facility. Only oilfield exempt wastes shall be disposed of down Class II injection wells. Non-exempt oilfield wastes that are non-hazardous may be disposed of at an OCD approved facility upon proper waste determination per 40 CFR Part 261. Any waste stream that is not listed in the discharge will be approved by OCD on a case-by-case basis.

   Rule 712 Waste: Pursuant to Rule 712, disposal of certain non-domestic waste is allowed at solid waste facilities permitted by the New Mexico Environment Department as long as thewaste stream is identified in the discharge, and existing process knowledge of the waste stream does not change without notification to the Oil Conservation Division

4. Drum Storage: All drums containing materials other than fresh water must be stored on an impermeable pad with curbing. All empty drums will be stored on their sides with the bungs in and lined up on a horizontal permite. Chemicals in other containers such as sacks or buckets will also be stored on an impermeable pad and curb type containment.

5. Process Areas: All process and maintenance areas which show evidence that leaks and spills are reaching the ground surface must be either paved and curbed or have some type of spill collection device incorporated into the design.

6. Above Ground Tanks: All above ground tanks which contain fluids other than fresh water must be bermed to contain a volume of one-third more than the total volume of the largest tank or of all interconnected tanks. All new tanks or existing tanks that undergo a major modification, as determined by the Division, must be placed within an impermeable bermed enclosure.

7. Above Ground Saddle Tanks: Above ground saddle tanks must have impermeable pad and curb type containment unless they contain fresh water or fluids that are gases at atmospheric temperature and pressure.

8. Labeling: All tanks, drums and containers will be clearly labeled to identify their contents and other emergency notification information.

9. Below Grade Tanks/Sumps: All below grade tanks, sumps, and pits must be approved by the OCD prior to installation or upon modification and must incorporate secondary containment and leak-detection into the design. All pre-existing sumps and below-grade tanks must demonstrate integrity on an annual basis. Integrity tests include pressure testing to 3 pounds per square inch above normal operating pressure and/or visual inspection of cleaned out tanks and/or sumps, or other OCD approved methods. The OCD will be notified at least 72 hours prior to all testing.

10. Underground Process/Wastewater Lines: All underground process/wastewater pipelines must be tested to demonstrate their mechanical integrity at present and then every 5 years thereafter, or prior to discharge permit renewal. Permittees may propose various methods for testing such as pressure testing to 3 pounds per square inch above normal operating pressure or other means acceptable to the OCD. The OCD will be notified at least 72 hours prior to all testing.

11. Class V Wells: Leach fields and other wastewater disposal systems at OCD regulated facilities which inject non-hazardous fluid into or above an underground source of drinking water are considered Class V injection wells under the EPA UIC program. All Class V wells that inject non-hazardous industrial wastes or a mixture of industrial wastes and domestic wastes will be closed unless it can be demonstrated that groundwater will not be impacted in the reasonably foreseeable future. Closure of Class V wells must be in accordance with a permit approved by the Division's Santa Fe Office. The OCD allows industry to submit closure permits which are protective of human health, the environment and groundwater as defined by the WQCC, and are cost effective. Class V wells that inject domestic waste only must be permitted by the New Mexico Environment Department.

12. Housekeeping: All systems designed for spill collection/prevention will be inspected weekly and after each storm event to ensure proper operation and to prevent overtopping or system failure. A record of inspections will be retained on site for a period of five years.

13. Spill Reporting: All spills/releases will be reported pursuant to OCD Rule 116 and WQCC 1203 to the OCD Hobbs District Office.

14. Transfer of Discharge Permit: The OCD will be notified prior to any transfer of ownership, control, or possession of a facility with an approved discharge permit. A written commitment to comply with the terms and conditions of the previously approved discharge permit must be submitted by the purchaser and approved by the OCD prior to transfer.

15. Closure: The OCD will be notified when operations of the facility are discontinued for a period in excess of six months. Prior to closure of the facility a closure permit will be submitted for approval by the Director. Closure and waste disposal will be in accordance with the statutes, rules and regulations in effect at the time of closure.

16. Certification: Chevron/Texaco U.S.A. Inc. by the officer whose signature appears below, accepts this permit and agrees to comply with all terms and conditions contained herein and further acknowledges that these conditions and requirements of this permit may be changed administratively by the Division for good cause shown as necessary to protect fresh water, human health and the environment.

Accepted:

Chevron/Texaco U.S.A. Inc.

Print Name: G M FLANIKEN

Signature: G M Flaniken

Title: GM Asset Development

Date: March 2, 2005

I. General Information

A. Names of Operator or Legal Responsible Party and Local Representatives

Chevron USA
Buckeye $C0_2$ Plant
HCR 60, Box 425
Lovington, NM 88260
Phone: 575-396-4916 Ext. 21

Plant Supervisor: Mark Garner
HCR 60, Box 425
Lovington, NM 88260
575-396-4916 Ext. 21

Safety Coordinator: Kim Klahsen
HCR 60, Box 425
Lovington, New Mexico 88260
575-396-4414 Ext. 128

II. Location of Discharge Plan Facility

Section 36, Township 17 South, Range 34 East, NMPM. Lea County, New Mexico

III. Landowners

Chevron USA
Buckeye $C0_2$ Plant
HCR 60, Box 425
Lovington, NM 88260
Phone: 505-396-4916

IV. Facility Description

See Process Description/Process Units and facility diagrams shown in Appendix A and B.

V. Material Stored or Used at the facility

1. Cooling Water:

   200 gallons in system (2000 gallons in storage tank). Stored with the bulk oil storage tank. The aboveground storage tank (steel) inside concrete containment. Corrosion inhibitor will be used at a later date.

2. Bulk Oil Storage:

   1 @ 1000 bbl. Tank (Lube oil)
   1 @ 100 bbl. Tank (Lube oil)
   The aboveground tanks (steel) are inside a concrete containment with curbing.

3. Drums:

   10 – 55 gallons TEG (metal drum)
   1 – 55 gallons of DGA (metal drum)
   2 – gallons of Delta Kool (polyethylene drums)
   1 – gallons of DSL 68 synthetic oil (metal drum)
   The drums are stored inside a concrete containment with the bulk storage tanks.

4. Cleaning Solvents:

   Biodegradable solvent will be used at the plant. The parts bath washer will be used at the plant supplied by Safety Clean. The fluids from the washer will be handled and disposed by Safety Clean.

VI. Sources and Quantities of Effluent and Process Fluids

A. Equipment

1. Scrubbers and Separators:

   The plant utilizes inlet separators and three scrubbers for compression. The wastewater from the separator and scrubber will typically be high in Total Dissolved Solids (TDS) and may contain dissolved hydrocarbons. A sample of the wastewater will be collected once the plant is online.

   There are no known additives (i.e., corrosion inhibitor, etc.) in the scrubber or separator water.

   Inlet Separators, Scrubbers and Propane Recovery Unit - Total liquids of 5400 gals/day (including piping)

2. Boilers:

The Buckeye CO_2 Plant does not utilize boilers in its operations.

3. Compressor Jacket Water:

200 gallons in system (2,000 gallons storage tank). Each compressor has its own closed cooling water system. At this time, the water contains ethylene glycol based antifreeze. However, corrosion inhibitor may be used at a later date the MSDS for (Unichem 2310) which is presented in Appendix C. The compressor coolant is not routinely discharged, but should a mechanical failure such as a cracked compressor or ruptured pipe occur, the coolant would be discharged to the open drain system.

4. Cooling Tower:

The Buckeye CO_2 Plant does not utilize cooling towers in its operations.

5. Sewage:

The sewage disposal system at the Buckeye CO_2 Plant consists of a septic tank and lateral lines. This system is completely separate from and independent of all other plant waste systems. The system consists of a 1000 gallons concrete tank and is for office use only.

6. Compressor Oil:

Used compressor oil (approx. 110-130 gals) is drained and replaced every 3-4 years. The used compressor oil is placed in the open drain system and then through the process drain sump. The used oil is then pumped to a tank battery operated by Chevron for introduction into the crude oil supply. The plant uses no oil additives.

7. NGL Treaters:

Two NGL Treaters beds contain 36,000 pounds of desiccant pellets each. Disposal of pellets is per landfill. The beds are changed every 100 days at peak production and every 740 days for low rate.

8. Solvents and Degreasers:

Biodegradable solvent will be used at the plant. A parts bath washer will be used at the plant supplied by Safety Clean. The fluids from the washer will be handled and disposed of by Safety Clean.

9. Miscellaneous:

Domestic trash and non- hazardous waste.

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Revised June 10, 2003

Submit Original
Plus 1 Copy
to Santa Fe
1 Copy to Appropriate
District Office

DISCHARGE PLAN APPLICATION FOR SERVICE COMPANIES,GAS PLANTS, REFINERIES, COMPRESSOR, GEOTHERMAL FACILITES AND CRUDE OIL PUMP STATIONS

(Refer to the OCD Guidelines for assistance in completing the application)

☐ New ☒ Renewal ☐ Modification

1. Type: CO_2 Plant
2. Operator: Chevron USA

   Address: HCR 60, Box 425, Lovington, NM 88260

   Contact Person: Mark Garner Phone: ~~505~~ 575 396-4916 Ext. ~~136~~ 121
3. Location: Southeast/4 _____/4 Section 36 Township 17-South Range 34-East
   Submit large scale topographic map showing exact location.
4. Attach the name, telephone number and address of the landowner of the facility site.
5. Attach the description of the facility with a diagram indicating location of fences, pits, dikes and tanks on the facility.
   Same As previously submitted
6. Attach a description of all materials stored or used at the facility.
   Same
7. Attach a description of present sources of effluent and waste solids. Average quality and daily volume of waste water must be included.
   ~~None~~ See Attached plan
8. Attach a description of current liquid and solid waste collection/treatment/disposal procedures.
   Same a
9. Attach a description of proposed modifications to existing collection/treatment/disposal systems.
   Same
10. Attach a routine inspection and maintenance plan to ensure permit compliance.
    Same as
11. Attach a contingency plan for reporting and clean-up of spills or releases.
    Same
12. Attach geological/hydrological information for the facility. Depth to and quality of ground water must be included.
    Same
13. Attach a facility closure plan, and other information as is necessary to demonstrate compliance with any other OCD rules, regulations and/or orders.
    Same as
14. CERTIFICATIONI hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.

Name: _____ Title: _____

Signature: _____ Date: _____

E-mail Address: _____

B. Quality Characteristics

All plant wastewater is commingled after the field gas passes the two-phase Inlet Separator. (See the Effluent Production Diagram Appendix A.) All liquids removed from the inlet separator are transferred via pipeline to the Chevron operated tank battery. All liquids from the vessels (i.e. dehydrator, reboiler, etc.) go to the flare separator and then to a tank battery owned by Chevron. The close drain system consists of a 3" header and a 2" feeder line. The open drain system consists of 4' x 12' double wall coated vessel (1,100 gallons). All other wastewater transfer, storage, and collection units are constructed of either reinforced concrete or steel piping therefore minimizing any risk of groundwater contamination.

A current wastewater sample will be collected with analysis to include:

1. VOC'S; EPA 600/4-79-02; EPA SW 846-8270:

2. Benzene, Ethylbenzene, Toluene, Meta-Ortho-Para Xylenes:

3. WQCC Section 3103 Parameters:

4. WQCC 1-101.uu:

   Since this facility does not manufacture chemical compounds (including herbicides, pesticides and chlorinated hydrocarbons) we would expect to find only those hydrocarbon compounds that occur in natural gas such as benzene, toluene and xylene, which have been quantified under Item #2 above.

5. Sampling Location, Methods, and Procedures:

   The sample will be collected at ¾ valve located at the flare separator boot.

   All samples are collected as unfiltered grab samples, preserved and analyzed in accordance with EPA SW 846 and/or Standard Methods for the Examination of Water and Wastewater (17th Edition). The samples are then transported, on ice, to a laboratory for analysis.

6. Variability in Flow Rates and Concentration:

   During normal operations we anticipate no significant fluctuations in flow rate or concentration in the plant effluents. However, if there is a mechanical malfunction at the off-site gas gathering locations, there is a possibility of increased volumes of produced water and oil to the plant. We would not anticipate an increase in concentration.

VII. Description of Current Liquids and Solids Waste Collection/Storage/Disposal Procedures

(See: Effluent Flow Diagram and Process Description in Appendix A and B)

1. Drain System:

   a. Closed Drain System: All liquids from the vessels go to the flare separator boot (10 gals). From there they go to the tank battery operated by Chevron. The Close Drain System consist of a 3" header and a 2" feed line.

   b. Open Drain System:Sump: A 6" header gravity feed to the 4' diameter by 12' (oval tank), double wall metal fiberglass coated sump (1100 gallon capacity).

2. Description of Equipment Association with Wastewater Production and Handling:

   Plant Process – Inlet Separators, Scrubbers and Propane Recovery Unit.
   Total liquids 5,400 gallons/day (including piping). The liquids flow through a 2" line associated with the close drain system and to the flare separator. The liquids are piped to an off-site tank battery operated by Chevron.

   a. Two-Phase Inlet Gas/Liquids Processing:

Type of Effluent:	Water, Condensate, Natural Gas
Type of Collection:	Inlet Filter, Separator Return Pumps
System:	Closed Drain
Line Type:	1-1/2" steel lines from vessels to 3" steel underground line to Flare Separator, to 2" steel underground line, to Chevron Tank Battery, to Disposal Well.

   b. Inlet Gas/TEG (Ethylene Glycol):

Type of Effluent:	Water, Glycol, Natural Gas
Type of Collection:	TEG Contactor, Particulate Filter, Solvent Recovery Drum, TEG/TEG Exchanger, TEG Surge Tank, EG Two Phase Separator
System:	Closed Drain
Line Type:	1-1/2" steel lines from vessels to 3" steel underground line to Flare Separator, to 2"steel underground line, to Texaco Battery, to Disposal Well. TEG Surge Tank is tied into the open drain, 1-1/2" steel line above ground to 2" steel underground to 6" steel underground header of

open drain to Chevron Tank Battery, to Disposal Well.

c. Inlet Gas Compression:

Type of Effluent:	Water, Condensate, Natural Gas
Type of Collection:	Compressor 4-207, 4-209, 211 and 213 and Compressor Cylinders
System:	Open Drain
Line Type:	Compressor cylinder water is tied to the open drain using a 2" steel line to 6" underground header. All compressors are on cement containment and all liquids that fall to the floor go to the open drain system.

d. Propane Recovery Column:

Type of Effluent:	Water, Natural gas Liquids, Natural Gas
Type of Collection:	PRC Reboilers, Propane Recovery Column, PRC Side Reboiler, PRC Additives Pumps, PRC Reflux Pumps
System:	Closed Drain
Line Type:	1" steel line from vessels to 3" steel underground line to Flare Separator, to 2"steel underground line, to Texaco Battery , to Disposal Well.

e. NGL Treating:

Type of Effluent:	Water, NGL, Natural Gas
Type of Collection:	NGL Filter, NGL Product Surge Tank, NGL Product Booster Pump
System:	Closed Drain
Line Type:	1" and 1-1/2" steel lines from vessels to 3" steel underground line to Flare Separator, to 2" steel underground line, to Chevron Tank Battery, to Disposal Well.

f. Propane Refrigerant Compressors:

Type of Effluent:	Propane
Type of Collection:	Refrigerant Suction Scrubber, Refrigerant L.O. Coalescer, Refrigerant Reclaimer #1, Refrigerant Surge Drum.
System:	Closed Drain
Line Type:	1" and 1-1/2" steel lines from vessels to 3" steel underground line to Flare Separator, to 2" steel

underground line, to Chevron Tank Battery , to Disposal Well.

g. Hot Oil Heat Medium System:

Type of Effluent:	Van Waters and Rogers, Therminol 55 (Heat Tranfer Fluids)
Type of Collection:	Cement Containment under pumps and storage
System:	Open Drain
Line Type:	2" steel underground to 6" steel underground header, to Chevron Tank Battery, to Disposal Well.

h. Fuel Gas:

Type of Effluent:	Water, Condensate, Natural Gas
Type of Collection:	Fuel Gas Scrubber
System:	Closed Drain
Line Type:	1-1/2" steel lines from vessels to 3" steel underground line to Flare Separator, to 2" steel underground line, to Chevron Tank Battery , to Disposal Well.

i. Sump:

The sump is constructed of a double wall steel fiberglass coated vessel and measures 4' X 12". The sump is gravity fed by 6" header and receives wastewater from open drain.

j. NGL Treaters:

NGL Treaters consist of two beds contain 36,000 pounds of desiccant pellets each. Disposal of pellets is per landfill. Beds are changed approximately every 100 days at peak production and approximately every 740 days for low rate. The material will be placed into a roll-off box.

Desiccant pellets are disposed at Lea Land, Inc., located in at Mile Marker 64, Highway 62/180, Carlsbad, New Mexico.

Physical Address:
Lea Land, Inc.
Mile Marker 64, Highway 62/180 E
Carlsbad, New Mexico 88221

k. Compressor Jacket Water:

Each compressor has its own closed cooling water system. The compressor coolant is not routinely discharged, but should a mechanical

failure such as a cracked compressor head or ruptured pipe occur, the coolant would be discharged to the closed drain system.

l. Used Filters:

A total of eight (8) filters from the compressors will be replaced once a year. The filters will be pickup by FCC Environmental for proper disposal.

3. Effluent Disposal

Existing Operations:

a. On-site Facilities:

The Buckeye CO_2 Plant does not utilize on-site disposal facilities.

b. Off-Site Facilities:

Sludges and Solids: The plant disposes of sludges and solids on an as needed basis. When disposal is required, the transporter and disposal site utilized will meet all local, state, and federal requirements.

Wastewater: All wastewater is disposed in Chevron USA (Chevron) Vacuum Glorietta West Unit Waterflood System. The wastewater and oil is pumped from the plant's separator back to production tank battery. After process, the water and waste oil is pumped to the lease tank battery through a 2" carbon steel line to a 3" polypipe line that is owned by Chevron. Chevron receives the wastewater is pumped into a 3-phase separator at Vacuum Glorietta West Unit Satellite #3. The wastewater is then injected into any of several Class II injection wells located in Sections 1, Township 18 South, Range 34 East and in Sections 35 and 36, Township 17 South, Range 34 East.

The injection wells and the waterflood project are operated by:

Chevron USA
West Star Route, Box 423
Lovington, NM 88260

4. Proposed modifications:

Not Applicable.

VIII. Spill/Leak Prevention and Housekeeping Procedures

1. Containment and Cleanup of Spills:

Chevron USA Processing Plant is manned 24 hours per day, 7 days per week. During non-business hours and on weekends the plant is manned by one of several Operators. The plant is visually inspected on an hourly basis by the Operator.

In the event of a spill that cannot be handled with personnel and equipment on site, the Plant Superintendent or designated representative will call a trained and experienced local contractor that can provide personnel and equipment necessary to contain and remove the spill. The contractor's equipment may include, but is not limited to: vacuum trucks, dump trucks, backhoes, hand tools, and absorbent material.

The Buckeye CO_2 Plant has a plan in effect for prevention of significant spills that could lead to groundwater contamination. This plan calls for the installation of curbing, diking and/or other acceptable containment measures around all ground level storage vessels.

This plan also provides that any future ground level storage tanks will be installed on curbed pads constructed of concrete or other impervious material that will facilitate the detection of leaks.

Any spill contaminated materials will be disposed of in a manner that is consistent with all applicable local, state, and federal regulations.

In the event of a reportable spill, leak, or release, notification will be provided in accordance with New Mexico Oil Conservation Division Rule 116, and any other applicable rules or regulations.

2. Housekeeping Procedures:

Empty chemical drums are stored in the empty drum storage site (concrete pad with curbing) on their sides with bungs in placed for return to the vendor. Where practical the plant utilizes bulk storage tanks in lieu of drums.

Oily rags are accumulated in closed lid containers placed at strategic locations throughout the plant. The oily rags are periodically pickup by a local vendor for cleaning and reuse.

Trash is stored in a dumpster as it is generated. Waste Management of Southeast New Mexico removes the trash for disposal at the designated City of Hobbs Landfill.

Oil filters and other used filters from the plant process are stored in metal containers until they are completely drained of fluid. They are then placed in a special waste container provided by FCC Environmental and removed for appropriate disposal.

Should a spill or leak occur, any contaminated soil is removed and disposed of in accordance with applicable local, state, and federal regulations.

3. Leak Detection:

The Operators conduct hourly walk-through inspections of the entire facility. If a leak is discovered the Operator will initiate corrective action. In the event of a serious or catastrophic leak the plant Operator may initiate emergency procedures as noted in Item (1.)

Any problems encountered are noted in the Operator's logbook.

Additionally, all existing buried wastewater lines were pressure tested within 1 year of the date of plan, and wherever new piping is installed. All pressurized lines will be hydrostatically tested at 1.5 times their operating pressure. Open-end lines will be tested by pneumatic or other acceptable non-destructive testing techniques. Records of the leak testing will be maintained in the plant files.

The testing records for the lines are shown in Appendix D.

4. Injection Wells:

See Item VII.3.b

IX. Compliance Information

The facility will follow the methods as described in WQCC Section 3107.A11 "Monitoring, Reporting, and Other Requirements" and will use NMOCD guidelines for accepted remediation techniques and unlined surface impoundment closure guidelines.

X. Attach Geological/Hydrological Information for the Facility and Depth to Groundwater

1. Site Characteristics:

A. Hydrological Features

1. There are no known bodies of water, streams or other watercourses within one mile of the Buckeye CO_2 Plant.

There are ten (10) know freshwater wells within one mile of the plant. These wells include:

Chevron USA VGSA Unit D Well #3 (Section 1, T18S - R34E)

Chevron USA VGSA Unit Well #2	(Section 2, T18S - R34E)
Chevron USA Field Office	(Section 1, T18S – R34E)
Chevron USA CVU Extraction Well #1	(Section 1, T18S – R34E)
Chevron USA CVU Extraction Well #2	(Section 1, T18S – R34E)
Chevron USA Well #3	(Section 6, T18S – R35E)
Chevron USA CVU WSW #2	(Section 6, T18S – R35E)
Chevron USA Buckeye Gas Processing Plant	(Section 36, T17S – R34E)
New Mexico Potash Corporation Well #8	(Section 31, T17S – R34E)
New Mexico Potash Corporation	(Section 31, T17S – R34E)

Two of the wells, the Chevron USA CVU Extraction Wells #1 and #2, are used for a groundwater remediation project. The Chevron USA Field Office well is used for office water (toilets and sinks). All other wells are used for industrial purposes.

2. The depth to the first usable aquifer, the Ogallala aquifer, averages 115-120 feet. On December 12, 1995 the plant's water-well was sampled for water quality analyses. The analyses are included in Appendix C.

3. Based on the 1989-1990 groundwater contamination study, which was conducted by the New Mexico Oil Conservation Division in Hobbs and Texaco Exploration and Production Inc., the groundwater flow direction was from the northwest to southeast. A groundwater flow contour drawing has been included in Appendix C.

B. Geological Description of Discharge Site

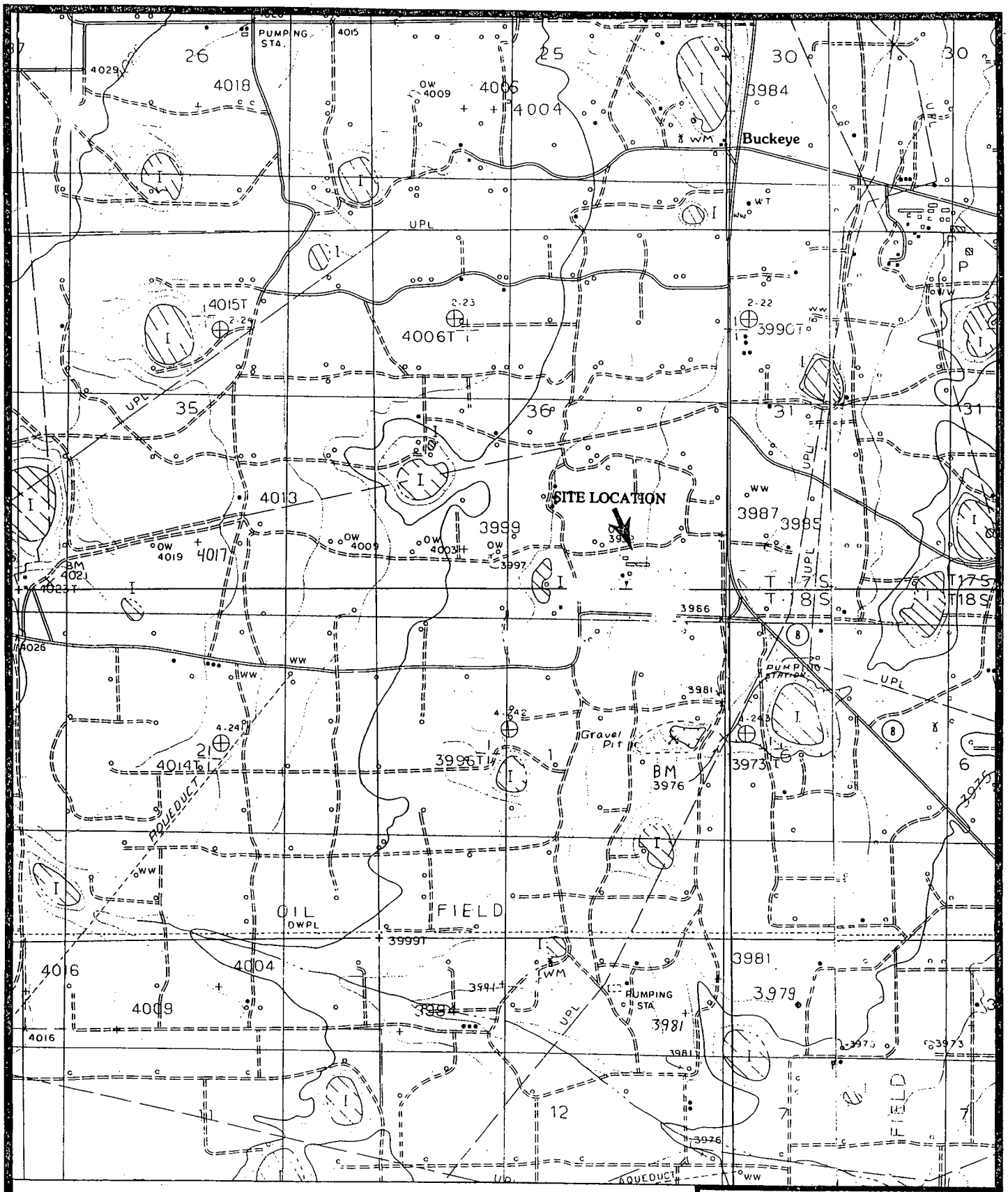
A geological description of the discharge site can best be described by including an excerpt from:

Groundwater Contamination Study
Texaco CVU WSW #3
Vacuum Field, Buckeye
Lea County, New Mexico

by Eddie W. Seay
New Mexico Oil Conservation Division
Hobbs, New Mexico
1989-1990

Site Geology

Geographically, the site is situated near the western boundary of the southern extension of the High Plains in Southeastern New Mexico. Topographically, the Southern High Plains, a plateau' rises approximately 100 to 300 feet above the surrounding region and slopes to the Southwest at 10 to 20 feet per mile.



TAKEN FROM U.S.G.S.
BUCKEYE, NM
7.5' QUADRANGLE

LEGEND

☐ TANK BATTERY

SCALE: 1"=2000'

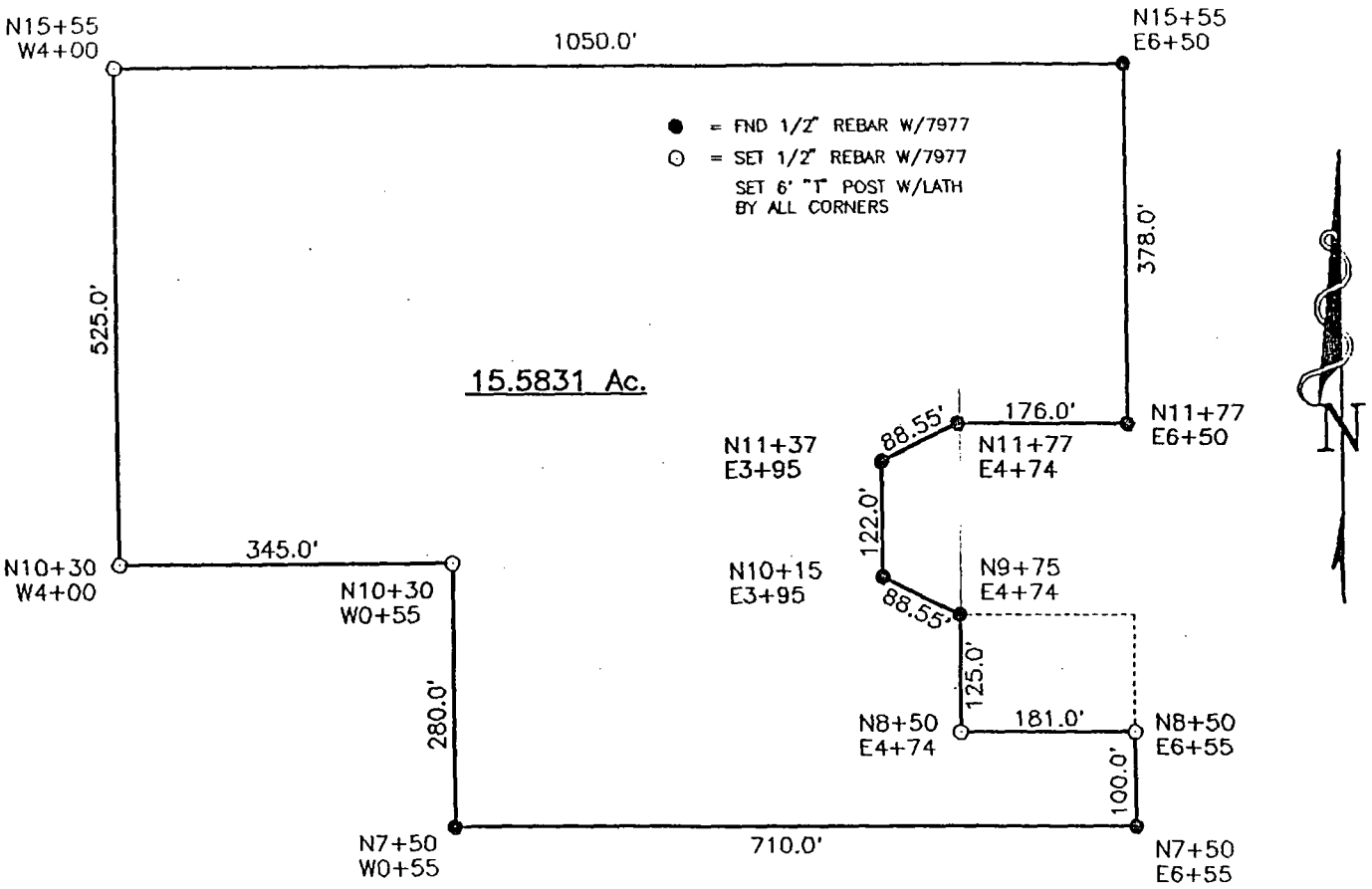
LEA COUNTY, NEW MEXICO

TEXACO E & P, INC
BUCKEYE CO_2 PLANT

TOPOGRAPHIC MAP

HIGHLANDER ENVIRONMENTAL CORP.
MIDLAND, TEXAS

SECTION 36, TOWNSHIP 17 SOUTH, RANGE 34 EAST, N.M.P.M.,
LEA COUNTY, NEW MEXICO.



200 0 200 400

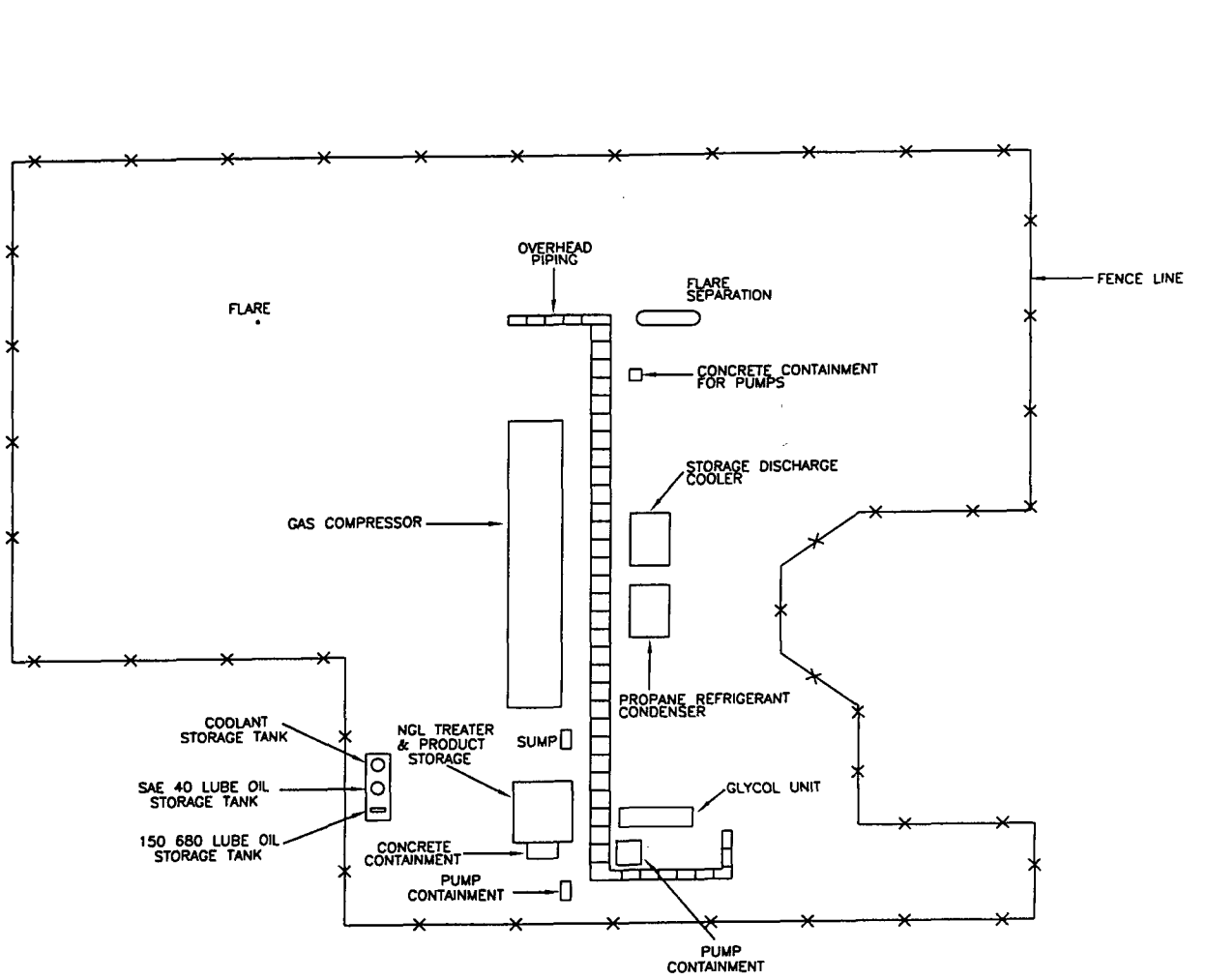
TEXACO E & P, INC.

REF: BUCKEYE PLANT SITE

A TRACT OF LAND LOCATED IN THE SE/4 OF SECTION 36, TOWNSHIP 17 SOUTH, RANGE 34 EAST, N.M.P.M., LEA COUNTY, NEW MEXICO.

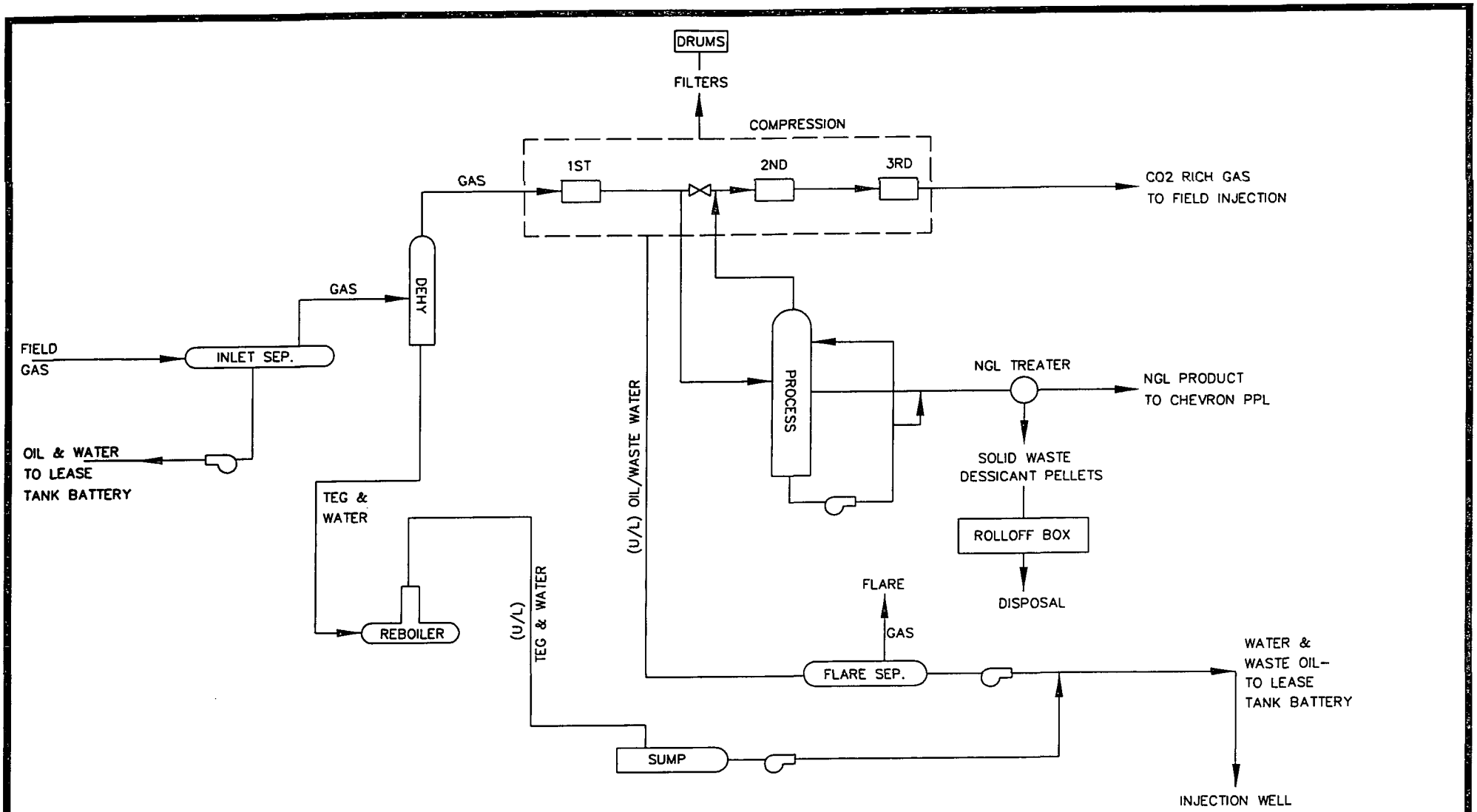
BASIN SURVEYS P.O. BOX 1786 – HOBBS, NEW MEXICO

W.O. Number: 7495	Drawn By: K. GOAD		
Date: 08-21-97	Disk: KJG #27 – 7495B.DWG	Survey Date: 08-15-97	Sheet 1 of 1 Sheets



SCALE: 1"=200'

	LEA COUNTY NEW MEXICO
	TEXACO EXPLORATION & PRODUCTION INC.
DATE: 12/11/98	BUCKEYE CO_2 PLANT
DWN. BY: JDA	*HIGHLANDER ENVIRONMENTAL MIDLAND, TEXAS*
FILE: SITE	



(U/L) = UNDERGROUND LINE

NOT TO SCALE

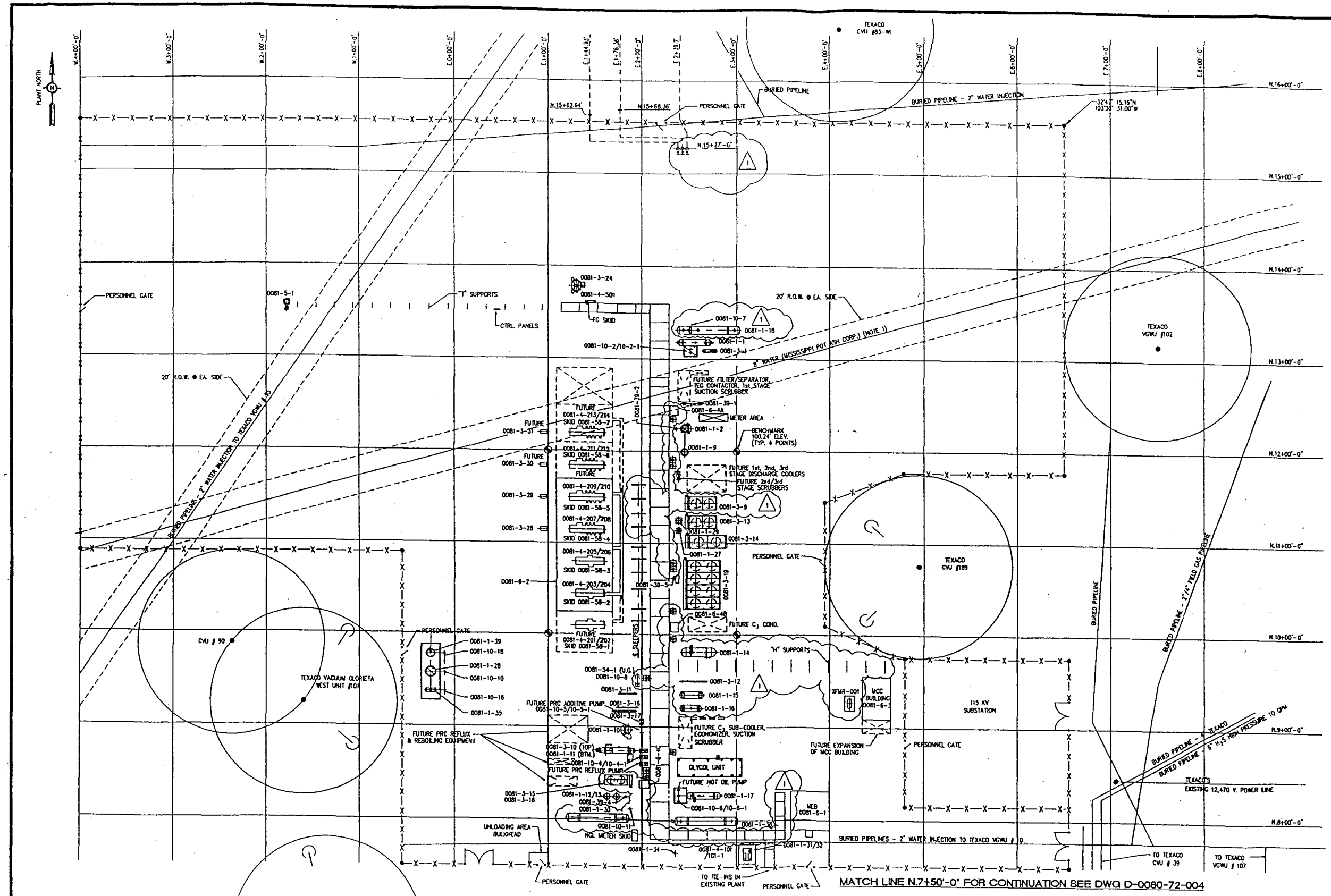
LEA COUNTY NEW MEXICO

TEXACO
EXPLORATION & PRODUCTION INC.

BUCKEYE CO PLANT
EFFLUENT & SOLID WASTE
PRODUCTION DIAGRAM

DATE: 12/10/98
DWN. BY: JDA
FILE: CO2-PLANT

HIGHLANDER ENVIRONMENTAL
MIDLAND, TEXAS



NOTES:

EQUIPMENT SHOWN DASHED IS FOR INCREMENTAL FUTURE INSTALLATION.

⊠ DENOTES SPACE RESERVED FOR FUTURE EXPANSION.

OFF-SKID EQUIPMENT LIST

0081-1-1	INLET SEPARATOR
0081-1-2	INLET GAS/TEG CONTACTOR
0081-1-9	1st STAGE SUCTION SCRUBBER
0081-1-10	PROPANE RECOVERY COLUMN
0081-1-11	PRC REFLUX ACCUMULATOR
0081-1-12/13	NGL TREATER
0081-1-14	REFRIGERANT SURGE DRUM
0081-1-15	ECONOMIZER
0081-1-16	REFRIGERANT SUCTION SCRUBBER
0081-1-17	HOT OIL SURGE DRUM
0081-1-18	FLARE SEPARATOR
0081-1-31/32	INSTRUMENT AIR DRYERS
0081-1-27	3rd STAGE SUCTION SCRUBBER
0081-1-28	SAE 40 LUBE OIL STORAGE TANK
0081-1-29	2nd STAGE SUCTION SCRUBBER
0081-1-30	NGL PRODUCT SURGE TANK
0081-1-34	FUEL GAS SCRUBBER
0081-1-35	ISO 680 LUBE OIL STORAGE TANK
0081-1-38	INSTRUMENT AIR RECEIVER
0081-1-39	COOLANT STORAGE TANK
0081-3-1	INLET FEED EXCHANGER
0081-3-9	1st STAGE DISCHARGE COOLER
0081-3-10	PRC REFLUX CONDENSER
0081-3-11	ADDITIVE SUB-COOLER
0081-3-12	PROPANE REFRIGERANT SUB-COOLER
0081-3-13	2nd STAGE DISCHARGE COOLER
0081-3-14	3rd STAGE DISCHARGE COOLER
0081-3-15	PRC SIDE COOLER
0081-3-16	PRC SIDE REBOILER
0081-3-17	PRC REBOILER
0081-3-18	PRC BOTTOMS COOLER
0081-3-19	PROPANE REFRIGERANT CONDENSER
0081-3-24	HOT OIL HEATER
0081-3-26	PROPANE REFRIG. COMPRESSOR UTILITY COOLER
0081-3-27	PROPANE REFRIG. COMPRESSOR UTILITY COOLER
0081-3-28	GAS COMPRESSOR UTILITY COOLER
0081-3-29	GAS COMPRESSOR UTILITY COOLER
0081-4-101/101-1	AIR COMPRESSORS
0081-4-203/205	PROPANE REFRIG. COMPRESSORS
0081-4-207/209	GAS COMPRESSORS
0081-4-501	HOT OIL HEATER BLOWER
0081-5-1	EMERGENCY FLARE
0081-6-1	MAIN EQUIPMENT BUILDING
0081-6-2	COMPRESSOR BUILDING
0081-6-3	MCC BUILDING
0081-6-4A/4B/4C	ANALYZER BUILDING
0081-10-2/10-2-1	INLET SEPARATOR LIQUIDS RETURN PUMPS
0081-10-4	PRC REFLUX PUMP
0081-10-4-1	PRC REFLUX PUMP SPARE
0081-10-5	PRC ADDITIVE PUMP
0081-10-5-1	PRC ADDITIVE PUMP SPARE
0081-10-6/10-6-1	HOT OIL PUMPS
0081-10-7	FLARE SEPARATOR PUMP
0081-10-8	PROCESS DRAIN SUMP PUMP
0081-10-10	SAE 40 LUBE OIL TRANSFER PUMP
0081-10-11	NGL PRODUCT BOOSTER PUMP
0081-10-16	ISO 680 LUBE OIL TRANSFER PUMP
0081-10-18	COOLANT TRANSFER PUMP
0081-39-1	INLET FILTER SEPARATOR
0081-39-2	PARTICULATE FILTER
0081-39-4	NGL FILTER
0081-39-5	PROPANE REFRIGERANT L.O. COALESCER
0081-54-1	PROCESS DRAIN SUMP

GLYCOL UNIT EQUIPMENT LIST

0081-1-3	TEG FLASH TANK
0081-1-4	RICH STRIPPER
0081-1-5	LEAN STRIPPER
0081-1-6	TEG SURGE TANK
0081-1-7	SOLVENT WATER SEPARATOR
0081-1-8	SOLVENT RECOVERY DRUM
0081-1-26	pH CHEMICAL TANK
0081-3-2	REFLUX CONDENSER
0081-3-3	TEG/TEG EXCHANGER
0081-3-4	TEG REBOILER
0081-3-5	LEAN TEG COOLER
0081-3-6	SOLVENT RECOVERY CONDENSER
0081-3-7	TEG STILL REFLUX CONDENSER
0081-3-8	SOLVENT SUPERHEATER
0081-3-30	LEAN/RICH TRIM COOLER
0081-10-1/10-1-1	TEG PUMPS
0081-10-3/10-3-1	ORIZO SOLVENT PUMPS
0081-10-9	pH CONTROL PUMP
0081-39-3	SOLVENT FILTER COALESCER

GRAPHIC SCALE

0 25' 50' 100'

04/07/98 at 08:09 by PMENGER

GENERAL NOTES:

REVISIONS

MK.	DESCRIPTION	DATE	BY	APPR
1	REVISED AS NOTED	4/15/98	PDM	TFS
0	ISSUED FOR PHASE I DESIGN	1-26-98	TS	TFS
H	ISSUED FOR APPROVAL	12-2-97	TS	TFS

REFERENCE DRAWINGS

DRAWING NO.	TITLE	DRAWING NO.	TITLE

NOTICE

ABB Randall Corporation
AN ABB LUMMUS GLOBAL COMPANY
Houston, Texas
ABBR JOB No. 80170

TEXACO | NORTH AMERICA PRODUCTION

APPROVED:	DATE:
CHECKED: TFS	12/97
DESIGNED:	
DRAWN: DJS	6/96

TITLE: AREA PLOT PLAN
BUCKEYE CO_2 PLANT
LEA COUNTY NEW MEXICO

EST. NO.: 66-2052 | SCALE: 1"=50' | DWG. NO.: D-0081-72-001 | REV.: 1

TEXACO BUCKEYE CO_2 PLANT- PROCESS DESCRIPTION

$C0_2$ rich inlet gas from the CVU gathering system, $C0_2$ injection having already begun in several wells, will enter the new Buckeye $C0_2$ Plant at approximately eighty (80) psig and ambient temperature through a fourteen (14) inch pipeline (provided by the field up to the plant fenceline) at the North perimeter of the site, continuing underground until it reaches the stainless steel two-phase Inlet Separator 0081-1-1. Liquids dropped out in the Inlet Separator will be pumped back to the field facilities via a ten (10) inch pipeline (also provided by the field outside the plant fenceline). Vapor from the top of the Inlet Separator flows through a custody transfer quality meter, then on to an Inlet Feed Exchanger 0081-3-1 (which utilizes a sidestream from the discharge of the first stage of compression to maintain a constant inlet gas temperature for cold weather operation), then to the Inlet Filter Separator 0081-39-1.

From the Inlet Filter Separator 0081-39-1, the gas enters the Inlet Gas/TEG Contactor 0081-1-2 that. utilizes triethylene glycol (TEG) to dehydrate the gas to less than one (1) ppm of water. The glycol is regenerated if a licensed DRIZO TEG regeneration process that receives regeneration heat input from a hot oil system consisting of a Hot Oil Heater 0081-3-24, Hot Oil Surge Drum 0081-1-17, and Hot Oil Pumps 0081-10-6/6-1.

From the Inlet Gas/TEG Contactor 0081-1-2, the dehydrated gas stream flows on to the First Stage Suction Scrubber 0081-1-9, then to the first stage of the Inlet gas/CO_2 Compressors 0081-4-207/209. From the discharge of the first stage, the gas flows to the First Stage Discharge Cooler 0081-3-9.

From the First Stage Discharge Cooler, the gas flows to, the, Ryan-Holmes Process Unit, first entering the trayed Propane Recovery Column (PRC) about three quarter (3/4) of the way up its height. This unique column will utilize Advanced Process Controls (APC) technology for optimization on a Foxboro I/A distributed control system (DCS) platform, operates at approximately zero (0° F) degrees at the top and approximately three hundred seventy (370° F) degrees at the bottom separating the $C0_2$, H_2S, C_1's, C_2's and N_2 from the C_3's and heavier natural gas liquids (NGL's). Note that while the Ryan-Holmes process can be designed to recover the C_1's and C_2's for fuel gas and/or for product sales, the economics of this particular project do not support their recovery.

The $C0_2$ rich stream exits the top of the PRC. A portion of the stream is condensed in the PRC Reflux Condenser 008 1-1-11 that utilizes a refrigerant on the shell side. The propane refrigerant system consists of Propane Refrigerant Compressors 0081-4-203/205, Refrigerant Lube Oil Coalescer 0081-39-5, Propane Refrigerant Condenser 0081-3-19, Refrigerant Surge Drum 0081-1-14, Economizer 0081-1-15, Refrigerant Subcooler 0081-3-12, Refrigerant Suction Scrubber 0081-1-16, and the Reflux Condenser 0081-3-10.

The part of the overhead stream not sent to the PRC Reflux Accumulator 0081-1-11 for PRC reflux flow through the Refrigerant Subcooler 0081-3-11 then to the Second Stage

Suction Scrubber 0081-1-29. For the design case, the "shrinkage," i.e. the amount of C_3's and heavier NGL's removed reduce the gas volume in the overhead stream to approximately ninety-four (94%) percent of what the inlet gas volume had been. From Second Stage Suction Scrubber, the stream flows to the second stage compression, then directly to the Second Stage Discharge Cooler 0081-1-19, then to the Third Stage Suction Scrubber 0081-1-17, then to the third stage of compression and the Third Stage Discharge Cooler 0081-3-14. Again, the stream flows through a custody transfer quality meter, then back to the field for reinjection at approximately one thousand eight hundred fifty (1850 psig and one hundred twenty five (125°F) degrees through a ten (10") inch pipeline (provided by the f field outside the plant fenceline).

Not that while the recovery of the $C0_2$ and the resultant reduction in cost or purchased pipeline $C0_2$ over the long term is the primary contribution by the plant to the economic benefit of the overall $C0_2$ flood project, it is not a revenue generator for the plant itself and therefore will not be referred to during the course of this project, nor on any of the engineering Documents and training materials as a $C0_2$ product stream, but rather as a CO_2 reinjectant stream.

That which does generate revenue for the Buckeye $C0_2$ Plant is the NGL stream recovered from the lower portion of the PRC. Approximately one third (1/3) of the way up the column's height, a side-stream is drawn consisting of the C_3's or NGL'S. This stream is cooled, then treated in the NGL Treaters 0081-1-12/13 using ICI Katalco's Pura-Spec material to remove the small amount of remaining H_2S, then passed through the NGL Filter 0081-394 and sent to the common carrier pipeline. It is not currently known with certainty if this stream will be commingled with the NGL's from the Buckeye Gas Plant subsequent to entering the common carrier pipeline, or if the streams must be pumped separately into the common carrier pipeline. Regardless, the NGL's from the $C0_2$ Plant will flow through a custody transfer meter before leaving the battery limits. In addition, in order to avoid unscheduled process shutdowns in the event of a short-term pipeline outage, an NGL Product Surge Tank 0081-1-30 will be included in the design. This will be a surplus vessel provided by Texaco.

Note that that all compression, e.g., inlet Gas/CO_2 and Propane Refrigerant, will be electric motor driven primarily due to negative impacts on environmental permitting related to gas driven engines.

The Buckeye $C0_2$ Plant is provided with the following Utility Systems:

Electrical) Power (4160V Supply, distribution to be 416OV, 48OV, 240V & 12OV, Cycles 60 Hz and three (3) Phases.
Instrument Air System
Utility Air System
Non-Potable Water System
Process Drain System
Closed Drain System
Hot Oil Heat Medium System
Lube Oil Storage & Transfer System
Flare System
Gas detection System

a) Two-Phase Inlet Gas/ Liquids Processing

$C0_2$ rich inlet gas from the CVU gathering system, $C0_2$ injection having already begun in several wells, will enter the new Buckeye $C0_2$ Plant at approximately eighty (80) psig and ambient temperature through a fourteen (14) inch pipeline (provided by the field up to the plant fenceline) at the North perimeter of the site, continuing underground until it reaches the stainless steel two-phase Inlet Separator 0081-1-1. Liquids dropped out in the Inlet Separator 008 1-1-1 will be pumped back to the field facilities via a ten (10) inch pipeline (also provided by the field outside the plant fenceline). Vapor from the top of the Inlet Separator 0081-1-1 flows through a custody transfer quality meter, then on to an Inlet Feed Exchanger which utilizes a sidestream from the discharge of the first stage of compression to maintain a constant inlet gas temperature for cold weather operation), then to the Inlet Filter Separator 0081-39-l.

b) Inlet Gas/TEG (Triethylene Glycol) Contactor

From the Inlet Filter Separator, the gas enters the Inlet Gas/TEG Contractor 0081-1-2 that utilizes triethylene glycol (TEG) to dehydrate the gas to less than one (1) ppm of water. The glycol is regenerated in a licensed DRIZO T'EG regeneration process that receives regeneration heat input from a hot oil system consisting of a Hot Oil Heater, Hot Oil Surge Drum and Hot Oil Pumps.

c) Inlet Gas Compression

From the lnlet Gas/TEG Contactor 0081-1-2, the dehydrated gas stream flows on to the First Stage Suction Scrubber 0081-1-9, then to the first stage of the Inlet Gas/CO_2 Compressors 0081-4-207 and 0081-4-209. From the discharge of the first stage, the gas flows to the First Stage Discharge Cooler 0081-3-9.

From the First Stage Discharge Cooler 0081-3-9, the gas flows to the Ryan-Holmes Process Unit, first entering the trayed Propane Recovery Column (PRC) 0081-1-10 about

three quarters (3/4) of the way up its height. This unique column will utilize Advanced Process Controls (APC) technology for optimization on a Foxboro I/A distributed control system (DCS) platform, operates at approximately zero (0_oF) degrees at the top and approximately three hundred seventy (370^oF) at the bottom separating the $C0_2$, H_2S, C_1's, C_2's and N_2 from the C_3's and heavier natural gas liquids (NGL's). Note that while the Ryan-Holmes process can be designed to recover the C1's and C2'S for fuel gas and/or for product sales, the economics of this particular project do not support their recovery.

The C02 rich stream exits the top of the Propane Recovery Column (PRC) 0081-1-10. A portion of the stream is condensed in the PRC Reflux Condenser 0081-3-1 0, which utilizes a refrigerant on the shell side. The propane refrigerant system consists of Propane Refrigerant Compressors, Refrigerant Lube Oil Coalescer, Propane Refrigerant Condenser, Refrigerant Surge Drum, Economizer, Refrigerant Subcooler, Refrigerant Suction Scrubber and the Reflux Condenser.

The part of the overhead stream not sent to the PRC Reflux Accumulator for PRC reflux flow through the Refrigerant Subcooler then to the Second Stage Suction Scrubber. For the design case, the "shrinkage," i.e., the amount of C_3's and heavier NGL's removed reduce the gas volume in the overhead stream to approximately ninety-four (94%) percent of what the inlet gas volume had been. From the Second Stage Suction Scrubber, the stream flows to the second stage of compression, then directly to the Second Stage Discharge Cooler, then to the Third Stage Suction Scrubber, then to the third stage of compression and the Third Stage Discharge Cooler. Again, the stream flows through a custody transfer quality meter, then back to the field for reinjection at approximately one thousand eight hundred fifty (1850) psig and one hundred twenty five (125^oF) degrees through a ten (10") inch pipeline (provided by the field outside the plant fenceline.

d) Propane Recovery Column

From the First Stage Discharge Cooler 008'1-3-9, the gas flows to the Ryan-Holmes Process Unit, first entering the trayed Propane Recovery Column (PRC) 008 1-1-10 about three quarter (3/4) of the way up its height. This unique column will utilize Advanced Process Controls (APC) technology for optimization on a Foxboro I/A distributed control system (DCS) platform, operates at approximately zero (0F) degrees at the top and approximately three hundred seventy (370^oF) at tile bottom separating the $C0_2$, H_2S, C_1's, C_2's and N_2 from the C_3's and heavier natural gas liquids (NGL's). Note that while the Ryan-Holmes process can be designed to recover the C_1's and C_2'S for fuel gas and/or for product sales, the economics of this particular project do not support their recovery.

The $C0_2$ rich stream exits the top of the Propane Recovery Column (PRC) 0081-1-10. A portion of the stream is condensed in the PRC Reflux Condenser 0081-3-10 which utilizes a refrigerant on the shell side. The propane refrigerant system consists of Propane Refrigerant Compressors, Refrigerant Lube Oil Coalescer, Propane Refrigerant Condenser, Refrigerant Surge Drum, Economizer, Refrigerant Subcooler, Refrigerant Suction Scrubber and the Reflux Condenser.

The part of the overhead stream not sent to the PRC Reflux Accumulator for PRC reflux flow through the Refrigerant Subcooler then to the Second Stage Suction Scrubber. For the design case, the "shrinkage", i.e. the amount of C_3's and heavier NGL's removed reduce the gas volume in the overhead stream to approximately ninety-four (94%) percent of what the inlet gas volume had been. From the Second Stage Suction Scrubber, the stream flows to the second stage of compression, then directly to the Second Stage Discharge Cooler, then to the Third Stage Suction Scrubber, then to the third stage of compression and the Third Stage Discharge Cooler. Again, the stream flows through a custody transfer quality meter, then back to the field for reinjection at approximately one thousand eight hundred fifty (1850) psig and one hundred twenty five (125°F) degrees through a ten (10") inch pipeline (provided by the field outside the Plant fenceline.

e) NGL Treating

Approximately one third (1/3) of the way up the column's height, a sidestream is drawn consisting of the C_3's or NGL'S. This stream is cooled, then treated in the NGL Treaters using ICI Katalco's Pura-Spec material to remove the small amount of remaining H_2S, then passed through the NGL Filter and sent to the common carrier pipeline. It is not currently known with certainty if this stream will be commingled with the NGL's from the Buckeye Gas Plant subsequent to entering the common carrier pipeline, or if the streams must be pumped separately into the common carrier pipeline. Regardless, the NGL's from the C02 Plant will flow through a custody transfer meter before leaving the battery limits. In addition, in order to avoid unscheduled process shutdowns in the event of a short-term pipeline outage, an NGL Product Surge Tank will be included in the design. This will be a surplus vessel provided by Texaco.

f) Propane Refrigerant Compression

The $C0_2$ rich stream exits the top of the Propane, Recovery Column (PRC) 0081-1-10. A portion of the stream is condensed in the PRC Reflux Condenser 0081-3-10, which utilizes a refrigerant on the shell side. The propane refrigerant system consists of Propane Refrigerant Compressors 0081-4-203 and 0081-4-205, Refrigerant Lube Oil Coalescer 0081-39-5, Propane Refrigerant Condenser 0081-3-19, Refrigerant Surge Drum 0081-1-14, Economizer 0081-1-15, Refrigerant Subcooler 0081-3-12, Refrigerant Suction Scrubber 0081-1-16 and the Reflux Condenser 0081-3-10.

g) Hot Oil Heat Medium System

From the Inlet Filter Separator, the gas enters the Inlet Gas/TEG Contactor 0081-1-2 that utilizes triethylene glycol (TEG) to dehydrate the gas to less than one (1) ppm of water. The glycol is regenerated in a licensed DRIZO TEG regeneration process that receives regeneration heat input from a hot oil system consisting of a Hot Oil Heater 0081-3-24, Hot Oil Surge Drum 0081-1-17 and Hot Oil Pumps 0081-10-6 and 0081-10-6-1.

CARDINAL LABORATORIES

PHONE (915) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603
PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240
PHONE (505) 326-4669 • 118 S. COMMERCIAL AVE. • FARMINGTON, NM 87401

FINAL ANALYSIS REPORT

Company:	Texaco Exploration & Production, Inc.	Date:	12/27/95
Address:	West Star Route Box 425	Lab #:	H2336-2
City, State:	Lovington, New Mexico 88260		
Project Name:	Texaco E & P Inc		
Location:	Buckeye Plant		
Sampled by:	MI/MG	Sample Date:	12/12/95
Sample Type:	water	Sample Condition:	intact
Sample ID:	H2336-2 water well		

VOLATILE ORGANIC COMPOUNDS

PARAMETER	RESULT	UNITS
Chloromethane	<0.002	mg/L
Vinyl chloride	<0.002	mg/L
Bromomethane	<0.002	mg/L
Chloroethane	<0.002	mg/L
Trichlorofluoromethane	<0.002	mg/L
1,1-Dichloroethene	<0.002	mg/L
Methylene chloride	<0.002	mg/L
trans-1,2 Dichloroethene	<0.002	mg/L
1,1-Dichloroethane	<0.002	mg/L
Chloroform	<0.002	mg/L
1,1,1-Trichloroethane	<0.002	mg/L
1,2 Dichloroethane	<0.002	mg/L
Benzene	<0.009	mg/L
Carbon Tetrachloride	<0.002	mg/L
Trichloroethene	<0.002	mg/L
Bromodichloromethane	<0.002	mg/L
2(chloroethoxy) ethene	<0.002	mg/L
trans-1,3Dichloropropene	<0.002	mg/L
1,2-Dichloropropane	<0.002	mg/L
cis 1,3-Dichloropropene	<0.002	mg/L
Toluene	<0.002	mg/L
1,1,2-Trichloroethane	<0.002	mg/L
Dibromochloromethane	<0.002	mg/L
Tetrachloroethene	<0.002	mg/L
Chlorobenzene	<0.002	mg/L
Ethylbenzene	0.009	mg/L
Bromoform	<0.002	mg/L
1,1,2,2-Tetrachloroethane	<0.002	mg/L
1,3-Dichlorobenzene	<0.002	mg/L
1,2-Dichlorobenzene	<0.002	mg/L
1,4-Dichlorobenzene	<0.002	mg/L

METHOD: VOLATILE ORGANIC COMPOUNDS EPA 601 & 602(624)

Mitch Irvin

12/29/95
Date

CARDINAL LABORATORIES

PHONE (915) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603
PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240
PHONE (505) 326-4669 • 118 S. COMMERCIAL AVE. • FARMINGTON, NM 87401

FINAL ANALYSIS REPORT

Company:	Texaco Exploration & Production, Inc.	Date:	12/27/95
Address:	West Star Route Box 425	Lab #:	H2336-2
City, State:	Lovington New Mexico 88260		
Project Name:	Texaco E & P		
Location:	Buckeye Plant		
Sampled by:	MI/MG	Date:	12/12/95
Sample Type:	Water	Sample Condition:	Intact
Sample ID:	Water Well		

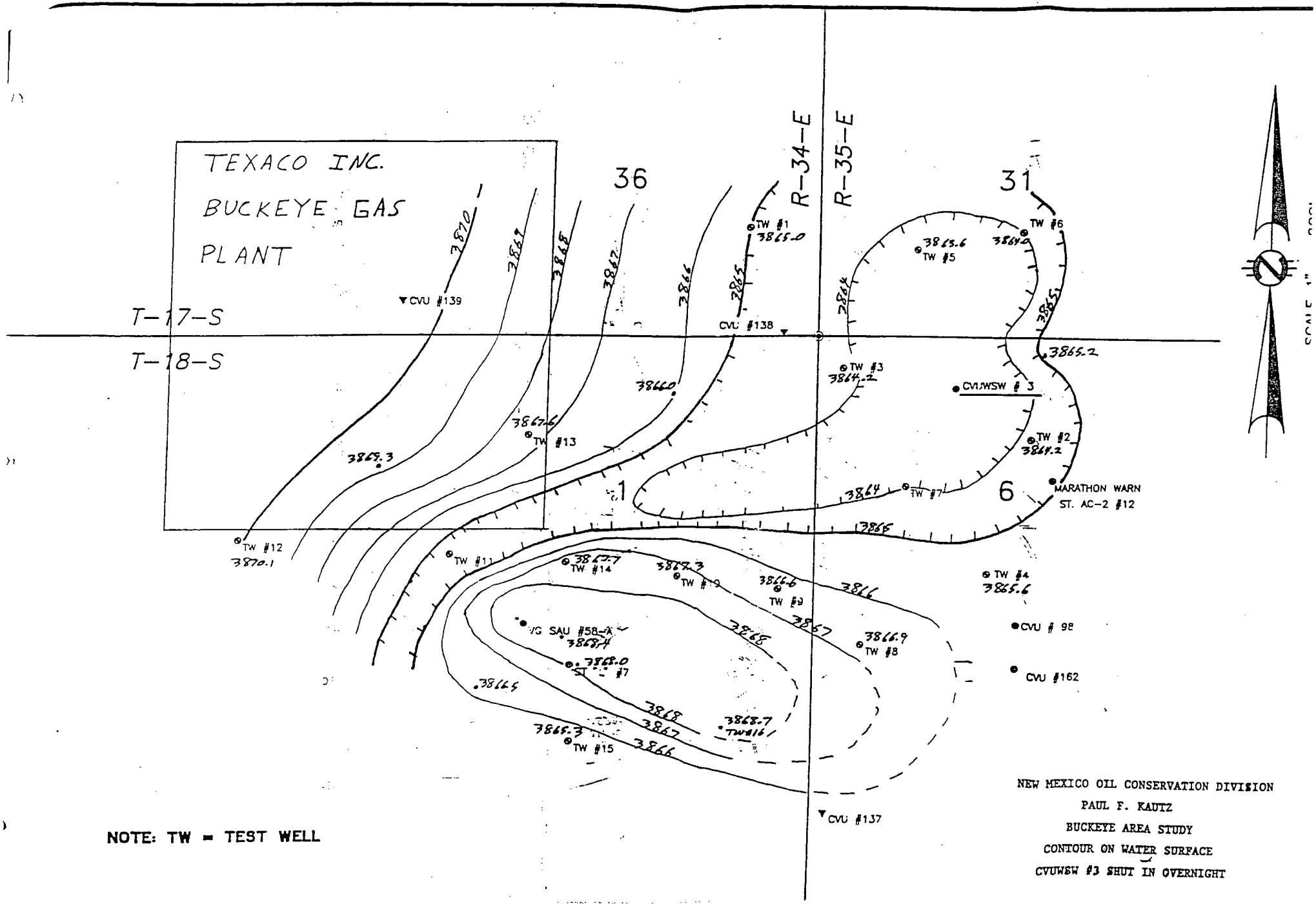
POLYNUCLEAR AROMATIC HYDROCARBONS

PARAMETER	RESULT	UNITS
Naphthalene	<0.002	mg/L
Acenaphthylene	<0.002	mg/L
Acenaphthene	<0.002	mg/L
Fluorene	<0.002	mg/L
Phenanthrene	<0.002	mg/L
Anthracene	<0.002	mg/L
Fluoranthene	<0.002	mg/L
Pyrene	<0.002	mg/L
Benzo(a)anthracene	<0.002	mg/L
Chrysene	<0.002	mg/L
Benzo(b)fluoranthene	<0.002	mg/L
Benzo(k)fluoranthene	<0.002	mg/L
Benzo(a)pyrene	<0.002	mg/L
Indeno(1,2,3-cd)pyrene	<0.002	mg/L
Dibenzo(a,h,)anthracene	<0.002	mg/L
Benzo(g,h,i)perylene	<0.002	mg/L

METHODS- EPA SW 846-8270

Mitch Irvin

12/28/95
Date



NOTE: TW = TEST WELL

NEW MEXICO OIL CONSERVATION DIVISION
PAUL F. KAUTZ
BUCKEYE AREA STUDY
CONTOUR ON WATER SURFACE
CVUWSW #3 SHUT IN OVERNIGHT

ABB
ASEA BROWN BOVERI

TEXACO
NORTH AMERICA PRODUCTION
BUCKEYE CO_2 PROJECT
LEA COUNTY, NEW MEXICO

SYSTEM MECHANICAL COMPLETION
CARE, CUSTODY & CONTROL
TRANSFER DOCUMENT

DATE: 10/22/98

TEXACO
NORTH AMERICA PRODUCTION
BUCKEYE CO_2 PROJECT
LEA COUNTY, NEW MEXICO

Attention: AL ERWIN

Subject: SYSTEM CARE, CUSTODY & CONTROL TRANSFER

Gentlemen:

With the completion of the SYSTEM FINAL PUNCH LIST ITEMS for the OPEN DRAIN System, and with all *Exception Items* identified on the attached *Esception Items List,* ABB Randall Construction Management hereby transfers the CARE, CUSTODY & CONTROL of the OPEN DRAIN System to TEXACO, NORTH AMERICA PRODUCTION.

Acceptance of CARE, CUSTODY & CONTORL means that TEXACO, NORTH AMERICA PRODUCTION accepts the System to be MECHANICALLY COMPLETE except for the items listed on the APPROVED "*Exception Items List*", and the System has passed the Process System Safety Revies (PSSR). This allows TEXACO, NORTH AMERICA PRODUCTION to proceed with the Commissioning and Startup of the above noted System.

Please sign and retain one (1) copy for your records and return the ORIGINAL signed copy to the ABB Randall Project Manager.

ABB Randall Corporation
Project Manager

Date: 10/22/98

Texaco, North America Production
Project Manager

Date: 10/23/98

ABB Randall Corporation

10255 Richmond
Houston, Texas 77042
Post Office Box 420087
Houston, Texas 77242-0087

Telephone (713) 735-6800
Fax (713) 735-6599

Telex 76-2034

Randall

PRESSURE TEST

SYSTEM OPEN DRAIN

TEST NO. 015

TEST DESCRIPTION ALL OPEN DRAIN PIPING

EQUIPMENT [redacted] PROCESS SUMP [redacted]

TEST BOUNDARIES SEE SYSTEM P&ID'S. ALL OPEN DRAIN PIPE FROM DRUGS IN DRAIN HUBS TO PROCESS SUMP

TEST MEDIUM AIR
TEST PRESSURE 5#
NO. OF GAUGES 2
GAUGE CAL. DATE N/A
TIME HELD 1 HR
CHART NO. N/A

COMMENTS SUMP PUMP REMOVED FOR TEST

ABBR QC

NAME LANCE COATS
SIGNATURE Lance Coats
DATE 10-22-98

CLIENT ALLEN T. WALKER

NAME Allen T Walker
SIGNATURE
DATE 10-22-98

ABB
ASEA BROWN BOVERI

TEXACO
NORTH AMERICA PRODUCTION
BUCKEYE CO_2 PROJECT
LEA COUNTY, NEW MEXICO

SYSTEM MECHANICAL COMPLETION
CARE, CUSTODY & CONTROL
TRANSFER DOCUMENT

DATE: _____

TEXACO
NORTH AMERICA PRODUCTION
BUCKEYE CO_2 PROJECT
LEA COUNTY, NEW MEXICO

Attention: AL ERWIN

Subject: SYSTEM CARE, CUSTODY & CONTROL TRANSFER

Gentlemen:

With the completion of the SYSTEM FINAL PUNCH LIST ITEMS for the FLARE & CLOSED DRAIN System, and with all *Exception Items* identified on the attached *Esception Items List,* ABB Randall Construction Management hereby transfers the CARE, CUSTODY & CONTROL of the FLARE & CLOSED DRAIN System to TEXACO, NORTH AMERICA PRODUCTION.

Acceptance of CARE, CUSTODY & CONTORL means that TEXACO, NORTH AMERICA PRODUCTION accepts the System to be MECHANICALLY COMPLETE except for the items listed on the APPROVED "*Exception Items List*", and the System has passed the Process System Safety Revies (PSSR). This allows TEXACO, NORTH AMERICA PRODUCTION to proceed with the Commissioning and Startup of the above noted System.

Please sign and retain one (1) copy for your records and return the ORIGINAL signed copy to the ABB Randall Project Manager.

Jerry Whittle
ABB Randall Corporation
Project Manager

Date: 10-23-98

Texaco, North America Production
Project Manager

Date: 10/23/98

RELEASE FOR FINAL PUNCH

CLIENT TEXACO

PROJECT BUCKEYE CO_2 PROJECT NO. 80170

SYSTEM TWO PHASE INLET GAS AND METERING

THE ABOVE MENTIONED SYSTEM HAS BEEN TESTED AND COMPLETED BY CONSTRUCTION AND IS NOW READY FOR FINAL PUNCH BY TEXACO FOR TURNOVER.

CONSTRUCTION SUPERVISOR

NAME Jerry Whitlow TITLE Assit. Const. Mgr.

SIGNATURE Jerry Whitlow DATE 10/10/98

ABB RANDALL QC

NAME LANCE COATS

SIGNATURE Lance Coats

DATE 10-10-98

CLIENT

NAME ALLEN T. WALKER

SIGNATURE Allen T. Walker

DATE 10-12-98

RELEASE FOR FINAL PUNCH

CLIENT TEXACO

PROJECT BUCKEYE CO_2 PROJECT NO. 80170

SYSTEM CLOSED DRAIN PHASE I

THE ABOVE MENTIONED SYSTEM HAS BEEN TESTED AND COMPLETED BY CONSTRUCTION AND IS NOW READY FOR FINAL PUNCH BY TEXACO FOR TURNOVER.

CONSTRUCTION SUPERVISOR

NAME Jerry Whitlow TITLE Ass't. Const. Mgr.

SIGNATURE Jerry Whitlow DATE 10/7/98.

ABB RANDALL QC

NAME LANCE COATS

SIGNATURE Lance Coats

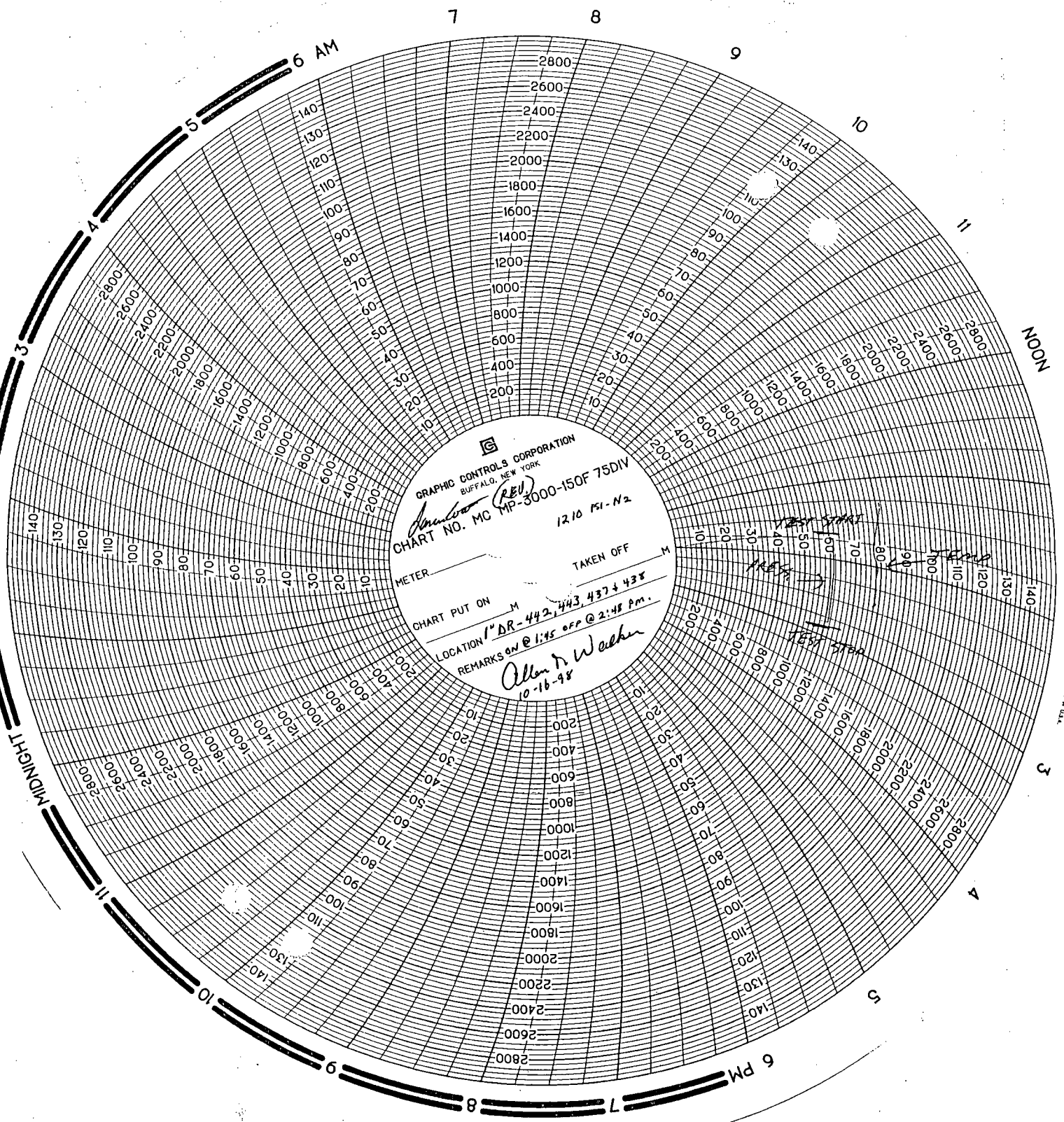
DATE 10-7-98

CLIENT

NAME D. L. Elliott

SIGNATURE

DATE 10/8/98


GRAPHIC CONTROLS CORPORATION
BUFFALO, NEW YORK
CHART NO. MC MP-3000-150F 75DIV
(REV)
1210 PSI-N2
METER
TAKEN OFF M
CHART PUT ON M
LOCATION 1" ΔR-442, 443, 437 & 438
REMARKS on @ 1:45 off @ 2:45 pm.
10-16-98
TEST START
TEST STEP
6 AM
NOON
6 PM
MIDNIGHT

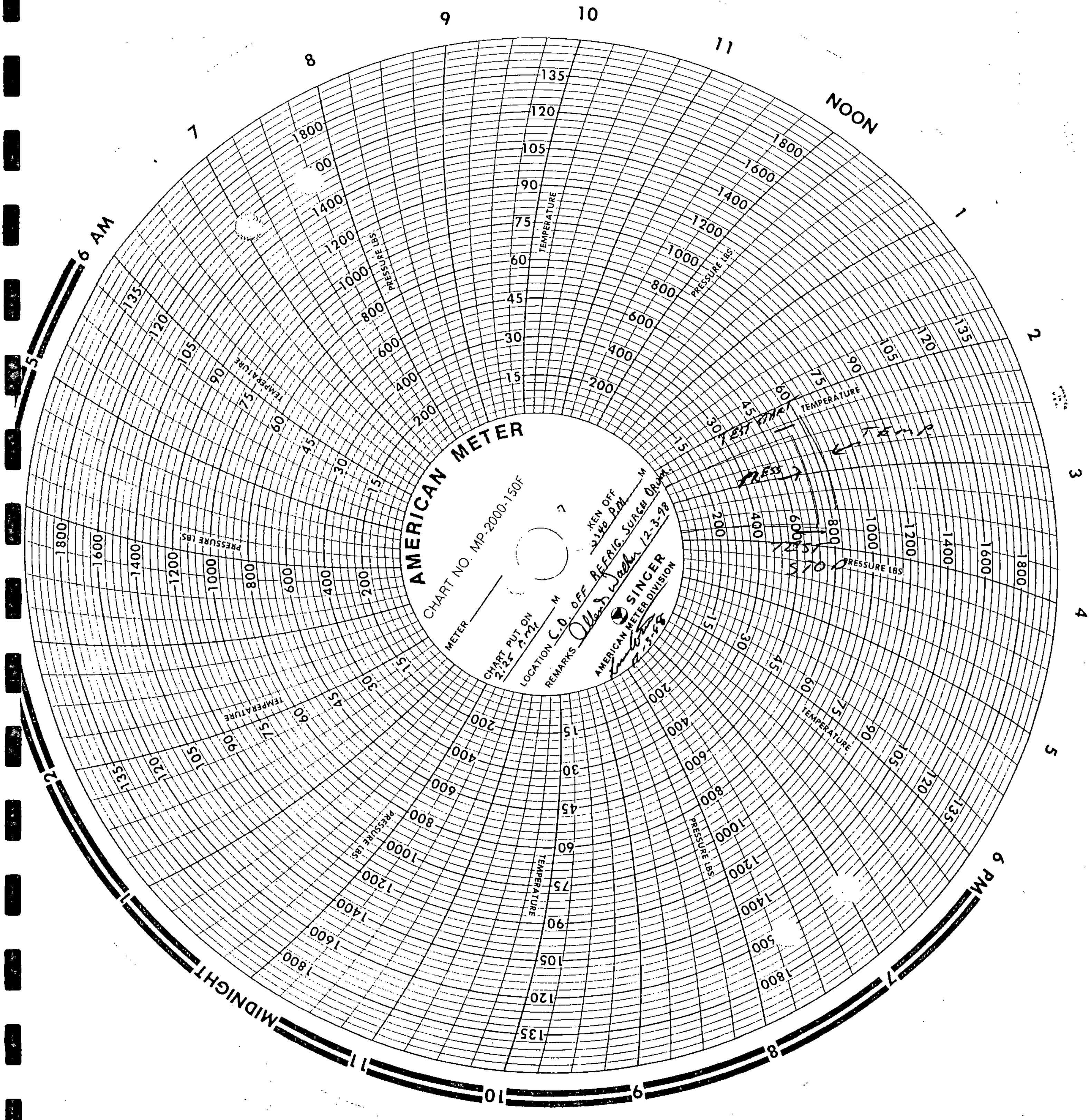

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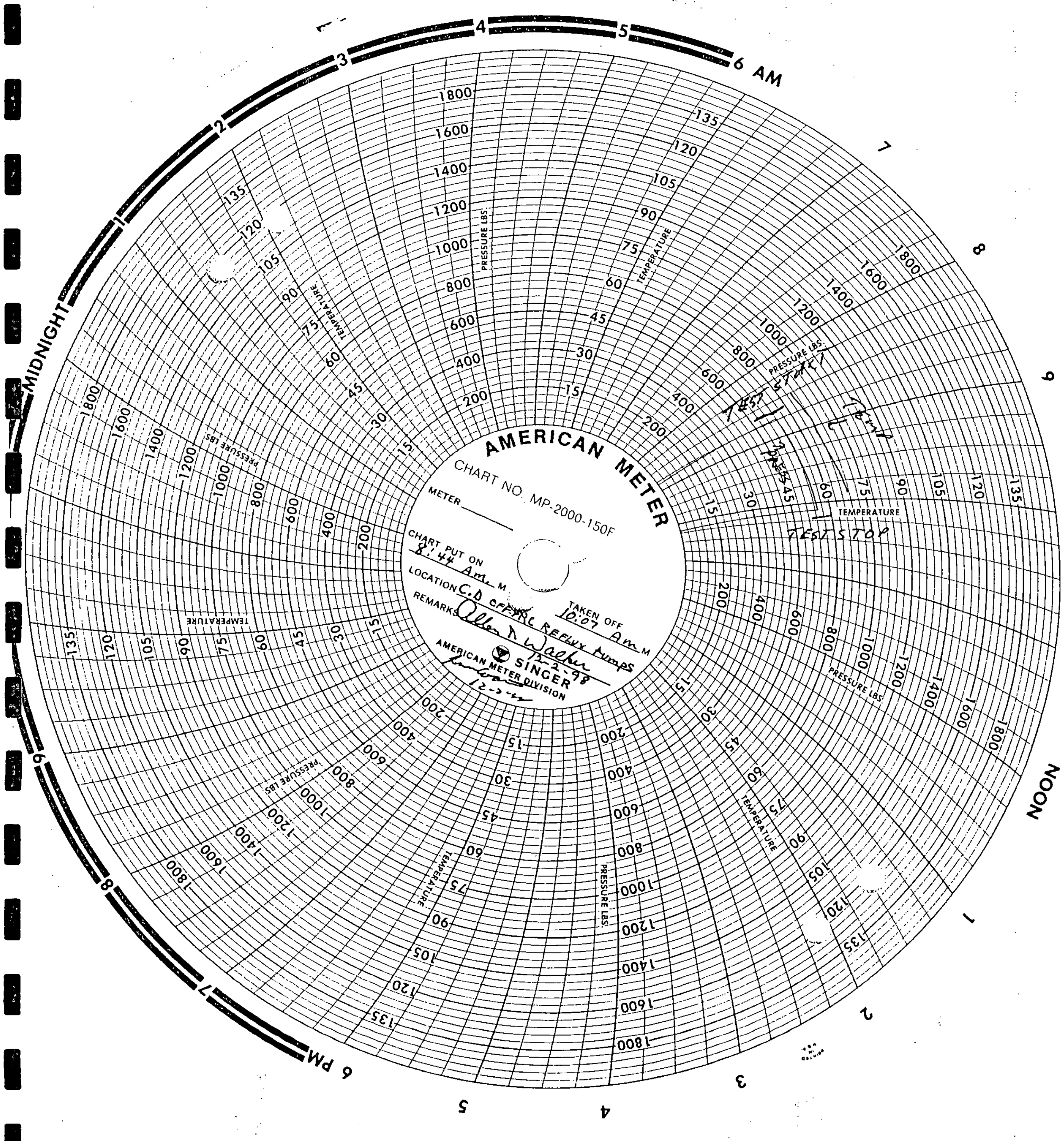
CHART NO. MP-2000-150F
METER
CHART PUT ON 2:25 P.M. M
KEN OFF 3:40 PM M
LOCATION C.D. OFF REFRIG. SURGE DRUM
REMARKS 12-3-98
SINGER
AMERICAN METER DIVISION
TEST START
PRESS
TEMP
TEST STOP
TEMPERATURE
PRESSURE LBS.
6 AM
NOON
6 PM
MIDNIGHT


AMERICAN METER
CHART NO. MP-2000-150F
METER
CHART PUT ON 8:44 Am M
TAKEN OFF 10:07 Am M
LOCATION C.D OFFICE REFLUX PUMPS
REMARKS Allen D. Walker 12-2-98
SINGER
AMERICAN METER DIVISION
TEST START
TEST STOP
PRESSURE LBS.
TEMPERATURE
MIDNIGHT
6 AM
NOON
6 PM

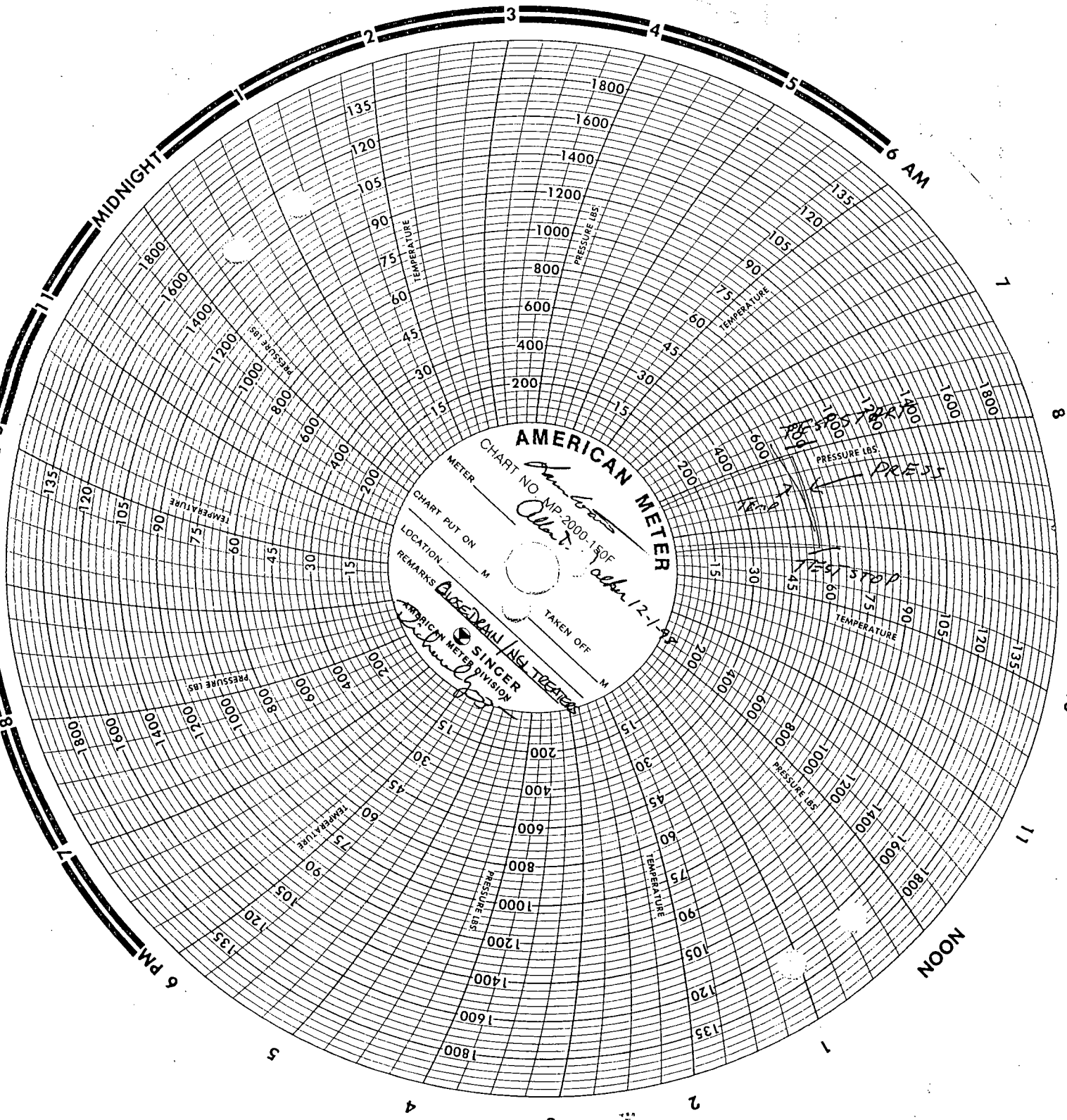

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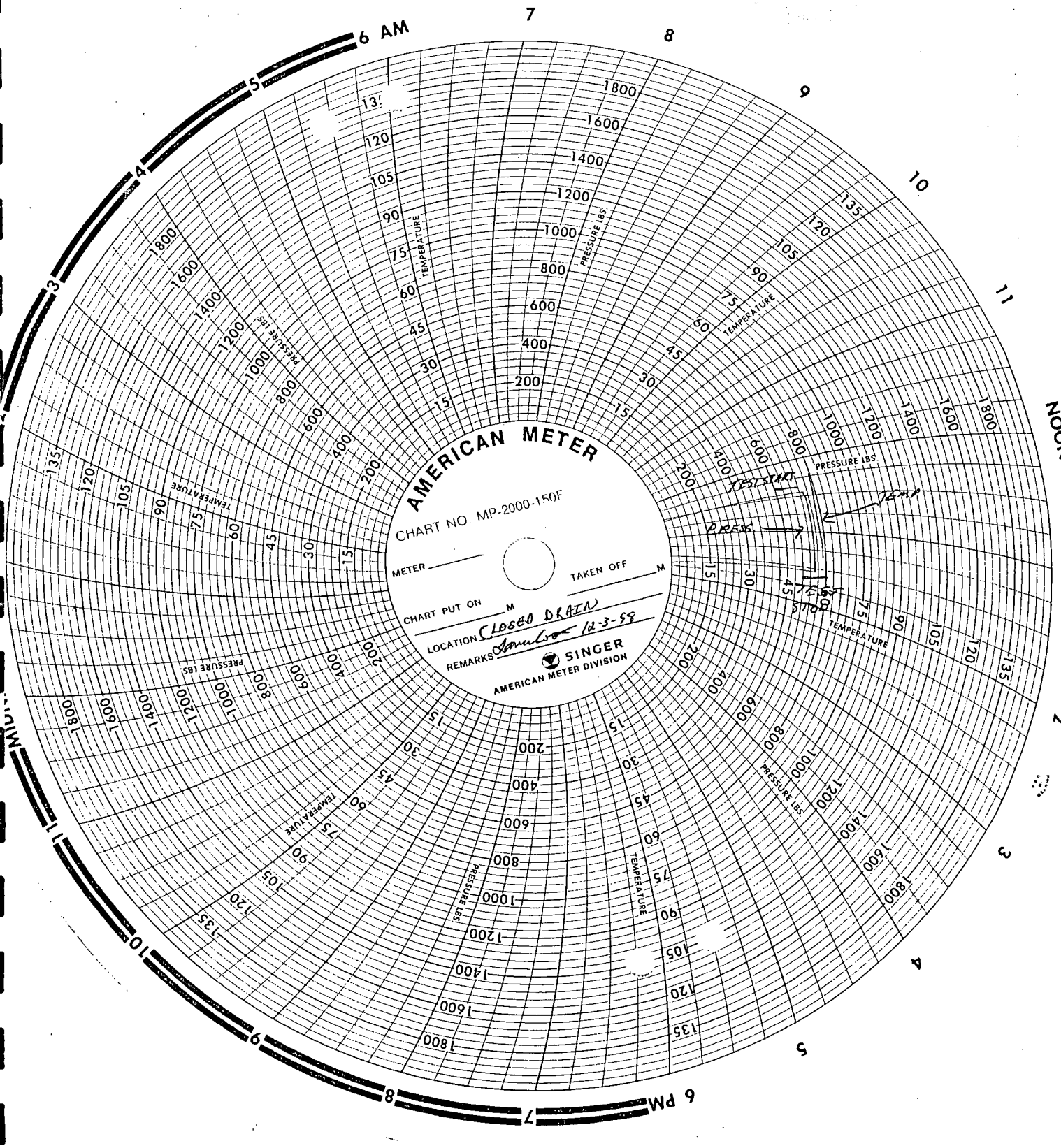
CHART NO. MP 2000-150F
METER
CHART PUT ON
LOCATION
REMARKS
TAKEN OFF
M
SINGER
AMERICAN METER DIVISION
MIDNIGHT
6 AM
NOON
6 PM
PRESSURE LBS.
TEMPERATURE
1800
1600
1400
1200
1000
800
600
400
200
135
120
105
90
75
60
45
30
15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METER
TAKEN OFF
M
CHART PUT ON
M
LOCATION CLOSED DRAIN
REMARKS 12-3-59
SINGER
AMERICAN METER DIVISION
6 AM
NOON
6 PM
MIDNIGHT
PRESSURE LBS
TEMPERATURE
TEST START
TEMP
PRESS

MIDNIGHT
NOON
AMERICAN METER
CHART NO. MP-2000-150F
METER
CHART PUT ON
LOCATION
REMARKS
TAKEN OFF
SINGER
AMERICAN METER DIVISION
PRESSURE LBS.
TEMPERATURE

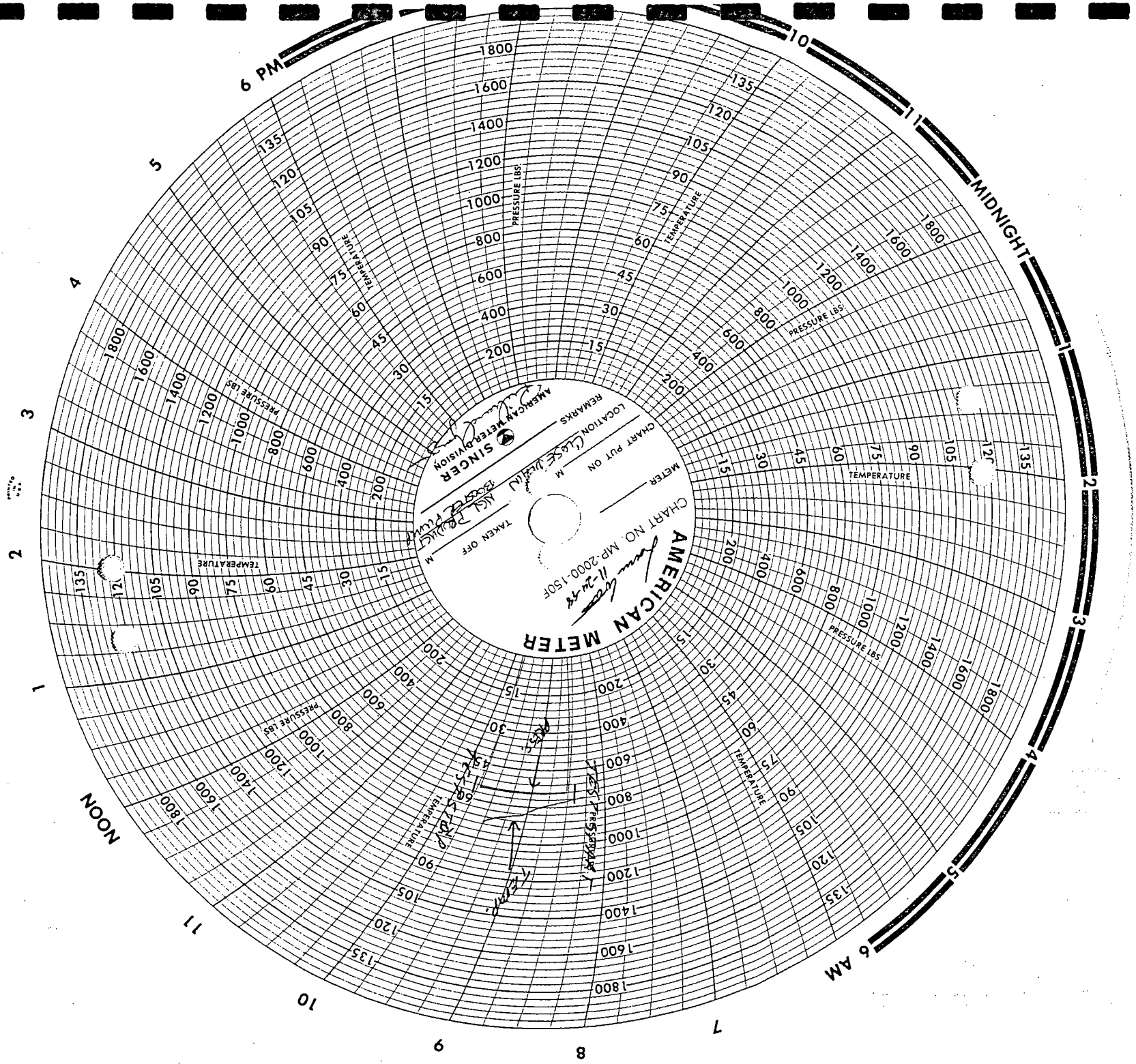
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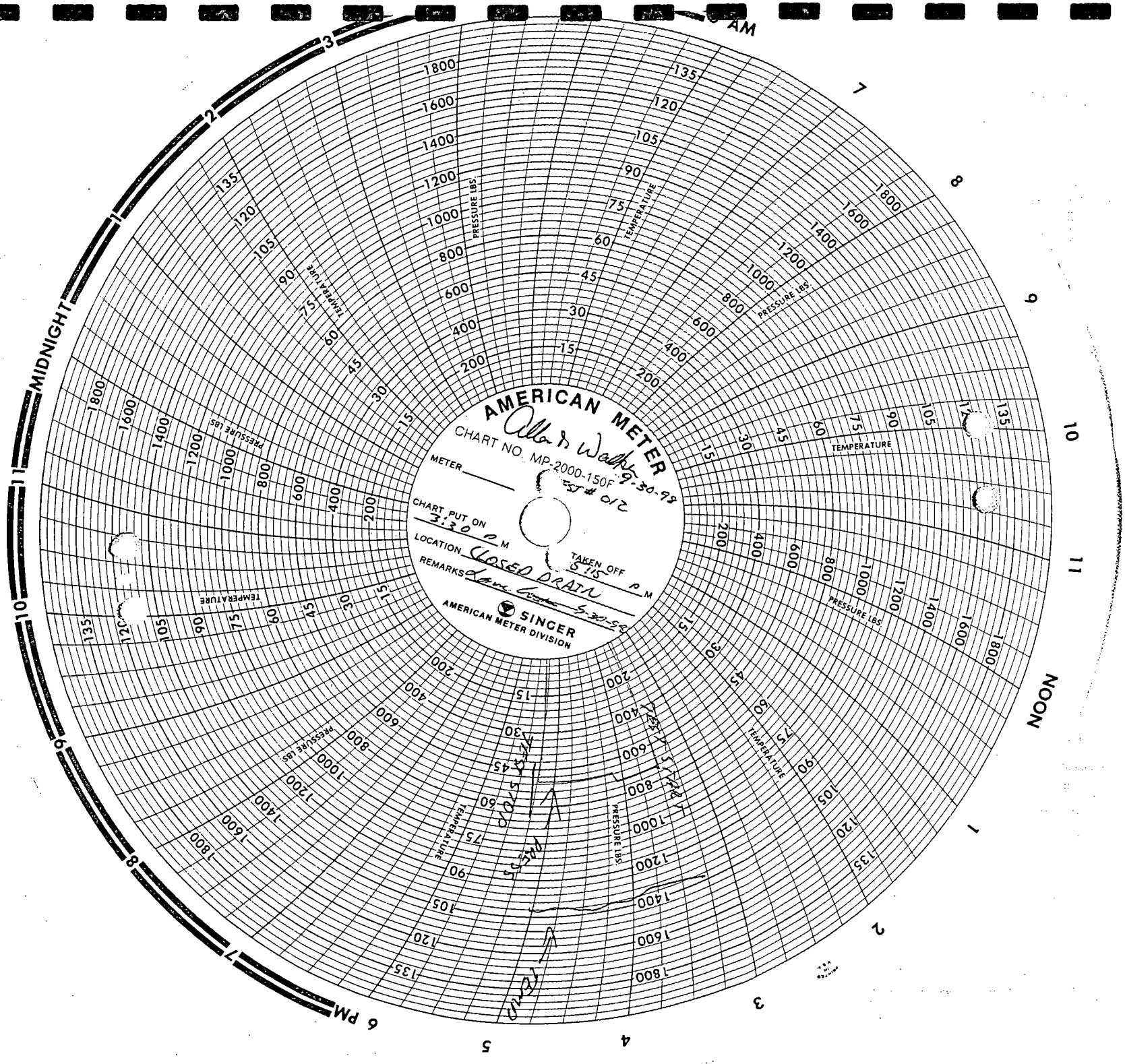
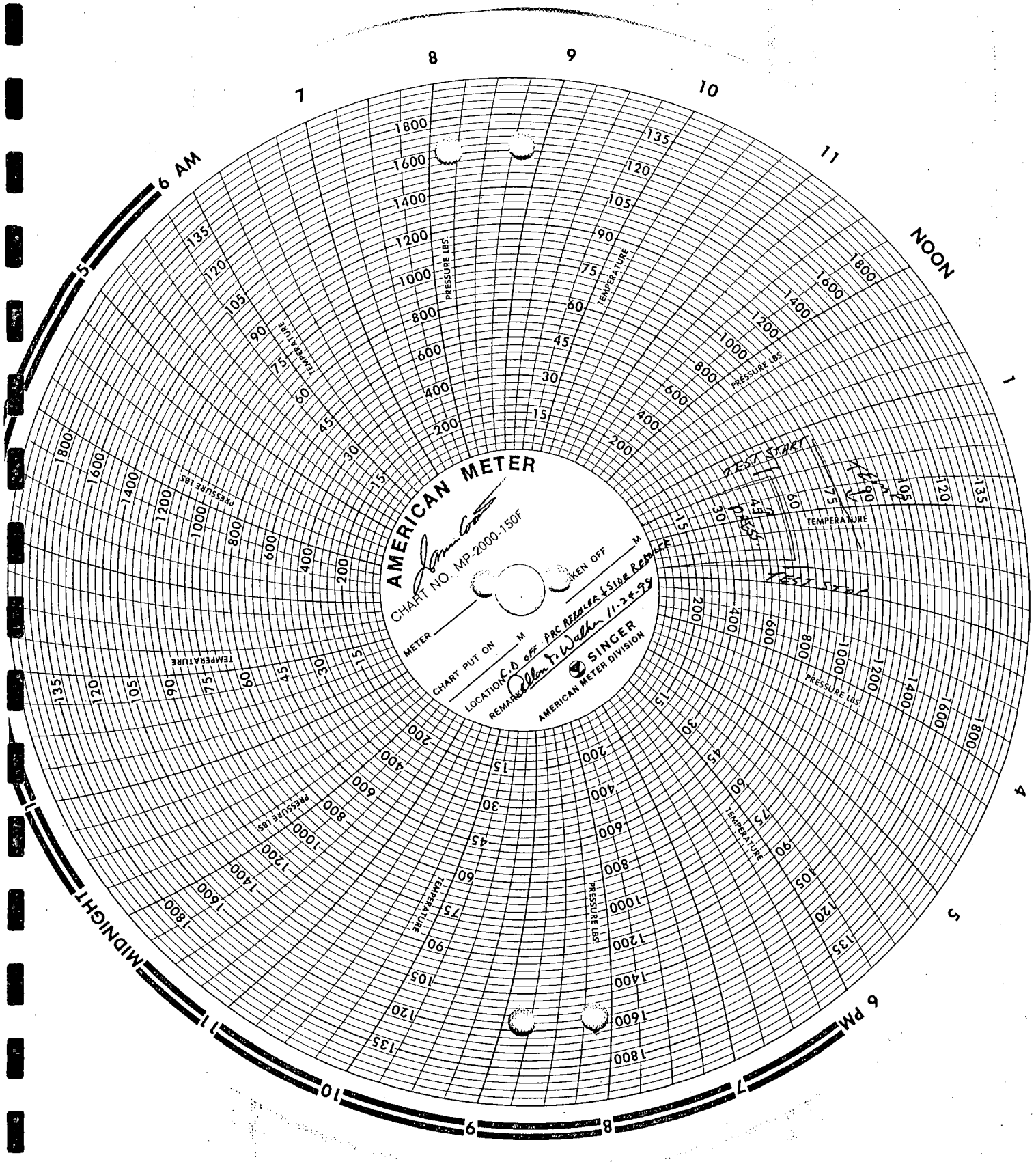
CHART NO. MP-2000-150F
SINGER
AMERICAN METER DIVISION
METER
CHART PUT ON
LOCATION
REMARKS
TAKEN OFF
PRESSURE LBS
TEMPERATURE
MIDNIGHT
6 AM
NOON
6 PM


AM
NOON
MIDNIGHT
6 PM
AMERICAN METER
CHART NO. MP-2000-150F
METER
CHART PUT ON
3:30 P M
LOCATION
TAKEN OFF
5:15 P M
REMARKS
SINGER
AMERICAN METER DIVISION
PRESSURE LBS.
TEMPERATURE


AMERICAN METER
CHART NO. MP-2000-150F
METER
TAKEN OFF
CHART PUT ON
LOCATION C.O. off PRC REGULATOR STATION
REMARKS Dallas J. Walker 11-24-98
SINGER
AMERICAN METER DIVISION
TEST START
TEST END
PRESS.
TEMPERATURE
PRESSURE LBS
NOON
6 PM
MIDNIGHT
6 AM

NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

BILL RICHARDSON
Governor
Joanna Prukop
Cabinet Secretary

Mark E. Fesmire, P.E.
Director
Oil Conservation Division

January 27, 2005

Jesse Navarrette
Chevron/Texaco U.S.A. Inc.
HCR 60, Box 425
Lovington, New Mexico 88260

RE: Buckeye CO2 Gas Processing Plant
Discharge Permit GW-312

Dear Mr. Jesse Navarrette:

The ground water discharge permit GW-312 for the Chevron/Texaco U.S.A. Inc. Buckeye CO2 Gas Processing Plant located in the Southeast Quarter of Section 36, Township 17 South, Range 34 East, NMPM, Lea County, New Mexico, is hereby approved under the conditions contained in the enclosed attachment. The discharge permit consists of the application dated January 15, 1999, and the attached discharge permit approval conditions. **Please sign and return one copy to the New Mexico Oil Conservation Division (OCD) Santa Fe Office within 30 working days of receipt of this letter.**

The discharge permit was submitted pursuant to Section 3106 of the New Mexico Water Quality Control Commission (WQCC) Regulations. It is approved pursuant to Section 3109.A. Please note Sections 3109.E and 3109.F, which provide for possible future amendments or modifications of the permit. Please be advised that approval of this permit does not relieve Chevron/Texaco U.S.A. Inc. of liability should operations result in pollution of surface water, ground water, or the environment.

Please be advised that all exposed pits, including lined pits and open tanks (tanks exceeding 16 feet in diameter), shall be screened, netted, or otherwise rendered nonhazardous to wildlife including migratory birds.

Please note that Section 3104 of the regulations provides: "When a facility has been approved, discharges must be consistent with the terms and conditions of the permit." Pursuant to Section 3107.C., Chevron/Texaco U.S.A. Inc. is required to notify the Director of any facility expansion, production increase, or process modification that would result in any change in the discharge of water quality or volume.

Pursuant to Section 3109.G.4., this permit is for a period of five years. This approval will expire on April 19, 2009 and Chevron/Texaco U.S.A. Inc. should submit an application in ample time before this date. Note that under Section 3106.F. of the regulations, if a discharger submits a discharge permit renewal application at least 120 days before the discharge permit expires and is in compliance with the approved permit, then the existing discharge permit will not expire until the application for renewal has been approved or disapproved. It should be noted that all discharge permit facilities will be required to submit the results of an underground drainage testing program as a requirement for discharge permit renewal.

The discharge permit application for the Chevron/Texaco U.S.A., Inc. facility is subject to WQCC Regulation 3114 discharge permit fees. Every billable facility submitting a discharge permit will be assessed a fee equal to the filing fee of $100 plus a flat fee of $4000.00 for Gas Processing Permitts. The OCD has received the filing fee. The flat fee may be paid in a single payment due on the date of the discharge permit approval or in five equal installments over the expected duration of the discharge permit. Installment payments shall be remitted yearly, with the first installment due on the date of the discharge permit approval.

Please make all checks payable to: Water Quality Management Fund
C/o: Oil Conservation Division
1220 South Saint Francis Drive
Santa Fe, New Mexico 87505.

If you have any questions, please contact Wayne Price of my staff at (505-476-3487) or E-mail wprice@state.nm.us. On behalf of the staff of the OCD, I wish to thank you and your staff for your cooperation during this discharge permit review.

Sincerely,

Roger C. Anderson
Environmental Bureau Chief
RCA/lwp
Attachment-1
xc: OCD Hobbs Office

ATTACHMENT TO THE DISCHARGE PERMIT GW-312
Chevron/Texaco U.S.A. Inc. Buckeye CO2 Gas Processing Plant
located in SE/4 Sec 36-Ts17S-R34E
Lea County, New Mexico
DISCHARGE PERMIT APPROVAL CONDITIONS
(January 27, 2005)

1. Payment of Discharge Permit Fees: The $100.00 filing fee has been submitted, please submit the $4000.00 required flat fee, which may be paid in a single payment due at the time of approval, or in equal annual installments over the duration of the permit, with the first payment due upon receipt of this approval.

2. Commitments: Chevron/Texaco U.S.A. Inc. will abide by all commitments submitted in the discharge permit application dated August 26, 2004 and all previous submittals.

3. Waste Disposal: All wastes will be disposed of at an OCD approved facility. Only oilfield exempt wastes shall be disposed of down Class II injection wells. Non-exempt oilfield wastes that are non-hazardous may be disposed of at an OCD approved facility upon proper waste determination per 40 CFR Part 261. Any waste stream that is not listed in the discharge will be approved by OCD on a case-by-case basis.

   Rule 712 Waste: Pursuant to Rule 712, disposal of certain non-domestic waste is allowed at solid waste facilities permitted by the New Mexico Environment Department as long as thewaste stream is identified in the discharge, and existing process knowledge of the waste stream does not change without notification to the Oil Conservation Division

4. Drum Storage: All drums containing materials other than fresh water must be stored on an impermeable pad with curbing. All empty drums will be stored on their sides with the bungs in and lined up on a horizontal permite. Chemicals in other containers such as sacks or buckets will also be stored on an impermeable pad and curb type containment.

5. Process Areas: All process and maintenance areas which show evidence that leaks and spills are reaching the ground surface must be either paved and curbed or have some type of spill collection device incorporated into the design.

6. Above Ground Tanks: All above ground tanks which contain fluids other than fresh water must be bermed to contain a volume of one-third more than the total volume of the largest tank or of all interconnected tanks. All new tanks or existing tanks that undergo a major modification, as determined by the Division, must be placed within an impermeable bermed enclosure.

7. Above Ground Saddle Tanks: Above ground saddle tanks must have impermeable pad and curb type containment unless they contain fresh water or fluids that are gases at atmospheric temperature and pressure.

8. Labeling: All tanks, drums and containers will be clearly labeled to identify their contents and other emergency notification information.

9. Below Grade Tanks/Sumps: All below grade tanks, sumps, and pits must be approved by the OCD prior to installation or upon modification and must incorporate secondary containment and leak-detection into the design. All pre-existing sumps and below-grade tanks must demonstrate integrity on an annual basis. Integrity tests include pressure testing to 3 pounds per square inch above normal operating pressure and/or visual inspection of cleaned out tanks and/or sumps, or other OCD approved methods. The OCD will be notified at least 72 hours prior to all testing.

10. Underground Process/Wastewater Lines: All underground process/wastewater pipelines must be tested to demonstrate their mechanical integrity at present and then every 5 years thereafter, or prior to discharge permit renewal. Permittees may propose various methods for testing such as pressure testing to 3 pounds per square inch above normal operating pressure or other means acceptable to the OCD. The OCD will be notified at least 72 hours prior to all testing.

11. Class V Wells: Leach fields and other wastewater disposal systems at OCD regulated facilities which inject non-hazardous fluid into or above an underground source of drinking water are considered Class V injection wells under the EPA UIC program. All Class V wells that inject non-hazardous industrial wastes or a mixture of industrial wastes and domestic wastes will be closed unless it can be demonstrated that groundwater will not be impacted in the reasonably foreseeable future. Closure of Class V wells must be in accordance with a permit approved by the Division's Santa Fe Office. The OCD allows industry to submit closure permits which are protective of human health, the environment and groundwater as defined by the WQCC, and are cost effective. Class V wells that inject domestic waste only must be permitted by the New Mexico Environment Department.

12. Housekeeping: All systems designed for spill collection/prevention will be inspected weekly and after each storm event to ensure proper operation and to prevent overtopping or system failure. A record of inspections will be retained on site for a period of five years.

13. Spill Reporting: All spills/releases will be reported pursuant to OCD Rule 116 and WQCC 1203 to the OCD Hobbs District Office.

14. Transfer of Discharge Permit: The OCD will be notified prior to any transfer of ownership, control, or possession of a facility with an approved discharge permit. A written commitment to comply with the terms and conditions of the previously approved discharge permit must be submitted by the purchaser and approved by the OCD prior to transfer.

15. Closure: The OCD will be notified when operations of the facility are discontinued for a period in excess of six months. Prior to closure of the facility a closure permit will be submitted for approval by the Director. Closure and waste disposal will be in accordance with the statutes, rules and regulations in effect at the time of closure.

16. Certification: Chevron/Texaco U.S.A. Inc. by the officer whose signature appears below, accepts this permit and agrees to comply with all terms and conditions contained herein and further acknowledges that these conditions and requirements of this permit may be changed administratively by the Division for good cause shown as necessary to protect fresh water, human health and the environment.

Accepted:

Chevron/Texaco U.S.A. Inc.

Print Name: G M FLANIKEN

Signature: G M Flaniken

Title: GM Asset Development

Date: March 2, 2005

NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

BILL RICHARDSON
Governor
Joanna Prukop
Cabinet Secretary

Mark E. Fesmire, P.E.
Director
Oil Conservation Division

January 27, 2005

Jesse Navarrette
Chevron/Texaco U.S.A. Inc.
HCR 60, Box 425
Lovington, New Mexico 88260

RE: Buckeye CO2 Gas Processing Plant
Discharge Permit GW-312

Dear Mr. Jesse Navarrette:

The ground water discharge permit GW-312 for the Chevron/Texaco U.S.A. Inc. Buckeye CO2 Gas Processing Plant located in the Southeast Quarter of Section 36, Township 17 South, Range 34 East, NMPM, Lea County, New Mexico, is hereby approved under the conditions contained in the enclosed attachment. The discharge permit consists of the application dated January 15, 1999, and the attached discharge permit approval conditions. **Please sign and return one copy to the New Mexico Oil Conservation Division (OCD) Santa Fe Office within 30 working days of receipt of this letter.**

The discharge permit was submitted pursuant to Section 3106 of the New Mexico Water Quality Control Commission (WQCC) Regulations. It is approved pursuant to Section 3109.A. Please note Sections 3109.E and 3109.F, which provide for possible future amendments or modifications of the permit. Please be advised that approval of this permit does not relieve Chevron/Texaco U.S.A. Inc. of liability should operations result in pollution of surface water, ground water, or the environment.

Please be advised that all exposed pits, including lined pits and open tanks (tanks exceeding 16 feet in diameter), shall be screened, netted, or otherwise rendered nonhazardous to wildlife including migratory birds.

Please note that Section 3104 of the regulations provides: "When a facility has been approved, discharges must be consistent with the terms and conditions of the permit." Pursuant to Section 3107.C., Chevron/Texaco U.S.A. Inc. is required to notify the Director of any facility expansion, production increase, or process modification that would result in any change in the discharge of water quality or volume.

Pursuant to Section 3109.G.4., this permit is for a period of five years. This approval will expire on April 19, 2009 and Chevron/Texaco U.S.A. Inc. should submit an application in ample time before this date. Note that under Section 3106.F. of the regulations, if a discharger submits a discharge permit renewal application at least 120 days before the discharge permit expires and is in compliance with the approved permit, then the existing discharge permit will not expire until the application for renewal has been approved or disapproved. It should be noted that all discharge permit facilities will be required to submit the results of an underground drainage testing program as a requirement for discharge permit renewal.

The discharge permit application for the Chevron/Texaco U.S.A., Inc. facility is subject to WQCC Regulation 3114 discharge permit fees. Every billable facility submitting a discharge permit will be assessed a fee equal to the filing fee of $100 plus a flat fee of $4000.00 for Gas Processing Permitts. The OCD has received the filing fee. The flat fee may be paid in a single payment due on the date of the discharge permit approval or in five equal installments over the expected duration of the discharge permit. Installment payments shall be remitted yearly, with the first installment due on the date of the discharge permit approval.

Please make all checks payable to: Water Quality Management Fund
C/o: Oil Conservation Division
1220 South Saint Francis Drive
Santa Fe, New Mexico 87505.

If you have any questions, please contact Wayne Price of my staff at (505-476-3487) or E-mail wprice@state.nm.us. On behalf of the staff of the OCD, I wish to thank you and your staff for your cooperation during this discharge permit review.

Sincerely,

Roger C. Anderson
Environmental Bureau Chief
RCA/lwp
Attachment-1
xc: OCD Hobbs Office

ATTACHMENT TO THE DISCHARGE PERMIT GW-312
Chevron/Texaco U.S.A. Inc. Buckeye CO2 Gas Processing Plant
located in SE/4 Sec 36-Ts17S-R34E
Lea County, New Mexico
DISCHARGE PERMIT APPROVAL CONDITIONS
(January 27, 2005)

1. Payment of Discharge Permit Fees: The $100.00 filing fee has been submitted, please submit the $4000.00 required flat fee, which may be paid in a single payment due at the time of approval, or in equal annual installments over the duration of the permit, with the first payment due upon receipt of this approval.

2. Commitments: Chevron/Texaco U.S.A. Inc. will abide by all commitments submitted in the discharge permit application dated August 26, 2004 and all previous submittals.

3. Waste Disposal: All wastes will be disposed of at an OCD approved facility. Only oilfield exempt wastes shall be disposed of down Class II injection wells. Non-exempt oilfield wastes that are non-hazardous may be disposed of at an OCD approved facility upon proper waste determination per 40 CFR Part 261. Any waste stream that is not listed in the discharge will be approved by OCD on a case-by-case basis.

   Rule 712 Waste: Pursuant to Rule 712, disposal of certain non-domestic waste is allowed at solid waste facilities permitted by the New Mexico Environment Department as long as thewaste stream is identified in the discharge, and existing process knowledge of the waste stream does not change without notification to the Oil Conservation Division

4. Drum Storage: All drums containing materials other than fresh water must be stored on an impermeable pad with curbing. All empty drums will be stored on their sides with the bungs in and lined up on a horizontal permite. Chemicals in other containers such as sacks or buckets will also be stored on an impermeable pad and curb type containment.

5. Process Areas: All process and maintenance areas which show evidence that leaks and spills are reaching the ground surface must be either paved and curbed or have some type of spill collection device incorporated into the design.

6. Above Ground Tanks: All above ground tanks which contain fluids other than fresh water must be bermed to contain a volume of one-third more than the total volume of the largest tank or of all interconnected tanks. All new tanks or existing tanks that undergo a major modification, as determined by the Division, must be placed within an impermeable bermed enclosure.

7. Above Ground Saddle Tanks: Above ground saddle tanks must have impermeable pad and curb type containment unless they contain fresh water or fluids that are gases at atmospheric temperature and pressure.

8. Labeling: All tanks, drums and containers will be clearly labeled to identify their contents and other emergency notification information.

9. Below Grade Tanks/Sumps: All below grade tanks, sumps, and pits must be approved by the OCD prior to installation or upon modification and must incorporate secondary containment and leak-detection into the design. All pre-existing sumps and below-grade tanks must demonstrate integrity on an annual basis. Integrity tests include pressure testing to 3 pounds per square inch above normal operating pressure and/or visual inspection of cleaned out tanks and/or sumps, or other OCD approved methods. The OCD will be notified at least 72 hours prior to all testing.

10. Underground Process/Wastewater Lines: All underground process/wastewater pipelines must be tested to demonstrate their mechanical integrity at present and then every 5 years thereafter, or prior to discharge permit renewal. Permittees may propose various methods for testing such as pressure testing to 3 pounds per square inch above normal operating pressure or other means acceptable to the OCD. The OCD will be notified at least 72 hours prior to all testing.

11. Class V Wells: Leach fields and other wastewater disposal systems at OCD regulated facilities which inject non-hazardous fluid into or above an underground source of drinking water are considered Class V injection wells under the EPA UIC program. All Class V wells that inject non-hazardous industrial wastes or a mixture of industrial wastes and domestic wastes will be closed unless it can be demonstrated that groundwater will not be impacted in the reasonably foreseeable future. Closure of Class V wells must be in accordance with a permit approved by the Division's Santa Fe Office. The OCD allows industry to submit closure permits which are protective of human health, the environment and groundwater as defined by the WQCC, and are cost effective. Class V wells that inject domestic waste only must be permitted by the New Mexico Environment Department.

12. Housekeeping: All systems designed for spill collection/prevention will be inspected weekly and after each storm event to ensure proper operation and to prevent overtopping or system failure. A record of inspections will be retained on site for a period of five years.

13. Spill Reporting: All spills/releases will be reported pursuant to OCD Rule 116 and WQCC 1203 to the OCD Hobbs District Office.

14. Transfer of Discharge Permit: The OCD will be notified prior to any transfer of ownership, control, or possession of a facility with an approved discharge permit. A written commitment to comply with the terms and conditions of the previously approved discharge permit must be submitted by the purchaser and approved by the OCD prior to transfer.

15. Closure: The OCD will be notified when operations of the facility are discontinued for a period in excess of six months. Prior to closure of the facility a closure permit will be submitted for approval by the Director. Closure and waste disposal will be in accordance with the statutes, rules and regulations in effect at the time of closure.

16. Certification: Chevron/Texaco U.S.A. Inc. by the officer whose signature appears below, accepts this permit and agrees to comply with all terms and conditions contained herein and further acknowledges that these conditions and requirements of this permit may be changed administratively by the Division for good cause shown as necessary to protect fresh water, human health and the environment.

Accepted:

Chevron/Texaco U.S.A. Inc.

Print Name:_____

Signature: _____

Title: _____

Date:_____

ATTACHMENT TO THE DISCHARGE PLAN GW-312
Texaco Exploration and Production, Inc. Buckeye CO2 Gas Processing Plant
located in SE/4 Sec 36-Ts17S-R34E
Lea County, New Mexico
DISCHARGE PLAN APPROVAL CONDITIONS
(April 19, 1999)

1. Payment of Discharge Plan Fees: The $50.00 filing fee has not been submitted, please submit along with the **$3335** required flat fee, which may be paid in a single payment due at the time of approval, or in equal annual installments over the duration of the plan, with the first payment due upon receipt of this approval.

2. Commitments: **Texaco Exploration and Production, Inc.** will abide by all commitments submitted in the discharge plan application dated January 15, 1999.

3. Waste Disposal: All wastes will be disposed of at an OCD approved facility. Only oilfield exempt wastes shall be disposed of down Class II injection wells. Non-exempt oilfield wastes that are non-hazardous may be disposed of at an OCD approved facility upon proper waste characterization per 40 CFR Part 261.

4. Drum Storage: All drums containing materials other than fresh water must be stored on an impermeable pad with curbing. All empty drums will be stored on their sides with the bungs in and lined up on a horizontal plane. Chemicals in other containers such as sacks or buckets will also be stored on an impermeable pad and curb type containment.

5. Process Areas: All process and maintenance areas which show evidence that leaks and spills are reaching the ground surface must be either paved and curbed or have some type of spill collection device incorporated into the design.

6. Above Ground Tanks: All above ground tanks which contain fluids other than fresh water must be bermed to contain a volume of one-third more than the total volume of the largest tank or of all interconnected tanks. All new tanks or existing tanks that undergo a major modification, as determined by the Division, must be placed within an impermeable bermed enclosure.

7. Above Ground Saddle Tanks: Above ground saddle tanks must have impermeable pad and curb type containment unless they contain fresh water or fluids that are gases at atmospheric temperature and pressure.

8. Labeling: All tanks, drums and containers will be clearly labeled to identify their contents and other emergency notification information.

9. Below Grade Tanks/Sumps: All below grade tanks, sumps, and pits must be approved by the OCD prior to installation or upon modification and must incorporate secondary containment and leak-detection into the design. All pre-existing sumps and below-grade tanks must demonstrate integrity on an annual basis. Integrity tests include pressure testing to 3 pounds per square inch above normal operating pressure and/or visual inspection of cleaned out tanks and/or sumps, or other OCD approved methods. The OCD will be notified at least 72 hours prior to all testing.

10. Underground Process/Wastewater Lines: All underground process/wastewater pipelines must be tested to demonstrate their mechanical integrity at present and then every 5 years thereafter, or prior to discharge plan renewal. Permittees may propose various methods for testing such as pressure testing to 3 pounds per square inch above normal operating pressure or other means acceptable to the OCD. The OCD will be notified at least 72 hours prior to all testing.

11. Class V Wells: Leach fields and other wastewater disposal systems at OCD regulated facilities which inject non-hazardous fluid into or above an underground source of drinking water are considered Class V injection wells under the EPA UIC program. All Class V wells that inject non-hazardous industrial wastes or a mixture of industrial wastes and domestic wastes will be closed unless it can be demonstrated that groundwater will not be impacted in the reasonably foreseeable future. Closure of Class V wells must be in accordance with a plan approved by the Division's Santa Fe Office. The OCD allows industry to submit closure plans which are protective of human health, the environment and groundwater as defined by the WQCC, and are cost effective. Class V wells that inject domestic waste only must be permitted by the New Mexico Environment Department.

12. Housekeeping: All systems designed for spill collection/prevention will be inspected weekly and after each storm event to ensure proper operation and to prevent overtopping or system failure. A record of inspections will be retained on site for a period of five years.

13. Spill Reporting: All spills/releases will be reported pursuant to OCD Rule 116 and WQCC 1203 to the OCD **Hobbs** District Office.

14. Transfer of Discharge Plan: The OCD will be notified prior to any transfer of ownership, control, or possession of a facility with an approved discharge plan. A written commitment to comply with the terms and conditions of the previously approved discharge plan must be submitted by the purchaser and approved by the OCD prior to transfer.

15. Closure: The OCD will be notified when operations of the facility are discontinued for a period in excess of six months. Prior to closure of the facility a closure plan will be submitted for approval by the Director. Closure and waste disposal will be in accordance with the statutes, rules and regulations in effect at the time of closure.

16. Certification: **Texaco Exploration and Production, Inc.** by the officer whose signature appears below, accepts this permit and agrees to comply with all terms and conditions contained herein and further acknowledges that these conditions and requirements of this permit may be changed administratively by the Division for good cause shown as necessary to protect fresh water, human health and the environment.

Accepted:

Texaco Exploration and Production, Inc.

Print Name: BRYAN A. TUCKER

Signature: By A. Tucker

Title: COMPLEX MANAGER

Date: 5/3/99

GROUNDWATER DISCHARGE PLAN

TEXACO EXPLORATION AND PRODUCTION, INC.

BUCKEYE CO_2 PLANT

LEA COUNTY, NEW MEXICO

JANUARY 1999

Prepared by:
Highlander Environmental Corp.

District I - (505) 393-6161
P. O. Box 1980
Hobbs, NM 88241-1980
District II - (505) 748-1283
811 S. First
Artesia, NM 88210
District III - (505) 334-6178
1000 Rio Brazos Road
Aztec, NM 87410
District IV - (505) 827-7131

New Mexico
Energy Minerals and Natural Resources Department
Oil Conservation Division
2040 South Pacheco Street
Santa Fe, New Mexico 87505
(505) 827-7131

Revised 12/1/95

Submit Original
Plus 1 Copies
to Santa Fe
1 Copy to appropriate
District Office

DISCHARGE PLAN APPLICATION FOR SERVICE COMPANIES, GAS PLANTS, REFINERIES, COMPRESSOR, AND CRUDE OIL PUMP STATIONS

(Refer to the OCD Guidelines for assistance in completing the application)

[X] New [ ] Renewal [ ] Modification

1. Type: CO_2 Plant
2. Operator: Texaco Exploration and Production, Inc. / Buckeye Plant
   Address: HCR 60, Box 425, Lovington, NM 88260
   Contact Person: Jesse Navarrette Phone: (505) 396-4916 Ext. 136
3. Location: _____/4 _____/4 Section 36 Township 17 south Range 34 east
   Submit large scale topographic map showing exact location.
4. Attach the name, telephone number and address of the landowner of the facility site.
5. Attach the description of the facility with a diagram indicating location of fences, pits, dikes and tanks on the facility.
6. Attach a description of all materials stored or used at the facility.
7. Attach a description of present sources of effluent and waste solids. Average quality and daily volume of waste water must be included.
8. Attach a description of current liquid and solid waste collection/treatment/disposal procedures.
9. Attach a description of proposed modifications to existing collection/treatment/disposal systems.
10. Attach a routine inspection and maintenance plan to ensure permit compliance.
11. Attach a contingency plan for reporting and clean-up of spills or releases.
12. Attach geological/hydrological information for the facility. Depth to and quality of ground water must be included.
13. Attach a facility closure plan, and other information as is necessary to demonstrate compliance with any other OCD rules, regulations and/or orders.
14. CERTIFICATION

I herby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.

NAME: Bryan A. Tucker Title: Complex Manager

Signature: By A. Tucker Date: 1-15-98

I. General Information

A. Names of Operator or Legal Responsible Party and Local Representatives

Texaco Exploration and Production, Inc.
Buckeye $C0_2$ Plant
HCR 60, Box 425
Lovington, NM 88260
Phone: 505/396 4916

Plant Supervisor: Jesse Navarrette
HCR 60, Box 425
Lovington, NM 88260
505/396 4916 ext. 136

Safety Coordinator: Darell Sicking
501 S. Loop 338 East
Odessa, TX 79762
915/366 8801 ext. 630

II. Location of Discharge Plan Facility

Section 36, Township 17 South, Range 34 East, NMPM. Lea County, New Mexico

III. Landowners

Texaco Exploration and Production, Inc.
Buckeye $C0_2$ Plant
HCR 60, Box 425
Lovington, NM 88260
Phone: 505/396 4916

IV. Facility Description

See: Process Description/Process Units and facility diagrams shown in Appendix A and B

V. Material Stored or Used at the facility

1. Cooling Water: 200 gallons in system (2000 gallons in storage tank). Stored with the bulk oil storage tank. The aboveground storage tank (steel) inside concrete containment. Corrosion inhibitor will be used at a later date. (Material Safety Data Sheet) MSDS for the corrosion inhibitor is enclosed in Appendix C.

2. Bulk Oil Storage: 1 @ 1000 bbl. Tank (Lube oil)
1 @ 100 bbl. Tank (Lube oil)
The aboveground tanks (steel) are inside a concrete containment with curbing.

3. Drums:
10 – 55 gallons TEG (metal drum)
1 – 55 gallons of DGA (metal drum)
2 – gallons of Delta Kool (polyethylene drums)
1 – gallons of DSL 68 synthetic oil (metal drum)

The drum are stored inside a concrete containment with the bulk storage tanks.

5. Cleaning Solvents: Biodegradable solvent will be used at the plant. The parts bath washer will be used at the plant supplied by Safety Clean. The fluids from the washer will be handled and disposed by Safety Clean.

VI. Sources and Quantities of Effluent and Process Fluids

1. Scrubbers and Separators: The plant utilizes inlet separators and three scrubbers for compression. The wastewater form the separator and scrubber will typically be high in Total Dissolved Solids (TDS) and may contain dissolved hydrocarbons. A sample of the wastewater will be collected once the plant is online.

   There are no known additives (i.e., corrosion inhibitor, etc.) in the scrubber or separator water.

   Inlet Separators, Scrubbers and Propane Recovery Unit - Total liquids of 5400 gals/day (including piping)

2. Boilers: The Buckeye CO_2 Plant does not utilize boilers in its operations.

3. Compressor Jacket Water: 200 gallons in system (2,000 gallons storage tank). Each compressor has its own closed cooling water system. At this time, the water contains ethylene glycol based antifreeze. However, corrosion inhibitor may be used at a later date the MSDS for (Unichem 2310) which is presented in Appendix C. The compressor coolant is not routinely discharged, but should a mechanical failure such as a cracked compressor or ruptured pipe occur, the coolant would be discharged to the open drain system.

4. Cooling Tower: The Buckeye CO_2 Plant does not utilize cooling towers in its operations

5. Sewage: The sewage disposal system at the Buckeye CO_2 Plant consists of a septic tank and lateral lines. This system is completely separate from and independent of all other plant waste systems. The system consists of a 1000 gallons concrete tank and is for office use only.

6. Compressor Oil: Used compressor oil (approx. 110-130 gals) is drained and replaced every 3-4 years. The used compressor oil is placed in the open drain system and then through the process drain sump. The used oil is then pumped to a tank battery operated by Texaco for introduced into the crude oil supply. The plant uses no oil additives.

7. NGL Treaters: 2 NGL Treaters beds contain 36,000 pounds of dessicant pellets each. Disposal of pellets is per landfill. The beds are changed every 100 days at peak production and every 740 days for low rate.

8. Solvents and Degreasers: Biodegradable solvent will be used at the plant. A parts bath washer will be used at the plant supplied by Safety Clean. The fluids from the washer will be handled and disposed by Safety Clean.

9. Miscellaneous: domestic trash and non- hazardous waste

B. Quality Characteristics

All plant wastewater is commingled after the field gas passes the two-phase Inlet Separator (See the Effluent Production Diagram Appendix A.) All liquids removed from the inlet separator is transferred via pipeline to the Texaco operated tank battery. All liquids from the vessels (i.e. dehydrator, reboiler, etc.) go to the flare separator and then to a tank battery owned by Texaco. The close drain system consists of a 3" header and a 2" feeder line. The open drain system consists of 4' X 12' double wall coated vessel (1,100 gallons). All other wastewater transfer, storage, and collection units are constructed of either reinforced concrete or steel piping therefore minimizing any risk of groundwater contamination.

The wastewater will not be sampled until the plant is fully operational.

1. VOC'S; EPA 600/4-79-02; EPA SW 846-8270:

2. Benzene, Ethylbenzene, Toluene, Meta-Ortho-Para Xylenes:

3. WQCC Section 3-103 Parameters: in Appendix 2.

4.WQCC 1-101.uu: Since this facility does not manufacture chemical compounds (including herbicides, pesticides and chlorinated hydrocarbons) we would expect to find only those hydrocarbon compounds that occur in natural gas such as benzene, toluene and xylene,which have been quantified under item #2 above.

5. Sampling Location, Methods, and Procedures: The sample will be collected at ¾ valve located at the flare separator boot.

All samples are collected as unfiltered grab samples, preserved and analyzed in accordance with EPA SW 846 and/or Standard Methods for the Examination of Water and Wastewater (17th edition). The samples are then transported, on ice, to a laboratory for analysis.

6. Variability in Flow Rates and Concentration: During normal operations we anticipate no significant fluctuations in flow rate or concentration in the plant effluents. However, if there is a mechanical malfunction at the off-site gas gathering locations, there is a possibility of increased volumes of produced water and oil to the plant. We would not anticipate an increase in concentration.

VII. Description of Current Liquids and Solids Waste Collection/Storage/Disposal Procedures

(See: Effluent Flow Diagram and Process Description in Appendix A and B)

1. Drain System:

a. Closed Drain System: All liquids from the vessels go to the flare separator boot. (10 gals.) From here they go to the tank battery operated by Texaco. The Close Drain System consist of a 3" header and 2" feed line.

b. Open Drain System: Sump: A 6" header gravity feed to the 4' diameter by 12' (oval tank) double wall metal fiberglass coated sump. 1100 gallons capacity

2. Description of Equipment Association with Wastewater Production and Handling

Plant Process – Inlet Separators, Scrubbers and Propane Recovery Unit. Total liquids 5,400 gallons/ day (including piping). The liquids flow through a 2" line associated with the close drain system and to the flare separator. The liquids are piped to an off-site tank battery operated by Texaco.

a. Two-Phase Inlet Gas/Liquids Processing

Type of Effluent-	Water, Condensate, Natural Gas
Type of Collection-	Inlet Filter, Separator Return Pumps
System-	Closed Drain
Line Type-	1-1/2" steel lines from vessels to 3" steel underground line to Flare Separator, to 2" steel underground line, to Texaco Battery, to Disposal Well.

b. Inlet Gas/TEG (Triethylene Glycol)

Type of Effluent-	Water, Glycol, Natural Gas
Type of Collection-	TEG Contractor, Particulate Filter, Solvent RecoveryDrum, TEG/TEG Exchanger, TEG Surge Tank, TEG Two Phase Separator
System-	Closed Drain
Line Type-	1-1/2" steel lines from vessels to 3" steel underground line to Flare Separator, to 2"steel underground line, to Texaco Battery, to Disposal Well. TEG Surge Tank is tied into the open drain , 1-1/2" steel line above ground to 2" steel underground to 6" steel underground header of open drain to Texaco Tank Battery, to Disposal Well.

c. Inlet Gas Compression

Type of Effluent-	Water, Condensate, Natural Gas
Type of Collection-	Compressor 4-207 and 4-209 and Compressor Cylinders
System-	Open Drain
Line Type-	Compressor cylinder water is tied to the open drain using a 2" steel line to 6" underground header. All compressors are on cement containment and all liquids that fall to the floor go to the open drain system.

d. Propane Recovery Column

Type of Effluent-	Water, Natural gas Liquids, Natural Gas
Type of Collection-	PRC Reboilers, Propane Recovery Column, PRC Side Reboiler, PRC Additives Pumps, PRC Reflux Pumps
System-	Closed Drain
Line Type-	1" steel line from vessels to 3" steel underground line to Flare Separator, to 2"steel underground line, to Texaco Battery , to Disposal Well.

e. NGL Treating

Type of Effluent-	Water, NGL, Natural Gas
Type of Collection-	NGL Filter, NGL Product Surge Tank, NGL Product Booster Pump
System-	Closed Drain

Line Type- 1" and 1-1/2" steel lines from vessels to 3" steel underground line to Flare Separator, to 2" steel underground line, to Texaco Battery , to Disposal Well.

f. Propane Refrigerant Compressors

Type of Effluent- Propane
Type of Collection- Refrigerant Suction Scrubber, Refrigerant L.O. Coalescer, Refrigerant Reclaimer #1, Refrigerant Surge Drum.
System- Closed Drain
Line Type- 1" and 1-1/2" steel lines from vessels to 3" steel underground line to Flare Separator, to 2" steel underground line, to Texaco Battery , to Disposal Well

g. Hot Oil Heat Medium System

Type of Effluent- Van Waters and Rogers, Therminol 55 (Heat Tranfer Fluids)
Type of Collection- Cement Containment under pumps and storage
System- Open Drain
Line Type- 2" steel underground to 6" steel underground header, to Texaco Tank Battery, to Disposal Well.

h. Fuel Gas

Type of Effluent- Water, Condensate, Natural Gas
Type of Collection- Fuel Gas Scrubber
System- Closed Drain
Line Type- 1-1/2" steel lines from vessels to 3" steel underground line to Flare Separator, to 2" steel underground line, to Texaco Battery , to Disposal Well

Misc.

i. Sump: The sump is constructed of a double wall steel fiberglass coated vessel and measures 4' X 12". The sump is gravity fed by 6" header and receives wastewater from open drain.

j. NGL Treaters: NGL Treaters consist of two beds contain 36,000 pounds of dessicant pellets each. Disposal of pellets is per landfill. Beds are changed every approximately 100 days at peak production and every approximate 740 days for low rate. The material will be placed into a roll-off box.

Dessicant pellets are disposed at Waste Control Specialist LLC located in Andrew County, Texas.

Physical Address:
Waste Control Specialist LLC
9998 State Highway 176 West
Andrews, Texas 79714

k. Compressor Jacket Water: Each compressor has its own closed cooling water system. The engine coolant is not routinely discharged but should a mechanical failure such as a cracked compressor head or ruptured pipe occur, the coolant would be discharged to the closed drain system.

l. Used Filters: A total of eight (8) filters from the compressors will replaced once a year. The filters will be pickup by Waste Management for proper disposal.

3. Effluent Disposal

Existing Operations:

a. On-site Facilities: The Buckeye CO_2 Plant does not utilize on-site disposal facilities.

b. Off-Site Facilities

Sludges and Solids-The plant dispose of sludges and solids on an as needed basis. When disposal is required, the transporter and disposal site utilized will meet all local, state, and federal requirements.

Wastewater - All wastewater is disposed in Texaco Exploration and Production Inc.'s (TEPI) Vacuum Glorietta West Unit Waterflood System. The wastewater and oil is pumped from the plant's separator back to production tank battery. After process, the water and waste oil is pumped to the lease tank battery through a 2" carbon steel line to a 3" polypipe line that is owned by TEPI. TEPI receives the wastewater is pumped into a 3-phase separator at Vacuum Glorietta West Unit Satellite #3. The wastewater is then injected into any of several Class II injection wells located in Sections 1, Township 18 South, Range 34 East and in Sections 35 and 36, Township 17 South, Range 34 East.

The injection wells and the waterflood project are operated by:

Texaco Exploration and Production, Inc.
West Star Route, Box 423
Lovington, NM 88260

4. Proposed modifications: Not Applicable

VIII. Spill/Leak Prevention and Housekeeping Procedures

a. Containment and Cleanup of Spills: Texaco's CO_2 Processing Plant is manned 24 hours per day, 7 days per week. During non-business hours and on weekends the plant is manned by one of several Operators. The plant is visually inspected on an hourly basis by the Operator.

In the event of a spill that cannot be handled with personnel and equipment on site, the Plant Superintendent or designated representative will call a trained and experienced local contractor that can provide personnel and equipment necessary to contain and remove the spill. The contractors equipment may include, but is not limited to: vacuum trucks, dump trucks, backhoes, hand tools, and absorbent material.

The Buckeye CO_2 Plant has a plan in effect for prevention of significant spills that could lead to groundwater contamination. This plan calls for the installation of curbing, diking and/or other acceptable containment measures around all ground level storage vessels.

This plan also provides that any future ground level storage tanks will be installed on curbed pads constructed of concrete or other impervious material that will facilitate the detection of leaks.
Any spill contaminated materials will be disposed of in a manner that is consistent with all applicable local, state, and federal regulations.

In the event of a reportable spill, leak, or release, notification will be provided in accordance with New Mexico Oil Conservation Division Rule 116, and any other applicable rules or regulations.

b. Housekeeping Procedures: Empty chemical drums are stored in the empty drum storage site (concrete pad with curbing) on their sides with bungs in placed for return to the vendor. Where practical the plant utilizes bulk storage tanks in lieu of drums.

Oily rags are accumulated in closed lid containers placed at strategic locations throughout the plant. The oily rags are periodically pickup by a local vendor for cleaning and reuse.

Trash is stored in a dumpster as it is generated. Waste Management of Southeast New Mexico removes the trash for disposal at the City of Hobbs Landfill.

Oil filters and other used filters from the plant process are stored in metal containers until they are completely drained of fluid. They are then placed in a special waste container provided by Waste Management of Southeast New Mexico and removed for appropriate disposal.

Should a spill or leak occur, any contaminated soil is removed and disposed of in accordance with applicable local, state, and federal regulations.

c. Leak Detection: The Operators conduct hourly walk-through inspections of the entire facility. If a leak is discovered the Operator will initiate corrective action. In the event of a

serious or catastrophic leak the plant Operator may initiate emergency procedures as noted in Item (a)

Any problems encountered are noted in the Operator's logbook.

Additionally, all existing buried wastewater lines will be pressure tested within 1 year of the date of plan, and wherever new piping is installed. All pressurized lines will be hydrostatically tested at 1.5 times their opearting pressure. Open-end lines will be tested by pneumatic or other acceptable non-destructive testing techinques. Records of the leak testing will be maintained in the plant files.

The testing records for the lines are shown in Appendix E.

d. Injection Wells: See Item VII.3.b

IX. Compliance Information

The facility will follow the methods as described in WQCC section 3107.A11 "Monitoring, Reporting, and other Requirements"and will use OCD guidelines for accepted remediation techniques and unlined surface impoundment closure guidelines.

X. Attach geological/hydrological information for the facility and depth to groundwater

1. SITE CHARACTERISTICS

A. Hydrological Features

1. There are no known bodies of water, streams or other watercourses within one mile of the Buckeye CO_2 Plant.

There are ten (10) know freshwater wells within one mile of the plant: These well include:

Texaco Exploration and Production Inc. VGSA Unit.D Well #3 Section 1, Township 18 South, Range 34 East.

Texaco Exploration and Production Inc. VGSA Unit Well #2 Section 2, Township 18 South, Range 34 East

Texaco Exploration and Production Inc. field office,
Section 1,
Township 18 South, Range 34 East

Texaco Exploration and Production In c. CVU Extraction
Well #1,
Section 1, Township 18 South, Range 34 East

Texaco Exploration and Production Inc. CVU Extraction
Well #2,
Section 1, Township 1 8 South, Range 34 East

Texaco Exploration and Production Inc. CVU Well #3
Section 6,
Township 18 South, Range 35 East

Texaco Exploration and Production Inc. CVU WSW #2,
Section 6,
Township 18 South, Range 35 East

* Texaco Exploration and Production Inc. Buckeye Gas Processing Plant, Section 36, Township 17 South, Range 34 East
* New Mexico Potash Corporation Well #8, Section 31, Township 17 South, Range 34 East.
* New Mexico Potash Corporation, Section 31, Township 17 South, Range 34 East.

Two (2) of the wells, the Texaco Exploration and Production Inc. CVU Extraction Wells #1 and #2, are used for a groundwater remediation project. The Texaco Exploration and Production, Inc. field office well is used for office water (toilets and sinks). All other wells are used for industrial purposes.

2. The depth to the first usable aquifer, the Ogallala aquifer, averages 115-120 feet. On December 12, 1995 the plant's water-well was sampled for water quality analyses. The analyses are included in Appendix D.

3. Based on the 1989-1990 groundwater contamination study, which was conducted by the New Mexico Oil Conservation Division in Hobbs and Texaco Exploration and Production Inc., the groundwater flow direction was from the northwest to southeast. A groundwater flow contour drawing has been included as Appendix D.

B. Geological Description of Discharge Site

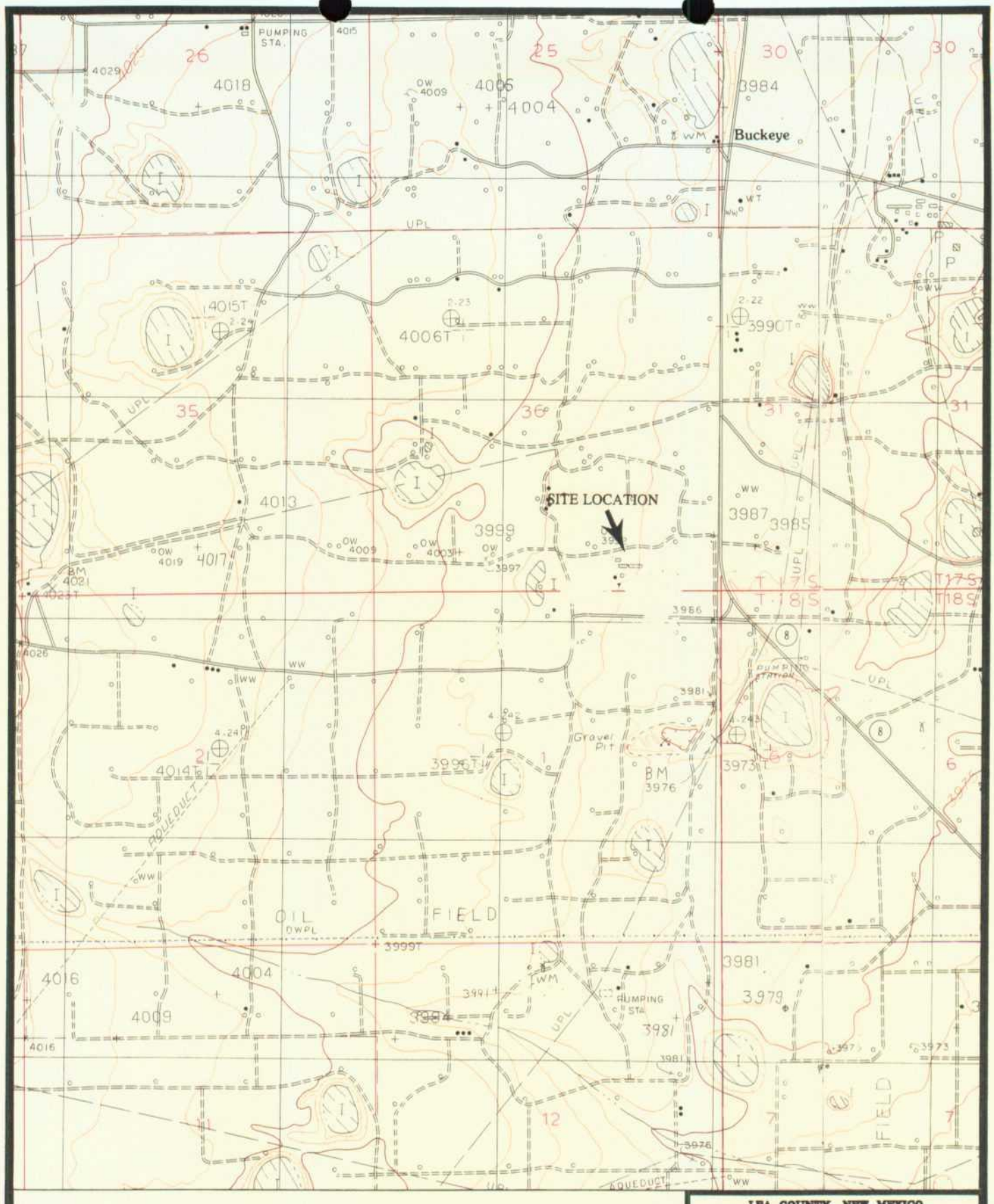
A geological description of the discharge site can best be described by including an excerpt from:

Groundwater Contamination Study
Texaco CVU WSW #3
Vacuum Field, Buckeye
Lea County, New Mexico

by Eddie W. Seay
New Mexico Oil Conservation Division
Hobbs, New Mexico
1989-1990

Site Geology

Geographically, the site is situated near the western boundary of the southern extension of the High Plains in Southeastern New Mexico. Topographically, the Southern High Plains, a plateau' rises approximately 100 to 300 feet above the surrounding region and slopes to the Southwest at 10 to 20 feet per mile.



TAKEN FROM U.S.G.S.
BUCKEYE, NM
7.5' QUADRANGLE

LEGEND
☐ TANK BATTERY

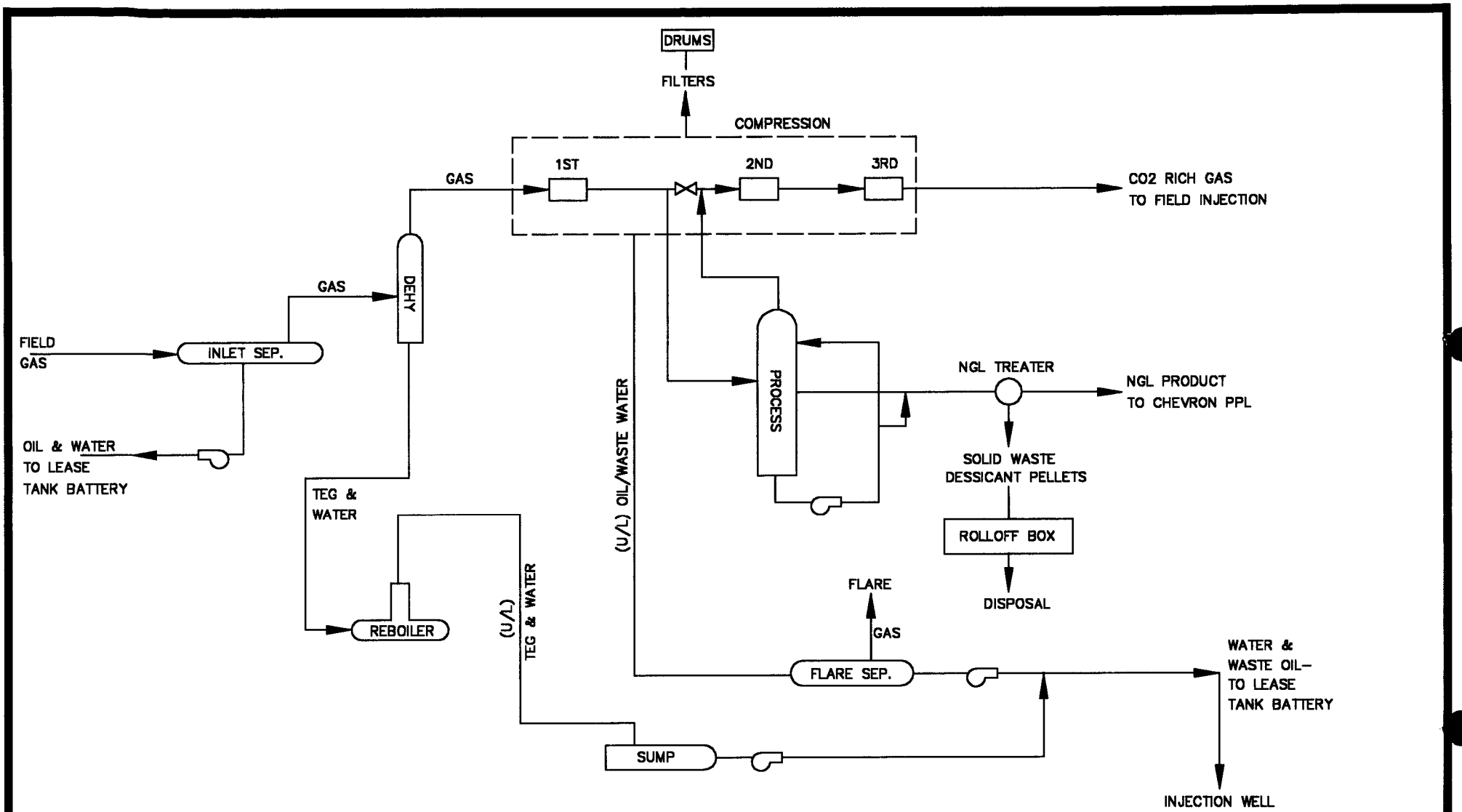
SCALE: 1"=2000'

LEA COUNTY, NEW MEXICO

TEXACO E & P, INC
BUCKEYE CO_2 PLANT

TOPOGRAPHIC MAP

HIGHLANDER ENVIRONMENTAL CORP.
MIDLAND, TEXAS



(U/L) = UNDERGROUND LINE

NOT TO SCALE

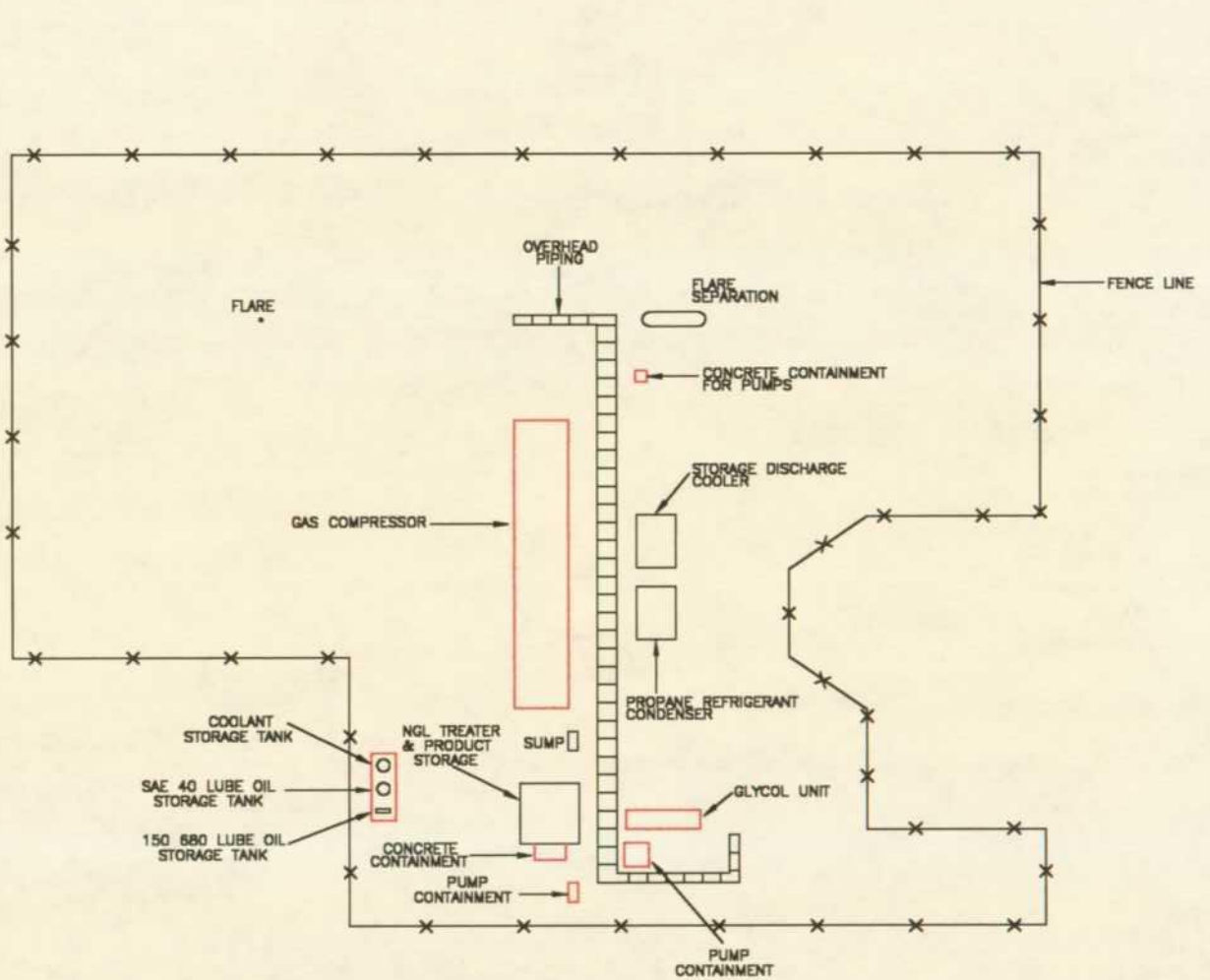
LEA COUNTY NEW MEXICO

TEXACO
EXPLORATION & PRODUCTION INC.

BUCKEYE CO PLANT
EFFLUENT & SOLID WASTE
PRODUCTION DIAGRAM

HIGHLANDER ENVIRONMENTAL
MIDLAND, TEXAS

DATE: 12/10/98
DWN. BY: JDA
FILE: CO2-PLANT



SCALE: 1"=200'

DATE:	12/11/98
DRWN. BY:	JDA
FILE:	SITE

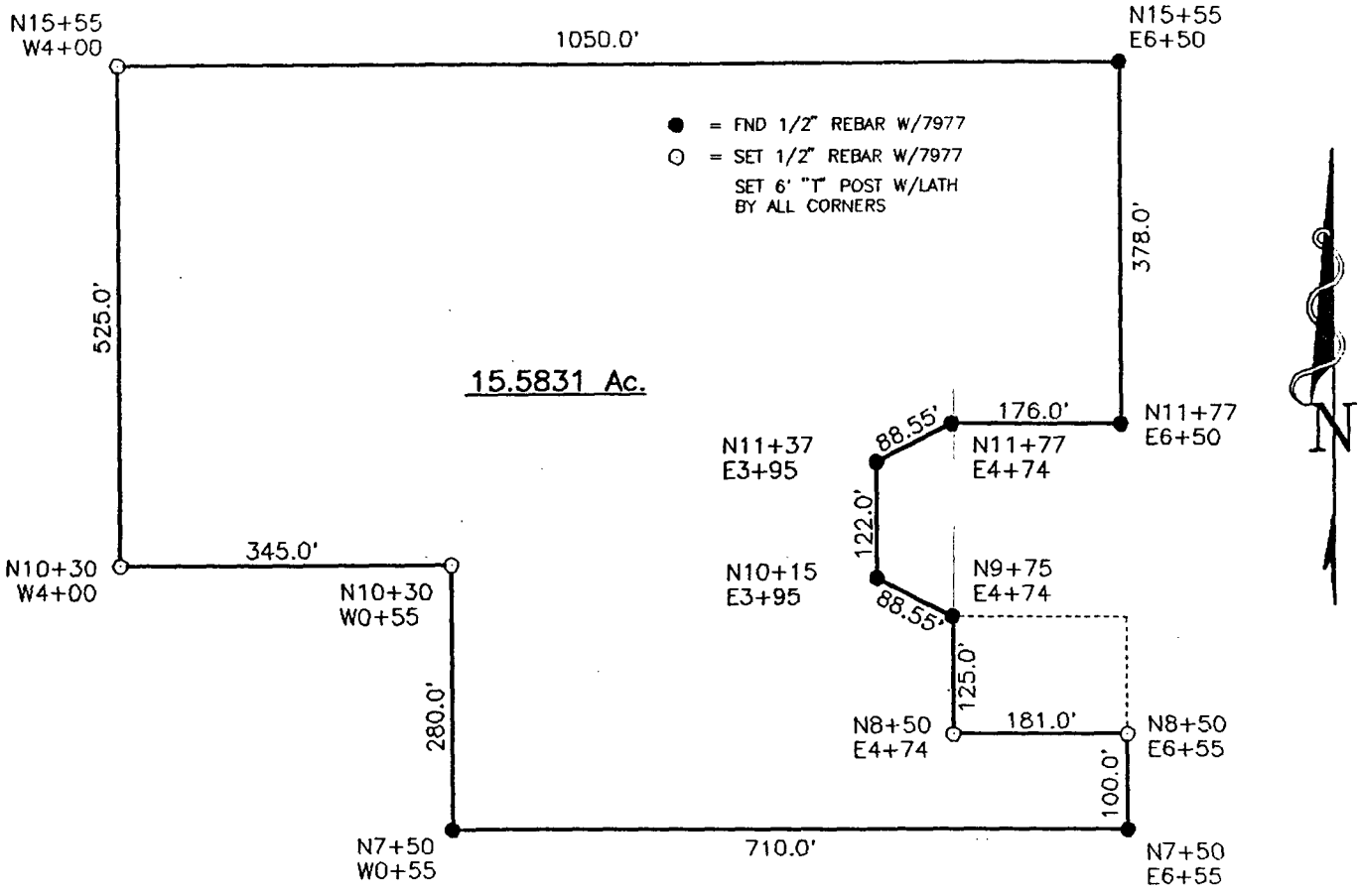
LEA COUNTY NEW MEXICO

TEXACO
EXPLORATION & PRODUCTION INC.

BUCKEYE CO_2 PLANT

HIGHLANDER ENVIRONMENTAL
MIDLAND, TEXAS

SECTION 36, TOWNSHIP 17 SOUTH, RANGE 34 EAST, N.M.P.M.,
LEA COUNTY, NEW MEXICO.



200 0 200 400

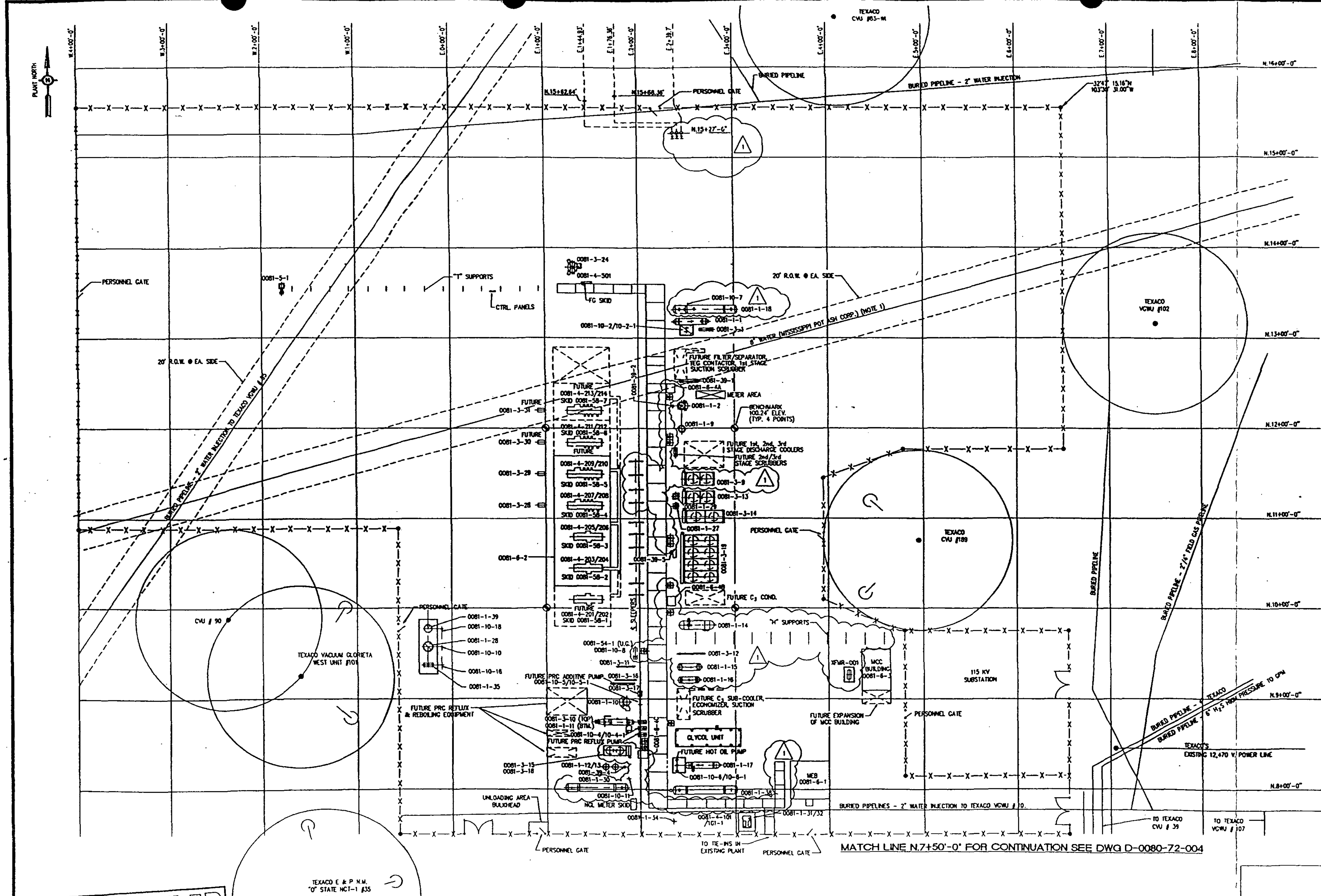
TEXACO E & P, INC.

REF: BUCKEYE PLANT SITE

A TRACT OF LAND LOCATED IN THE SE/4 OF SECTION 36, TOWNSHIP 17 SOUTH, RANGE 34 EAST, N.M.P.M., LEA COUNTY, NEW MEXICO.

BASIN SURVEYS P.O. BOX 1786 – HOBBS, NEW MEXICO

W.O. Number: 7495	Drawn By: K. GOAD		
Date: 08-21-97	Disk: KJG #27 – 7495B.DWG	Survey Date: 08-15-97	Sheet 1 of 1 Sheets



NOTES:

EQUIPMENT SHOWN DASHED IS FOR INCREMENTAL FUTURE INSTALLATION.

[X] DENOTES SPACE RESERVED FOR FUTURE EXPANSION.

OFF-SKID EQUIPMENT LIST

0081-1-1	INLET SEPARATOR
0081-1-2	INLET GAS/TEG CONTACTOR
0081-1-9	1st STAGE SUCTION SCRUBBER
0081-1-10	PROPANE RECOVERY COLUMN
0081-1-11	PRC REFLUX ACCUMULATOR
0081-1-12/13	NGL TREATER
0081-1-14	REFRIGERANT SURGE DRUM
0081-1-15	ECONOMIZER
0081-1-16	REFRIGERANT SUCTION SCRUBBER
0081-1-17	HOT OIL SURGE DRUM
0081-1-18	FLARE SEPARATOR
0081-1-31/32	INSTRUMENT AIR DRYERS
0081-1-27	3rd STAGE SUCTION SCRUBBER
0081-1-28	SAE 40 LUBE OIL STORAGE TANK
0081-1-29	2nd STAGE SUCTION SCRUBBER
0081-1-30	NGL PRODUCT SURGE TANK
0081-1-34	FUEL GAS SCRUBBER
0081-1-35	ISO 680 LUBE OIL STORAGE TANK
0081-1-38	INSTRUMENT AIR RECEIVER
0081-1-39	COOLANT STORAGE TANK
0081-3-1	INLET FEED EXCHANGER
0081-3-9	1st STAGE DISCHARGE COOLER
0081-3-10	PRC REFLUX CONDENSER
0081-3-11	ADDITIVE SUB-COOLER
0081-3-12	PROPANE REFRIGERANT SUB-COOLER
0081-3-13	2nd STAGE DISCHARGE COOLER
0081-3-14	3rd STAGE DISCHARGE COOLER
0081-3-15	PRC SIDE COOLER
0081-3-16	PRC SIDE REBOILER
0081-3-17	PRC REBOILER
0081-3-18	PRC BOTTOMS COOLER
0081-3-19	PROPANE REFRIGERANT CONDENSER
0081-3-24	HOT OIL HEATER
0081-3-26	PROPANE REFRIG. COMPRESSOR UTILITY COOLER
0081-3-27	PROPANE REFRIG. COMPRESSOR UTILITY COOLER
0081-3-28	GAS COMPRESSOR UTILITY COOLER
0081-3-29	GAS COMPRESSOR UTILITY COOLER
0081-4-101/101-1	AIR COMPRESSORS
0081-4-203/205	PROPANE REFRIG. COMPRESSORS
0081-4-207/209	GAS COMPRESSORS
0081-4-501	HOT OIL HEATER BLOWER
0081-5-1	EMERGENCY FLARE
0081-6-1	MAIN EQUIPMENT BUILDING
0081-6-2	COMPRESSOR BUILDING
0081-6-3	MCC BUILDING
0081-6-4A/4B/4C	ANALYZER BUILDING
0081-10-2/10-2-1	INLET SEPARATOR LIQUIDS RETURN PUMPS
0081-10-4	PRC REFLUX PUMP
0081-10-4-1	PRC REFLUX PUMP SPARE
0081-10-5	PRC ADDITIVE PUMP
0081-10-5-1	PRC ADDITIVE PUMP SPARE
0081-10-6/10-6-1	HOT OIL PUMPS
0081-10-7	FLARE SEPARATOR PUMP
0081-10-8	PROCESS DRAIN SUMP PUMP
0081-10-10	SAE 40 LUBE OIL TRANSFER PUMP
0081-10-11	NGL PRODUCT BOOSTER PUMP
0081-10-16	ISO 680 LUBE OIL TRANSFER PUMP
0081-10-18	COOLANT TRANSFER PUMP
0081-39-1	INLET FILTER SEPARATOR
0081-39-2	PARTICULATE FILTER
0081-39-4	NGL FILTER
0081-39-5	PROPANE REFRIGERANT L.O. COALESCER
0081-54-1	PROCESS DRAIN SUMP

GLYCOL UNIT EQUIPMENT LIST

0081-1-3	TEG FLASH TANK
0081-1-4	RICH STRIPPER
0081-1-5	LEAN STRIPPER
0081-1-6	TEG SURGE TANK
0081-1-7	SOLVENT WATER SEPARATOR
0081-1-8	SOLVENT RECOVERY DRUM
0081-1-26	pH CHEMICAL TANK
0081-3-2	REFLUX CONDENSER
0081-3-3	TEG/TEG EXCHANGER
0081-3-4	TEG REBOILER
0081-3-5	LEAN TEG COOLER
0081-3-6	SOLVENT RECOVERY CONDENSER
0081-3-7	TEG STILL REFLUX CONDENSER
0081-3-8	SOLVENT SUPERHEATER
0081-3-30	LEAN/RICH TRIM COOLER
0081-10-1/10-1-1	TEG PUMPS
0081-10-3/10-3-1	DRIZO SOLVENT PUMPS
0081-10-9	pH CONTROL PUMP
0081-39-3	SOLVENT FILTER COALESCER

GRAPHIC SCALE

0 25' 50' 100'

04/07/98 at 09:09 by PMEHNER

GENERAL NOTES:

REVISIONS

MK.	DESCRIPTION	DATE	BY	APPR
1	REVISED AS NOTED	4/15/96	PDH	TFS
0	ISSUED FOR PHASE I DESIGN	1-26-98	FS	TFS
N	ISSUED FOR APPROVAL	12-2-97	FS	TFS

REFERENCE DRAWINGS

DRAWING NO.	TITLE	DRAWING NO.	TITLE

NOTICE

ABB Randall Corporation
AN ABB LUMMUS GLOBAL COMPANY
Houston, Texas
ABBR JOB No. 80170

TEXACO | NORTH AMERICA PRODUCTION

APPROVED:	DATE	TITLE: AREA PLOT PLAN — BUCKEYE CO_2 PLANT
CHECKED: TFS	12/97	
DESIGNED:		LEA COUNTY — NEW MEXICO
DRAWN: DJS	6/96	EST. NO: 66-2052 · SCALE: 1"-50' · DWG. NO. D-0081-72-001 · REV. 1

TEXACO BUCKEYE CO_2 PLANT- PROCESS DESCRIPTION

$C0_2$ rich inlet gas from the CVU gathering system, $C0_2$ injection having already begun in several wells, will enter the new Buckeye $C0_2$ Plant at approximately eighty (80) psig and ambient temperature through a fourteen (14) inch pipeline (provided by the field up to the plant fenceline) at the North perimeter of the site, continuing underground until it reaches the stainless steel two-phase Inlet Separator 0081-1-1. Liquids dropped out in the Inlet Separator will be pumped back to the field facilities via a ten (10) inch pipeline (also provided by the field outside the plant fenceline). Vapor from the top of the Inlet Separator flows through a custody transfer quality meter, then on to an Inlet Feed Exchanger 0081-3-1 (which utilizes a sidestream from the discharge of the first stage of compression to maintain a constant inlet gas temperature for cold weather operation), then to the Inlet Filter Separator 0081-39-1.

From the Inlet Filter Separator 0081-39-1, the gas enters the Inlet Gas/TEG Contactor 0081-1-2 that. utilizes triethylene glycol (TEG) to dehydrate the gas to less than one (1) ppm of water. The glycol is regenerated ijf a licensed DRIZO TEG regeneration process that receives regeneration heat input from a hot oil system consisting of a Hot Oil Heater 0081-3-24, Hot Oil Surge Drum 0081-1-17, and Hot Oil Pumps 0081-10-6/6-1.

From the Inlet Gas/TEG Contactor 0081-1-2, the dehydrated gas stream flows on to the First.Stage Suction Scrubber 0081-1-9, then to the first stage of the Inlet gas/CO_2 Compressors 0081-4-207/209. From the discharge of the first stage, the gas flows to the First Stage Discharge Cooler 0081-3-9.

From the First Stage Discharge Cooler, the gas flows to, the, Ryan-Holmes Process Unit, first entering the trayed Propane Recovery Column (PRC) about three quarter (3/4) of the way up its height. This unique column will utilize Advanced Process Controls (APC) technology for optimization on a Foxboro I/A distributed control system (DCS) platform, operates at approximately zero (0^o F) degrees at the top and approximately three hundred seventy (370^o F) degrees at the bottom separating the $C0_2$, H_2S, C_1's, C_2's and N_2 from the C_3's and heavier natural gas liquids (NGL's). Note that while the Ryan-Holmes process can be designed to recover the C_1's and C_2's for fuel gas and/or for product sales, the economics of this particular project do not support their recovery.

The $C0_2$ rich stream exits the top of the PRC. A portion of the stream is condensed in the PRC Reflux Condenser 008 1-1-11 that utilizes a refrigerant on the shell side. The propane refrigerant system consists of Propane Refrigerant Compressors 0081-4-203/205, Refrigerant Lube Oil Coalescer 0081-39-5, Propane Refrigerant Condenser 0081-3-19, Refrigerant Surge Drum 0081-1-14, Economizer 0081-1-15, Refrigerant Subcooler 0081-3-12, Refrigerant Suction Scrubber 0081-1-16, and the Refux Condenser 0081-3-10.

The part of the overhead stream not sent to the PRC Reflux Accumulator 0081-1-11 for PRC reflux flow through the Refrigerant Subcooler 0081-3-11 then to the Second Stage

Suction Scrubber 0081-1-29. For the design case, the "shrinkage," i.e. the amount of C_3's and heavier NGL's removed reduce the gas volume in the overhead stream to approximately ninety-four (94%) percent of what the inlet gas volume had been. From Second Stage Suction Scrubber, the stream flows to the second stage compression, then directly to the Second Stage Discharge Cooler 0081-1-19, then to the Third Stage Suction Scrubber 0081-1-17, then to the third stage of compression and the Third Stage Discharge Cooler 0081-3-14. Again, the stream flows through a custody transfer quality meter, then back to the field for reinjection at approximately one thousand eight hundred fifty (1850 psig and one hundred twenty five (125°F) degrees through a ten (10") inch pipeline (provided by the f ield outside the plant fenceline).

Not that while the recovery of the $C0_2$ and the resultant reduction in cost or purchased pipeline $C0_2$ over the long term is the primary contribution by the plant to the economic benefit of the overall $C0_2$ flood project, it is not a revenue generator for the plant itself and therefore will not be referred to during the course of this project, nor on any of the engineering Documents and training materials as a $C0_2$ product stream, but rather as a CO_2 reinjectant stream.

That which does generate revenue for the Buckeye $C0_2$ Plant is the NGL stream recovered from the lower portion of the PRC. Approximately one third (1/3) of the way up the column's height, a side-stream is drawn consisting of the C_3's or NGL'S. This stream is cooled, then treated in the NGL Treaters 0081-1-12/13 using ICI Katalco's Pura-Spec material to remove the small amount of remaining H_2S, then passed through the NGL Filter 0081-394 and sent to the common carrier pipeline. It is not currently known with certainty if this stream will be commingled with the NGL's from the Buckeye Gas Plant subsequent to entering the common carrier pipeline, or if the streams must be pumped separately into the common carrier pipeline. Regardless, the NGL's from the $C0_2$ Plant will flow through a custody transfer meter before leaving the battery limits. In addition, in order to avoid unscheduled process shutdowns in the event of a short-term pipeline outage, an NGL Product Surge Tank 0081-1-30 will be included in the design. This will be a surplus vessel provided by Texaco.

Note that that all compression, e.g., inlet Gas/CO_2 and Propane Refrigerant, will be electric motor driven primarily due to negative impacts on enviroruneutal permitting related to gas driven engines.

The Buckeye $C0_2$ Plant is provided with the following Utility Systems:

Electrical) Power (4160V Supply, distribution to be 416OV, 48OV, 240V & 12OV, Cycles 60 Hz and three (3) Phases.
Instrument Air System
Utility Air System
Non-Potable Water System
Process Drain System
Closed Drain System
Hot Oil Heat Medium System
Lube Oil Storage & Transfer System
Flare System
Gas detection System

a) Two-Phase Inlet Gas/ Liquids Processing

$C0_2$ rich inlet gas from the CVU gathering system, $C0_2$ injection having already begun in several wells, will enter the new Buckeye $C0_2$ Plant at approximately eighty (80) psig and ambient temperature through a fourteen (14) inch pipeline (provided by the field up to the plant fenceline) at the North perimeter of the site, continuing underground until it reaches the stainless steel two-phase Inlet Separator 0081-1-1. Liquids dropped out in the Inlet Separator 008 1-1-1 will be pumped back to the field facilities via a ten (10) inch pipeline (also provided by the field outside the plant fenceline). Vapor from the top of the Inlet Separator 0081-1-1 flows through a custody transfer quality meter, then on to an Inlet Feed Exchanger which utilizes a sidestreain from the discharge of the first stage of compression to maintain a constant inlet gas temperature for cold weather operation), then to the Inlet Filter Separator 0081-39-l.

b) Inlet Gas/TEG (Triethylene Glycol) Contactor

From the Inlet Filter Separator, the gas enters the Inlet Gas/TEG Contractor 0081-1-2 that utilizes triethylene glycol (TEG) to dehydrate the gas to less than one (1) ppm of water. The glycol is regenerated in a licensed DRIZO T'EG regeneration process that receives regeneration heat input from a hot oil system consisting of a Hot Oil Heater, Hot Oil Surge Drum and Hot Oil Pumps.

c) Inlet Gas Compression

From the lnlet Gas/TEG Contactor 0081-1-2, the dehydrated gas stream flows on to the Fi,rst Stage Suction Scrubber 0081-1-9, then to the first stage of the Inlet Gas/CO_2 Compressors 0081-4-207 and 0081-4-209. From the discharge of the first stage, the gas flows to the First Stage Discharge Cooler 0081-3-9.

From the First Stage Discharge Cooler 0081-3-9, the gas flows to the Ryan-Holmes Process Unit, first entering the trayed Propane Recovery Column (PRC) 0081-1-10 about

three quarters (3/4) of the way up its height. This unique column will utilize Advanced Process Controls (APC) technology for optimization on a Foxboro I/A distributed control system (DCS) platform, operates at approximately zero (0_oF) degrees at the top and approximately three hundred seventy (370^oF) at the bottom separating the $C0_2$, H_2S, C_1's, C_2's and N_2 from the C_3's and heavier natural gas liquids (NGL's). Note that while the Ryan-Holmes process can be designed to recover the C1's and C2'S for fuel gas and/or for product sales, the economics of this particular project do not support their recovery.

The C02 rich stream exits the top of the Propane Recovery Column (PRC) 0081-1-10. A portion of the stream is condensed in the PRC Reflux Condenser 0081-3-1 0, which utilizes a refrigerant on the shell side. The propane refrigerant system consists of Propane Refrigerant Compressors, Refrigerant Lube Oil Coalescer, Propane Refrigerant Condenser, Refrigerant Surge Drun, Economizer, Refrigerant Subcooler, Refrigerant Suction Scrubber and the Reflux Condenser.

The part of the overhead stream not sent to the PRC Reflux Accumulator for PRC reflux flow through the Refrigerant Subcooler then to the Second Stage Suction Scrubber. For the design case, the "shrinkage," i.e., the amount of C_3's and heavier NGL's removed reduce the gas volume in the overhead stream to approximately ninety-four (94%) percent of what the inlet gas volume had been. From the Second Stage Suction Scrubber, the stream flows to the second stage of compression, then directly to the Second Stage Discharge Cooler, then to the Third Stage Suction Scrubber, then to the third stage of compression and the Third Stage Discharge Cooler. Again, the stream flows through a custody transfer quality meter, then back to the field for reinjection at approximately one thousand eight hundred fifty (1850) psig and one hundred twenty five (125^oF) degrees through a ten (10") inch pipeline (provided by the field outside the plant fenceline.

d) Propane Recovery Column

From the First Stage Discharge Cooler 008'1-3-9, the gas flows to the Ryan-Holmes Process Unit, first entering the trayed Propane Recovery Column (PRC) 008 1-1-10 about three quarter (3/4) of the way up its height. This unique column will utilize Advanced Process Controls (APC) technology for optimization on a Foxboro I/A distributed control system (DCS) platform, operates at approximately zero (0F) degrees at the top and approximately three hundred seventy (370^oF) at tile bottom separating the $C0_2$, H_2S, C_1's, C_2's and N_2 from the C_3's and heavier natural gas liquids (NGL's). Note that while the Ryan-Holmes process can be designed to recover the C_1's and C_2'S for fuel gas and/or for product sales, the economics of this particular project do not support their recovery.

The $C0_2$ rich stream exits the top of the Propane Recovery Column (PRC) 0081-1-10. A portion of the stream is condensed in the PRC Reflux Condenser 0081-3-10 which utilizes a refrigerant on the shell side. The propane refrigerant system consists of Propane Refrigerant Compressors, Refrigerant Lube Oil Coalescer, Propane Refrigerant Condenser, Refrigerant Surge Drum, Economizer, Refrigerant Subcooler, Refrigerant Suction Scrubber and the Reflux Condenser.

The part of the overhead stream not sent to the PRC Reflux Accumulator for PRC reflux flow through the Refrigerant Subcooler then to the Second Stage Suction Scrubber. For the design case, the "shrinkage", i.e. the amount of C_3's and heavier NGL's removed reduce the gas volume in the overhead stream to approximately ninety-four (94%) percent of what the inlet gas volume had been. From the Second Stage Suction Scrubber, the stream flows to the second stage of compression, then directly to the Second Stage Discharge Cooler, then to the Third Stage Suction Scrubber, then to the third stage of compression and the Third Stage Discharge Cooler. Again, the stream flows through a custody transfer quality meter, then back to the field for reinjection at approximately one thousand eight hundred fifty (1850) psig and one hundred twenty five (125°F) degrees through a ten (10") inch pipeline (provided by the field outside the Plant fenceline.

e) NGL Treating

Approximately one third (1/3) of the way up the column's height, a sidestream is drawn consisting of the C_3's or NGL'S. This stream is cooled, then treated in the NGL Treaters using ICI Katalco's Pura-Spec material to remove the small amount of remaining H_2S, then passed through the NGL Filter and sent to the common carrier pipeline. It is not currently known with certainty if this stream will be commingled with the NGL's from the Buckeye Gas Plant subsequent to entering the common carrier pipeline, or if the streams must be pumped separately into the common carrier pipeline. Regardless, the NGL's from the C02 Plant will flow through a custody transfer meter before leaving the battery limits. In addition, in order to avoid unscheduled process shutdowns in the event of a short-term pipeline outage, an NGL Product Surge Tank will be included in the design. This will be a surplus vessel provided by Texaco.

f) Propane Refrigerant Compression

The $C0_2$ rich stream exits the top of the Propane, Recovery Column (PRC) 0081-1-10. A portion of the stream is condensed in the PRC Reflux Condenser 0081-3-10, which utilizes a refrigerant on the shell side. The propane refrigerant system consists of Propane Refrigerant Compressors 0081-4-203 and 0081-4-205, Refrigerant Lube Oil Coalescer 0081-39-5, Propane Refrigerant Condenser 0081-3-19, Refrigerant Surge Drum 0081-1-14, Economizer 0081-1-15, Refrigerant Subcooler 0081-3-12, Refrigerant Suction Scrubber 0081-1-16 and the Reflux Condenser 0081-3-10.

g) Hot Oil Heat Medium System

From the Inlet Filter Separator, the gas enters the Inlet Gas/TEG Contactor 0081-1-2 that utilizes triethylene glycol (TEG) to dehydrate the gas to less than one (1) ppm of water. The glycol is regenerated in a licensed DRIZO TEG regeneration process that receives regeneration heat input from a hot oil system consisting of a Hot Oil Heater 0081-3-24, Hot Oil.surge Drum 0081-1-17 and Hot Oil Pumps 0081-10-6 and 0081-10-6-1.

NOTE: Read and understand Material Safety Data Sheet before handling or disposing of product.

N.D. - Not Determined N.A. - Not Applicable N.T. - Not Tested

< - Less Than > - Greater Than

07934 ETHYLENE GLYCOL (AF GRADE)

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

MATERIAL IDENTITY

Product Code and Name:

07934 ETHYLENE GLYCOL (AF GRADE)

Chemical Name and/or Family or Description:

Glycol

Manufacturer's Name and Address:

TEXACO LUBRICANTS COMPANY
P.O. Box 4427
Houston, TX 77210-4427

Telephone Numbers:

Transportation Emergency-Company	:	(914) 831-3400
CHEMTREC (USA)	:	(800) 424-9300
In Canada	:	(800) 567-7455
Health Emergency -Company	:	(914) 831-3400
General MSDS Assistance	:	(914) 838-7204
Texaco FaxBack System	:	(713) 432-3383
Technical Information -Fuels	:	(914) 838-7336
-Lubricant/	:	(800) 782-7852(Option 4)
Antifreezes/Fuel Additives		
-Solvents/Chemicals	:	(800) 876-3738

07934 ETHYLENE GLYCOL (AF GRADE)

2. COMPOSITION/INFORMATION ON INGREDIENTS

THE CRITERIA FOR LISTING COMPONENTS IN THE COMPOSITION SECTION IS AS FOLLOWS: CARCINOGENS ARE LISTED WHEN PRESENT AT 0.1 % OR GREATER; COMPONENTS WHICH ARE OTHERWISE HAZARDOUS ACCORDING TO OSHA ARE LISTED WHEN PRESENT AT 1.0 % OR GREATER; NON-HAZARDOUS COMPONENTS ARE LISTED AT 3.0 % OR GREATER. THIS IS NOT INTENDED TO BE A COMPLETE COMPOSITIONAL DISCLOSURE. REFER TO SECTION 14 FOR APPLICABLE STATES' RIGHT TO KNOW AND OTHER REGULATORY INFORMATION.

Product and/or Component(s) Carcinogenic According to:

OSHA	IARC	NTP	OTHER	NONE
				X
–	–	–	–	–

Composition: (Sequence Number and Chemical Name)

Seq.	Chemical Name	CAS Number	Range in %
01 *	1,2-ethanediol (Common Name-Ethylene glycol)	107-21-1	100.00

PRODUCT IS HAZARDOUS ACCORDING TO OSHA (1910.1200).

* COMPONENT IS HAZARDOUS ACCORDING TO OSHA.

Exposure Limits referenced by Sequence Number in the Composition Section

Seq.	Limit	
01	50	ppm CEILING-OSHA
01	39.4	ppm CEILING-ACGIH (AEROSOL) (A4)

07934 ETHYLENE GLYCOL (AF GRADE)

3. HAZARD IDENTIFICATION

EMERGENCY OVERVIEW

Appearance:

Colorless liquid

Odor:

Mild odor

WARNING STATEMENT

WARNING ! HARMFUL IF SWALLOWED
MAY CAUSE DIZZINESS AND DROWSINESS
MAY CAUSE EYE IRRITATION
ASPIRATION HAZARD IF SWALLOWED -
CAN ENTER LUNGS AND CAUSE DAMAGE
FOR INDUSTRIAL USE ONLY
CAN CAUSE KIDNEY DAMAGE IF SWALLOWED
MAY CAUSE LIVER DAMAGE IF SWALLOWED BASED ON ANIMAL DATA

ATTENTION ! CONTAINS ETHYLENE GLYCOL WHICH MAY CAUSE BIRTH DEFECTS BASED ON ANIMAL DATA

HMIS			NFPA		
Health:	2	Reactivity: 0	Health:	2	Reactivity: 0
Flammability:	1	Special : -	Flammability:	1	Special : -

POTENTIAL HEALTH EFFECTS

	EYE	SKIN	INHALATION	INGESTION
Primary Route of Exposure:	X	X	X	
	-	-	-	-

EFFECTS OF OVEREXPOSURE

Acute:

Eyes:

May cause irritation, experienced as mild discomfort and seen as slight excess redness of the eye.

Skin:

Brief contact may cause slight irritation. Prolonged contact, as with clothing wetted with material, may cause more severe irritation and discomfort, seen as local redness and swelling.

Other than the potential skin irritation effects noted above, acute (short term) adverse effects are not expected from brief skin contact; see other effects, below, and Section 11 for information regarding potential long term effects.

Inhalation:

Vapors or mist, in excess of permissible concentrations, or in unusually high concentrations generated from spraying, heating the material or as from exposure in poorly ventilated areas or confined spaces, may cause irritation of the nose and throat, headache, nausea, and drowsiness.

Prolonged or repeated overexposure may result in the absorption of potentially harmful amounts of material.

Ingestion:
Contains ethylene glycol and/or diethylene glycol, which are toxic when swallowed. A lethal dose for an adult is 1-2 ml per kilogram, or about 4 ounces (one-half cup). Symptoms include headache, weakness, confusion, dizziness, staggering, slurred speech, loss of coordination, faintness, nausea and vomiting, increased heart rate, decreased blood pressure, difficulty breathing and seeing, pulmonary edema, unconsciousness, convulsions, collapse, and coma. Symptoms may be delayed. Decreased urine output and kidney falure may also occur. Severe poisoning may cause death.

Aspiration may occur during swallowing or vomiting, resulting in lung damage.

Sensitization Properties:
Unknown.

Chronic:
Repeated ingestion may cause kidney damage.

Medical Conditions Aggravated by Exposure:
Repeated overexposure may aggravate existing kidney disease.

Because of its irritating properties, repeated skin contact may aggravate an existing dermatitis (skin condition).

Other Remarks:
None

07934 ETHYLENE GLYCOL (AF GRADE)
4. FIRST AID MEASURES

Eyes:
Immediately flush eyes with plenty of water for at least 15 minutes. Hold eyelids apart while flushing to rinse entire surface of eye and lids with water. Get medical attention.

Skin:
Wash skin with plenty of soap and water for several minutes. Get medical attention if skin irritation develops or persists.

Ingestion:
If person is concious and can swallow, immediately give two glasses (i.e., 16 oz.) of water but do not induce vomiting. Get immediate medical attention. Never give anything by mouth to an unconcious or convulsing person.

Inhalation:
If inhaled, remove to fresh air. If not breathing, clear person's airway and give artificial respiration. If breathing is difficult, qualified medical personnel may administer oxygen. Get medical attention immediately.

Other Instructions:
Ethylene glycol (EG) and diethylene glycol (DEG) intoxication may initially produce behavioral changes, drowsiness, vomiting, diarrhea,

thirst, and convulsions. EG and DEG are nephrotoxic. End stages of poisoning may include renal damage or failure with acidosis. Supportive measures, supplemented with hemodialysis if indicated, may limit the progression and severity of toxic effects.
FOR ETHYLENE GLYCOL POISONING intravenous ethanol is a recognized antidotal treatment ; other antidotal treatments also exist for EG poisoning.
FOR DIETHYLENE GLYCOL POISONING the role of intravenous ethanol in the treatment is unclear but it may be of benefit in view of structural and toxicological similarities to ethylene glycol. Contact a Poison Center for further treatment information.

Aspiration of this product during induced emesis may result in severe lung injury. If evacuation of stomach is necessary, use method least likely to cause aspiration, such as gastric lavage after endotracheal intubation. Contact a Poison Center for additional treatment information.

07934 ETHYLENE GLYCOL (AF GRADE)
5. FIRE-FIGHTING MEASURES

Ignition Temperature - AIT (degrees F):
Not determined.
Flash Point (degrees F):
244 (PMCC)
Flammable Limits (%):
Lower: Not determined.
Upper: Not determined.

Recommended Fire Extinguishing Agents And Special Procedures:
Use water spray, dry chemical, foam, or carbon dioxide to extinguish flames. Use water spray to cool fire-exposed containers. Water or foam may cause frothing.

Unusual or Explosive Hazards:
None

Extinguishing Media Which Must Not Be Used:
Not determined.

Special Protective Equipment for Firefighters:
Wear full protective clothing and positive pressure breathing apparatus. Approach fire from upwind to avoid hazardous vapors and toxic decomposition products.

07934 ETHYLENE GLYCOL (AF GRADE)
6. ACCIDENTAL RELEASE MEASURES (Transportation Spills: CHEMTREC (800)424-9300)

Procedures in Case of Accidental Release, Breakage or Leakage:
Ventilate area. Avoid breathing vapor. Wear appropriate personal protective equipment, including appropriate respiratory protection. Contain spill if possible. Wipe up or absorb on suitable material and shovel up. Prevent entry into sewers and waterways. Avoid contact with skin, eyes or clothing.

If more than 5,000 pounds of product is spilled, then report spill according to SARA 304 and/or CERCLA 102(a) requirements, unless product qualifies for the petroleum exemption (CERCLA Section 101(14)).

07934 ETHYLENE GLYCOL (AF GRADE)
7. HANDLING AND STORAGE

Precautions to be Taken in Handling:

Minimum feasible handling temperatures should be maintained.

Storage:

Periods of exposure to high temperatures should be minimized. Water contamination should be avoided.

07934 ETHYLENE GLYCOL (AF GRADE)

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Protective Equipment (Type)

Eye/Face Protection:

Safety glasses, chemical type goggles, or face shield recommended to prevent eye contact.

Skin Protection:

Workers should wash exposed skin several times daily with soap and water. Soiled work clothing should be laundered or dry-cleaned.

Respiratory Protection:

Airborne concentrations should be kept to lowest levels possible. If vapor, mist or dust is generated and the occupational exposure limit of the product, or any component of the product, is exceeded, use appropriate NIOSH or MSHA approved air purifying or air supplied respirator after determining the airborne concentration of the contaminant. Air supplied respirators should always be worn when airborne concentration of the contaminant or oxygen content is unknown.

Ventilation:

Adequate to meet occupational exposure limits (see below).

Exposure Limit for Total Product:

Ethylene glycol: OSHA CEILING 50 ppm; ACGIH CEILING 39.4 ppm (aerosol)

07934 ETHYLENE GLYCOL (AF GRADE)

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:

Colorless liquid

Odor:

Mild odor

Boiling Point (degrees F):

388

Melting/Freezing point (degrees F):

8

Specific Gravity (water=1):

1.12

pH of undiluted product:

6.5

Vapor Pressure:

.1 mmHg at 68.0

Viscosity:
18.7 cSt at 20.0 C

VOC Content:
Not determined.

Vapor Density (air=1):
2.1

Solubility in Water (%):
> 10

Other: None

07934 ETHYLENE GLYCOL (AF GRADE)
10. STABILITY AND REACTIVITY

This Material Reacts Violently With:
(If Others is checked below, see comments for details)

Air	Water	Heat	Strong Oxidizers	Others	None of These
					X
–	–	–	–	–	–

Comments:
None

Products Evolved When Subjected to Heat or Combustion:
Toxic levels of carbon monoxide, carbon dioxide, irritating aldehydes and ketones may be formed on burning. Heating in air may produce irritating aldehydes, acids, and ketones.

Hazardous Polymerizations: DO NOT OCCUR

07934 ETHYLENE GLYCOL (AF GRADE)
11. TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION(ANIMAL TOXICITY DATA)
Median Lethal Dose
Oral:
Animal data does not reflect human toxicity; see Sections 3 & 11
Inhalation:
Not determined.
Dermal:
LD50 Believed to be > 1.00 - 2.00 g/kg (rabbit) slightly toxic
Irritation Index, Estimation of Irritation (Species)
Skin:
(Draize) Believed to be > .50 - 3.00 /8.0 (rabbit) slightly irritating
Eyes:
(Draize) Believed to be 15.00 - 25.00 /110 (rabbit) slightly irritating
Sensitization:
Not determined.
Other:
Oral administration of ethylene glycol to pregnant experimental animals has been shown to cause birth defects in the offspring. These effects were not seen when ethylene glycol was administered by dermal application or by inhalation.
Continuous ingestion of a diet contaning 1% or 2% ethylene glycol for two years produced liver and kidney damage, and bladder stones in rats.

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12. DISPOSAL CONSIDERATIONS

Waste Disposal Methods

This product has been evaluated for RCRA characteristics and does not meet the criteria of a hazardous waste if discarded in its purchased form. Under RCRA, it is the responsibility of the user of the product to determine at the time of disposal, whether the product meets RCRA criteria for hazardous waste. This is because product uses, transformations, mixtures, processes, etc. may render the resulting materials hazardous.

Remarks

To prevent contamination of drinking water supplies, and poisoning of children, aquatic life, wildlife, and farm and domestic animals, ethylene glycol products such as used antifreeze solution, regardless of quantity, should never by discarded onto the ground, into surface waters, or into storm sewers.

07934 ETHYLENE GLYCOL (AF GRADE)

13. TRANSPORT INFORMATION

Transportation

DOT:

Proper Shipping Name:

Not regulated

This product contains a DOT Hazardous Substance or Substances, listed in Section 14 of the MSDS. If the product's shipping container holds at least 5,000 lbs, then the DOT information must be accompanied with RQ notation, or, an otherwise 'Not Regulated' product will be classified as Environmentally Hazardous (solid/liquid) N.O.S., Class 9, unless the product qualifies for the petroleum exemption (49 CFR 171.8).

IMDG:

Proper Shipping Name:

Not regulated

ICAO:

Proper Shipping Name:

Not regulated

TDG:

Proper Shipping Name:

Not regulated

07934 ETHYLENE GLYCOL (AF GRADE)

14. REGULATORY INFORMATION

Federal Regulations:

SARA Title III:

Section 302/304 Extremely Hazardous Substances

Seq.	Chemical Name	CAS Number	Range in %
None			

Section 302/304 Extremely Hazardous Substances (CONT)

Seq.	TPQ	RQ
None		

Section 311 Hazardous Categorization:

Acute	Chronic	Fire	Pressure	Reactive	N/A
X	X				
-	-	-	-	-	-

Section 313 Toxic Chemical

Chemical Name	CAS Number	Concentration
1,2-ethanediol (Common Name-Ethylene glycol)	107-21-1	100.00

CERCLA 102(a)/DOT Hazardous Substances: (+ indicates DOT Hazardous Substance)

Seq.	Chemical Name	CAS Number	Range in %
01+	1,2-ethanediol (Common Name-Ethylene glycol)	107-21-1	100.00

CERCLA/DOT Hazardous Substances (Sequence Numbers and RQ's):

Seq.	RQ
01+	5000

TSCA Inventory Status:
This product, or its components, are listed on or are exempt from the Toxic Substance Control Act (TSCA) Chemical Substance Inventory.

Other:
None.

State Regulations:
California Proposition 65:
The following detectable components of this product are substances, or belong to classes of substances, known to the State of California to cause cancer and/or reproductive toxicity.

Chemical Name	CAS Number
None	

International Regulations:

WHMIS Classification:
Class D, Div 1, Subdiv B: Toxic
Class D, Div 2, Subdiv A: Teratogenic
Class D, Div 2, Subdiv B: Chronic toxic effects

Canada Inventory Status:
This product, or its components, are listed on or are exempt from the Canadian Domestic Substance List (DSL).

EINECS Inventory Status:
This product, or its components, are listed on or are exempt from the European Inventory of Existing Chemical Substances (EINECS) or the European List of Notified Chemical Substances (ELINCS).

Australia Inventory Status:
This product, or its components, are listed on or are exempt from the Australian Inventory of Chemical Substances (AICS).

Japan Inventory Status:

This product, or its components, are listed on or are exempt from the Japanese Ministry of International Trade and Industry (MITI) inventory.

07934 ETHYLENE GLYCOL (AF GRADE)
15. ENVIRONMENTAL INFORMATION

Aquatic Toxicity:
LC50-96hr Aquatic toxicity rating is believed to be > 100.00 mg/liter
practically non-toxic

Mobility:
Not determined.

Persistence and Biodegradability:
This product is estimated to have a moderate (>= 30%) rate of biodegradation in a test for ready biodegradation.

Potential to Bioaccumulate:
This product is estimated to have a low potential to bioconcentrate.

Remarks:
None

07934 ETHYLENE GLYCOL (AF GRADE)
16. OTHER INFORMATION

Acute or chronic oral consumption of products containing ethylene glycol can produce significant adverse health effects, including death, in humans and animals. Keep out of reach of children and pets. Such products should not be used in potable (drinking) water systems or other systems where contamination of potable water supplies is possible (e.g., recreational vehicles, winterizing potable water systems).

Texaco recommends that all exposures to this product be minimized by strictly adhering to recommended occupational controls procedures to avoid any potential adverse health effects.

07934 ETHYLENE GLYCOL (AF GRADE)
17. PRODUCT LABEL Label Date: 1997-10-14

READ AND UNDERSTAND MATERIAL SAFETY DATA SHEET BEFORE HANDLING OR DISPOSING OF PRODUCT. THIS LABEL COMPLIES WITH THE REQUIREMENTS OF THE OSHA HAZARD COMMUNICATION STANDARD (29 CFR 1910.1200) FOR USE IN THE WORKPLACE. THIS LABEL IS NOT INTENDED TO BE USED WITH PACKAGING INTENDED FOR SALE TO CONSUMERS AND MAY NOT CONFORM WITH THE REQUIREMENTS OF THE CONSUMER PRODUCT SAFETY ACT OR OTHER RELATED REGULATORY REQUIREMENTS.

07934 ETHYLENE GLYCOL (AF GRADE)

WARNING STATEMENT

WARNING ! HARMFUL IF SWALLOWED
MAY CAUSE DIZZINESS AND DROWSINESS
MAY CAUSE EYE IRRITATION
ASPIRATION HAZARD IF SWALLOWED -
CAN ENTER LUNGS AND CAUSE DAMAGE
FOR INDUSTRIAL USE ONLY
CAN CAUSE KIDNEY DAMAGE IF SWALLOWED
MAY CAUSE LIVER DAMAGE IF SWALLOWED BASED ON ANIMAL DATA

ATTENTION ! CONTAINS ETHYLENE GLYCOL WHICH MAY CAUSE BIRTH DEFECTS BASED

ON ANIMAL DATA

PRECAUTIONARY MEASURES

-Use only with adequate ventilation.
-Avoid breathing vapor, mist, or gas.
-Avoid contact with eyes, skin, and clothing.
-Keep container closed.
-Wash thoroughly after handling.

FIRST AID

Eye Contact:
Immediately flush eyes with plenty of water for at least 15 minutes. Hold eyelids apart while flushing to rinse entire surface of eye and lids with water. Get medical attention.

Skin Contact:
Wash skin with plenty of soap and water for several minutes. Get medical attention if skin irritation develops or persists.

Ingestion:
If person is concious and can swallow, immediately give two glasses (i.e., 16 oz.) of water but do not induce vomiting. Get immediate medical attention. Never give anything by mouth to an unconcious or convulsing person.

Inhalation:
If inhaled, remove to fresh air. If not breathing, clear person's airway and give artificial respiration. If breathing is difficult, qualified medical personnel may administer oxygen. Get medical attention immediately.

Note to Physician:
Ethylene glycol (EG) and diethylene glycol (DEG) intoxication may initially produce behavioral changes, drowsiness, vomiting, diarrhea, thirst, and convulsions. EG and DEG are nephrotoxic. End stages of poisoning may include renal damage or failure with acidosis. Supportive measures, supplemented with hemodialysis if indicated, may limit the progression and severity of toxic effects.
FOR ETHYLENE GLYCOL POISONING intravenous ethanol is a recognized antidotal treatment ; other antidotal treatments also exist for EG poisoning.
FOR DIETHYLENE GLYCOL POISONING the role of intravenous ethanol in the treatment is unclear but it may be of benefit in view of structural and toxicological similarities to ethylene glycol. Contact a Poison Center for further treatment information.
Aspiration of this product during induced emesis may result in severe lung injury. If evacuation of stomach is necessary, use method least likely to cause aspiration, such as gastric lavage after endotracheal intubation.
Contact a Poison Center for additional treatment information.

FIRE

In case of fire, use water spray, dry chemical, foam or carbon dioxide.
Water may cause frothing. Use water spray to cool fire-exposed containers.

If more than 5,000 pounds of product is spilled, then report spill according to SARA 304 and/or CERCLA 102(a) requirements, unless product qualifies for the petroleum exemption (CERCLA Section 101(14)).

	Chemical Name	CAS Number	Range in %
*	1,2-ethanediol (Common Name-Ethylene glycol)	107-21-1	100.00

PRODUCT IS HAZARDOUS ACCORDING TO OSHA (1910.1200).
* COMPONENT IS HAZARDOUS ACCORDING TO OSHA.

Pennsylvania Special Hazardous Substance(s)	CAS Number	Range in %
None		

HMIS			NFPA		
Health: 2	Reactivity: 0		Health: 2	Reactivity: 0	
Flammability: 1	Special : -		Flammability: 1	Special : -	

Transportation
DOT:
Proper Shipping Name:
Not regulated

This product contains a DOT Hazardous Substance or Substances, listed in Section 14 of the MSDS. If the product's shipping container holds at least 5,000 lbs, then the DOT information must be accompanied with RQ notation, or, an otherwise 'Not Regulated' product will be classified as Environmentally Hazardous (solid/liquid) N.O.S., Class 9, unless the product qualifies for the petroleum exemption (49 CFR 171.8).

CAUTION: Misuse of empty containers can be hazardous. Empty containers can be hazardous if used to store toxic, flammable, or reactive materials. Cutting or welding of empty containers might cause fire, explosion or toxic fumes from residues. Do not pressurize or expose to open flame or heat. Keep container closed and drum bungs in place.

Manufacturer's Name and Address:
TEXACO LUBRICANTS COMPANY
P.O. Box 4427
Houston, TX 77210-4427

TRANSPORTATION EMERGENCY Company: (914) 831-3400
CHEMTREC: (800) 424-9300

HEALTH EMERGENCY Company: (914) 831-3400

THE INFORMATION CONTAINED HEREIN IS BELIEVED TO BE ACCURATE. IT IS PROVIDED INDEPENDENTLY OF ANY SALE OF THE PRODUCT FOR PURPOSE OF HAZARD COMMUNICATION AS PART OF TEXACO'S PRODUCT SAFETY PROGRAM. IT IS NOT INTENDED TO CONSTITUTE PERFORMANCE INFORMATION CONCERNING THE PRODUCT. NO EXPRESS WARRANTY, OR IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE IS MADE WITH RESPECT TO THE PRODUCT OR THE INFORMATION CONTAINED HEREIN. DATA SHEETS ARE AVAILABLE FOR ALL TEXACO PRODUCTS. YOU ARE URGED TO OBTAIN DATA SHEETS FOR ALL TEXACO PRODUCTS YOU BUY, PROCESS, USE OR DISTRIBUTE AND YOU ARE ENCOURAGED AND REQUESTED TO ADVISE THOSE WHO MAY COME IN CONTACT WITH SUCH PRODUCTS OF THE INFORMATION CONTAINED HEREIN.

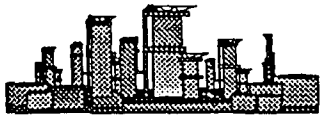
TO DETERMINE APPLICABILITY OR EFFECT OF ANY LAW OR REGULATION WITH RESPECT TO THE PRODUCT, USER SHOULD CONSULT HIS LEGAL ADVISOR OR THE APPROPRIATE GOVERNMENT AGENCY. TEXACO DOES NOT UNDERTAKE TO FURNISH ADVICE ON SUCH MATTERS.

Date: 1997-10-14 New X Revised, Supersedes: 1996-12-19

Inquiries regarding MSDS should be directed to:

Texaco Inc.
Manager, Product Safety
P.O. Box 509
Beacon, N.Y. 12508

UNICHEM
A Division of BJ Services Company



PRODUCT BULLETIN

DESCRIPTION

UNICHEM 2015 is a combination molybdate/boron nitrite based corrosion inhibitor. This product is designed for use in closed recirculating cooling systems. UNICHEM 2015 contains specific inhibitors for the protection of copper and copper alloys as well as steel and other alloys commonly found in closed cooling systems.

USES

UNICHEM 2015 is typically used in closed systems which contain low dissolved solids water. UNICHEM 2015 is compatible with glycol and alcohol type coolant/antifreeze products.

APPLICATION

UNICHEM 2015 should be added to the system at a rate of two gallons per 1000 gallons contained or makeup water. Treatment levels are monitored by testing for molybdate (50-75 ppm) or sodium nitrite (300-400 ppm).

This product is particularly useful in treating systems that are open to the atmosphere or in systems that are subject to sour gas leaks.

TYPICAL PROPERTIES

Appearance	Light Yellow Clear Liquid
Density	9.45 lbs/gal
Freeze Point	20°F
Flash Point (TCC)	None

HANDLING

UNICHEM 2015 is an alkaline compound. Avoid contact with eyes, skin, and clothing by wearing the proper safety equipment including eye protection, rubber gloves, and protective clothing. In case of eye contact, flush thoroughly with water for at least fifteen minutes. Consult a physician. For skin contact, rinse with copious quantities of water and wash with soap. Remove contaminated clothing and wash thoroughly. Seek medical attention if irritation persists. Avoid breathing vapors or fumes.

Refer to the material safety data sheet for more information regarding the safe use and handling of this product.

PACKAGING

UNICHEM 2015 is available in 55 gallon drums or in bulk quantities.

8701 New Trails Drive, The Woodlands TX 77381 Office (713) 362-4499 FAX: (713) 363-7566

Product Name: UNICHEM 2015

Section: 01 PRODUCT IDENTIFICATION

UNICHEM
A DIVISION OF BJ SERVICES CO.
707 N. LEECH
HOBBS, NM 88241-1499

Emergency Telephone 505-393-7751
Previous Version Date 10/07/93
Date Prepared 10/01/96
Version: 0000004

Product Name: UNICHEM 2015

Chemical Description:
Proprietary Cooling Water Inhibitor

Section: 02 HAZARDOUS INGREDIENTS

Component Name	CAS#	% Range
sodium nitrite	07632-00-0	< 20%
sodium molybdate	10102-40-6	< 10%

Section: 03 PHYSICAL DATA

Freezing Point: 20 Deg.F.
Boiling Point, 760 mm Hg: init 212 Deg.F
Specific Gravity(H2O=1) : 1.130 Solubility in water: Complete
Appearance and Odor: Light yellow, clear liquid; slight odor.

Section: 04 FIRE AND EXPLOSION HAZARD DATA

Flash Point (Test Method): NONE

Extinguishing Media

This material is non-combustible. If this material is involved in a fire, use an extinguishing agent appropriate to surrounding materials. Water spray may be used to cool containers of this material exposed to a fire. Fire extinguishing materials should be collected for determination of proper disposal.

Special Fire Fighting Procedures

Fire fighters should wear self-contained breathing apparatus with a full facepiece operated in the pressure-demand or positive-pressure mode.

Unusual Fire and Explosion Hazards

None

Section: 05 HEALTH HAZARD DATA

Effects of Overexposure

Eye Contact: may cause irritation with symptoms including

Product Name: UNICHEM 2015

Section: 06 REACTIVITY DATA CONTINUED

Hazardous Polymerization May Occur(Y=Yes/N=No): N

Hazardous Polymerization -- Conditions to Avoid

None

Section: 07 SPILL OR LEAK PROCEDURES

Steps to be Taken if Material is Released or Spilled

Persons not wearing suitable personal protective equipment should be excluded from area of spill until clean-up has been completed. Shut off source of spill if possible to do so without hazard. Prevent material from entering sewers or watercourses. Provide adequate ventilation. Contain spilled material with sand or earth. Recovered undamaged or minimally contaminated material for reuse or reclamation. Place all collected material and spill absorbents into DOT approved containers.
Advise authorities. If this product is an EPA hazardous substance (see Section 10), notify the U.S.EPA or the National Response Center. Additional notification pursuant to SARA Section 302/304 (40 CFR 355) may also be required.

Waste Disposal Method

Treatment, storage, transportation and disposal must be in accordance with EPA or State regulations under authority of the Resource Conservation and Recovery Act (40 CFR 260-271).

Section: 08 SPECIAL PROTECTIVE INFORMATION

Respiratory Protection

If a respirator is determined to be necessary, respirators approved by NIOSH and MSHA and selected for the hazard by qualified persons shall be used. Conditions unique to the workplace may allow air purifying devices selected for the contaminate(s) of concern, or require supplied air or self-contained breathing apparatus. Engineering or administrative controls should be implemented to reduce exposures.

Ventilation

The use of mechanical dilution ventilation is recommended whenever this product is used in confined spaces, is heated above ambient temperatures or is agitated. When applicable, sufficient local ventilation should be provided to maintain employee exposures below safe working limits (TWA's).

Protective Gloves

Neoprene, nitrile, polyvinyl alcohol (PVA), polyvinyl chloride (PVC)

Eye Protection

Product Name: UNICHEM 20[illegible]

Section: 10 REGULATORY INFORMATION CONTINUED

Section 313-List of Toxic Chemicals (40 CFR 372)

This product contains the following toxic chemicals subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-to-Know Act of 1986 (40 CFR 372). This information should be included in all MSDSs that are copied and distributed for this material.

Component Name	CAS #	% Range
NONE		

CERCLA, 40 CFR 261 AND 302

The Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) requires notification of the National Response Center 1-800-424-8802 of any release of a Hazardous Substances equal to or greater than the reportable quantities (RQs) listed in 40CFR 302.4. Values are given in pounds for the component and not the mixture, if applicable. (These values are subject to change and the regulations should be consulted to verify current statutory levels.)

Component Name	CAS #	CERCLA RQ
sodium nitrite	07632-00-0	100

OSHA Exposure Limits

Component Name
sodium molybdate
TWA MG/M3: 5.0

National Fire Protection Agency

2 Health
0 Reactive
0 Fire
____ Other

Department of Transportation Shipping Information

Proper Shipping Name: Environmentally hazardous substance, liquid,n.o.s.
Hazard Class: 9 Identification: UN3082
Packaging Group: PG III
Contains: sodium nitrite
Comments: Marine Pollutant
Hazardous Substance RQ: 500# Emergency Response Guide Number: 171
Labels: Class 9

Toxic Substances Control Act (TSCA), 40 CFR 261

This product, or components if product is a mixture, is/are listed on the Toxic Substance Control Act (TSCA) inventory.

- -

Section 10 information is to remain attached to the material safety data sheet for this product.

- -

While UNICHEM believes that the above data is correct, UNICHEM expressly disclaims liability for any loss or injury arising out of the use of this information or the use of any

ANTIFREEZE #2

UNICHEM
A Division of BJ Services Company

PRODUCT BULLETIN

DESCRIPTION: ANTIFREEZE #2 is a blend of glycol, corrosion inhibitors and antifoulants.

USES: ANTIFREEZE #2 may be used as is, or diluted, to achieve freeze protection in most circulated water systems.

APPLICATION: ANTIFREEZE #2 should be added to the system in the following percent ratios to obtain the desired freeze protection.

PERCENT ANTIFREEZE #2	FREEZE POINT DEGREES F
20	+ 26°F
40	+ 18°F
60	+ 6°F
80	- 11°F
100	- 45°F

TYPICAL PROPERTIES:

Specific Gravity @ 60°F	1.06
Pounds Per Gallon @ 60°F	8.33
Pour Point	-45°F
Flash Point (TCC)	None
pH	7

SOLUBILITIES:

Fresh Water	Soluble
2% Brine	Soluble
15% Brine	Soluble
Crude Oil	Insoluble

Appearance	Clear Liquid

HANDLING: **CAUTION!** Contains ethylene glycol. Avoid contact with eyes, skin, and clothing. **DO NOT** take internally. Refer to Material Safety Data Sheet for additional information and first aid.

PACKAGING: ANTIFREEZE #2 is sold in 55 gallon drums and bulk.

4/92

8701 New Trails Drive, The Woodlands TX 77381 Office (713) 362-4499 FAX: (713) 363-7566

Product Name: ANTIFREEZE 2

Section: 01 PRODUCT IDENTIFICATION

UNICHEM
A DIVISION OF BJ SERVICES CO.
707 N. LEECH
HOBBS, NM 88241-1499

Emergency Telephone 505-393-7751
Previous Version Date 10/04/94
Date Prepared 10/01/96
Version: 0000004

Product Name: ANTIFREEZE 2

Trade Name: Antifreeze

Chemical Description:
Ethylene glycol blend

Section: 02 HAZARDOUS INGREDIENTS

Component Name	CAS#	% Range
ethylene glycol	000107-21-1	< 60%
diethylene glycol	000111-46-6	< 10%

Section: 03 PHYSICAL DATA

Freezing Point: - 45 Deg.F.
Specific Gravity(H2O=1) : 1.060 Solubility in water: Soluble
Appearance and Odor: Clear liquid; sweet odor.

Section: 04 FIRE AND EXPLOSION HAZARD DATA

Flash Point (Test Method): **NONE**

Extinguishing Media

CO2, dry chemical, water spray or fog, or foam. Use water to keep containers cool. Isolate "fuel" supply from fire. Contain fire fighting liquids for proper disposal.

Special Fire Fighting Procedures

This material presents a low fire hazard. Liquid can burn upon heating to temperature at or above the flash point. Do not enter fire space without proper personal protective equipment including NIOSH approved self-contained breathing apparatus with full facepiece operated in the positive pressure demand mode. Evacuate personnel to a safe area. Keep unnecessary persons away.

Unusual Fire and Explosion Hazards

None

Section: 05 HEALTH HAZARD DATA

Effects of Overexposure

Product Name: ANTIFREEZE

Section: 05 HEALTH HAZARD DATA CONTINUED

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of a diuretic such as mannitol to help prevent or control brain edema and hemodialysis to remove ethylene glycol from circulation.

Section: 06 REACTIVITY DATA

Stable (Y=Yes/N=No): Y

Stability -- Conditions to Avoid

Exposure to heat, ignition sources, water (absorbs readily) and incompatibles.

Incompatibility (Materials to Avoid)

Include chlorosulfonic acid, sulfuric acid, oleum, sodium hydroxide, phosphorus pentasulfide, silvered-copper wire (caused ignition), dimethyl terephthalate, titanium butoxide causes ignition at room temperature with chromium trioxide, potassium permanganate, and sodium peroxide, causes ignition at 212 degrees F. with ammonium dichromate, silver chlorate, sodium chloride and uranyl nitrate.

Hazardous Decomposition Products

Thermal oxidative decomposition of ethylene glycol can produce carbon dioxide, acrid smoke and irritating vapors.

Hazardous Polymerization May Occur(Y=Yes/N=No): N

Hazardous Polymerization -- Conditions to Avoid

None

Section: 07 SPILL OR LEAK PROCEDURES

Steps to be Taken if Material is Released or Spilled

Eliminate sources of ignition. Persons not wearing suitable personal protective equipment should be excluded from area of spill until clean-up has been completed. Shut off source of spill if possible to do so without hazard. Prevent material from entering sewers or watercourses. Provide adequate ventilation. Contain spilled materials with sand or earth. Recover undamaged and minimally contaminated material for reuse or reclamation. Place all collected material and spill absorbents into DOT approved containers.
Advise authorities. If this product is an EPA hazardous substance (see Section 10), notify the U.S.EPA and/or the National Response Center. Additional notification pursuant to SARA Section 302/304 (40 CFR 355) may also be required.

Waste Disposal Method

Treatment, storage, transportation and disposal must be in accordance with EPA or State regulations under authority of

Product Name: ANTIFREEZE 2

Section: 09 SPECIAL PRECAUTIONS CONTINUED

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adequate ventilation. Wash thoroughly after handling. Containers should be grounded and bonded to receiving container(s) when being emptied. Containers should not be washed out and used for other purposes.
FOR INDUSTRIAL USE ONLY

Section: 10 REGULATORY INFORMATION

Superfund Amendments and Reauthorization Act 0f 1986(SARA) Title III

Section 302/304-Extremely Hazardous Substances (40 CFR 355)

SARA requires emergency planning based on Threshold Planning Quantities (TPQs) and release reporting based on Reportable Quantities (RQs) in 40 CFR 355 (used for SARA 302, 304, 311 and 312). These values are subject to change and the regulations should be consulted to verify current statutory requirements.

Components present in this product at a level which could require reporting under the statute are:

Component Name	RQ	TPQ	% Range
NONE			

Section 311/312 Chemical Inventory Reporting Requirements (40 CFR 370)

The Superfund Amendments and Reauthorization Act (SARA) may require submission of reports (chemical list, MSDS, Tier I & Tier II) to the State Emergency Response Commission, Local Emergency Response Committee and the local fire department. The SARA physical and health hazards related to this product are:

X Acute Health Hazard _ Sudden Release of Pressure _ Fire
X Chronic Health Hazard _ Reactive

Section 313-List of Toxic Chemicals (40 CFR 372)

This product contains the following toxic chemicals subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-to-Know Act of 1986 (40 CFR 372). This information should be included in all MSDSs that are copied and distributed for this material.

Component Name	CAS #	% Range
ethylene glycol	000107-21-1	< 60%

CERCLA, 40 CFR 261 AND 302

The Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) requires notification of the National Response Center 1-800-424-8802 of any release of a Hazardous Substances equal to or greater than the reportable quantities (RQs) listed in 40CFR 302.4. Values are given in pounds for the component and not the mixture, if applicable.

Product Name: ANTIFREEZE 2

Section: 11 LABEL INFORMATION

DANGER! HARMFUL OR FATAL IF SWALLOWED
CAUSES EYE IRRITATION. PROLONGED OR REPEATED BREATHING OF MIST OR VAPOR HARMFUL. MAY CAUSE KIDNEY AND NERVOUS SYSTEM DAMAGE. CAUSES BIRTH DEFECTS IN LABORATORY ANIMALS. BEFORE HANDLING OR USING, READ AND UNDERSTAND CURRENT MATERIAL SAFETY DATA SHEET FOR THIS PRODUCT. AVOID CONTACT WITH EYES. DO NOT SWALLOW. DO NOT BREATHE MIST FROM SPRAY. AVOID PROLONGED OR REPEATED BREATHING OF VAPOR. KEEP CONTAINER CLOSED. USE WITH ADEQUATE VENTILATION. WASH THOROUGHLY AFTER HANDLING.

FIRST AID
=========
IN CASE OF SWALLOWING:
NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS OR CONVULSING PERSON. CONTACT A POISON CONTROL CENTER AND UNLESS OTHERWISE ADVISED, HAVE THAT CONSCIOUS AND ALERT PERSON DRINK 1 TO 2 GLASSES OF WATER AND INDUCE VOMITING.
IN CASE OF CONTACT:
IMMEDIATELY FLUSH EYES WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES. CALL A PHYSICIAN. FLUSH SKIN WITH WATER. WASH CLOTHING BEFORE REUSE.
IN CASE OF INHALATION:
REMOVE TO FRESH AIR. IF NOT BREATHING, GIVE ARTIFICIAL RESPIRATION. IF BREATHING IS DIFFICULT, GIVE OXYGEN. CALL A PHYSICIAN.
==========

CONTAINER HANDLING AND STORAGE:
Keep container tightly closed. Keep closure up to avoid leakage. Drum must not be washed out or used for other purposes. Replace closure after each withdrawal. Do not use pressure to empty drum. Do not transfer this material to improperly marked container. Keep out of reach of children.

IN CASE OF SPILLAGE:
Absorb spill with inert materials (dry sand or earth). Place in a chemical waste container. Flush spill area with water spray. For large spill, dike for later disposal. Prevent runoff. Dispose according to government regulations.

CONTAINER DISPOSAL:
This container will contain traces of hazardous material when emptied. Do not cut or weld on empty container. Follow local, state and federal regulations for disposal.

NOTICE:
AVOID BREATHING OF VAPORS. THIS PRODUCT CONTAINS TRACE AMOUNTS OF MATERIAL WHICH THE STATE OF CALIFORNIA HAS FOUND TO CAUSE CANCER AND/OR BIRTH DEFECTS OR OTHER REPRODUCTIVE HARM.

ETHYLENE GLYCOL - NON-PHOTOCHEMICALLY REACTIVE (MORE THAN 4%) CA REGS 443
EXPOSURE LIMIT = 50 PPM TWA (OSHA)

CARDINAL LABORATORIES

PHONE (915) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603
PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240
PHONE (505) 326-4669 • 118 S. COMMERCIAL AVE. • FARMINGTON, NM 87401

FINAL ANALYSIS REPORT

Company:	Texaco Exploration & Production, Inc.	Date:	12/27/95
Address:	West Star Route Box 425	Lab #:	H2336-2
City, State:	Lovington, New Mexico 88260		
Project Name:	Texaco E & P Inc		
Location:	Buckeye Plant		
Sampled by:	MI/MG	Sample Date:	12/12/95
Sample Type:	water	Sample Condition:	intact
Sample ID:	H2336-2 water well		

VOLATILE ORGANIC COMPOUNDS

PARAMETER	RESULT	UNITS
Chloromethane	<0.002	mg/L
Vinyl chloride	<0.002	mg/L
Bromomethane	<0.002	mg/L
Chloroethane	<0.002	mg/L
Trichlorofluoromethane	<0.002	mg/L
1,1-Dichloroethene	<0.002	mg/L
Methylene chloride	<0.002	mg/L
trans-1,2 Dichloroethene	<0.002	mg/L
1,1-Dichloroethane	<0.002	mg/L
Chloroform	<0.002	mg/L
1,1,1-Trichloroethane	<0.002	mg/L
1,2 Dichloroethane	<0.002	mg/L
Benzene	<0.009	mg/L
Carbon Tetrachloride	<0.002	mg/L
Trichloroethene	<0.002	mg/L
Bromodichloromethane	<0.002	mg/L
2(chloroethoxy) ethene	<0.002	mg/L
trans-1,3Dichloropropene	<0.002	mg/L
1,2-Dichloropropane	<0.002	mg/L
cis 1,3-Dichloropropene	<0.002	mg/L
Toluene	<0.002	mg/L
1,1,2-Trichloroethane	<0.002	mg/L
Dibromochloromethane	<0.002	mg/L
Tetrachloroethene	<0.002	mg/L
Chlorobenzene	<0.002	mg/L
Ethylbenzene	0.009	mg/L
Bromoform	<0.002	mg/L
1,1,2,2-Tetrachloroethane	<0.002	mg/L
1,3-Dichlorobenzene	<0.002	mg/L
1,2-Dichlorobenzene	<0.002	mg/L
1,4-Dichlorobenzene	<0.002	mg/L

METHOD: VOLATILE ORGANIC COMPOUNDS EPA 601 & 602(624)

Mitch Irvin

12/29/95
Date

CARDINAL LABORATORIES

PHONE (915) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603
PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240
PHONE (505) 326-4669 • 118 S. COMMERCIAL AVE. • FARMINGTON, NM 87401

FINAL ANALYSIS REPORT

Company:	Texaco Exploration & Production, Inc.	Date:	12/27/95
Address:	West Star Route Box 425	Lab #:	H2336-2
City, State:	Lovington New Mexico 88260		
Project Name:	Texaco E & P		
Location:	Buckeye Plant		
Sampled by:	MI/MG	Date:	12/12/95
Sample Type:	Water	Sample Condition:	Intact
Sample ID:	Water Well		

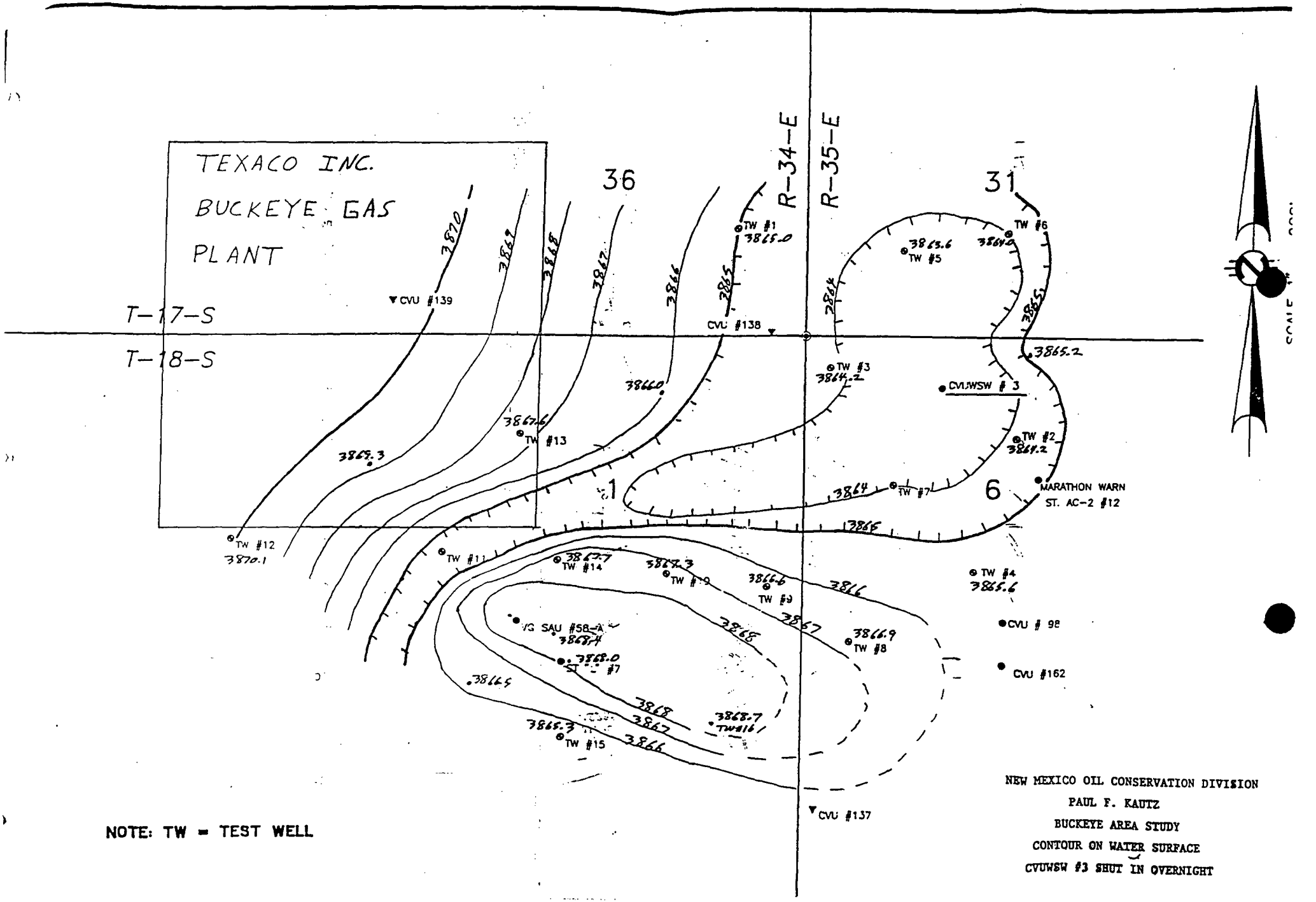
POLYNUCLEAR AROMATIC HYDROCARBONS

PARAMETER	RESULT	UNITS
Naphthalene	<0.002	mg/L
Acenaphthylene	<0.002	mg/L
Acenaphthene	<0.002	mg/L
Fluorene	<0.002	mg/L
Phenanthrene	<0.002	mg/L
Anthracene	<0.002	mg/L
Fluoranthene	<0.002	mg/L
Pyrene	<0.002	mg/L
Benzo(a)anthracene	<0.002	mg/L
Chrysene	<0.002	mg/L
Benzo(b)fluoranthene	<0.002	mg/L
Benzo(k)fluoranthene	<0.002	mg/L
Benzo(a)pyrene	<0.002	mg/L
Indeno(1,2,3-cd)pyrene	<0.002	mg/L
Dibenzo(a,h,)anthracene	<0.002	mg/L
Benzo(g,h,i)perylene	<0.002	mg/L

METHODS- EPA SW 846-8270

Mitch Irvin

12/28/95
Date



NOTE: TW = TEST WELL

NEW MEXICO OIL CONSERVATION DIVISION
PAUL F. KAUTZ
BUCKEYE AREA STUDY
CONTOUR ON WATER SURFACE
CVUWSW #3 SHUT IN OVERNIGHT

ABB
ASEA BROWN BOVERI

TEXACO
NORTH AMERICA PRODUCTION
BUCKEYE CO_2 PROJECT
LEA COUNTY, NEW MEXICO

SYSTEM MECHANICAL COMPLETION
CARE, CUSTODY & CONTROL
TRANSFER DOCUMENT

DATE: 10/22/98

TEXACO
NORTH AMERICA PRODUCTION
BUCKEYE CO_2 PROJECT
LEA COUNTY, NEW MEXICO

Attention: AL ERWIN

Subject: SYSTEM CARE, CUSTODY & CONTROL TRANSFER

Gentlemen:

With the completion of the SYSTEM FINAL PUNCH LIST ITEMS for the OPEN DRAIN System, and with all *Exception Items* identified on the attached *Exception Items List,* ABB Randall Construction Management hereby transfers the CARE, CUSTODY & CONTROL of the OPEN DRAIN System to TEXACO, NORTH AMERICA PRODUCTION.

Acceptance of CARE, CUSTODY & CONTORL means that TEXACO, NORTH AMERICA PRODUCTION accepts the System to be MECHANICALLY COMPLETE except for the items listed on the APPROVED "*Exception Items List*", and the System has passed the Process System Safety Revies (PSSR). This allows TEXACO, NORTH AMERICA PRODUCTION to proceed with the Commissioning and Startup of the above noted System.

Please sign and retain one (1) copy for your records and return the ORIGINAL signed copy to the ABB Randall Project Manager.

ABB Randall Corporation
Project Manager

Date: 10/22/98

Texaco, North America Production
Project Manager

Date: 10/23/98

Randall

PRESSURE TEST

SYSTEM OPEN DRAIN

TEST NO. 015

TEST DESCRIPTION ALL OPEN DRAIN PIPING

EQUIPMENT [redacted] PROCESS SUMP [redacted]

TEST BOUNDARIES SEE SYSTEM P&ID'S. ALL OPEN DRAIN PIPE FROM DRAINS IN DRAIN HUBS TO PROCESS SUMP

TEST MEDIUM AIR
TEST PRESSURE 5#
NO. OF GAUGES 2
GAUGE CAL. DATE N/A
TIME HELD 1 HR
CHART NO. N/A

COMMENTS SUMP PUMP REMOVED FOR TEST

ABBR QC

NAME LANCE COATS
SIGNATURE Lance Coats
DATE 10-22-98

CLIENT ALLEN T. WALKER

NAME Allen T Walker
SIGNATURE
DATE 10-22-98

ABB
ASEA BROWN BOVERI

TEXACO
NORTH AMERICA PRODUCTION
BUCKEYE CO_2 PROJECT
LEA COUNTY, NEW MEXICO

SYSTEM MECHANICAL COMPLETION
CARE, CUSTODY & CONTROL
TRANSFER DOCUMENT

DATE: _____

TEXACO
NORTH AMERICA PRODUCTION
BUCKEYE CO_2 PROJECT
LEA COUNTY, NEW MEXICO

Attention: AL ERWIN

Subject: SYSTEM CARE, CUSTODY & CONTROL TRANSFER

Gentlemen:

With the completion of the SYSTEM FINAL PUNCH LIST ITEMS for the FLARE & CLOSED DRAIN System, and with all *Exception Items* identified on the attached *Exception Items List,* ABB Randall Construction Management hereby transfers the CARE, CUSTODY & CONTROL of the FLARE & CLOSED DRAIN System to TEXACO, NORTH AMERICA PRODUCTION.

Acceptance of CARE, CUSTODY & CONTORL means that TEXACO, NORTH AMERICA PRODUCTION accepts the System to be MECHANICALLY COMPLETE except for the items listed on the APPROVED "*Exception Items List*", and the System has passed the Process System Safety Revies (PSSR). This allows TEXACO, NORTH AMERICA PRODUCTION to proceed with the Commissioning and Startup of the above noted System.

Please sign and retain one (1) copy for your records and return the ORIGINAL signed copy to the ABB Randall Project Manager.

ABB Randall Corporation
Project Manager

Date: 10-23-98

Texaco, North America Production
Project Manager

Date: 10/23/98

ABB Randall Corporation

10255 Richmond
Houston, Texas 77042
Post Office Box 420087
Houston, Texas 77242-0087

Telephone (713) 735-6800
Fax (713) 735-6599

Telex 76-2034

RELEASE FOR FINAL PUNCH

CLIENT TEXACO

PROJECT BUCKEYE CO_2 PROJECT NO. 80170

SYSTEM TWO PHASE INLET GAS AND METERING

THE ABOVE MENTIONED SYSTEM HAS BEEN TESTED AND COMPLETED BY CONSTRUCTION AND IS NOW READY FOR FINAL PUNCH BY TEXACO FOR TURNOVER.

CONSTRUCTION SUPERVISOR

NAME Jerry Whitlow TITLE Assit. Const. Mgr.

SIGNATURE Jerry Whitlow DATE 10/10/98

ABB RANDALL QC

NAME LANCE COATS

SIGNATURE Lance Coats

DATE 10-10-98

CLIENT

NAME ALLEN T. WALKER

SIGNATURE Allen T. Walker

DATE 10-12-98

RELEASE FOR FINAL PUNCH

CLIENT TEXACO

PROJECT BUCKEYE CO_2 PROJECT NO. 80170

SYSTEM CLOSED DRAIN PHASE I

THE ABOVE MENTIONED SYSTEM HAS BEEN TESTED AND COMPLETED BY CONSTRUCTION AND IS NOW READY FOR FINAL PUNCH BY TEXACO FOR TURNOVER.

CONSTRUCTION SUPERVISOR

NAME Jerry Whitlow TITLE Ass't. Const. Mgr.

SIGNATURE Jerry Whitlow DATE 10/7/98.

ABB RANDALL QC

NAME LANCE COATS

SIGNATURE Lance Coats

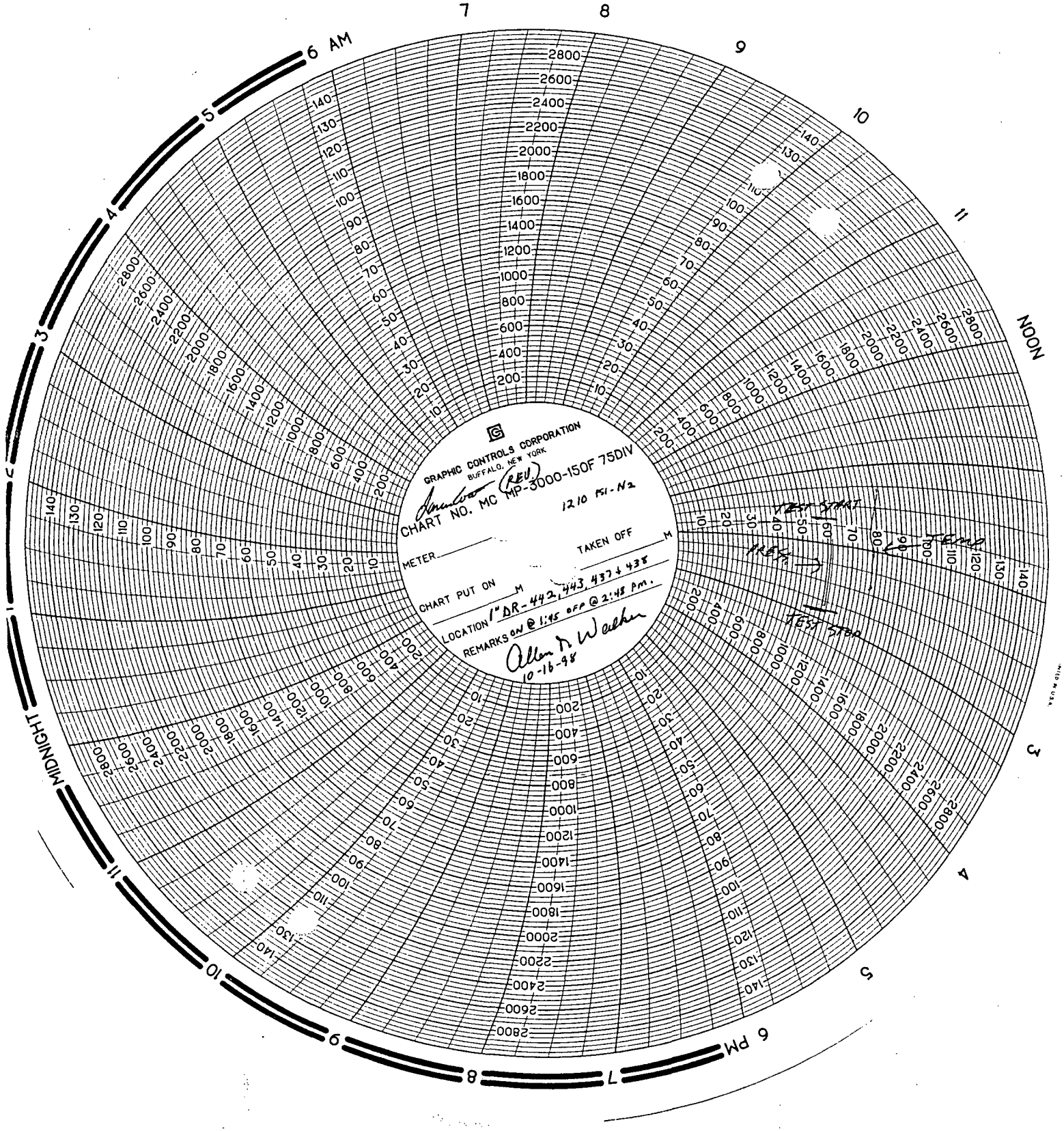
DATE 10-7-98

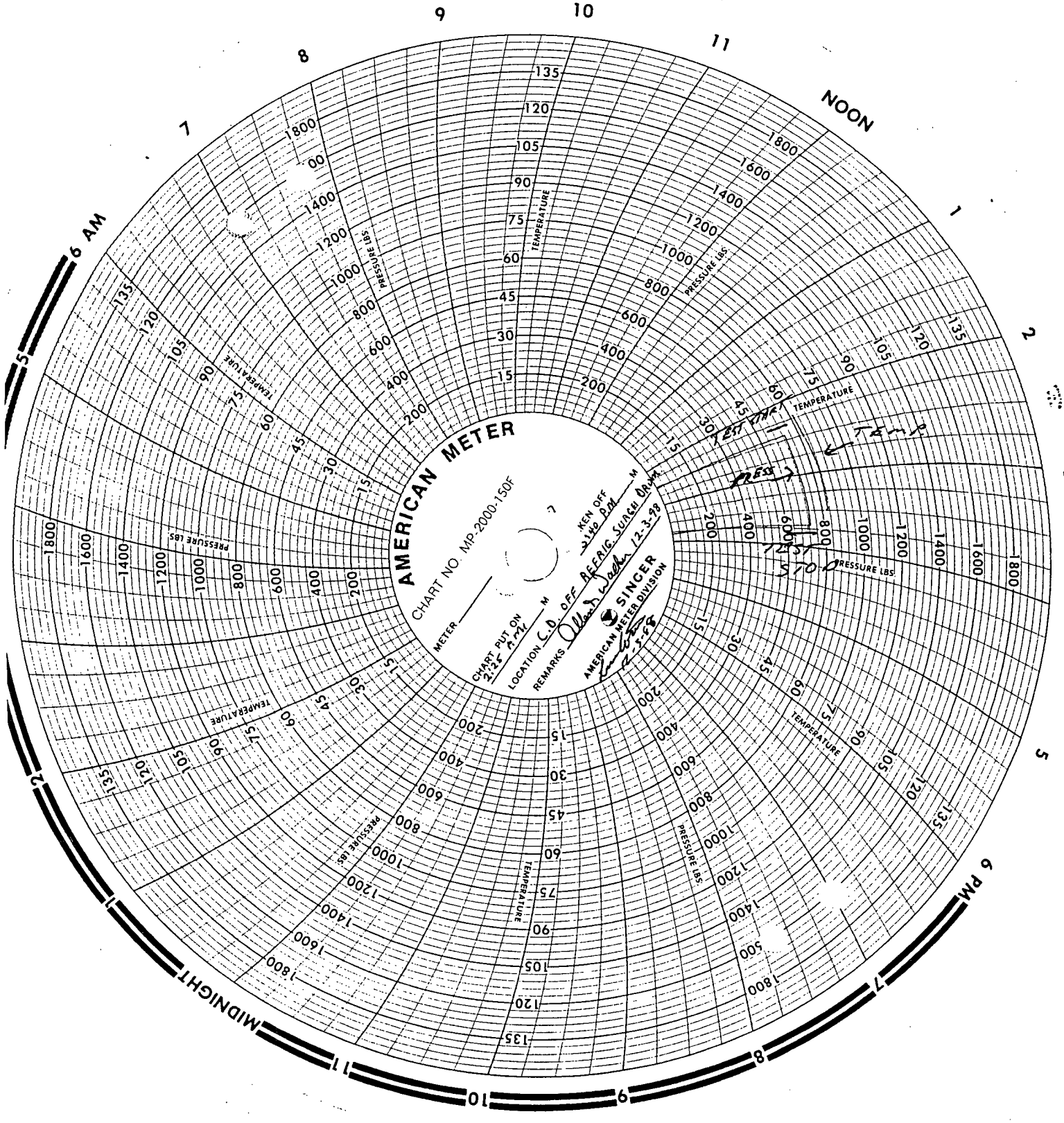
CLIENT

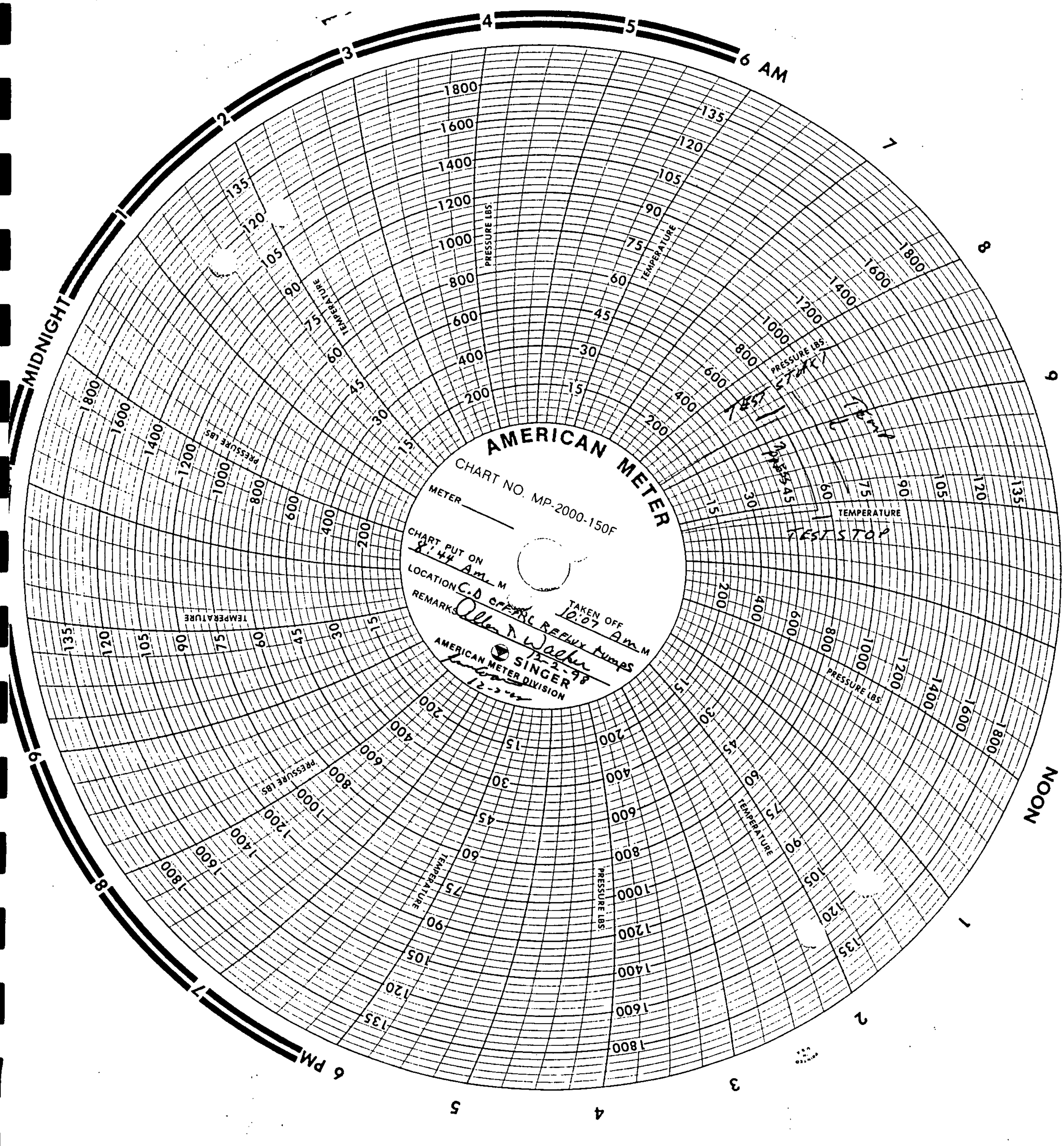
NAME D. L. Ellis

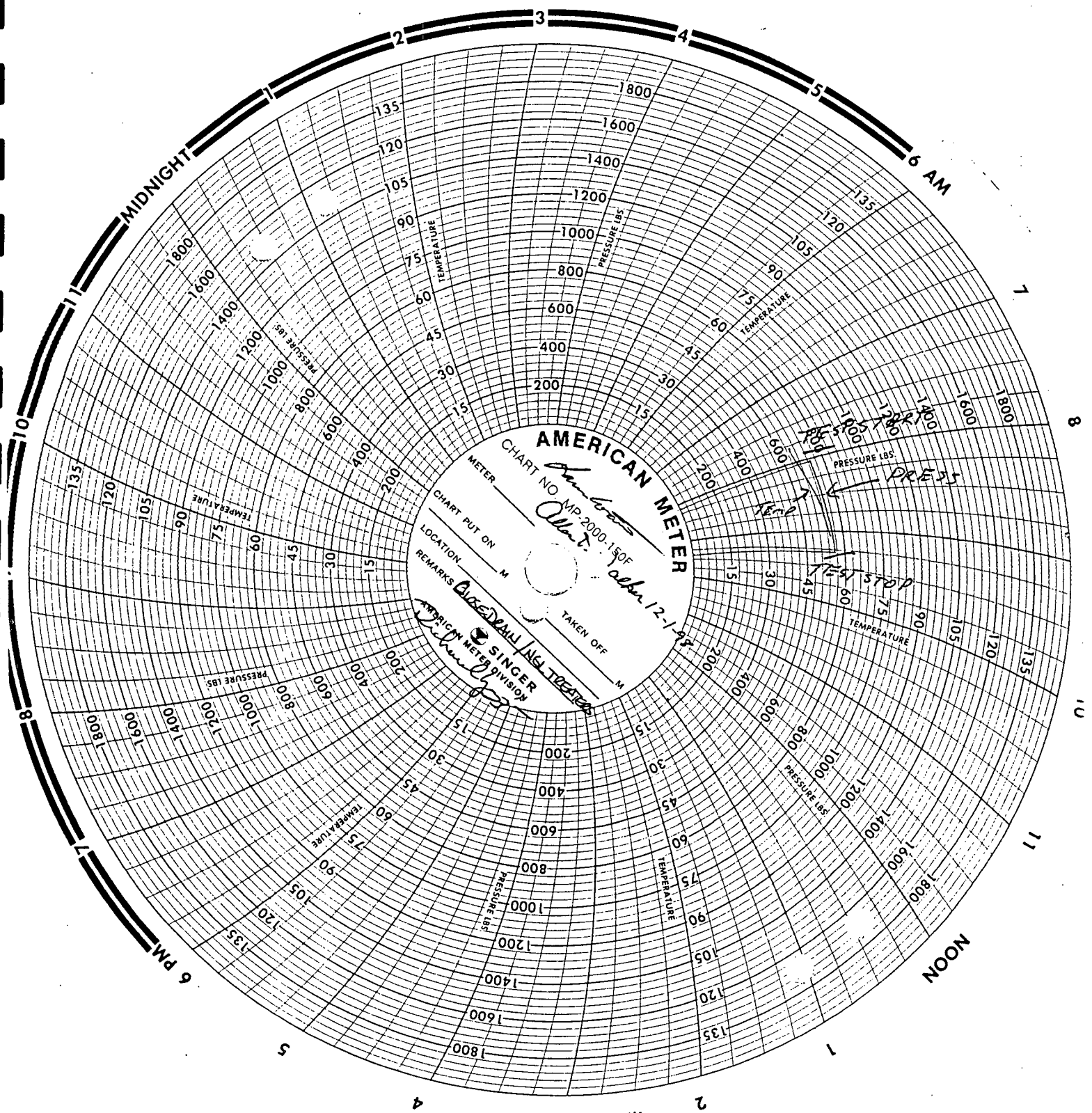
SIGNATURE

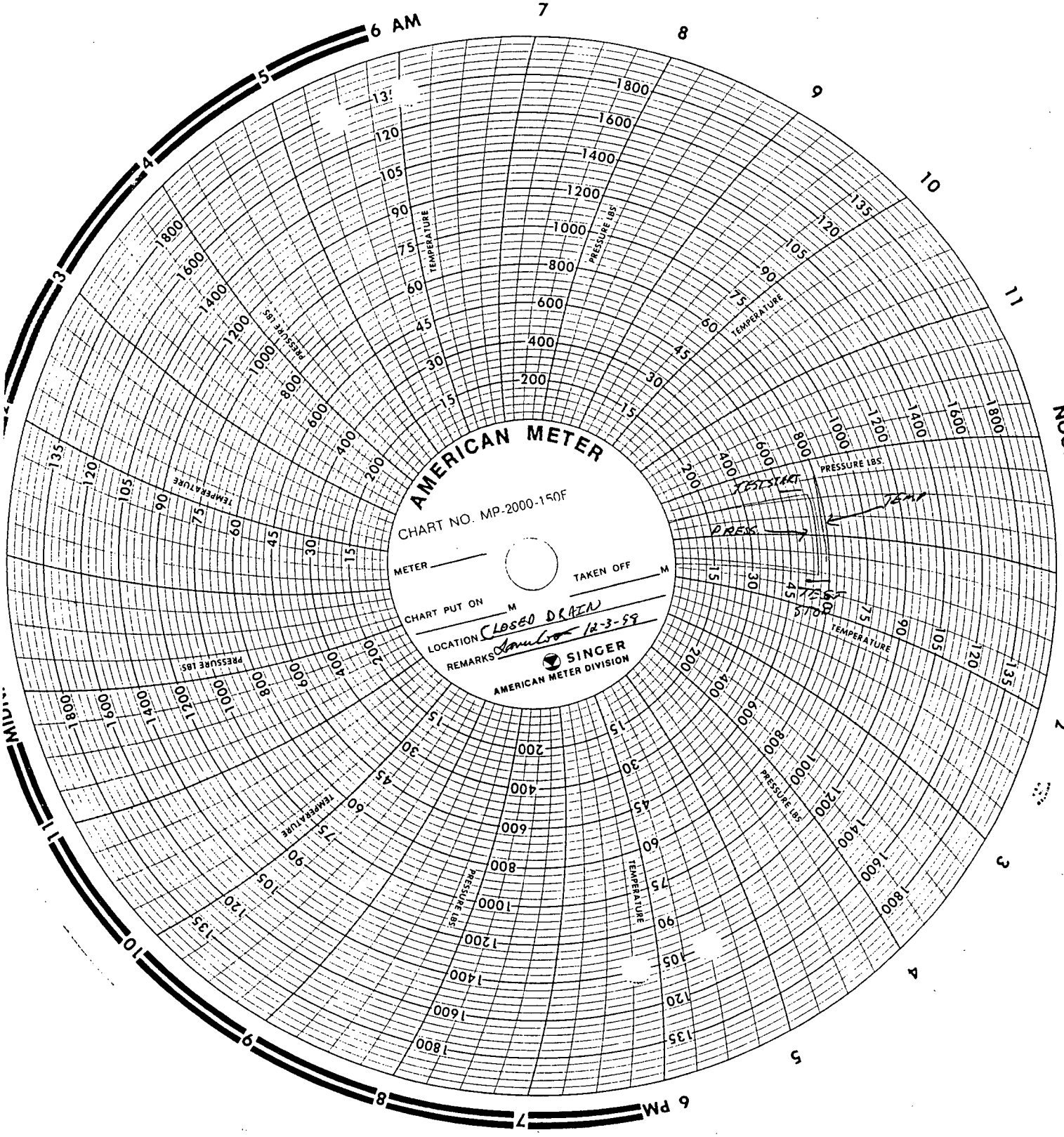
DATE 10/8/98

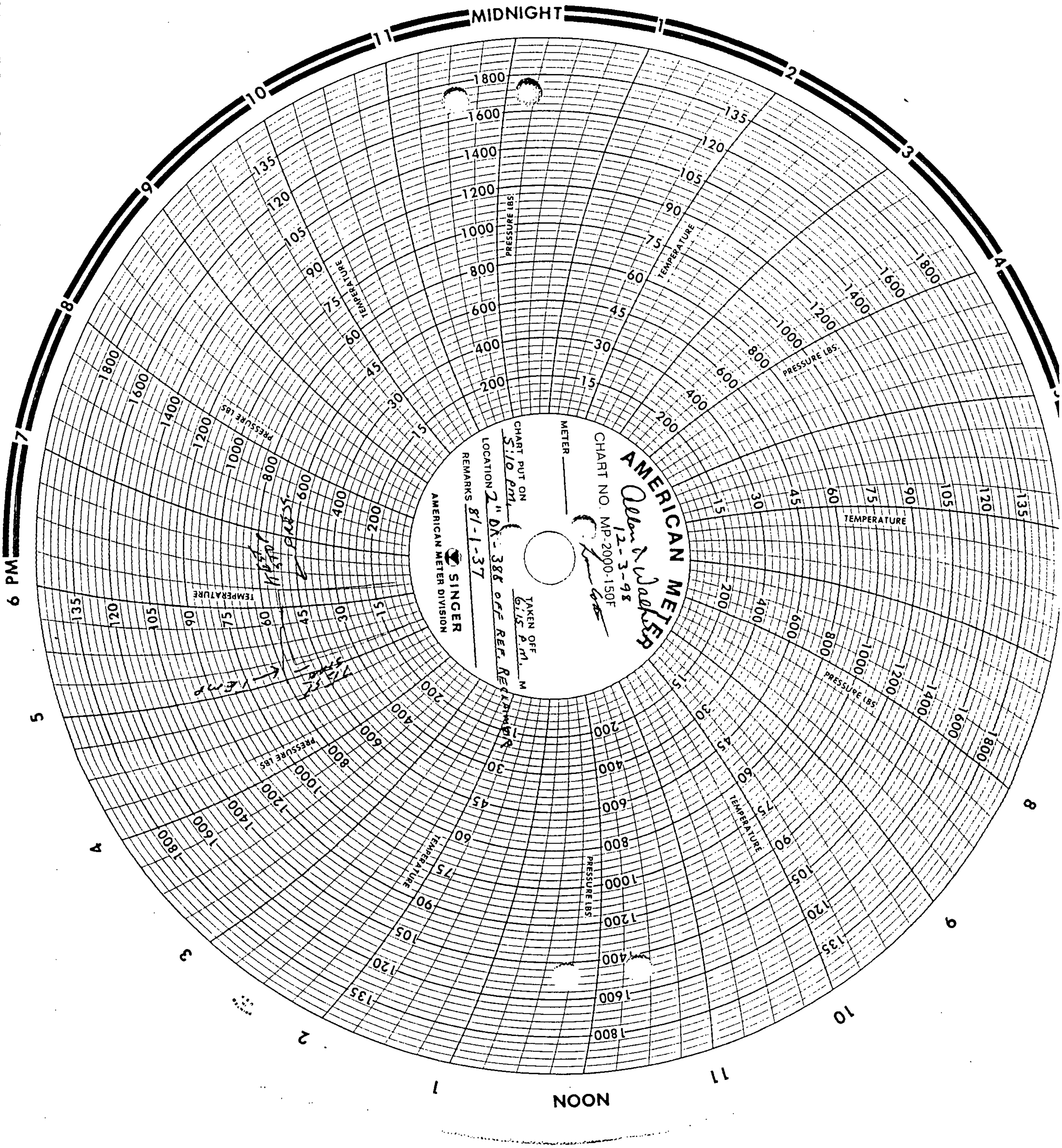

GRAPHIC CONTROLS CORPORATION
BUFFALO, NEW YORK
CHART NO. MC MP-3000-150F 75DIV
(REV)
1210 PSI - N2
METER
TAKEN OFF
M
CHART PUT ON
M
LOCATION 1" DR - 442, 443, 437 & 438
REMARKS on @ 1:45 off @ 2:45 PM.
Allen D. Walker
10-16-98
MIDNIGHT
6 AM
NOON
6 PM

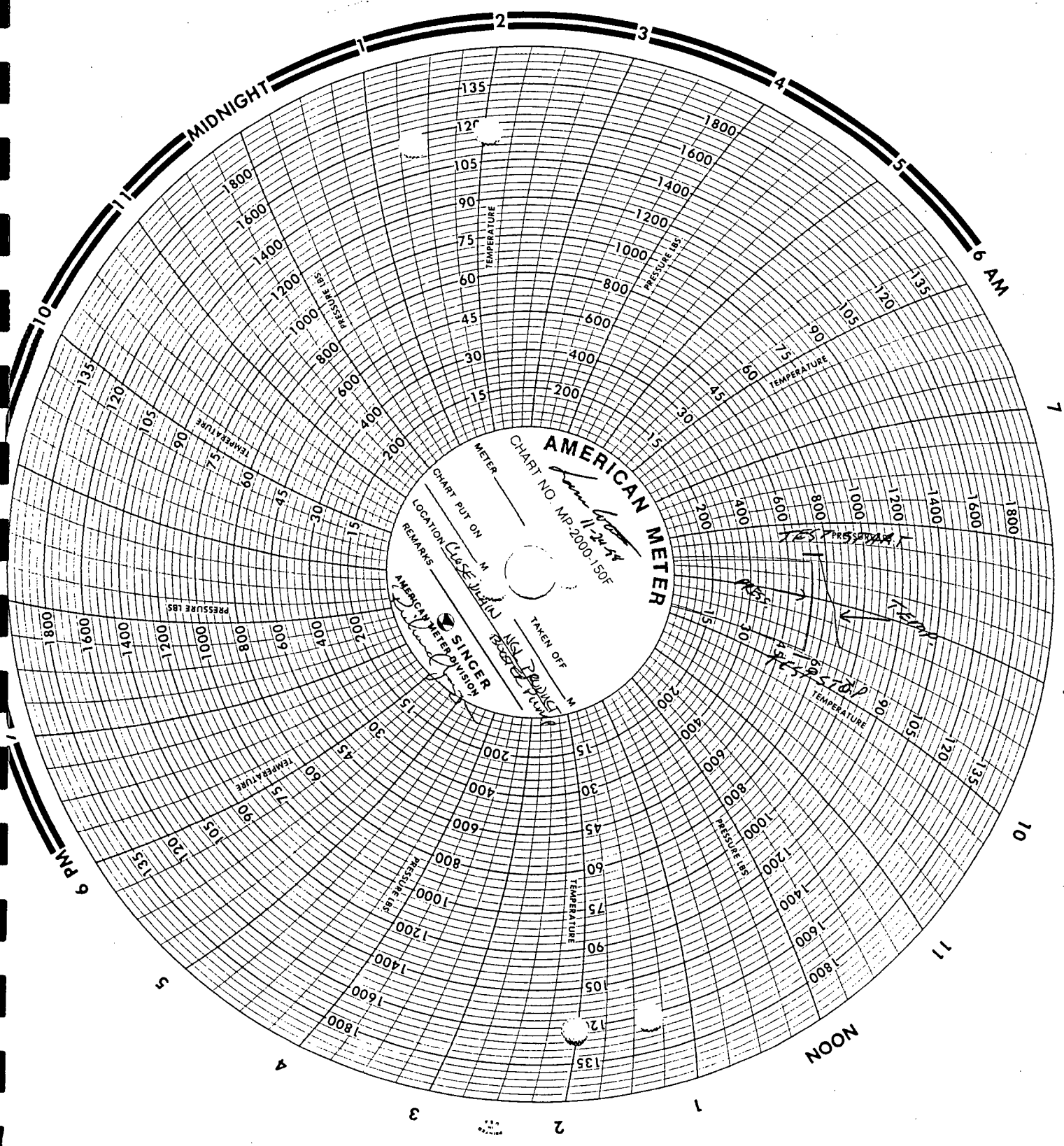

AMERICAN METER
CHART NO. MP-2000-150F
METER
CHART PUT ON 2:15 A.M.
LOCATION C.D. OFF REFRIG. SUCTION
REMARKS
KEN OFF 2:40 PM
SINGER
AMERICAN METER DIVISION
12-3-98
NOON
6 AM
MIDNIGHT
6 PM
TEMPERATURE
PRESSURE LBS

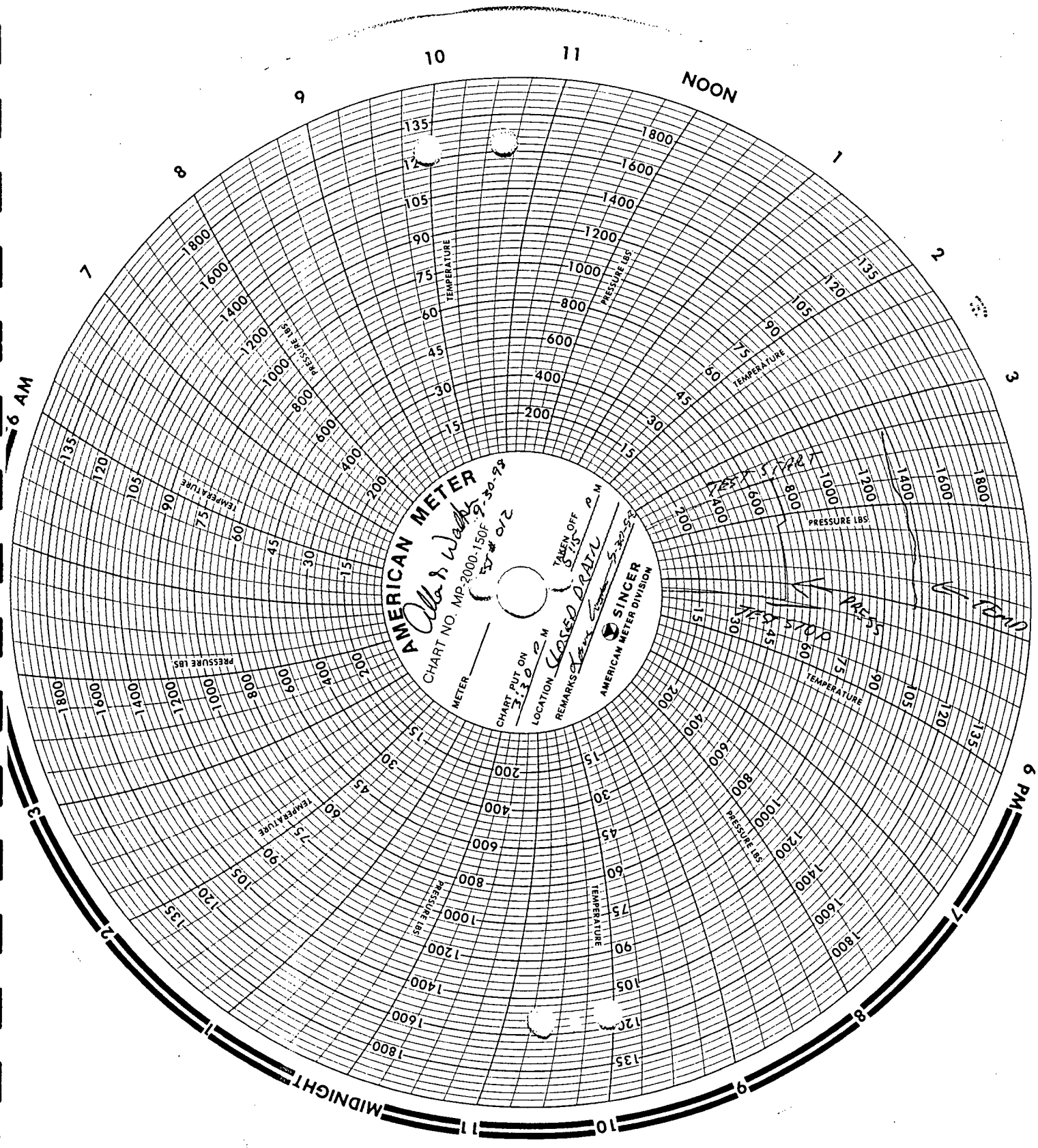

AMERICAN METER
CHART NO. MP-2000-150F
METER
CHART PUT ON
8:44 Am M
LOCATION
TAKEN OFF
10:07 Am M
REMARKS
SINGER
AMERICAN METER DIVISION
PRESSURE LBS.
TEMPERATURE
MIDNIGHT
6 AM
NOON
6 PM
TEST START
TEST STOP
Temp

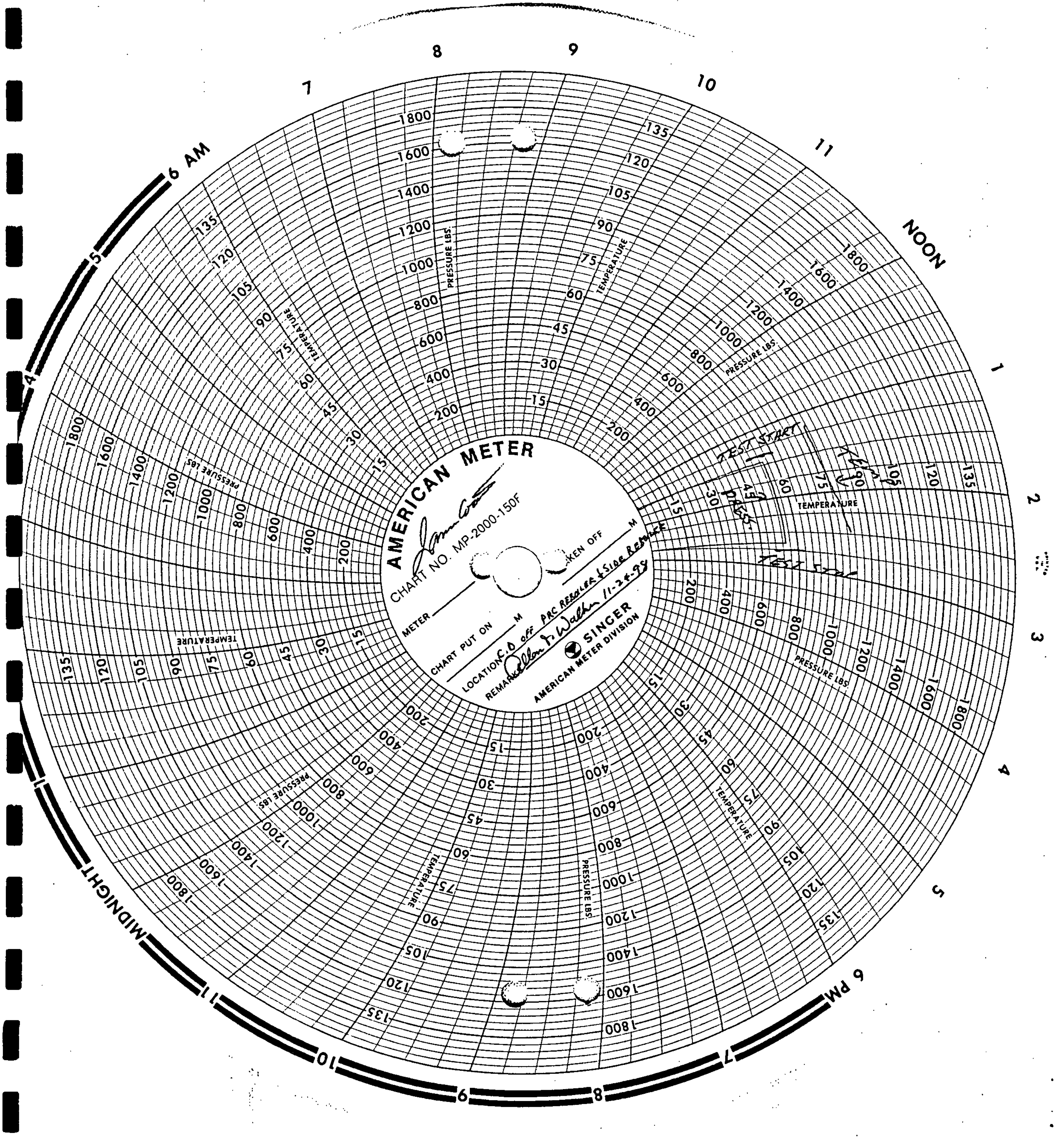

AMERICAN METER
CHART NO. MP-2000-150F
METER
CHART PUT ON
LOCATION
REMARKS
TAKEN OFF
SINGER
AMERICAN METER Division
MIDNIGHT
6 AM
NOON
6 PM
TEMPERATURE
PRESSURE LBS


AMERICAN METER
CHART NO. MP-2000-150F
METER
TAKEN OFF
CHART PUT ON
LOCATION CLOSED DRAIN
REMARKS
SINGER
AMERICAN METER DIVISION
6 AM
NOON
6 PM
MIDN
PRESSURE LBS.
TEMPERATURE
YESTERDAY
TODAY
PRESS.


MIDNIGHT
NOON
6 PM
AMERICAN METER
CHART NO. MP-2000-150F
METER
CHART PUT ON 5:10 pm
TAKEN OFF 6:15 P.M.
LOCATION 2" DX-388 off Ref. Reclaimer
REMARKS 81-1-37
12-3-98
SINGER
AMERICAN METER DIVISION
PRESSURE LBS.
TEMPERATURE


AMERICAN METER
CHART NO. MP-2000-150F
METER
CHART PUT ON
LOCATION
REMARKS
TAKEN OFF
SINGER
AMERICAN METER DIVISION
MIDNIGHT
6 AM
NOON
6 PM
PRESSURE LBS
TEMPERATURE


AMERICAN METER
CHART NO. MP-2000-150F
METER
CHART PUT ON
LOCATION
REMARKS
TAKEN OFF
SINGER
AMERICAN METER DIVISION
NOON
MIDNIGHT
6 AM
6 PM
TEMPERATURE
PRESSURE LBS


AMERICAN METER
CHART NO. MP-2000-150F
METER
CHART PUT ON M
TAKEN OFF M
LOCATION C.D. off PRC Regulator & Side Remarks
REMARKS Allen J. Walker 11-24-99
SINGER
AMERICAN METER DIVISION
TEST START
PASS
TEMPERATURE
PRESSURE LBS.
NOON
6 AM
6 PM
MIDNIGHT