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PROJECT COMPLETION REPORT FOR PIPELINE ABANDONMENT NAS KEY WEST FL

10/1/1998

BECHTEL ENVIRONMENTAL INC

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PROJECT COMPLETION REPORT
DELIVERY ORDER NO.73
PIPELINE ABANDONMENT
AT
NAVAL AIR STATION
KEY WEST, FLORIDA

Prepared for

DEPARTMENT OF THE NAVY
SOUTHERN DIVISION
NAVAL FACILITIES ENGINEERING COMMAND

Under Contract No. N62467-93-D-0936

Prepared by

BECHTEL ENVIRONMENTAL, INC.
OAK RIDGE, TENNESSEE

BECHTEL JOB NO. 22567

Z1.11 1973

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REVISION 0

Bechtel Job No. 22567

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ACRONYMS AND ABBREVIATIONS

AVGAS	aviation gasoline
Bechtel	Bechtel Environmental, Inc.
FAC	Florida Administrative Code
FDEP	Florida Department of Environmental Protection
NAS	Naval Air Station
ppm	parts per million
PPR	Project Plan Revision
PWC	Petroleum Contact Water
RAC	Response Action Contractor
SOUTHDIV	Naval Facilities Engineering Command, Southern Division

1. INTRODUCTION

Bechtel Environmental, Inc. (Bechtel) was contracted by the Department of the Navy, Naval Facilities Engineering Command, Southern Division (SOUTHDIV), to provide remedial services as the Navy's Environmental Response Action Contractor (RAC). Under Delivery Order 0073 of Prime Contract N62467-93-D-0936, Bechtel was contracted to close and abandon underground fuel pipelines on both Key West and Boca Chica.

This remedial action included cleaning, testing and abandoning pipelines associated with Naval Air Station (NAS) Key West's fuel transfer facilities on the islands of Boca Chica and Key West.

On the island of Boca Chica three pipelines were included in this project:

- Two 6-inch JP-5 pipelines from Valve Pit No. 1 to the fuel farm manifold.
- One 6-inch aviation gasoline (AVGAS) pipeline from Valve Pit No. 1 to the fuel farm manifold.

On the island of Key West three pipelines were included in this project:

- One 8-inch diesel pipeline from Trumbo Point Fuel Farm to Front St. valve pit.
- One 10-inch fuel oil pipeline from Trumbo Point Fuel Farm to Front St. valve pit.
- One 10-inch diesel pipeline from Front St. valve pit to the Outer Mole.

The As-Built drawings included in Appendix 1 show the routing of the pipelines that were closed and abandoned.

1.1 SITE DESCRIPTION

1.1.1 Boca Chica Pipeline History

These pipelines were installed in 1961 and provided for the transfer of jet fuel and AVGAS from Pier 934 to the fuel farm on Boca Chica. The distance from the pier to the fuel farm, along the route of the pipelines, is approximately 6,100 feet.

1.1.2 Key West Pipeline History

In 1968-69 an 8-inch diesel pipeline and a 10-inch fuel oil line were constructed to transfer diesel and fuel oil between the fuel storage facility at Trumbo Point Fuel Farm and the fuel storage facility constructed on Tank Island.

In 1985 the segment from Tank Island to Key West was abandoned. The remainder of the 10-inch fuel oil line to Trumbo Point Fuel Farm was deactivated. The 8-inch diesel fuel line from Trumbo Point Fuel Farm remained in service and a 10-inch diesel line was constructed from the end of the 8-inch line to the Outer Mole.

In 1987 a private developer relocated the pipeline for a project along Front Street. The developer installed a valve pit at Front and Green Street and another pit at Eaton Street on Truman Annex. The 10-inch pipeline was relocated between these two value pits and extended to the PHM Berthing Wharf where it was connected to the existing 10-inch diesel pipeline.

1.2 REGULATORY SETTING

Remedial actions were implemented following the guidelines of Florida Administrative Code (FAC) Chapters 62-761 and 62-762. Spent cleaning solutions were managed as petroleum contact water (PWC) as described in FAC Chapter 62-740.

2. CLEANUP OBJECTIVE

The primary contaminant of concern for this remedial project was petroleum products. The Navy had ceased using these underground pipelines and in most cases they were not drained or cleaned of the remaining fuels.

The cleanup objective of this remedial action included the following:

- Drain the lines of any remaining fuels.
- Perform an integrity test on the lines to determine if they had any holes or leaks.
- Perform leak detection to locate any suspected leaks.
- Clean the lines to remove any residual fuels and sludges.
- Filling of the pipelines with inert material.

Plans and specifications were prepared detailing the procedures to be followed in completing this remedial action. Under contract to SOUTHDIV, Enterprise Engineering, Inc. prepared plans, specifications and procedures to clean and abandon the underground fuel pipelines on NAS Key West. These documents included:

- Design Report – Abandon Underground Pipelines, Dated January 1997 [1]
- Design Specifications – Abandon Underground Pipelines [2]
- Design Drawings
  - T-1 Cover Sheet
  - M-1 Key West Fuel Pipeline Route
  - M-2 Piping Modifications and Notes
  - M-3 Site Plans and Pit Modifications
  - M-4 Key West Fuel Pipelines Photographs I
  - M-5 Key West Fuel Pipelines Photographs II
  - M-6 Boca Chica Fuel Pipeline Route
  - M-7 Valve Pit Modifications and Notes
  - M-8 Piping Modifications
  - M-9 Boca Chica Pipeline Photographs

Copies of the As-Builts of these drawings are included in Appendix 1.

2.1 WORK PLAN

Bechtel prepared a work plan detailing the procedures used to implement the above plans and specifications. Also included in the work plan were details of the equipment to be used for this scope of work.

The work plan included coordination requirements with the Navy, the City of Key West, the public and adjacent property owners.

As the work progressed, some changes and additions were required to the work plan. These changes were implemented with Bechtel's Project Plan Revision (PPR) process. The following PPRs were incorporated into the work plan:

- PPR-324-001 – Added the revised test pressures and test times to the work plan. [3]
- PPR-324-002 – Added the pipeline integrity test procedures to the work plan. [4]
- PPR-324-003 – Added detailed requirements for the pigging of the 10" "Bunker C" pipeline that ran from the Front Street Valve Pit to Trumbo Point Fuel Farm. [5]
- PPR-324-004 – Added the pipeline foam filling procedures to the work plan. [6]
- PPR-324-005 – Added the requirements and sequence of work activities for the source removal at the intersection of Caroline and William Streets. [7]

3. REGULATORY APPROVAL

The Florida Department of Environmental Protection (FDEP) reviewed and approved the NAS Key West Pipeline Abandonment Project Plans and Specification that were prepared by Enterprise Engineering, Inc. [8]

Prior to the start of work, the use of the tracer gas, sulfur hexaflouride, was approved by FDEP. [9] This gas was used to locate leaks in pipelines that fail the pipeline integrity test.

Prior to the start of pipeline filling, the use PetroFill Foam to fill the pipelines was conditionally approved by FDEP. [9]

After the start of work, some of the requirements that were in the plans and specifications prepared by Enterprise Engineering, Inc. and approved by FDEP required changes. These changes were forwarded to FDEP for their concurrence. FDEP approved the following changes [10]:

- Reduced the pressure for the pipeline integrity test from 100 psi to 50 and 65 psi.
- Changed the cleanliness test from headspace readings to a visual inspection.
- Approved the use of the PetroFill product to fill the pipeline in areas "under assessment."

4. SUBCONTRACTING

Several key Subcontractors were used to complete the work included in this delivery order.

Subcontractor	Scope	Prime or Lower Tier
Flowmore Services P. O Box 692005-300 Houston, TX 77269	Pipeline Cleaning	Prime
Morco Testing, Inc. 2516 Revere Dr. Pasadena, TX 77502	Pipeline Integrity Testing and Leak Detection	Lower Tier
Redwine Testing Services, Inc. P. O Box 1567 Bakersfield, CA 93302	Pipeline Foam Filling	Prime
Magnum Environmental Services, Inc. 1280 NE 48th Street Pompano Beach, FL 33064	Waste Disposal	Prime
Hot Arc, Inc. 935 107th St. Gulf Marathon, FL 33050	Welding, Pipefitting and Miscellaneous Services	Prime

5. EXECUTION OF WORK

5.1 MOBILIZATION

Bechtel mobilized to the field on October 6, 1997 with a site superintendent, a field engineer and a health and safety officer. Direct hire personnel were used as labors and pipefitters to drain the valve pits, remove the existing valves and drain the remaining fuels from the pipelines. Once these activities were complete, the pipeline testing and cleaning subcontractor was mobilized to the site. When the pipeline integrity tests and cleaning activities were completed, the pipeline foam filling subcontractor was mobilized to the site for the pipeline filling.

5.2 DATES AND SIGNIFICANT EVENTS

- 23 Sept 97 Conducted Preconstruction meeting at the station.
- 06 Oct 97 Completed mobilization to the site and performed site orientation of direct hire employees.
- 07 Oct 97 Begin removing bolts from valves in pits on Boca Chica.
- 10 Oct 97 Begin removing valves and draining product from pipelines on Boca Chica
- 16 Oct 97 Pipeline testing and cleaning subcontractor (Flowmore) mobilized to the site. Work continued on valve removal and pipeline draining on Boca Chica.
- 17 Oct 97 Flowmore started installing blind flanges in Valve Pit No. 10 and No. 11 for pipeline integrity testing. Valve removal and pipeline draining continued.
- 21 Oct 97 Flowmore started conducting pipeline integrity tests on pipelines on Boca Chica.
- 22 Oct 97 Completed valve removal and pipeline draining. Continued with pipeline integrity testing on Boca Chica.
- 23 Oct 97 Started valve removal on Key West. Continued with pipeline integrity testing on Boca Chica.
- 27 Oct 97 Completed pipeline integrity testing on Boca Chica. 27 pipeline segments were tested. Only Test Section #8, pipeline JP-5#3 failed the integrity test and required leak detection. The leak was located in the crossover piping at the culverts. See Appendix 7 for details.
- 28 Oct 97 Begin setup for the pigging of the pipelines on Boca Chica. Continued valve removal on Key West.
- 29 Oct 97 Completed pipeline integrity test on 8 inch pipeline on Key West from Eaton St. manhole to the Outer Mole. Pipeline section passed the integrity test.
- 30 Oct 97 Completed pipeline integrity test on 8 inch pipeline on Key West from Eaton St. manhole to Trumbo Point Fuel Farm. Pipeline section passed the integrity test.
- 31 Oct 97 Completed pipeline integrity testing on 10 inch pipeline on Key West from Eaton St. manhole to Trumbo Point Fuel Farm. Pipeline section passed the integrity test.
- 1 Nov 97 Fuel appeared in the street at the intersection of Caroline and William Streets at 3:00 am. A high point vent valve on the 10 inch pipeline, that was not identified on the drawings, was suspected to have leaked and the fuel seeped up through the asphalt and into the street. Bechtel and the Navy responded and performed emergency cleanup.
- 3 Nov 97 Finished cleaning and pigging the AVGAS pipeline and one of the Jet Fuel pipelines on Boca Chica. Started setup for pigging and cleaning activities for the Key West pipelines.
- 4 Nov 97 Finished cleaning and pigging activities on Boca Chica. Completed setup activities on Key West for pigging and cleaning the pipelines from the Trumbo Point Fuel Farm to the Outer Mole.

- 5 Nov 97 Completed pigging and cleaning activities of the 8 inch pipeline from the Outer Mole to Trumbo Point Fuel Farm.
- 11 Nov 97 Sampling activities were conducted at the intersection of Caroline and William Streets.
- 12 Nov 97 Completed sampling activities at the intersection of Caroline and William Streets. Repaired broken storm sewer on the east side of the intersection. This existing break in the storm sewer was allowing fuel to seep in and potentially could be discharged into the bay.
- 13 Nov 97 Begin pigging and cleaning activities of the 10 inch pipeline from Front Street to Trumbo Point Fuel Farm. During the pigging activities a 4 inch camlock hose connected to the frac tank at Trumbo Point Fuel Farm became loose and spilled approximately 120 gallons of Bunker "C" fuel on the ground. An emergency response was initiated and the fuels and contaminated soils were removed.
- 14 Nov 97 Completed cleanup at site of the Trumbo Point Fuel Farm spill. Collected soil samples and headspace readings in the spill area. Completed backfill and demobilized pipeline cleaning and testing subcontractor.
- 19 Nov 97 Placed sod on Trumbo Point Fuel Farm spill area.
- 25 Nov 97 A meeting was held with NAS Key West, SOUTHDIV, FDEP and Bechtel to discuss the leak at the intersection of Caroline and William Streets. The decision was made at the meeting to replace all the storm sewer lines at the intersection with ductile iron piping and to perform additional source removal.
- 8 Dec 97 Remobilized pipeline cleaning and testing subcontractor.
- 9 Dec 97 Pigged the 10 inch pipeline from the Front Street valve pit to Trumbo Point Fuel Farm. 14,000 gallons of fuel removed.
- 10 Dec 97 Cleaned the 10 inch pipeline from the Front Street valve pit to Trumbo Point Fuel Farm.
- 11 Dec 97 The pipeline integrity test on the 10 inch pipeline from the Front Street valve pit to Trumbo Point Fuel Farm was redone and the pipeline segment passed the testing. Contaminated soils from project were removed.
- 12 Dec 97 Demobilized the pipeline cleaning and testing subcontractor.
- 15 Dec 97 Started site preparation for storm sewer line replacement at intersection of Caroline and William Streets.
- 18 Dec 97 Finished storm sewer line replacement the intersection of Caroline and William Streets. Excavated vent line and recovered free product.
- 19 Dec 97 Navy Public Works resurfaced excavated areas at intersection of Caroline and William Streets.
- 19 Jan 98 Mobilized pipeline filling subcontractor.
- 20 Jan 98 Started pipeline filling activities at Boca Chica
- 23 Jan 98 Pipeline filling activities continued at Boca Chica. The pipeline filling subcontractor was having difficulties achieving desired distances. Modifications were made to the foaming equipment to improve distances.

- 26 Jan 98 Site preparation work began for Source Removal at the intersection of Caroline and William Streets. Pipeline filling subcontractor started using a sacrificial ¾ treime pipe to increase the distance of the foam pipeline shots on Boca Chica.
- 27 Jan 98 Streets were blocked and excavation activities for the Source Removal began at the intersection of Caroline and William Streets. Foam filing work continued on Boca Chica.
- 28 Jan 98 Excavation activities were completed at the intersection of Caroline and William Streets. Soil samples were collected at the edges of the excavation. Foam filling work continued on Boca Chica.
- 29 Jan 98 Placed 45 cubic yards of Controlled Low-Strength Material backfill at the intersection of Caroline and William Streets. Foam filling work continued on Boca Chica.
- 30 Jan 98 Paving work was completed at the intersection of Caroline and William Streets. Foam filling continued on Boca Chica. The foam filling subcontractor brought in the foam supplier's technical representative for consultation.
- 3 Feb 98 A meeting was held with NAS Key West, SOUTHDIV and Bechtel to discuss the status of the foam filling work. [10]
  - The decision was made to discontinue further pipeline filling on Boca Chica. About one half of the pipelines were filled with foam.
  - The pipelines on Key West will be filled from existing pipe access locations. NAS Key West expressed concerns about drilling access points in City streets in areas of known petroleum contamination.
  - These changes in the pipeline filling scope were coordinated by SOUTHDIV with FDEP.
- 4 Feb 98 Started pipeline foam filling on Key West.
- 6 Feb 98 Finished foaming all accessible pipeline locations on Key West and demobilized foam filling subcontractor.
- 11 Feb 98 Shipped 6 truckloads of petroleum contaminated soils from the excavation activities at the intersection of Caroline and William Streets.
- 12 Feb 98 Shipped 1 truckload of petroleum contaminated soils from the excavation activities at the intersection of Caroline and William Streets. Demobilized Bechtel field crew.

5.3 PLANNED VS. ACTUAL WORK ACTIVITIES

5.3.1 Deviations from Planned Work Activities

5.3.1.1 Pipeline Integrity Testing – Changed pressure levels and Test Times

The design specifications required that the pipelines be tested to a pressure of 100 pounds per square inch with a minimum of a four-hour test period. Bechtel was concerned that this high pressure could result in a catastrophic pipeline failure, especially in downtown Key West pipelines that may have been damaged by utility contractors. The other concern was for shorter pipeline runs the four-hour test duration could result in inaccurate integrity tests.

Bechtel reviewed the pipeline integrity testing calculations that were prepared by the design firm and recommended that lower test pressures be used and the test times be adjusted based on the actual pipeline lengths. Bechtel prepared alternative calculations and these were included in PPR 324-001. [3]

5.3.1.2 Piping Modifications

The design specifications required extensive piping modifications on the Boca Chica fuel lines, especially at the Boca Chica Fuel Farm. Some of these modifications required welding to active fuel lines and scheduling outages with the Fuel Farm. Bechtel reviewed the required changes and developed alternative approaches that eliminated the welding to active lines and the need for fuel line outages. These changes were documented in RFV-324-001. [11]

5.3.2 Delays and Problems Encountered

5.3.2.1 Fuel in the Pipelines

The design specifications indicated that the assumed volume of fuel in the pipelines on Boca Chica was 10,100 gallons of AVGAS and 1,300 gallons of Jet Fuel for a total of 11,400 gallons. The approximate volume of fuel disposed of from Boca Chica was a total of 21,500 gallons.

The design specifications indicated that the volume of fuel remaining in the Key West pipelines was 840 gallons. The approximate volume of fuel removed was 14,000 gallons.

5.3.2.2 Pipeline Cleaning Criteria

The design specifications required that the pipelines be checked for cleanliness by flushing them with nitrogen and monitoring the vapor concentration of the exiting gas. The criteria for vapor concentration was 50 parts per million (ppm). When this test was conducted the results were far higher than the 50 ppm criteria. See Appendix 2 for testing results. CITRIKLEEN was used by the pipeline cleaning subcontractor in the cleaning solution and it produced high vapor concentration readings on the flame ionization meter. The criteria was revised to a visual cleanliness inspection of the pipeline. The change was approved by FDEP. [12]

5.3.2.3 Caroline Street and Williams Street Leak and Source Removal

A damaged high point vent valve on the 10 inch pipeline that ran from the Trumbo Point Fuel Farm to the Front Street valve pit started to leak after the pipeline integrity testing was performed on this line. This high point vent was located at the intersection of Caroline and William Streets in Key West. Fuel started leaking through the pavement at 3:00 am on November 1, 1997. The following are facts pertaining to this incident:

- The design drawings did not show the high point vents at this location.
- The design drawings and design report indicated that the line was drained when it was abandoned and contained approximately 840 gallons of fuel.
- The pipeline did past the integrity test, although the pressure did slightly drop at the end of the test.
- The testing subcontractor was locked out of Trumbo Point Fuel Farm, and could not drain the compressed nitrogen from the line.

Bechtel was notified of the leak and responded with the Navy to provide emergency response. The pressure was drained from the pipeline, the area of the leak was excavated, the damaged vent valve was removed, and the line was capped. Bechtel replaced the existing old broken clay pipe storm sewer lines at the request of the Navy and the City of Key West and performed a source removal at this intersection. The work activities related to this incident are included in Section 5.2 of this report. The following reports related to this site are included:

- Discharge Reporting Form – Appendix 3.
- FDEP Emergency Response Incident Investigative Report – Appendix 4.
- Source Removal Report – Appendix 5.
- FDEP's Review of Source Removal Reports – Appendix 6.

5.3.2.4 Camlock Hose Spill

On November 13, 1997, the remaining fuels were being driven from the 10 inch pipeline that ran from the Trumbo Point Fuel Farm to the Front Street valve pit. During this fuel removal, the camlock fitting at the frac tank came loose and approximately 120 gallons of fuel were spilled at Trumbo Point Fuel Farm. Bechtel and its subcontractor responded immediately to the spill, removed the contaminated soils, backfilled and planted sod at the site. A source removal report for this spill was prepared for FDEP. A copy is included in Appendix 5. FDEP accepted this report and determined that no further action is required at this spill site. A copy of FDEP's response is included in Appendix 6.

5.4 SUMMARY OF MATERIALS HANDLED

The following estimated amounts of materials were disposed of during the pipeline abandonment activities:

- Fuels – 35,500 gallons of fuels were recycled
- Petroleum Contact Water – 71,500 gallons of water were disposed of. This included water used to clean the pipelines as well as water pumped from the valve pits.
- Contaminated soils – 190 tons of soils were disposed or from the leak at intersection of Caroline and William Streets and the spill at Trumbo Point Fuel Farm.

5.5 REPORTING REQUIREMENTS

FDEP requires that a Closure Assessment Form be completed at the end of a pipeline abandonment project. This form and supporting documentation was prepared. A copy is included in Appendix 7.

5.6 COMPLETION POSTER

The completion poster is included in Appendix 8.

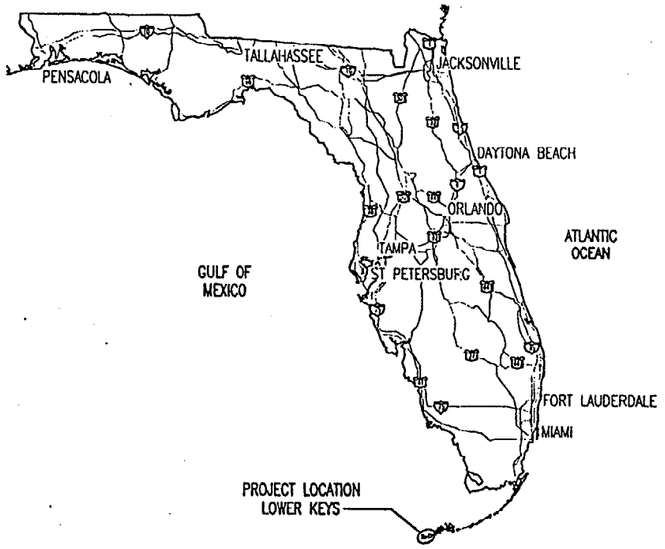
6. REFERENCE CORRESPONDENCE

No.	Date	Doc No.	From	To	Subject
1.	5 Feb 97	12314	EEI (Ferguson)	SDIV (Stokes)	Enterprise Engineering – Engineering Report - 100% Design Submittal, Abandonment of Underground Pipelines at Key West
2.	11 Feb 97	12157	SDIV (Ball)	BEI (McNeil)	Scope of work for Delivery Order #73, including Enterprise Engineering Plans and Specifications for the Abandonment of Underground Pipelines at NAS Key West
3.	9 Jan 98	324-000052	BEI (Hoekstra)	SDIV (Glover)	PPR 324-001 Revised Pipeline Integrity Pressure Test Times and Pressures
4.	4 Dec 97	324-000066-1	BEI (Hoekstra)	SDIV (Glover)	PPR 324-002 Added Pipeline Integrity Pressure Test Procedures to the Workplan
5.	25 Nov 97	324-000059-1	BEI (Hoekstra)	SDIV (Glover)	PPR 324-003 Additional Details for Cleaning/Pigging 10" Pipeline From Front Street Valve Pit to Trumbo Point Fuel Farm
6.	9 Jan 98	324-000072-2	BEI (Hoekstra)	SDIV (Glover)	PPR 324-004 Added Pipeline Filling Procedures to the Workplan
7.	9 Jan 98	324-000079-1	BEI (Hoekstra)	SDIV (Glover)	PPR 324-005 Added Caroline and William Street Intersection Source Removal to the Workplan
8.	19 Mar 97	324-000100-1	FDEP (Mele)	SDIV (Stokes)	FDEP approval of Enterprise Engineering Plans and Specifications for the Abandonment of Underground Pipelines at NAS Key West
9.	7 Oct 97	324-000038	FDEP (SVEC)	BEI (Hoekstra)	Tracer Gas Approval
10.	3 Feb 98	324-000106	BEI (Hoekstra)	File	Pipeline Abandonment Project – Meeting Minutes – February 3, 1998
11.	17 Oct 97	324-00008-1	BEI (Hoekstra)	File	Request for Variance (RFV) 324-001 – Revised permanent pipeline modifications to eliminate pipeline welding.
12.	12 Jan 98	324-000101-1	FDEP (Mele)	SDIV (Fraser-Rahim)	FDEP approval of: 1) visual inspection of pipelines for cleanliness, 2) use of PetroFill at site currently under assessment and 3) lower pressure integrity test pressures.

ABANDON UNDERGROUND PIPELINES

NAVAL AIR STATION
KEY WEST, FLORIDA

CONSTRUCTION CONTRACT NUMBER: N62467-96-C-0850
CONSTRUCTION SPECIFICATION NUMBER: 06-96-0850



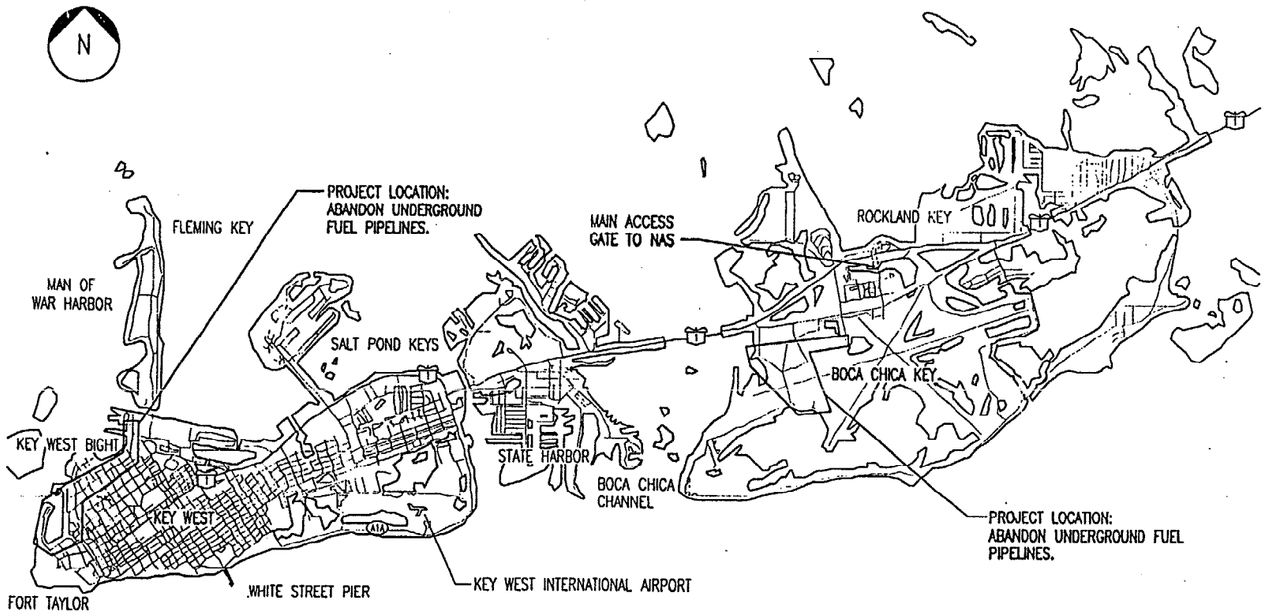
STATE OF FLORIDA
NOT TO SCALE

DRAWING INDEX

SHEET NO.	DISCIPLINE	TITLE	NAVFAC DRAWING NO.
1	T-1	COVER SHEET	5335061
2	M-1	KEY WEST FUEL PIPELINES ROUTE	5335062
3	M-2	PIPING MODIFICATIONS AND NOTES	5335063
4	M-3	SITE PLANS AND PIT MODIFICATIONS	5335064
5	M-4	KEY WEST FUEL PIPELINES PHOTOGRAPHS I	5335065
6	M-5	KEY WEST FUEL PIPELINES PHOTOGRAPHS II	5335066
7	M-6	BOCA CHICA FUEL PIPELINES ROUTE	5335067
8	M-7	VALVE PIT MODIFICATIONS AND NOTES	5335068
9	M-8	PIPING MODIFICATIONS	5335069
10	M-9	BOCA CHICA PIPELINES PHOTOGRAPHS	5335070

LEGEND

- EXISTING UNDERGROUND PIPING
- EXISTING ABOVEGROUND PIPING
- REMOVE PIPING
- PROVIDE PIPING
- BUILDING
- BITUMINOUS PAVEMENT
- WATER
- CHAIN LINK FENCE
- DOUBLE BLOCK AND BLEED PLUG VALVE
- PLUG VALVE
- GATE VALVE
- WETLANDS



LOWER KEYS VICINITY MAP
NOT TO SCALE

DRAWING REFERENCE SYSTEM

DRAWING TYPE

PLAN/DETAIL SECTION

DRAWING DESIGNATOR.
NUMERALS USED FOR PLANS/DETAILS,
LETTERS USED FOR SECTIONS. ARROW
INDICATES DIRECTION OF CUTTING PLANE.

DRAWING LOCATION SHEET.

FIRST SHEET FROM WHICH DRAWING IS
REFERENCED.

NOTE: SHEET DESIGNATORS ARE DISCIPLINE SHEET NUMBERS.

ABBREVIATIONS

BLDG	BUILDING
DB&B	DOUBLE BLOCK AND BLEED
DIA	DIAMETER
FT	FEET
MIN	MINIMUM
N.I.C.	NOT IN CONTRACT
NO.	NUMBER
SCH	SCHEDULE
ST	STREET
S/N	SERIAL NUMBER
TYP	TYPICAL
V	VOLT
VP	VALVE PIT
WN	WELD NECK
#	POUND

Bechtel Environmental, Inc.
As-Built
Contract No. N62467-93-D-0936 DO# 73
By _____ Date 6-21-98
NO CHANGES THIS SHEET.

ENTERPRISE ENGINEERING, INC
YARMOUTH, ME. ANCHORAGE, AK.
DRAWN BY RDWE CHECKED BY AMW
APPROVED BY Rick Palmer 3/26/97
SIGNED Rick Palmer 3/26/97

SOUTHERN DIVISION
CHARLESTON, S.C.
NAVAL FACILITIES ENGINEERING COMMAND
DEPARTMENT OF THE NAVY

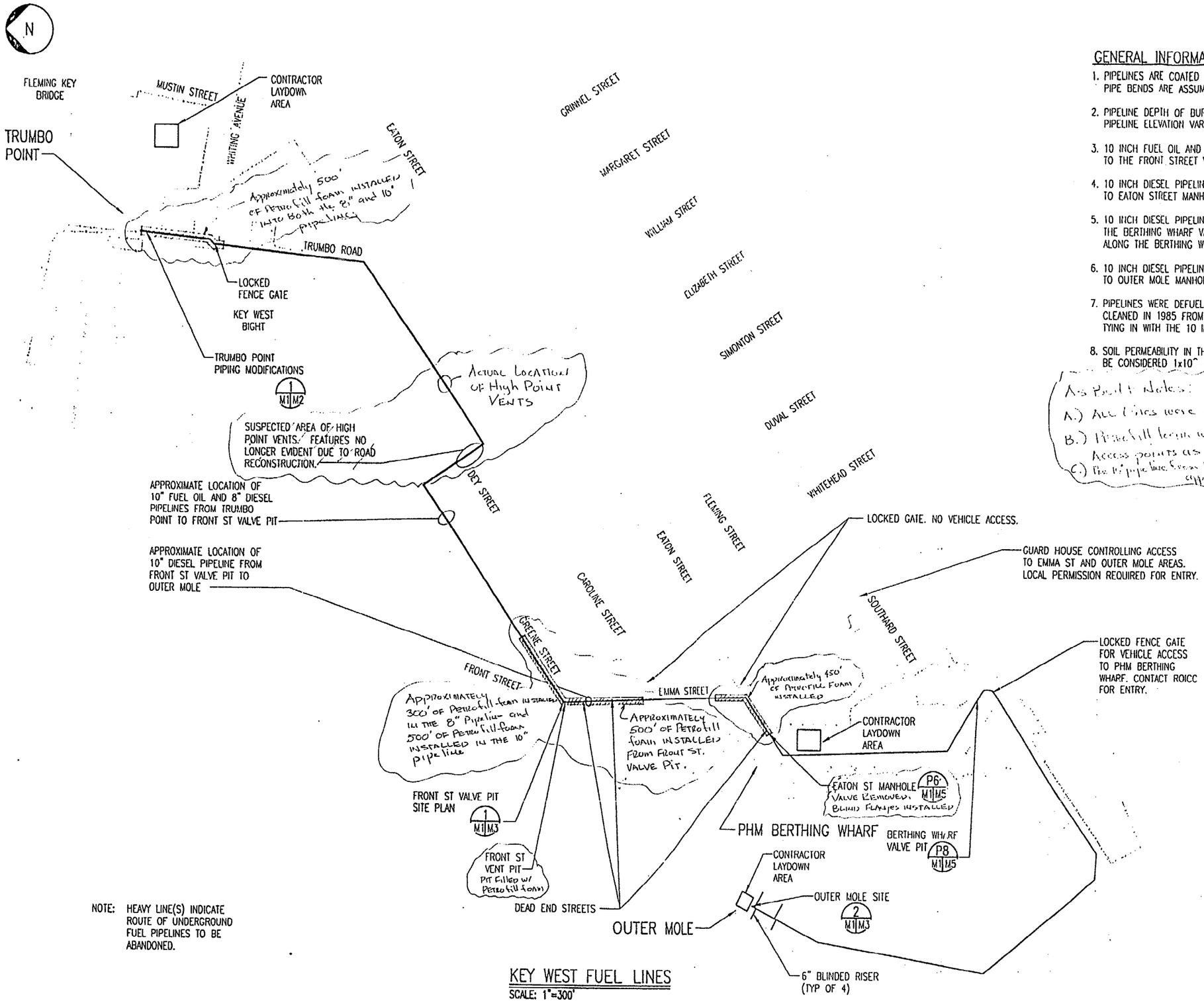
NAVAL AIR STATION
KEY WEST, FLORIDA
ABANDON UNDERGROUND PIPELINES
COVER SHEET
DATE 3/26/97
APPROVED [illegible]
CTR FOR ENGINEERING, INC.

SEAL APPLY
STATE OF MAINE
CARL S. DOUGHERTY 17986 REGISTERED PROFESSIONAL ENGINEER
RECORD DRAWING DATE

CODE I.D. NO. 80091
DRAWING SIZE: D
SPEC. NO. 06-96-0850
CONTRACT CONTR. NO. N62467-96-C-0850
NAVFAC DRAWING NO. 5335061
SHEET 1 OF 10

T-1

QUEBEC



GENERAL INFORMATION– KEY WEST PIPELINES:

1. PIPELINES ARE COATED AND CATHODICALLY PROTECTED SCH 40 STEEL. PIPE BENDS ARE ASSUMED TO BE STANDARD RADIUS FITTINGS.
2. PIPELINE DEPTH OF BURIAL VARIES FROM 2 FEET TO 4 FEET AND PIPELINE ELEVATION VARIES FROM –1 FOOT TO +3 FEET MEAN SEA LEVEL.
3. 10 INCH FUEL OIL AND 8 INCH DIESEL PIPELINES FROM TRUMBO POINT TO THE FRONT STREET VALVE PIT WERE INSTALLED IN 1968–69.
4. 10 INCH DIESEL PIPELINE SEGMENT FROM FRONT STREET VALVE PIT TO EATON STREET MANHOLE WAS INSTALLED IN 1987.
5. 10 INCH DIESEL PIPELINE SEGMENT FROM EATON STREET MANHOLE TO THE BERTHING WHARF VALVE PIT WAS INSTALLED IN 1985. THE SECTION ALONG THE BERTHING WHARF WAS RELOCATED IN 1986 USING EXISTING PIPE.
6. 10 INCH DIESEL PIPELINE SEGMENT FROM BERTHING WHARF VALVE PIT TO OUTER MOLE MANHOLE WAS INSTALLED IN 1985.
7. PIPELINES WERE DEFUELED IN 1985. THE 8 INCH DIESEL PIPELINE WAS CLEANED IN 1985 FROM FRONT STREET TO TRUMBO POINT PRIOR TO TYING IN WITH THE 10 INCH DIESEL PIPELINE.
8. SOIL PERMEABILITY IN THE VICINITY OF THE KEY WEST PIPELINE SHALL BE CONSIDERED 1×10^{-4} CM/SEC.

As Built Notes:
A.) All lines were cleaned & Pressure tested.
B.) Petrofill foam was installed from Available Access points as shown on the Plan Sheet.
C.) The 8" pipeline from Trumbo Pt to Front Street contained approximately 14,000 gallons of fuel.

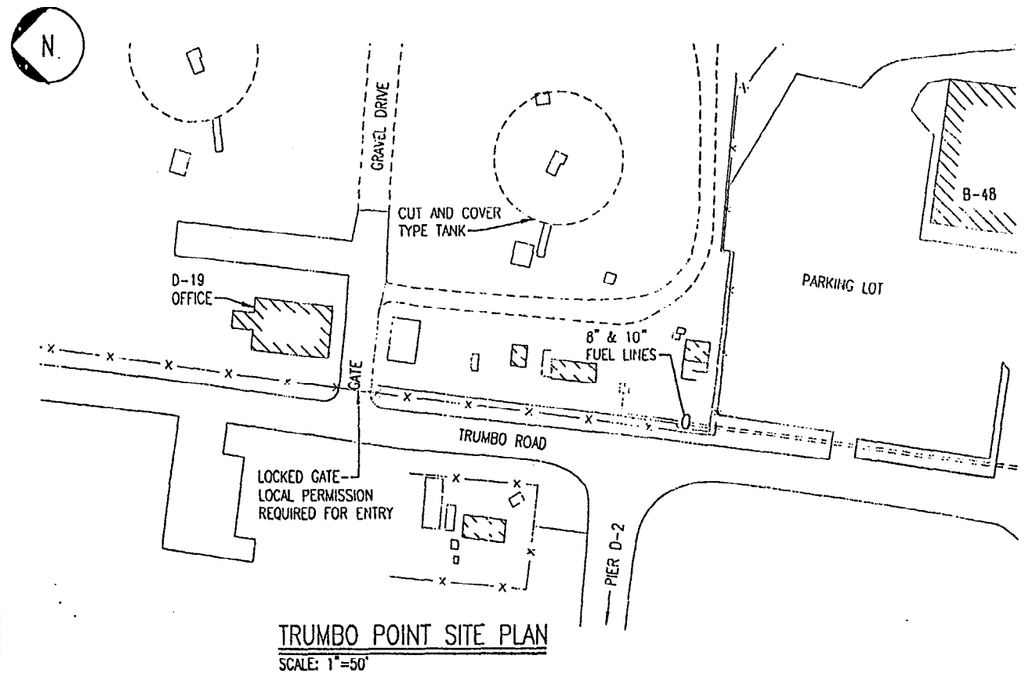
NOTE: HEAVY LINE(S) INDICATE ROUTE OF UNDERGROUND FUEL PIPELINES TO BE ABANDONED.

KEY WEST FUEL LINES
SCALE: 1"=300'

Bechtel Environmental, Inc.
As-Built
Contract No. N62467-93-D-0936 DO# 73
By _____ Date 6/24/98

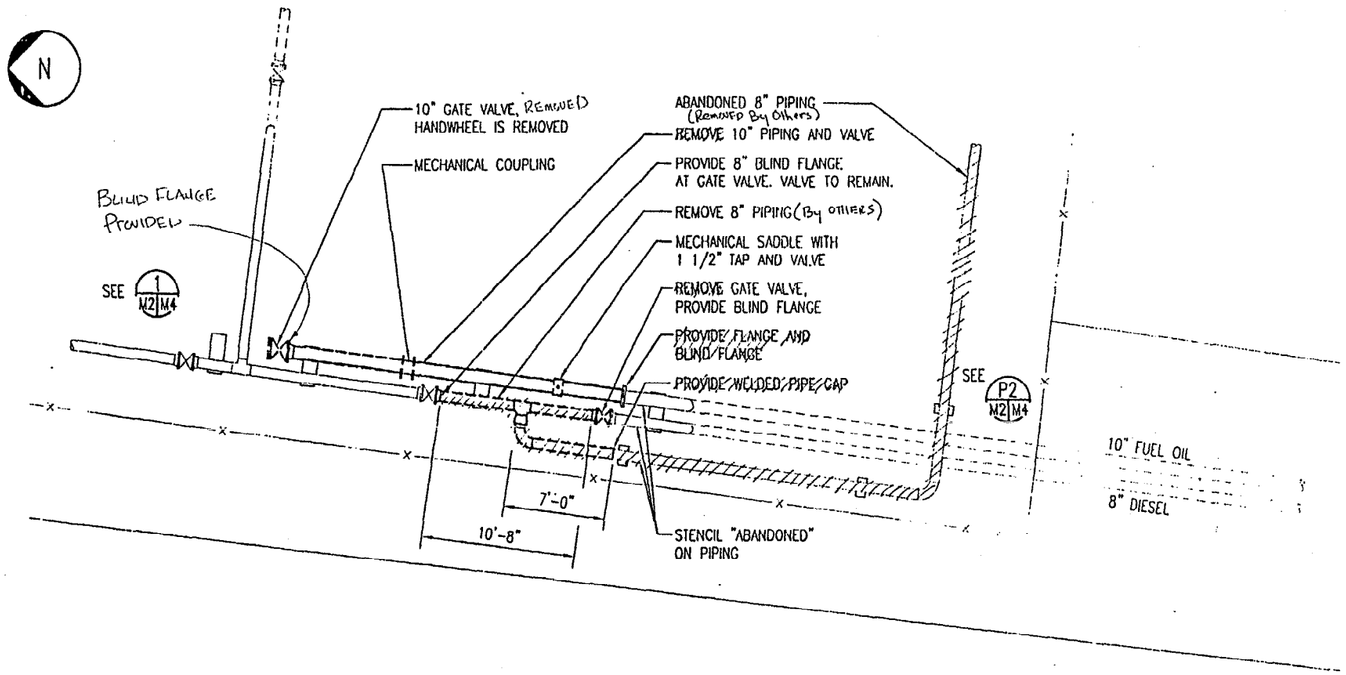
GRAPHIC SCALE
300 0 300 600 ft
SCALE: 1"=300'
CHECK GRAPHIC SCALE BEFORE USING

ENTERPRISE ENGINEERING, INC. YARMOUTH, ME. ANCHORAGE, AK
DESIGNED BSME DRAWN JMW CHECKED PJS APPROVED PJS DATE 3/24/97
SOUTHERN DIVISION NAVAL FACILITIES ENGINEERING COMMAND CHARLESTON, S.C.
DEPARTMENT OF THE NAVY
NAVAL AIR STATION KEY WEST, FLORIDA
ABANDON UNDERGROUND PIPELINES
KEY WEST FUEL PIPELINES ROUTE
PREP BY DATE APPRD
NO. DESCRIPTION
AS BUILT
STATE OF MAINE CARL S. DOUGHERTY 7796 REGISTERED PROFESSIONAL ENGINEER
RECORD DRAWING DATE
CODE I.D. NO. 80091
DRAWING SYS. D
SYS. NO. 01-96-0850
CONTRACT/ DELIVERY NO. N62467-96-C-0850
NAVFAC DRAWING NO. 5335062
SHEET 1 OF
M-1



TRUMBO POINT SITE PLAN

SCALE: 1"=50'



1 M1|M2 TRUMBO POINT PIPING MODIFICATIONS

SCALE: 1"=5'

WORK NOTES: KEY WEST PIPELINES

1. PROVIDE CLEANING, INTEGRITY TESTING, AND ABANDONMENT OF PIPELINES.
2. THE CONTRACTOR SHALL HAVE EMERGENCY SPILL RESPONSE EQUIPMENT AT THE SITE AND IN PLACE PRIOR TO BEGINNING REMOVAL WORK. EQUIPMENT SHALL INCLUDE VACUUM TRUCK, DRIP PANS, ABSORBENT MATERIALS, AND HAND TOOLS.
3. PROVIDE PIPING MODIFICATIONS AS INDICATED AND AS REQUIRED TO FACILITATE THE ORDERLY PROGRESSION OF THE WORK.
4. THE FRONT STREET VALVE PIT SITE IS SUBJECT TO HEAVY VEHICULAR AND PEDESTRIAN TRAFFIC. ALL OF THE CONTRACTORS OPERATIONS AT THE FRONT STREET VALVE PIT SITE SHALL BE RESTRICTED TO WITHIN THE CONTRACTOR STAGING AREA INDICATED. THE CONTRACTOR SHALL PROVIDE TRAFFIC CONTROL AND SHALL COORDINATE WORK AT THIS SITE WITH THE CITY OF KEY WEST AND CUSTOM HOUSE OPERATIONS.
5. EACH OF THE VALVE PITS AND MANHOLES CONTAIN APPROXIMATELY 2 FEET OF STANDING WATER. CONTRACTOR SHALL PROVIDE DEWATERING AS REQUIRED TO PERFORM WORK.
6. NO EXCAVATIONS WILL BE PERMITTED WITHIN THE CITY LIMITS OF KEY WEST EXCEPT AS INDICATED OR AS AUTHORIZED BY THE CONTRACTING OFFICER.
7. PIPELINES PREVIOUSLY TRANSFERRED DIESEL AND BUNKER C FUEL OIL, AS INDICATED, PRIOR TO BEING DRAINED. FOR BID PURPOSES, ASSUME THAT 740 GALLONS OF FUEL OIL AND 100 GALLONS OF DIESEL REMAIN FOR THE CONTRACTOR'S REMOVAL AND DISPOSAL. ALSO ASSUME THE REMOVED PRODUCTS HAVE NO SALVAGE VALUE.
8. THE CONTRACTOR SHALL PERFORM INTEGRITY TESTING OF THE PIPELINES FOR CLOSURE. PIPELINE INTEGRITY SHALL BE VERIFIED BY MAINTENANCE OF INTERNAL STATIC PRESSURE.
9. DURING INTEGRITY TESTING, INSPECT ABOVEGROUND PIPING AND UNDERGROUND PIPING WITHIN ACCESS PITS FOR LEAKAGE. PROVIDE REPAIRS AS NECESSARY TO COMPLETE INTEGRITY TESTING.
10. IF ANY OF THE PIPELINE SEGMENTS FAIL INTEGRITY TESTING DUE TO AN UNDERGROUND FAILURE, THE CONTRACTOR SHALL DETERMINE THE FAILURE LOCATION(S).
11. AT COMPLETION OF PIPELINE CLEANING AND INTEGRITY TESTING:
    A) FILL THE PIPELINES WITH APPROVED STRUCTURAL FILL AND ABANDON THE PIPELINES IN PLACE.
    B) REMOVE THE FRONT STREET VALVE PIT AND VENT PIT. PROVIDE FILL AND RESTORATION OF THE SITE AND SIDEWALKS.
    C) PROVIDE A CLOSURE ASSESSMENT FORM.
12. RECEIPT OF CLEANING PRODUCT AND PIGS AND VENTING OF PIPELINES IS RESTRICTED TO TRUMBO POINT AND OUTER MOLE AREAS.

Bechtel Environmental, Inc.
As-Built
Contract No. N62467-93-D-0936 DO# 73
By _____ Date 6/24/98

GRAPHIC SCALES

5 0 5 10 FT
SCALE: 1"=5'

50 0 50 100 FT
SCALE: 1"=50'

CHECK GRAPHIC SCALES BEFORE USING

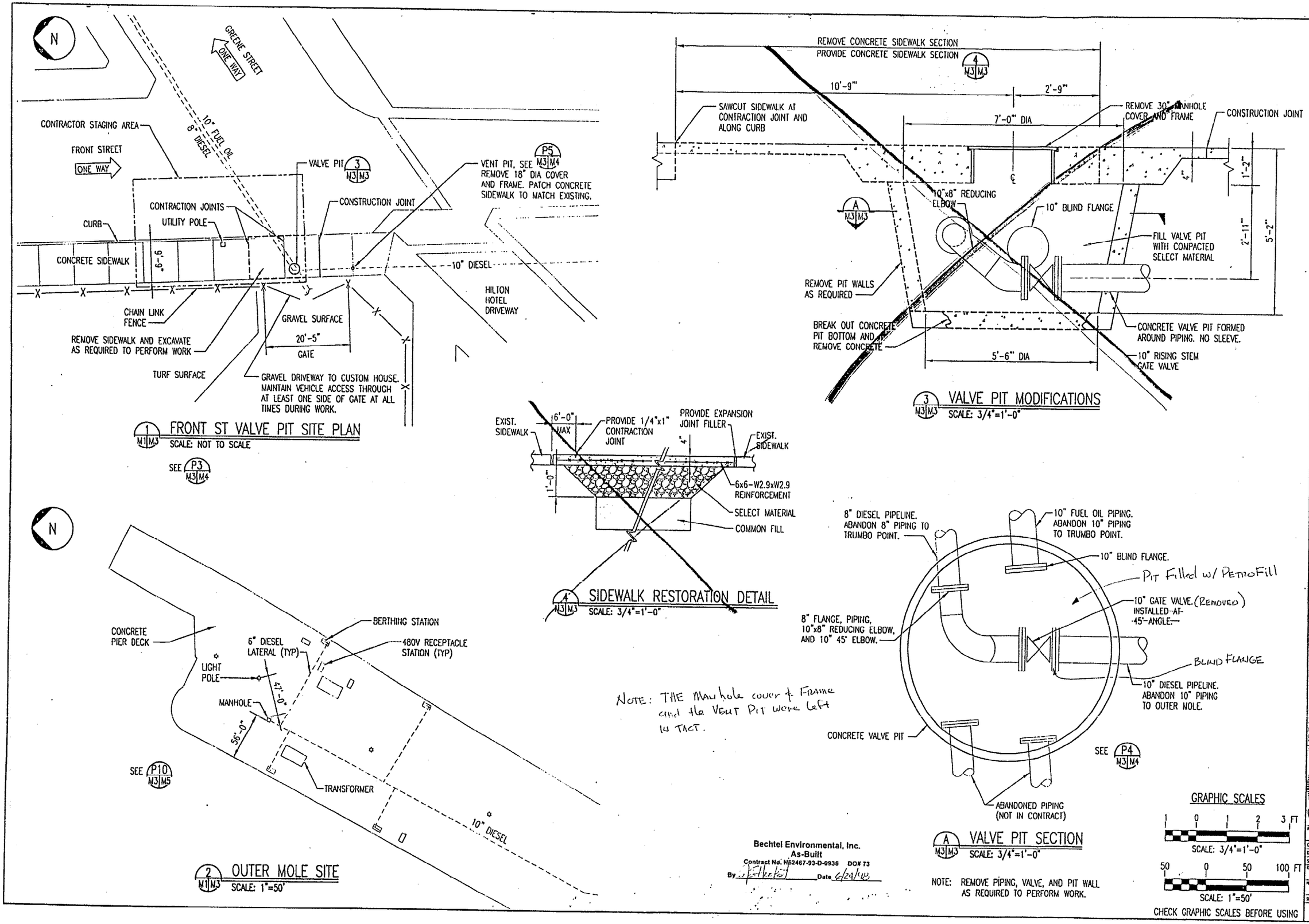
ENTERPRISE ENGINEERING, INC ANCHORAGE, AK
TRANSCOM, INC. TOLOSATT BRANE AMW ZIMMT
DRAWN CHECKED PROJECT ENGINEER DATE
SCALE: AS NOTED

NO.	REV. DESCRIPTION	PREP BY	DATE	APPROVED

DEPARTMENT OF THE NAVY
SOUTHERN DIVISION
CHARLESTON, S.C.
NAVAL FACILITIES ENGINEERING COMMAND
NAVAL AIR STATION KEY WEST, FLORIDA
ABANDON UNDERGROUND PIPELINES
PIPING MODIFICATIONS AND NOTES
AS BUILT DRAWINGS
DATE 1/25/97

STATE OF MAINE CARL S. SWANSON 7998 REGISTERED PROFESSIONAL ENGINEER
RECORD DRAWING DATE

CODE I.D. NO. 80091
DRAWING SIZE: D
SPEC. NO. 96-C-0850
CONTRACT NO. N62467-96-C-0850
FACSIMILE DRAWING NO. 5335063
SHEET 3 OF
M-2

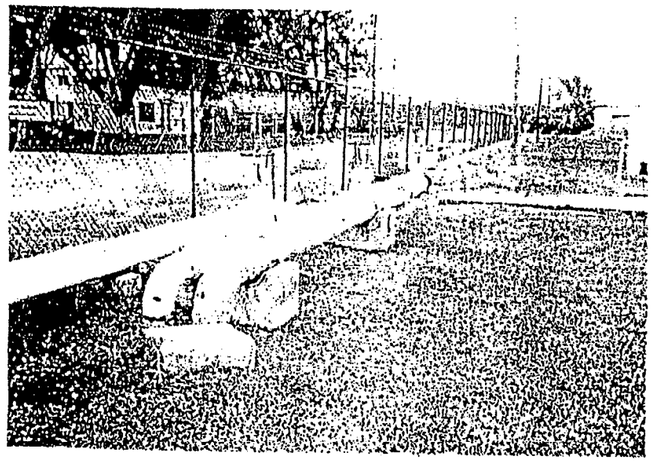


NOTE: THE Manhole cover & Frame and the Vent Pit were left in tact.

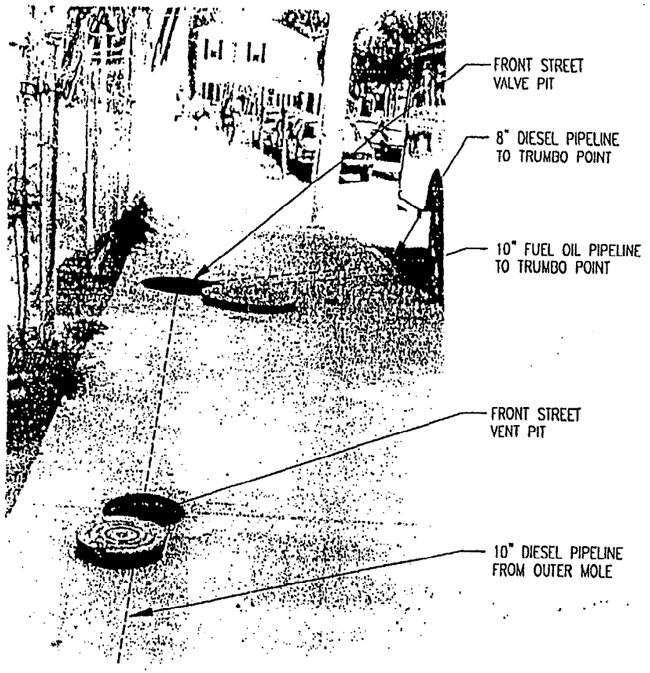
Bechtel Environmental, Inc.
As-Built
Contract No. N62467-93-D-0936 DO# 73
By [signature] Date 6/24/98

ENTERPRISE ENGINEERING, INC
TARMOUTH, ME. ANCHORAGE, AK
DOUGHERTY BEANE AMW
SHOKES

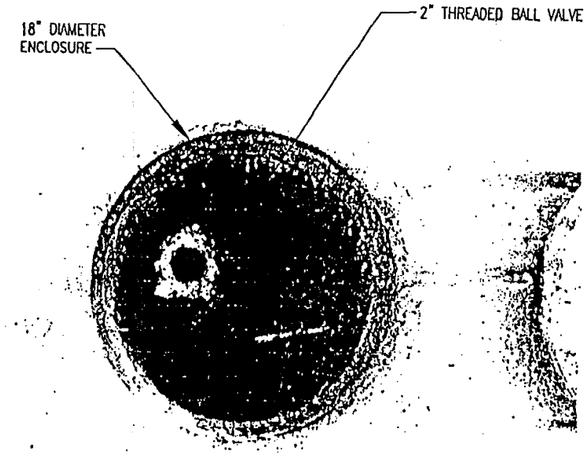
DEPARTMENT OF THE NAVY
SOUTHERN DIVISION
CHARLESTON, S.C.
NAVAL AIR STATION
KEY WEST, FLORIDA
ABANDON UNDERGROUND PIPELINES
SITE PLANS AND PIT MODIFICATIONS
APPROVED
DATE 3/25/97
SEAL AREA
STATE OF MAINE
CARL S. DOUGHERTY JR.
REGISTERED PROFESSIONAL ENGINEER
RECORD DRAWING DATE
CODE I.D. NO. 80081
DRAWING SIZE: D
SPEC. NO. 06-96-0850
CONSTRN. CONTR. NO. N62467-96-C-0850
NAVFAC DRAWING NO. 5335064
SHEET 4 OF
M-3



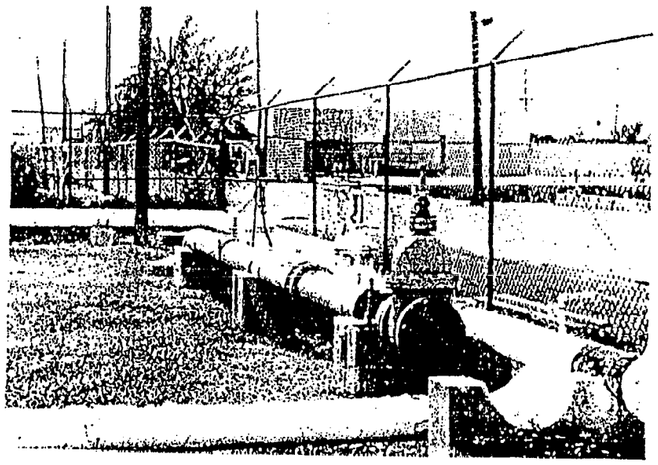
P1 M2|M4 TRUMBO POINT PIPING – LOOKING NORTH



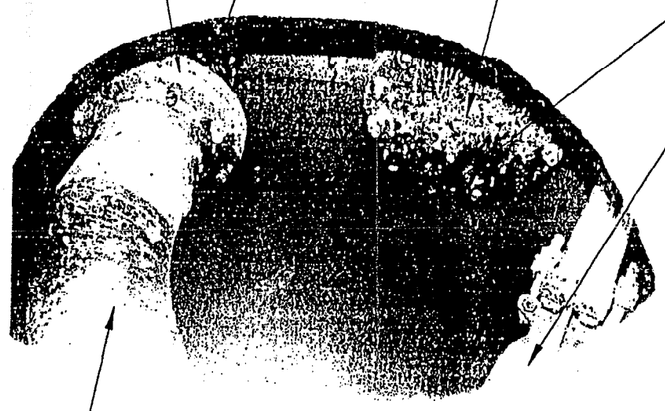
P3 M3|M4 FRONT ST VALVE PIT SITE – LOOKING NORTH



P5 M3|M4 FRONT ST VENT PIT



P2 M2|M4 TRUMBO POINT PIPING – LOOKING SOUTH



P4 M3|M4 FRONT ST VALVE PIT

Bechtel Environmental, Inc.
As-Built
Contract No. N62467-93-D-0936 DO# 73
By J. Hecht Date 6/29/98
NO CHANGES THIS SHEET

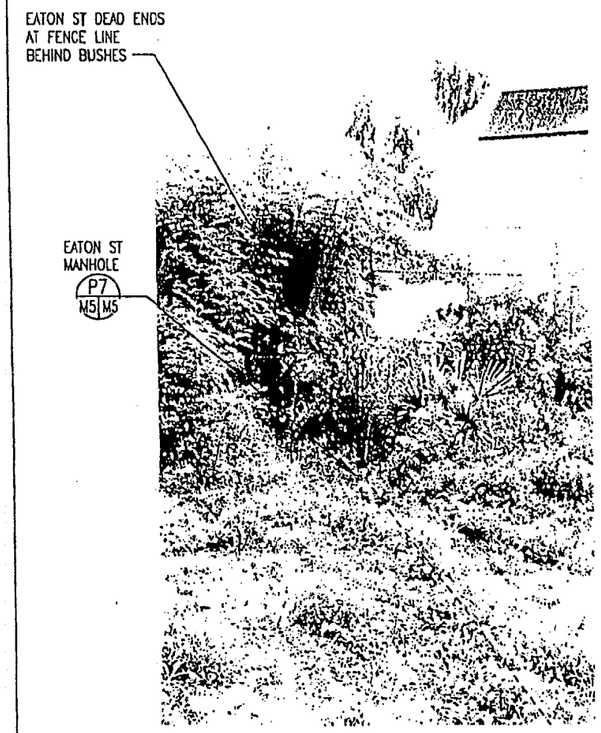
ENTERPRISE ENGINEERING, INC
TARBORO, NC GREENSBORO, NC
DESIGNED BSME DRAWN MW
CHECKED JH APPROVED 3/16/97
SCALE

SOUTHERN DIVISION
CHARLESTON, S.C.
NAVAL AIR STATION KEY WEST, FLORIDA
ABANDON UNDERGROUND PIPELINES
KEY WEST FUEL PIPELINES PHOTOGRAPHS 1
APPROVED DATE 3/16/97

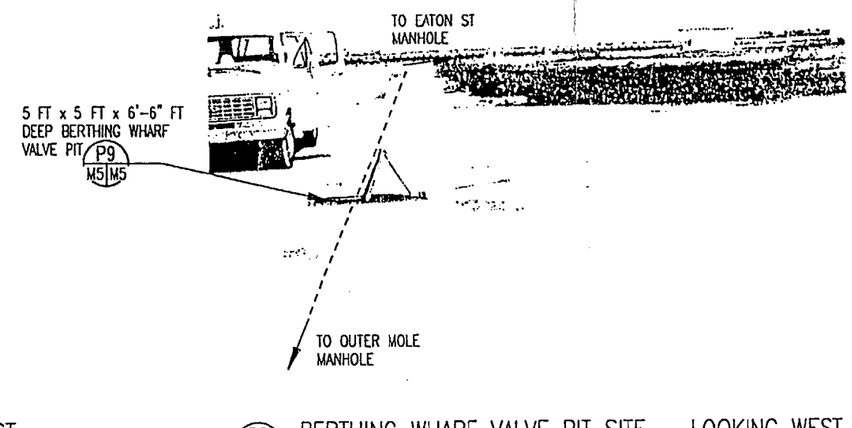
STATE OF MAINE
CARL S. DOUGLASS
7496
REGISTERED PROFESSIONAL ENGINEER

CODE I.D. NO. 80091
DRAWING SIZE D
SPEC. NO. 06-96-0850
CONTRACT/DELIVERY NO. N62467-96-C-0850
NAVFAC DRAWING NO. 5335065
SHEET 8 OF

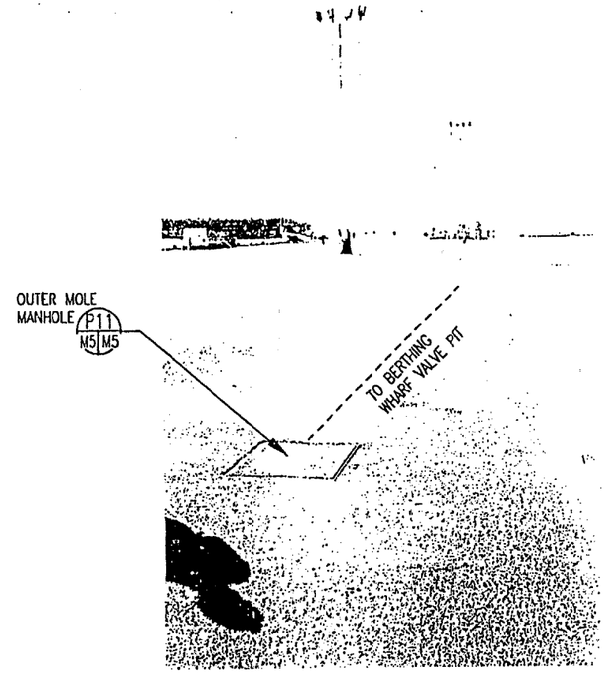
M-4



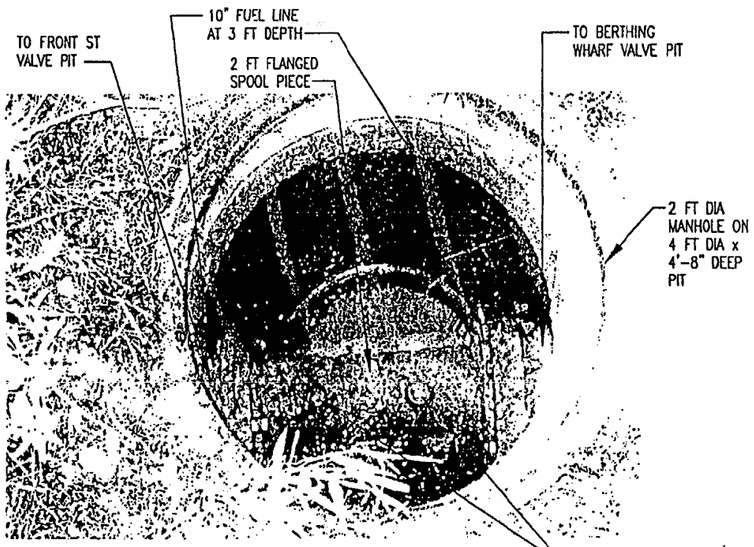
P6 M1|M5 EATON ST MANHOLE SITE – LOOKING EAST



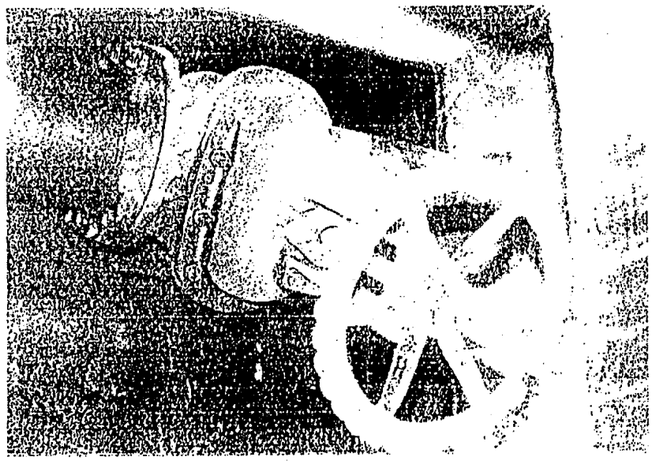
P8 M1|M5 BERTHING WHARF VALVE PIT SITE – LOOKING WEST



P10 M3|M5 OUTER MOLE SITE – LOOKING SOUTH

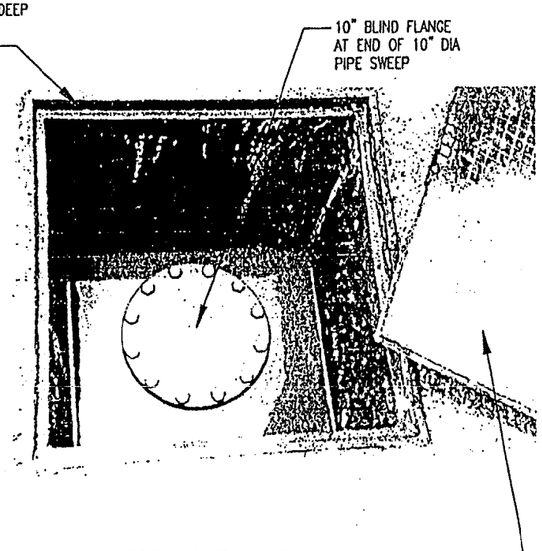


P7 M5|M5 EATON ST MANHOLE



P9 M5|M5 BERTHING WHARF VALVE PIT

VALVE PIT CONTAINS ONE 10" FLANGED GATE VALVE.



P11 M5|M5 OUTER MOLE MANHOLE

Bechtel Environmental, Inc.
As-Built
Contract No. N62467-93-D-0936 DO# 73
By _____ Date 6/29/98
NO CHANGES THIS SHEET

ENTERPRISE ENGINEERING, INC
YARMOUTH, ME. ANCHORAGE, AK
DRAWN DOUGHERTY CHECKED SCHAFF APPROVED AMW
DATE 3/16/97 SHEETS

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
SOUTHERN DIVISION
CHARLESTON, S.C.
NAVAL AIR STATION
KEY WEST, FLORIDA

ABANDON UNDERGROUND PIPELINES
KEY WEST FUEL PIPELINES PHOTOGRAPHS II

APPROVED [signature] DATE 3/16/97
ER FOR DRAWING NAME

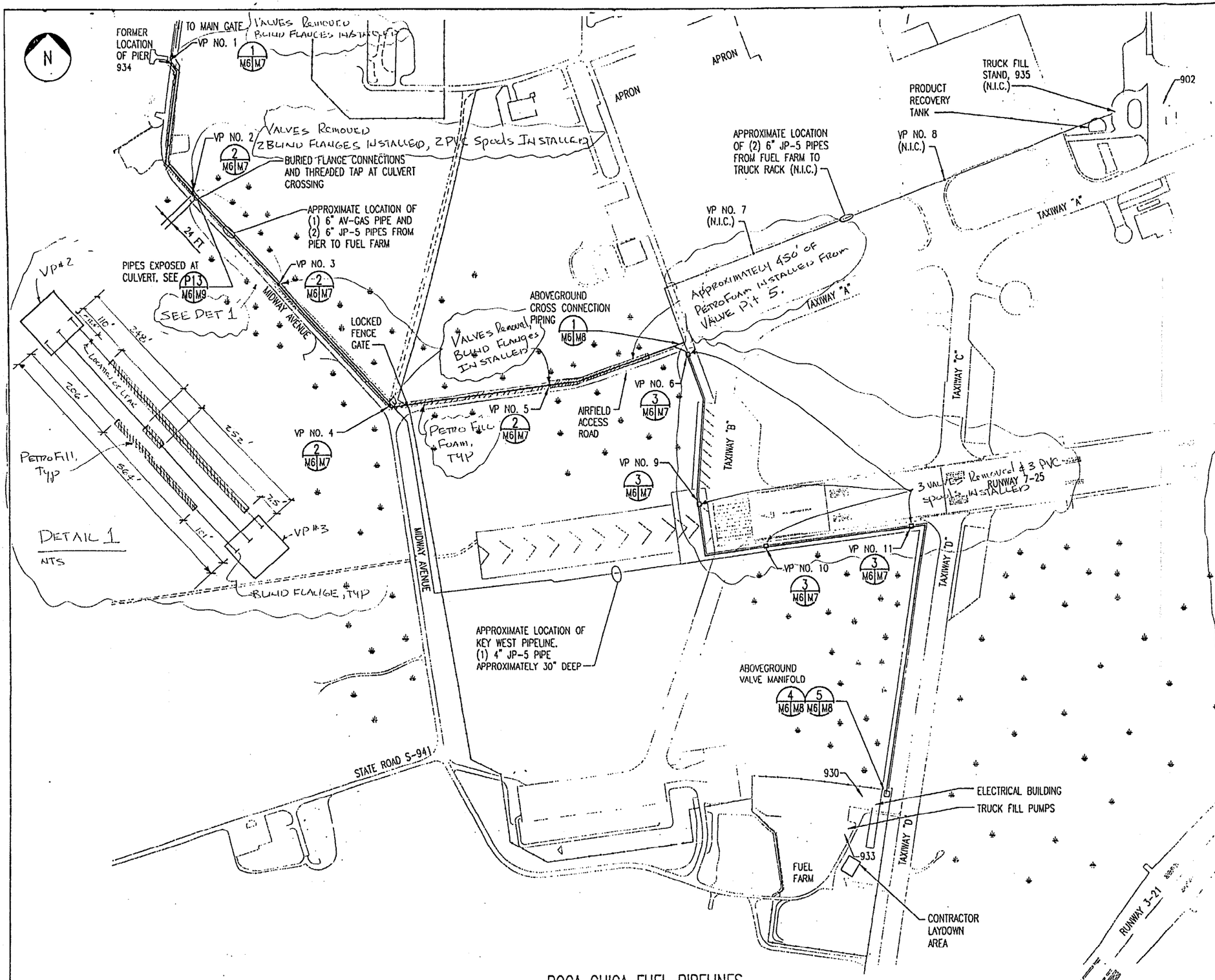
REV. DESCRIPTION DRAWING NO. PREP BY DATE APPROV

SOIL AREA

STATE OF MAINE CARL S. DOUGHERTY 5366 REGISTERED PROFESSIONAL ENGINEER
RECORD DRAWING DATE

CTDO I.D. NO. B0091
DRAWING SIZE: D
SPEC. NO. 96-94-0850
CONTRACT CONTR. NO. N62467-96-C-0850
PWTAC DRAWING NO. 5335066
SHEET 8 OF

M-5



BOCA CHICA FUEL PIPELINES
SCALE: 1"=200'

GENERAL INFORMATION– BOCA CHICA PIPELINE:

1. PIPELINES ARE COATED AND CATHODICALLY PROTECTED 6 INCH SCH 40 STEEL. PIPE BENDS ARE ASSUMED TO BE STANDARD RADIUS FITTING.
2. PIPELINES WERE ORIGINALLY INSTALLED IN 1961.
3. PIPELINE DEPTH OF BURIAL AVERAGES 3 FEET AND IS AT OR BELOW THE WATER TABLE FOR THE ENTIRE LENGTH.
4. PIPELINES WITHIN THIS PROJECT HAVE BEEN DRAINED OF PRODUCT.
5. ACCESS TO VALVE PITS 5, 6, 9, 10, AND 11 AND ABOVEGROUND CROSS CONNECTION PIPING WILL BE LIMITED DUE TO PROXIMITY TO RUNWAY. COORDINATE WORK WITH AIRFIELD OPERATIONS.
6. HEAVY LINE(S) INDICATE ROUTE OF UNDERGROUND FUEL PIPELINES TO BE ABANDONED.
7. PIER 934 WAS PREVIOUSLY REMOVED UNDER A SEPARATE CONTRACT. THE PIPING FROM PIER 934 TO VP NO.1 IS SCHEDULED FOR DEMOLITION UNDER A SEPARATE CONTRACT.

As Built Notes:

1. ALL LINES were pressure tested and cleaned.
2. VALVE Pits were NOT Filled.
3. The AVGAS LINE WAS Full of Product
4. The Location of the Petro Fill WAS APPROXIMATE.

Bechtel Environmental, Inc.
As-Built
Contract No. N62467-93-D-0936 DO# 73
By [signature] Date 6/24/98

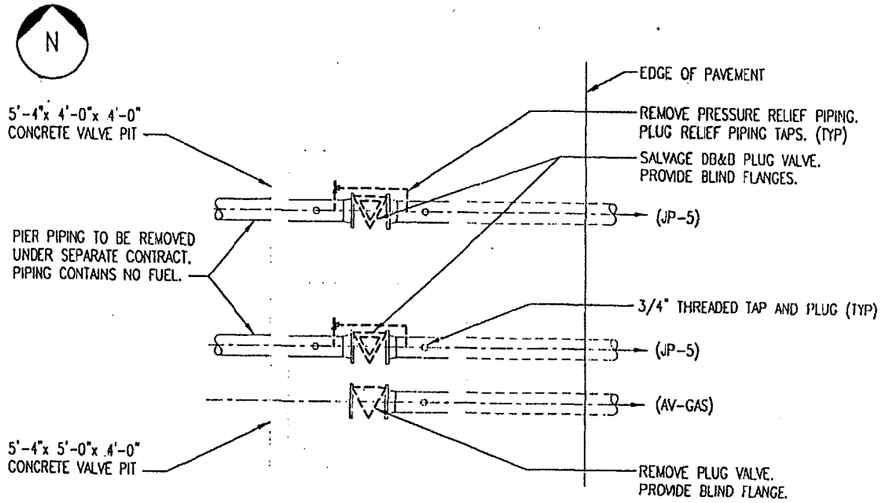
GRAPHIC SCALE
200 0 200 400 FT
SCALE: 1"=200'
CHECK GRAPHIC SCALE BEFORE USING

ENTERPRISE ENGINEERING, INC
YARMOUTH, ME. ANCHORAGE, AK
DOUGHERTY BEANE ANW
SHOES

DEPARTMENT OF THE NAVY
SOUTHERN DIVISION
CHARLESTON, S.C.
NAVAL FACILITIES ENGINEERING COMMAND
NAVAL AIR STATION
KEY WEST, FLORIDA
ABANDON UNDERGROUND PIPELINES
BOCA CHICA FUEL PIPELINES ROUTE
APPROVED
DATE 3/25/97
BFO FOR COMMANDER, NAVFAC

SEAL AREA
STATE OF MAINE
CARL S. DOUGHERTY JR.
PROFESSIONAL ENGINEER
REGISTERED

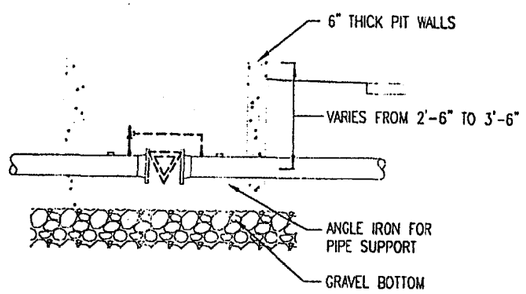
RECORD DRAWING DATE
CODE I.D. NO. 80081
DRAWING SIZE: B
SPEC. NO. 06-96-0850
CONSTRN. CONTR. NO. N62467-96-C-0850
NAVFAC DRAWING NO. 5335067
SHEET 7 OF
M-6



1 M6|M7 VALVE PIT NO. 1

SCALE: 1/2"=1'-0"

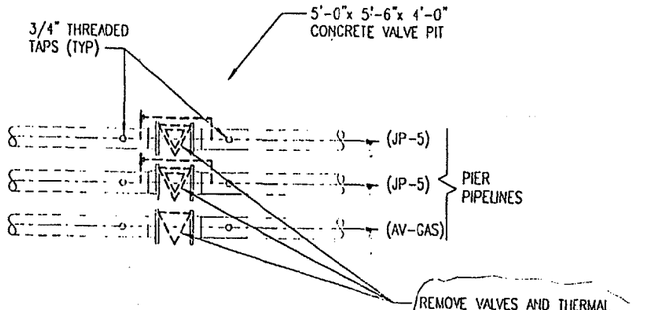
SEE P12 M7|M9



ELEVATION

SCALE: 1/2"=1'-0"

NOTE: ELEVATION IS TYPICAL OF ALL VALVE PITS

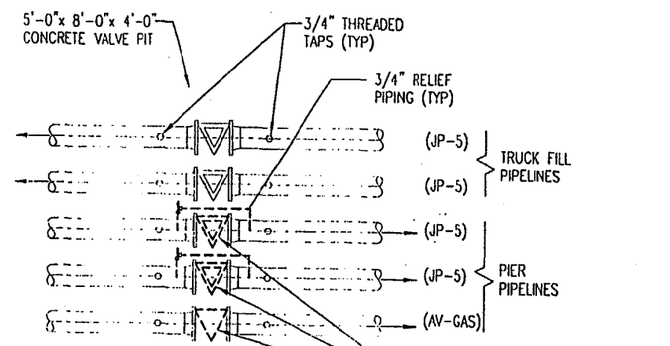


2 M6|M7 VALVE PITS NO. 2, 3, 4, & 5

SCALE: 1/2"=1'-0"

SEE P14 M7|M9

SEE NOTES ON M-6 FOR "As-Built" CONDITIONS OF VALVE PITS.



3 M6|M7 VALVE PITS NO. 6, 9, 10, & 11

SCALE: 1/2"=1'-0"

SEE P15 M7|M9

SEE NOTES ON M-6 FOR "As-Built" CONDITIONS OF VALVE PITS.

WORK NOTES: BOCA CHICA PIPELINES

1. PROVIDE CLEANING, INTEGRITY TESTING, AND ABANDONMENT OF PIPELINES FROM VALVE PIT NO. 1 TO THE VALVE MANIFOLD AT THE FUEL FARM.
2. THE CONTRACTOR SHALL HAVE EMERGENCY SPILL RESPONSE EQUIPMENT AT THE SITE AND IN PLACE PRIOR TO BEGINNING REMOVAL WORK. EQUIPMENT SHALL INCLUDE VACUUM TRUCK, DRIP PANS, ABSORBENT MATERIALS, AND HAND TOOLS.
3. PROVIDE PIPING MODIFICATIONS AS INDICATED AND AS REQUIRED TO FACILITATE THE ORDERLY PROGRESSION OF THE WORK.
4. PROVIDE EROSION CONTROL, SILT SCREENS, AND CHECK DAMS BETWEEN WORK AREAS AND OPEN WATER, INCLUDING MANGROVE SWAMPS. MANGROVES EXTEND ALONG THE EAST SIDE OF MIDWAY AVENUE AND NORTH OF THE AIRFIELD ACCESS ROAD.
5. EACH OF THE VALVE PITS CONTAIN APPROXIMATELY 2 FEET OF STANDING WATER. CONTRACTOR SHALL PROVIDE DEWATERING AS REQUIRED TO PERFORM WORK.
6. PIPELINES PREVIOUSLY TRANSFERRED JP-5 TURBINE FUEL AND AVIATION GASOLINE, AS INDICATED. FOR BID PURPOSES, ASSUME THAT THE AV-GAS LINE IS FULL OF PRODUCT AND 1300 GALLONS OF JP-5 REMAIN FOR THE CONTRACTOR'S REMOVAL AND DISPOSAL. ALSO ASSUME THE REMOVED PRODUCTS HAVE NO SALVAGE VALUE.
7. ACCESS TO VALVE PITS 6, 9, 10, AND 11 AND ABOVEGROUND CROSS CONNECTION PIPING IS LIMITED DUE TO PROXIMITY OF ACTIVE RUNWAYS. COORDINATE WORK WITH AIRFIELD OPERATIONS. PROVIDE THE CONTRACTING OFFICER WITH 30 DAYS WRITTEN NOTICE PRIOR TO WORK AT THESE SITES.
8. REMOVE VALVES AND RELIEF PIPING FROM THE VALVE PITS AND FUEL FARM MANIFOLD PIPING. DELIVER THE DOUBLE BLOCK AND BLEED PLUG VALVES TO THE GOVERNMENT (21 TOTAL) AND DISPOSE OF THE STANDARD PLUG VALVES (10 TOTAL) AND RELIEF PIPING. PROVIDE PIPING AS INDICATED. ALL VALVES ARE REDUCED PORT TYPE PLUG VALVES.
9. REMOVE SPOOL PIECES AND SPECTACLE BLINDS FROM CROSS CONNECTION PIPING. CLOSE TRUCK FILL PIPELINE VALVES IN VALVE PITS 6 & 7. DRAIN TRUCK FILL PIPELINES AS REQUIRED TO PERFORM WORK. PROVIDE BLIND SPOOL PIECES TO PERMANENTLY ISOLATE THE PIER PIPELINES FROM THE TRUCK FILL PIPELINES. WORK WILL REQUIRE A TEMPORARY SHUT DOWN OF TRUCK FILL PIPELINE OPERATIONS. COORDINATE WORK WITH TRUCK FILL OPERATIONS. PROVIDE THE CONTRACTING OFFICER WITH 30 DAYS WRITTEN NOTICE PRIOR TO WORK AT THIS SITE.
10. THE CONTRACTOR SHALL PERFORM INTEGRITY TESTING OF THE PIPELINES FOR CLOSURE. PIPELINE INTEGRITY SHALL BE VERIFIED BY MAINTENANCE OF INTERNAL STATIC PRESSURE.
11. DURING INTEGRITY TESTING, INSPECT ABOVEGROUND PIPING AND UNDERGROUND PIPING WITHIN ACCESS PITS FOR LEAKAGE. PROVIDE REPAIRS AS NECESSARY TO COMPLETE INTEGRITY TESTING.
12. IF ANY OF THE PIPELINE SEGMENTS FAIL INTEGRITY TESTING DUE TO AN UNDERGROUND FAILURE, THE CONTRACTOR SHALL DETERMINE THE FAILURE LOCATION(S).
13. AT COMPLETION OF PIPELINE CLEANING AND INTEGRITY TESTING:
    A) FILL THE PIPELINES WITH APPROVED STRUCTURAL FILL AND ABANDON THE PIPELINES IN PLACE.
    ~~B) FILL VALVE PITS 1, 2, 3, 4, AND 5. REMOVE AND DISPOSE OF STEEL PLATE COVERS.~~
    C) PROVIDE A CLOSURE ASSESSMENT REPORT.
14. COAT ALL PIPING PROVIDED.

Bechtel Environmental, Inc.
As-Built
Contract No. N62467-93-D-0936 DO# 73
By J. Hebert Date 6/24/98

GRAPHIC SCALE

2 0 2 4 FT

SCALE: 1/2"=1'-0"

CHECK GRAPHIC SCALE BEFORE USING

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND
SOUTHERN DIVISION — CHARLESTON, S.C.
NAVAL AIR STATION — KEY WEST, FLORIDA
ABANDON UNDERGROUND PIPELINES
VALVE PIT MODIFICATIONS AND NOTES

APPROVED — DATE 9/24/97

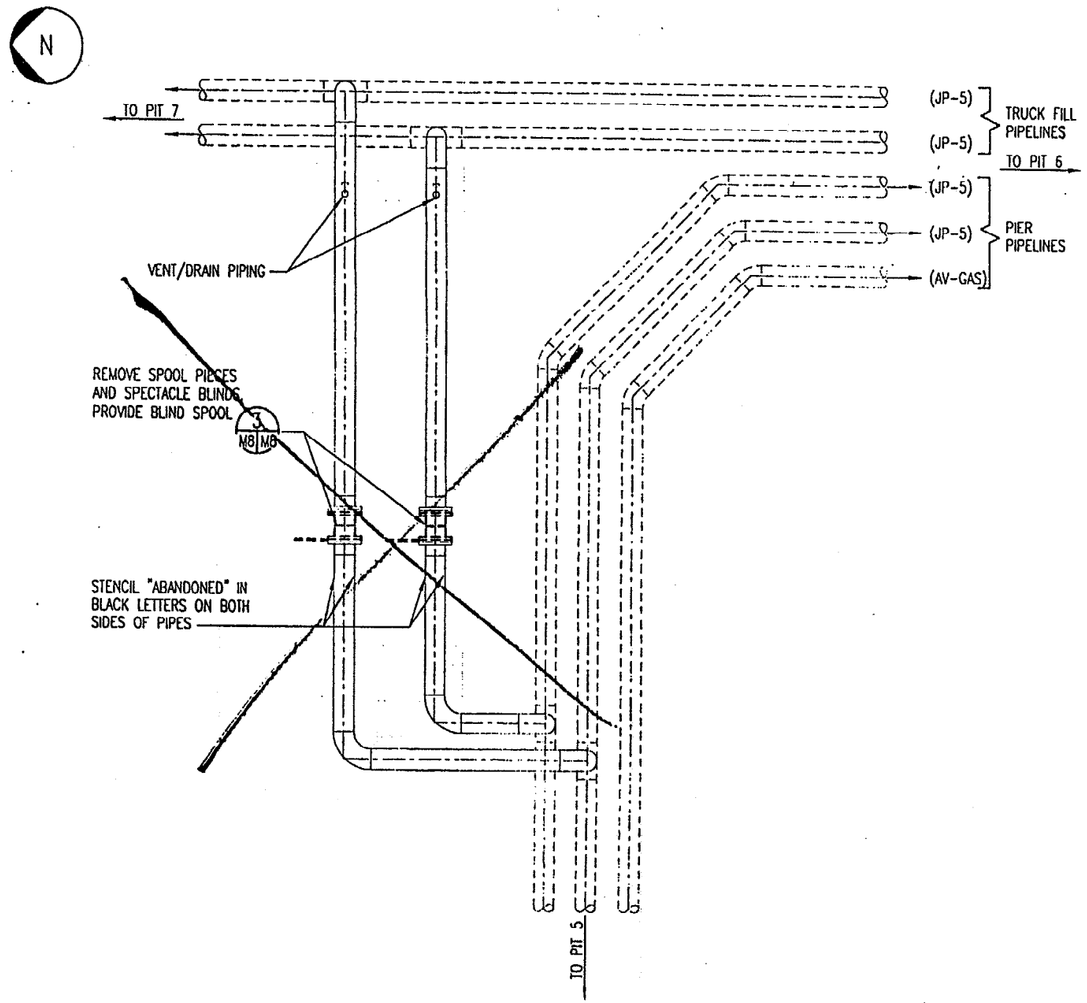
SEAL AREA — STATE OF MAINE — CARL J. SCHUBERT — REGISTERED PROFESSIONAL ENGINEER

RECORD DRAWING DATE

CODE I.D. NO.	80091
DRAWING SIZE/	B
SPEC. NO.	96-M-0850
CONTRACT (DWG) NO.	N62467-96-C-0850
NAVFAC DRAWING NO.	5335068
SHEET	M-7

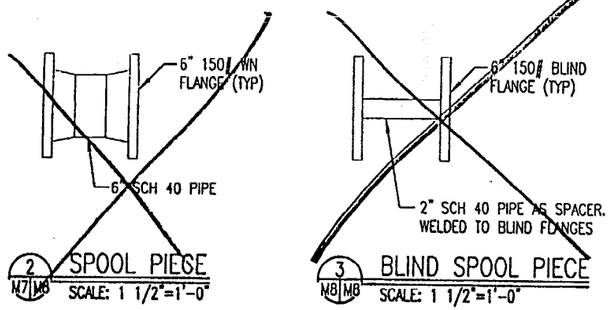
BOSTON ENTERPRISE ENGINEERING, INC. TAMWORTH, NH — DESIGNED — DRAWN — CHECKED — QUANTITIES — SPECIFICATIONS — DATE

NO.	DATE	REVISION DESCRIPTION	APPROVED
1	6/24/98	AS BUILT	



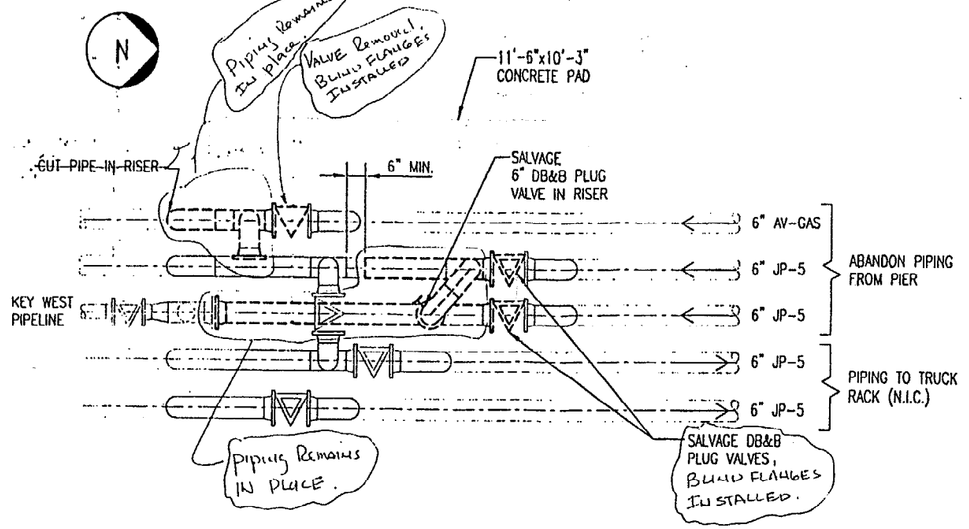
1 M6 M8 CROSS CONNECTION PIPING
SCALE: 1/2"=1'-0"

SEE P16 M8 M9



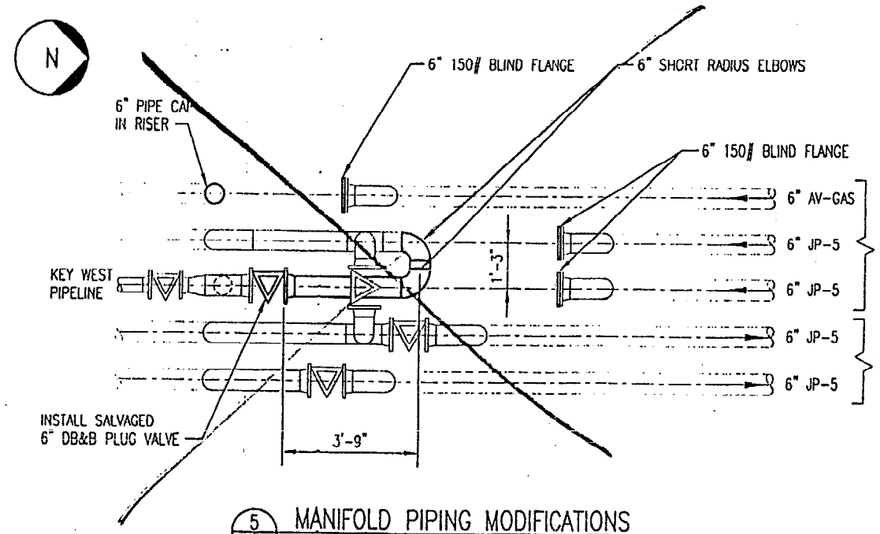
2 M7 M8 SPOOL PIECE
SCALE: 1 1/2"=1'-0"

3 M8 M8 BLIND SPOOL PIECE
SCALE: 1 1/2"=1'-0"



4 M6 M8 MANIFOLD PIPING REMOVALS
SCALE: 1/2"=1'-0"

SEE P17 M8 M9



5 M6 M8 MANIFOLD PIPING MODIFICATIONS
SCALE: 1/2"=1'-0"

Bechtel Environmental, Inc.
As-Built
Contract No. N62467-93-D-0938 DO# 73
By _____ Date 6/24/98

GRAPHIC SCALES

2 0 2 4 FT
SCALE: 1/2"=1'-0"

1 0 1 FT
SCALE: 1 1/2"=1'-0"

CHECK GRAPHIC SCALES BEFORE USING

ENTERPRISE ENGINEERING, INC. YARMOUTH, ME MONROVIA, CA

DESIGNED BY RENE DRAWN BY AMH CHECKED BY Jeff Bishop DATE 3/4/97

SOUTHERN DIVISION NAVAL FACILITIES ENGINEERING COMMAND CHARLESTON, S.C.

DEPARTMENT OF THE NAVY NAVAL AIR STATION KEY WEST, FLORIDA

ABANDON UNDERGROUND PIPELINES
PIPING MODIFICATIONS

APPROVED [signature] DATE 3/6/97

BY FOR COMMANDING OFFICER

BOOKS

PREP BY DATE APPRVD

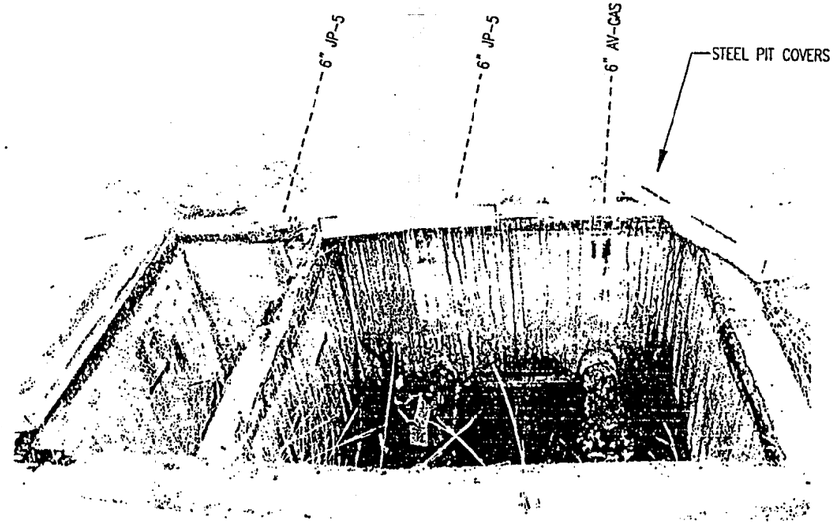
NO. REV. DESCRIPTION

SEAL AREA

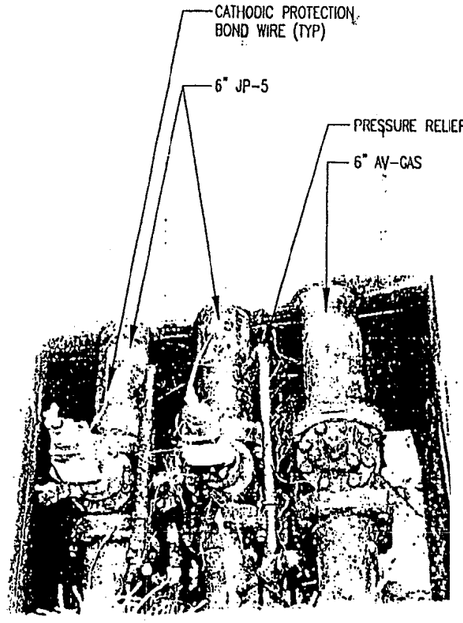
STATE OF MAINE CARL S. DOUCHETTE JR. 7994 REGISTERED PROFESSIONAL ENGINEER

RECORD DRAWING DATE

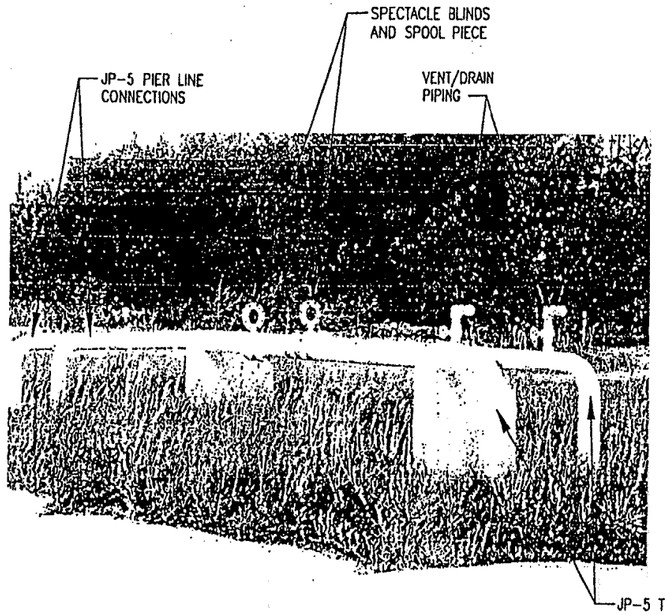
CODE I.D. NO. 80091
DRAWING SIZE: D
SPEC. NO. 96-C-0650
CONTRL CONTR. NO. N62467-96-C-0650
PWTAC DRAWING NO. 5335069
SHEET 8 OF
M-8



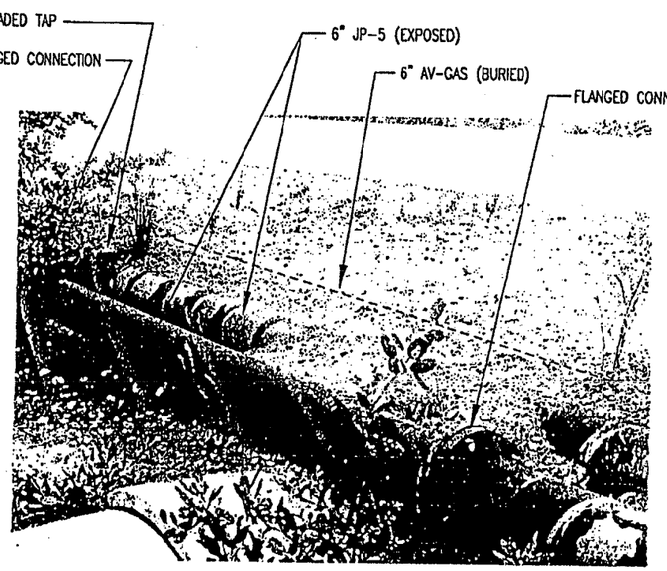
P12 M7 M9 VALVE PIT 1 – LOOKING EAST



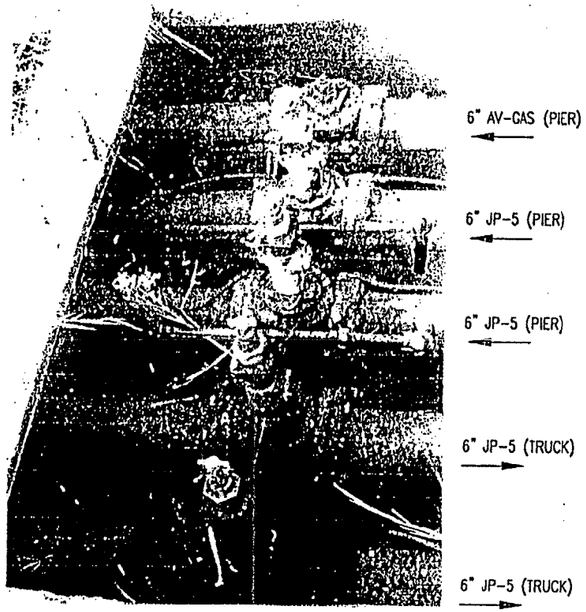
P14 M7 M9 TYPICAL OF VALVE PITS 2,3,4,5



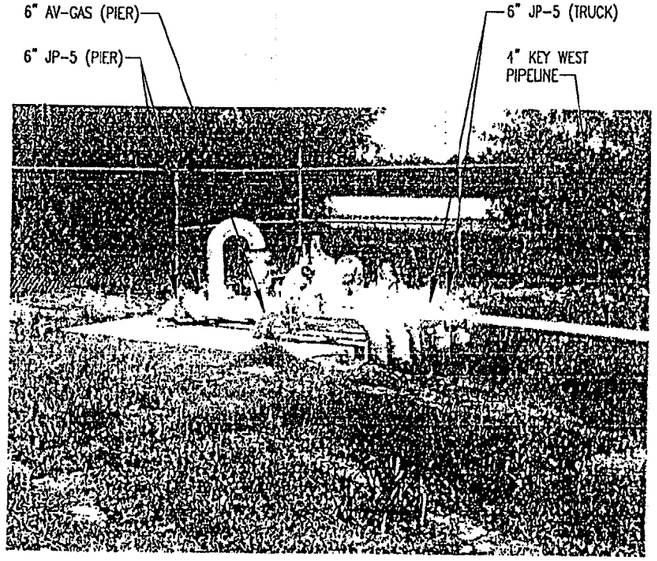
P16 M8 M9 CROSS CONNECTION PIPING – LOOKING WEST



P13 M6 M9 EXPOSED JP-5 PIPES AT CULVERT – LOOKING NORTH



P15 M7 M9 TYPICAL OF VALVE PITS 6,9,10,11



P17 M8 M9 ABOVEGROUND VALVE MANIFOLD – LOOKING EAST

Bechtel Environmental, Inc.
As-Built
Contract No. N62467-93-D-0936 DO# 73
By _____ Date 8/24/98

NO CHANGES THIS SHEET

ENTERPRISE ENGINEERING, INC
YARMOUTH, ME. ANCHORAGE, AK
DESIGNED BSNK APVD
DRAWN AMW APVD
CHECKED Robert Rowland APVD
SHEETS

SOUTHERN DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
CHARLESTON, S.C.
DEPARTMENT OF THE NAVY
NAVAL AIR STATION KEY WEST, FLORIDA

ABANDON UNDERGROUND PIPELINES
BOCA CHICA PIPELINES PHOTOGRAPHS

APPROVED [signature] DATE 3/26/97
FOR COMMANDER, SOUTHERN DIVISION, NAVAL FACILITIES ENGINEERING COMMAND

SEAL AREA
STATE OF MAINE
CARL O. BOUGHERTY JR.
No. 5988
REGISTERED PROFESSIONAL ENGINEER
RECORD DRAWING DATE

CODE I.D. NO. 80091
DRAWING SIZE D
SPEC. NO. 04-96-0850
CONTRACT CONTR. NO. N62467-96-C-0850
NAVFAC DRAWING NO. 5335070
SHEET 10 OF 10
M-9

1/19/98

Sub Job 073 Rec Type DP Comm Date 04-NOV-97 Admin Rec N CCN-Item No. 000083-1

oject DO#0073 PIPELINE CLEANLINESS DATA FOR KEY WEST, FL PIPELINE JOB DO#0073 SUB JOB 324

From HOEKSTRA, R. Org BEI To FILE Org XXX File Loc M Closes CCN

Comm Reference Published N

Cross Reference (Affected Doc) DO#0073 Field CCN

Site Codes 324

Subject Codes 7675 Film Reel

Owed By Org Due Date Closing CCN

Owed To Org Forecast Date Compl Date

Comment/Action

000083-1

DISTRIBUTION		WA	WO	DISTRIBUTION	WA	WO	DISTRIBUTION	WA	WO
PROGRAM MGR	P. W. TOMICZEK						NAVY SouthDiv: E. G. BALL		
PROG MGR SCTY	D. MOORE						S. BERRY		
PROJ MGRS	M McNEIL						B. HILL		
	T. CONRAD						M. HERRON		
	K. ATCHLEY						K. LOTT		
	V. H. BAUER						R. MEDDICK		
	R. J. COHOSE		1				B. GATES		
	L. M. SIMS						D. GASKINS		
PROJECT ENGINEERS	J. R. MANNING						B. GLOVER		
P.E.	D. OBENAUER						B. KIZER		
P.E.	R. HOEKSTRA	1	✓				D. PATRICK		
SITE SUPERINTENDENTS	E. NAJMOLA						G. TURNER		
	W. HEVRDEYS								
	G. RHODES								
	S. MOORE								
{FIELD PDCC}	A. MASSEY								
DATA MGMT	L. DAVENPORT						ABB-ES		
S&H MANAGER	R. W. THOMPSON						ENSAFE		
ENVIR COMPLIANCE	R. ATWOOD				———		BROWN & ROOT		
CONTRACT ADM MGR	TIM STONE						RUST ENVIR		
FIELD PROCUREMENT	S. WEINMAN								
PROJ CTRLS MGR	C. J. PERRY			REFERENCE LIBRARY			SUBCONTRACTORS:		
				75-YEAR RECORD FILE			GEL		
ACCTNG	E. FARMER/K. COURTNEY			SENSITIVE FILE			GTI		
FIELD QC MGR	J. A. GRISSETT			SUBMITTAL FILE			INCHCAPE		
PROJECT ADMINISTRATOR	L. LANDERS								
RECORDS MGMT	B. STOUT			PDCC FILE	1		MEI		

SOUTHERN DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
NORTH CHARLESTON, SOUTH CAROLINA

M:\winword\distrib2.doc

11/24/97

Boca Chica
Line Cleanliness Test
6-Nov-97

LN 1, Av-gas

DATE	TIME	PID CONCENTRATION
6-Nov-97	13:20:42	1811 PPM OK
6-Nov-97	13:21:42	1791 PPM OK
6-Nov-97	13:22:42	1751 PPM OK
6-Nov-97	13:23:42	1702 PPM OK
6-Nov-97	13:24:42	1676 PPM OK
6-Nov-97	13:25:42	1656 PPM OK
6-Nov-97	13:26:42	1635 PPM OK
6-Nov-97	13:27:42	1624 PPM OK
6-Nov-97	13:28:42	1623 PPM OK
6-Nov-97	13:29:42	1617 PPM OK
6-Nov-97	13:30:42	1597 PPM OK
6-Nov-97	13:31:42	1581 PPM OK
6-Nov-97	13:32:42	1578 PPM OK
6-Nov-97	13:33:42	1575 PPM OK
6-Nov-97	13:34:42	1560 PPM OK
6-Nov-97	13:35:42	1550 PPM OK
6-Nov-97	13:36:42	1548 PPM OK
6-Nov-97	13:37:42	1542 PPM OK
6-Nov-97	13:38:42	1539 PPM OK
6-Nov-97	13:39:42	1536 PPM OK
6-Nov-97	13:40:42	1540 PPM OK
6-Nov-97	13:41:42	1539 PPM OK
6-Nov-97	13:42:42	1544 PPM OK
6-Nov-97	13:43:42	1541 PPM OK
6-Nov-97	13:44:42	1555 PPM OK
6-Nov-97	13:45:42	1557 PPM OK
6-Nov-97	13:46:42	1556 PPM OK
6-Nov-97	13:47:42	1565 PPM OK
6-Nov-97	13:48:42	1578 PPM OK
6-Nov-97	13:49:42	1584 PPM OK
6-Nov-97	13:50:42	1593 PPM OK
6-Nov-97	13:51:42	1593 PPM OK
6-Nov-97	13:52:42	1608 PPM OK
6-Nov-97	13:53:42	1617 PPM OK
6-Nov-97	13:54:42	1628 PPM OK
6-Nov-97	13:55:42	1642 PPM OK
6-Nov-97	13:56:42	1647 PPM OK
6-Nov-97	13:57:42	1650 PPM OK

6-Nov-97	13:58:42	1657 PPM OK
6-Nov-97	13:59:42	1666 PPM OK
6-Nov-97	14:00:42	1676 PPM OK
6-Nov-97	14:01:42	1685 PPM OK
6-Nov-97	14:02:42	1691 PPM OK
6-Nov-97	14:03:42	1706 PPM OK
6-Nov-97	14:04:42	1717 PPM OK
6-Nov-97	14:05:42	1719 PPM OK
6-Nov-97	14:06:42	1728 PPM OK
6-Nov-97	14:07:42	1746 PPM OK
6-Nov-97	14:08:42	1750 PPM OK
6-Nov-97	14:09:42	1766 PPM OK
6-Nov-97	14:10:42	1776 PPM OK
6-Nov-97	14:11:42	1783 PPM OK
6-Nov-97	14:12:42	1783 PPM OK

LN 2 JP5

DATE	TIME	PID CONCENTRATION
6-Nov-97	14:32:13	1381 PPM OK
6-Nov-97	14:33:13	1385 PPM OK
6-Nov-97	14:34:13	1379 PPM OK
6-Nov-97	14:35:13	1373 PPM OK
6-Nov-97	14:36:13	1373 PPM OK
6-Nov-97	14:37:13	1368 PPM OK
6-Nov-97	14:38:13	1361 PPM OK
6-Nov-97	14:39:13	1364 PPM OK
6-Nov-97	14:40:13	1361 PPM OK
6-Nov-97	14:41:13	1361 PPM OK
6-Nov-97	14:42:13	1355 PPM OK
6-Nov-97	14:43:13	1352 PPM OK
6-Nov-97	14:44:13	1351 PPM OK
6-Nov-97	14:45:13	1347 PPM OK
6-Nov-97	14:46:13	1347 PPM OK
6-Nov-97	14:47:13	1348 PPM OK
6-Nov-97	14:48:13	1354 PPM OK
6-Nov-97	14:49:13	1348 PPM OK
6-Nov-97	14:50:13	1348 PPM OK
6-Nov-97	14:51:13	1342 PPM OK
6-Nov-97	14:52:13	1340 PPM OK
6-Nov-97	14:53:13	1348 PPM OK
6-Nov-97	14:54:13	1346 PPM OK
6-Nov-97	14:55:13	1346 PPM OK
6-Nov-97	14:56:13	1346 PPM OK
6-Nov-97	14:57:13	1337 PPM OK
6-Nov-97	14:58:13	1341 PPM OK
6-Nov-97	14:59:13	1334 PPM OK
6-Nov-97	15:00:13	1336 PPM OK

6-Nov-97	15:01:13	1341 PPM OK
6-Nov-97	15:02:13	1335 PPM OK
6-Nov-97	15:03:13	1333 PPM OK
6-Nov-97	15:04:13	1335 PPM OK
6-Nov-97	15:05:13	1337 PPM OK
6-Nov-97	15:06:13	1333 PPM OK
6-Nov-97	15:07:13	1333 PPM OK
6-Nov-97	15:08:13	1330 PPM OK
6-Nov-97	15:09:13	1330 PPM OK
6-Nov-97	15:10:13	1331 PPM OK
6-Nov-97	15:11:13	1330 PPM OK
6-Nov-97	15:12:13	1333 PPM OK
6-Nov-97	15:13:13	1330 PPM OK
6-Nov-97	15:14:13	1340 PPM OK
6-Nov-97	15:15:13	1318 PPM OK
6-Nov-97	15:16:13	1324 PPM OK
6-Nov-97	15:17:13	1318 PPM OK

LN3 JP5

DATE	TIME	PID CONCENTRATION
6-Nov-97	15:34:53	1270 PPM OK
6-Nov-97	15:35:53	1274 PPM OK
6-Nov-97	15:36:53	1273 PPM OK
6-Nov-97	15:37:53	1277 PPM OK
6-Nov-97	15:39:53	1266 PPM OK
6-Nov-97	15:40:53	1263 PPM OK
6-Nov-97	15:41:53	1265 PPM OK
6-Nov-97	15:42:53	1264 PPM OK
6-Nov-97	15:43:53	1257 PPM OK
6-Nov-97	15:44:53	1254 PPM OK
6-Nov-97	15:45:53	1258 PPM OK
6-Nov-97	15:46:53	1255 PPM OK
6-Nov-97	15:47:53	1254 PPM OK
6-Nov-97	15:48:53	1254 PPM OK
6-Nov-97	15:49:53	1252 PPM OK
6-Nov-97	15:50:53	1255 PPM OK
6-Nov-97	15:51:53	1249 PPM OK
6-Nov-97	15:52:53	1252 PPM OK
6-Nov-97	15:53:53	1252 PPM OK
6-Nov-97	15:54:53	1247 PPM OK
6-Nov-97	15:55:53	1247 PPM OK
6-Nov-97	15:56:53	1248 PPM OK
6-Nov-97	15:57:53	1249 PPM OK
6-Nov-97	15:58:53	1244 PPM OK
6-Nov-97	15:59:53	1241 PPM OK
6-Nov-97	16:00:53	1243 PPM OK
6-Nov-97	16:01:53	1243 PPM OK

6-Nov-97	16:02:53	1244 PPM OK
6-Nov-97	16:03:53	1254 PPM OK
6-Nov-97	16:04:53	1242 PPM OK
6-Nov-97	16:05:53	1242 PPM OK
6-Nov-97	16:06:53	1238 PPM OK
6-Nov-97	16:07:53	1241 PPM OK
6-Nov-97	16:08:53	1241 PPM OK
6-Nov-97	16:09:53	1238 PPM OK
6-Nov-97	16:10:53	1235 PPM OK
6-Nov-97	16:11:53	1232 PPM OK
6-Nov-97	16:12:53	1234 PPM OK
6-Nov-97	16:13:53	1234 PPM OK
6-Nov-97	16:14:53	1231 PPM OK
6-Nov-97	16:15:53	1231 PPM OK
6-Nov-97	16:16:53	1230 PPM OK
6-Nov-97	16:17:53	1227 PPM OK

Outer Mole to Trombo Point Fuel Farm Line Cleanliness Test 7-Nov-97

8 10IN TRM

DATE	TIME	PID CONCENTRATION (PPM)
7-Nov-97	10:09:49	675
7-Nov-97	10:10:49	768
7-Nov-97	10:11:49	834
7-Nov-97	10:12:49	862
7-Nov-97	10:13:49	938
7-Nov-97	10:14:49	1073
7-Nov-97	10:15:49	1276
7-Nov-97	10:16:49	1429
7-Nov-97	10:17:49	1587
7-Nov-97	10:18:49	1638
7-Nov-97	10:19:49	1672
7-Nov-97	10:20:49	1578
7-Nov-97	10:21:49	1522
7-Nov-97	10:22:49	1324
7-Nov-97	10:23:49	1271
7-Nov-97	10:24:49	1248
7-Nov-97	10:25:49	1219
7-Nov-97	10:26:49	1206
7-Nov-97	10:27:49	1174
7-Nov-97	10:28:49	1134
7-Nov-97	10:29:49	1145
7-Nov-97	10:30:49	1108
7-Nov-97	10:31:49	1091
7-Nov-97	10:32:49	1067
7-Nov-97	10:33:49	1083
7-Nov-97	10:34:49	1083
7-Nov-97	10:35:49	1081
7-Nov-97	10:36:49	1037
7-Nov-97	10:37:49	997
7-Nov-97	10:38:49	968
7-Nov-97	10:39:49	960
7-Nov-97	10:40:49	951
7-Nov-97	10:41:49	950
7-Nov-97	10:42:49	932
7-Nov-97	10:43:49	921
7-Nov-97	10:44:49	923
7-Nov-97	10:45:49	922
7-Nov-97	10:46:49	926
7-Nov-97	10:47:49	924

8 10IN TRM

DATE	TIME	PID CONCENTRATION (PPM)
7-Nov-97	10:48:49	933
7-Nov-97	10:49:49	915
7-Nov-97	10:50:49	922
7-Nov-97	10:51:49	907
7-Nov-97	10:52:49	902
7-Nov-97	10:53:49	893
7-Nov-97	10:54:49	882
7-Nov-97	10:55:49	883
7-Nov-97	10:56:49	875
7-Nov-97	10:57:49	868
7-Nov-97	10:58:49	864
7-Nov-97	10:59:49	859
7-Nov-97	11:00:49	859
7-Nov-97	11:01:49	861
7-Nov-97	11:02:49	867
7-Nov-97	11:03:49	865
7-Nov-97	11:04:49	856
7-Nov-97	11:05:49	899
7-Nov-97	11:06:49	882
7-Nov-97	11:07:49	870
7-Nov-97	11:08:49	867
7-Nov-97	11:09:49	868
7-Nov-97	11:10:49	863
7-Nov-97	11:11:49	862
7-Nov-97	11:12:49	861
7-Nov-97	11:13:49	859
7-Nov-97	11:14:49	851
7-Nov-97	11:15:49	841
7-Nov-97	11:16:49	836
7-Nov-97	11:17:49	834
7-Nov-97	11:18:49	830
7-Nov-97	11:19:49	827
7-Nov-97	11:20:49	829
7-Nov-97	11:21:49	830
7-Nov-97	11:22:49	820
7-Nov-97	11:23:49	820
7-Nov-97	11:24:49	818
7-Nov-97	11:25:49	817
7-Nov-97	11:26:49	821
7-Nov-97	11:27:49	815
7-Nov-97	11:28:49	811
7-Nov-97	11:29:49	809
7-Nov-97	11:30:49	812
7-Nov-97	11:31:49	804
7-Nov-97	11:32:49	805

8 10IN TRM

DATE	TIME	PID CONCENTRATION (PPM)
7-Nov-97	11:33:49	802
7-Nov-97	11:34:49	799
7-Nov-97	11:35:49	795
7-Nov-97	11:36:49	794
7-Nov-97	11:37:49	788
7-Nov-97	11:38:49	790
7-Nov-97	11:39:49	783
7-Nov-97	11:40:49	784
7-Nov-97	11:41:49	780

10" Bunker C
Cleanliness Test
10-Dec-97

DATE	TIME	PID Concentration (PPM)	Remarks
10-Dec-97	12:29:39	216	
10-Dec-97	12:30:39	516	
10-Dec-97	12:31:39	854	
10-Dec-97	12:32:39	1622	
10-Dec-97	12:33:39	2292	
10-Dec-97	12:34:39	2953	
10-Dec-97	12:35:39	4411	
10-Dec-97	12:36:39	4987	
10-Dec-97	12:37:39	4686	
10-Dec-97	12:38:39	5710	
10-Dec-97	12:39:39	5292	
10-Dec-97	12:40:39	5927	
10-Dec-97	12:41:39	8226	
10-Dec-97	12:42:39	9123	
10-Dec-97	12:43:39	10000	
10-Dec-97	12:44:39	12900	
10-Dec-97	12:45:39	12900	
10-Dec-97	12:46:39	12900	
10-Dec-97	12:47:39	3438	
10-Dec-97	12:48:39	1010	
10-Dec-97	12:49:39	559	
10-Dec-97	12:50:39	468	
10-Dec-97	12:51:39	464	
10-Dec-97	12:52:39	468	
10-Dec-97	12:53:39	458	
10-Dec-97	12:54:39	453	
10-Dec-97	12:55:39	449	
10-Dec-97	12:56:39	444	
10-Dec-97	12:57:39	433	
10-Dec-97	12:58:39	427	
10-Dec-97	12:59:39	410	
10-Dec-97	13:00:39	396	
10-Dec-97	13:01:39	378	
10-Dec-97	13:02:39	368	
10-Dec-97	13:03:39	358	
10-Dec-97	13:04:39	345	
10-Dec-97	13:05:39	334	
10-Dec-97	13:06:39	328	
10-Dec-97	13:07:39	321	
10-Dec-97	13:08:39	317	END

VIII

Discharge Reporting Form

PLEASE PRINT OR TYPE

DEP Form # 62-761.900(1)
Form Title Discharge Reporting Form
Effective Date
DEP Application No.
(Filled in by DEP)

Instructions are on the reverse side. Please complete all applicable blanks

1. Facility ID Number (if registered): _____ 2. Date of form completion: 1 NOV. 97

3. General information
Facility name: 10" BULK Fuel Line from TRUMBO PT. Fuel Farm TO TRUMAN Annex
Facility Owner or Operator: COMMANDING OFFICER NAS KEY WEST
Telephone number: (305) 293-2881 County: MONROE
Mailing address: PO BOX 9007 (Code 18837S), Key West FL. 33040
Location of discharge (facility street address): The corner of Caroline and Williams ST.
Latitude and Longitude of discharge (If known.) LAT. 24 33 .616 Long. 81 48 .031

4. Date of receipt of test results or discovery of confirmed discharge: NOV. 1, 1997 month/day/year

5. Estimated number of gallons discharged: 160 gallons

6. Discharge affected: [ ] Air [✓] Soil [ ] Ground water [ ] Water well(s) [ ] Shoreline [ ] Surface water (water body name)

7. Method of discovery (check all that apply)

[ ] Liquid detector (automatic or manual)	[ ] Internal inspection	[ ] Closure
[ ] Vapor detector (automatic or manual)	[ ] Inventory control	[ ] Groundwater analytical samples
[ ] Tightness test	[ ] Monitoring wells	[ ] Soil analytical tests or samples
[ ] Pressure test	[ ] Automatic tank gauging	[✓] Visual observation
[ ] Statistical Inventory Reconciliation	[ ] Manual tank gauging	[ ] Other

8. Type of regulated substance discharged: (check one)

[ ] Unknown	[ ] Used\waste oil	[ ] New/lube oil
[ ] Gasoline	[ ] Aviation gas	[ ] Diesel
[ ] Heating oil	[ ] Jet fuel	[ ] Mineral acid

Hazardous substance - includes CERCLA substances, pesticides, ammonia, chlorine, and derivatives.
rite in name or Chemical Abstract Service (CAS) number)
[✓] Other Bunker C Number 6 fuel

9. Discharge originated from a: (check all that apply)

[ ] Dispensing system	[ ] Pipe	[ ] Barge	[✓] Pipeline	[ ] Vehicle
[ ] Tank	[ ] Fitting	[ ] Tanker ship	[ ] Railroad tankcar	[ ] Airplane
[ ] Unknown	[ ] Valve failure	[ ] Other Vessel	[ ] Tank truck	[ ] Drum
[ ] Other				

10. Cause of the discharge: (check all that apply)

[ ] Loose connection	[ ] Puncture	[ ] Spill	[ ] Collision	[ ] Corrosion
[ ] Fire/explosion	[ ] Overfill	[ ] Human error	[ ] Vehicle Accident	[ ] Installation failure

[✓] Other pipe leaked during pressure test

11. Actions taken in response to the discharge: Oil on asphalt surface was vacuumed & removed with absorbents. Storm drain was plugged to prevent any discharge to open waters.

12. Comments: Assessment will be made for site remediation. Possibly excavation.

13. Agencies notified (as applicable):

[ ] State Warning Point (904) 488-1320	[✓] National Response Center 1-800-424-8802	[✓] Fire Department.	[ ] County Tanks Program	[✓] DEP (district/person) Lisa Gordon

409833

[✓] To the best of my knowledge and belief all information submitted on this form is true, accurate, and complete.

James M. Simmen
Print Name of Owner, Operator or Authorized Representative

Signature of Owner, Operator or Authorized Representative.

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

EMERGENCY RESPONSE INCIDENT INVESTIGATIVE REPORT

Incident Number:	County:	BER District:	Date of Incident:	Time of Incident:
97-03-3080	Monroe	3	10/31/97	2230 hrs

Location of Incident: Intersection of Williams & Caroline ST.

Nearest City/Town:	Latitude:	Longitude:
Key West	24° 33.616 N	81° 48.031 W

Initial Report Received BER Office:	BER Employee Receiving Initial Report:	Date Initial Report Received:	Time Initial Report Received:
☒ Tallahassee ☐ _____	Doug White	10/31/97	unknown

Incident Reported By:	Affiliation:	Phone Number (include area code):
John Jones	☐ SWP City of Key West	305 292 8117

Address of Reporting Party (include city, state, & zip):	Alternate Phone Number:
PO Box 1409 Key West FL 33041-1409	305 745 5900 Fax 305 292 8834

Date District Notified:	Time District Notified:	District Employee Receiving Report:	Another BER Office Assistance Requested:
11/1/97	12:01 AM	Lisa L. Gordon	☐ Yes ☒ No (skip next line)

Date Aid Requested:	Time Aid Requested:	BER Office Rendering Assistance:	Employee Receiving Request for Assistance:

BER Employee Responding:	Responding From (town):	Response Date:	Response Time:	Arrival Date:	Arrival Time:
Lisa L. Gordon	Marathon	11/1/97	1230 hrs	11/1/97	0130 hrs

Incident Description:
☐ UST Tank Leak ☐ Vehicle Accident
☐ AST Tank Leak ☐ Vessel Discharge
☐ Air Release ☐ AST Tank Overfill
☐ Valve Leak ☐ UST Tank Overfill
☐ Complaint ☐ Abandoned drum(s)
☐ Dumping ☐ Vehicle Fuel Tank Leak
☐ Spill ☐ Abandoned Container(s)
☐ Fire ☒ pipeline leak

BER Response:
☐ None
☐ Referral
☒ On-Scene
☐ Phone Only
☐ Follow-up Later
☐ _____

Media Affected:
☐ Air
☒ Soil
☐ Ditch
☐ Beach
☒ Storm Drain
☐ Wells Nearby
☒ Ground Water
☐ Impervious Surface
☐ Surface Water: ☐ _____

Mode:
☐ Highway ☐ Commercial
☐ Waterway ☐ Agricultural
☐ Residential ☐ _____
☐ Rail
☐ Rural
☐ Coastal
☐ Facility
☒ Pipeline

Response Actions:
☒ Leak Stopped
☒ Soil Removed
☐ Samples Taken
☒ Absorbent Used
☒ Contractor Hired
☐ Fire Extinguished
☒ Photographs Taken
☐ Neutralized
☐ None Taken
☒ Booms/Dikes
☐ _____

Vehicle\Vessel Type: ☐ ~~Automobile~~ ☐ Pickup Truck ☐ Truck ☐ Semi Truck ☐ Tank Truck ☐ Cargo Trailer ☐ Barge ☐ Tank Vessel ☐ Commercial Vessel ☐ Recreational Vessel ☐ _____

Facility Type: ☐ Chemical Storage ☐ Waste Storage ☐ Bulk Product ☐ Industrial (factory) ☐ Commercial (store) ☐ Power Plant ☐ Service Station ☐ Automotive Shop ☐ Marina ☒ pipeline

Make/Model of Vehicle or Vessel Name:	Tag # or Vessel Registration #:	Operator's Name:

Facility Name:	Person in Charge of Facility:

# of Abandoned Drums:	Size of Drums (gallons):	Are Any Drums Leaking:	Overall Condition:	Color or Markings:
		☐ Yes (#: ____) ☐ No	☐ Good ☐ Fair ☐ Poor	

Substantial threat of a discharge to the environment: ☐ No ☒ Yes

USCG Office Notified: ☒ NRC ☐ Mobile ☐ Tampa ☐ Miami ☐ Jacksonville

Date Notified:	Time Notified:	Name / Rank of Person in USCG Notified:	Phone Number (include area code):
11/1/97	unknown	unknown	1 800 424 8802

Evacuation:	Total Area Evacuated:	Injuries:	Fatalities:
☐ Yes ☒ No		☐ No ☒ Yes (#: 2)	☒ No ☐ Yes (#: ____)

Was There a Release:	Containment Initiated:	Was Release Contained:	Was Cleanup Initiated:
☐ No ☒ Yes (amount: est. 400 gal)	☒ Yes ☐ No ☐ N/A	☐ Yes ☒ No ☐ N/A	☒ Yes ☐ No ☐ N/A

Predicted Movement of Release:
North on Williams ST. toward Key West Bight.

Brief Description of Type of Containment and Cleanup Efforts Being Taken:
sand, sorbant, vac. truck all used.

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF LAW ENFORCEMENT
Bureau of Emergency Response
INITIAL REPORT OF EMERGENCY RESPONSE INCIDENT

Incident Number:	County:	BER District:	Date of Incident:	Time of Incident:
	Monroe	3	10-31-97	?

Date Reported to BER:	Time Reported to BER:	BER Employee Receiving Initial Report:	BER Location Initial Report Received:
11-1-97	early am!	DCW	Tallahassee

Incident Reported By:	Affiliation:	Phone Number (include area code):
John Jones	Key West City Manager	305/745-5990

Location of Incident: intersection of Caroline & Williams

Nearest City/Town:	Latitude:	Longitude:
Key West		

Incident Description:
- ☐ UST Tank Leak
- ☐ AST Tank Leak
- ☐ Air Release
- ☐ Valve Leak
- ☐ Complaint
- ☐ Dumping
- ☒ Spill
- ☐ Fire ☐ _____
- ☐ Vehicle Accident
- ☐ Vessel Discharge
- ☐ AST Tank Overfill
- ☐ UST Tank Overfill
- ☐ Abandoned drum(s)
- ☐ Vehicle Fuel Tank Leak
- ☐ Abandoned Container(s)

BER Response:
- ☐ None
- ☐ Referral
- ☒ On-Scene
- ☐ Phone Only
- ☐ Follow-up Later
- ☐ _____

Media Affected:
- ☐ Air
- ☒ Soil
- ☐ Ditch
- ☐ Beach
- ☒ Storm Drain
- ☐ Wells Nearby
- ☐ Ground Water
- ☐ Impervious Surface
- ☐ Surface Water: ☐ _____

Mode:
- ☐ Highway
- ☐ Waterway
- ☐ Residential
- ☐ Rail
- ☐ Rural
- ☐ Coastal
- ☐ Facility
- ☒ Pipeline
- ☐ Commercial
- ☐ Agricultural
- ☐ _____

Response Actions:
- ☐ Leak Stopped
- ☐ Soil Removed
- ☐ Samples Taken
- ☐ Absorbent Used
- ☐ Contractor Hired
- ☐ Fire Extinguished
- ☐ Photographs Taken
- ☐ Neutralized
- ☐ None Taken
- ☐ Booms/Dikes
- ☐ _____

Responsible Party:	Contact Person (include title):	Phone Number (include area code):
US Navy		

Responsible Party's Address (include city, state, zip):

Material:	Amount:	Category Code (see below):
Diesel Fuel	Lots. ☐ gal. ☐ lbs.	0
	☐ gal. ☐ lbs.	
	☐ gal. ☐ lbs.	
	☐ gal. ☐ lbs.	

Category Codes (choose one, most specific category for each material above, and enter the code on the appropriate box):

01 Oil	05 Paint	09 Chlorine	13 Oxidizer	17 Sewage	21 PCB
02 Fuel	06 Solvent	10 Ammonia	14 Reactive	18 Wastewater	22 Fertilizer
03 Crude Oil	07 Flammable (misc.)	11 Gas (not NH3 or CL2)	15 Explosive	19 Radioactive	23 Biohazard
04 Petroleum (misc.)	08 Poison (misc.)	12 Pesticide/Herbicide	16 Corrosive	20 Solid Waste	24 Unknown
25 _____					

Substantial threat of a discharge to the environment:	Contractor Used:
☐ No ☒ Yes	☒ No ☐ Yes (Name: _____)

Responding Agencies:				Agencies Notified:			
☐ EPA	☐ FMP	☐ USCG	☐ Police/Sheriff	☐ EPA	☐ GFC	☐ NRC	☐ Local EM
☐ FHP	☐ GFC	☐ Local EM	☐ Local Program	☐ FHP	☐ FMP	☐ TBER	☐ Local Program
☐ HRS	☐ DOT	☐ Fire Dept.	☐ Local Road Dept.	☐ HRS	☐ DOT	☐ USCG	☐ Local Road Dept.
☐ _____				☐ SWP	(904) 413-9911	_____	

USCG Office Notified: ☐ NRC	Name / Rank of Person in USCG Notified:	Phone Number (include area code):
☐ Jacksonville ☐ Tampa ☐ Mobile ☐ Miami		

Narrative: Old Navy pipeline leaking diesel. Contained soil [illegible]

Follow-up referred to:	Incident copies sent to:	BER Notification: ☐ Fax ☒ Verbal (Lisa Gordon)

BER Response:	Signature of District Employee:	Date:
☐ Yes (attach investigative report) ☐ No		

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF LAW ENFORCEMENT
Bureau of Emergency Response

INITIAL REPORT OF EMERGENCY RESPONSE INCIDENT

Incident Number:	County:	BER District:	Date of Incident:	Time of Incident:
97-03-3080	Monroe	3	10/31/97	2230

Date Reported to BER:	Time Reported to BER:	BER Employee Receiving Initial Report:	BER Location Initial Report Received:
11/1/97	1201	Lisa Gordon	Marathon

Incident Reported By:	Affiliation:	Phone Number (include area code):
City of KW - John Jones	Assistant City Manager	305/

Location of Incident: Intersection Caroline & Williams St

Nearest City/Town:	Latitude:	Longitude:
Key West	24°33.616 N	81°48.031 W

Incident Description:
- ☐ UST Tank Leak
- ☐ AST Tank Leak
- ☐ Air Release
- ☐ Valve Leak
- ☐ Complaint
- ☐ Dumping
- ☐ Spill
- ☐ Fire
- ☐ Vehicle Accident
- ☐ Vessel Discharge
- ☐ AST Tank Overfill
- ☐ UST Tank Overfill
- ☐ Abandoned drum(s)
- ☐ Vehicle Fuel Tank Leak
- ☐ Abandoned Container(s)
- ☒ pipeline leak

BER Response:
- ☐ None
- ☐ Referral
- ☒ On-Scene
- ☐ Phone Only
- ☐ Follow-up Later
- ☐ _____
- ☐ Impervious Surface
- ☐ Surface Water: ☐ _____

Media Affected:
- ☐ Air
- ☒ Soil
- ☐ Ditch
- ☐ Beach
- ☒ Storm Drain
- ☐ Wells Nearby
- ☐ Ground Water

Mode:
- ☒ Highway
- ☐ Waterway
- ☐ Residential
- ☐ Rail
- ☐ Rural
- ☐ Coastal
- ☐ Facility
- ☒ Pipeline
- ☐ Commercial
- ☐ Agricultural
- ☐ _____

Response Actions:
- ☐ Leak Stopped
- ☒ Soil Removed
- ☐ Samples Taken
- ☒ Absorbent Used
- ☐ Contractor Hired
- ☐ Fire Extinguished
- ☒ Photographs Taken
- ☐ Neutralized
- ☐ None Taken
- ☒ Booms/Dikes
- ☐ _____

Responsible Party:	Contact Person (include title):	Phone Number (include area code):
US Navy	Scott Johnson, Capt. officer commanding	

Responsible Party's Address (include city, state, zip):

Material:	Amount:	Category Code (see below):
Bunker C ?	200 ☒ gal. ☐ lbs.	04
	☐ gal. ☐ lbs.	
	☐ gal. ☐ lbs.	
	☐ gal. ☐ lbs.	

Category Codes (choose one, most specific category for each material above, and enter the code on the appropriate box):

01 Oil	05 Paint	09 Chlorine	13 Oxidizer	17 Sewage	21 PCB
02 Fuel	06 Solvent	10 Ammonia	14 Reactive	18 Wastewater	22 Fertilizer
03 Crude Oil	07 Flammable (misc.)	11 Gas (not NH3 or CL2)	15 Explosive	19 Radioactive	23 Biohazard
04 Petroleum (misc.)	08 Poison (misc.)	12 Pesticide/Herbicide	16 Corrosive	20 Solid Waste	24 Unknown

25 _____

Substantial threat of a discharge to the environment:	Contractor Used:
☐ No ☒ Yes	☐ No ☐ Yes (Name: _____)

Responding Agencies:
- ☐ EPA
- ☐ FHP
- ☐ HRS
- ☐ FMP
- ☐ GFC
- ☐ DOT
- ☐ USCG
- ☒ Local EMS
- ☒ Fire Dept.
- ☒ Police/Sheriff
- ☐ Local Program
- ☐ Local Road Dept.
- ☒ US NAVY

Agencies Notified:
- ☐ EPA
- ☐ FHP
- ☐ HRS
- ☐ SWP (904) 413-9911
- ☐ GFC
- ☒ FMP
- ☐ DOT
- ☒ NRC
- ☒ TBER
- ☒ USCG
- ☒ Local EMS
- ☐ Local Program
- ☐ Local Road Dept.

USCG Office Notified:	Name / Rank of Person in USCG Notified:	Phone Number (include area code):
☒ NRC ☐ Jacksonville ☐ Tampa ☐ Mobile ☐ Miami		

Narrative: Fuel observed bubbling out of ground near intersection

Follow-up referred to:	Incident copies sent to:	BER Notification:
NA	Tim McMullen	☐ Fax ☐ Verbal (_____)

BER Response:	Signature of Regional Employee:	Date:
☒ Yes (attach investigative report) ☐ No	Lisa L Gordon	11/1/97

Incident Number: 97-03-3080

Material:	Amount:	Category Code (see below):
Bunker C / Marine diesel	400 ☒ gal. ☐ lbs.	02
	☐ gal. ☐ lbs.	
	☐ gal. ☐ lbs.	
	☐ gal. ☐ lbs.	
	☐ gal. ☐ lbs.	

Category Codes (choose one, most specific category for each material above, and enter the code on the appropriate box):

01 Oil	05 Paint	09 Chlorine	13 Oxidizer	17 Sewage	21 PCB
02 Fuel	06 Solvent	10 Ammonia	14 Reactive	18 Wastewater	22 Fertilizer
03 Crude Oil	07 Flammable (misc.)	11 Gas (not NH3 or CL2)	15 Explosive	19 Radioactive	23 Biohazard
04 Petroleum (misc.)	08 Poison (misc.)	12 Pesticide/Herbicide	16 Corrosive	20 Solid Waste	24 Unknown

25 ☐ _____

Amount Determined By:

☐ Flow Rate Analysis ☐ Tank Inventory Records ☐ Witness Statements ☐ Manifest/Shipping Papers
☒ Investigator's Estimate ☐ Product Transfer Records ☐ Responsible Party Statements ☐ _____

Responding Agencies:				Agencies Notified:			
☐ EPA	☐ FMP	☐ USCG	☒ Police/Sheriff	☐ EPA	☐ GFC	☒ NRC	☒ Local EMS
☐ FHP	☐ GFC	☒ Local EMS	☐ Local Program	☐ SWP	☒ FMP	☒ TBER	☒ Local Program
☐ HRS	☐ DOT	☒ Fire Dept.	☐ Local Road Dept.	☐ HRS	☐ DOT	☒ USCG	☐ Local Road Dept.
☒ US Navy				☐ _____			

Samples Taken:	Type Samples Taken:	Photographs Taken:	Media Coverage:	Cleanup Contractor Used:
☒ Yes ☐ No	☐ Soil ☐ Water ☒ Waste ☐ _____	☒ Yes (attach) ☐ No	☒ Yes ☐ No	☒ Yes ☐ No

Contractor's Name: Bechtel Environmental Inc., Ed Najmola
Phone Number (include area code): 615/220-2745

Contractor's Address (include city, state, & zip): PO Box 350 Oak Ridge TN 37831-0350
Alternate Phone Number: 305/296-9910

Contractor Hired By: ☒ Responsible Party ☐ DEP ☐ _____
DEP Contract Number:
Responsible Party Assumed Responsibility: ☒ Yes ☐ No ☐ N/A

Name of Responsible Party For Incident (if facility, give facility name and contact name): Morco Testing Inc. (SubContrator)
Phone Number (include area code): 713 947-1510

Responsible Party's Mailing Address (include city, state, & zip code): 2516 Rivera ST Pasadena TX 77502
Alternate Phone Number:

Owner's Name (if facility, give facility name and contact name): NAS Key West Commanding Officer Capt. Scott Johnson
Phone Number (include area code): 305 293 2881

Owner's Mailing Address (include city, state, & zip code): PO Box 9007 (code 1883JS) Key West FL 33040
Alternate Phone Number: 305 293 2030

Technical Assistance Only: ☒ No ☐ Yes

Justification for Waiving of Cost Recovery (Attach supporting documentation and/or narrative): ☐ Act of God ☐ Third Party Defense ☐ Non-pollutant ☒ Act of Government ☐ Act of War

Special Management Area(s) Affected:

☒ Yes
☐ No

Special management areas are: state parks; recreation areas; national parks; seashores; estuarine research reserves; marine sanctuaries; wildlife refuges; national estuary program waterbodies; state aquatic preserves and reserves; classified shellfish harvesting areas; areas of critical state concern; federally designated critical habitat for endangered or threatened species; and outstanding Florida waters.

Name(s) of Special Management Area(s) Affected:
Area of critical state concern

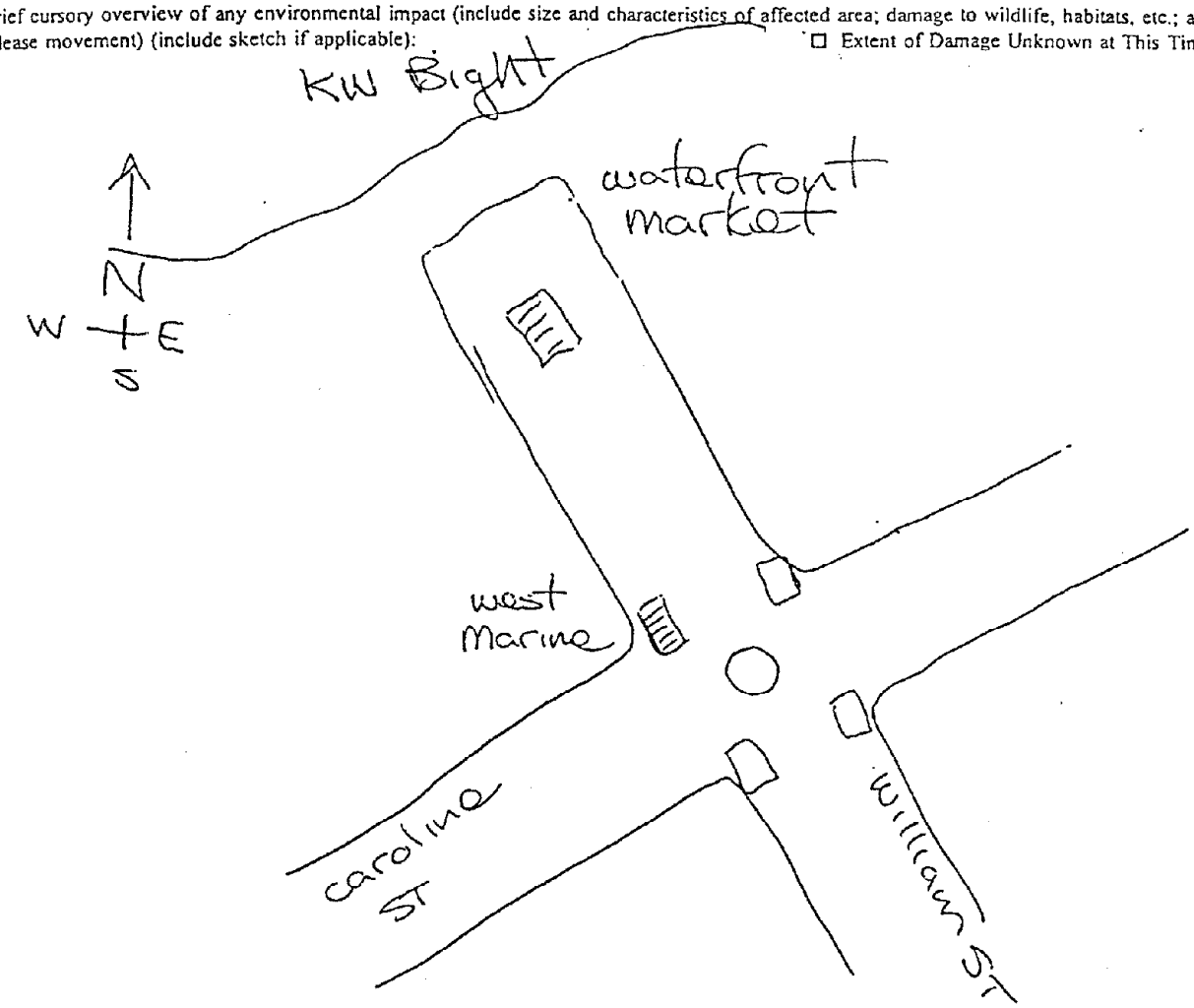
Enforcement Action Taken/Pending: ☐ Yes ☒ No
Type Enforcement Action: ☐ Criminal ☐ Civil
Lead Agency In Enforcement Action:

Offense Description:
Statute Number for Violation: 1. _____ 2. _____

Issued to: 1. ☐ Responsible Party ☐ Owner ☐ _____ 2. ☐ Responsible Party ☐ Owner ☐ _____
Citation/Warning Number: 1. _____ 2. _____
Copy of Citation/Warning Attached: 1. ☐ Yes ☐ No ☐ N/A 2. ☐ Yes ☐ No ☒ N/A

Incident Number: 97-03-3080

Brief cursory overview of any environmental impact (include size and characteristics of affected area; damage to wildlife, habitats, etc.; and areas threatened by release movement) (include sketch if applicable): ☐ Extent of Damage Unknown at This Time



ADMINISTRATIVE COSTS AND EXPENSES INCURRED DURING INVESTIGATION

Vehicle(s) Used: ☒ Yes ☐ No	Total Miles: 102	Single Engine Boat(s) Used: ☐ Yes ☐ No	Total Hours:	Twin Engine Boat(s) Used: ☐ Yes ☒ No	Total Hours:
Helicopter Used: ☐ Yes ☒ No	Total Hours:	Single Engine Aircraft Used: ☐ Yes ☒ No	Total Hours:	Twin Engine Aircraft Used: ☐ Yes ☒ No	Total Hours:
PID Used: ☐ Yes ☒ No	Total Hours:	HazCat Used: ☐ Yes ☒ No	Total Samples:	DEP/BER Absorbent Pads Used: ☐ Yes ☒ No	Total # Pads Used:
DEP/BER Granular Absorbent Used: ☐ Yes ☒ No	Total # Bags Used:				
Other DEP Equipment Used: ☐ Yes ☒ No	Equipment Description and Cost: $ $	Lost or Damaged DEP Equipment: ☐ Yes ☒ No	Equipment Description and Cost: $ $		
Names of All BER/DEP Personnel Involved (include yourself): Lisa L. Gordon	Hours Involved: 20	Names of All BER/DEP Personnel Involved (include yourself):	Hours Involved:		
Laboratory Analysis: ☐ Yes ☒ No	Cost of Analysis:	Photographs Taken: ☒ Yes ☐ No	Cost (include film, developing, etc.): $20.00	Telephone Calls: ☒ Yes ☐ No	Cost of Calls: $15.00
Per Diem Expenses Incurred (all DEP personnel): ☒ No ☐ Yes (attach copy of expenses incurred)	Total Cost:	Services rendered by other personnel (biologists, surveyors, etc): ☒ No ☐ Yes (attach copy of invoices)	Total Cost:		
Total Clerical Hours Expended:	Other Non-Specified Expenses Incurred: ☐ Yes ☒ No	Description and Cost of Other Expenses Incurred (include emergency purchase orders, etc.) (attach copy of invoices). Exclude regular contractor expenses covered by a work authorization # $ $			

Incident Number: 97-03-3080

Narrative (expand on areas that need more details; include any information not covered, that you deem necessary; use continuation form if necessary):

@ midnight 11/1/97 I received a call from Doug White, TBER. Diesel fuel was seeping into the street at Caroline + William St. 316 I called John Jones, Assistant city manager 305/745-5990 Bunker C was bubbling out of the ground. The street had been closed Fire dept, police, Navy + OMI (city wastewater treatment plant) had been notified. Source of discharge believed to be old Navy pipeline. I suggested that USCG be notified since there was a threat to navigable waters. I arrived on scene at approx 0145 hrs. Patsy McNeill of NOS was attempting to contact the Navy spill response team. Fuel was bubbling out of the ground in several spots in the intersection, along a seam in the asphalt and around the edge of the sewer collection system manhole. The manhole had been removed + no oil appeared to have gotten in the collection system. A puddle of oil had collected around the storm drain at the NW corner of the intersection. City personnel had bermed around the drain with sand. The pool of oil was approximately 10' x 15' x 3". The oil was black + not very viscous. The city had placed an inflatable log in the downstream side of the storm drain at the north end of William St. A brief shower occurred around 0235 hrs. It was feared that more rain was on its way. At 0240 hrs Jim Simmen - Tanks supervisor for Navy Public works arrived. Navy contractor Bechtel had hired Marco Testing Inc. to test a Navy pipeline prior to

BER Investigator's Name (please print):	Investigator's Signature:	Date Completed:
Lisa L. Gordon	Lisa L Gordon	11, 3, 97
Name of Reviewing Supervisor (please print):	Supervisor's Signature:	Date Completed:
		/ /

District Bureau of Emergency Response Endorsement:	Tallahassee Bureau of Emergency Response Endorsement:

Distribution: Original - Tallahassee Bureau of Emergency Response Copy - District Emergency Response Manager
cc: Vince Hale, Jim Edds, John Carter
BER 94-002 DEP (12/96) Capt DeAnelly

INCIDENT REPORT NARRATIVE CONTINUATION REPORT # 97-03-3080

NARRATIVE

closing the pipeline in place by filling it with foam. The pipeline was pressure tested with 50psi Friday 10/31/97 Apparently the pressure was left on the pipeline. A suspected valve pit was on the Navy plans at Caroline and Elizabeth St. The pipeline is a 10 inch black oil line last used in 1974. The line runs from the Trumbo Point tank farm to the outer mole pier at Truman Annex. Copies of a discharge reporting form, used oil haulers, and emergency response companies were provided to the Navy. At 0315 hrs the vacuum truck arrived. Pudded product was pumped into the truck. The truck was emptied into drums, about 160 gallons. Navy City personnel & I discussed what needed to be done, now, during the emergency phase and what could be done later. The most urgent item was to keep oil from reaching Key West Bight. Navy Port operations personnel deployed sorbent and containment boom just in case. The affected storm drains would be pumped out & rigged clean. The area where fuel had been bubbling up would be excavated to determine the location of the leak. Excavation would begin after pressure on the pipeline was released and when the excavated material could be loaded directly into dumpsters or dump trucks that had been sealed so they wouldn't leak. Excavation began at 1310 hrs. Product and water were removed from the hole. Two valves were revealed which seemed to be the source of the leak. The excavated debris was going to be staged in a prepared area at the

Officer(s) Reporting (please print): Lisa L. Gordon	Officer's Signature: Lisa L. Gordon	Date: 11/3/97	
Reviewed By:	Reviewer's Signature	Date	
Citation Number	Number Arrested	OBTS Number	Original ☐ Supplement ☐

ADMIN

DEP 20-045A (8/94)

INCIDENT REPORT NARRATIVE CONTINUATION REPORT # 97-03-3080

NARRATIVE

Trumbo Point tank farm. Once the pipeline leak was isolated & patched, the hole would be refilled with gravel. Sand used on the road as absorbent was being sweeped & shoveled up.
The Navy was aware that Assessment and Remediation might be required. I also advised them that any future dewatering or groundwater treatment would require preapproval by DEP.
Navy Port Ops & City of Key West vessels were positioned in the Key West Bight on standby.
I departed the scene at 1700hrs. I drove by Trumbo Pt and saw that the sail staging area had been covered with plastic sheeting.

ADMINISTRATIVE

Officer(s) Reporting (please print)	Officer's Signature	Date
Lisa L. Gordon	Lisa L. Gordon	11/3/97
Reviewed By:	Reviewer's Signature	Date

Citation Number	Number Arrested	OBTS Number	Original ☐ Supplement ☐

Sub Job 073 Rec Type LT Comm Date 26-MAR-98 Admin Rec N CCN-Item No. 000095-1

Subject DO#0073 SOURCE REMOVAL REPORTS FOR PETROLEUM SPILLS 31-OCT-97 AND 13-NOV-97 @ NAS KEY WEST, FL (ABANDONED PIPELINES)

From EWING, M. Org ROIC To GORDON, L. Org FDEP File Loc M Closes CCN

Comm Reference Published N

Cross Reference (Affected Doc) DO#0073 REF CCN 324-00089 Field CCN

Site Codes 324

Subject Codes 7675 7440 Film Reel

Owed By Org Due Date Closing CCN

Owed To Org Forecast Date Compl Date

Comment/Action

000095-1

DISTRIBUTION		WA	WO	DISTRIBUTION	WA	WO	DISTRIBUTION		WA	WO
PROGRAM MGR	P. W. TOMICZEK						NAVY SouthDiv:	E. G. BALL		
PROG MGR SCTY	D. MOORE							S. BERRY		
PROJ MGRS	M. McNEIL							B. HILL		
	T. CONRAD							M. HERRON		
	K. ATCHLEY							K. LOTT		
	V. H. BAUER							R. MEDDICK		
	R. J. COHOSE		1					B. GATES		
	L. M. SIMS							D. GASKINS		
PROJECT ENGINEERS	J. R. MANNING							B. GLOVER		
P.E.	D. OBENAUER							B. KIZER		
P.E.	R. HOEKSTRA	1						D. PATRICK		
SITE SUPERINTENDENTS	E. NAJMOLA							G. TURNER		
	W. HEVRDEYS									
	G. RHODES									
	S. MOORE									
{FIELD PDCC}	A. MASSEY									
DATA MGMT	L. DAVENPORT						ABB-ES			
S&H MANAGER	R. W. THOMPSON						ENSAFE			
ENVIR COMPLIANCE	R. ATWOOD				———		BROWN & ROOT			
CONTRACT ADM MGR	TIM STONE						RUST ENVIR			
FIELD PROCUREMENT	S. WEINMAN									
PROJ CTRLS MGR	C. J. PERRY			REFERENCE LIBRARY			SUBCONTRACTORS:			
				75-YEAR RECORD FILE			GEL			
ACCTNG	E. FARMER/K. COURTNEY			SENSITIVE FILE			GTI			
FIELD QC MGR	J. A. GRISSETT			SUBMITTAL FILE			INCHCAPE			
PROJECT ADMINISTRATOR	L. LANDERS									
RECORDS MGMT	B. STOUT			PDCC FILE	1		MEI			

SOUTHERN DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
NORTH CHARLESTON, SOUTH CAROLINA

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11/24/97

Sub Job 073 Rec Type LT Comm Date 26-MAR-98 Admin Rec N CCN-Item No. 000095-1

Subject DO#0073 SOURCE REMOVAL REPORTS FOR PETROLEUM SPILLS 31-OCT-97 AND 13-NOV-97 @ NAS KEY WEST, FL (ABANDONED PIPELINES)

From EWING, M. Org ROIC To GORDON, L. Org FDEP File Loc M Closes CCN

Comm Reference Published N

Cross Reference (Affected Doc) DO#0073 REF CCN 324-00089 Field CCN

Site Codes 324

Subject Codes 7675 7440 Film Reel

Owed By Org Due Date Closing CCN

Owed To Org Forecast Date Compl Date

Comment/Action

000095-1

DISTRIBUTION		WA	WO	DISTRIBUTION	WA	WO	DISTRIBUTION	WA	WO
PROGRAM MGR	P. W. TOMICZEK						NAVY SouthDiv: E. G. BALL		
PROG MGR SCTY	D. MOORE						S. BERRY		
PROJ MGRS	M. McNEIL						B. HILL		
	T. CONRAD						M. HERRON		
	K. ATCHLEY						K. LOTT		
	V. H. BAUER						R. MEDDICK		
	R. J. COHOSE		1				B. GATES		
	L. M. SIMS						D. GASKINS		
PROJECT ENGINEERS	J. R. MANNING						B. GLOVER		
P.E.	D. OBENAUER						B. KIZER		
P.E.	R. HOEKSTRA	1					D. PATRICK		
SITE SUPERINTENDENTS	E. NAJMOLA						G. TURNER		
	W. HEVRDEYS								
	G. RHODES								
	S. MOORE								
{FIELD PDCC}	A. MASSEY								
DATA MGMT	L. DAVENPORT						ABB-ES		
S&H MANAGER	R. W. THOMPSON						ENSAFE		
ENVIR COMPLIANCE	R. ATWOOD						BROWN & ROOT		
CONTRACT ADM MGR	TIM STONE						RUST ENVIR		
FIELD PROCUREMENT	S. WEINMAN								
PROJ CTRLS MGR	C. J. PERRY			REFERENCE LIBRARY			SUBCONTRACTORS:		
				75-YEAR RECORD FILE			GEL		
ACCTNG	E. FARMER/K. COURTNEY			SENSITIVE FILE			GTI		
FIELD QC MGR	J. A. GRISSETT			SUBMITTAL FILE			INCHCAPE		
PROJECT ADMINISTRATOR	L. LANDERS								
RECORDS MGMT	B. STOUT			PDCC FILE	1		MEI		

SOUTHERN DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
NORTH CHARLESTON, SOUTH CAROLINA

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11/24/97

324-000095

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND CONTRACTS
OFFICER IN CHARGE OF CONSTRUCTION
RESIDENT OFFICER IN CHARGE OF CONSTRUCTION
OFFICE IN CHARGE FACILITIES SUPPORT CONTRACTS
NAVAL AIR STATION, KEY WEST, FL 33040-9018

4330
Ser R205/
March 26, 1998

ATTN LISA GORDON
STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
2796 OVERSEAS HWY SUITE 218C
MARATHON FL 33050

Subj: CONTRACT NO. N62467-93-D-0936/073
DELIVERY ORDER 073, ABANDON PIPELINES
INTERIM REMEDIAL ACTIONS, NAVAL AIR STATION KEY WEST FL

Dear Ms. Lisa Gordon:

Attached are the source removal reports for petroleum spills which occurred on October 31 and November 13, 1997. I apologize for the delay in assembling the data following the clean up of the two areas.

Should you have any questions on the above, please call me at 305/293-3626.

Sincerely,

MARK P. EWING
Resident Engineer
in Charge of Construction

Enclosure: as

Copy to: NASKW Code 188
BEI, ATTN BOB COHOSE

324-000095
~~324-000089~~

Bechtel

Oak Ridge Corporate Center
151 Lafayette Drive
P.O. Box 350
Oak Ridge, Tennessee 37831-0350
Telephone: (423) 220-2000

FEB 25 1998

Mark Ewing, ROICC
NAS Key West
P. O Box 9007
Key West, FL 33040

SUBJECT: Bechtel Job No. 22567
Department of the Navy Contract No. N62467-93-D-0936
DO 0073, NAS KEY WEST, PIPELINE ABANDONMENT - SOURCE REMOVAL REPORTS
Subject Code: 7440

Dear Mr. Ewing:

Please find enclosed FDEP's *Source Removal Reports* for the work activities at Caroline and William Street intersection and the spill at Trumbo Point.

The only missing parts are the waste manifests and certifications of disposal. I spoke to Paul Camire on Monday, February 23, and he is coordinating the gathering of this information from Patsy Watson. Can you please get the information from him and attach them to the report?

Also, the report needs a Navy signature. Please send us a copy for our records after the reports have been signed and the manifests are attached.

If you have any questions or need additional information, please feel free to give me a call at (423) 220-2271.

Sincerely,

R. E. Hoekstra
Project Engineer

REH:dcm:LR1543
Enclosures: As stated

cc: B. Glover (SouthDiv) w/e
R. Demes (PW) w/e
P Camire (PW) w/e

~~324-00089~~

BER Incident# _____

Source Removal Report

The Florida Dept. of Environmental Protection, Bureau of Emergency Response (BER), has created this form which may be used as a cleanup report for any type of discharge, including the cleanup of petroleum discharges under F.A.C. 62-770. BER requests that this form be used, as this form will allow quicker review and closure of the case. For petroleum discharges, the information contained herein must be provided to DEP within 60 days of soil/debris disposal, as required by FAC 62-770.300. Send the report and attachments to:

FDEP Bureau of Emergency Response, 2796 Overseas Highway, Suite 218, Marathon, FL 33050-4276, telephone 305/289-2310, fax 305/289-2337

Date of:	Material(s) Discharged:	Amount:
Incident: 11/13/97	PETROLEUM "BUNKER" C	~140 gallons
Cleanup Initiated: 11/24/97		gallons
Cleanup Completed: 11/15/97		gallons

Location of Incident: TRUMBO POINT FUEL FARM Latitude: 24°33'-30"

Nearest Town: CITY OF KEY WEST County: MONROE Longitude: 81°48'-0"

Cause of Discharge:
- ☐ tank leak
- ☐ tank overfill
- ☐ valve leak
- ☐ vehicle crash
- ☐ drum leak
- ☒ ~~pipe~~ leak
- ☐

Environment Affected:
- ☒ ~~soil~~
- ☐ groundwater
- ☐ air
- ☐ storm drain
- ☐ ditch
- ☐ surface water:
- ☐ impervious surface
- ☐ wells nearby

Responsible Party/Spiller:
Name: U.S. NAVY
Address: NAS Key West
City: KEY WEST State: FL Zip: 33040
Contact: MARK EWING Phone: 305·293·3626

Cleanup Contractor:
BECHTEL ENVIRON.
Contact: ROBERT COHOSE
Phone: 1-423-220-2492

Method(s) of Cleanup:
- ☒ ~~soil~~ excavation
- ☐ booms
- ☒ ~~absorbants~~
- ☐
- ☒ ~~vacuum~~ truck
- ☐ skimmer
- ☐ neutralization

Free Product Recovered: 140 gallons

Free product disposal:
- ☐ incineration
- ☐ fuel blending
- ☐ wastewater treatment
- ☒ RECYCLE

Amount of Soil Removed: 26 ☐ cubic yds. ☒ ~~tons~~ ☐ lbs ☐ drums

Disposal method of soil:
- ☒ ~~soil~~ thermal treatment facility
- ☐ hazardous waste
- ☐ landfill
- ☐

Disposal method of any other debris:
- ☐ soil thermal treatment facility
- ☐ haz. waste
- ☐ landfill
- ☐

Dimensions of soil excavation: 32'L x 22'W x 1'D

Depth to groundwater: 4 feet. How determined?: PREVIOUS SITE ASSESSMENT

Method/instrument to Screen Soil:
- ☒ ~~OVA~~/FID (Org. Vapor Analyzer)
- ☒ ~~PID~~ (Photoionization Detector)
- ☐

Summary of Instrument Readings: (OVA: net result w/out methane)
- highest reading observed: 320 ppm
- highest reading after excavation: ~~*~~ 320 ppm
- lowest reading after excavation: 1.96 ppm

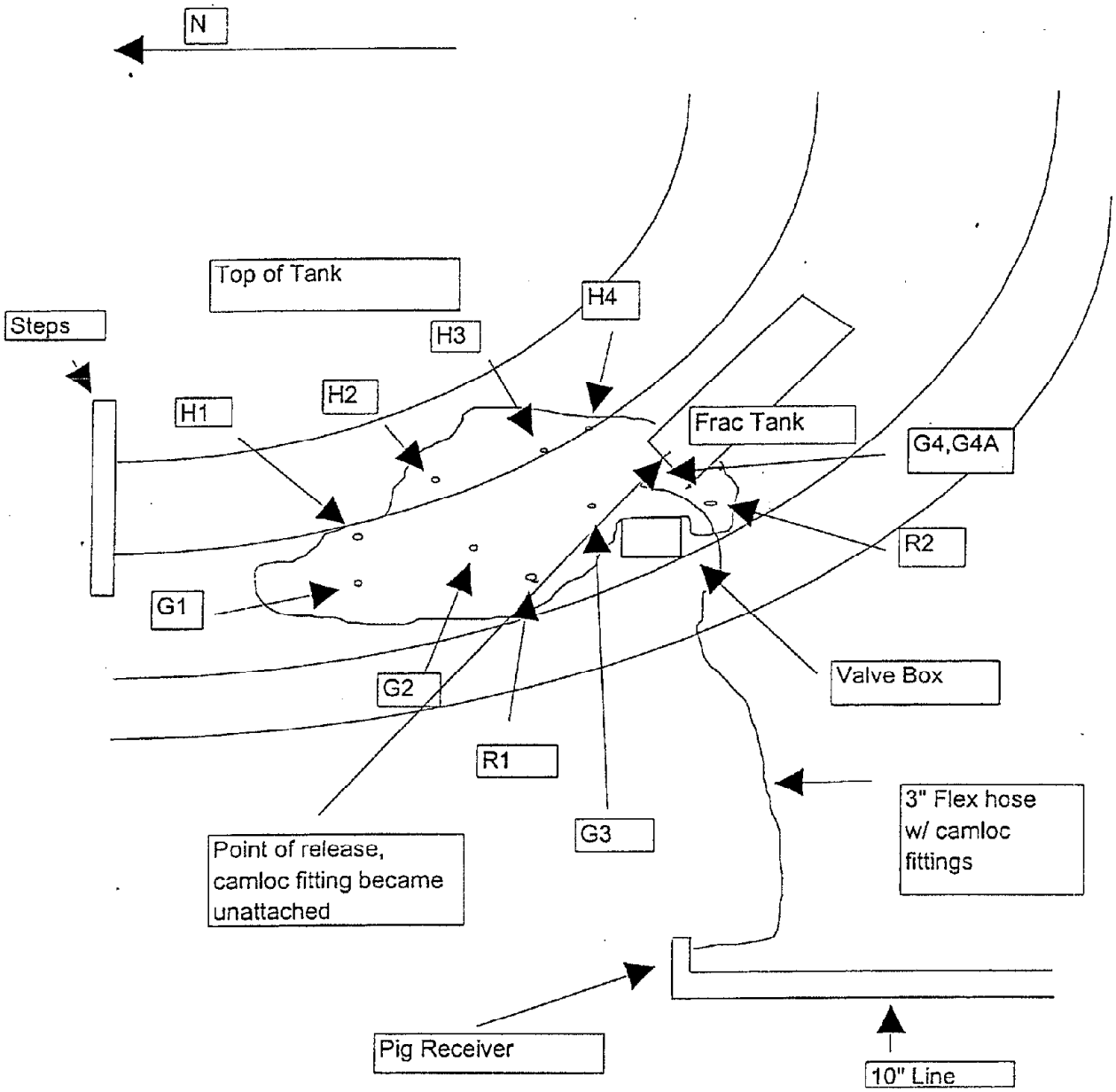
Comments: * SEE SKETCH READING IS FROM PREVIOUS HOT SPOT

Attach a copy of: scaled site drawing/map; table of instrument readings/depths; disposal manifests; lab reports of soil and waste analyses (with QA info); certificate of disposal (when available).

Certification: I certify that the above information and attachments are true and complete, to the best of my knowledge. I understand that submission of false information, or failure to comply with DEP's regulations, is a civil and criminal violation and may be grounds for enforcement action.

Print name: MARK P. EWING RESIDENT ENGINEER IN CHARGE OF CONSTRUCTION Affiliation: SOUTH DIV, NAVAL FACILITIES ENGINEERING COMMAND

Signature: Mark P. Ewing Date: 26 MAR 98


N
Top of Tank
Steps
H4
H3
H2
H1
Frac Tank
G4,G4A
R2
G1
Valve Box
G2
R1
G3
3" Flex hose w/ camloc fittings
Point of release, camloc fitting became unattached
Pig Receiver
10" Line

Trombo Fuel Farm
Pigging Incident
14-Nov-97

TAG	DATE	TIME	FID CONCENTRATION (PPM)	DEPTH
G1	14-Nov-97	12:14:57	1.96	8" to 12"
w/fltr	14-Nov-97	12:16:03	0.00	8" to 12"
G2	14-Nov-97	12:17:51	34.66	8" to 12"
w/fltr	14-Nov-97	12:18:31	2.00	8" to 12"
G3	14-Nov-97	12:22:03	17.51	8" to 12"
w/fltr	14-Nov-97	12:22:36	0.00	8" to 12"
G4	14-Nov-97	12:24:42	195.00	8" to 12"
w/fltr	14-Nov-97	12:25:30	11.00	8" to 12"
G4A	14-Nov-97	12:55:20	320.00	20" to 24"
w/fltr	14-Nov-97	12:55:40	4.00	20" to 24"
H1	14-Nov-97	12:14:01	2.98	8" to 12"
w/fltr	14-Nov-97	12:14:25	0.00	8" to 12"
H2	14-Nov-97	12:16:49	1.80	8" to 12"
w/fltr	14-Nov-97	12:17:05	0.00	8" to 12"
H3	14-Nov-97	12:19:41	2.36	8" to 12"
w/fltr	14-Nov-97	12:19:57	0.00	8" to 12"
H4	14-Nov-97	12:23:31	0.00	8" to 12"
w/fltr	14-Nov-97	12:23:47	0.00	8" to 12"
R1	14-Nov-97	12:20:23	44.01	8" to 12"
w/fltr	14-Nov-97	12:21:04	0.00	8" to 12"
R2	14-Nov-97	12:26:57	17.38	8" to 12"
w/fltr	14-Nov-97	12:27:25	1.00	8" to 12"

824 - 0089

BER Incident# _____

Source Removal Report

The Florida Dept. of Environmental Protection, Bureau of Emergency Response (BER), has created this form which may be used as a cleanup report for any type of discharge, including the cleanup of petroleum discharges under F.A.C. 62-770. BER requests that this form be used, as this form will allow quicker review and closure of the case. For petroleum discharges, the information contained herein must be provided to DEP within 60 days of soil/debris disposal, as required by FAC 62-770.300. Send the report and attachments to:

FDEP Bureau of Emergency Response, 2796 Overseas Highway, Suite 218, Marathon, FL 33050-4276, telephone 305/289-2310, fax 305/289-2337

Date of:	Material(s) Discharged:	Amount:
Incident: 11/11/97	PETROLEUM	UNKNOWN gallons
Cleanup Initiated: 11/11/97	"BUNKER C"	_____ gallons
Cleanup Completed: 1/13/98		_____ gallons

Location of Incident: INTERSECTION OF WILLIAM & CAROLINE ST. Latitude: 24°33'30"

Nearest Town: Key West County: MONROE Longitude: 81°48'0"

Cause of Discharge:
- ☐ tank leak
- ☐ tank overfill
- ☐ valve leak
- ☐ vehicle crash
- ☐ drum leak
- ☑ pipe leak
- ☐

Environment Affected:
- ☑ soil
- ☑ groundwater
- ☐ air
- ☑ storm drain
- ☐ ditch
- ☐ surface water:
- ☐ impervious surface
- ☐ wells nearby

Responsible Party/Spiller:
Name: U.S. NAVY
Address: NAS Key West
City: Key West State: FL Zip: 33040
Contact: MARK EWING Phone: 305-293-3626

Cleanup Contractor:
BECHTEL ENVIRON.
Contact: Robert Cohose
Phone: 1-423-220-2492

Method(s) of Cleanup:
- ☑ soil excavation
- ☐ booms
- ☐ absorbants
- ☑ vacuum truck
- ☐ skimmer
- ☐ neutralization
- ☐

Free Product Recovered: 3100 gallons

Free product disposal:
- ☐ incineration
- ☐ fuel blending
- ☐ wastewater treatment
- ☑ Recycle

Amount of Soil Removed: 100 ☐ cubic yds. ☑ tons ☐ lbs ☐ drums

Disposal method of soil:
- ☑ soil thermal treatment facility
- ☐ landfill
- ☐ hazardous waste
- ☐

Disposal method of any other debris:
- ☑ soil thermal treatment facility
- ☐ landfill
- ☐ haz. waste
- ☐

Dimensions of soil excavation: 24' x 28'

Depth to groundwater: 3' feet. How determined?: DEPTH OF WATER IN EXCAVATION

Method/instrument to Screen Soil:
- ☑ OVA/FID (Org. Vapor Analyzer)
- ☐ PID (Photoionization Detector)
- ☐

Summary of Instrument Readings: (OVA: net result w/out methane)
- highest reading observed: ~~SEE~~ ppm
- highest reading after excavation: ~~ATTACHED~~ ppm
- lowest reading after excavation: ~~SKETCH & TABLE~~ ppm

Comments:

Attach a copy of: (scaled site drawing/map); table of instrument readings/depths; disposal manifests; lab reports of soil and waste analyses (with QA info); certificate of disposal (when available).

Certification: I certify that the above information and attachments are true and complete, to the best of my knowledge. I understand that submission of false information, or failure to comply with DEP's regulations, is a civil and criminal violation and may be grounds for enforcement action.

Print name: _____ Affiliation: SOUTHDIV NAVAL FACILITIES ENGINEERING COMMAND

Signature: [signature] Date: 26 MAR 98

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1.0 SUMMARY OF EVENTS

2.0 FIGURE 1. LIMITS OF EXCAVATION

3.0 TABLE 1. HEADSPACE READINGS AND LAB RESULTS

4.0 FLORIDA PRO SAMPLE RESULTS

5.0 PREBURN SAMPLE RESULTS

6.0 WASTE MANIFESTS

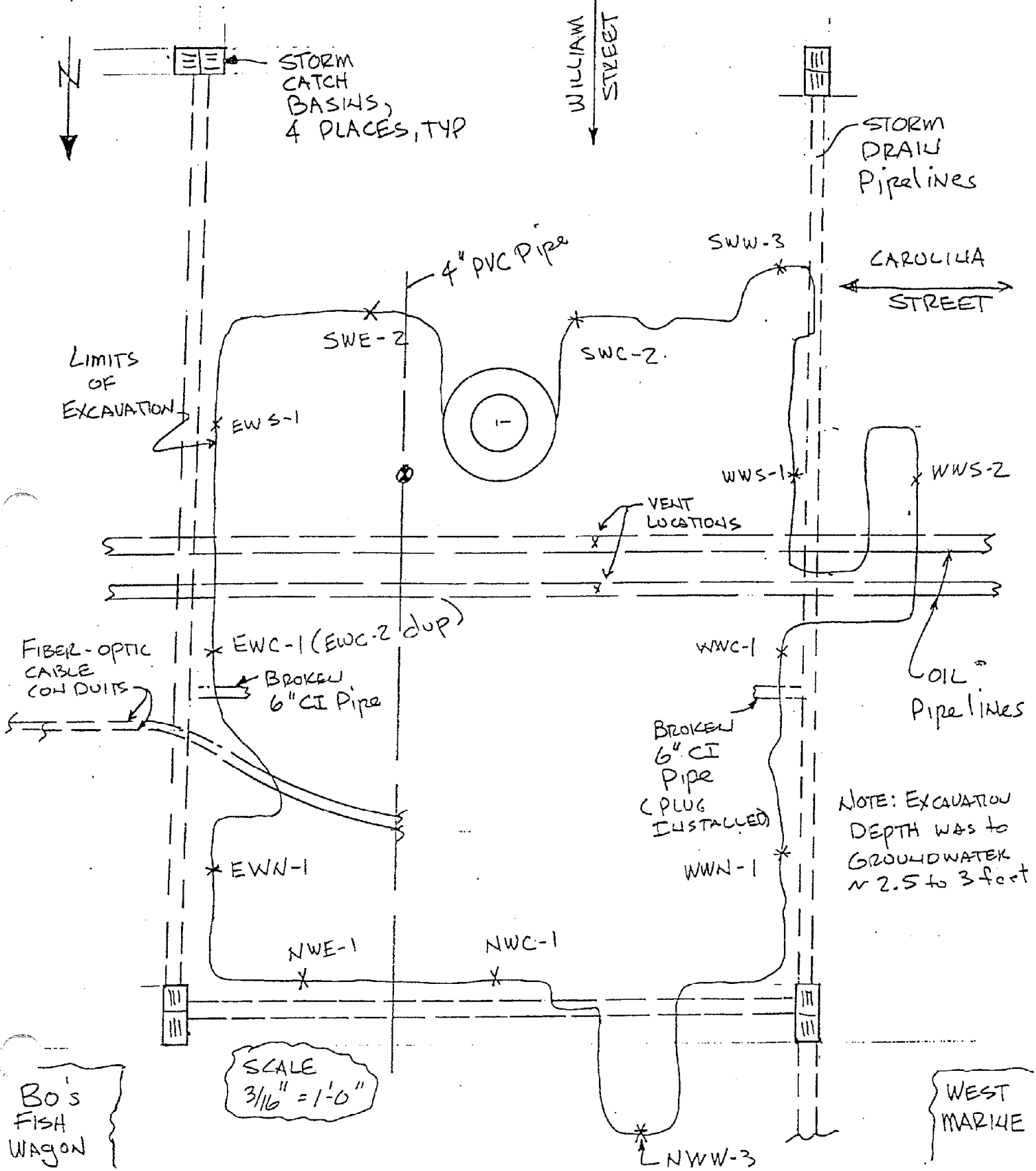
Calculation Sheet

2.0 Figure 1. - Limits of Excavation

Originator _____ Date _____ Calc. No. _____ Rev. No. _____

Project _____ Job No. _____ Checked _____ Date _____

Subject _____ Sheet No. _____



1.0 CAROLINE and WILLIAM STREETS - SUMMARY of EVENTS

10/31/97
Oil appeared on the surface of the street at the Caroline and William Street intersection at about 10:00 PM.

11/1/97
It was suspected that the oil in the street was due to the pipeline abandonment project that the Navy was performing. Navy and Bechtel personnel were mobilized to the site and began cleanup. All street surfaces were cleaned up and an excavation was dug at the suspected source of the oil. A vacuum truck was used to recover approximately 3000 gallons of petroleum products and 3000 gallons of petroleum contact water. All emergency response activities were completed and traffic restored by 11:00 PM on 11/1/97.

12/18/97
Replaced broken storm lines in the intersection of Caroline and William Streets. Excavated a 4' by 5-6" hole in the center of the intersection for product recovery. Approximately 260 gallons of petroleum contact water and free product were recovered. Approximately 25 tons of contaminated soils were excavated.

1/27/98 through 1/30/98
The intersection of Caroline and William Streets was excavated to remove any remaining contaminated soils. The scope of the excavation was to be within the confines of the intersection and not to extend beyond the storm drain pipelines. Also any free product and ground water encountered were to be recovered with a vac truck. The soils were excavated as shown on the attached sketch. The depth of the excavation was to the top of the groundwater, approximately 2 to 3 feet below grade. Clean soil was reached on the south and west sides of the excavation. Clean soils was not reached in isolated areas on the north and east sides of the excavation as evidenced by the high headspace reading and high Florida PRO analytical results.

Approximately 550 gallons of petroleum contact water and 100 gallons of petroleum products were recovered from the excavation. Approximately 75 tons of contaminated soils were excavated.

TABLE 1. Headspace Readings and Lab Results Carolina and William Street Source Removal			
Sample ID	Headspace (ppm)	Headspace with Filter(ppm)	Florida PRO Results (ppm)
Applied Standard	50	50	340
NWE-1	1.3	0.2	32 I
NWC-1	0	0	30 I
NWW-3	1778	0	3000
WWN-1	39	0	22 I
WWC-1	0	0	NC
WWS-1	933	0	5000
WWS-2	507	0	NC
SWW-3	31	5	72
SWC-2	1.3	0.5	18 I
SWE-2	0.34	0	59
EWS-1	0	0	22 I
EWC-1	0.7	0	22 I
EWC-2 (duplicate of EWC-1)	NC	NC	34
EWN-1	7	0	64

NC - Not Collected

I - Analyte detected; value is between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL).

The shaded areas represent samples with detections above the applied standard.

4.0 FLORIDA PRO SAMPLE RESULTS

Environmental Conservation Laboratories
4810 Executive Park Court, Suite 211
Jacksonville, Florida 32216-6069
904 / 296-3007
Fax 904 / 296-6210

ENCO Laboratories
DHRS Certification No. E82277

CLIENT : Bechtel Environmental, Inc.
ADDRESS: NAS Jacksonville
P.O. Box 171
Jacksonville, FL 32215

REPORT # : JR8915
DATE SUBMITTED: January 30, 1998
DATE REPORTED : February 9, 1998

ATTENTION: Mr. Greg Olson

SAMPLE IDENTIFICATION

Samples submitted and
identified by client as:

NAS Key West

01/28/98

#1 - EWS-1 @ 18:50
#2 - EWC-1 @ 18:53
#3 - EWN-1 @ 19:00
#4 - EWC-2 @ 18:55
#5 - SWE-2 @ 19:45
#6 - SWC-2 @ 19:48
#7 - SWW-3 @ 19:53
#8 - NWE-1 @ 20:20
#9 - NWC-1 @ 20:26
#10 - NWW-3 @ 20:26
#11 - WWN-1 @ 20:40
#12 - WWS-1 @ 20:35

PROJECT MANAGER Scott D. Martin

ENCO LABORATORIES
REPORT # : JR8915
DATE REPORTED: February 9, 1998
PROJECT NAME : NAS Key West

RESULTS OF ANALYSIS

MISCELLANEOUS	METHOD	EWS-1	EWC-1	Units
Percent Solids	SM2540G	83	81	%
Date Analyzed		02/04/98	02/04/98	

FL METHOD FLPRO - PETROL. RESIDUAL ORG.	EWS-1	EWC-1	Units
Hydrocarbons (C8-C40)	22 I	22 I	mg/Kg
Surrogate:	% RECOV	% RECOV	LIMITS
o-Terphenyl	116	102	50-150
Date Extracted	02/05/98	02/05/98	
Date Analyzed	02/06/98	02/06/98	

I = Analyte detected; value is between the Method Detection Level (MDL) and the Practical Quantitation Level (PQL).
DW = Analysis is reported on a "dry weight" basis.

ENCO LABORATORIES
REPORT # : JR8915
DATE REPORTED: February 9, 1998
PROJECT NAME : NAS Key West

RESULTS OF ANALYSIS

MISCELLANEOUS	METHOD	EWN-1	EWC-2	Units
Percent Solids	SM2540G	75	84	%
Date Analyzed		02/04/98	02/04/98	
FL METHOD FLPRO - PETROL. RESIDUAL ORG.		EWN-1	EWC-2	Units
Hydrocarbons (C8-C40)		64	34	mg/Kg
Surrogate:		% RECOV	% RECOV	LIMITS
o-Terphenyl		144	128	50-150
Date Extracted		02/05/98	02/05/98	
Date Analyzed		02/06/98	02/06/98	

DW = Analysis is reported on a "dry weight" basis.

ENCO LABORATORIES
REPORT # : JR8915
DATE REPORTED: February 9, 1998
PROJECT NAME : NAS Key West

RESULTS OF ANALYSIS

MISCELLANEOUS	METHOD	SWE-2	SWC-2	Units
Percent Solids	SM2540G	87	84	%
Date Analyzed		02/04/98	02/04/98	

FL METHOD FLPRO - PETROL. RESIDUAL ORG.	SWE-2	SWC-2	Units
Hydrocarbons (C8-C40)	59	18 I	mg/Kg
Surrogate:	% RECOV	% RECOV	LIMITS
o-Terphenyl	106	108	50-150
Date Extracted	02/05/98	02/05/98	
Date Analyzed	02/06/98	02/06/98	

I = Analyte detected; value is between the Method Detection Level (MDL) and the Practical Quantitation Level (PQL).
DW = Analysis is reported on a "dry weight" basis.

ENCO LABORATORIES
REPORT # : JR8915
DATE REPORTED: February 9, 1998
PROJECT NAME : NAS Key West

RESULTS OF ANALYSIS

MISCELLANEOUS	METHOD	SWW-3	NWE-1	Units
Percent Solids	SM2540G	81	75	%
Date Analyzed		02/04/98	02/04/98	

FL METHOD FLPRO - PETROL. RESIDUAL ORG.	SWW-3	NWE-1	Units
Hydrocarbons (C8-C40)	72	32 I	mg/Kg
Surrogate:	% RECOV	% RECOV	LIMITS
o-Terphenyl	140	115	50-150
Date Extracted	02/05/98	02/05/98	
Date Analyzed	02/06/98	02/06/98	

I = Analyte detected; value is between the Method Detection Level (MDL) and the Practical Quantitation Level (PQL).
DW = Analysis is reported on a "dry weight" basis.

ENCO LABORATORIES
REPORT # : JR8915
DATE REPORTED: February 9, 1998
PROJECT NAME : NAS Key West

RESULTS OF ANALYSIS

MISCELLANEOUS	METHOD	NWC-1	NWW-3	Units
Percent Solids	SM2540G	84	79	%
Date Analyzed		02/04/98	02/04/98	

FL METHOD FLPRO - PETROL. RESIDUAL ORG.	NWC-1	NWW-3	Units
Hydrocarbons (C8-C40)	30 I	3000 D1	mg/Kg
Surrogate:	% RECOV	% RECOV	LIMITS
o-Terphenyl	106	*	50-150
Date Extracted	02/05/98	02/05/98	
Date Analyzed	02/06/98	02/06/98	

* = Surrogate recovery unavailable due to matrix interference.
I = Analyte detected; value is between the Method Detection Level (MDL) and the Practical Quantitation Level (PQL).
DW = Analysis is reported on a "dry weight" basis.
D1 = Analyte value determined from a 1:50 dilution.

ENCO LABORATORIES
REPORT # : JR8915
DATE REPORTED: February 9, 1998
PROJECT NAME : NAS Key West

RESULTS OF ANALYSIS

MISCELLANEOUS	METHOD	WWN-1	WWS-1		Units
Percent Solids	SM2540G	86	83		%
Date Analyzed		02/04/98	02/04/98		
FL METHOD FLPRO - PETROL. RESIDUAL ORG.		WWN-1	WWS-1		Units
Hydrocarbons (C8-C40)		22 I	5000	D1	mg/Kg
Surrogate:		% RECOV	% RECOV		LIMITS
o-Terphenyl		120	*		50-150
Date Extracted		02/05/98	02/05/98		
Date Analyzed		02/06/98	02/06/98		

* = Surrogate recovery unavailable due to matrix interference.
I = Analyte detected; value is between the Method Detection Level (MDL) and the Practical Quantitation Level (PQL).
DW = Analysis is reported on a "dry weight" basis.
D1 = Analyte value determined from a 1:50 dilution.

ENCO LABORATORIES
REPORT # : JR8915
DATE REPORTED: February 9, 1998
PROJECT NAME : NAS Key West

RESULTS OF ANALYSIS

FL METHOD FLPRO - PETROL. RESIDUAL ORG.	LAB BLANK	Units
Hydrocarbons (C8-C40)	6.6 U	mg/Kg
Surrogate:	% RECOV	LIMITS
o-Terphenyl	117	50-150
Date Extracted	02/05/98	
Date Analyzed	02/06/98	

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : JR8915
DATE REPORTED: February 9, 1998
PROJECT NAME : NAS Key West

QUALITY CONTROL DATA

Parameter	% RECOVERY MS/MSD/LCS	ACCEPT LIMITS	% RPD MS/MSD	ACCEPT LIMITS
PETROL. RESIDUAL ORG.				
Hydrocarbons (C8-C40)	61/ 76/ 62	50-150	22	25

Environmental Conservation Laboratories Comprehensive QA Plan #960038

< = Less Than
MS = Matrix Spike
MSD = Matrix Spike Duplicate
LCS = Laboratory Control Standard
RPD = Relative Percent Difference

This report shall not be reproduced except in full, without the written approval of the laboratory. Results for these procedures apply only to the samples as submitted.

NAVY RAC CHAIN OF CUSTODY RECORD

Page 1 of 2

Facility Name: NAS KEY WEST
Site Name: TRUMAN ANNEX, WILLIAMS ST. & WILLIAMS ST. EXTENSION
Delivery Order No.: [illegible]
Cooler/Crate No.:
Sampling Event:: TRUMAN AND WILLIAMS ST. EXTENSION

SEIR No.: N/A
COC Number:
Lab: ENCO LABS
Field Logbook No.:
Logbook Pg. No.:

Sampled by: Graham M. Olsen, Jr. (Print) / Graham M. Olsen, Jr. (Sign) / (Print) / (Sign)

Legend

SAMPLE TYPE

PSB	Preservative Blank	BLS	Blind Spike
FDP	Field Duplicate	BLB	Blind Blank
ENV	Environmental	PTS	Point Source
FDB	Field Blank	FRP	Field Replicate
GEO	Geotechnical Sample	RSB	Rinsate Blank
MXD	Matrix Spike Duplicate	SPL	Split
MXS	Matrix Spike	TRP	Trip Blank

MATRIX

AIR	Air	SBS	Subsurface Soil	PTW	Potable Water
FLO	Flora	SED	Sediment	SEP	Seeps
FAU	Fauna	SFS	Surface Soil	SOL	Solid
GWT	Groundwater	SFW	Surface Water	WWT	Waste Water
LCH	Leachate	SLG	Sludge	SLW	Solid Waste
OIL	Oil	SLW	Solid Waste	SST	Surface Water
DIW	Deionized Water	OFW	Organic Free Water		Storm Event
DFW	Deionized Organic Free Water				

QC LEVELS

C	Sample results and QC reported
D	Sample results, QC and raw data reported
E	Sample results, blanks, and calibration reported
S	Screening level analysis; sample results and QC as reported

Station ID	BEI Sample ID	Sample Type	Matrix Code	Collection Date/Time	Container ID	Preservative	Pay Item	Parameter	Priority	QC Code
CAVE	EWS-1	ENV	SBS	1/28/98 1850	EWS-1	COOL 4°C	N/A	PAL TCL	5-DAY	C
	EWC-1			1853	EWC-1					
	EWN-1			1900	EWN-1					
	EWC-2	FDP		1855	EWC-2					
	SWE-2	FNV		1145	SWE-2					
	SWC-2			1949	SWC-2					

RELINQUISHED BY	RECEIVED BY	DATE	TIME	REASON FOR TRANSFER
Graham M. Olsen, Jr.		1/29/98		TAKE TO FDEP

COMMENTS/INSTRUCTIONS
RECEIVED JAN 31 0730-1324
1) 2 SEE DAYS
2) S 2 of 2

CONTAMINATION	YES	NO
Radiological		X
Chemical DIESEL FUEL		X

Shipper: KEY WEST, FLDS. NAS TRUMAN ANNEX - NAS KEY WEST - KEY WEST, FL 33040
Ship to: ENCO LABS - 4201 EXECUTIVE PARK COURT, SUITE 210 JAX FL 32216
Airbill No. 6409347[illegible] Traffic Report No.

This package conforms to the conditions and limitations specified in 49 CFR 173.421 for excepted radioactive material, limited quantity, n.o.s. UN2910

O:\NAVY-RAC\COCR.NUM

NAVY RAC CHAIN OF CUSTODY RECORD

Facility Name: NAS KEY WEST
Site Name: CNE CLUB ST. + WILLIAMS ST. EXTRACTION WELLS
Delivery Order No.:
Cooler/Crate No.:
Sampling Event: FALL 04 - CLUB + WILLIAMS STREETS EXTRACTION

SEIR No.: N/A
COC Number:
Lab: ENCO LABS
Field Logbook No.:
Logbook Pg. No.:

Sampled by: Gregory M. Pysor, Jr. (Print) (Sign) (Print) (Sign)

Legend

SAMPLE TYPE

PSB	Preservative Blank	BLS	Blind Spike
FDP	Field Duplicate	BLB	Blind Blank
ENV	Environmental	PTS	Point Source
FDB	Field Blank	FRP	Field Replicate
GEO	Geotechnical Sample	RSB	Rinsate Blank
MXD	Matrix Spike Duplicate	SPL	Split
MXS	Matrix Spike	TRP	Trip Blank

MATRIX

AIR	Air	SBS	Subsurface Soil	PTW	Potable Water
FLO	Flora	SED	Sediment	SEP	Seeps
FAU	Fauna	SFS	Surface Soil	SOL	Solid
GWT	Groundwater	SFW	Surface Water	WWT	Waste Water
LCH	Leachate	SLG	Sludge	SLW	Solid Waste
OIL	Oil	SLW	Solid Waste	SST	Surface Water Storm Event
DIW	Deionized Water	OFW	Organic Free Water		
DFW	Deionized Organic Free Water				

QC LEVELS

C	Sample results and QC reported
D	Sample results, QC and raw data reported
E	Sample results, blanks, and calibration reported
S	Screening level analysis; sample results and QC as reported

Station ID	BEI Sample ID	Sample Type	Matrix Code	Collection Date/Time	Container ID	Preservative	Pay Item	Parameter	Priority	QC Code
CNE	SWW-3	ENV	SBS	11/28/04 1955	SWW-3	COOL 4°C	N/A	FL-PRP	5-DAY	C
CNE	NWE-1			2022	NWE-1					
	NWC-1			2026	NWC-1					
	NWW-3			2024	NWW-3					
	WWN-1			2040	WWN-1					
	WWS-1			2035	WWS-1					

RELINQUISHED BY	RECEIVED BY	DATE	TIME	REASON FOR TRANSFER
[signature]	[signature]	11/29/04	8:00	TAKE TO FEDEX

COMMENTS/INSTRUCTIONS
BECHTEL JOB # 22517-324
1) SEND RESULTS TO NAS KEY WEST ADDRESS
2) FAX RESULTS TO: (305) 296-3347 (ATTN:

CONTAMINATION	YES	NO
Radiological		X
Chemical DIESEL FUEL		X

Shipper: [illegible] - FED EX 11 Tellabs Annex - NAS Key West - Key West, FL 33040
Ship to: ENCO LABS; 9716 Executive Drive Suite 210; Jax FL 32216
FEDEX
Airbill No. 4107 5447 7126 Traffic Report No.

This package conforms to the conditions and limitations specified in 49 CFR 173.421 for excepted radioactive material, limited quantity, n.o.s. UN2910

O:\NAVY-RAC\COCR.NUM

5.0 PREBURN SAMPLE RESULTS

West Palm Beach, FL
Soil Recycling Facility

Magnum Environmental Services
SOIL DATA AND CERTIFICATION SHEET

Date: 2/9/98

Generator's Name: COMMANDING OFFICER U.S. NAVY / NAS KEY WEST / PATSY MCNEILL
Mailing Address: PO BOX 9007, CODE 1883 PM
City KEY WEST State: FL Zip: 33040
Contact Name: PATSY MCNEIL Phone: (305) 293-2583

Consultant/Engineering Firm:
Mailing Address:
City: State: Zip:
Contact: Phone:

Testing Laboratory: ENCO LABS
Contact: RICK CAMP Phone: (904) 296-3007

Sampling Procedure (attach additional sheet and maps)
☐ Samples taken in-situ ☒ Samples taken from stockpile

Site History: FUEL LINE LEAK AT THE INTERSECTION OF CAROLINE & WILLIAMS STREETS
Street Address: CAROLINE & WILLIAMS ST INTERSECTION
City: KEY WEST State: FL
Source of Contamination (UST, AST, Spill, Other): SEE ABOVE
Type of Contamination (Gas, Diesel, Waste Oil, etc.): PETROLEUM FUEL (BUNKER C)

Est. Quantity (Tons/Drums): 75 TONS

Classification:
☒ Nonhazardous
☐ Hazardous

Please check appropriate box below and attach all required analytical reports, including test methodologies used. Unless otherwise noted, composite samples should be collected with the following frequency: One (1) sample for 140 tons (100 cubic yards) or less; three (3) samples for 700 tons (500 cubic yards) or less; five (5) samples for 1400 tons (1000 cubic yards) or less; and one (1) additional sample for each additional 700 tons (500 cubic yards).

☒ I/We certify that the soil referenced herein is contaminated solely by virgin petroleum products from gasoline, diesel fuel, #2-6 fuel oils, jet fuel, or kerosene.

Attached is analytical data from a Florida state certified lab for the following:
1. Total Recoverable Petroleum Hydrocarbons (TRPH)
   - EPA Draft Method 9073 or
   -Petroleum Residual Organics FL-PRO
2. Volatile Aromatic Organics (BTEX)
   -EPA Methods 8020 or 8021
3. Volatile Organic Halocarbons (VOH)
   -EPA Methods 8010 or 8021
4. Total Metals
   -8 RCRA metals (Arsenic, Barium, Chromium, Cadmium, Lead, Mercury, Selenium, Silver)
5. Additional tests as required

☐ I/We certify that the soil referenced herein is contaminated wholly or in part with non-virgin petroleum products, used oil, hydraulic oil, mineral oil, or some unknown source.

Attached is analytical data from a Florida state certified lab for the following:
1. Total Recoverable Petroleum Hydrocarbons (TRPH)
   -EPA Draft Method 9073 or
   -Petroleum Residual Organics FL-PRO
2. Volatile Aromatic Organics (BTEX)
   -EPA Method 8020 or 8021
3. Volatile Organic Halocarbons (VOH)
   -EPA Method 8010 or 8021
4. Total Metals
   -8 RCRA metals (Arsenic, Barium, Chromium, Cadmium, Lead, Mercury, Selenium, Silver)
5. Total Organic Halides (TOX)
   -EPA Methods 9020, 5050/92552, 5050/9253, 5050/9056
6. Polychlorinated Biphenyls (PCBs)
   -EPA Method 8080
7. Additional tests as required

No soils referenced herein may be delivered until the foregoing certificate is received and approved by Magnum, and Magnum issues manifests and assigns a delivery date. If any soils delivered to Magnum are found to be "hazardous waste" pursuant to federal or state regulations, Client shall be solely responsible for the removal of these soils from Magnum's facility. If Client fails to so remove such soils, Magnum, acting as Client's agent, may arrange for such removal at Client's expense.

"This is a complete and accurate description of the soil referenced herein; no deliberate or willful omissions have been made, and all known or suspected hazards have been disclosed herein. I/We further hereby certify that the soil is not "hazardous" as defined by U.S. Department of Transportation (DOT), U.S. Environmental Protection Agency (EPA), state or local regulations, and that all samples have been taken according to a DEP approved Quality Assurance Plan. All required analytical reports are attached."

Generator's Signature: Michael J. Skinner
Print Name: MICHAEL J. SKINNER Date: 2-9-98

Consultant's Signature:
Print Name: Date:

TOTAL P.02

Environmental Conservation Laboratories
4810 Executive Park Court, Suite 211
Jacksonville, Florida 32216-6069
904 / 296-3007
Fax 904 / 296-6210

ENCO Laboratories

DHRS Certification No. E82277

CLIENT : Bechtel Environmental, Inc.
ADDRESS: NAS Jacksonville
P.O. Box 171
Jacksonville, FL 32215

REPORT # : JR9008
DATE SUBMITTED: February 7, 1998
DATE REPORTED : February 9, 1998

ATTENTION: Mr. Greg Olson

SAMPLE IDENTIFICATION

Samples submitted and
identified by client as:

NAS Key West

02/06/98

#1 - PB-1

PROJECT MANAGER _____
Scott D. Martin

RESULTS OF ANALYSIS

EPA METHOD 8010 - VOLATILE HALOCARBONS	PB-1	LAB BLANK	Units
Dichlorodifluoromethane	6.0 U D1	1.0 U	µg/Kg
Chloromethane	12 U D1	2.0 U	µg/Kg
Vinyl Chloride	6.0 U D1	1.0 U	µg/Kg
Bromomethane	6.0 U D1	1.0 U	µg/Kg
Chloroethane	12 U D1	2.0 U	µg/Kg
Trichlorofluoromethane	12 U D1	2.0 U	µg/Kg
1,1-Dichloroethene	6.0 U D1	1.0 U	µg/Kg
Methylene Chloride	12 U D1	2.0 I	µg/Kg
t-1,2-Dichloroethene	6.0 U D1	1.0 U	µg/Kg
1,1-Dichloroethane	6.0 U D1	1.0 U	µg/Kg
c-1,2-Dichloroethene	6.0 U D1	1.0 U	µg/Kg
Chloroform	6.0 U D1	1.0 U	µg/Kg
1,1,1-Trichloroethane	6.0 U D1	1.0 U	µg/Kg
Carbon Tetrachloride	6.0 U D1	1.0 U	µg/Kg
1,2-Dichloroethane	6.0 U D1	1.0 U	µg/Kg
Trichloroethene	6.0 U D1	1.0 U	µg/Kg
1,2-Dichloropropane	6.0 U D1	1.0 U	µg/Kg
Bromodichloromethane	6.0 U D1	1.0 U	µg/Kg
c-1,3-Dichloropropene	6.0 U D1	1.0 U	µg/Kg
t-1,3-Dichloropropene	6.0 U D1	1.0 U	µg/Kg
1,1,2-Trichloroethane	6.0 U D1	1.0 U	µg/Kg
Tetrachloroethene	6.0 U D1	1.0 U	µg/Kg
Dibromochloromethane	6.0 U D1	1.0 U	µg/Kg
Chlorobenzene	6.0 U D1	1.0 U	µg/Kg
Bromoform	6.0 U D1	1.0 U	µg/Kg
1,1,2,2-Tetrachloroethane	6.0 U D1	1.0 U	µg/Kg
1,3-Dichlorobenzene	6.0 U D1	1.0 U	µg/Kg
1,4-Dichlorobenzene	6.0 U D1	1.0 U	µg/Kg
1,2-Dichlorobenzene	6.0 U D1	1.0 U	µg/Kg

Surrogate:	% RECOV	% RECOV	LIMITS
Bromofluorobenzene	100	95	30-153
Date Analyzed	02/08/98	02/08/98	

U = Compound was analyzed for but not detected to the level shown.
I = Analyte detected; value is between the Method Detection Level (MDL) and the Practical Quantitation Level (PQL).
DW = Analysis is reported on a "dry weight" basis.
D1 = Analyte value determined from a 1:5 dilution.

RESULTS OF ANALYSIS

EPA METHOD 8020 - VOLATILE AROMATICS	PB-1	LAB BLANK	Units
Methyl tert-butyl ether	12 U D1	2.0 U	µg/Kg
Benzene	6.0 U D1	1.0 U	µg/Kg
Toluene	6.0 U D1	1.0 U	µg/Kg
Chlorobenzene	6.0 U D1	1.0 U	µg/Kg
Ethylbenzene	6.0 U D1	1.0 U	µg/Kg
m-Xylene & p-Xylene	6.0 U D1	1.0 U	µg/Kg
o-Xylene	42 D1	1.0 U	µg/Kg
1,3-Dichlorobenzene	6.0 U D1	1.0 U	µg/Kg
1,4-Dichlorobenzene	6.0 U D1	1.0 U	µg/Kg
1,2-Dichlorobenzene	6.0 U D1	1.0 U	µg/Kg
Surrogate:	% RECOV	% RECOV	LIMITS
Bromofluorobenzene	110	85	35-140
Date Analyzed	02/08/98	02/08/98	

MISCELLANEOUS	METHOD	PB-1	LAB BLANK	Units
Percent Solids	SM2540G	86	NR	%
Date Analyzed		02/09/98		

U = Compound was analyzed for but not detected to the level shown.
NR = Analysis not requested for this sample.
DW = Analysis is reported on a "dry weight" basis.
D1 = Analyte value determined from a 1:5 dilution.

ENCO LABORATORIES
REPORT # : JR9008
DATE REPORTED: February 9, 1998
PROJECT NAME : NAS Key West

RESULTS OF ANALYSIS

TOTAL METALS	METHOD	PB-1	LAB BLANK	Units
Arsenic	6010	6.0	0.50 I	mg/Kg
Date Analyzed		02/09/98	02/09/98	
Barium	6010	700	20 U	mg/Kg
Date Analyzed		02/09/98	02/09/98	
Cadmium	6010	1.0 U	1.0 U	mg/Kg
Date Analyzed		02/09/98	02/09/98	
Chromium	6010	13	1.0 U	mg/Kg
Date Analyzed		02/09/98	02/09/98	
Lead	6010	100	1.0 U	mg/Kg
Date Analyzed		02/09/98	02/09/98	
Mercury	7471	0.11	0.010 U	mg/Kg
Date Analyzed		02/07/98	02/07/98	
Selenium	6010	2.0 U	2.0 U	mg/Kg
Date Analyzed		02/09/98	02/09/98	
Silver	6010	2.0 U	2.0 U	mg/Kg
Date Analyzed		02/09/98	02/09/98	

FL METHOD FLPRO - PETROL. RESIDUAL ORG.	PB-1	LAB BLANK	Units
Hydrocarbons (C8-C40)	1200 D2	3.3 U	mg/Kg
Surrogate:	% RECOV	% RECOV	LIMITS
o-Terphenyl	*	98	88-125
Date Extracted	02/08/98	02/08/98	
Date Analyzed	02/08/98	02/08/98	

* = Surrogate recovery unavailable due to matrix interference.
U = Compound was analyzed for but not detected to the level shown.
I = Analyte detected; value is between the Method Detection Level (MDL) and the Practical Quantitation Level (PQL).
DW = Analysis is reported on a "dry weight" basis.

ENCO LABORATORIES
REPORT # : JR9008
DATE REPORTED: February 9, 1998
PROJECT NAME : NAS Key West

QUALITY CONTROL DATA

Parameter	% RECOVERY MS/MSD/LCS	ACCEPT LIMITS	% RPD MS/MSD	ACCEPT LIMITS
EPA Method 8010				
Methylene Chloride	111/111/108	16-187	<1	27
Chloroform	108/109/ 97	50-153	<1	19
Carbon Tetrachloride	117/113/111	54-150	3	21
Trichloroethene	97/ 97/ 90	36-162	<1	26
Tetrachloroethene	111/106/ 98	56-148	5	21
Chlorobenzene	82/ 83/ 98	62-136	1	20
EPA Method 8020				
Benzene	84/ 93/ 93	53-143	10	20
Toluene	61/ 63/ 85	43-140	3	16
Ethylbenzene	*/ */ 88	39-133	*	16
o-Xylene	60/ 52/ 88	17-161	14	75
Total Metals				
Arsenic, 6010	95/ 92/ 95	67-118	3	12
Barium, 6010	99/ 97/ 98	70-120	2	16
Cadmium, 6010	96/ 95/ 96	69-119	1	12
Chromium, 6010	96/ 95/ 96	73-120	1	18
Lead, 6010	102/102/102	63-128	<1	26
Mercury, 7471	116/117/113	71-138	<1	13
Selenium, 6010	100/100/ 99	60-121	<1	14
Silver, 6010	100/ 96/ 97	69-118	4	10
PETROL. RESIDUAL ORG.				
Hydrocarbons (C8-C40)	104/112/ 82	50-150	7	0

Environmental Conservation Laboratories Comprehensive QA Plan #960038
* = MS/MSD/RPD unavailable due to high original sample concentration.
< = Less Than
MS = Matrix Spike
MSD = Matrix Spike Duplicate
LCS = Laboratory Control Standard
RPD = Relative Percent Difference

This report shall not be reproduced except in full, without the written approval of the laboratory. Results for these procedures apply only to the samples as submitted.

NAVY RAC CHAIN OF CUSTODY RECORD

BECHTEL

Facility Name: NAS KEY WEST
Site Name: CAROLINE ST. EXCAVATION
Delivery Order No.:
Cooler/Crate No.:
Sampling Event:: DRE-BURN SHIPPING CAROLINE ST.

SEIR No.:
COC Number:
Lab: ENCO LAB
Field Logbook No.:
Logbook Pg. No.:

Sampled by: Gregory M. Olson, Jr. (Print) Gregory M. Olson, Jr. (Sign) Print Sign

Legend

SAMPLE TYPE

PSB	Preservative Blank	BLS	Blind Spike
FDP	Field Duplicate	BLB	Blind Blank
ENV	Environmental	PTS	Point Source
FDB	Field Blank	FRP	Field Replicate
GEO	Geotechnical Sample	RSB	Rinsate Blank
MXD	Matrix Spike Duplicate	SPL	Split
MXS	Matrix Spike	TRP	Trip Blank

MATRIX

AIR	Air	SBS	Subsurface Soil	PTW	Potable Water
FLO	Flora	SED	Sediment	SEP	Seeps
FAU	Fauna	SFS	Surface Soil	SOL	Solid
GWT	Groundwater	SFW	Surface Water	WWT	Waste Water
LCH	Leachate	SLG	Sludge	SLW	Solid Waste
OIL	Oil	SLW	Solid Waste	SST	Surface Water Storm Event
DIW	Deionized Water	OFW	Organic Free Water		
DFW	Deionized Organic Free Water				

QC LEVELS

C	Sample results and QC reported
D	Sample results, QC and raw data reported
E	Sample results, blanks, and calibration reported
S	Screening level analysis; sample results and QC as reported

Station ID	BEI Sample ID	Sample Type	Matrix Code	Collection Date/Time	Container ID	Preservative	Pay Item	Parameter	Priority	QC Code
CS-SP	PB-1	ENV	SBS	2/5/98/0955	PB-1-01	COLLYC	N/A	8010/8020	24 Hours	C
CS-SP	PB-1	ENV	SBS	↓ /0959	PB-1-02	↓	↓	FL TRO	↓	↓
CS-SP	PB-1	ENV	SBS	↓ /1002	PB-1-03	↓	↓	RCRA 8	↓	↓

2/6/98 Gregory M. Olson, Jr. NFE

RELINQUISHED BY	RECEIVED BY	DATE	TIME	REASON FOR TRANSFER
Gregory M. Olson, Jr.	FEDEX	2/6/98	1200 Hr	SHIP TO LAB FOR ANALYSIS

COMMENTS/INSTRUCTIONS
BECHTEL JOB # 22567-324

CONTAMINATION	YES	NO
Radiological		X
Chemical PETROLEUM	X	

Shipper: BEI; BLDG. 112 TRUMAN ANNEX; NAS KEY WEST, KEY WEST, FL 33040

Ship to: ENCO LABS; 4810 EXECUTIVE PARK COURT; SUITE 211; JAX, FL 32216

Airbill No. FEDEX # 801953335797

Traffic Report No.

This package conforms to the conditions and limitations specified in 49 CFR 173.421 for excepted radioactive material, limited quantity, n.o.s. UN2910

O:\NAVY-RAC\COCR.NUM

6.0 WASTE MANIFESTS

THIS MEMORANDUM is an acknowledgement that a bill of lading has been issued and is not the Original Bill of Lading, not a copy or duplicate, covering the property named herein, and is intended solely for filing or record.

Shippe

(Carrier) MAGNUM ENVIRONMENTAL SVC. SCAC. _____ Carrie

...ived, subject to the classifications and tariffs in effect on the date of this Bill of Lading:

at _____, date _____ from _

the property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consi (the word company being understood throughout this contract as meaning any person or corporation in possession of the property under the c destination, if on its own road or its own water line, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, a portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service to be performed her law, whether printed or written, herein contained (as specified in Appendix B to Part 1035) which are hereby agreed to by the shipper and accepted

TO: (Mail or street address of consignee for purposes of notification only.)	FROM:
Consignee MAGNUM ENVIRONMENTAL SVC.	Shipper Naval A.
Street 1280 N.E. 48TH STREET	Street Truman A.
Destination POMPANO, FL Zip 33064	Origin Bldg. 112 Key
Route:	
Delivering Carrier	Trailer Initial/Number [illegible]

No. of packages	HM	Description of articles, special marks, and exceptions	Hazard Class	I.D. Number	Packing Group
2		[illegible]	[illegible]	[illegible]	[illegible]

Remit C.O.D. to:
Address:
City: State: Zip:

COD AMT: $

Charges Advanced $

Subject to shipment is to without recc consignor sha The carrie shipment witt other lawful ch

(Si

"If the shipment moves between two ports by a carrier by water, the law requires that the bill of lading shall state whether it is "carrier's or shipper's weight". Note. – where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property. The agreed or declared value of the property is hereby specifically stated by the shipper to be not exceeding _____ per _____

This is to certify that the above-named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation.

Per _____

PLACARDS REQUIRED

PLA SUP

SPECIAL INSTRUCTIONS:

ER: Naval Air Station

PER: [illegible] DATE: 1-29-92

CARRIER: MAGNUM ENV

PER: [illegible]

EMERGENCY RESPONSE TELEPHONE NUMBER: (9

Monitored at all times the Hazardous Material is i

Permanent post office address of shipper

Manifest

Generator and/or Consultant

Date of Shipment: 9/11/93

Re C

Generator's Name and Billing Addres
Commanding Offic
NAS Key West
PO Box 9007, Cod
Key West, FL 330

Consultant's Name and Billing Addre
Bechtel
Building 112, PO
Truman Annex
Key West, FL 330

Generation Site (Transport from): (nan
NAS Key West
Corner of Carolin
Key West, FL 0000

Designated Facility (Transport to): (na
TPS/Magnum Enviro
9401 Fairgrounds
West Palm Beach,

Transporter Name and Mailing Addres
Soil Tech
14400 162nd Avenu
Miami, FL 33016

Description of Soil		Moistu
Sand ☐ Clay ☐	Organic ☐ Other ☐	0 - 10 10 - 2 20% -
Sand ☐ Clay ☐	Organic ☐ Other ☐	0 - 10 10 - 2 20% -

List any exception to items listed above:

Generator's and/or consultant's cer Sheet completed and certified by m any way.

Print or Type Name: Phillip Willig Gene

Transporter

Transporter's certification: I/We a condition as when received. I/We without off-loading, adding to, sub

Print or Type Name: Silvio O

Recycling Facility

Discrepancies:

Recycling Facility certifies the receipt

Print or Type Name: Rebecca Piche

MAGNUM THERMAL REMEDIATION FACILITY
Non-Hazardous Soils

Manifest | Manifest #

Date of Shipment:	Responsible for Payment:	Transporter Truck #:	Facility #:	Given by:	Load #
2/11/98		519			

Generator and/or Consultant

Generator's Name and Billing Address: NAS Key West, PO Box 9007, Code 1883 PM, Key West FL 33040 USA	Generator's Phone #: 2583	Generator's US EPA ID No.
	Person to Contact: [illegible]	
	FAX#:	Customer Account Number with TPS:
Consultant's Name and Billing Address: Building 112, PO Box 1518, Truman Annex, Key West, FL 33040 USA	Consultant's Phone #: (305) 294-0449	
	Person to Contact:	
	FAX#: (305) 296-3347	Customer Account Number with TPS:
Generation Site (Transport from): *(name & address)* NAS Key West, Corner of Caroline and Williams Street, Key West, FL 00000 USA	Site Phone #:	BTEX Levels
	Person to Contact:	TPH Levels
	FAX#:	AVG. Levels
Designated Facility (Transport to): *(name & address)* TPS/Magnum Environmental, 9401 Fairgrounds Road, West Palm Beach, FL 33411 USA	Facility Phone #: (561) 791-2006	Facility Permit Numbers
	Person to Contact: [illegible]	
	FAX#: (561) 791 0082	
Transporter Name and Mailing Address: 14400 102nd Avenue, Miami, FL 33016 USA	Transporter's Phone #: 2362	Transporter's US EPA ID No.:
	Person to Contact: Ramona Mijares	Transporter's DOT No.:
	FAX#: (305) 828 9254	Customer Account Number with TPS:

Description of Soil	Moisture Content	Contaminated by:	Approx. Qty:	Description of Delivery	Gross Weight	Tare Weight	Net Weight
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐					
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐					

List any exception to items listed above:

Generator's and/or consultant's certification: I/We certify that the soil referenced herein is taken entirely from those soils described in the Soil Data Sheet completed and certified by me/us for the Generation Site shown above and nothing has been added or done to such soil that would alter it in any way.

Print or Type Name: Phillip Williams Generator ☐ Consultant ☐ | Signature and date: Phillip Williams | Month 2 Day 11 Year 98

Transporter

Transporter's certification: I/We acknowledge receipt of the soil described above and certify that such soil is being delivered in exactly the same condition as when received. I/We further certify that this soil is being directly transported from the Generation Site to the Designated Facility without off-loading, adding to, subtracting from or in any way delaying delivery to such site.

Print or Type Name: [illegible] | Signature and date: [illegible] | Month 2 Day 11 Year 98

Recycling Facility

Discrepancies:

Recycling Facility certifies the receipt of the soil covered by this manifest except as noted above:

Print or Type Name: Rebecca Piche | Signature and date:

Please print or type

GENERATOR / CONSULTANT'S COPY

MAGNUM THERMAL REMEDIATION FACILITY
Non-Hazardous Soils

Manifest

Manifest

Date of Shipment:	Responsible for Payment:	Transporter Truck #:	Facility #:	Given by:	Load #
2/11/98	Consultant	92	005	00273	003

Generator and/or Consultant

Generator's Name and Billing Address: Commanding Officer NAS Key West PO Box 9007; Code 1883 PM Key West FL 33040 USA	Generator's Phone #: (305) 293-2583 Person to Contact: Patsy McNeil FAX#:	Generator's US EPA ID No. Customer Account Number with TPS: NASKEYW
Consultant's Name and Billing Address: Bechtel Building 112, PO Box 1518 Truman Annex Key West, FL 33040 USA	Consultant's Phone #: (305) 304-0449 Person to Contact: Stan Moore FAX#: (305) 296-3347	 Customer Account Number with TPS: E0898XX
Generation Site (Transport from): *(name & address)* NAS Key West Corner of Caroline and Williams Str Key West, FL 00000 USA	Site Phone #: Person to Contact: FAX#:	BTEX Levels TPH Levels AVG. Levels
Designated Facility (Transport to): *(name & address)* TPS/Magnum Environmental 9401 Fairgrounds Road West Palm Beach, FL 33411 USA	Facility Phone #: (561) 791 2006 Person to Contact: Brian Barnard FAX#: (561) 791 0087	Facility Permit Numbers
Transporter Name and Mailing Address: Bell Tech 14400 102nd Avenue Miami, FL 33016 USA	Transporter's Phone #: (305) 828-2362 Person to Contact: Ramond Mijares FAX#: (305) 828 9254	Transporter's US EPA ID No.: Transporter's DOT No.: Customer Account Number with TPS: [illegible]

Description of Soil	Moisture Content	Contaminated by:	Approx. Qty:	Description of Delivery	Gross Weight	Tare Weight	Net Weight
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐					
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐					

List any exception to items listed above:

Generator's and/or consultant's certification: I/We certify that the soil referenced herein is taken entirely from those soils described in the Soil Data Sheet completed and certified by me/us for the Generation Site shown above and nothing has been added or done to such soil that would alter it in any way.

Print or Type Name:	Generator ☒ Consultant ☐	Signature and date:	Month	Day	Year
Phillip Williams		Phillip Williams	2	11	98

Transporter

Transporter's certification: I/We acknowledge receipt of the soil described above and certify that such soil is being delivered in exactly the same condition as when received. I/We further certify that this soil is being directly transported from the Generation Site to the Designated Facility without off-loading, adding to, subtracting from or in any way delaying delivery to such site.

Print or Type Name:	Signature and date:	Month	Day	Year
[illegible]	[illegible]	2	11	98

Recycling Facility

Discrepancies:

Recycling Facility certifies the receipt of the soil covered by this manifest except as noted above:

Print or Type Name:	Signature and date:
Rebecca Piche	

Please print or type

GENERATOR / CONSULTANT'S COPY

MAGNUM THERMAL REMEDIATION FACILITY
Non-Hazardous Soils

Manifest

Date of Shipment	Responsible for Payment:	Transporter Truck #:	Facility #:	Given by:	Load #
2/11/98	Consultant	511	005	00273	005

Generator and/or Consultant

Generator's Name and Billing Address: Commanding Officer NAS Key West PO Box 9007, Code 1883 PM Key West, FL 33040 USA	Generator's Phone #: (305) 293-2583 Person to Contact: Patsy Monell FAX#:	Generator's US EPA ID No. Customer Account Number with TPS:
Consultant's Name and Billing Address: Bechtel Building 112, PO Box 1518 Truman Annex Key West, FL 33040 USA	Consultant's Phone #: (305) 293-0443 Person to Contact: FAX#: (305) 296-3347	Customer Account Number with TPS:
Generation Site (Transport from): *(name & address)* NAS Key West Corner of Caroline and Williams Str Key West, FL 00000 USA	Site Phone #: Person to Contact: FAX#:	BTEX Levels TPH Levels AVG. Levels
Designated Facility (Transport to): *(name & address)* TPS/Magnum Environmental 9401 Fairgrounds Road West Palm Beach, FL 33411 USA	Facility Phone #: (561) 791-2006 Person to Contact: Brad Barnard FAX#: (561) 791-0087	Facility Permit Numbers
Transporter Name and Mailing Address: [illegible] 14400 102nd Avenue Miami, FL 33016 USA	Transporter's Phone #: (305) 620-2352 Person to Contact: Ramond Mijares FAX#: (305) 620-9254	Transporter's US EPA ID No.: Transporter's DOT No.: Customer Account Number with TPS:

Description of Soil	Moisture Content	Contaminated by:	Approx. Qty:	Description of Delivery	Gross Weight	Tare Weight	Net Weight
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐					
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐					

List any exception to items listed above:

Generator's and/or consultant's certification: I/We certify that the soil referenced herein is taken entirely from those soils described in the Soil Data Sheet completed and certified by me/us for the Generation Site shown above and nothing has been added or done to such soil that would alter it in any way.

Print or Type Name:	Generator ☒	Consultant ☐	Signature and date:	Month	Day	Year
Phillip Williams			Phillip Williams	2	11	98

Transporter

Transporter's certification: I/We acknowledge receipt of the soil described above and certify that such soil is being delivered in exactly the same condition as when received. I/We further certify that this soil is being directly transported from the Generation Site to the Designated Facility without off-loading, adding to, subtracting from or in any way delaying delivery to such site.

Print or Type Name:	Signature and date:	Month	Day	Year
		2	11	98

Recycling Facility

Discrepancies:

Recycling Facility certifies the receipt of the soil covered by this manifest except as noted above:

Print or Type Name:	Signature and date:
Rebecca Piche	

GENERATOR / CONSULTANT'S COPY

MAGNUM THERMAL REMEDIATION FACILITY
Non-Hazardous Soils

Manifest — Contract

Date of Shipment:	Responsible for Payment:	Transporter Truck #:	Facility #:	Given by:	Load #
2/11/98	Consultant	300	305	00273	003

Generator and/or Consultant

Generator's Name and Billing Address: Commanding Officer NAS Key West PO Box 9007, Code 1983 PM Key West, FL 33040 USA	Generator's Phone #: (305) 293-2583 Person to Contact: Patsy McNeil FAX#:	Generator's US EPA ID No. Customer Account Number with TPS: NASKEY
Consultant's Name and Billing Address: Bechtel Building 112, PO Box 1518 Truman Annex Key West, FL 33040 USA	Consultant's Phone #: (305) 304-0449 Person to Contact: Stan Moore FAX#: (305) 296-1347	 Customer Account Number with TPS: B6806XX
Generation Site (Transport from): *(name & address)* NAS Key West Corner of Caroline and Williams St. Key West, FL 00000 USA	Site Phone #: Person to Contact: FAX#:	BTEX Levels TPH Levels AVG. Levels
Designated Facility (Transport to): *(name & address)* TPS/Magnum Environmental 9401 Fairgrounds Road West Palm Beach, FL 33411 USA	Facility Phone #: (561)791-2006 Person to Contact: Brian Barnard FAX#: (561)791-0082	Facility Permit Numbers
Transporter Name and Mailing Address: Soil Tech 14400 102nd Avenue Miami FL 33016 USA	Transporter's Phone #: (305) 828-2362 Person to Contact: Ramond Mijares FAX#: (305) 828-0254	Transporter's US EPA ID No.: Transporter's DOT No.: Customer Account Number with TPS:

Description of Soil	Moisture Content	Contaminated by:	Approx. Qty:	Description of Delivery	Gross Weight	Tare Weight	Net Weight
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐					
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐					

List any exception to items listed above:

Generator's and/or consultant's certification: I/We certify that the soil referenced herein is taken entirely from those soils described in the Soil Data Sheet completed and certified by me/us for the Generation Site shown above and nothing has been added or done to such soil that would alter it in any way.

Print or Type Name:	Generator ☒ Consultant ☐	Signature and date:	Month	Day	Year
Phillip Williams		Phillip Williams	2	11	98

Transporter

Transporter's certification: I/We acknowledge receipt of the soil described above and certify that such soil is being delivered in exactly the same condition as when received. I/We further certify that this soil is being directly transported from the Generation Site to the Designated Facility without off-loading, adding to, subtracting from or in any way delaying delivery to such site.

Print or Type Name:	Signature and date:	Month	Day	Year
[illegible]				

Recycling Facility

Discrepancies:

Recycling Facility certifies the receipt of the soil covered by this manifest except as noted above:

Print or Type Name:	Signature and date:
Rebecca Piche	

GENERATOR / CONSULTANT'S COPY

MAGNUM THERMAL REMEDIATION FACILITY
Non-Hazardous Soils

Manifest

Date of Shipment:	Responsible for Payment:	Transporter Truck #:	Facility #:	Given by:	Load #
2/11/98		341			

Generator and/or Consultant

Generator's Name and Billing Address:	Generator's Phone #:	Generator's US EPA ID No.
NAS Key West PO Box 9007, Code 1883 PM Key West, FL 33040 USA	2583 Person to Contact: Patsy McNeil	
	FAX#:	Customer Account Number with TPS: MAGKEY

Consultant's Name and Billing Address:	Consultant's Phone #:	
Bechtel Building 112, PO Box 1518 Truman Annex Key West, FL 33040 USA	(305) 304-0419 Person to Contact: re	
	FAX(305) 296-3347	Customer Account Number with TPS: ENGSCAN

Generation Site (Transport from): *(name & address)*	Site Phone #:	BTEX Levels
NAS Key West Corner of Caroline and Williams Str Key West, FL 00000 USA	Person to Contact:	TPH Levels
	FAX#:	AVG. Levels

Designated Facility (Transport to): *(name & address)*	Facility Phone #:	Facility Permit Numbers
TPS/Magnum Environmental 9401 Fairgrounds Road West Palm Beach, FL 33411 USA	(561)791-2006 Person to Contact: Brian Bernard	
	FAX#(561)791-0382	

Transporter Name and Mailing Address:	Transporter's Phone #: 2362	Transporter's US EPA ID No.:
14400 102nd Avenue Miami, FL 33015 USA	Person to Contact: Ramond Mijares	Transporter's DOT No.:
	FAX(305) 828-0254	Customer Account Number with TPS:

Description of Soil	Moisture Content	Contaminated by:	Approx. Qty:	Description of Delivery	Gross Weight	Tare Weight	Net Weight
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐					
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐					

List any exception to items listed above:

Generator's and/or consultant's certification: I/We certify that the soil referenced herein is taken entirely from those soils described in the Soil Data Sheet completed and certified by me/us for the Generation Site shown above and nothing has been added or done to such soil that would alter it in any way.

Print or Type Name:	Generator ☒	Consultant ☐	Signature and date:	Month	Day	Year
Phillip Williams			Phillip Williams	2	11	98

Transporter

Transporter's certification: I/We acknowledge receipt of the soil described above and certify that such soil is being delivered in exactly the same condition as when received. I/We further certify that this soil is being directly transported from the Generation Site to the Designated Facility without off-loading, adding to, subtracting from or in any way delaying delivery to such site.

Print or Type Name:	Signature and date:	Month	Day	Year
		2	11	98

Recycling Facility

Discrepancies:

Recycling Facility certifies the receipt of the soil covered by this manifest except as noted above:

Print or Type Name:	Signature and date:
Rebecca Piche	

Printed on recycled paper

GENERATOR / CONSULTANT'S COPY

MAGNUM THERMAL REMEDIATION FACILITY
Non-Hazardous Soils

Date of Shipment:	Responsible for Payment:	Transporter Truck #:	Facility #:	Given by:	Load #
	Consultant	341	305	00273	007

Generator and/or Consultant

Generator's Name and Billing Address: Commanding Officer NAS Key West PO Box 9007 Code 1803 PM Key West, FL 33040 USA	Generator's Phone #: (305) 293 2581 Person to Contact: Patsy McNeil FAX#:	Generator's US EPA ID No. Customer Account Number with TPS: NASKEYW
Consultant's Name and Billing Address: Bechtel Building 112, PO Box 1518 Truman Annex Key West, FL 33040 USA	Consultant's Phone #: (305) 304 9449 Person to Contact: Stan Moe FAX#: (305) 296 3347	 Customer Account Number with TPS: E6898XX
Generation Site (Transport from): *(name & address)* NAS Key West Corner of Caroline and Williams Street Key West, FL 00000 USA	Site Phone #: Person to Contact: FAX#:	BTEX Levels TPH Levels AVG. Levels
Designated Facility (Transport to): *(name & address)* TPS/Magnum Environmental 9401 Fairgrounds Road West Palm Beach, FL 33411 USA	Facility Phone #: (561)791 2006 Person to Contact: Brian Barnard FAX#: (561)791-0082	Facility Permit Numbers
Transporter Name and Mailing Address: Soil Tech 14400 102nd Avenue Miami, FL 33018 USA	Transporter's Phone #: (305) 828-2362 Person to Contact: Ramond Mijares FAX#: (305) 828 0254	Transporter's US EPA ID No.: Transporter's DOT No.: Customer Account Number with TPS: T1775XX

Description of Soil	Moisture Content	Contaminated by:	Approx. Qty:	Description of Delivery	Gross Weight	Tare Weight	Net Weight
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐					
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐					

List any exception to items listed above:

Generator's and/or consultant's certification: I/We certify that the soil referenced herein is taken entirely from those soils described in the Soil Data Sheet completed and certified by me/us for the Generation Site shown above and nothing has been added or done to such soil that would alter it in any way.

Print or Type Name:	Generator ☐	Consultant ☐	Signature and date:	Month	Day	Year
Phillip Williams			Phillip Williams	12	12	96

Transporter

Transporter's certification: I/We acknowledge receipt of the soil described above and certify that such soil is being delivered in exactly the same condition as when received. I/We further certify that this soil is being directly transported from the Generation Site to the Designated Facility without off-loading, adding to, subtracting from or in any way delaying delivery to such site.

Print or Type Name:	Signature and date:	Month	Day	Year

Recycling Facility

Discrepancies:

Recycling Facility certifies the receipt of the soil covered by this manifest except as noted above:

Print or Type Name:	Signature and date:
Rebecca Piche	

GENERATOR / CONSULTANT'S COPY

Dam

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No. _____ | Manifest Document No. 07214 | 2. Page 1 of 1 | MAC-1-POMPANO BCH., FL

3. Generator's Name and Mailing Address: Naval Air Station, Truman Annex, Bldg. 112, Key West Fl 33041 — COUNTY Monroe

4. Generator's Phone (305-) 296-8910

5. Transporter 1 Company Name: MAGNUM ENVIRONMENTAL SVC | 6. US EPA ID Number: [illegible] | A. Transporter's Phone: 954-785-2320

7. Transporter 2 Company Name: | 8. US EPA ID Number: | B. Transporter's Phone:

9. Designated Facility Name and Site Address: MAGNUM ENVIRONMENTAL SVC. 1280 N.E. 48TH STREET POMPANO, FL 33054 | 10. US EPA ID Number: [illegible] | C. Facility's Phone: 954-785-2320

11. Waste Shipping Name and Description	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol
a. COMBUSTIBLE LIQUID, N.O.S. 1993, PG III (USED OIL)				
b.				
c. NON HAZARDOUS LIQUID, N.O.S. NON REGULATED (CONTAINS: [illegible])	[illegible]	[illegible]	[illegible]	[illegible]
d. NON HAZARDOUS SOLID, N.O.S. NON REGULATED (CONTAINS: _____)				

D. Additional Descriptions for Materials Listed Above

11a) COMBUSTIBLE LIQUID, EXCEPTION § 173.150 GUIDE # 123

E. Handling Codes for Wastes Listed Above

11a _____
11b _____
11c [illegible]
11d _____

15. Special Handling Instructions and Additional Information

(954) 785-2320

CHLORINE SCREENING METHOD
_____ LESS THAN 1000 PPM HALOGEN BEEPER
_____ LESS THAN 1000 PPM DEXSIL KIT

16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name	Signature	Month	Day	Year
Patricia A. McNeill	Patricia A. McNeill	01	27	98

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
Edwin Delgado	[illegible]	01	27	98

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.
MAGNUM ENVIRONMENTAL SVC.

Printed/Typed Name	Signature	Month	Day	Year

GENERATOR

TRANSPORTER

FACILITY

GENERATOR'S COPY

THIS MEMORANDUM or duplicate, covering the property named herein, and is intended solely for filing or record.

Shipper's No. BIL-1- 01662

(Carrier) MAGNUM ENVIRONMENTAL SVC. SCAC. _____ Carrier's No. FLD-984-262-410

received, subject to the classifications and tariffs in effect on the date of this Bill of Lading:

at _____, date _____ from _____

the property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned, and destined as indicated below, which said company (the word company being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination, if on its own road or its own water line, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each carrier of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service to be performed hereunder shall be subject to all the conditions not prohibited by law, whether printed or written, herein contained (as specified in Appendix B to Part 1035) which are hereby agreed to by the shipper and accepted for himself and his assigns.

TO: (Mail or street address of consignee for purposes of notification only.)	FROM:
Consignee MAGNUM ENVIRONMENTAL SVC.	Shipper
Street 1280 N. E. 48TH STREET	Street
Destination POMPANO, FL Zip 33068	Origin Zip
Route:	

Delivering Carrier	Trailer Initial/Number	U.S. DOT Hazmat Reg. Number

No. of packages	HM	Description of articles, special marks, and exceptions	Hazard Class	I.D. Number	Packing Group	*Weight (subject to correction)	Class or rate	Labels required (or exemption)	Check column
001	XX	GASOLINE MIXTURE CONTAMINATED UNUSED PRODUCT FOR RECOVERY	3	UN1203	II				

Remit C.O.D. to:
Address:
City: State: Zip:

COD AMT: $

Charges Advanced $ _____

Subject to Section 7 of conditions, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement:
The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.
(Signature of consignor)

C. O. D. FEE:
Prepaid ☐
Collect ☐ $

FREIGHT CHARGES
☐ Prepaid ☐ Collect

*If the shipment moves between two ports by a carrier by water, the law requires that the bill of lading shall state whether it is "carrier's or shipper's weight".
Note. – Where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property.
The agreed or declared value of the property is hereby specifically stated by the shipper to be not exceeding _____ per _____

This is to certify that the above-named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation.
Per _____

PLACARDS REQUIRED

PLACARDS SUPPLIED ☐ YES ☐ NO - FURNISHED BY CARRIER

DRIVER'S SIGNATURE:

SPECIAL INSTRUCTIONS:

SHIPPER: [illegible]
PER: _____ DATE: 12/15/97

CARRIER: MAGNUM ENVIRONMENTAL SVC.
PER: _____ DATE: 12/15/97
EMERGENCY RESPONSE TELEPHONE NUMBER: (800) 235-0189
Monitored at all times the Hazardous Material is in transportation including storage incidental to transportation (§172.604)

Permanent post office address of shipper

29-BLS-C4 (Rev. 6/95)

THIS MEMORANDUM is an acknowledgement that a bill of lading has been issued and is not the Original Bill of Lading, not a copy or duplicate, covering the property named herein, and is intended solely for filing or record.

Shipper's No. MES-1- 01360

(Carrier) MAGNUM ENVIRONMENTAL SVC. SCAC. _____ Carrier's No. FLD-984-262-410

ived, subject to the classifications and tariffs in effect on the date of this Bill of Lading:

at _____, date _____ from _____

the property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned, and destined as indicated below, which said company (the word company being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination, if on its own road or its own water line, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each carrier of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service to be performed hereunder shall be subject to all the conditions not prohibited by law, whether printed or written, herein contained (as specified in Appendix B to Part 1035) which are hereby agreed to by the shipper and accepted for himself and his assigns.

TO: (Mail or street address of consignee for purposes of notification only.)	FROM:
Consignee MAGNUM ENVIRONMENTAL SVC.	Shipper NAVAL AIR STATION KEY WEST
Street 1280 N.E. 48TH STREET	Street BOCA CHICA, ENV.
Destination POMPANO, FL Zip 33064	Origin Key West Fl. Zip 33040
Route:	

Delivering Carrier	Trailer Initial/Number	U.S. DOT Hazmat Reg. Number
	T 1417	

No. of packages	HM	Description of articles, special marks, and exceptions	Hazard Class	I.D. Number	Packing Group	*Weight (subject to correction)	Class or rate	Labels required (or exemption)	Check column
21	X	Rubbish, debris, etc	9	NA	III	10,000			

Remit C.O.D. to:
Address:
City: State: Zip:

COD AMT: $

Charges Advanced $

Subject to Section 7 of conditions, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement:
The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.

(Signature of consignor)

C. O. D. FEE:
Prepaid ☐
Collect ☐ $

FREIGHT CHARGES
☐ Prepaid ☐ Collect

*If the shipment moves between two ports by a carrier by water, the law requires that the bill of lading shall state whether it is 'carrier's or shipper's weight'.
Note. – Where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property.
The agreed or declared value of the property is hereby specifically stated by the shipper to be not exceeding _____ per _____

This is to certify that the above-named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation.

Per _____

PLACARDS REQUIRED

PLACARDS SUPPLIED ☐ YES ☒ NO - FURNISHED BY CARRIER

DRIVER'S SIGNATURE: [signature]

SPECIAL INSTRUCTIONS:

SHIPPER: [illegible]

PER Kirk L Benner DATE: 1-27-98

CARRIER: MAGNUM ENVIRONMENTAL SVC.

PER: [signature] DATE: 1-27-98

EMERGENCY RESPONSE TELEPHONE NUMBER: (954) 785-2320
Monitored at all times the Hazardous Material is in transportation including storage incidental to transportation (§172.604).

Permanent post office address of shipper

29-BLS-C4 (Rev. 6/95)

V-2

MAGNUM INC.

orkorder No: J1972374-0035 Cust ID: E6898 Document No: 310

BILLING INFORMATION Div : 1 Terms: COD-CHECK Tech #: DON J Sched. Date: 12/15/97 Tech #: Sched. Time: 08:00 Tech #: Salesman: S117 Trk # : 34/V-3 Customer PO:	Date Billed BECHTEL CONSTRUCTION PO BOX 1518 KEYWEST FL 33041 Phone: (305) 296-8910

SITE INFORMATION
NAVAL AIR STATION
TRUMBO PT
FUELING STATION
KEYWEST FL 33041

GENERATOR INFORMATION
NAVAL AIR STATION
TRUMAN ANNEX
FUELING STATION
KEYWEST FL 33041
Contact:

****

• • DIRECTIONS • •

PUMP OUT PCW FROM TANK

****

Location	Product	Approval #	Code
FRAC TANK	PCW (PETROLEUM CONTACT WATER)		02300

Description of work completed

PUMP & DISPOSE OF 4700 GALS PCW

Item	Description	Qty	Cost

Manifest #: [illegible] Manifest #: ______ Manifest #: ______

Upon completion of the job performed this area should be signed as acknowledgement of acceptance.

[signature]
Owner/Agent of the Owner

THIS SHIPPING ORDER

must be legibly filled in, in Ink, in Indelible Pencil, or in Carbon, and retained by the Agent

Shipper's No. BIL-1- 01661

(Carrier) MAGNUM ENVIRONMENTAL SVC. SCAC. _____ Carrier's No. FLD-984-262-410

ceived, subject to the classifications and tariffs in effect on the date of this Bill of Lading:

at _____, date _____ from _____

the property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned, and destined as indicated below, which said company (the word company being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination, if on its own road or its own water line, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each carrier of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service to be performed hereunder shall be subject to all the conditions not prohibited by law, whether printed or written, herein contained (as specified in Appendix B to Part 1035) which are hereby agreed to by the shipper and accepted for himself and his assigns.

TO: (Mail or street address of consignee for purposes of notification only.)	FROM:
Consignee MAGNUM ENVIRONMENTAL SVC.	Shipper Naval Air Station
Street 1280 N. E. 48TH STREET	Street Trumbo Pt
Destination POMPANO, FL Zip 33068	Origin Key West Fla Zip 33041
Route:	

Delivering Carrier	Trailer Initial/Number V-2	U.S. DOT Hazmat Reg. Number

No. of packages	HM	Description of articles, special marks, and exceptions	Hazard Class	I.D. Number	Packing Group	*Weight (subject to correction)	Class or rate	Labels required (or exemption)	Check column
001-TT	XX	GASOLINE MIXTURE	3	UN1203	II	04000	G		
		CONTAMINATED UNUSED PRODUCT							
		FOR RECOVERY							

Remit C.O.D. to:
Address:
City: State: Zip:

COD AMT: $

Charges Advanced $

Subject to Section 7 of conditions, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement:
The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.

(Signature of consignor)

C. O. D. FEE:
Prepaid ☐
Collect ☐ $

FREIGHT CHARGES
☐ Prepaid ☐ Collect

*If the shipment moves between two ports by a carrier by water, the law requires that the bill of lading shall state whether it is "carrier's or shipper's weight". Note, – where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property.
The agreed or declared value of the property is hereby specifically stated by the shipper to be not exceeding _____ per _____

This is to certify that the above-named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation.

Per _____

PLACARDS REQUIRED Hazmat

PLACARDS SUPPLIED ☑ YES ☐ NO - FURNISHED BY CARRIER

DRIVER'S SIGNATURE: [signature]

SPECIAL INSTRUCTIONS:

SHIPPER: Naval Air Station

PER: [signature] DATE: 12-15-97

CARRIER: MAGNUM ENVIRONMENTAL SVC.

PER: [signature] DATE: 12-15-97

EMERGENCY RESPONSE TELEPHONE NUMBER: (800) 235-0189

Monitored at all times the Hazardous Material is in transportation including storage incidental to transportation (§172.604).

Permanent post office address of shipper

29-BLS-C4 (Rev. 6/95)

Agent must detach and retain this Shipping Order and must sign the Original Bill of Lading

12/12-3

MAGNUM INC.

Workorder No: J1972374-0034 Cust ID: E6898 Document No: 309

BILLING INFORMATION	Div : 1	Date Billed	
Terms: COD-CHECK	Tech #: Jah	BECHTEL CONSTRUCTION	
Sched. Date: 12/15/97	Tech #:	PO BOX 1518	
Sched. Time: 08:00	Tech #:	KEYWEST	FL 33041
Salesman: S117	Trk # : 36	Phone: (305) 296-8910	
Customer PO:			

SITE INFORMATION	GENERATOR INFORMATION
NAVAL AIR STATION	NAVAL AIR STATION
TRUMBO PT	TRUMAN ANNEX
FUELING STATION	FUELING STATION
KEYWEST FL 33041	KEYWEST FL 33041
	Contact:

****

• • DIRECTIONS • •

GO TO BACK GATE OF FUEL FARM, IF NO ONE IS ONE SITE, START PUMPING PCW FROM FRAC TANK, APPROX. 9,300 GALLON. SOMEONE WILL BE ON SITE TO SIGN BETWEEN 8:30 - 9:00

****

Location	Product	Approval #	Code
FRAC TANK	PCW (PETROLEUM CONTACT WATER)		02300

Description of work completed

Pump from frac Tank 4000 gals

Item	Description	Qty	Cost

Manifest #: 01661 Manifest #: _____ Manifest #: _____

Upon completion of the job performed this area should be signed as acknowledgement of acceptance.

Mike Skinner

Owner/Agent of the Owner

98027

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.	Manifest Document No.	2. Page 1 of 1	
FL2.1.7.0.0.2.4.4.7.3	05835		MAC-1-POMPANO SCH., FL

3. Generator's Name and Mailing Address: Tank farm — Navy Gas Station, Tank Farm, Key West, FL 33040 — COUNTY Monroe

4. Generator's Phone (305) 293 2583 Mo.

5. Transporter 1 Company Name	6. US EPA ID Number	A. Transporter's Phone
MAGNUM ENVIRONMENTAL SVC.	F L D 9 8 4 2 5 2 4 1 0	954-785-2320
7. Transporter 2 Company Name	8. US EPA ID Number	B. Transporter's Phone

9. Designated Facility Name and Site Address	10. US EPA ID Number	C. Facility's Phone
MAGNUM ENVIRONMENTAL SVC. 1230 N.E. 48TH STREET POMPANO, FL 33064	F L D 9 8 4 2 6 5 4 1 0	954-785-2320

11. Waste Shipping Name and Description	12. Containers No.	12. Containers Type	13. Total Quantity	14. Unit Wt/Vol
a. COMBUSTIBLE LIQUID N.O.S. 1993, PG III (USED OIL)				
b.				
c. NON HAZARDOUS LIQUID, N.O.S. NON REGULATED (CONTAINS: Petroleum Products)	001	DM	000055	G
d. NON HAZARDOUS SOLID, N.O.S. NON REGULATED (CONTAINS: Asbestos)	001	DM	000055	P

D. Additional Descriptions for Materials Listed Above	E. Handling Codes for Wastes Listed Above
11a) COMBUSTIBLE LIQUID, EXCEPTION § 173.150 GUIDE # 123	11a 11b 11c 11d

15. Special Handling Instructions and Additional Information

(954) 785-2320

CHLORIDE SCREENING METHOD
_____ LESS THAN 1000 PPM HALOGEN DIPPER
_____ LESS THAN 1000 PPM DEXSIL KIT

16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name	Signature	Month	Day	Year
James Marquez	James Marquez	1 2	1 1	9 7

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
Alton R. Hummel	Alton R. Hummel	1 2	1 1	9 7

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.
MAGNUM ENVIRONMENTAL SVC.

Printed/Typed Name	Signature	Month	Day	Year

GENERATOR'S COPY

T ST 98-11

MAGNUM INC.

Workorder No: J1972374-0033	Cust ID: E6898	Document No: 224

BILLING INFORMATION Terms: COD-CHECK Sched. Date: 12/11/97 Sched. Time: Salesman: S117 Customer PO:	Div : 1 Tech #: Aitan Tech #: Tech #: Trk # : 26	Date Billed BECHTEL CONSTRUCTION PO BOX 1518 KEYWEST FL 33041 Phone: (305) 296-8910

SITE INFORMATION	GENERATOR INFORMATION
NAVAL AIR STATION TRUMBO PT FUELING STATION KEYWEST FL 33041	NAVAL AIR STATION TRUMAN ANNEX FUELING STATION KEYWEST FL 33041 Contact:

****

. . DIRECTIONS . .

PUMP OUT ~~6-7 DRUMS OF PETROLEUM CON~~TAMINATED ABSORBENTS

****

Location	Product	Approval #	Code
	SLUDGES		06200

Description of work completed

pick up and dispose of ~~7~~ 6 Drums used Absorbents 1 Drum petroleum contaminated waters

Item	Description	Qty	Cost

Manifest #: ________ Manifest #: ________ Manifest #: ________

Upon completion of the job performed this area should be signed as acknowledgement of acceptance.

[signature]

Owner/Agent of the Owner

Took Test 98-11

Non-Hazardous Soils

Date of Shipment:	Responsible for Payment:	Transporter Truck #:	Facility #:	Given by:	Load #
	Generator	28	J05	00198 98024	092

Generator's Name and Billing Address:
Key West Naval Air Station
Key West, FL 00000 USA

Generator's Phone #: 305 293 2583
Person to Contact: Patsy McNeill
FAX#: 305 293 3542
Generator's US EPA ID No.: FL2170024473
Customer Account Number with TPS: KEYWNAS

Consultant's Name and Billing Address:
Magnum Environmental Div 1
1280 NE 48th Street
Pompano Beach, FL 33064 USA

Consultant's Phone #: (954) 785-2320
Person to Contact: Dennis Williams
FAX#:
Customer Account Number with TPS: C1657XX

Generation Site (Transport from): (name & address)
Key West Naval Air Station
Fueling Station
Key West , FL 00000 USA

Site Phone #: 305 293 2583
Person to Contact: Patsy McNeill
FAX#: 305 293 3542
BTEX Levels
TPH Levels
AVG. Levels

Designated Facility (Transport to): (name & address)
TPS/Magnum Environmental
9401 Fairgrounds Road
West Palm Beach, FL 33411 USA

Facility Phone #: (561)791-2006
Person to Contact: Brian Barnard
FAX#: (561)791-0082
Facility Permit Numbers

Transporter Name and Mailing Address:
Soil Tech
14400 102nd Avenue
Miami, FL 33016 USA

Transporter's Phone #: (305) 828-2362
Person to Contact: Ramond Mijares
FAX#: (305) 828-9254
Transporter's US EPA ID No.:
Transporter's DOT No.:
Customer Account Number with TPS: C1773XX

Description of Soil	Moisture Content	Contaminated by:	Approx. Qty:	Description of Delivery	Gross Weight	Tare Weight	Net Weight
Sand ☐ Organic ☐ Clay ☐ Other ☒	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☒	24 Tons	Petroleum contaminated soil			
Sand ☐ Organic ☐ Clay ☐ Other ☒	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☒					

List any exception to items listed above:

Generator's and/or consultant's certification: I/We certify that the soil referenced herein is taken entirely from those soils described in the Soil Data Sheet completed and certified by me/us for the Generation Site shown above and nothing has been added or done to such soil that would alter it in any way.

Print or Type Name: James Marquez — Generator ☒ — Consultant ☐ — Signature and date: James Marquez — Month 12 Day 11 Year 97

Transporter

Transporter's certification: I/We acknowledge receipt of the soil described above and certify that such soil is being delivered in exactly the same condition as when received. I/We further certify that this soil is being directly transported from the Generation Site to the Designated Facility without off-loading, adding to, subtracting from or in any way delaying delivery to such site.

Print or Type Name: Ruben Castaleda — Signature and date: — Month 12 Day 11 Year 97

Recycling Facility

Discrepancies:

Recycling Facility certifies the receipt of the soil covered by this manifest except as noted above:

Print or Type Name: Rebecca Piche — Signature and date:

Generator and/or Consultant

MAGNUM FACILITY COPY

Non-Hazardous Soils

Date of Shipment:	Responsible for Payment:	Transporter Truck #:	Facility #:	Given by:	Load #
	Generator	36	J05	00198 Manifest 90025	001

Generator's Name and Billing Address: Key West Naval Air Station Trumbo Point Key West, FL 00000 USA	Generator's Phone #: Person to Contact: 305 293 2583 FAX#: Patsy McNeill	Generator's US EPA ID No. FL2170024473 Customer Account Number with TPS: KEYWNAS
Consultant's Name and Billing Address: Magnum Environmental Div 1 1280 NE 48th Street Pompano Beach, FL 33064 USA	Consultant's Phone #: 305 293 2542 (954) 785-2320 Person to Contact: Dennis Williams FAX#:	Customer Account Number with TPS: C1657XX
Generation Site (Transport from): *(name & address)* Key West Naval Air Station Fueling Station Trumbo Point Key West, FL 00000 USA	Site Phone #: Person to Contact: 305 293 2583 FAX#: Patsy McNeill	BTEX Levels TPH Levels AVG. Levels
Designated Facility (Transport to): *(name & address)* TPS/Magnum Environmental 9401 Fairgrounds Road West Palm Beach, FL 33411 USA	Facility Phone #: 305 293 2542 (561)791-2006 Person to Contact: Brian Barnard FAX#: (561)791-0082	Facility Permit Numbers
Transporter Name and Mailing Address: Soil Tech 14400 102nd Avenue Miami, FL 33016 USA	Transporter's Phone #: (305) 828-2362 Person to Contact: Ramond Mijares FAX#: (305) 828-9254	Transporter's US EPA ID No.: Transporter's DOT No.: Customer Account Number with TPS: C1773XX

Description of Soil	Moisture Content	Contaminated by:	Approx. Qty:	Description of Delivery	Gross Weight	Tare Weight	Net Weight
Sand ☐ Organic ☐ Clay ☐ Other ☐ X	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐	~~241~~	Petroleum Contaminated Soil			
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ X Diesel ☐ Other ☐ X	241				

List any exception to items listed above:

Generator's and/or consultant's certification: I/We certify that the soil referenced herein is taken entirely from those soils described in the Soil Data Sheet completed and certified by me/us for the Generation Site shown above and nothing has been added or done to such soil that would alter it in any way.

Print or Type Name:	Generator ☐	Consultant ☐	Signature and date:	Month	Day	Year
[illegible]	X	[illegible]	[signature]	12	11	97

Transporter's certification: I/We acknowledge receipt of the soil described above and certify that such soil is being delivered in exactly the same condition as when received. I/We further certify that this soil is being directly transported from the Generation Site to the Designated Facility without off-loading, adding to, subtracting from or in any way delaying delivery to such site.

Print or Type Name:	Signature and date:	Month	Day	Year
[illegible]	[signature]	12	11	97

Discrepancies:

Recycling Facility certifies the receipt of the soil covered by this manifest except as noted above:

Print or Type Name:	Signature and date:
Rebecca Piche	

Generator and/or Consultant

Transporter

Recycling Facility

MAGNUM FACILITY COPY

12-10-1997 15:37 561 791 0082 MAGNUM ENV SERV DIV 5 P.02

Non-Hazardous Soils

Date of Shipment:	Responsible for Payment:	Transporter Truck #:	Facility #:	Given by:	Load #
	Generator	245	J05	00198 98026	003

Generator and/or Consultant

Generator's Name and Billing Address: Key West Naval Air Station Trumbo Point Key West, FL 00000 USA	Generator's Phone #: 305 2932583 Person to Contact: Patsy McNeill FAX#: 305 2932542	Generator's US EPA ID No.: FL2170024473 Customer Account Number with TPS: KEYWNAS
Consultant's Name and Billing Address: Magnum Environmental Div 1 1280 NE 48th Street Pompano Beach, FL 33064 USA	Consultant's Phone #: (954) 785-2320 Person to Contact: Dennis Williams FAX#:	Customer Account Number with TPS: C1657XX
Generation Site (Transport from): (name & address) Key West Naval Air Station Fueling Station Trumbo Point Key West, FL 00000 USA	Site Phone #: 305 2932583 Person to Contact: Patsy McNeil FAX#: 2932542	BTEX Levels TPH Levels AVG. Levels
Designated Facility (Transport to): (name & address) TPS/Magnum Environmental 9401 Fairgrounds Road West Palm Beach, FL 33411 USA	Facility Phone #: (561)791-2006 Person to Contact: Brian Barnard FAX#: (561)791-0082	Facility Permit Numbers
Transporter Name and Mailing Address: Soil Tech 14400 102nd Avenue Miami, FL 33016 USA	Transporter's Phone #: (305) 828-2362 Person to Contact: Ramond Mijares FAX#: (305) 828-9254	Transporter's US EPA ID No.: Transporter's DOT No.: Customer Account Number with TPS: C1773XX

Description of Soil	Moisture Content	Contaminated by:	Approx. Qty:	Description of Delivery	Gross Weight	Tare Weight	Net Weight
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐	004	Soil Contaminated Petroleum	0	0	0
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐	0	000	0	0	0

List any exception to items listed above:

Generator's and/or consultant's certification: I/We certify that the soil referenced herein is taken entirely from those soils described in the Soil Data Sheet completed and certified by me/us for the Generation Site shown above and nothing has been added or done to such soil that would alter it in any way.

Print or Type Name: James Marquez Generator ☒ Consultant ☐ ALFREDO CONDE Signature and date: [signature] James J Marquez Month 12 Day 11 Year 97

Transporter

Transporter's certification: I/We acknowledge receipt of the soil described above and certify that such soil is being delivered in exactly the same condition as when received. I/We further certify that this soil is being directly transported from the Generation Site to the Designated Facility without off-loading, adding to, subtracting from or in any way delaying delivery to such site.

Print or Type Name: ~~James Marquez~~ ALFREDO CONDE Signature and date: ~~James J Marquez~~ [signature] Month 12 Day 11 Year 97

Recycling Facility

Discrepancies:

Recycling Facility certifies the receipt of the soil covered by this manifest except as noted above:

Print or Type Name: Rebecca Piche Signature and date:

MAGNUM FACILITY COPY

or duplicate, covering the property named herein, and is intended solely for filing or record.

Shipper's No. MES-1- 01256

(Carrier) MAGNUM ENVIRONMENTAL SVC. SCAC. _____ Carrier's No. FLD-984-262-410

Received, subject to the classifications and tariffs in effect on the date of this Bill of Lading:

at _____, date _____ from _____

the property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned, and destined as indicated below, which said company (the word company being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination, if on its own road or its own water line, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each carrier of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service to be performed hereunder shall be subject to all the conditions not prohibited by law, whether printed or written, herein contained (as specified in Appendix B to Part 1035) which are hereby agreed to by the shipper and accepted for himself and his assigns.

TO: (Mail or street address of consignee for purposes of notification only.)	FROM:
Consignee MAGNUM ENVIRONMENTAL SVC.	Shipper Naval Air Station
Street 1280 N.E. 48TH STREET	Street Boca Chica
Destination POMPANO, FL Zip 33064	Origin Key West FL. Zip 33041
Route:	

Delivering Carrier	Trailer Initial/Number	U.S. DOT Hazmat Reg. Number

No. of packages	HM	Description of articles, special marks, and exceptions	Hazard Class	I.D. Number	Packing Group	*Weight (subject to correction)	Class or rate	Labels required (or exemption)	Check column
TT 001		Aviation Fuel/Water Mix	3 UN	1863	III	4500	6		

Remit C.O.D. to:
Address:
City: State: Zip:

COD AMT: $

Charges Advanced $

Subject to Section 7 of conditions, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement:
The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.

(Signature of consignor)

C. O. D. FEE:
Prepaid ☐
Collect ☐ $

FREIGHT CHARGES
☐ Prepaid ☐ Collect

*If the shipment moves between two ports by a carrier by water, the law requires that the bill of lading shall state whether it is "carrier's or shipper's weight". Note. – where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property.
The agreed or declared value of the property is hereby specifically stated by the shipper to be not exceeding _____ per _____

This is to certify that the above-named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation.
Per _____

PLACARDS REQUIRED

PLACARDS SUPPLIED ☐ YES ☐ NO - FURNISHED BY CARRIER

DRIVER'S SIGNATURE:

SPECIAL INSTRUCTIONS:

SHIPPER: Naval Air Station

DATE: 11-17-97

Permanent post office address of shipper

CARRIER: MAGNUM ENVIRONMENTAL SVC.

PER: _____ DATE: 11-17-97

EMERGENCY RESPONSE TELEPHONE NUMBER: (954) 785-2320

Monitored at all times the Hazardous Material is in transportation including storage incidental to transportation (§172.604).

29-BLS-C4 (Rev. 6/95)

MAGNUM INC.

Workorder No: J1972374-0029 Cust ID: E6898 Document No: 50

BILLING INFORMATION		Date Billed
Terms: COD-CHECK	Div : 1	BECHTEL CONSTRUCTION
Sched. Date: 11/17/97	Tech #: DON J	PO BOX 1518
Sched. Time: 09:00	Tech #:	
Salesman: S117	Tech #:	KEYWEST FL 33041
Customer PO:	Trk #: 34.V.2	Phone: (305) 296-8910

SITE INFORMATION
NAVAL AIR STATION
TRUMAN ANNEX
KEYWEST FL 33041

GENERATOR INFORMATION
NAVAL AIR STATION
TRUMAN ANNEX
KEYWEST FL 33041
Contact:

****

• • DIRECTIONS • •

PUMP OUT FRAC TANK

****

Location	Product	Approval #	Code
ARRIVE 9:00		DEPART 1:30	

Description of work completed

PUMP & DISPOSE OF 1000 GALS P.O.W.S TRUMBO POINT

PUMP & DISPOSE OF 7500 GALS P.O.W.S BOCA CHICA

Item	Description	Qty	Cost

Manifest #: ① 01257 Manifest #: ② 00631 Manifest #: ________

Upon completion of the job performed this area should be signed as acknowledgement of acceptance.

[signature]
Owner/Agent of the Owner

THIS MEMORANDUM is an acknowledgement that a bill of lading has been issued and is not the original bill of Lading, not a copy or duplicate, covering the property named herein, and is intended solely for filing or record.

Shipper's No. MES-1- 00631

(Carrier) MAGNUM ENVIRONMENTAL SVC. SCAC. _____ Carrier's No. FLD-984-262-410

ceived, subject to the classifications and tariffs in effect on the date of this Bill of Lading:

at _____, date _____ from _____

the property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned, and destined as indicated below, which said company (the word company being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination, if on its own road or its own water line, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each carrier of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service to be performed hereunder shall be subject to all the conditions not prohibited by law, whether printed or written, herein contained (as specified in Appendix B to Part 1035) which are hereby agreed to by the shipper and accepted for himself and his assigns.

TO: (Mail or street address of consignee for purposes of notification only.)	FROM:
Consignee MAGNUM ENVIRONMENTAL SVC.	Shipper
Street 1280 N.E. 48TH STREET	Street
Destination POMPANO, FL Zip 33064	Origin Zip
Route:	
Delivering Carrier	Trailer Initial/Number

U.S. DOT Hazmat Reg. Number

No. of packages	HM	Description of articles, special marks, and exceptions	Hazard Class	I.D. Number	Packing Group	*Weight (subject to correction)	Class or rate	Labels required (or exemption)	Check column

Remit C.O.D. to:
Address:
City: State: Zip:

COD AMT: $

Charges Advanced $

Subject to Section 7 of conditions, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement:
The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.

(Signature of consignor)

C. O. D. FEE:
Prepaid ☐
Collect ☐ $

FREIGHT CHARGES
☐ Prepaid ☐ Collect

*If the shipment moves between two ports by a carrier by water, the law requires that the bill of lading shall state whether it is "carrier's or shipper's weight". Note. – where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property.
The agreed or declared value of the property is hereby
specifically stated by the shipper to be not exceeding _____ per _____

This is to certify that the above-named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation.

Per _____

PLACARDS REQUIRED

PLACARDS SUPPLIED ☐ YES ☐ NO - FURNISHED BY CARRIER

DRIVER'S SIGNATURE:

SPECIAL INSTRUCTIONS:

SHIPPER: _____ CARRIER: MAGNUM ENVIRONMENTAL SVC.

PER: _____ DATE: _____ PER: _____ DATE: _____

EMERGENCY RESPONSE TELEPHONE NUMBER: (954) 785-2320

Permanent post office address of shipper

Monitored at all times the Hazardous Material is in transportation including storage incidental to transportation (§172.604).

THIS MEMORANDUM is an acknowledgment that a Bill of Lading has been issued as of the date and the Original Bill of Lading (check one) or duplicate, covering the property named herein, and is intended solely for filing or record.

Shipper's No. MES-1- 01257

(Carrier) MAGNUM ENVIRONMENTAL SVC. SCAC. _____ Carrier's No. FLD-984-262-410

Received, subject to the classifications and tariffs in effect on the date of this Bill of Lading:

at _____, date _____ from _____

the property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned, and destined as indicated below, which said company (the word company being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination, if on its own road or its own water line, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each carrier of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service to be performed hereunder shall be subject to all the conditions not prohibited by law, whether printed or written, herein contained (as specified in Appendix B to Part 1035) which are hereby agreed to by the shipper and accepted for himself and his assigns.

TO: (Mail or street address of consignee for purposes of notification only.)	FROM:
Consignee MAGNUM ENVIRONMENTAL SVC.	Shipper [illegible]
Street 1280 N.E. 48TH STREET	Street [illegible]
Destination POMPANO, FL Zip 33064	Origin [illegible] Zip [illegible]
Route:	

Delivering Carrier	Trailer Initial/Number	U.S. DOT Hazmat Reg. Number

No. of packages	HM	Description of articles, special marks, and exceptions	Hazard Class	I.D. Number	Packing Group	*Weight (subject to correction)	Class or rate	Labels required (or exemption)	Check column
001		[illegible]		[illegible]		[illegible]		3	

Remit C.O.D. to:
Address:
City: State: Zip:

COD AMT: $

Subject to Section 7 of conditions, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement:
The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.

(Signature of consignor)

C. O. D. FEE:
Prepaid ☐
Collect ☐ $

*If the shipment moves between two ports by a carrier by water, the law requires that the bill of lading shall state whether it is "carrier's or shipper's weight".
Note. – where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property.
The agreed or declared value of the property is hereby
specifically stated by the shipper to be not exceeding _____ per _____

Charges Advanced $ _____

FREIGHT CHARGES
☐ Prepaid ☐ Collect

This is to certify that the above-named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation.

Per _____

PLACARDS REQUIRED FLAMMABLE PLACARDS SUPPLIED ☐ YES ☒ NO - FURNISHED BY CARRIER

DRIVER'S SIGNATURE:

SPECIAL INSTRUCTIONS:

SHIPPER: [illegible]

PER: [illegible] DATE: [illegible]

CARRIER: MAGNUM ENVIRONMENTAL SVC.

PER: [illegible] DATE: [illegible]

EMERGENCY RESPONSE TELEPHONE NUMBER: (954) 785-2320

Monitored at all times the Hazardous Material is in transportation including storage incidental to transportation (§172.604).

Permanent post office address of shipper

29-BLS-C4 (Rev. 6/95)

MAGNUM INC.

orkorder No: J1972374-0028 Cust ID: E6898 Document No: 49

BILLING INFORMATION Terms: COD-CHECK Sched. Date: 11/17/97 Sched. Time: 09:00 Salesman: 8117 Customer PO:	Div : 1 Tech #: 46 Bill Tech #: Tech #: Trk # : 44 V-3

Date Billed
BECHTEL CONSTRUCTION
PO BOX 1518

KEYWEST FL 33041
Phone: (305) 296-8910

SITE INFORMATION
NAVAL AIR STATION
TRUMAN ANNEX
KEYWEST FL 33041

GENERATOR INFORMATION
NAVAL AIR STATION
~~TRUMAN ANNEX~~ Boca Chica
KEYWEST FL 33041
Contact:

****

• • DIRECTIONS • •

PUMP OUT FRAC TANK

****

Location	Product	Approval #	Code

Description of work completed

Arival 9:00 AM Depart 11:30 AM
Pumped & Disposed of 4500 Gals of PCW's
Boca Chica

Item	Description	Qty	Cost

Manifest #: MS-1-01256-45006 Manifest #: ________ Manifest #: ________

Upon completion of the job performed this area should be signed as acknowledgement of acceptance.

[signature]
Owner/Agent of the Owner

NON-HAZARDOUS WASTE MANIFEST	1. Generator's US EPA ID No. N/A	Manifest Document No. 04369	2. Page 1 of 1	MAG-1-

3. Generator's Name and Mailing Address: Naval Air Station, Truman Annex 3 Bldg 112, Key West Fl

4. Generator's Phone ( )

COUNTY Monroe

5. Transporter 1 Company Name	6. US EPA ID Number	A. Transporter's Phone
MAGNUM ENVIRONMENTAL SVC.	F.L.D.9.8.4.2.6.2.4.1.0	(954) 785-2320
7. Transporter 2 Company Name	8. US EPA ID Number	B. Transporter's Phone
9. Designated Facility Name and Site Address	10. US EPA ID Number	C. Facility's Phone
MAGNUM ENVIRONMENTAL SVC. 1280 N.E. 48TH STREET POMPANO, FL 33064	F.L.D.9.8.4.2.6.2.4.1.0	(954) 785-2320

11. Waste Shipping Name and Description	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol
a. COMBUSTIBLE LIQUID N.O.S. N.A. 1993, PG III (USED OIL)				
b.				
c. NON HAZARDOUS LIQUID, N.O.S. NON REGULATED (CONTAINS: Oily water - Auto)	001	T.F	03200	G
d. NON HAZARDOUS SOLID, N.O.S. NON REGULATED (CONTAINS:)				

D. Additional Descriptions for Materials Listed Above

11a) COMBUSTIBLE LIQUID, EXCEPTION § 173.150 GUIDE #128

E. Handling Codes for Wastes Listed Above

11a
11b
11c 120 A
11d

15. Special Handling Instructions and Additional Information

(954) 785-2320

CHLORIDE SCREENING METHOD
LESS THAN 1000 PPM HALOGEN BEEPER
LESS THAN 1000 PPM DEXSIL KIT

Phillip Williams Phillip Williams

16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name	Signature	Month	Day	Year
X	X	11	13	97

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
Edwin Delgado	Edwin Delgado	11	13	97

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.

MAGNUM ENVIRONMENTAL SVC.

Printed/Typed Name	Signature	Month	Day	Year

GENERATOR'S COPY

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No. . . . . N/A
Manifest Document No. 03746
2. Page 1 of 1
MAG-1-

3. Generator's Name and Mailing Address
Naval Air Station
Truman Annex 2 Bldg 113
Key West FL.

4. Generator's Phone ( )

COUNTY Monroe

5. Transporter 1 Company Name
MAGNUM ENVIRONMENTAL SVC.

6. US EPA ID Number
F.L.D.9.8.4.2.6.2.4.1.0

A. Transporter's Phone
(954) 785-2320

7. Transporter 2 Company Name

8. US EPA ID Number
. . . . . .

B. Transporter's Phone

9. Designated Facility Name and Site Address
MAGNUM ENVIRONMENTAL SVC.
1280 N.E. 48TH STREET
POMPANO, FL 33064

10. US EPA ID Number
F.L.D.9.8.4.2.6.2.4.1.0

C. Facility's Phone
(954) 785-2320

GENERATOR

11. Waste Shipping Name and Description	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol
a. COMBUSTIBLE LIQUID N.O.S. N.A. 1993, PG III (USED OIL)				
b.				
c. NON HAZARDOUS LIQUID, N.O.S. NON REGULATED (CONTAINS: ...oily water mix...)	001	T	00330	G
d. NON HAZARDOUS SOLID, N.O.S. NON REGULATED (CONTAINS:)				

D. Additional Descriptions for Materials Listed Above
11a) COMBUSTIBLE LIQUID, EXCEPTION § 173.150 GUIDE #128

E. Handling Codes for Wastes Listed Above
11a
11b
11c 180 L
11d

15. Special Handling Instructions and Additional Information
(954) 785-2320
CHLORIDE SCREENING METHOD
LESS THAN 1000 PPM HALOGEN BEEPER
LESS THAN 1000 PPM DEXSIL KIT

16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.
Printed/Typed Name x PHILIP WILLIAMS
Signature x
Month 11 Day 13 Year 97

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name F.D. (FRED CHILDS)
Signature
Month 11 Day 13 Year 97

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name
Signature
Month . Day . Year .

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.
MAGNUM ENVIRONMENTAL SVC.
Printed/Typed Name
Signature
Month . Day . Year .

GENERATOR'S COPY

THIS SHIPPING ORDER

must be legibly filled in, in Ink, in Indelible Pencil, or in Carbon, and retained by the Agent

Shipper's No. MES-1- 01250

(Carrier) MAGNUM ENVIRONMENTAL SVC. SCAC. _____ Carrier's No. FLD-984-262-410

ived, subject to the classifications and tariffs in effect on the date of this Bill of Lading:

at _____, date _____ from _____

the property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned, and destined as indicated below, which said company (the word company being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination, if on its own road or its own water line, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each carrier of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service to be performed hereunder shall be subject to all the conditions not prohibited by law, whether printed or written, herein contained (as specified in Appendix B to Part 1035) which are hereby agreed to by the shipper and accepted for himself and his assigns.

TO: (Mail or street address of consignee for purposes of notification only.)	FROM:
Consignee MAGNUM ENVIRONMENTAL SVC.	Shipper Naval Air Station
Street 1280 N.E. 48TH STREET	Street ~~Fourmile Range~~ Trumbo Point
Destination POMPANO, FL Zip 33064	Origin Keywest fl. Zip 33041
Route:	

Delivering Carrier	Trailer Initial/Number	U.S. DOT Hazmat Reg. Number

No. of packages	HM	Description of articles, special marks, and exceptions	Hazard Class	I.D. Number	Packing Group	*Weight (subject to correction)	Class or rate	Labels required (or exemption)	Check column
TT 001		Aviation Fuel / Water Mix	3	1863	III	4000	G		

Remit C.O.D. to:
Address:
City: State: Zip:

COD AMT: $

Charges Advanced $

Subject to Section 7 of conditions, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement:
The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.
(Signature of consignor)

C. O. D. FEE:
Prepaid ☐
Collect ☐ $

FREIGHT CHARGES
☐ Prepaid ☐ Collect

*If the shipment moves between two ports by a carrier by water, the law requires that the bill of lading shall state whether it is "carrier's or shipper's weight". Note. – Where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property.
The agreed or declared value of the property is hereby
specifically stated by the shipper to be not exceeding _____ per _____

This is to certify that the above-named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation.
Per _____

PLACARDS REQUIRED YES

PLACARDS SUPPLIED ☐ YES ☒ NO - FURNISHED BY CARRIER
DRIVER'S SIGNATURE: [signature]

SPECIAL INSTRUCTIONS:

SHIPPER: Naval Air Station
PER: Patricia A. McGriff DATE: 11-12-97

CARRIER: MAGNUM ENVIRONMENTAL SVC.
PER: [signature] DATE: 11-12-97

EMERGENCY RESPONSE TELEPHONE NUMBER: (954) 785-2320
Monitored at all times the Hazardous Material is in transportation including storage incidental to transportation (§172.604).

Permanent post office address of shipper

29-BLS-C4 (Rev. 6/95)

Agent must detach and retain this Shipping Order and must sign the Original Bill of Lading.

MAGNUM INC.

Workorder No: J1972374-0026 Cust ID: E6898 Document No: 18

ILLING INFORMATION		Date Billed
Terms: COD-CHECK	Div : 1	BECHTEL CONSTRUCTION
Sched. Date: 11/12/97	Tech #: 46 Bill	PO BOX 1518
Sched. Time: 08:00	Tech #:	
Salesman: S117	Tech #:	KEYWEST FL 33041
Customer PO:	Trk # : 44 V-3	Phone: (305) 296-8910

SITE INFORMATION
NAVAL AIR STATION
TRUMAN ANNEX
KEYWEST FL 33041

GENERATOR INFORMATION
NAVAL AIR STATION
TRUMAN ANNEX
KEYWEST FL 33041
Contact:

****

• • DIRECTIONS • •

PUMP OUT FRAC TANK

****

Location	Product	Approval #	Code

Description of work completed

Pumped & Disposed of 4000 Gals of P.C.W.
STAND by 10:15 AM till 12:50 pm

Item	Description	Qty	Cost

Manifest #: MES-1-01250-4000 Manifest #: ______ Manifest #: ______

Upon completion of the job performed this area should be signed as acknowledgement of acceptance.

Patricia A. McNeill
Owner/Agent of the Owner

THIS SHIPPING ORDER ... Carbon, and retained by the Agent

Shipper's No. MES-1- 01248

(Carrier) MAGNUM ENVIRONMENTAL SVC. SCAC. _____ Carrier's No. FLD-984-262-410

...ceived, subject to the classifications and tariffs in effect on the date of this Bill of Lading:

at _____, date _____ from _____

the property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned, and destined as indicated below, which said company (the word company being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination, if on its own road or its own water line, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each carrier of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service to be performed hereunder shall be subject to all the conditions not prohibited by law, whether printed or written, herein contained (as specified in Appendix B to Part 1035) which are hereby agreed to by the shipper and accepted for himself and his assigns.

TO: (Mail or street address of consignee for purposes of notification only.)	FROM:
Consignee MAGNUM ENVIRONMENTAL SVC.	Shipper Naval air station
Street 1280 N.E. 48TH STREET	Street Trumbo Point
Destination POMPANO, FL Zip 33064	Origin Key West Fla Zip 33041
Route:	

Delivering Carrier	Trailer Initial/Number	U.S. DOT Hazmat Reg. Number
	V-2	

No. of packages	HM	Description of articles, special marks, and exceptions	Hazard Class	I.D. Number	Packing Group	*Weight (subject to correction)	Class or rate	Labels required (or exemption)	Check column
001-TT		aviation fuel / water mix	5	1863	3	04000	G		

Remit C.O.D. to:
Address:
City: State: Zip:

COD AMT: $

Charges Advanced $

Subject to Section 7 of conditions, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement:
The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.

(Signature of consignor)

C. O. D. FEE:
Prepaid ☐
Collect ☐ $

FREIGHT CHARGES
☐ Prepaid ☐ Collect

*If the shipment moves between two ports by a carrier by water, the law requires that the bill of lading shall state whether it is "carrier's or shipper's weight".
Note. – where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property.
The agreed or declared value of the property is hereby specifically stated by the shipper to be not exceeding _____ per _____

This is to certify that the above-named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation.
Per _____

PLACARDS REQUIRED: Flammable

PLACARDS SUPPLIED: ☑ YES ☐ NO - FURNISHED BY CARRIER
DRIVER'S SIGNATURE: [signature]

SPECIAL INSTRUCTIONS:

PER: Naval air station
PER: Patricia A. McNeill DATE: 11-12-97

CARRIER: MAGNUM ENVIRONMENTAL SVC.
PER: [signature] DATE: 11-12-97

EMERGENCY RESPONSE TELEPHONE NUMBER: (954) 785-2320

Permanent post office address of shipper

Monitored at all times the Hazardous Material is in transportation including storage incidental to transportation (§172.604).

29-BLS-C4 (Rev. 6/95)

Agent must detach and retain this Shipping Order and must sign the Original Bill of Lading.

MAGNUM INC.

Workorder No: J1972374-0025   Cust ID: E6898   Document No: 17

BILLING INFORMATION	Div : 1	Date Billed
Terms: COD-CHECK	Tech #: Frank	BECHTEL CONSTRUCTION
Sched. Date: 11/12/97	Tech #:	PO BOX 1518
Sched. Time: 08:00	Tech #:	
Salesman: S117	Trk # : 36-V-2	KEYWEST FL 33041
Customer PO:		Phone: (305) 296-8910

SITE INFORMATION	GENERATOR INFORMATION
NAVAL AIR STATION	NAVAL AIR STATION
TRUMAN ANNEX	TRUMAN ANNEX
KEYWEST FL 33041	KEYWEST FL 33041
	Contact:

****

• • DIRECTIONS • •

PUMP OUT FRAC TANK

****

Location	Product	Approval #	Code

Description of work completed

Pump out frac tank 1 load @ 4000 gals
Stand By 10:15 am – 12:50 pm

Item	Description	Qty	Cost

Manifest #: 01248   Manifest #: ________   Manifest #: ________

Upon completion of the job performed this area should be signed as acknowledgement of acceptance.

Patricia A. McNeill

Owner/Agent of the Owner

THIS SHIPPING ORDER Carbon, and retained by the Agent

Shipper's No. MES-1- 01243

(Carrier) MAGNUM ENVIRONMENTAL SVC. SCAC. _____ Carrier's No. FLD-984-262-410

eived, subject to the classifications and tariffs in effect on the date of this Bill of Lading:

at _____, date _____ from _____

the property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned, and destined as indicated below, which said company (the word company being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination, if on its own road or its own water line, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each carrier of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service to be performed hereunder shall be subject to all the conditions not prohibited by law, whether printed or written, herein contained (as specified in Appendix B to Part 1035) which are hereby agreed to by the shipper and accepted for himself and his assigns.

TO: (Mail or street address of consignee for purposes of notification only.)	FROM:
Consignee MAGNUM ENVIRONMENTAL SVC.	Shipper Naval air station
Street 1280 N.E. 48TH STREET	Street Trumbo Point
Destination POMPANO, FL Zip 33064	Origin Key West Fla Zip
Route:	

Delivering Carrier	Trailer Initial/Number V~2	U.S. DOT Hazmat Reg. Number

No. of packages	HM	Description of articles, special marks, and exceptions	Hazard Class	I.D. Number	Packing Group	*Weight (subject to correction)	Class or rate	Labels required (or exemption)	Check column
001-T		Aviation fuel / Water MIX	3	1863	3	04500	G		

Remit C.O.D. to:
Address:
City: State: Zip:

COD AMT: $

Charges Advanced $ _____

Subject to Section 7 of conditions, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement:
The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.
(Signature of consignor)

C. O. D. FEE:
Prepaid ☐
Collect ☐ $

FREIGHT CHARGES
☐ Prepaid ☐ Collect

*If the shipment moves between two ports by a carrier by water, the law requires that the bill of lading shall state whether it is "carrier's or shipper's weight".
Note. – where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property.
The agreed or declared value of the property is hereby
specifically stated by the shipper to be not exceeding _____ per _____

This is to certify that the above-named materials are property classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation.
Per _____

PLACARDS REQUIRED

PLACARDS SUPPLIED ☑ YES ☐ NO - FURNISHED BY CARRIER

DRIVER'S SIGNATURE: _____

SPECIAL INSTRUCTIONS:

SHIPPER: Naval air station
PER: James J Mahoney DATE: 11-7-92
Permanent post office address of shipper

CARRIER: MAGNUM ENVIRONMENTAL SVC.
PER: _____ DATE: 11-7-92
EMERGENCY RESPONSE TELEPHONE NUMBER: (954) 785-2320
Monitored at all times the Hazardous Material is in transportation including storage incidental to transportation (§172.604)

29-BLS-C4 (Rev. 6/95

Agent must detach and retain this Shipping Order and must sign the Original Bill of Ladi

MAGNUM INC.

rkorder No: J1972562-0002 Cust ID: E6577 Document No: 7

BILLING INFORMATION
Terms: 2%-15, NET 30
Sched. Date: 11/07/97
Sched. Time:
Salesman: S117
Customer PO:4096

Div : 1
Tech #: Ford
Tech #:
Tech #:
Trk # : 56/V.2

Date Billed
FLOWMORE SERVICES
PO BOX 692085-300
ATTN: ACCTS PAYABLE
HOUSTON TX 77269
Phone: (281) 351-7979

SITE INFORMATION
NAVAL AIR STATION
TRUMAN POINT
KEY WEST FL 00000

GENERATOR INFORMATION
NAVAL AIR STATION
TRUMAN POINT
KEY WEST FL 00000
Contact:

****

• • DIRECTIONS • •

PUMP OUT PRODUCT FROM FRAC TANK - STICK TANK FOR FUEL - TAKE FUEL, PUMP OVER TOP. TRUMBO POINT - GO LEFT FOLLOW TO END TAKE RIGHT AND THEN QUICK LEFT - SEE FUEL FARM

****

Location	Product	Approval #	Code

Description of work completed

Pump out fuel from frac tank 4500 gals aviation fuel/water.

Item	Description	Qty	Cost

Manifest #: 01243 Manifest #: _____ Manifest #: _____

Upon completion of the job performed this area should be signed as acknowledgement of acceptance.

James J Mahoney
Owner/Agent of the Owner

THIS MEMORANDUM or duplicate, covering the property named herein, and is intended solely for filing or record.

Shipper's No. MES-1- 01262

(Carrier) MAGNUM ENVIRONMENTAL SVC. SCAC. _____ Carrier's No. FLD-984-262-410

ived, subject to the classifications and tariffs in effect on the date of this Bill of Lading:

at _____, date 11-18-97 from FUEL TANKER

the property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned, and destined as indicated below, which said company (the word company being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination, if on its own road or its own water line, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each carrier of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service to be performed hereunder shall be subject to all the conditions not prohibited by law, whether printed or written, herein contained (as specified in Appendix B to Part 1035) which are hereby agreed to by the shipper and accepted for himself and his assigns.

TO: (Mail or street address of consignee for purposes of notification only.)	FROM:
Consignee MAGNUM ENVIRONMENTAL SVC.	Shipper NAVAL AIR STATION
Street 1280 N.E. 48TH STREET	Street TRUMAN POINT / BOCA CHICA
Destination POMPANO, FL Zip 33064	Origin BOCA CHICA, FL. Zip
Route:	

Delivering Carrier	Trailer Initial/Number 33-436	U.S. DOT Hazmat Reg. Number

No. of packages	HM	Description of articles, special marks, and exceptions	Hazard Class	I.D. Number	Packing Group	*Weight (subject to correction)	Class or rate	Labels required (or exemption)	Check column
001 T.T.	XX	J.P. 5 MIXTURE	3	1863	III	1270	C		
		Petroleum Contact WATERS.							
		2300							

Remit C.O.D. to:
Address:
City: State: Zip:

COD AMT: $

Charges Advanced $

Subject to Section 7 of conditions, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement:
The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.
(Signature of consignor)

C. O. D. FEE:
Prepaid ☐
Collect ☐ $

FREIGHT CHARGES
☐ Prepaid ☐ Collect

"If the shipment moves between two ports by a carrier by water, the law requires that the bill of lading shall state whether it is "carrier's or shipper's weight".
Note. – where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property.
The agreed or declared value of the property is hereby
specifically stated by the shipper to be not exceeding _____ per _____

This is to certify that the above-named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation.
Per _____

PLACARDS REQUIRED Yes

PLACARDS SUPPLIED ☐ YES ☒ NO - FURNISHED BY CARRIER
DRIVER'S SIGNATURE

SPECIAL INSTRUCTIONS:

SHIPPER: NAVAL Air STATION
PER: James J. Miguez DATE: 11-18-97

Permanent post office address of shipper

CARRIER: MAGNUM ENVIRONMENTAL SVC.
PER: _____ DATE: 11-18-97

EMERGENCY RESPONSE TELEPHONE NUMBER: (954) 785-2320
Monitored at all times the Hazardous Material is in transportation including storage incidental to transportation (§172.604).

29-BLS-C4 (Rev. 6/95)

MAGNUM INC.

Workorder No: J1972562-0003 Cust ID: E6577 Document No: 12

BILLING INFORMATION	Div : 1	Date Billed
Terms: 2%-15, Net 30	Tech #: AL Toby.	FLOWMORE SERVICES
Sched. Date: 11/18/97	Tech #:	PO BOX 692085-300
Sched. Time:	Tech #:	ATTN: ACCTS PAYABLE
Salesman: S117	Trk # : 53436	HOUSTON TX 77269
Customer PO:		Phone: (281) 351-7979

SITE INFORMATION	GENERATOR INFORMATION
NAVAL AIR STATION	NAVAL AIR STATION
TRUMAN POINT	TRUMAN POINT
KEY WEST FL 00000	KEY WEST FL 00000
	Contact:

****

• • DIRECTIONS • •

PUMP OUT AND PRESSURE WASH 2 FRAC TANKS. CALL BECHTEL AT 305/296-9910 WHEN YOU LEAVE KEY WEST WITH ETA TO BOCA CHICA

****

Location	Product	Approval #	Code
FRAC TANKS	PCW (PETROLEUM CONTACT WATER)		02300

Description of work completed

3 HR Travel. Start. 1315 pm End 2 HR - Min. Removed and Dispose of 1270 Gal Petroleum Contact water from #1 - Frac Tank. Pressure washed (Rewash USP) 1 Gal. of Degreaser. (#1 - Remove from Frac #1)

Item	Description	Qty	Cost

Manifest #: 01262 Manifest #: _____ Manifest #: _____

Upon completion of the job performed this area should be signed as acknowledgement of acceptance.

James J Mayo

Owner/Agent of the Owner

AUG 25 1999

Sub Job 073 Rec Type LT Comm Date 24-APR-98 Admin Rec N CCN-Item No. 000102-1

Subject DO#0073 FDEP'S REVIEW CAROLINE & WILLIAM STREET LEAK/HOSE CONNECTION FAILURE @ TRUMBO POINT NAS KEY WEST, FL

From EWING, M. Org ROIC To ROICC Org NAVY File Loc M Closes CCN

Comm Reference Published N

Cross Reference (Affected Doc) DO#0073 Field CCN

Site Codes 324

Subject Codes 5320 Film Reel

[redacted]

Comment/Action

DISTRIBUTION		WA	WO	DISTRIBUTION		WA	WO	DISTRIBUTION		WA	WO
PROGRAM MGR	P. W. TOMICZEK							NAVY SouthDiv:	E. G. BALL		
PROG MGR SCTY	C. HENSON								S. BERRY		
PROJ MGRS	K. ATCHLEY								B. HILL		
	T. CONRAD								M. HERRON		
	V. H. BAUER								K. LOTT		
	R. COHOSE								R. MEDDICK		
									B. GATES		
									B. NWOKIKE		
PROJECT ENGINEERS	J. R. MANNING								B. GLOVER		
P.E.	D. OBENAUER								D. PATRICK		
P.E.	R. HOEKSTRA										
ITE SUPERINTENDENTS	W. HEVRDEYS										
	M. DAVIS										
	S. MOORE										
{FIELD PDCC}	A. MASSEY										
DATA MGMT	R. CRABTREE										
S&H MANAGER	M. ATWOOD										
ENVIR COMPLIANCE	R. ATWOOD										
CONTRACT ADM MGR	T. FERGUSON										
FIELD PROCUREMENT	S. WEINMAN										
PROJ CTRLS MGR	C. J. PERRY										
	M. JOHNSON										
	M. TURNER										
	K. GARZA			REFERENCE LIBRARY							
				CONDOR							
				75-YEAR RECORD FILE							
ACCTNG	FARMER/HARGREAVES			SENSITIVE FILE							
FIELD QC MGR	J. A. GRISSETT			SUBMITTAL FILE							
PROJECT ADMINISTRATOR	L. LANDERS										
RECORDS MGMT	B . STOUT			PDCC FILE	1						

SOUTHERN DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
NORTH CHARLESTON, SOUTH CAROLINA

M:\winword\distrib2.doc

8/24/98

324-0102

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND CONTRACTS
OFFICER IN CHARGE OF CONSTRUCTION
RESIDENT OFFICER IN CHARGE OF CONSTRUCTION
OFFICE IN CHARGE FACILITIES SUPPORT CONTRACTS
NAVAL AIR STATION, KEY WEST, FL 33040-9018

4330
Ser R205/0053
24 Apr 98

From: Resident Officer in Charge of Construction
Southern Division Naval Facilities Engineering Command
Field Office Key West (R205)
To: Commanding Officer, Naval Air Station Key West Florida
(1883)

Subj: REMEDIAL ACTION CONTRACT N62467-93-D-0936/073,
DELIVERY ORDER 073, ABANDON PIPELINES
NAVAL AIR STATION KEY WEST FLORIDA

Ref: (a) Source Removal Report for 1 November 98 spill at
Caroline St.
(b) Source Removal Report for 13 November 98 spill at
Trumbo Fuel Farm

Encl: (1) FDEP ltr of 22 Apr 98, Incident #97-03-3080
(2) FDEP ltr of 22 Apr 98, Incident #97-03-3083

1. Enclosure (1) is forwarded for your information. Further assessment or remediation may be required. Should you need assistance regarding this matter, please telephone Mr. Byas Glover at DSN 583-5651.

2. Enclosure (2) is forwarded for your information. No further assessment or remediation is required.

MARK P. EWING

Copy to:
SOUTHNAVFACENGCOM (Code 184)
BECHTEL (Cohose)

Department of Environmental Protection

BUREAU OF EMERGENCY RESPONSE
2796 Overseas Highway, Suite 218C
Marathon, Florida 33050-4276
Telephone 305/289-2310

Lawton Chiles
Governor

Virginia B. Wetherell
Secretary

April 22, 1998

MARK P EWING RESIDENT ENGINEER
IN CHARGE OF CONSTRUCTION
NAVAL AIR STATION
KEY WEST FL 33040-9018

Re: Monroe County-ER
Bunker C Spill
@ Intersection of Caroline &
William Streets
Incident #97-03-3080

Dear Mr. Ewing:

The Department's Bureau of Emergency Response District 3A Office has reviewed the Source Removal Report dated March 26, 1998 (received March 30, 1998), submitted for the above referenced site.

The Bureau of Emergency Response does not require that any further documentation relating to the emergency response actions be submitted at this time.

The information submitted indicates that soil and/or groundwater contamination is still present at the site. A copy of the SRR will be forwarded to the FDEP Petroleum Storage Tank/Cleanup Section for follow-up. Further assessment or remediation may be required, as determined by the Petroleum Storage Tank/Cleanup Section.

Thank you for your cooperation. If you have any questions regarding this letter, please contact me at the letterhead address or phone number.

Sincerely,

Lisa L. Gordon

Lisa L. Gordon
Environmental Specialist
Bureau of Emergency Response
Division of Law Enforcement

cc: Jim Edds, FDEP Marathon
John Carter, Monroe County DOH Key West

Department of
Environmental Protection

BUREAU OF EMERGENCY RESPONSE
2796 Overseas Highway, Suite 218C
Marathon, Florida 33050-4276
Telephone 305/289-2310

Lawton Chiles
Governor

Virginia B. Wetherell
Secretary

April 22, 1998

MARK P EWING RESIDENT ENGINEER
IN CHARGE OF CONSTRUCTION
NAVAL AIR STATION
KEY WEST FL 33040-9018

Re: Monroe County-ER
Bunker C Spill @
Trumbo Point Tank Farm
Incident #97-03-3083

Dear Mr. Ewing:

The Department's Bureau of Emergency Response (BER) District 3A Office has reviewed the Source Removal Report and supporting documentation dated March 26, 1998 (received March 30, 1998), submitted for the above referenced site.

The documentation submitted pertaining to the emergency response actions is adequate pursuant to Chapter 62-770.300, Florida Administrative Code (F.A.C.) regarding Source Removal criteria. No further assessment or mitigation is required, at this time.

In the future, please include a scaled map or diagram when submitting a Source Removal Report. Also, Chapter 62-770.300(3)(a), F.A.C. requires that two copies of the Source Removal Report be submitted.

The Bureau of Emergency Response does not require that any further documentation be submitted at this time.

Thank you for your cooperation. If you have any questions regarding this letter, please contact me at the letterhead address or phone number.

Sincerely,

Lisa L. Gordon
Environmental Specialist
Bureau of Emergency Response
Division of Law Enforcement

cc: Jim Edds, FDEP Marathon
John Carter, Monroe County DOH Key West

KEY WEST PIPELINE CLOSURE

1. INTRODUCTION

Bechtel Environmental, Inc. (Bechtel) was contracted by the Department of the Navy, Naval Facilities Engineering Command, Southern Division (SOUTHDIV), to provide remedial services as the Navy's Environmental Response Action Contractor (RAC). This remedial action involved cleaning, testing and abandoning pipelines associated with NAS Key West's fuel transfer facilities on the island of Key West. The AsBuilt drawings included in Attachment 1 show the routing of the pipelines that were closed.

1.1 Key West Pipeline History

On the island of Key West three pipelines are included:

- One 8-inch diesel pipeline from Trumbo Point to Front St. valve pit.
- One 10-inch fuel oil pipeline from Trumbo Point to Front St. valve pit.
- One 10-inch diesel pipeline from Front St. valve pit to the Outer Mole.

In 1968-69 an 8-inch diesel pipeline and a 10-inch fuel oil line were constructed to transfer fuel oil and diesel between the fuel storage facility at Trumbo Point and the fuel storage facility constructed on Tank Island.

In 1985 the segment from Tank Island to Key West was abandoned. The remainder of the 10-inch fuel oil line to Trumbo Point was deactivated. The 8-inch diesel fuel line from Trumbo point was left in service and a 10-inch diesel line was constructed from the end of the 8-inch line to the Outer Mole.

In 1987 a private developer relocated the pipeline for a project along Front Street. The developer installed a valve pit at Front and Green Street and another pit at Eaton Street on Truman Annex. The 10-inch pipeline was relocated between these two valve pits and extended to the PHM Berthing Wharf where it was connected to the existing 10-inch diesel pipeline.

2. TEST REQUIREMENTS

2.1 SEQUENCE OF WORK ACTIVITIES

The abandonment of each pipeline section followed the same sequence of work activities. These activities were:

1. Vault dewatering (as required)
2. Pipeline draining
3. Pressure integrity testing
4. Pipeline cleaning
5. Cleanliness test
6. Leak detection test (as necessary)
7. Permanent pipeline modifications
8. Filling of pipelines
9. Surface construction

2.2 PRESSURE INTEGRITY TESTING

Each pipeline segment was pressure tested for integrity prior to leak location or pipeline cleaning activities. The lines were tested using the following sequence:

1. Pipeline sections were tested from valve pit to valve pit.
2. Any remaining existing valves were removed from the system.
3. Blind flanges were installed for pipeline segment isolation.
4. Fill and bleed-off assemblies were installed in the blind flanges.
5. Pressure regulation and monitoring devices were installed.
6. Temperature readings of the soil along the segment of pipeline to be tested were recorded.
7. Nitrogen was introduced through the fill assembly at a rate not to exceed the maximum test pressure and at a temperature of plus or minus 10 degrees F of the soil temperature.
8. The pipeline segments were pressurized in 10 psi increments and held for 10 minutes to allow for equalization of gas temperature and pipeline temperature. This method also reduced the chances of a shock burst of the pipeline.
9. After nominal test pressure was achieved, the segment of pipeline under pressure was isolated from the fill source and allowed to equilibrate for a period of 1 hour. Temperature of the soil and the pipeline was monitored and recorded and when the average temperature of the pipeline was within 1 degree F of the soil readings, the pipeline is considered in equilibrium.
10. Pipeline integrity test timed interval began as soon as equilibrium was reached.
11. The criteria for the pipeline pressure test was no more than 5 psig temperature compensated pressure drop with the initial pressure of 50 psi.
12. Results were documented on test log sheets.
13. Test were considered complete if test meet acceptance criteria or all leaks were identified.

3. TEST RESULTS

All pipelines in Key West were tested satisfactory. Pipeline testing reports were prepared for each section of pipeline. The pipeline sections were filled with polyurethane foam as indicated on the As Built Drawing in Attachment 1. Pipeline Pressure Testing was performed as following:

- 10" Pipeline Eaton Street valve pit to valve pit at Outer Mole. Pressured to 50 psi stabilized between ground and pipe temperature and tested for 5.50 hours. (Test Section #1)

- 10" Pipeline Eaton Street valve pit to Front Street valve pit and 8" pipeline Front Street valve pit to Trumbo Point, all in one test. Pressured to 50 psi stabilized between ground and pipe temperature (Nitrogen) and tested for 4.00 hours. (Test Section #2)

- 10" Pipeline Trumbo Point to Front Street valve pit. Pressured to 50 psi stabilized between ground and pipe temperature (Nitrogen) and tested for 4.25 hours. This section was retested after the failure of the venting valve or connection at the intersection of Caroline and William Streets. The first pressure test did pass the pressure test criteria, but experienced a drop in pressure during the last hour of the test of 3 psi. The failure of the venting valve or valve connection to the 10"pipeline resulted in the release of petroleum products at this intersection. This release was reported via the Discharge Reporting Form included in Attachment 2. The valve was removed and the connection was capped, then this section of pipeline was retested. The repaired pipeline passed the pressure test criteria with a loss of only one psi during the test period. (Test Section #3)

The pressure testing results are included in Attachment 3.

Florida Department of Environmental Protection

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

DER Form # 62-761.900(6)
Form Title Closure Assessment Form
Effective Date December 10, 1990
DEP Application No. _____ (Filled in by DEP)

Closure Assessment Form

Owners of storage tank systems that are replacing, removing or closing in place storage tanks shall use this form to demonstrate that a storage system closure assessment was performed in accordance with Rule 62-761 or 62-762, Florida Administrative Code. Eligible Early Detection Incentive (EDI) and Reimbursement Program sites do not have to perform a closure assessment.

Please Print or Type
Complete All Applicable Blanks

1. Date 8/12/98
2. DEP Facility ID Number: NA 3. County MONROE
4. Facility Name: Key WEST - Fuel PIPELINES - Trumbo Point to TRUMAN ANNEX
5. Facility Owner: COMMANDING OFFICER
6. Facility Address: NAVAL AIR STATION Key West P.O. Box 9007
7. Mailing Address: Key West, FL 33040
8. Telephone Number: (305) 293-2881 9. Facility Operator: JIM SIMMEN
10. Are the ~~Storage Tank~~ Pipelines(s): (Circle one or both) A. Aboveground or (B.) Underground
11. Type of Product(s) Stored: DIESEL & BUNKER C
12. Were the ~~Tank(s)~~ Pipelines: (Circle one) A. Replaced B. Removed (C.) Closed in Place D. Upgraded (aboveground tanks only)
13. Number of ~~Tanks~~ Pipelines closed: 3 14. Age of Tanks: 30 years

Facility Assessment Information

Yes	No	Not Applicable		
☐	☑		1.	Is the facility participating in the Florida Petroleum Liability Insurance and Restoration Program (FPLIRP)?
☑	☐		2.	Was a Discharge Reporting Form submitted to the Department? If yes, When: Nov 1, 1997 Where: FDEP - MARATHON
☑	☐		3.	Is the depth to ground water less than 20 feet?
☐	☑	☐	4.	Are monitoring wells present around the storage system? If yes, please specify ☐ Vapor Monitoring ☐ Water Monitoring
☑	☐	☐	5.	Is there free product present in the monitoring wells or within the excavation?
☐	☐	☑	6.	Were the petroleum hydrocarbon vapor levels in the soil greater than 500 parts per million for gasoline? Specify sample type: ☐ Vapor Monitoring wells ☐ Soil sample(s)
☑	☐	☐	7.	Were the petroleum hydrocarbon vapor levels in the soils greater than 50 parts per million for diesel/kerosene? Specify sample type: ☐ Vapor Monitoring wells ☑ Soil sample(s)
☐	☐	☑	8.	Were the analytical laboratory results of the ground water sample(s) greater than the allowable state target levels? (See target levels on reverse side of this form and supply laboratory data sheet(s).
☐	☐	☑	9.	If a used oil storage system, did a visual inspection detect any discolored soil indicating a release?
	☐	☑	10.	Are any potable wells located within 1/4 of a mile radius of the facility?
☐	☐	☐	11.	Is there a surface water body within 1/4 mile radius of the site? If yes, indicate distance: 50 feet
☑	☐	☐	12.	A detailed drawing or sketch of the facility that includes the storage system location, monitoring wells, buildings, storm drains, sample locations, and dispenser locations must accompany this form.
☐	☐	☑	13.	If a facility has a pollutant storage tank system that has both gasoline and kerosine/diesel stored on site, both EPA method 602 and EPA method 610 must be performed on the ground water samples.

DER Form # 62-761.900(6)
Form Title Closure Assessment Form
Effective Date December 10, 1990
DEP Application No. _____
(Filled in by DEP)

14. Amount of soils removed and receipt of proper disposal. (100 cubic yards)
15. If yes is answered to any one of questions 5-9, a Discharge Reporting Form 62-761.900(1) indicating a suspected release shall be submitted to the Department within one working day.
16. A copy of this form and any attachments must be submitted to the Department's district office in your area and to the locally administered program office under contact with the Department within 60 days of completion of tank removal or filling a tank with an inert material.

Signature of Owner — Date

gEHerbst, PE — Signature of Person Performing Assessment

8/12/98 — Date

Project Engineer — Title of Person Performing Assessment

State Ground Water Target Levels That Affect A Pollutant Storage Tank System Closure Assessment

1. For Gasoline (EPA Method 602):

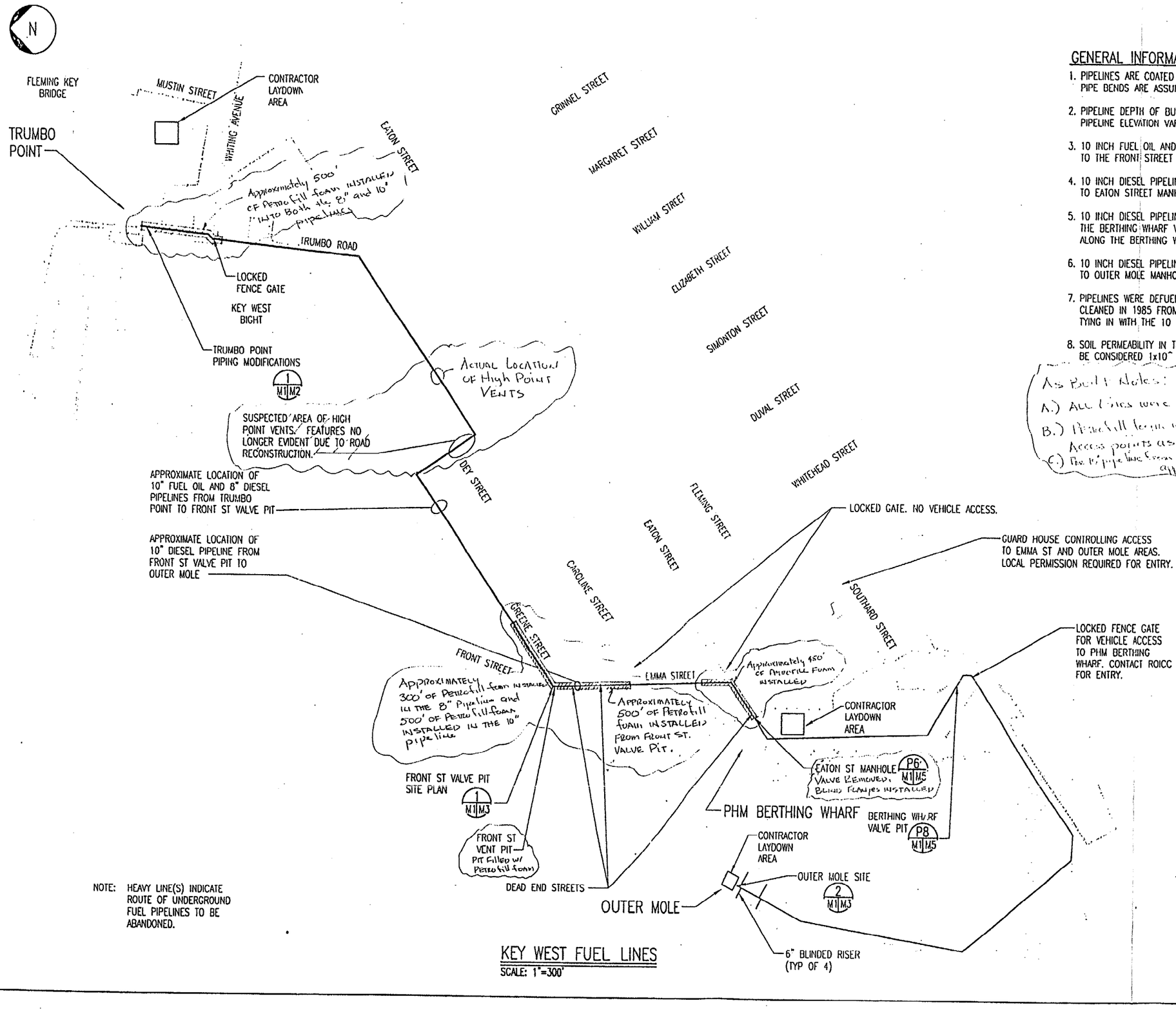
   a. Benzene 1 ug/l

   b. Total VOA 50 ug/l
   -Benzene
   -Toluene
   -Total Xylenes
   -Ethylbenzene

   c. *tert*-butyl methyl ether (MTBE) 50 ug/l

2. For kerosene/diesel (EPA Method 610):

   a. Polynuclear Aromatic Hydrocarbons (PAH)
   (Best achievable detection limit, 10 ug/l maximum)



NOTE: HEAVY LINE(S) INDICATE ROUTE OF UNDERGROUND FUEL PIPELINES TO BE ABANDONED.

KEY WEST FUEL LINES
SCALE: 1"=300'

GENERAL INFORMATION– KEY WEST PIPELINES:

1. PIPELINES ARE COATED AND CATHODICALLY PROTECTED SCH 40 STEEL. PIPE BENDS ARE ASSUMED TO BE STANDARD RADIUS FITTINGS.
2. PIPELINE DEPTH OF BURIAL VARIES FROM 2 FEET TO 4 FEET AND PIPELINE ELEVATION VARIES FROM –1 FOOT TO +3 FEET MEAN SEA LEVEL.
3. 10 INCH FUEL OIL AND 8 INCH DIESEL PIPELINES FROM TRUMBO POINT TO THE FRONT STREET VALVE PIT WERE INSTALLED IN 1968–69.
4. 10 INCH DIESEL PIPELINE SEGMENT FROM FRONT STREET VALVE PIT TO EATON STREET MANHOLE WAS INSTALLED IN 1987.
5. 10 INCH DIESEL PIPELINE SEGMENT FROM EATON STREET MANHOLE TO THE BERTHING WHARF VALVE PIT WAS INSTALLED IN 1985. THE SECTION ALONG THE BERTHING WHARF WAS RELOCATED IN 1986 USING EXISTING PIPE.
6. 10 INCH DIESEL PIPELINE SEGMENT FROM BERTHING WHARF VALVE PIT TO OUTER MOLE MANHOLE WAS INSTALLED IN 1985.
7. PIPELINES WERE DEFUELED IN 1985. THE 8 INCH DIESEL PIPELINE WAS CLEANED IN 1985 FROM FRONT STREET TO TRUMBO POINT PRIOR TO TYING IN WITH THE 10 INCH DIESEL PIPELINE.
8. SOIL PERMEABILITY IN THE VICINITY OF THE KEY WEST PIPELINE SHALL BE CONSIDERED 1x10^ -4 CM/SEC.

As Built Notes:
A.) All lines were cleaned & Pressure tested.
B.) Petrofill foam was terminated from Accessible Access points as shown on the Plan View.
C.) The 8" pipeline from Trumbo Pt to Front Street contained approximately 14,000 gallons of fuel.

Bechtel Environmental, Inc.
As-Built
Contract No. N62467-93-D-0936 DO# 73
By _____ Date 6/24/98

GRAPHIC SCALE
300 0 300 600 ft
SCALE: 1"=300'
CHECK GRAPHIC SCALE BEFORE USING

ENTERPRISE ENGINEERING, INC. ANCHORAGE, AK — YARMOUTH, ME.
DESIGNED BOAK 2/1/97
DRAWN AMJ 2/1/97
CHECKED [illegible] 2/1/97
APPROVED [illegible] 2/1/97
SHEETS

NAVAL FACILITIES ENGINEERING COMMAND — SOUTHERN DIVISION — CHARLESTON, S.C.
NAVAL AIR STATION KEY WEST, FLORIDA
ABANDON UNDERGROUND PIPELINES
KEY WEST FUEL PIPELINES ROUTE
DRAWN BY COMMERCIAL GRAPHICS
DEPARTMENT OF THE NAVY
PREP BY DATE APPRVD
REV. DESCRIPTION
APPROVED
NAVAL APPROVAL
STATE OF MAINE — CARL S. DOUGHERTY #7906 — REGISTERED PROFESSIONAL ENGINEER
RECORD DRAWING DATE
COST I.D. NO. 8008
DRAWING SIZE D
SPEC. NO. 96-96-0850
CONTRACT CONTR. NO. N62467-96-C-0850
NAVFAC DRAWING NO. 5335062
SHEET 1 OF
M-1

0115D022.

VIII

Discharge Reporting Form

PLEASE PRINT OR TYPE

DEP Form # 62-761.900(1)
Form Title Discharge Reporting Form
Effective Date
DEP Application No.
(Filled in by DEP)

Instructions are on the reverse side. Please complete all applicable blanks

1. Facility ID Number (if registered): _____ 2. Date of form completion: 1 NOV-97

3. General information
Facility name: 10" BULK Fuel Line from TRUMBO PT. Fuel Farm TO TRUMAN Annex
Facility Owner or Operator: COMMANDING OFFICER NAS KEY WEST
Telephone number: (305) 293-2881 County: MONROE
Mailing address: PO BOX 9007 (Code 18B3TS), Key West FL. 33040
Location of discharge (facility street address): The corner of Caroline And Williams ST.
Latitude and Longitude of discharge (If known.) LAT. 24 33 .616 Long. 81 48 .031

4. Date of receipt of test results or discovery of confirmed discharge: NOV. 1, 1997 month/day/year

5. Estimated number of gallons discharged: 160 gallons

6. Discharge affected: [ ] Air [X] Soil [ ] Ground water [ ] Water well(s) [ ] Shoreline [ ] Surface water (water body name) _____

7. Method of discovery (check all that apply)

[ ] Liquid detector (automatic or manual)	[ ] Internal inspection	[ ] Closure
[ ] Vapor detector (automatic or manual)	[ ] Inventory control	[ ] Groundwater analytical samples
[ ] Tightness test	[ ] Monitoring wells	[ ] Soil analytical tests or samples
[ ] Pressure test	[ ] Automatic tank gauging	[X] Visual observation
[ ] Statistical Inventory Reconciliation	[ ] Manual tank gauging	[ ] Other _____

8. Type of regulated substance discharged: (check one)

[ ] Unknown	[ ] Used\waste oil	[ ] New/lube oil
[ ] Gasoline	[ ] Aviation gas	[ ] Diesel
[ ] Heating oil	[ ] Jet fuel	[ ] Mineral acid

Hazardous substance - includes CERCLA substances, pesticides, ammonia, chlorine, and derivatives
Write in name or Chemical Abstract Service (CAS) number) _____
[X] Other Bunker C. Number 6 Fuel

9. Discharge originated from a: (check all that apply)

[ ] Dispensing system	[ ] Pipe	[ ] Barge	[X] Pipeline	[ ] Vehicle
[ ] Tank	[ ] Fitting	[ ] Tanker ship	[ ] Railroad tankcar	[ ] Airplane
[ ] Unknown	[ ] Valve failure	[ ] Other Vessel	[ ] Tank truck	[ ] Drum
[ ] Other _____				

10. Cause of the discharge: (check all that apply)

[ ] Loose connection	[ ] Puncture	[ ] Spill	[ ] Collision	[ ] Corrosion
[ ] Fire/explosion	[ ] Overfill	[ ] Human error	[ ] Vehicle Accident	[ ] Installation failure

[X] Other pipe leaked during pressure test

11. Actions taken in response to the discharge: Oil on asphalt surface was vacuumed & removed with absorbents. Storm drain was plugged to prevent any discharge to open waters.

12. Comments: Assessment will be made for site remediation. Possibly excavation.

13. Agencies notified (as applicable)

[ ] State Warning Point (904) 488-1320	[X] National Response Center 1-800-424-8802	[X] Fire Department.	[ ] County Tanks Program	[X] DEP (district/person) Lisa Gordon

409833

14. To the best of my knowledge and belief all information submitted on this form is true, accurate, and complete.

James M. Simmen
Print Name of Owner, Operator or Authorized Representative

Signature of Owner, Operator or Authorized Representative.

MTI Morco Testing, Inc.
HYDROSTATIC TESTING LEAK DETECTION

HYDROSTATIC TEST REPORT

PIPELINE DIVISION

PIPELINE COMPANY DEPARTMENT OF THE NAVY

JOB NO: 22567
W.O. NO: N62467-93-D-0936-07
AFE NO:

PIPELINE CONTRACTOR BECHTEL ENVIRONMENTAL, INC.

TEST SECTION NO. EATEN ST MANHOLE TEST SECT # 2 TO TRUMBO POINT

PRESSURE AIR LIQUIDE EATEN ST.

TEST BEGAN: DATE 10-30-97 TIME 11:00 AM UNIT NO. 2821 STATION NO. MANHOLE

TEST END: DATE 10-30-97 TIME 4:30 PM ELEVATION -1 TO +3

PIPE DATA: 1366' 10.750" O.D. .365 W.T. SCH 40
4750' 8.625" O.D. .322 W.T. SCH 40
TEST MEDIUM - NITROGEN

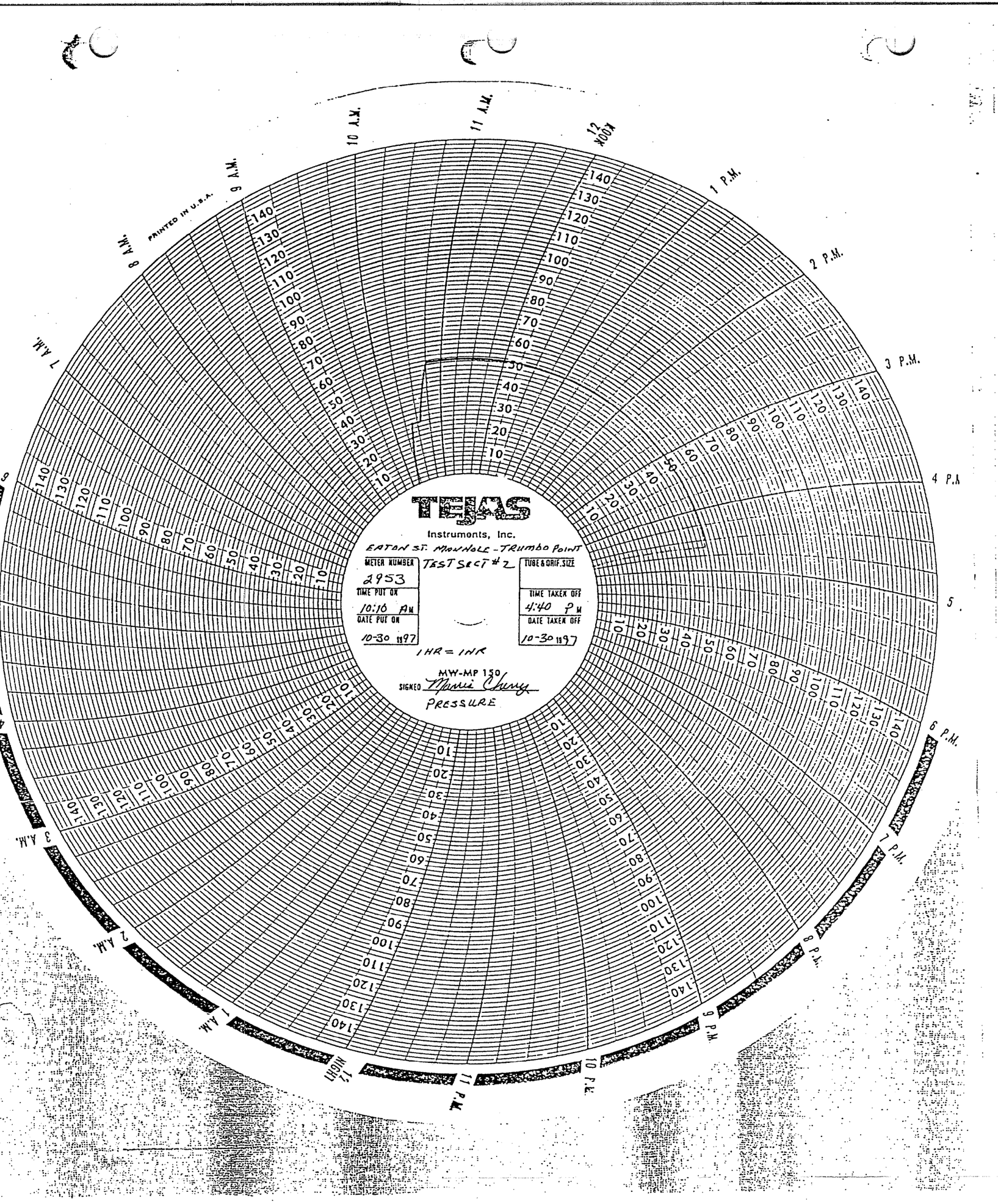
DEADWEIGHT SERIAL NUMBER 8" USG. PRESS GAUGE 18938 DATE CERTIFIED 10-10-97
PRESSURE RECORDER SERIAL NUMBER 2953 DATE CERTIFIED 10-10-97
TEMPERATURE RECORDER SERIAL NUMBER 2957 DATE CERTIFIED 10-10-97
TEST IS ☑ ACCEPTED ☐ REJECTED IF REJECTED, EXPLAIN

DEADWEIGHT RECORD

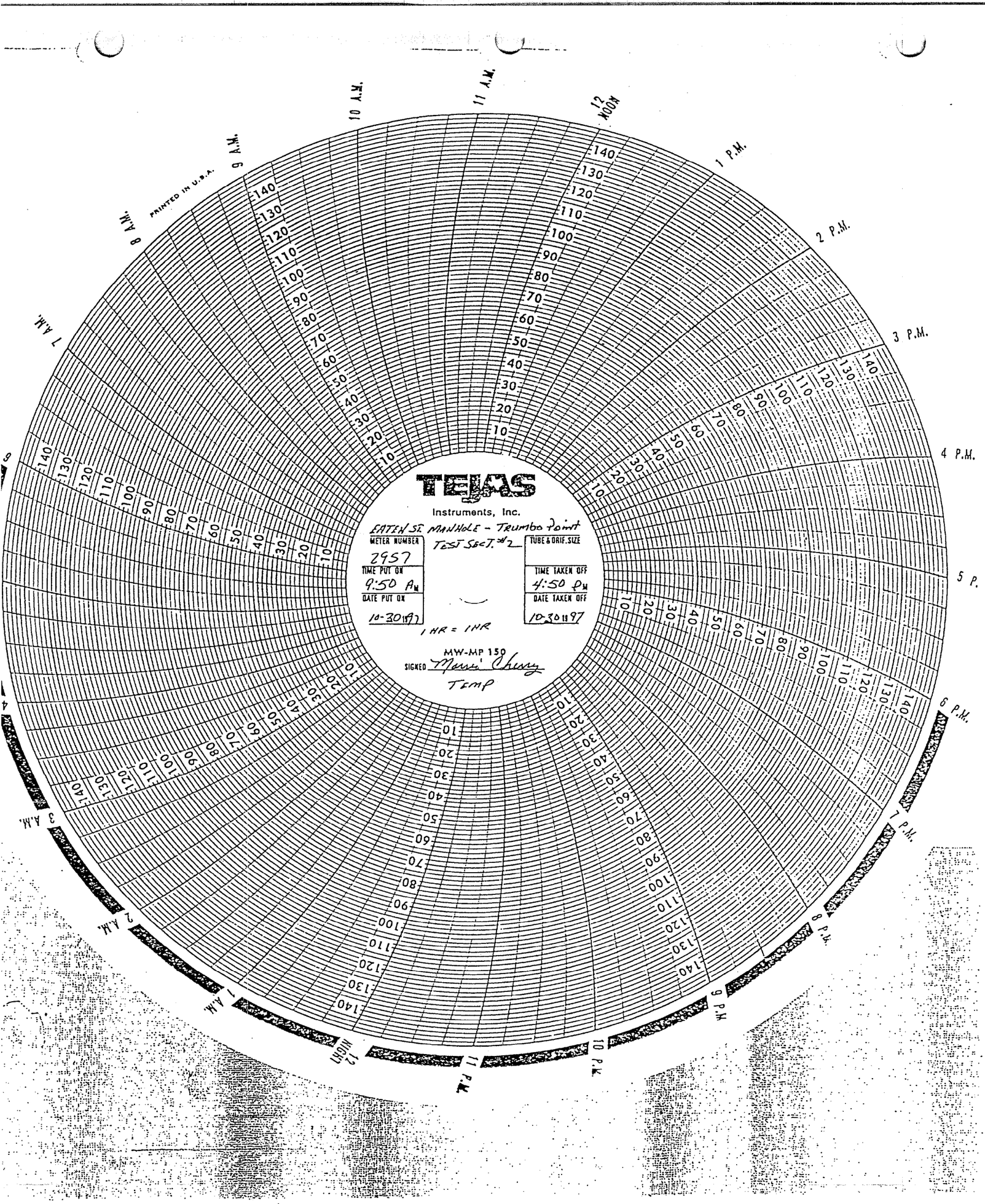
TEMPERATURE

Time	Pressure	Ambient	Pipe or Ground		Remarks
10:20 AM	25 PSI	92°	89°	87°	GROUND TEMP TAKEN AT 4 POINTS
10:45	50.5	92°	89°	87°	ALONG TEST SECT. AND AVG.
11:00	50.5	93°	89°	87°	
11:10	50.5	93°	89°	87°	
11:20	50.5	93°	89°	87°	KEY WEST
11:30	50.5	93°	89°	87°	
11:40	50	93°	89°	87°	
11:50	50	93°	89°	87°	
12:00 N	50	92°	89°	87°	
12:30	50	91°	89°	87°	
1:00	50	91°	89°	87°	
1:30	50	91°	89°	87°	
2:00	50	91°	89°	87°	
2:30	50	91°	89°	87°	
3:00	50	91°	89°	87°	
3:30	50	90°	89°	87°	
4:00	49.5	89°	89°	87°	
4:30	49.5	89°	89°	87°	

TEST FOREMAN Marvin Cheney INSPECTOR [signature]


TEXAS
Instruments, Inc.
EATON ST. MANHOLE - TRUMBO POINT
METER NUMBER
TEST SECT #2
TUBE & ORIF. SIZE
2953
TIME PUT ON
10:16 AM
TIME TAKEN OFF
4:40 PM
DATE PUT ON
10-30 1997
DATE TAKEN OFF
10-30 1997
1 HR = 1 INCH
MW-MP 150
SIGNED Maria Chung
PRESSURE
PRINTED IN U.S.A.

0150832


TEXAS
Instruments, Inc.
EATEN ST MANHOLE - Trumbo Point
METER NUMBER
7957
TEST SECT. #2
TUBE & ORIF. SIZE
TIME PUT ON
9:50 AM
TIME TAKEN OFF
4:50 PM
DATE PUT ON
10-30-1997
DATE TAKEN OFF
10-30-1997
1 HR = 1 HR
MW-MP 150
SIGNED
Temp
PRINTED IN U.S.A.
12 NOON
1 P.M.
2 P.M.
3 P.M.
4 P.M.
5 P.M.
6 P.M.
7 P.M.
8 P.M.
9 P.M.
10 P.M.
11 P.M.
12 MIDNIGHT
1 A.M.
2 A.M.
3 A.M.
4 A.M.
5 A.M.
6 A.M.
7 A.M.
8 A.M.
9 A.M.
10 A.M.
11 A.M.

19 November 1997

Mr. Morris Cherry
Morco Testing, Inc.
2516 Revere Dr.
Pasadena, Texas 77502

Subject	Certification of Nitrogen Test
Client	Department of the Navy
Contractor	Bechtel Environmental, Inc.
Description	10-inch and 8" lines
Date Test Accepted	30 October 1997

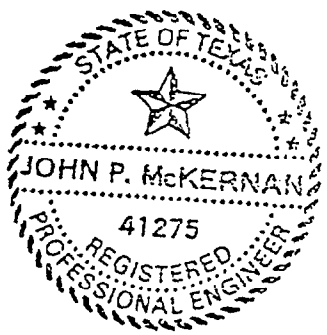
Dear Mr. Cherry;

This letter is to certify that the nitrogen test performed on the 10-inch and 8" Pipeline from Eaten St. manhole to Trumbo Point by Morco Testing, Inc. met the requirements of ASME/ANSI B31.3 "Chemical Plant and Petroleum Refinery Piping" and "Department of the Navy Southern Division Technical Specification for Pipeline Pressure Testing" 324-SP738-002 Rev. 0.

This section of the pipeline was tested for five (5) hours and thirty (30) minutes, using nitrogen as the test medium, at a minimum measured test pressure of 49.5 psig. This successfully completed the leak test requirements of the above code and specification. This leak test one (1) psig and not more than five (5) psig during the test period. The line lost a calculated 169.4 standard cubic feet. If the test were held for an additional hour, the data indicates a loss of 30.8 standard cubic feet would have occurred. This loss corresponds to a calculated pressure loss of less than one psig. This is within acceptable limits as set forth in Specification "Department of the Navy Southern Division Technical Specification for Pipeline Pressure Testing" 324-SP738-002 Rev. 0.

Sincerely yours,

John P. Mc Kernan, PE PLS



C:\LOTSUITE\AMIPRO\DOCS\MORCO\042.SAM

Company	Department of the Navy	AFE Number	N62467-93-D-0936-073
Construction Co	Bechtel Enviromental, Inc.	AFE Number	22567
Testing Co.	Morco Testing, Inc.	Project Number	0
Project Name	Naval Air Station Pipeline - Abandonment Project 10" & 8" Line		
File Name	C:\LOTSUITE\123R5\WWORK\MORCO\C0030.WK4	Revised 19 Nov 97	

TEST LOG

TIME	PRESSURE	AMBIENT TEMP	PIPE TEMP	REMARKS
30-Oct-97				
11:00 AM	50.5	93.0	89.0	On Test
11:10 AM	50.5	93.0	89.0	
11:20 AM	50.5	93.0	89.0	
11:30 AM	50.5	93.0	89.0	
11:40 AM	50.0	93.0	89.0	
11:50 AM	50.0	93.0	89.0	
12:00 PM	50.0	92.0	89.0	
12:30 PM	50.0	91.0	89.0	
01:00 PM	50.0	91.0	89.0	
01:30 PM	50.0	91.0	89.0	
02:00 PM	50.0	91.0	89.0	
02:30 PM	50.0	91.0	89.0	
03:00 PM	50.0	91.0	89.0	
03:30 PM	50.0	90.0	89.0	
04:00 PM	49.5	89.0	89.0	
04:30 PM	49.5	89.0	89.0	Off Test
				Ground Temperature Taken at Four Locations
				Along Test Section and Then Averaged For Value
				Reported.
30-Oct-97				

50.5	PSIG HI	TOTAL OZ. BLEED	0
49.5	PSIG LOW	TOTAL OZ. INJECTED	0

Company	Department of the Navy	AFE Number	N62467-93-D-0936-073
Construction Co	Bechtel Enviromental, Inc.	AFE Number	22567
Testing Co.	Morco Testing, Inc.	Project No.	0
Project Name	Naval Air Station Pipeline - Abandonment Project 10" & 8" Line		
File Name	C:\LOTSUITE\123R5W\WORK\MORCO\00030.WK4		

NITROGEN TEST

PIPELINE: 10" & 8" Line TEST DATE 30-Oct-97

FROM : Eaten Street Manhole - Test Section 2 TO : Trumbo Point

SECT. LENGTH:	1,366	PIPE DIA.:	10.750	WALL THK.	0.365
SPECK.	NA	GRADE :	NA		
SECT. LENGTH:	4,750	PIPE DIA.:	8.625	WALL THK.	0.322
SPECK.	NA	GRADE :	NA		

INITIAL PRESSURE AT TEST POINT	50.5 PSIG	TIME:	11:00 AM	PIPE TEMP :	89
INITIAL AMBIENT TEMPERATURE	93 F	ELEV @ TEST PT		-1 MSL	
IN. PRES. @ OTHER END	51 PSIG	ELEV.	3	LOCATION :	Trumbo Point
FINAL PRESSURE AT TEST POINT	49.5 PSIG	TIME:	04:30 PM	PIPE TEMP :	89
FINAL AMBIENT TEMPERATURE	89 F	ELEV @ TEST PT		-1 MSL	
IN. PRES. @ OTHER END	49.5 PSIG	ELEV.		3 MSL	

IDEAL GAS LAW:

PV = RZT

WHERE

P = Pressure (psia) 14.696 psia

V = Volume (scf)

R = Gas Constant

Z = Compressibility Factor

T = Temperature (R) 527.67 R

Volume of Line at Standard Condition 2,398.2 Cubic Feet

Time	Pressure	Pipe Temp	Volume
11:00	50.5	89	11,042.5
11:10	50.5	89	11,042.5
11:20	50.5	89	11,042.5
11:30	50.5	89	11,042.5
11:40	50.0	89	10,957.8
11:50	50.0	89	10,957.8
12:00	50.0	89	10,957.8
12:30	50.0	89	10,957.8
13:00	50.0	89	10,957.8
13:30	50.0	89	10,957.8
14:00	50.0	89	10,957.8
14:30	50.0	89	10,957.8
15:00	50.0	89	10,957.8
15:30	50.0	89	10,957.8
16:00	49.5	89	10,873.1
16:30	49.5	89	10,873.1

Company	Department of the Navy	AFE Number	N62467-93-D-0936-073
Construction Co	Bechtel Enviromental, Inc.	AFE Number	22567
Testing Co.	Morco Testing, Inc.	Project No.	0
Project Name	Naval Air Station Pipeline - Abandonment Project 10" & 8" Line		
File Name	C:\LOTSUITE\123RSW\WORK\MORCO\00030.WK4		

NITROGEN TEST CONTINUED

	Length of Test	05:30	Hours
(+ Gained, - Loss)	Nitrogen	(30.8)	Standard Cubic Feet per Hour
(+ Gained, - Loss)	Nitrogen	(169.4)	Standard Cubic Feet

TESTED ACCEPTED X YES NO

IF NO EXPLAIN

REMARKS

JOHN P. MCKERNAN, PE PLS

11/19/97

DATE

STATE OF TEXAS
JOHN P. McKERNAN
41275
REGISTERED
PROFESSIONAL ENGINEER

MTI Morco Testing, Inc.
HYDROSTATIC TESTING LEAK DETECTION

HYDROSTATIC TEST REPORT

PIPELINE DIVISION

PIPELINE COMPANY DEPARTMENT OF THE NAVY

JOB NO: 22567
W.O. NO: N62467-93-D-0936-07-
AFE NO:

PIPELINE CONTRACTOR BECHTEL ENVIRONMENTAL, INC.

TEST SECTION NO. EATEN ST-MANHOLE TEST SECT. #1 TO OUTER MOLE

TEST BEGAN: DATE 10-29-97 TIME 10:00 AM

PRESSURE AIR LIQUIDE UNIT NO. 2821 STATION NO. EATEN ST. MANHOLE

TEST END: DATE 10-29-97 TIME 3:30 PM

ELEVATION -1 TO +3

PIPE DATA: 5204' 10.750" O.D. .365 W.T. SCH 40

TEST MEDIUM - NITROGEN

DEADWEIGHT SERIAL NUMBER 4½" PERMA-CAL PRESS GA12916-02-04 DATE CERTIFIED 10-10-97
PRESSURE RECORDER SERIAL NUMBER 2953 DATE CERTIFIED 10-10-97
TEMPERATURE RECORDER SERIAL NUMBER 2877761 DATE CERTIFIED 10-10-97
TEST IS ☒ ACCEPTED ☐ REJECTED IF REJECTED, EXPLAIN

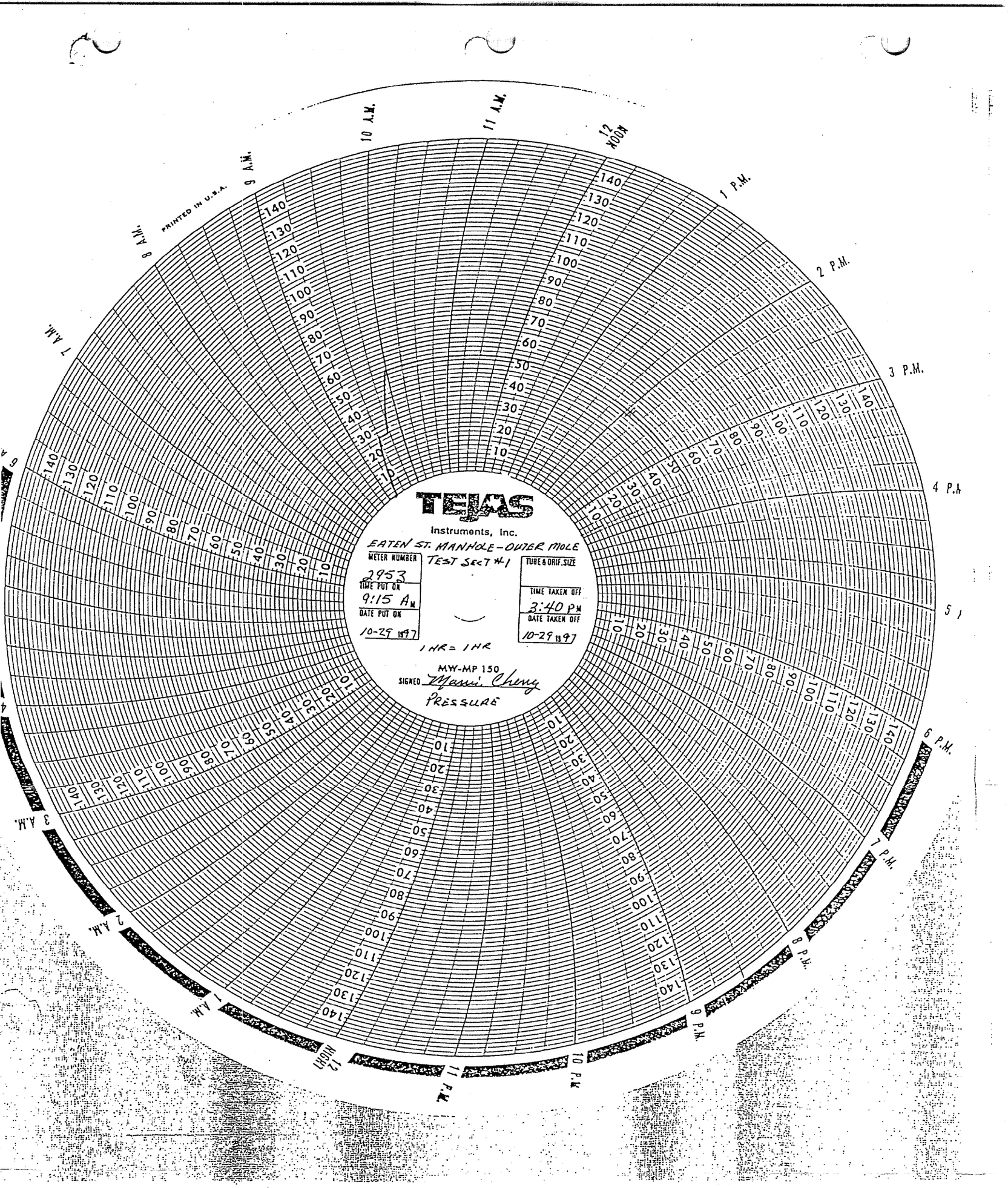
DEADWEIGHT RECORD

TEMPERATURE

Time	Pressure	Ambient	Pipe or Ground		Remarks
9:30 AM	25 PST	82°	89°	87°	GROUND TEMP TAKEN AT 4 POINTS
9:45	25	82°	89°	87°	ALONG TEST SECT AND AVG.
10:00	52	82°	89°	87°	
10:10	52	82°	89°	87°	
10:20	52	82°	89°	87°	KEY WEST
10:30	52	83°	88°	87°	
10:40	52	83°	88°	87°	
10:50	52	85°	88°	87°	
11:00	52	86°	88°	87°	
11:30	52	86°	88°	87°	
12:00	52	87°	88°	87°	
12:30 PM	52	88°	88°	87°	
1:00	52	88°	88°	87°	
1:30	52	88°	88°	87°	
2:00	52	88°	87°	87°	
2:30	52	89°	87°	87°	
3:00	52	88°	87°	87°	
3:30	52	86°	87°	87°	

TEST FOREMAN Marvin Cherry

INSPECTOR [signature]


TEJAS
Instruments, Inc.
EATEN ST. MANHOLE - OUTER MOLE
TEST SECT #1
METER NUMBER
2953
TUBE & ORIF. SIZE
TIME PUT ON
9:15 AM
TIME TAKEN OFF
3:40 PM
DATE PUT ON
10-29 1997
DATE TAKEN OFF
10-29 1997
1 HR = 1 HR
MW-MP 150
SIGNED Yassin Cheng
PRESSURE
PRINTED IN U.S.A.
12 NOON
1 P.M.
2 P.M.
3 P.M.
4 P.M.
5 P.M.
6 P.M.
7 P.M.
8 P.M.
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11 P.M.
12 MIDNIGHT
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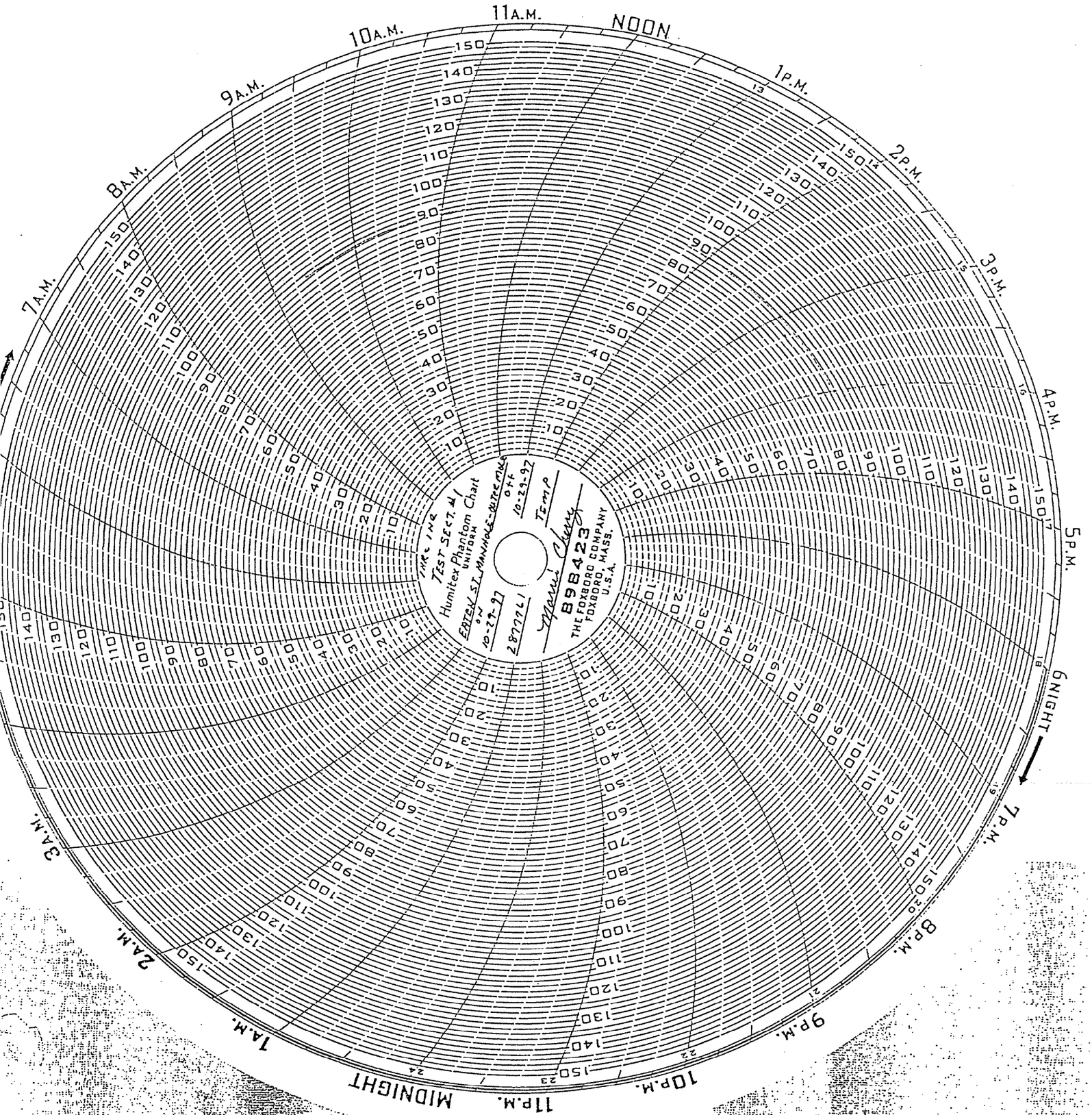
0115D842


NOON
1P.M.
2P.M.
3P.M.
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6NIGHT
7P.M.
8P.M.
9P.M.
10P.M.
11P.M.
MIDNIGHT
1A.M.
2A.M.
3A.M.
7A.M.
8A.M.
9A.M.
10A.M.
11A.M.
THRU 1 HR
TEST SECT. #1
Humitex Phantom Chart
UNIFORM
EATON ST. MANHOLE-OUTERMOLE
ON
10-29-97
OFF
10-29-97
TEMP
2877761
Marvin Cherry
898423
THE FOXBORO COMPANY
FOXBORO, MASS.
U.S.A.

19 November 1997

Mr. Morris Cherry
Morco Testing, Inc.
2516 Revere Dr.
Pasadena, Texas 77502

Subject	Certification of Nitrogen Test
Client	Department of the Navy
Contractor	Bechtel Environmental, Inc.
Description	10-inch line
Date Test Accepted	29 October 1997

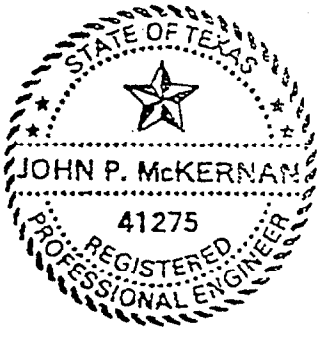
Dear Mr. Cherry;

This letter is certify that the nitrogen test performed on the 10-inch line Pipeline from Eaten St. manhole to Outer Mole by Morco Testing, Inc. met the requirements of ASME/ANSI B31.3 "Chemical Plant and Petroleum Refinery Piping" and "Department of the Navy Southern Division Technical Specification for Pipeline Pressure Testing" 324-SP738-002 Rev. 0.

This section of the pipe line was tested for five (5) hours and thirty (30) minutes, using nitrogen as the test medium, at a minimum measured test pressure of 52 psig. This successfully completed the leak test requirements of the above code and specification. This leak test did not loose five (5) psig during the test period. The line lost a calculated 49.7 standard cubic feet. If the test were held for an additional hour, the data indicates a loss of 9.0 standard cubic feet would have occurred. This loss corresponds to a calculated pressure loss of less than one (1) psig. This is within acceptable limits as set forth in Specification "Department of the Navy Southern Division Technical Specification for Pipeline Pressure Testing" 324-SP738-002 Rev. 0.

Sincerely yours,

John P. Mc Kernan, PE PLS



C:\LOTSUITE\AMIPRO\DOCS\MORCO\044.SAM

Company	Department of the Navy	AFE Number	N62467-93-D-0806-073
Construction Co	Bechtel Environmental, Inc.	AFE Number	22567
Testing Co.	Morco Testing, Inc.	Project Number	0
Project Name	Naval Air Station Pipeline - Abandonment Project 10"Line		
File Name	C:\LOTSUITE\123R5W\WORK\MORCO\CCCC2.WK4	Revised 19 Nov 97	

TEST LOG

TIME	PRESSURE	AMBIENT TEMP	PIPE TEMP	REMARKS
29-Oct-97				
10:00 AM	52.0	82.0	89.0	On Test
10:10 AM	52.0	82.0	89.0	
10:20 AM	52.0	82.0	89.0	
10:30 AM	52.0	83.0	88.0	
10:40 AM	52.0	83.0	88.0	
10:50 AM	52.0	85.0	88.0	
11:00 AM	52.0	86.0	88.0	
11:30 AM	52.0	86.0	88.0	
12:00 PM	52.0	87.0	88.0	
12:30 PM	52.0	88.0	88.0	
01:00 PM	52.0	88.0	88.0	
01:30 PM	52.0	88.0	88.0	
02:00 PM	52.0	88.0	87.0	
02:30 PM	52.0	89.0	87.0	
03:00 PM	52.0	88.0	87.0	
03:30 PM	52.0	86.0	87.0	Off Test
				Ground Temperature Taken at Four Locations
				Along Test Section and Then Averaged For Value
				Reported.
29-Oct-97				

52	PSIG HI	TOTAL OZ BLEED	0
52	PSIG LOW	TOTAL OZ INJECTED	0

Company	Department of the Navy	AFE Number	N62467-93-D-0936-073
Construction Co	Bechtel Enviromental, Inc.	AFE Number	22567
Testing Co.	Morco Testing, Inc.	Project No.	0
Project Name	Naval Air Station Pipeline - Abandonment Project 10"Line		
File Name	C:\LOTSUITE\123R5W\WORK\MORCO\00032.WK4		

NITROGEN TEST

PIPELINE: 10" Line TEST DATE 29-Oct-97

FROM : Eaten St. Manhole - Test Sect. #1 TO : Outer Mole

SECT. LENGTH:	5,280	PIPE DIA.:	10.750	WALL THK.	0.365
SPECK.	NA	GRADE :	NA		
SECT. LENGTH:	NA	PIPE DIA.:	NA	WALL THK.	NA
SPECK.	NA	GRADE :	NA		

INITIAL PRESSURE AT TEST POINT	52 PSIG	TIME:	10:00 AM	PIPE TEMP :	89
INITIAL AMBIENT TEMPERATURE	82 F	ELEV @ TEST PT		-1 MSL	
IN. PRES. @ OTHER END	52 PSIG	ELEV.	3	LOCATION :	Outer Mole
FINAL PRESSURE AT TEST POINT	52.0 PSIG	TIME:	03:30 PM	PIPE TEMP :	87
FINAL AMBIENT TEMPERATURE	86 F	ELEV @ TEST PT		-1 MSL	
IN. PRES. @ OTHER END	52.0 PSIG	ELEV.		3 MSL	

IDEAL GAS LAW:

PV = RZT

WHERE

P = Pressure (psia) 14.696 psia

V = Volume (scf)

R = Gas Constant

Z = Compressibility Factor

T = Temperature (R) 527.67 R

Volume of Line at Standard Conditions 2,891.3 Cubic Feet

Time	Pressure	Pipe Temp	Volume
10:00	52.0	89	13,619.3
10:10	52.0	89	13,619.3
10:20	52.0	89	13,619.3
10:30	52.0	88	13,594.4
10:40	52.0	88	13,594.4
10:50	52.0	88	13,594.4
11:00	52.0	88	13,594.4
11:30	52.0	88	13,594.4
12:00	52.0	88	13,594.4
12:30	52.0	88	13,594.4
13:00	52.0	88	13,594.4
13:30	52.0	88	13,594.4
14:00	52.0	87	13,569.5
14:30	52.0	87	13,569.5
15:00	52.0	87	13,569.5
15:30	52.0	87	13,569.5

Company	Department of the Navy	AFE Number	N62467-93-D-0936-072
Construction Co	Bechtel Enviromental, Inc.	AFE Number	22567
Testing Co.	Morco Testing, Inc.	Project No.	0
Project Name	Naval Air Station Pipeline - Abandonment Project 10"Line		
File Name	C:\LOTSUITE\123R5W\WORK\MORCO\000032.WK4		

NITROGEN TEST CONTINUED

	Test Duration	05:30	Hours
(+ Gained, - Loss)	Nitrogen	(9.0)	Standard Cubic Feet per Hour
(+ Gained, - Loss)	Nitrogen	(49.7)	Standard Cubic Feet

TESTED ACCEPTED X YES _____ NO

IF NO EXPLAIN _____

REMARKS _____

JOHN P. MCKERNAN, PE PLS

11/19/97

DATE

STATE OF TEXAS
JOHN P. McKERNAN
41275
REGISTERED PROFESSIONAL ENGINEER

MTI Morco Testing, Inc.
HYDROSTATIC TESTING LEAK DETECTION

HYDROSTATIC TEST REPORT

PIPELINE DIVISIO

PIPELINE COMPANY DEPARTMENT OF THE NAVY | JOB NO: 22567
W.O. NO: N62467-93-D-0936-0
PIPELINE CONTRACTOR BECHTEL ENVIRONMENTAL, INC. | AFE NO:

TEST SECTION NO.: VALVE P.I.T #1 TEST SECT. #9 JP-5 #3 TO VALVE P.I.T #2

TEST BEGAN: DATE 10-27-97 TIME 9:20 AM | PRESSURE AIR LIQUIDE UNIT NO. 2821 STATION NO. VP #1

TEST END: DATE 10-27-97 TIME 9:50 AM | ELEVATION -1' TO +3

PIPE DATA: 586' 6.625" .OD. .280 SCH 40

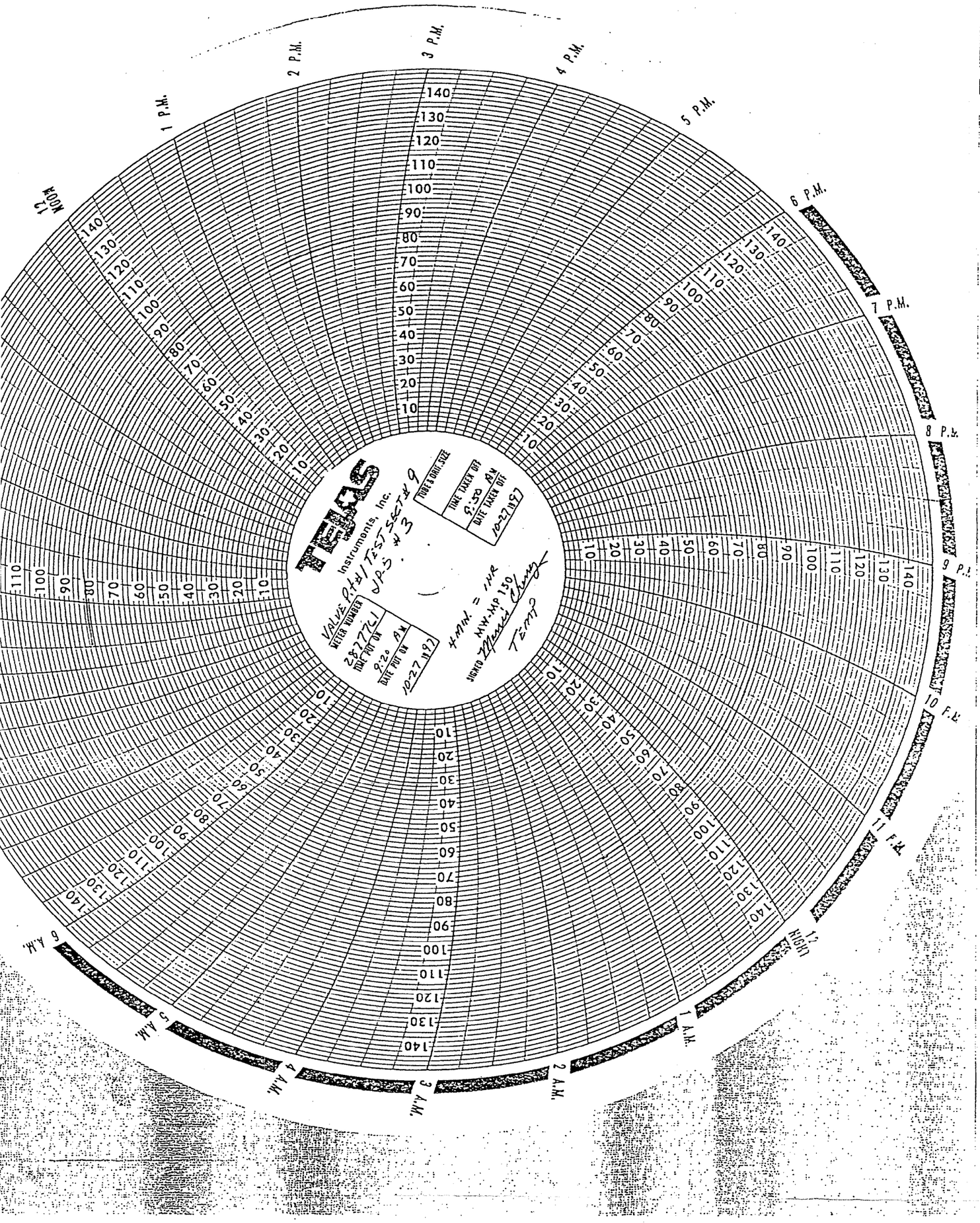
TEST MEDIUM – NITROGEN

DEADWEIGHT SERIAL NUMBER 4½" 2D PRESS GAUGE 8500543N DATE CERTIFIED 10-10-97
PRESSURE RECORDER SERIAL NUMBER 2948 DATE CERTIFIED 10-10-97
TEMPERATURE RECORDER SERIAL NUMBER 2877761 DATE CERTIFIED 10-10-97
TEST IS ☒ ACCEPTED ☐ REJECTED IF REJECTED, EXPLAIN

DEADWEIGHT RECORD

Time	Pressure	Ambient Temperature	Pipe or Ground Temperature	Remarks
8:50 AM	25 PSI	84°	82° 89.75°	GROUND TEMP TAKEN AT 4 POINTS
9:03	50	84°	82° 89.75°	ALONG TEST SECT. AND AVG.
9:10	65	84°	82° 89.75°	
9:20	65	85°	82° 89.75°	
9:30	65	86°	82° 89.75°	
9:40	65	86°	82° 89.75°	
9:50	65	86°	82° 89.75°	

TEST FOREMAN Mario Chavez INSPECTOR


TELAS
Instruments, Inc.
VALVE Pit #1 TEST SECT #9
JP-5 #3
TUBE & ORIF. SIZE
TIME TAKEN OFF
9:50 AM
DATE TAKEN OFF
10-27 1997
METER NUMBER
2877761
TIME PUT ON
9:20 AM
DATE PUT ON
10-27 1997
4 MIN. = 1 HR
MW-MP 150
SIGNED
TEMP
12 NOON
1 P.M.
2 P.M.
3 P.M.
4 P.M.
5 P.M.
6 P.M.
7 P.M.
8 P.M.
9 P.M.
10 P.M.
11 P.M.
12 NIGHT
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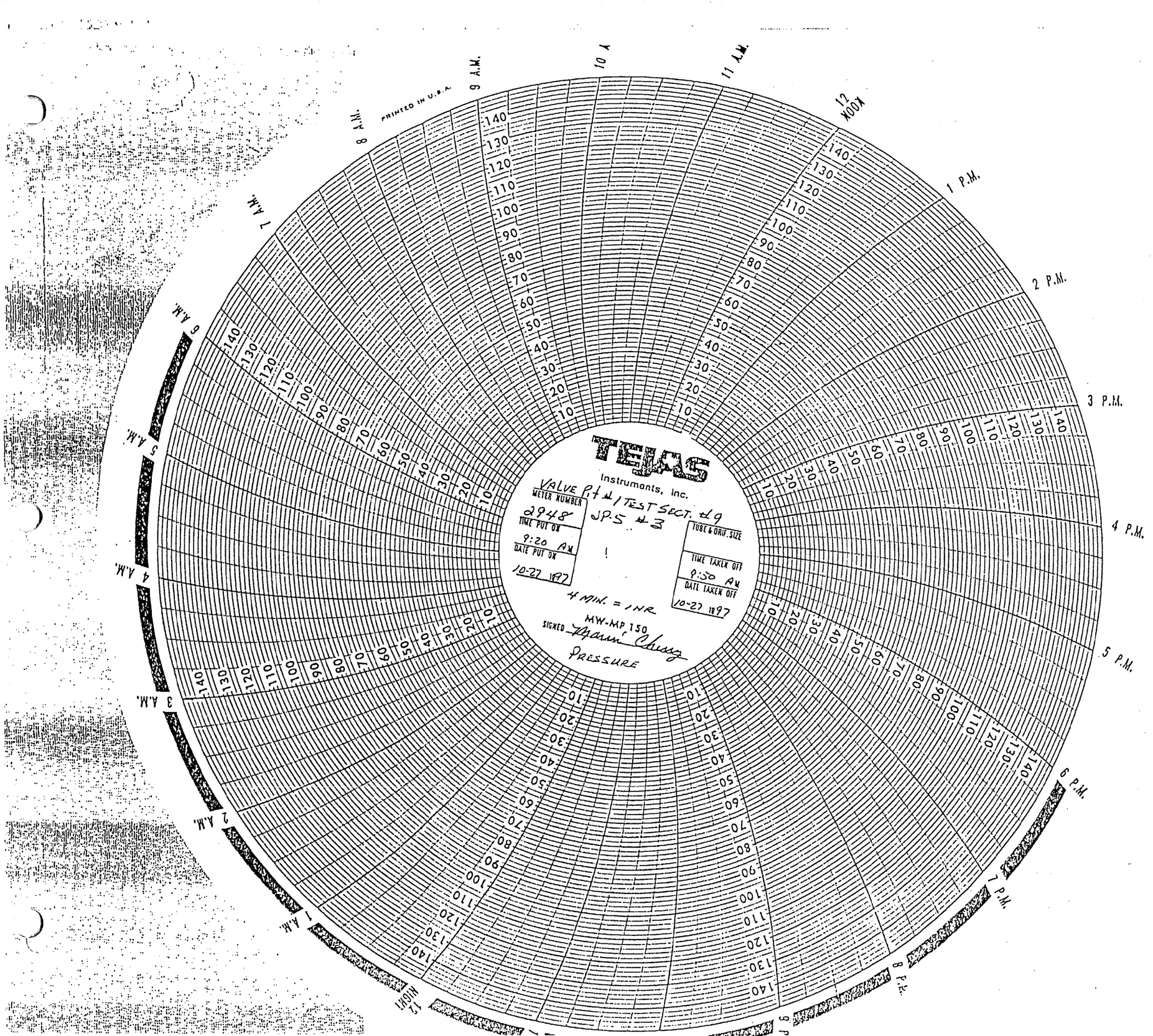
3 A.M.
4 A.M.
5 A.M.
6 A.M.


PRINTED IN U.S.A.
TEMAS
Instruments, Inc.
VALVE PIT #1 / TEST SECT. #9
METER NUMBER
2948
JP-5 #3
TIME PUT ON
9:20 AM
DATE PUT ON
10-27 1997
TUBE & ORIF. SIZE
TIME TAKEN OFF
9:50 AM
DATE TAKEN OFF
10-27 1997
4 MIN. = 1 HR.
MW-MP 150
SIGNED
PRESSURE
12 NOON
1 P.M.
2 P.M.
3 P.M.
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9 A.M.
10 A
11 A.M.

19 November 1997

Mr. Morris Cherry
Morco Testing, Inc.
2516 Revere Dr.
Pasadena, Texas 77502

Subject	Certification of Nitrogen Test
Client	Department of the Navy
Contractor	Bechtel Environmental, Inc.
Description	6-inch JP-5 #3
Date Test Accepted	27 October 1997

Dear Mr. Cherry;

This letter is certify that the nitrogen test performed on the 6-inch JP-5 #3 Pipeline from Valve Pit Number 1 to Valve Pit Number 2 by Morco Testing, Inc. met the requirements of ASME/ANSI B31.3 "Chemical Plant and Petroleum Refinery Piping" and "Department of the Navy Southern Division Technical Specification for Pipeline Pressure Testing" 324-SP738-002 Rev. 0.

This section of the pipe line was tested for thirty (30) minutes, using nitrogen as the test medium, at a minimum measured test pressure of 65 psig. This successfully completed the leak test requirements of the above code and specification. This leak test did not loose five (5) psig during the test period. The line showed no lost during the test period. If the test were held for an additional hour, the data indicates that no additional loss would have occurred. This is within acceptable limits as set forth in Specification "Department of the Navy Southern Division Technical Specification for Pipeline Pressure Testing" 324-SP738-002 Rev. 0.

Sincerely yours,

John P. Mc Kernan, PE PLS

C:\LOTSUITE\AMIPRO\DOCS\MORCO\040.SAM

Company	Department of the Navy	AFE Number	N62467-93-D-0935-073
Construction Co	Bechtel Enviromental, Inc.	AFE Number	22567
Testing Co.	Morco Testing, Inc.	Project Number	0
Project Name	Naval Air Station Pipeline - Abandonment Project - JP-5 #3		
File Name	C:\LOTSUITE\123R5\WORK\MORCO\000228.WK4	Revised 19 Nov 97	

TEST LOG

TIME	PRESSURE	AMBIENT TEMP	PIPE TEMP	REMARKS
27-Oct-97				
09:20 AM	65.0	85.0	82.0	On Test
09:30 AM	65.0	86.0	82.0	
09:40 AM	65.0	86.0	82.0	
09:50 AM	65.0	86.0	82.0	Off Test
				Ground Temperature Taken at Four Locations
				Along Test Section and Then Averaged For Value
				Reported.
27-Oct-97				

65	PSIG HI	TOTAL OZ. BLEED	0
65	PSIG LOW	TOTAL OZ. INJECTED	0

Company	Department of the Navy	AFE Number	N62467-93-D-0906-073
Construction Co	Bechtel Enviromental, Inc.	AFE Number	22567
Testing Co.	Morco Testing, Inc.	Project No.	0
Project Name	Naval Air Station Pipeline - Abandonment Project - JP-5 #3		
File Name	C:\LOTSUITE\123R5W\WORK\MORCO\00028.WK4		

NITROGEN TEST

PIPELINE: JP-5 #3 TEST DATE 27-Oct-97

FROM : Valve Pit #1 Test Sect. #9 JP-5 #3 TO : Valve Pit #2

SECT. LENGTH: 586 PIPE DIA.: 6.625 WALL THK. 0.280

SPECK. NA GRADE : NA

INITIAL PRESSURE AT TEST POINT	65 PSIG	TIME:	09:20 AM	PIPE TEMP :	82
INITIAL AMBIENT TEMPERATURE	85 F	ELEV @ TEST PT		-1 MSL	
IN. PRES. @ OTHER END	65 PSIG	ELEV.	3	LOCATION :	Valve Pit #2
FINAL PRESSURE AT TEST POINT	65.0 PSIG	TIME:	09:50 AM	PIPE TEMP :	82
FINAL AMBIENT TEMPERATURE	86 F	ELEV @ TEST PT		-1 MSL	
IN. PRES. @ OTHER END	65.0 PSIG	ELEV.		3 MSL	

IDEAL GAS LAW:

PV = RZT

WHERE

P =	Pressure (psia)	14.696 psia
V =	Volume (scf)	
R =	Gas Constant	
Z =	Compressibility Factor	
T =	Temperature (R)	527.67 R

Volume of Line at Standard Conditions 117.6 Cubic Feet

Time	Pressure	Pipe Temp	Volume
09:20	65.0	82	653.3
09:30	65.0	82	653.3
09:40	65.0	82	653.3
09:50	65.0	82	653.3

(- loss, + gain)	0 scf
(- loss, + gain)	0.0 scf per hour
Test Duration	0.5 Hour

TESTED ACCEPTED X YES NO

IF NO EXPLAIN

REMARKS

JOHN P. MCKERNAN, PE PLS

11/19/97

DATE

STATE OF TEXAS
JOHN P. McKERNAN
41275
REGISTERED
PROFESSIONAL ENGINEER

MTI Morco Testing, Inc.
HYDROSTATIC TESTING LEAK DETECTION

HYDROSTATIC TEST REPORT

PIPELINE DIVISION

PIPELINE COMPANY DEPARTMENT OF THE NAVY
JOB NO: 22567
PIPELINE CONTRACTOR BECHTEL ENVIRONMENTAL, INC.
W.O. NO: N62467-93-D-0936-07
AFE NO:

TEST SECTION NO. TRUMBO POINT TEST SECT #3 (RETEST) TO FRONT ST. VALVE PIT

TEST BEGAN: DATE 12-11-97 TIME 10:00 AM
PRESSURE AIRLIQUIDE UNIT NO. 2821 STATION NO. TRUMBO POINT

TEST END: DATE 12-11-97 TIME 2:15 PM
ELEVATION -1' TO +3'

PIPE DATA: 4750' 10.750" O.D. .365 W.T. SCH 40

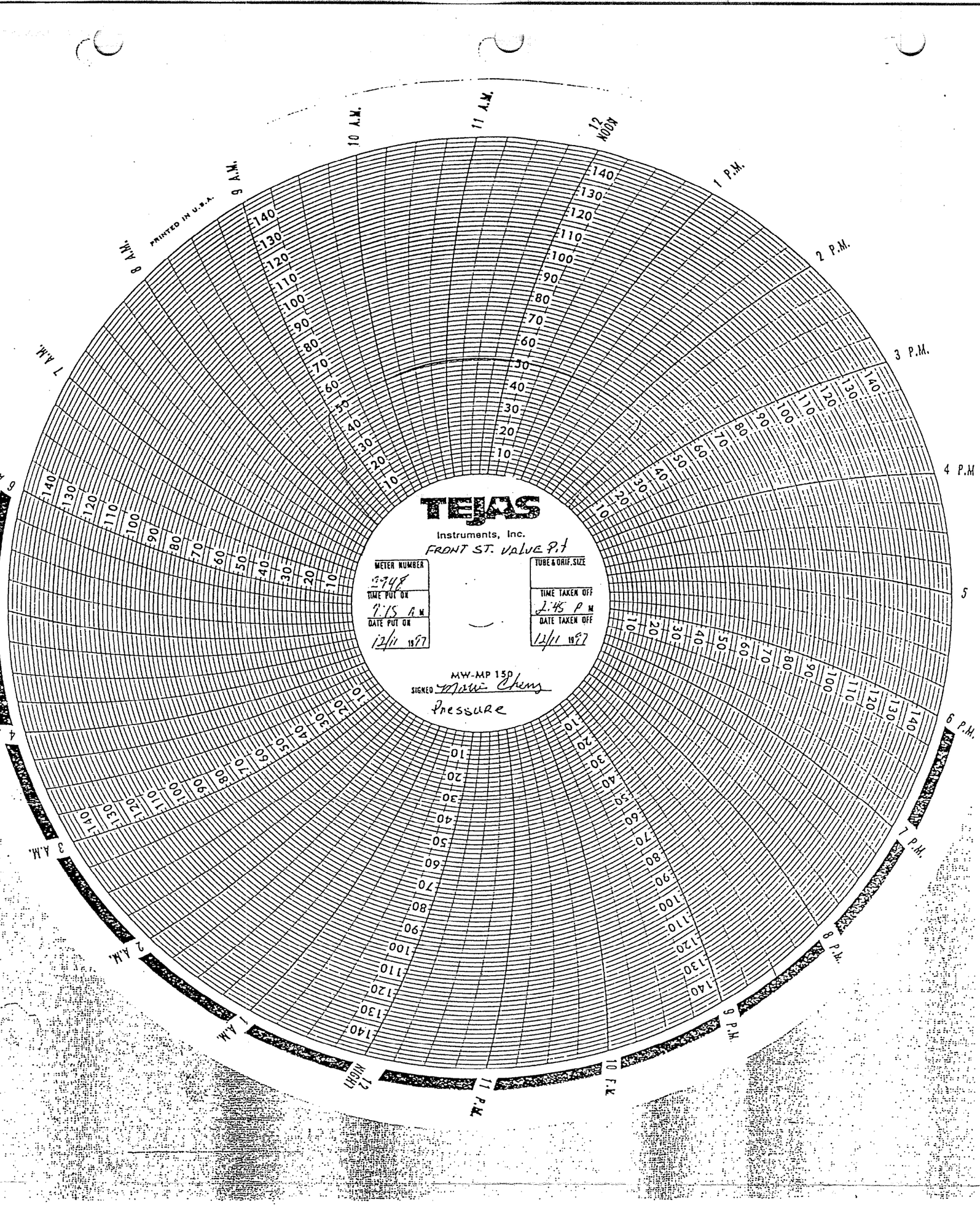
TEST MEDIUM - NITROGEN - FILL RATE AT 325 Cubic Feet Per min. @ 75° TEMP

DEADWEIGHT SERIAL NUMBER 8" USG. PRESS. GAUGE 18938 DATE CERTIFIED 10-10-97
PRESSURE RECORDER SERIAL NUMBER 2953 DATE CERTIFIED 10-10-97
TEMPERATURE RECORDER SERIAL NUMBER 2957 DATE CERTIFIED 10-10-97
TEST IS ☐ ACCEPTED ☐ REJECTED IF REJECTED, EXPLAIN _____

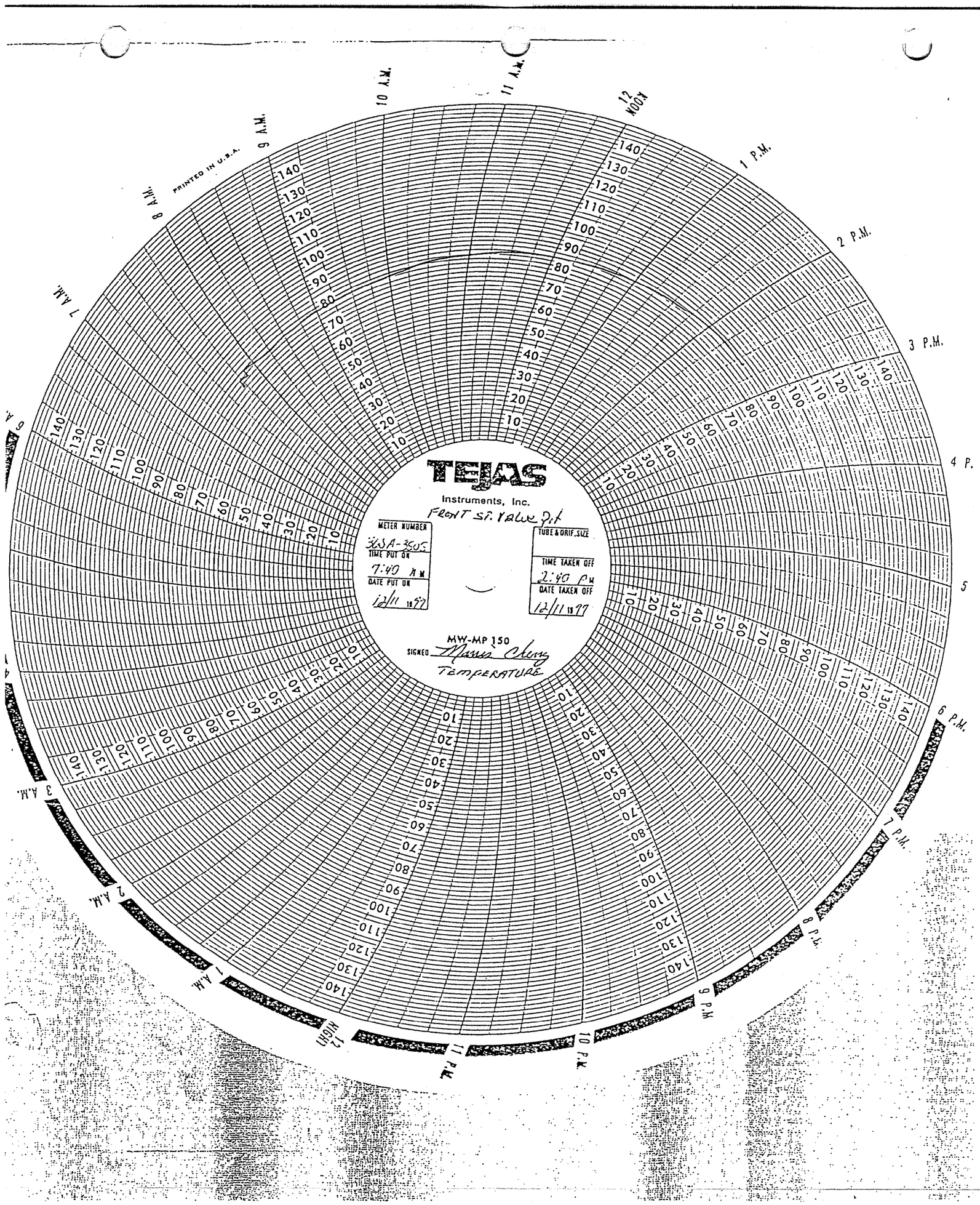
DEADWEIGHT RECORD

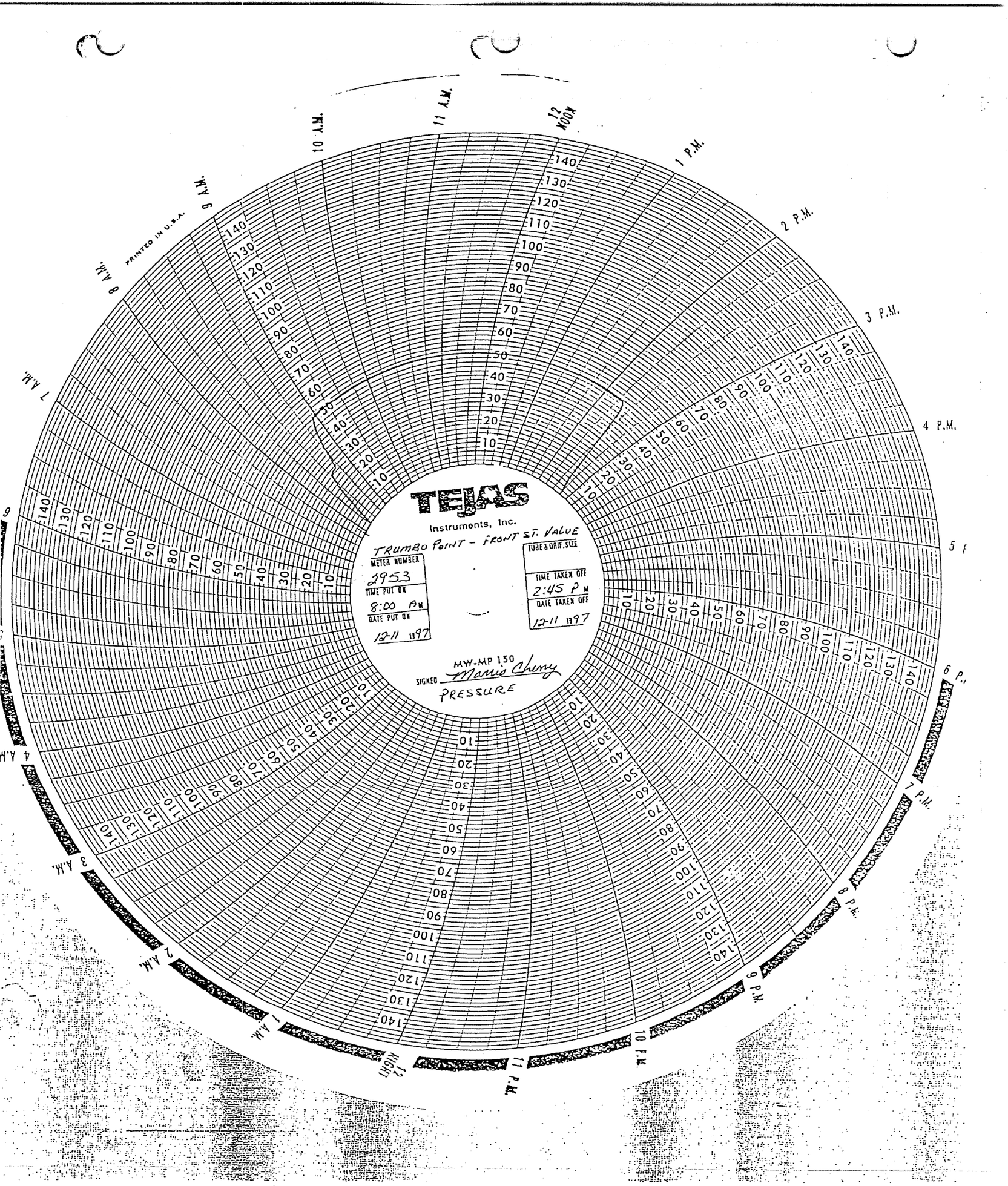
Time	Pressure	Temperature: Ambient	Temperature: Pipe or Ground	Remarks
8:20 AM	0	82°	75° 84.5°	GROUND TEMPERATURE TAKEN AT 4
8:35	27.5	82°	75° 84.5°	POINTS ALONG TEST SECTION AND
8:45	27.5	82°	75° 84.5°	AVERAGED
9:00	50.75	82°	75° 84.5°	START 1-HOUR HOLD FOR STABILIZATION
9:15	50.75	82°	75° 84.5°	
9:30	50.75	84°	74° 84.5°	
9:45	50.75	84°	74° 84.5°	
10:00	50.50	84°	74° 84.5°	ON TEST
10:15	50.50	85°	74° 84.5°	
10:30	50.50	85°	74° 84.5°	
10:45	50.50	86°	74° 84.5°	
11:00	50.50	86°	74° 84.5°	
11:15	50.25	86°	74° 84.75°	
11:30	50.25	86°	74° 84.75°	
11:45	50	86°	74° 84.75°	
12:00	50	86°	75° 84.75°	
12:15	50	87°	75° 84.75°	
12:30	50	87°	75° 84.75°	
12:45	50	88°	76° 84.75°	
1:00	49.75	88°	76° 84.75°	
1:15	49.75	88°	76° 85°	
1:30	49.75	87°	76° 85°	
1:45	49.50	87°	76° 84.75°	
2:00	49.50	86°	76° 84.75°	
2:15	49.50	86°	76° 84.75°	OFF TEST

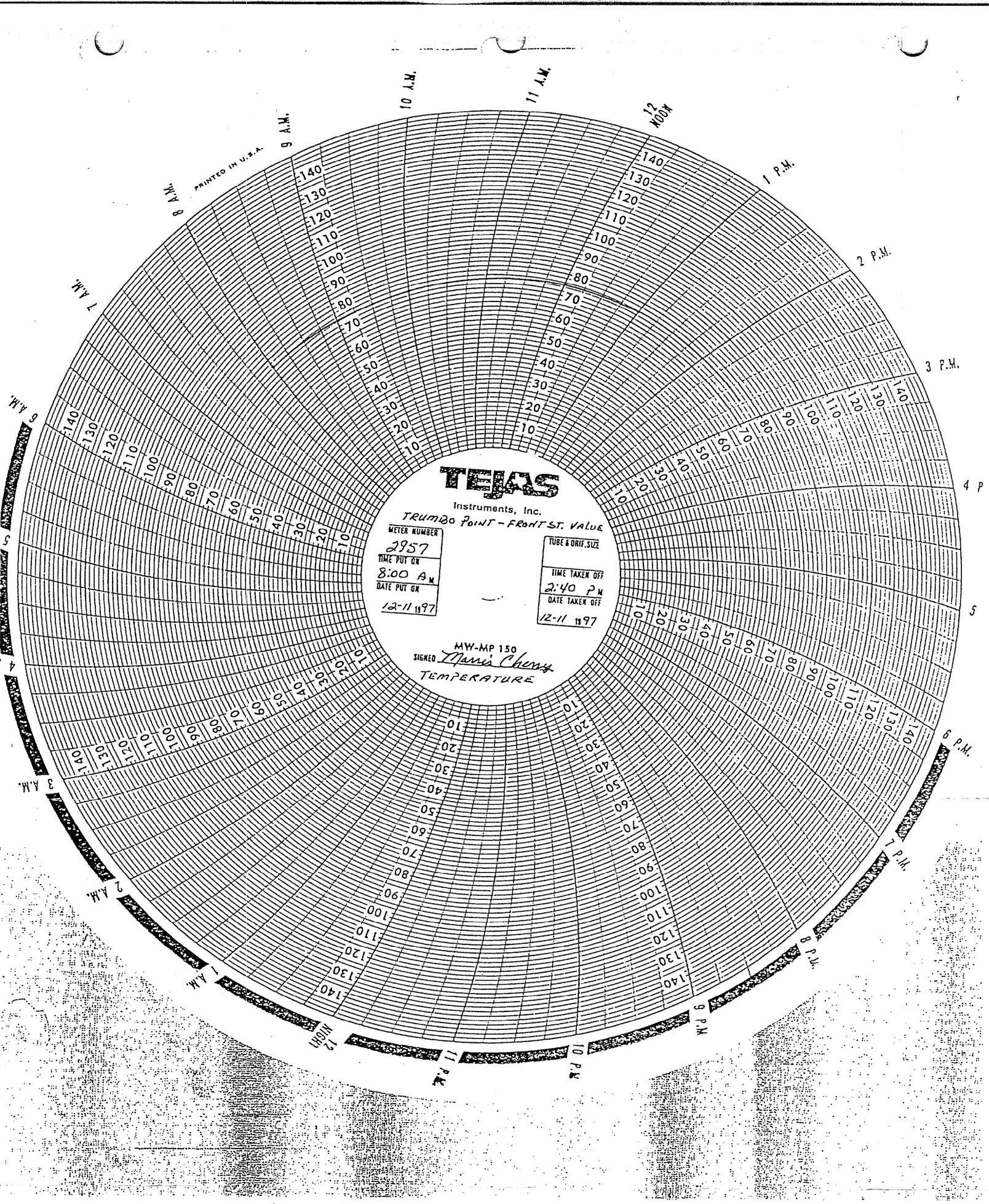
TEST FOREMAN Mario Chino
INSPECTOR


TEJAS
Instruments, Inc.
FRONT ST. VALVE P.T
METER NUMBER
3748
TUBE & ORIF. SIZE
TIME PUT ON
9:15 A M
TIME TAKEN OFF
1:45 P M
DATE PUT ON
12/11 1977
DATE TAKEN OFF
12/11 1977
MW-MP 150
SIGNED Marie Ehms
Pressure
PRINTED IN U.S.A.
12 NOON
1 P.M.
2 P.M.
3 P.M.
4 P.M
5
6 P.M.
7 P.M.
8 P.M.
9 P.M.
10 P.M.
11 P.M.
12 MIDN
1 A.M.
2 A.M.
3 A.M.
4
6
7 A.M.
8 A.M.
9 A.M.
10 A.M.
11 A.M.

0115DB6Z


TEJAS
Instruments, Inc.
FRONT ST. Valve Pit
METER NUMBER
3WSA-3505
TIME PUT ON
7:40 A M
DATE PUT ON
12/11 1977
TUBE & ORIF. SIZE
TIME TAKEN OFF
2:40 P M
DATE TAKEN OFF
12/11 1977
MW-MP 150
SIGNED Maria Chang
TEMPERATURE
PRINTED IN U.S.A.
12 NOON
1 P.M.
2 P.M.
3 P.M.
4 P.M.
5
6 P.M.
7 P.M.
8 P.M.
9 P.M.
10 P.M.
11 P.M.
12 MIDNT
1 A.M.
2 A.M.
3 A.M.
7 A.M.
8 A.M.
9 A.M.
10 A.M.
11 A.M.


TEJAS
Instruments, Inc.
TRUMBO POINT - FRONT ST. VALUE
METER NUMBER
29953
TIME PUT ON
8:00 AM
DATE PUT ON
12-11 1997
TUBE & ORIF. SIZE
TIME TAKEN OFF
2:45 PM
DATE TAKEN OFF
12-11 1997
MW-MP 150
SIGNED Maria Chung
PRESSURE
PRINTED IN U.S.A.
12 NOON
1 P.M.
2 P.M.
3 P.M.
4 P.M.
5 P.M.
6 P.M.
7 P.M.
8 P.M.
9 P.M.
10 P.M.
11 P.M.
12 NIGHT
1 A.M.
2 A.M.
3 A.M.
4 A.M.
5 A.M.
6 A.M.
7 A.M.
8 A.M.
9 A.M.
10 A.M.
11 A.M.


TEJAS
Instruments, Inc.
TRUMBO POINT - FRONT ST. VALUE
METER NUMBER
2957
TIME PUT ON
8:00 AM
DATE PUT ON
12-11 1997
TUBE & ORIF. SIZE
TIME TAKEN OFF
2:40 PM
DATE TAKEN OFF
12-11 1997
MW-MP 150
SIGNED Maria Cherry
TEMPERATURE
PRINTED IN U.S.A.
12 NOON
1 P.M.
2 P.M.
3 P.M.
4 P
5
6 P.M.
7 P.M.
8 P.M.
9 P.M.
10 P.M.
11 P.M.
12 MIDNIGHT
1 A.M.
2 A.M.
3 A.M.
4
5
6 A.M.
7 A.M.
8 A.M.
9 A.M.
10 A.M.
11 A.M.

13 December 1997

Mr. Morris Cherry
Morco Testing, Inc.
2516 Revere Dr.
Pasadena, Texas 77502

Subject	Certification of Nitrogen Test
Client	Department of the Navy
Contractor	Bechtel Environmental, Inc.
Description	10-inch lines
Date Test Accepted	11 December 1997

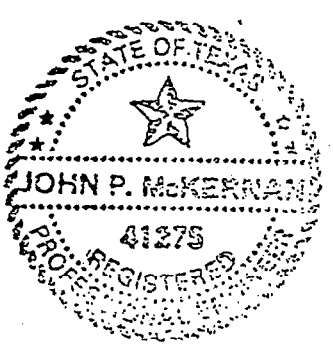
Dear Mr. Cherry;

This letter is to certify that the nitrogen retest performed on the 10-inch Pipeline from Trumbo Point to Front St Valve Pit (Test Section Number 3) by Morco Testing, Inc. met the requirements of ASME/ANSI B31.3 "Chemical Plant and Petroleum Refinery Piping" and "Department of the Navy Southern Division Technical Specification for Pipeline Pressure Testing" 324-SP738-002 Rev. 0.

This section of the pipeline was tested for four (4) hours and fifteen (15) minutes, using nitrogen as the test medium, at a minimum measured test pressure of 49.8 psig. This successfully completed the leak test requirements of the above code and specification. This test section lost three-quarters (3/4) psig and not more than five (5) psig during the test period. The line lost a calculated 90.8 standard cubic feet. This is within acceptable limits as set forth in Specification "Department of the Navy Southern Division Technical Specification for Pipeline Pressure Testing" 324-SP738-002 Rev. 0.

Sincerely yours,

John P. Mc Kernan, PE PLS



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MTI Morco Testing, Inc.
HYDROSTATIC TESTING LEAK DETECTION

HYDROSTATIC TEST REPORT

PIPELINE DIVISION

PIPELINE COMPANY DEPARTMENT OF THE NAVY | JOB NO: 22567
W.O. NO: N62467-93-D-0936-073
PIPELINE CONTRACTOR BECHTEL ENVIRONMENTAL, INC. | AFE NO:

TEST SECTION NO.: TRUMBO POINT TEST SECT. #3 TO FRONT ST. VALVE PIT

TEST BEGAN: DATE 10-31-97 TIME 1:15 PM | PRESSURE AIR LIQUIDE UNIT NO. 2821 STATION NO. TRUMBO POINT

TEST END: DATE 10-31-97 TIME 5:45 PM | ELEVATION -1' TO +3'

PIPE DATA: 4750' 10.750" O.D. .365 W.T. SCH 40

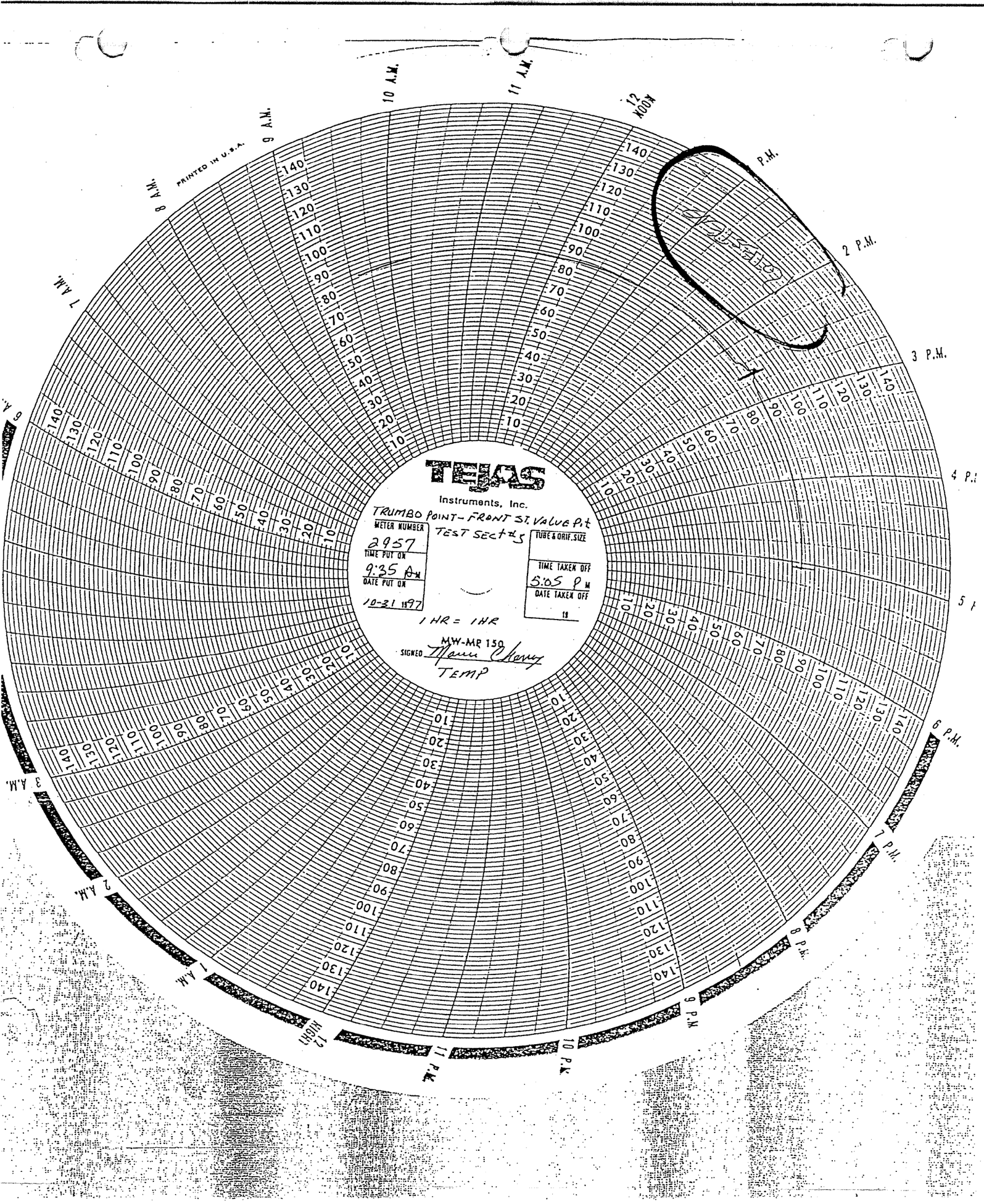
TEST MEDIUM - NITROGEN

DEADWEIGHT SERIAL NUMBER 8" USG. PRESS GAUGE 18938 DATE CERTIFIED 10-10-97
PRESSURE RECORDER SERIAL NUMBER 2953 DATE CERTIFIED 10-10-97
TEMPERATURE RECORDER SERIAL NUMBER 2957 DATE CERTIFIED 10-10-97
TEST IS ☑ ACCEPTED ☐ REJECTED IF REJECTED, EXPLAIN _____

DEADWEIGHT RECORD

Time	Pressure	TEMPERATURE Ambient	Pipe or Ground		Remarks
12:55PM	25 PSI	89°	84	86.75°	GROUND TEMP TAKEN AT 4 POINTS
1:09	50.5	89°	85	86.75°	ALONG TEST SECT AND AVG.
1:15	50.5	89°	85	86.75°	
1:25	50	89°	86	86.75°	
1:35	50	88°	86	86.75°	KEY WEST
1:45	50	88°	87	86.75°	
2:00	50	88°	87	86.75°	
2:30	50	88°	87	86.75°	
3:00	50	87°	87	86.75°	
3:30	50	87°	86	86.75°	
4:00	50	87°	85	86.75°	
4:30	49.5	86°	85	86.75°	
5:00	49	86°	84	86.75°	
5:45	47	85°	84	86.75	

TEST FOREMAN Mario Chinn INSPECTOR


TEXAS
Instruments, Inc.
TRUMBO POINT - FRONT ST. VALVE P.t
TEST SECT #5
METER NUMBER
2957
TIME PUT ON
9:35 AM
DATE PUT ON
10-21 1977
TUBE & ORIF. SIZE
TIME TAKEN OFF
5:05 PM
DATE TAKEN OFF
19
1 HR = 1 HR
MW-MR 150
SIGNED
TEMP
PRINTED IN U.S.A.
8 A.M.
9 A.M.
10 A.M.
11 A.M.
NOON
P.M.
2 P.M.
3 P.M.
6 P.M.
7 P.M.
8 P.M.
9 P.M.
10 P.M.
11 P.M.
MIDNI
1 A.M.
2 A.M.
3 A.M.
7 A.M.

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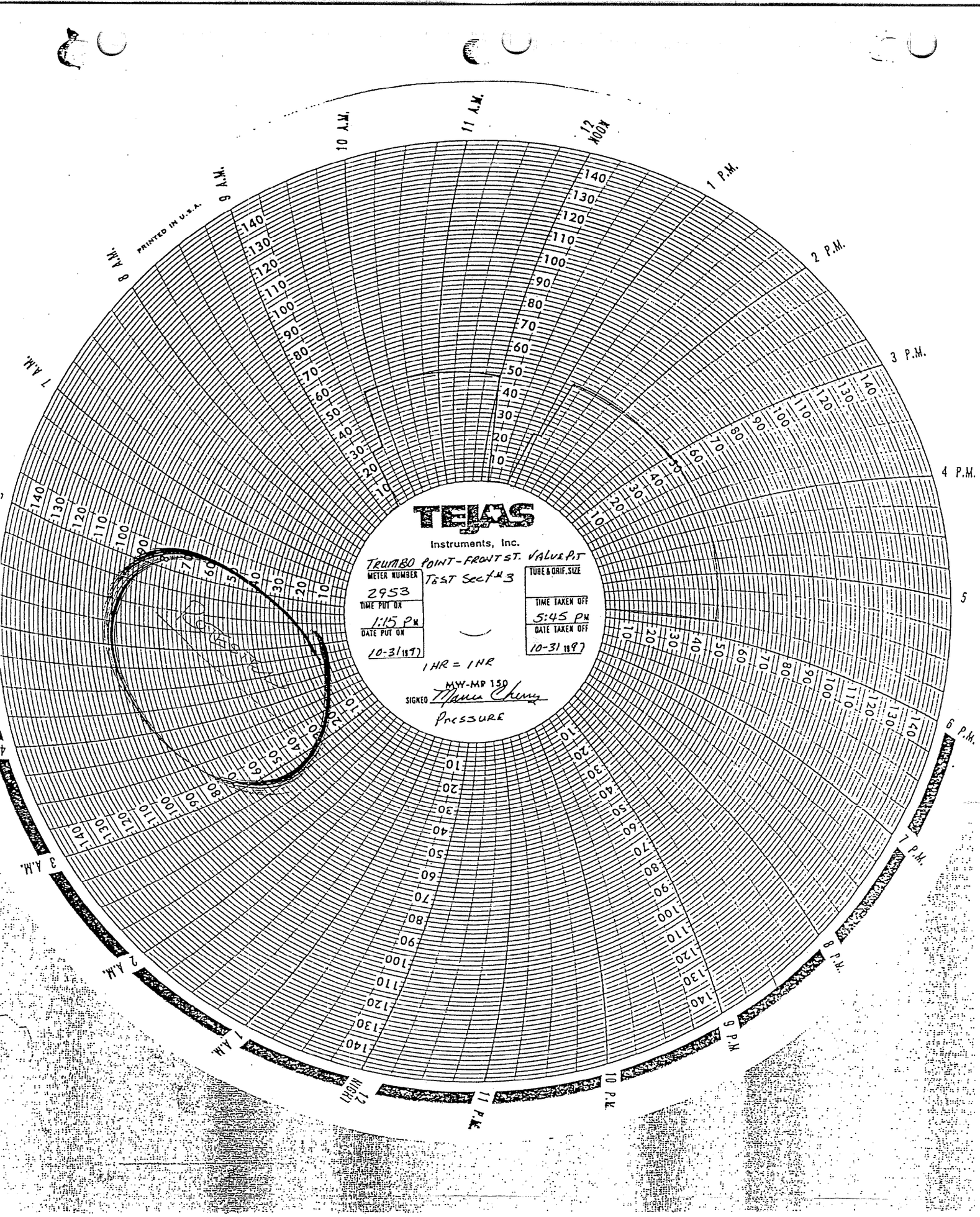

TEJAS
Instruments, Inc.
TRUMBO POINT-FRONT ST. VALVE PIT
Test Sect #3
METER NUMBER
2953
TIME PUT ON
1:15 PM
DATE PUT ON
10-31 1997
TUBE & ORIF. SIZE
TIME TAKEN OFF
5:45 PM
DATE TAKEN OFF
10-31 1997
1 HR = 1 HR
MW-MP 139
SIGNED
Pressure
PRINTED IN U.S.A.
12 NOON
1 P.M.
2 P.M.
3 P.M.
4 P.M.
5
6 P.M.
7 P.M.
8 P.M.
9 P.M.
10 P.M.
11 P.M.
12 NIGHT
1 A.M.
2 A.M.
3 A.M.
4
7 A.M.
8 A.M.
9 A.M.
10 A.M.
11 A.M.

19 November 1997

Mr. Morris Cherry
Morco Testing, Inc.
2516 Revere Dr.
Pasadena, Texas 77502

Subject	Certification of Nitrogen Test
Client	Department of the Navy
Contractor	Bechtel Environmental, Inc.
Description	10-inch lines
Date Test Accepted	31 October 1997

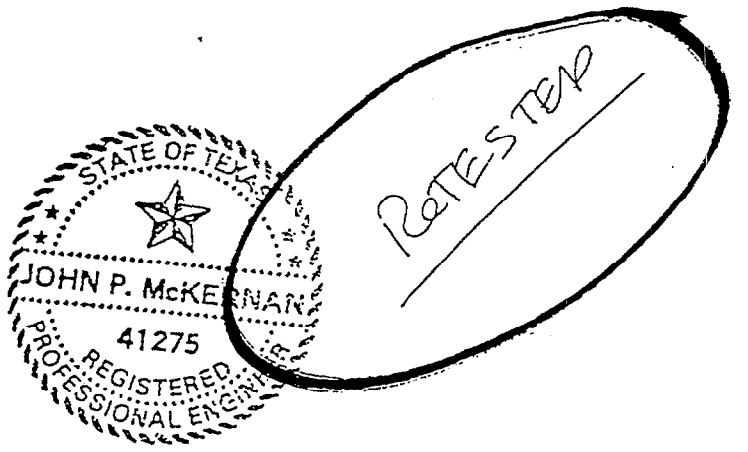
Dear Mr. Cherry;

This letter is to certify that the nitrogen test performed on the 10-inch Pipeline from Trumbo Point to Front St Valve Pit by Morco Testing, Inc. met the requirements of ASME/ANSI B31.3 "Chemical Plant and Petroleum Refinery Piping" and "Department of the Navy Southern Division Technical Specification for Pipeline Pressure Testing" 324-SP738-002 Rev. 0.

This section of the pipeline was tested for four (4) hours and thirty (30) minutes, using nitrogen as the test medium, at a minimum measured test pressure of 47.0 psig. This successfully completed the leak test requirements of the above code and specification. This leak test three and one-half (3 1/2) psig and not more than five (5) psig during the test period. The line lost a calculated 640.3 standard cubic feet. If the test were held for an additional hour, the data indicates a loss of 142.3 standard cubic feet would have occurred. This loss corresponds to a calculated pressure loss of less than one psig. This is within acceptable limits as set forth in Specification "Department of the Navy Southern Division Technical Specification for Pipeline Pressure Testing" 324-SP738-002 Rev. 0.

Sincerely yours,

John P. Mc Kernan, PE PLS



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Company	Department of the Navy	AFE Number	N62467-93-D-0536-073
Construction Co	Bechtel Enviromental, Inc.	AFE Number	22567
Testing Co.	Morco Testing, Inc.	Project Number	0
Project Name	Naval Air Station Pipeline - Abandonment Project 10"Line		
File Name	C:\LOTSUITE\123R5W\WORK\MORCO00033.WK4	Revised 19 Nov 97	

TEST LOG

TIME	PRESSURE	AMBIENT TEMP	PIPE TEMP	REMARKS
31-Oct-97				
01:15 PM	50.5	89.0	85.0	On Test
01:25 PM	50.0	89.0	86.0	
01:35 PM	50.0	88.0	86.0	
01:45 PM	50.0	88.0	87.0	
02:00 PM	50.0	88.0	87.0	
02:30 PM	50.0	88.0	87.0	
03:00 PM	50.0	87.0	87.0	
03:30 PM	50.0	87.0	86.0	
04:00 PM	50.0	87.0	85.0	
04:30 PM	49.5	86.0	85.0	
05:00 PM	49.0	86.0	84.0	
05:45 PM	47.0	85.0	84.0	Off Test
				Ground Temperature Taken at Four Locations
				Along Test Section and Then Averaged For Value
				Reported.
31-Oct-97				

50	PSIG HI	TOTAL OZ BLEED	0
47	PSIG LOW	TOTAL OZ INJECTED	0

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Company	Department of the Navy	AFE Number	N62467-93-D-0936-073
Construction Co	Bechtel Enviromental, Inc.	AFE Number	22567
Testing Co.	Morco Testing, Inc.	Project No.	0
Project Name	Naval Air Station Pipeline - Abandonment Project 10"Line		
File Name	C:\LOTSUITE\123R5W\WORK\MORCO\00033.WK4		

NITROGEN TEST

PIPELINE: 10" Line TEST DATE 31-Oct-97

FROM : Trubo Point - Test Sect. #3 TO : ront St. Valve Pit

SECT. LENGTH:	4,750	PIPE DIA.:	10.750	WALL THK.	0.365
SPECK.	NA	GRADE :	NA		
SECT. LENGTH:	NA	PIPE DIA.:	NA	WALL THK.	NA
SPECK.	NA	GRADE :	NA		

INITIAL PRESSURE AT TEST POINT	50.5 PSIG	TIME:	01:15 PM	PIPE TEMP :	85
INITIAL AMBIENT TEMPERATURE	89 F	ELEV @ TEST PT			-1 MSL
IN. PRES. @ OTHER END	51 PSIG	ELEV.	3	LOCATION :	Front St. Valve P
FINAL PRESSURE AT TEST POINT	47.0 PSIG	TIME:	05:45 PM	PIPE TEMP :	84
FINAL AMBIENT TEMPERATURE	85 F	ELEV @ TEST PT			-1 MSL
IN. PRES. @ OTHER END	47.0 PSIG	ELEV.			3 MSL

IDEAL GAS LAW:

PV = RZT

WHERE

P =	Pressure (psia)	14.696 psia
V =	Volume (scf)	
R =	Gas Constant	
Z =	Compressibility Factor	
T =	Temperature (R)	527.67 R

Volume of Line at Standard Condition 2,601.1 Cubic Feet

Time	Pressure	Pipe Temp	Volume
13:15	50.5	85	11,889.2
13:25	50.0	86	11,819.7
13:35	50.0	86	11,819.7
13:45	50.0	87	11,841.4
14:00	50.0	87	11,841.4
14:30	50.0	87	11,841.4
15:00	50.0	87	11,841.4
15:30	50.0	86	11,819.7
16:00	50.0	85	11,798.0
16:30	49.5	85	11,706.8
17:00	49.0	84	11,594.3
17:45	47.0	84	11,230.2

RETESTED

NITROGEN TEST CONTINUED

	Length of Test	04:30	Hours
(+ Gained, - Loss)	Nitrogen	(146.4)	Standard Cubic Feet per Hour
(+ Gained, - Loss)	Nitrogen	(659.0)	Standard Cubic Feet

TESTED ACCEPTED X YES _____ NO

IF NO EXPLAIN _____

REMARKS _____

JOHN P. MCKERNAN, PE PLS

11/19/97

DATE

STATE OF TEXAS
JOHN P. McKERNAN
41275
REGISTERED
PROFESSIONAL ENGINEER

Retested

Company	Department of the Navy	AFE Number	N62467-93-D-0936-073
Construction Co.	Bechtel Enviromental, Inc.	AFE Number	22567
Testing Co.	Morco Testing, Inc.	Project Number	0
Project Name	Naval Air Station Pipeline - Abandonment Project - Test Section #3		
File Name	C:\LOTSUITE\123R5WW\WORK\MORCO\0003WK4.WK4	Revised 19 Nov 97	

TEST LOG

TIME	PRESSURE	AMBIENT TEMP	PIPE TEMP	REMARKS
11-Dec-97				
10:00 AM	50.50	84.0	74.0	On Test
10:15 AM	50.50	85.0	74.0	
10:30 AM	50.50	85.0	74.0	
10:45 AM	50.50	86.0	74.0	
11:00 AM	50.50	86.0	74.0	
11:15 AM	50.25	86.0	74.0	
11:30 AM	50.25	86.0	74.0	
11:45 AM	50.00	86.0	74.0	
12:00 PM	50.00	86.0	75.0	
12:15 PM	50.00	87.0	75.0	
12:30 PM	50.00	87.0	75.0	
12:45 PM	50.00	88.0	76.0	
01:00 PM	49.75	88.0	76.0	
01:15 PM	49.75	88.0	76.0	
01:30 PM	49.75	87.0	76.0	
01:45 PM	49.75	87.0	76.0	
02:00 PM	49.75	86.0	76.0	
02:15 PM	49.75	86.0	76.0	Off Test
				Ground Temperature Taken at Four Locations Along Test Section and Then Averaged For Value Reported.
11-Dec-97				

50.5	PSIG HI	TOTAL OZ. BLEED	0
49.75	PSIG LOW	TOTAL OZ. INJECTED	0

Company	Department of the Navy	AFE Number	N62467-93-D-0936-07
Construction Co.	Bechtel Enviromental, Inc.	AFE Number	22567
Testing Co.	Morco Testing, Inc.	Project No.	0
Project Name	Naval Air Station Pipeline - Abandonment Project - Test Section #3		
File Name	C:\LOTSUITE\123R5W\WORK\MORCO\0003WK4.WK4		

NITROGEN TEST

PIPELINE: Test Sect. #3 TEST DATE 11-Dec-97

FROM: Trumbo Point Sect #3 TO: Front St. Valve Pit

SECT. LENGTH	4,750	PIPE DIA.:	10.750	WALL THK.	0.365
SPECK.	NA	GRADE:	NA		

INITIAL PRESSURE AT TEST POINT	50.5 PSIG	TIME:	10:00 AM	PIPE TEMP:	74
INITIAL AMBIENT TEMPERATURE	84 F	ELEV @ TEST PT			-1 MSL
IN. PRES. @ OTHER END	51 PSIG	ELEV.	3	LOCATION:	Front St. Valve Pit
FINAL PRESSURE AT TEST POINT	49.8 PSIG	TIME:	02:15 PM	PIPE TEMP:	76
FINAL AMBIENT TEMPERATURE	86 F	ELEV @ TEST PT			-1 MSL
IN. PRES. @ OTHER END	49.8 PSIG	ELEV.			3 MSL

IDEAL GAS LAW:

PV = RZT

WHERE

P = Pressure (psia) 14.696 psia

V = Volume (scf)

R = Gas Constant

Z = Compressibility Factor

T = Temperature (R) 527.67 R

Volume of Line at Standard Conditions 2,601.1 Cubic Feet

Time	Pressure	Pipe Temp	Volume
10:00	50.50	74	11648.6
10:15	50.50	74	11648.6
10:30	50.50	74	11648.6
10:45	50.50	74	11648.6
11:00	50.50	74	11648.6
11:15	50.25	74	11603.9
11:30	50.25	74	11603.9
11:45	50.00	74	11559.3
12:00	50.00	75	11581.0
12:15	50.00	75	11581.0
12:30	50.00	75	11581.0
12:45	50.00	76	11602.7
13:00	49.75	76	11557.8
13:15	49.75	76	11557.8
13:30	49.75	76	11557.8
13:45	49.75	76	11557.8
14:00	49.75	76	11557.8
14:15	49.75	76	11557.8

Company	Department of the Navy	AFE Number	N62467-93-D-0936-07
Construction Co.	Bechtel Enviromental, Inc.	AFE Number	22567
Testing Co.	Morco Testing, Inc.	Project No.	0
Project Name	Naval Air Station Pipeline - Abandonment Project - Test Section #3		
File Name	C:\LOTSUITE\123RSW\WORK\MORCO\0003WK4.WK4		

NITROGEN TEST CONTINUED

	(- loss, +gain)	-90.8 scf
	(- loss, +gain)	-21.4 scf per hour
	Test Duration	4.25 Hour

TESTED ACCEPTED X YES _____ NO

IF NO EXPLAIN _____

REMARKS _____

JOHN P. MCKERNAN, PE PLS

12/11/97

DATE

STATE OF TEXAS
JOHN P. McKERNAN
41275
REGISTERED
PROFESSIONAL ENGINEER

BOCA CHICA PIPELINE CLOSURE

1. INTRODUCTION

Bechtel Environmental, Inc. (Bechtel) was contracted by the Department of the Navy, Naval Facilities Engineering Command, Southern Division (SOUTHDIV), to provide remedial services as the Navy's Environmental Response Action Contractor (RAC). This remedial action involved cleaning, testing and abandoning pipelines associated with NAS Key West's fuel transfer facilities on the island of Boca Chica. The As-built drawings included in Attachment 1 show the routing of the pipelines that were closed.

1.1 Boca Chica Pipeline History

On the island of Boca Chica three pipelines are included:

- Two 6-inch JP-5 pipelines from valve pit no. 1 to fuel farm manifold.
- One 6-inch aviation gasoline (AVGAS) pipeline from valve pit no. 1 to fuel farm manifold.

These pipelines were installed in 1961 and provided for the transfer of jet fuel and AVGAS from Pier 934 to the fuel farm at Boca Chica. The distance from the pier to the fuel farm, along the route of the pipelines, is approximately 6100 feet. The JP-5 pipeline was previously used for JP-3 and JP-4.

2. TEST REQUIREMENTS

2.1 SEQUENCE OF WORK ACTIVITIES

The abandonment of each pipeline section followed the same sequence of work activities. These activities were:

1. Vault dewatering
2. Pipeline draining
3. Pressure integrity testing
4. Pipeline cleaning
5. Cleanliness test
6. Leak detection test (as necessary)
7. Permanent pipeline modifications
8. Filling of pipelines
9. Surface construction
10. Closure reporting

2.2 PRESSURE INTEGRITY TESTING

Each pipeline segment was pressure tested for integrity prior to leak location or pipeline cleaning activities. The lines were tested using the following sequence:

1. Pipeline Sections were tested from valve pit to valve pit.
2. Any remaining existing valves were removed from the system.
3. Blind flanges or welded caps were installed for pipeline segment isolation.
4. Fill and bleed-off assemblies were installed in the blind flanges or caps.
5. Pressure regulation and monitoring devices were installed.
6. Temperature readings of the soil along the segment of pipeline to be tested were recorded.

7. Nitrogen was introduced through the fill assembly at a rate not to exceed the maximum test pressure and at a temperature of plus or minus 10 degrees F of the soil temperature.
8. The pipeline segments were pressurized in 10 psi increments and held for 10 minutes to allow for equalization of gas temperature and pipeline temperature. This method also reduced the chances of a shock burst of the pipeline.
9. After nominal test pressure was achieved, the segment of pipeline under pressure was isolated from the fill source and allowed to equilibrate for a period of 1 hour. Temperature of the soil and the pipeline was monitored and recorded and when the average temperature of the pipeline was within 1 degree F of the soil readings, the pipeline is considered in equilibrium.
10. Pipeline integrity test timed interval began as soon as equilibrium was reached.
11. The criterion for the pipeline pressure test was no more than 5 psig temperature compensated pressure drop with the initial pressure of 65 psi.
12. Results were documented on pipeline drawings and on test log sheets.
13. Test were considered complete if test meet acceptance criteria or all leaks were identified.

3. TEST RESULTS

All 27 pipeline segments on Boca Chica were tested and passed the testing with the exception of one test section (Test Section #8, JP-5#3), which failed the pressure test. The test results are included in Attachment 2. Leak detection was performed on this section and the leak was found. The leak was found approximately 12'6" from valve pit #2. This section of pipe was coated due to the pipeline being exposed. There was a riser over two drainpipes under the road. The leak was on the topside of the pipeline, which was taped and coated, forcing the SF6 to come out on the bottom side of the pipe. When SF6 was detected in a probe hole under the pipe at the leak area, dirt and coating was removed from the pipe and the leak was exposed.

The pipeline sections were filled with polyurethane foam as indicated on the As Built drawing included in Attachment 1.

Florida Department of Environmental Protection
Twin Towers Office Bldg. ● 2600 Blair Stone Road ● Tallahassee, Florida 32399-2400

DER Form # 62-761.900(6)
Form Title Closure Assessment Form
Effective Date December 10, 1990
DEP Application No. _____ (Filled in by DEP)

Closure Assessment Form

Owners of storage tank systems that are replacing, removing or closing in place storage tanks shall use this form to demonstrate that a storage system closure assessment was performed in accordance with Rule 62-761 or 62-762, Florida Administrative Code. Eligible Early Detection Incentive (EDI) and Reimbursement Program sites do not have to perform a closure assessment.

Please Print or Type
Complete All Applicable Blanks

1. Date _____
2. DEP Facility ID Number: N/A 3. County Monroe
4. Facility Name: Boca Chica - Fuel Transfer Lines - Pier 934 to Fuel Farm
5. Facility Owner: Commanding Officer
6. Facility Address: Naval Air Station - Key West - PO Box 9007
7. Mailing Address: Key West, FL 33040
8. Telephone Number: (305) 293-2881 9. Facility Operator: Jim Simmen
10. Are the ~~Storage Tank~~ Pipelines(s): (Circle one or both) A. Aboveground or (B. Underground)
11. Type of Product(s) Stored: JP4, JP5 & AvGas
12. Were the ~~Tank~~ Pipelines(s): (Circle one) A. Replaced B. Removed C. Closed in Place D. Upgraded (aboveground tanks only)
13. Number of ~~Tanks~~ Pipelines closed: 3 14. Age of ~~Tanks~~ Pipelines: 37 years

Facility Assessment Information

Yes	No	Not Applicable		
☐	☑		1.	Is the facility participating in the Florida Petroleum Liability Insurance and Restoration Program (FPLIRP)?
☐	☑		2.	Was a Discharge Reporting Form submitted to the Department? If yes, When: _____ Where: _____
☑	☐		3.	Is the depth to ground water less than 20 feet?
☐	☑	☐	4.	Are monitoring wells present around the storage system? If yes, please specify ☐ Vapor Monitoring ☐ Water Monitoring
☐	☐	☑	5.	Is there free product present in the monitoring wells or within the excavation?
☐	☐	☑	6.	Were the petroleum hydrocarbon vapor levels in the soil greater than 500 parts per million for gasoline? Specify sample type: ☐ Vapor Monitoring wells ☐ Soil sample(s)
☐	☐	☑	7.	Were the petroleum hydrocarbon vapor levels in the soils greater than 50 parts per million for diesel/kerosene? Specify sample type: ☐ Vapor Monitoring wells ☐ Soil sample(s)
☐	☐	☑	8.	Were the analytical laboratory results of the ground water sample(s) greater than the allowable state target levels? (See target levels on reverse side of this form and supply laboratory data sheet(s).
☐	☐	☑	9.	If a used oil storage system, did a visual inspection detect any discolored soil indicating a release?
	☑	☐	10.	Are any potable wells located within 1/4 of a mile radius of the facility?
	☐	☑	11.	Is there a surface water body within 1/4 mile radius of the site? If yes, indicate distance: 15 feet
☑	☐	☐	12.	A detailed drawing or sketch of the facility that includes the storage system location, monitoring wells, buildings, storm drains, sample locations, and dispenser locations must accompany this form.
☐	☐	☑	13.	If a facility has a pollutant storage tank system that has both gasoline and kerosine/diesel stored on site, both EPA method 602 and EPA method 610 must be performed on the ground water samples.

DER Form # 62-761.900(6)
Form Title Closure Assessment Form
Effective Date December 10, 1990
DEP Application No. _____
(Filled in by DEP)

14. Amount of soils removed and receipt of proper disposal.
15. If yes is answered to any one of questions 5-9, a Discharge Reporting Form 62-761.900(1) indicating a suspected release shall be submitted to the Department within one working day.
16. A copy of this form and any attachments must be submitted to the Department's district office in your area and to the locally administered program office under contact with the Department within 60 days of completion of tank removal or filling a tank with an inert material.

_____ Signature of Owner

_____ Date

J E Hockett, PE
Signature of Person Performing Assessment

8/12/98
Date

Project Engineer
Title of Person Performing Assessment

State Ground Water Target Levels That Affect A Pollutant Storage Tank System Closure Assessment

1. For Gasoline (EPA Method 602):

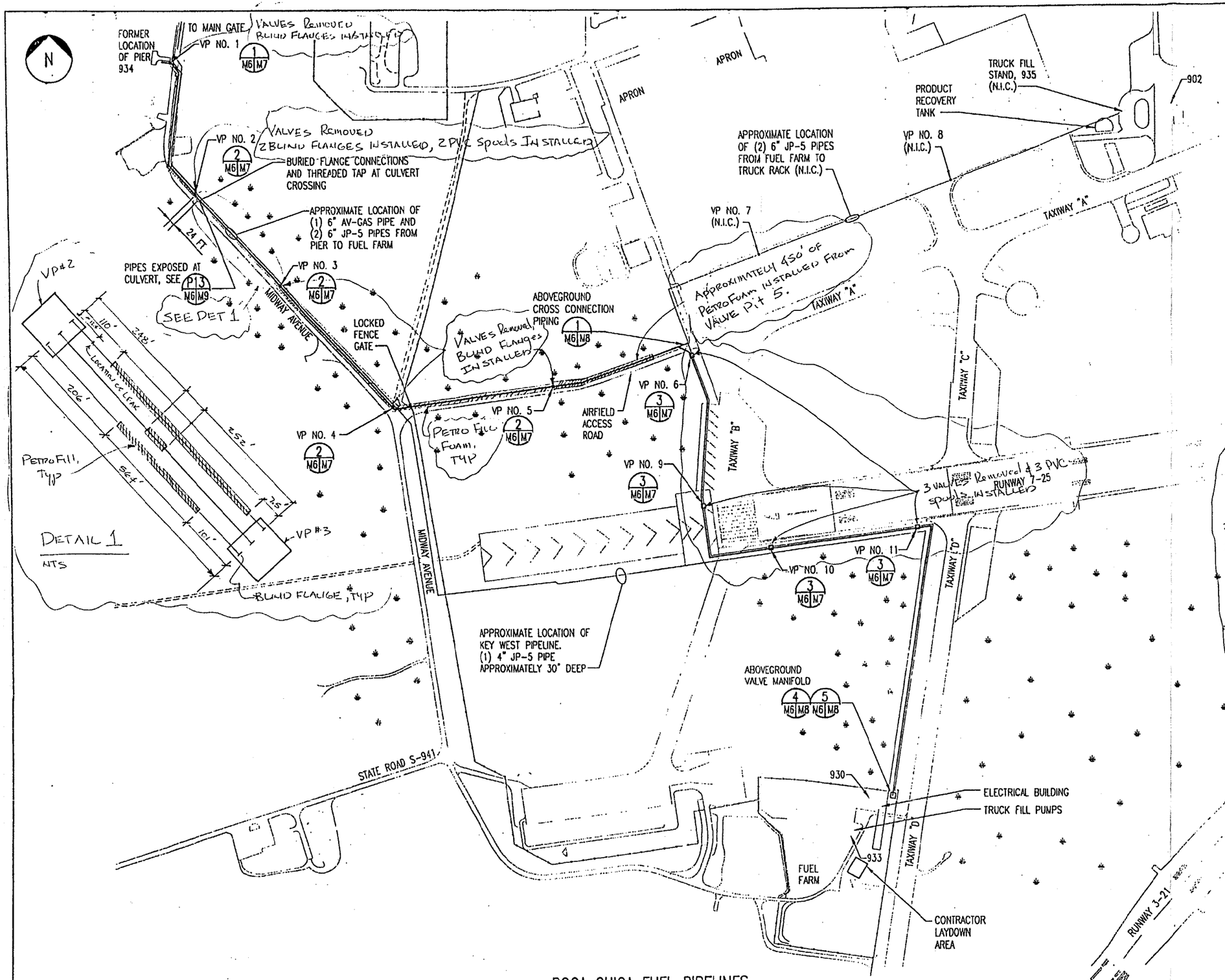
   a. Benzene 1 ug/l

   b. Total VOA 50 ug/l
   - -Benzene
   - -Toluene
   - -Total Xylenes
   - -Ethylbenzene

   c. *tert*-butyl methyl ether (MTBE) 50 ug/l

2. For kerosene/diesel (EPA Method 610):

   a. Polynuclear Aromatic Hydrocarbons (PAH)
   (Best achievable detection limit, 10 ug/l maximum)



BOCA CHICA FUEL PIPELINES
SCALE: 1"=200'

GENERAL INFORMATION– BOCA CHICA PIPELINE:

1. PIPELINES ARE COATED AND CATHODICALLY PROTECTED 6 INCH SCH 40 STEEL PIPE BENDS ARE ASSUMED TO BE STANDARD RADIUS FITTING.
2. PIPELINES WERE ORIGINALLY INSTALLED IN 1961.
3. PIPELINE DEPTH OF BURIAL AVERAGES 3 FEET AND IS AT OR BELOW THE WATER TABLE FOR THE ENTIRE LENGTH.
4. PIPELINES WITHIN THIS PROJECT HAVE BEEN DRAINED OF PRODUCT.
5. ACCESS TO VALVE PITS 5, 6, 9, 10, AND 11 AND ABOVEGROUND CROSS CONNECTION PIPING WILL BE LIMITED DUE TO PROXIMITY TO RUNWAY. COORDINATE WORK WITH AIRFIELD OPERATIONS.
6. HEAVY LINE(S) INDICATE ROUTE OF UNDERGROUND FUEL PIPELINES TO BE ABANDONED.
7. PIER 934 WAS PREVIOUSLY REMOVED UNDER A SEPARATE CONTRACT. THE PIPING FROM PIER 934 TO VP NO.1 IS SCHEDULED FOR DEMOLITION UNDER A SEPARATE CONTRACT.

As Built Notes:

1. ALL LINES WERE PRESSURE TESTED AND DRAINED.
2. VALVE PITS WERE NOT FILLED.
3. THE AVGAS LINE WAS FULL OF PRODUCT
4. THE LOCATION OF THE PETROFILL WAS APPROXIMATE.

Bechtel Environmental, Inc.
As-Built
Contract No. N62467-93-D-0938 DO# 73
By _____ Date 6/24/98

GRAPHIC SCALE
200 0 200 400 FT
SCALE: 1"=200'
CHECK GRAPHIC SCALE BEFORE USING

ENTERPRISE ENGINEERING, INC
TAMPA, FL. JACKSONVILLE, FL.
DRAWN AKV CHECKED BDHE APPROVED [illegible] DATE 2/24/97

SOUTHERN DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
DEPARTMENT OF THE NAVY
NAVAL AIR STATION KEY WEST, FLORIDA
ABANDON UNDERGROUND PIPELINES
BOCA CHICA FUEL PIPELINES ROUTE
APPROVED [illegible] DATE 3/25/97
PREP BY DATE APPROVED
NO. DESCRIPTION REV.

STATE OF MAINE CARL S. DOUGHERTY 12006 REGISTERED PROFESSIONAL ENGINEER
RECORD DRAWING DATE
CODE I.D. NO. 80091
DRAWING SIZE: D
SPEC. NO. 96-96-0850
CONTRACT (DO)(TO) NO. N62467-96-C-0850
PWTAC DRAWING NO. 5335087
SHEET 7 OF
M-6

MTI Morco Testing, Inc.
HYDROSTATIC TESTING LEAK DETECTION

HYDROSTATIC TEST REPORT

PIPELINE DIVISIO

PIPELINE COMPANY DEPARTMENT OF THE NAVY | JOB NO: 22567
W.O. NO: N62467-93-D-0936-07
PIPELINE CONTRACTOR BECHTEL ENVIRONMENTAL, INC. | AFE NO:

TEST SECTION NO.. VALVE PIT #11 TEST SECT. #1 AV-GAS #1 TO FUEL FARM

TEST BEGAN: DATE 10-21-97 TIME 11:00 AM | PRESSURE AIR LIQUIDE UNIT NO. 2821 STATION NO. VP #11

TEST END: DATE 10-21-97 TIME 11:30 AM | ELEVATION -1 TO +3

PIPE DATA: 996' 6.625" O.D. .280 W.T. SCH 40

TEST MEDIUM - NITROGEN

DEADWEIGHT SERIAL NUMBER 8" U.S.G. PRESSURE GAUGE # 18938 DATE CERTIFIED 10-10-97
PRESSURE RECORDER SERIAL NUMBER 2950 DATE CERTIFIED 10-10-97
TEMPERATURE RECORDER SERIAL NUMBER 265A3505 DATE CERTIFIED 10-10-97
TEST IS ☑ ACCEPTED ☐ REJECTED IF REJECTED, EXPLAIN _____

DEADWEIGHT RECORD

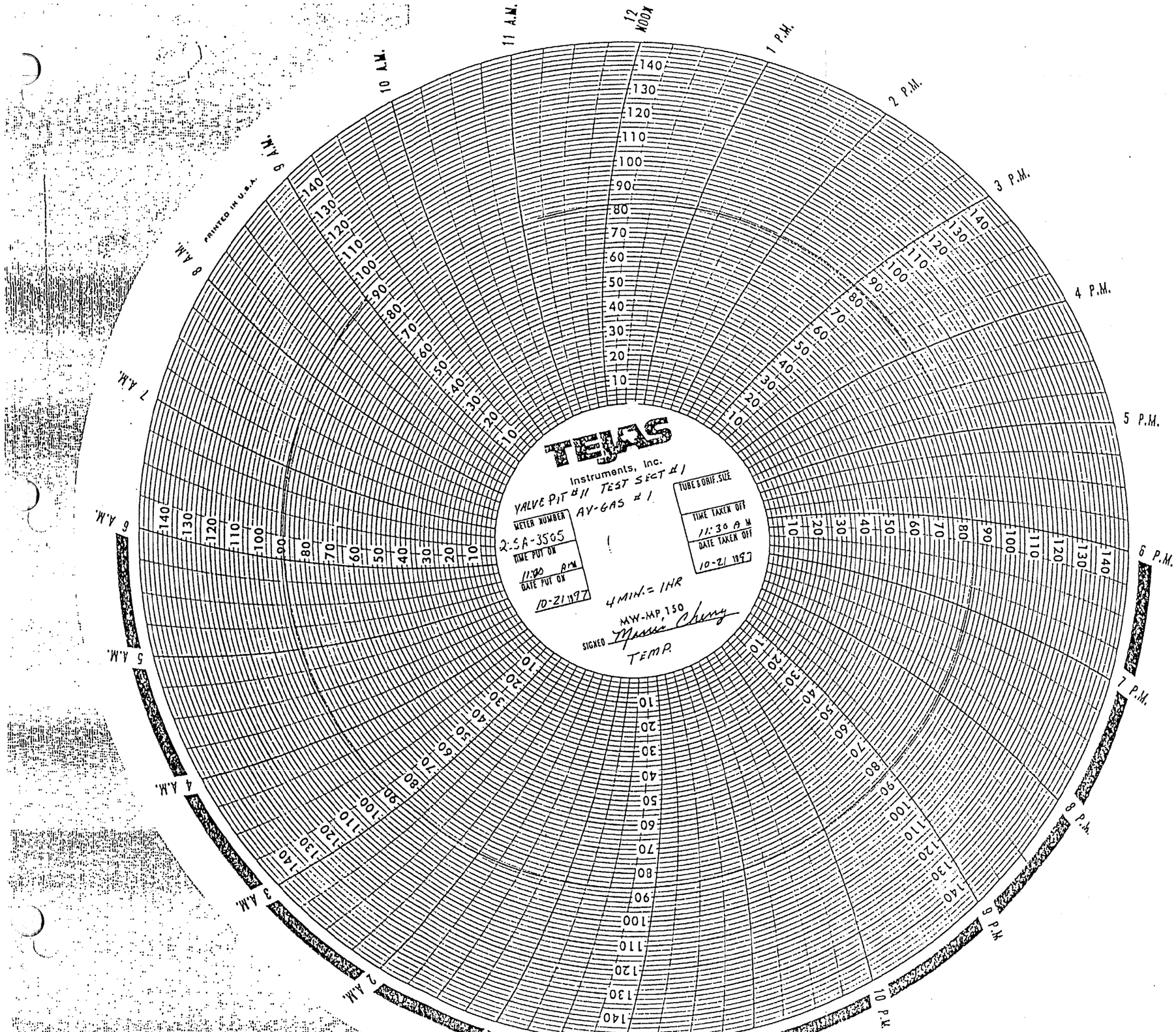
TEMPERATURE

Time	Pressure	Ambient	Pipe or Ground		Remarks
10:35 AM	25 PSI	74°	82°	85.25	PIPE TEMP PROBE OUT SIDE OF PIPE
10:45	50	74°	83°	85.25	AT FUEL FARM
10:55	67	74°	85°	85.25	
11:00	65	75°	86°	85.25	GROUND TEMP TAKEN AT 4 POINTS
11:10	65	75°	88°	85.25	ALONG TEST SECT. AND AVE.
11:20	65	76°	89°	85.25	
11:30	64.5	76°	88°	85.25	

TEST FOREMAN Manuel Chavez INSPECTOR

PRINTED IN U.S.A.
Instruments, Inc.
VALVE METER NUMBER
2950
TIME PUT ON
11:00 AM
DATE PUT ON
10-21-1987
PIT #11 TEST SECT #1
All-GAS #1
TIME TAKEN OFF
11:30 AM
DATE TAKEN OFF
10-21-1987
4 MIN - 1 HR
MW-MP 139
SIGNED
PRESSURE
6 A.M.
7 A.M.
8 A.M.
9 A.M.
10 A.M.
11 A.M.
12 NOON
1 P.M.
2 P.M.
3 P.M.
4 P.M.
5 P.M.
6 P.M.
7 P.M.
8 P.M.
9 P.M.
10 P.M.
11 P.M.
12 MIDNT
1 A.M.
4 A.M.
5 A.M.

0115DB92


12 NOON
1 P.M.
2 P.M.
3 P.M.
4 P.M.
5 P.M.
6 P.M.
7 P.M.
8 P.M.
9 P.M.
10 P.M.
11 A.M.
10 A.M.
9 A.M.
8 A.M.
7 A.M.
6 A.M.
5 A.M.
4 A.M.
3 A.M.
2 A.M.
TEXAS
Instruments, Inc.
VALVE PIT #11 TEST SECT #1
AY-GAS #1
METER NUMBER
2-SA-3505
TIME PUT ON
11:00 A.M.
DATE PUT ON
10-21-1997
TUBE & ORIF. SIZE
TIME TAKEN OFF
11:30 A.M.
DATE TAKEN OFF
10-21-1997
4 MIN. = 1 HR
MW-MP, 150
SIGNED Massa Cheng
TEMP.
PRINTED IN U.S.A.

18 November 1997

Mr. Morris Cherry
Morco Testing, Inc.
2516 Revere Dr.
Pasadena, Texas 77502

Subject	Certification of Nitrogen Test
Client	Department of the Navy
Contractor	Bechtel Environmental, Inc.
Description	6-inch AV - Gas #1
Date Test Accepted	21 October 1997

Dear Mr. Cherry;

This letter is certify that the nitrogen test performed on the 6-inch AV - Gas #1 Pipeline from Valve Pit Number 11 to the Fuel Farm by Morco Testing, Inc. met the requirements of ASME/ANSI B31.3 "Chemical Plant and Petroleum Refinery Piping" and "Department of the Navy Southern Division Technical Specification for Pipeline Pressure Testing" 324-SP738-002 Rev. 0.

This section of the pipe line was tested for thirty (30) minutes, using nitrogen as the test medium, at a minimum measured test pressure of 64.5 psig. This successfully completed the leak test requirements of the above code and specification. This leak test did not loose five (5) psig during the test period. The line lost a calculated 2.9 standard cubic feet during the test period. If the test were held for an additional hour, the data indicates a loss of 5.9 standard cubic feet would have occurred. This loss corresponds to a calculated pressure loss of less than 1 psig. This is within acceptable limits as set forth in Specification "Department of the Navy Southern Division Technical Specification for Pipeline Pressure Testing" 324-SP738-002 Rev. 0.

Sincerely yours,

John P. Mc Kernan, PE PLS

C:\LOTSUITE\AMIPRO\DOCS\MORCO\016.SAM

Company	Department of the Navy	AFE Number	N62467-93-D-0936-073
Construction Co	Bechtel Enviromental, Inc.	AFE Number	22567
Testing Co:	Morco Testing, Inc.	Project Number	0
Project Name	Naval Air Station Pipeline - Abandonment Project - AV GAS #1		
File Name	C:\LOTSUITE\123R5W\WORKW\ORCO00004.WK4	Revised 18 Nov 97	

TEST LOG

TIME	PRESSURE	AMBIENT TEMP	PIPE TEMP	REMARKS
21-Oct-97				
11:00 AM	65.0	75.0	86.0	On Test
11:10 AM	65.0	75.0	88.0	
11:20 AM	65.0	76.0	88.0	
11:30 AM	64.5	76.0	88.0	Off Test
				Ground Temperature Taken at Four Locations
				Along Test Section and Then Averaged For Value
				Reported.
				Pipe Temperature Probe Outside of Pipe at Fuel
				Farm.
21-Oct-97				

65	PSIG HI	TOTAL OZ BLEED	0
64.5	PSIG LOW	TOTAL OZ INJECTED	0

Company	Department of the Navy	AFE Number	N62467-93-D-0836-073
Construction Co	Bechtel Enviromental, Inc.	AFE Number	22567
Testing Co.	Morco Testing, Inc.	Project No.	0
Project Name	Naval Air Station Pipeline - Abandonment Project - AV GAS #1		
File Name	C:\LOTSUITE\123R5W\WORK\MORCO\CC004.WK4	Revised 18 Nov 97	

NITROGEN TEST

PIPELINE: AV GAS 31 TEST DATE 21-Oct-97

FROM : Valve Pit #11 Test Sect. #1 VA-Gas# TO : Fuel Farm

SECT. LENGTH: 996 PIPE DIA.: 6.625 WALL THK. 0.280

SPECK. NA GRADE : NA

INITIAL PRESSURE AT TEST POINT 65 PSIG TIME: 11:00 AM PIPE TEMP : 86

INITIAL AMBIENT TEMPERATURE 75 F ELEV @ TEST PT -1 MSL

IN. PRES. @ OTHER END 65 PSIG ELEV. 3 LOCATION : Fuel Farm

FINAL PRESSURE AT TEST POINT 64.5 PSIG TIME: 11:30 AM PIPE TEMP : 88

FINAL AMBIENT TEMPERATURE 76 F ELEV @ TEST PT -1 MSL

IN. PRES. @ OTHER END 64.5 PSIG ELEV. 3 MSL

IDEAL GAS LAW:

$PV = RZT$

WHERE

P = Pressure (psia) 14.696 psia

V = Volume (scf)

R = Gas Constant

Z = Compressibility Factor

T = Temperature (R) 527.67 R

Volume of Line at Standard Condition 199.8 Cubic Feet

Time	Pressure	Pipe Temp	Volume
11:00	65.0	86	1118.6
11:10	65.0	88	1122.7
11:20	65.0	88	1122.7
11:30	64.5	88	1115.6

(- loss, + gain) (2.9)scf

(- loss, + gain) -5.9 scf per hour

Test Duration 0.5 Hours

TESTED ACCEPTED X YES NO

IF NO EXPLAIN

REMARKS

JOHN P. MCKERNAN, PE PLS

11/18/97

DATE

JOHN P. McKERNAN 41275 REGISTERED PROFESSIONAL ENGINEER

C:\LOTSUITE\AMIPRO\DOCS\MORCO\016.SAM

MTI Morco Testing, Inc.
HYDROSTATIC TESTING LEAK DETECTION

HYDROSTATIC TEST REPORT

PIPELINE DIVISIC

PIPELINE COMPANY DEPARTMENT OF THE NAVY | JOB NO: 22567
PIPELINE CONTRACTOR BECHTEL ENVIRONMENTAL, INC. | W.O. NO: N62467-93-D-0936-0 | AFE NO:

TEST SECTION NO. VALVE PIT #11 TEST SECT. #1 JP-5 #2 TO FUEL FARM

TEST BEGAN: DATE 10-21-97 TIME 11:55 AM | PRESSURE AIR LIQUIDE UNIT NO. 2821 STATION NO. VP #11

TEST END: DATE 10-21-97 TIME 12:25 PM | ELEVATION -1 TO +3

PIPE DATA: 996' 6.625" O.D. .280 W.T. SCH 40

TEST MEDIUM - NITROGEN

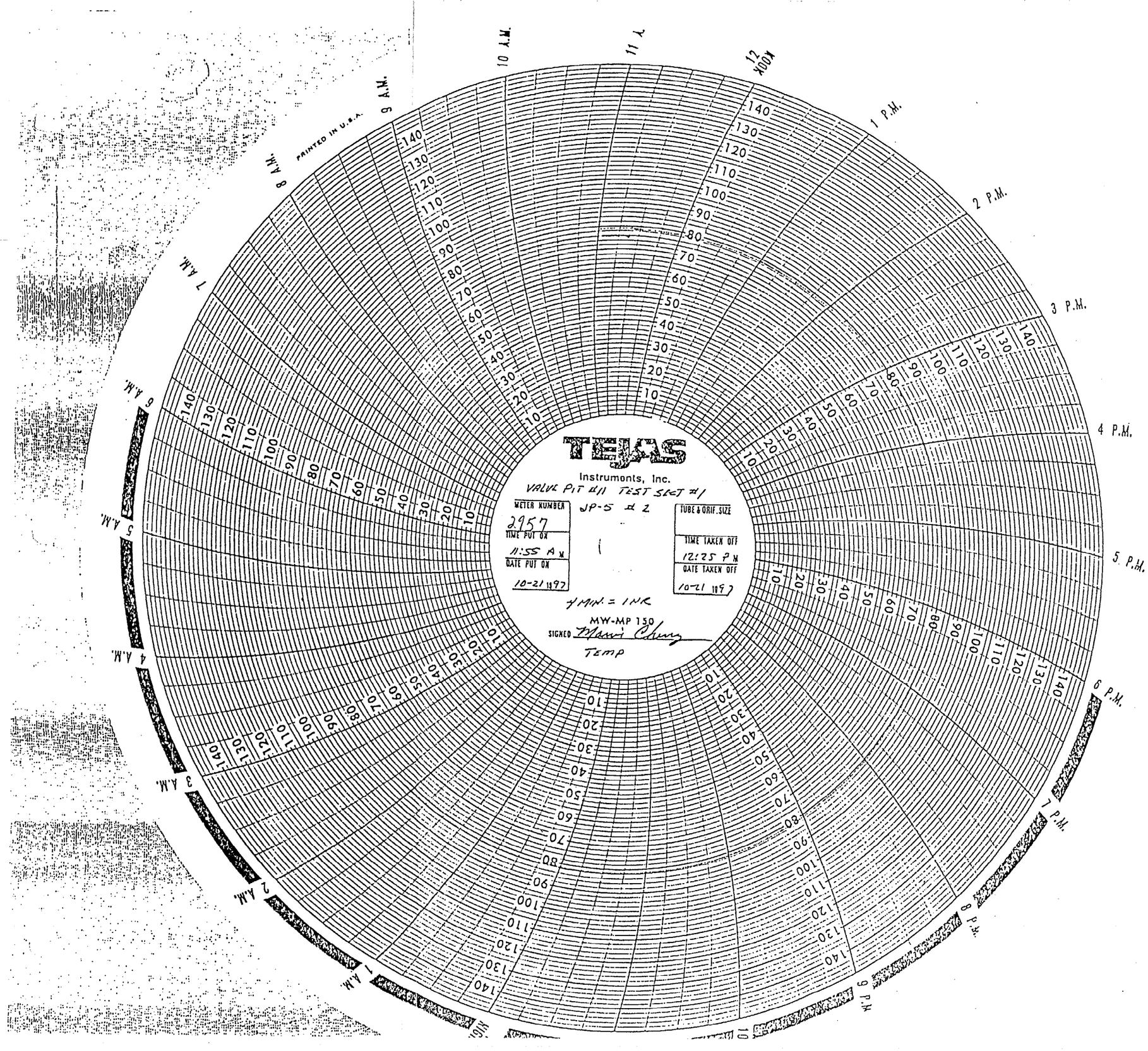
DEADWEIGHT SERIAL NUMBER 4½" PERMA-CAL GAUGE 12916-02-04 DATE CERTIFIED 10-10-97
PRESSURE RECORDER SERIAL NUMBER 2953 DATE CERTIFIED 10-10-97
TEMPERATURE RECORDER SERIAL NUMBER 2957 DATE CERTIFIED 10-10-97
TEST IS ☒ ACCEPTED ☐ REJECTED IF REJECTED, EXPLAIN _____

DEADWEIGHT RECORD

TEMPERATURE

Time	Pressure	Ambient	Pipe or Ground	Remarks
11:25 AM	35	76°	79° 85.25°	PIPE TEMP PROBE OUTSIDE OF PIPE
11:35	50	78°	80° 85.25°	AT FUEL FARM
11:45	50	78°	80° 85.25°	
11:50	65.5	78°	80° 85.25°	GROUND TEMP TAKEN AT 4 POINTS
11:55	65	79°	81° 85.25°	ALONG TEST SECT. AND AVG.
12:05	65	80°	82° 85.25°	
12:15	64.5	82°	82° 85.25°	
12:25	64.5	84°	82° 85.25°	

TEST FOREMAN Marvin Shaw INSPECTOR


TEJAS
Instruments, Inc.
VALVE PIT #11 TEST SECT #1
METER NUMBER
2957
TIME PUT ON
11:55 A M
DATE PUT ON
10-21 1997
JP-5 # 2
TUBE & ORIF. SIZE
TIME TAKEN OFF
12:25 P M
DATE TAKEN OFF
10-21 1997
4 MIN. = 1 INCH
MW-MP 150
SIGNED
Temp
8 A.M.
9 A.M.
10 A.M.
11 A.M.
12 NOON
1 P.M.
2 P.M.
3 P.M.
4 P.M.
5 P.M.
6 P.M.
7 P.M.
8 P.M.
9 P.M.
10 P.M.
7 A.M.
6 A.M.
5 A.M.
4 A.M.
3 A.M.
2 A.M.
1 A.M.
PRINTED IN U.S.A.

0115DB102

12 NOON
1 P.M.
2 P.M.
3 P.M.
4 P.M.
5 P.M.
6 P.M.
7 P.M.
8 P.M.
9 P.M.
10 P.M.
11 P.M.
12 MID.
1 A.M.
2 A.M.
3 A.M.
4 A.M.
5 A.M.
6 A.M.
7 A.M.
8 A.M.
9 A.M.
10 A.M.
11 A.M.

10 20 30 40 50 60 70 80 90 100 110 120 130 140

PRINTED IN U.S.A.

TEMS
Instruments, Inc.

VALVE PIT #11 TEST SET #1
JP-5 #2

METER NUMBER: 2953
TIME PUT ON: 11:55 A.M.
DATE PUT ON: 10-21 1957

TUBE & ORIF. SIZE:
TIME TAKEN OFF: 12:25 P.M.
DATE TAKEN OFF: 10-21 1957

4 MIN. = 1 HR
MW-MP 150
SIGNED Marcus Chung
PRESSURE

18 November 1997

Mr. Morris Cherry
Morco Testing, Inc.
2516 Revere Dr.
Pasadena, Texas 77502

Subject	Certification of Nitrogen Test
Client	Department of the Navy
Contractor	Bechtel Environmental, Inc.
Description	6-inch VA ~~Gas #1~~ JP-5 #2
Date Test Accepted	22 October 1997

Dear Mr. Cherry;

This letter is to certify that the nitrogen test performed on the 6-inch Pipeline from Valve Pit Number ~~10~~ 11 to ~~Valve Pit Number 9~~ FUEL FARM by Morco Testing, Inc. met the requirements of ASME/ANSI B31.3 "Chemical Plant and Petroleum Refinery Piping" and "Department of the Navy Southern Division Technical Specification for Pipeline Pressure Testing" 324-SP738-002 Rev. 0.

This section of the pipeline was tested for thirty (30) minutes, using nitrogen as the test medium, at a minimum measured test pressure of 64.5 psig. This successfully completed the leak test requirements of the above code and specification. This leak test lost one-half (1/2) psig and not more than five (5) psig during the test period. The line lost a calculated 4.9 standard cubic feet. If the test were held for an additional hour, the data indicates a loss of 9.8 standard cubic feet would have occurred. This loss corresponds to a calculated pressure loss of less than one (1) psig. This is within acceptable limits as set forth in Specification "Department of the Navy Southern Division Technical Specification for Pipeline Pressure Testing" 324-SP738-002 Rev. 0.

Sincerely yours,

John P. Mc Kernan, PE PLS

C:\LOTSUITE\AMIPRO\DOCS\MORCO\017.SAM

Company	Department of the Navy	AFE Number	N62467-93-D-0936-073
Construction Co	Bechtel Enviromental, Inc.	AFE Number	22567
Testing Co.	Morco Testing, Inc.	Project Number	0
Project Name	Naval Air Station Pipeline - Abandonment Project -JP - 5 #2		
File Name	C:\LOTSUITE\123R5\WORK\MORCO00005.WK4		

TEST LOG

TIME	PRESSURE	AMBIENT TEMP	PIPE TEMP	REMARKS
21-Oct-97				
11:55 AM	65.0	79.0	81.00	On Test
12:05 PM	65.0	80.0	82.00	
12:15 PM	64.5	82.0	82.00	
12:25 PM	64.5	84.0	82.00	Off Test
				Ground Temperature Taken at Four Locations
				Along Test Section and Then Averaged For Value
				Reported.
				Pipe Temperature Probe Outside of Pipe at Fuel
				Farm.
21-Oct-97				

64.5	PSIG HI	TOTAL OZ BLEED	0
64.5	PSIG LOW	TOTAL OZ INJECTED	0

Company	Department of the Navy	AFE Number	N62467-93-D-0936-073
Construction Co	Bechtel Enviromental, Inc.	AFE Number	22567
Testing Co.	Morco Testing, Inc.	Project No.	0
Project Name	Naval Air Station Pipeline - Abandonment Project -JP - 5 #2		
File Name	C:\LOTSUITE\123R5W\WORK\MORCO\00005.WK4		

NITROGEN TEST

PIPELINE: JP - 5 #2 TEST DATE 21-Oct-97

FROM : Valve Pit #11 Test Sect. #1 JP - 5 #2 TO : Fuel Farm

SECT. LENGTH: 996 PIPE DIA.: 6.625 WALL THK. 0.280

SPECK. NA GRADE : NA

INITIAL PRESSURE AT TEST POINT	65 PSIG	TIME:	11:55 AM	PIPE TEMP :	81
INITIAL AMBIENT TEMPERATURE	79 F	ELEV @ TEST PT		-1 MSL	
IN. PRES. @ OTHER END	65 PSIG	ELEV.	3	LOCATION :	Fuel Farm
FINAL PRESSURE AT TEST POINT	64.5 PSIG	TIME:	12:25 PM	PIPE TEMP :	82
FINAL AMBIENT TEMPERATURE	84 F	ELEV @ TEST PT		-1 MSL	
IN. PRES. @ OTHER END	64.5 PSIG	ELEV.		3 MSL	

IDEAL GAS LAW:

PV = RZT

WHERE

P = Pressure (psia) 14.696 psia

V = Volume (scf)

R = Gas Constant

Z = Compressibility Factor

T = Temperature (R) 527.67 R

Volume of Line at Standard Condition 199.8 Cubic Feet

Time	Pressure	Pipe Temp	Volume
11:55	65.0	81	1108.3
12:05	65.0	82	1110.3
12:15	64.5	82	1103.4
12:25	64.5	82	1103.4

(- loss, + gain) (4.9)scf

(- loss, + gain) -9.8 scf per hour

Test Duration 0.5 Hours

TESTED ACCEPTED X YES _____ NO

IF NO EXPLAIN

REMARKS

JOHN P. MCKERNAN, PE PLS

11/18/97

DATE

STATE OF TEXAS JOHN P. McKERNAN 41275 REGISTERED PROFESSIONAL ENGINEER

C:\LOTSUITE\AMIPRO\DOCS\MORCO\017.SAM

MTI Morco Testing, Inc.
HYDROSTATIC TESTING LEAK DETECTION

HYDROSTATIC TEST REPORT

PIPELINE DIVISIC

PIPELINE COMPANY DEPARTMENT OF THE NAVY

PIPELINE CONTRACTOR BECHTEL ENVIRONMENTAL, INC.

JOB NO: 22567
W.O. NO: N62467-93-D-0936-0
AFE NO:

TEST SECTION NO. VALVE PIT #11 TEST SECT #1 JP-5 #3 TO FUEL FARM

TEST BEGAN: DATE 10-21-97 TIME 1:00 PM

PRESSURE AIR LIQUIDE
UNIT NO. 3821 STATION NO. VP #11

TEST END: DATE 10-21-97 TIME 1:30 PM

ELEVATION -1 TO +3

PIPE DATA: 996' 6.625" O.D. .280 W.T. SCH 40

TEST MEDIUM - NITROGEN

DEADWEIGHT SERIAL NUMBER 4½" 3D PRESS GAUGE 8500543N DATE CERTIFIED 10-10-97
PRESSURE RECORDER SERIAL NUMBER 2948 DATE CERTIFIED 10-10-97
TEMPERATURE RECORDER SERIAL NUMBER 2877761 DATE CERTIFIED 10-10-97
TEST IS ☒ ACCEPTED ☐ REJECTED IF REJECTED, EXPLAIN

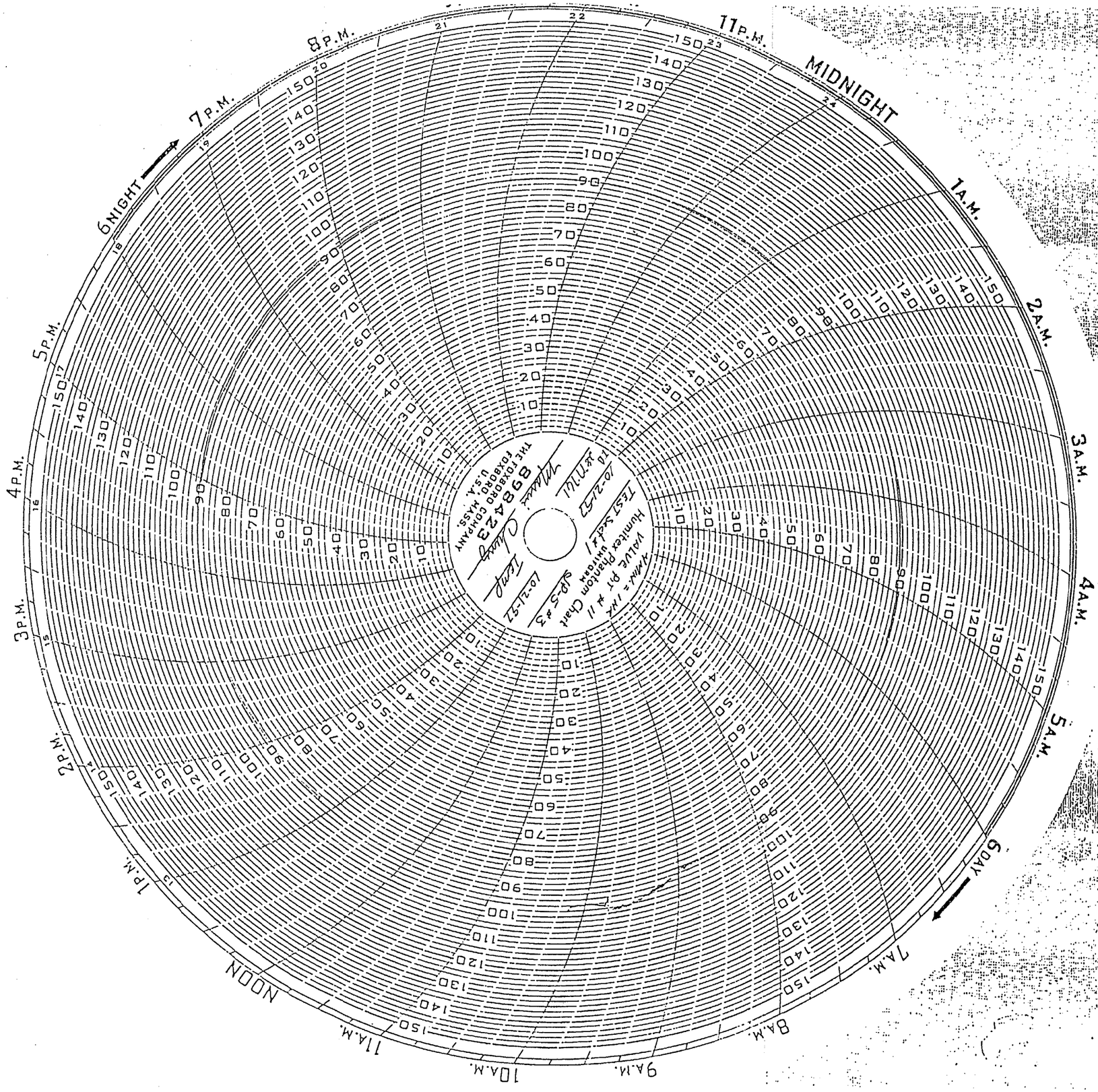
DEADWEIGHT RECORD

TEMPERATURE

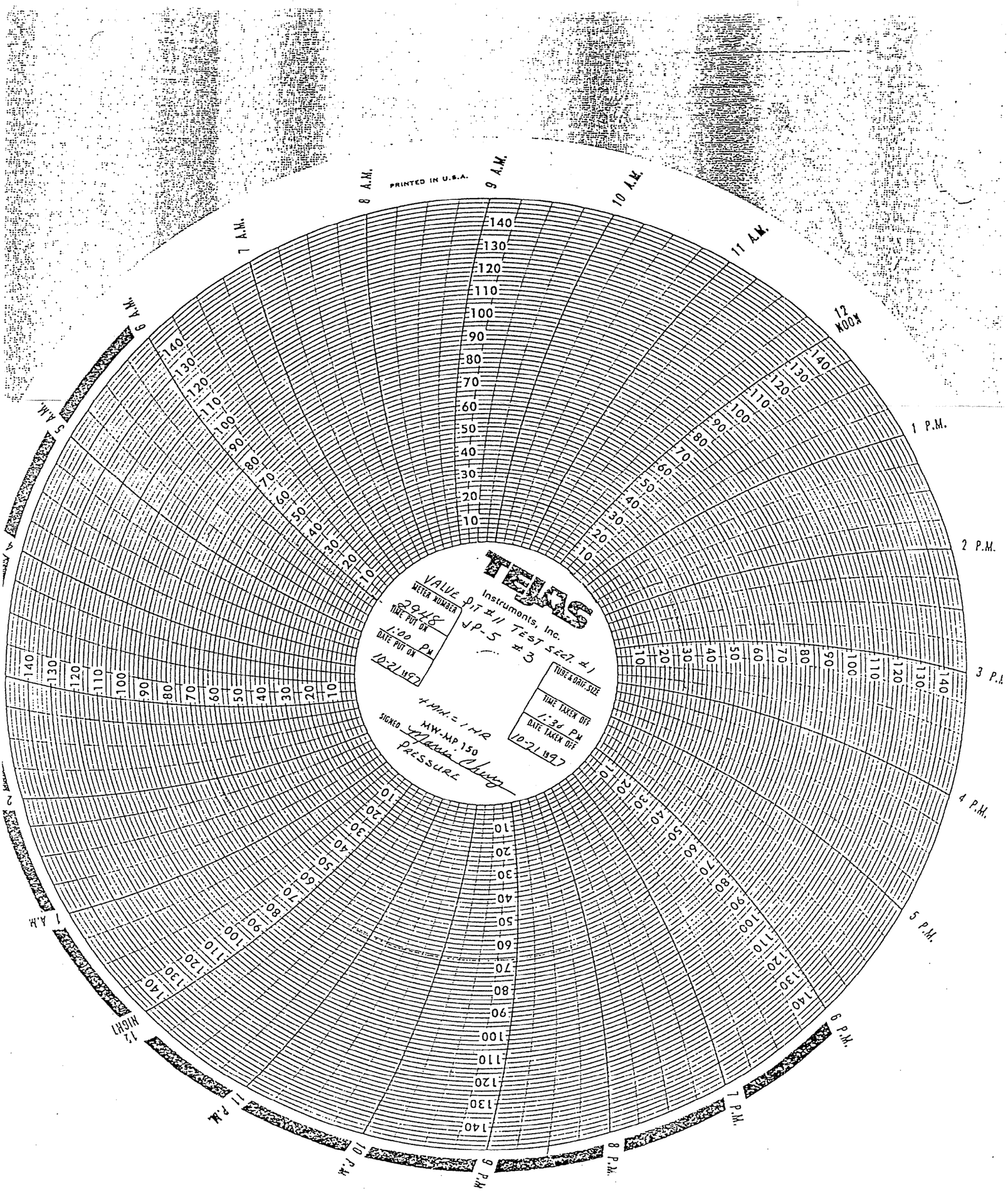
Time	Pressure	Ambient	Pipe or Ground	Remarks
12:30 PM	25 PSI	84°	89° 85.25	PIPE TEMP PROBE OUTSIDE OF PIPE
12:40	50	86°	90° 85.25	AT FUEL FARM
12:55	65	86°	90° 85.25	
1:00	65	87°	90° 85.25	GROUND TEMP TAKEN AT 4 POINTS
1:10	65	88°	90° 85.25	ALONG TEST SECT. AND AVE.
1:20	65	88°	90° 85.25	
1:30	65	88°	89° 85.25	

TEST FOREMAN Marvin Chen

INSPECTOR [signature]


MIDNIGHT
1A.M.
2A.M.
3A.M.
4A.M.
5A.M.
6DAY
7A.M.
8A.M.
9A.M.
10A.M.
11A.M.
NOON
1P.M.
2P.M.
3P.M.
4P.M.
5P.M.
6NIGHT
7P.M.
8P.M.
11P.M.
THE FOXBORO COMPANY
FOXBORO, MASS.
U.S.A.
89842 3
Humitex Phantom Chart
VALVE PIT # 11
Humitex Phantom Chart
Test Sect # 1
10-21-57
10-21-57
Temp
Chang

0115 DB#17


PRINTED IN U.S.A.
TEIAS
Instruments, Inc.
VALVE PIT #11 TEST SECT. #1
JP-5 #3
METER NUMBER
2948
TIME PUT ON
1:00 PM
DATE PUT ON
10-21 1997
TUBE & ORIF. SIZE
TIME TAKEN OFF
1:30 PM
DATE TAKEN OFF
10-21 1997
4 MIN. = 1 HR
MW-MP 150
SIGNED
PRESSURE
1 A.M.
2 A.M.
3 A.M.
4 A.M.
5 A.M.
6 A.M.
7 A.M.
8 A.M.
9 A.M.
10 A.M.
11 A.M.
12 NOON
1 P.M.
2 P.M.
3 P.M.
4 P.M.
5 P.M.
6 P.M.
7 P.M.
8 P.M.
9 P.M.
10 P.M.
11 P.M.
12 NIGHT

18 November 1997

Mr. Morris Cherry
Morco Testing, Inc.
2516 Revere Dr.
Pasadena, Texas 77502

Subject	Certification of Nitrogen Test
Client	Department of the Navy
Contractor	Bechtel Environmental, Inc.
Description	6-inch JP 5 #3
Date Test Accepted	21 October 1997

Dear Mr. Cherry;

This letter is certify that the nitrogen test performed on the 6-inch JP -5 #3 Pipeline from Valve Pit Number 11 to the Fuel Farm by Morco Testing, Inc. met the requirements of ASME/ANSI B31.3 "Chemical Plant and Petroleum Refinery Piping" and "Department of the Navy Southern Division Technical Specification for Pipeline Pressure Testing" 324-SP738-002 Rev. 0.

This section of the pipe line was tested for thirty (30) minutes, using nitrogen as the test medium, at a measured test pressure of 65 psig. This successfully completed the leak test requirements of the above code and specification. The line lost a calculated 2.1 standard cubic feet. If the test were held for an additional hour, the data indicates a loss of 4.1 standard cubic feet would have occurred. This loss corresponds to a calculated pressure loss of less than one (1) psig. . This is within acceptable limits as set forth in Specification "Department of the Navy Southern Division Technical Specification for Pipeline Pressure Testing" 324-SP738-002 Rev. 0.

Sincerely yours,

John P. Mc Kernan, PE PLS

C:\LOTSUITE\AMIPRO\DOCS\MORCO\018.SAM

Company	Department of the Navy	AFE Number	N62467-93-D-0935-073
Construction Co	Bechtel Enviromental, Inc.	AFE Number	22567
Testing Co.	Morco Testing, Inc.	Project Number	0
Project Name	Naval Air Station Pipeline - Abandonment Project - JP-5 #3		
File Name	C:\LOTSUITE\123R5\WORK\MORCO\00006.WK4		

TEST LOG

TIME	PRESSURE	AMBIENT TEMP	PIPE TEMP	REMARKS
21-Oct-97				
01:00 PM	65.0	87.0	90.0	On Test
01:10 PM	65.0	88.0	90.0	
01:20 PM	65.0	88.0	90.0	
01:30 PM	65.0	88.0	89.0	Off Test
				Ground Temperature Taken at Four Locations
				Along Test Section and Then Averaged For Value
				Reported.
				Pipe Temperature Probe Outside of Pipe at Fuel
				Farm.
21-Oct-97				

65	PSIG HI	TOTAL OZ BLEED	0
65	PSIG LOW	TOTAL OZ. INJECTED	0

Company	Department of the Navy	AFE Number	N62467-93-D-0536-073
Construction Co	Bechtel Enviromental, Inc.	AFE Number	22567
Testing Co.	Morco Testing, Inc.	Project No.	0
Project Name	Naval Air Station Pipeline - Abandonment Project - JP-5 #3		
File Name	C:\LOTSUITE\123R5W\WORK\MORCO\00006.WK4		

NITROGEN TEST

PIPELINE: JP - 5 #3 TEST DATE 21-Oct-97

FROM : Valve Pit #11 Test Sect. #1 JP-5 #3 TO : Fuel Farm

SECT. LENGTH: 996 PIPE DIA.: 6.625 WALL THK. 0.280

SPECK. NA GRADE : NA

INITIAL PRESSURE AT TEST POINT	65 PSIG	TIME:	01:00 PM	PIPE TEMP :	90
INITIAL AMBIENT TEMPERATURE	87 F	ELEV @ TEST PT		-1 MSL	
IN. PRES. @ OTHER END	65 PSIG	ELEV.	3	LOCATION :	Fuel Farm
FINAL PRESSURE AT TEST POINT	65.0 PSIG	TIME:	01:30 PM	PIPE TEMP :	89
FINAL AMBIENT TEMPERATURE	88 F	ELEV @ TEST PT		-1 MSL	
IN. PRES. @ OTHER END	65.0 PSIG	ELEV.		3 MSL	

IDEAL GAS LAW:

PV = RZT

WHERE

P = Pressure (psia) 14.696 psia

V = Volume (scf)

R = Gas Constant

Z = Compressibility Factor

T = Temperature (R) 527.67 R

Volume of Line at Standard Condition 199.8 Cubic Feet

Time	Pressure	Pipe Temp	Volume
13:00	65.0	90	1126.8
13:10	65.0	90	1126.8
13:20	65.0	90	1126.8
13:30	65.0	89	1124.7

(- loss, + gain) -2.1 scf

(- loss, + gain) -4.1 scf per hour

Test Duration 0.5 Hours

TESTED ACCEPTED X YES NO

IF NO EXPLAIN

REMARKS

JOHN P. MCKERNAN, PE PLS

11/18/97

DATE

JOHN P. McKERNAN 41275 REGISTERED PROFESSIONAL ENGINEER

C:\LOTSUITE\AMIPRO\DOCS\MORCO\018.SAM

MTI Morco Testing, Inc.
HYDROSTATIC TESTING LEAK DETECTION

HYDROSTATIC TEST REPORT

PIPELINE DIVISI

PIPELINE COMPANY DEPARTMENT OF THE NAVY | JOB NO: Z2567
W.O. NO: N62467-93-D-0936-0
PIPELINE CONTRACTOR BECHTEL ENVIRONMENTAL, INC. | AFE NO:

TEST SECTION NO. VALVE PIT #11 TEST SECT #2 AVGAS #1 TO VALVE PIT #10

TEST BEGAN: DATE 10-21-97 TIME 1:50 PM | PRESSURE AIR LIQUIDE UNIT NO. 2821 STATION NO. VP #11

TEST END: DATE 10-21-97 TIME 2:20 PM | ELEVATION -1' TO +3

PIPE DATA: 593' 6.625" O.D. .280 W.T. SCH 40

TEST MEDIUM - NITROGEN

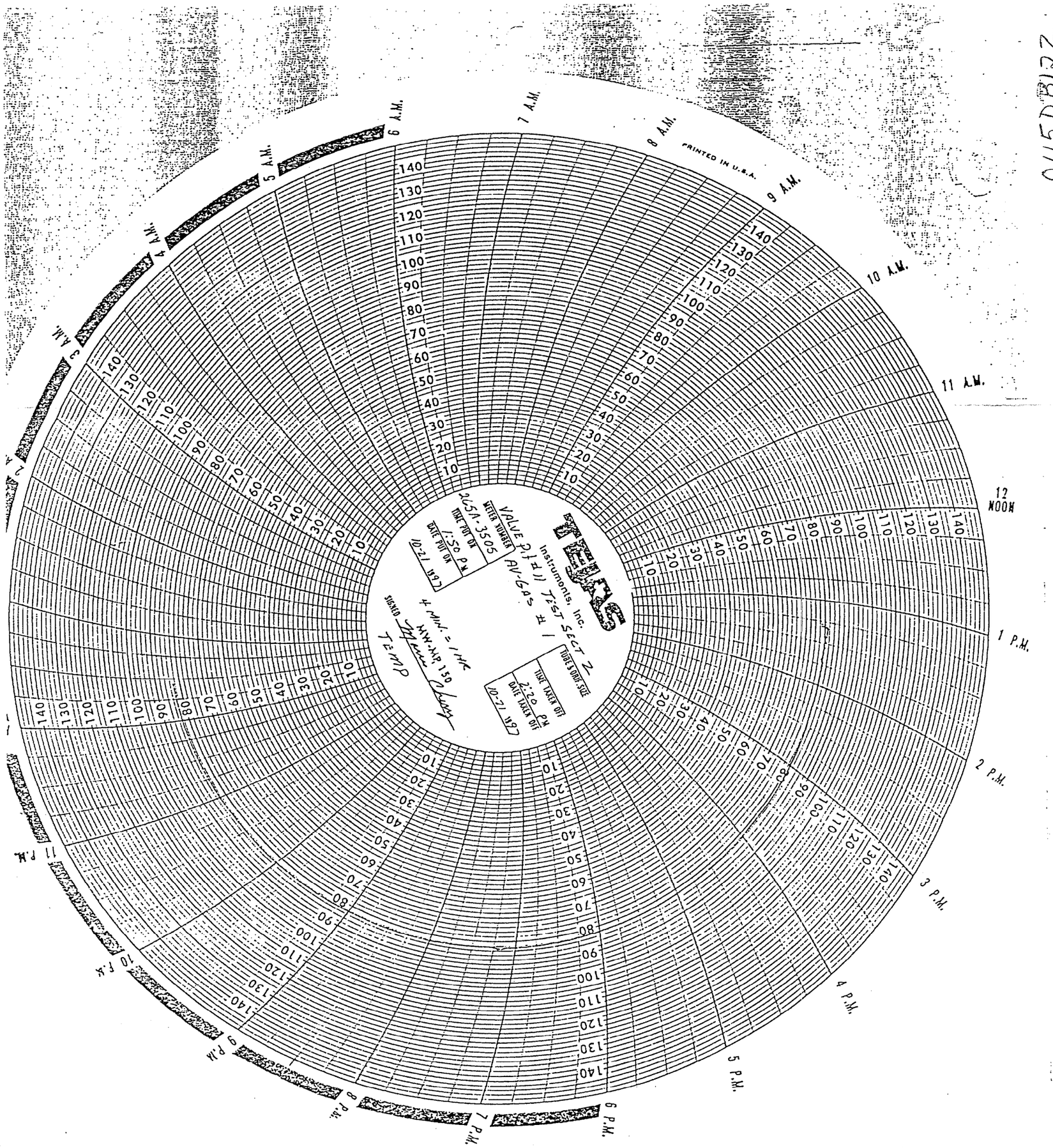
DEADWEIGHT SERIAL NUMBER 8" U.S.G. PRESSULE GAUGE #18938 DATE CERTIFIED 10-10-97
PRESSURE RECORDER SERIAL NUMBER 2950 DATE CERTIFIED 10-10-97
TEMPERATURE RECORDER SERIAL NUMBER 265A3505 DATE CERTIFIED 10-10-97
TEST IS ☒ ACCEPTED ☐ REJECTED IF REJECTED, EXPLAIN _____

DEADWEIGHT RECORD

TEMPERATURE

Time	Pressure	Ambient	Pipe or Ground	Remarks
1:20 PM	25 PSI	87°	80° 85.5°	GROUND TEMP TAKEN AT 4 POINTS ALONG
1:30	50	88°	80° 85.5°	TEST SECT. AND AVG.
1:45	65.5	88°	82° 85.5°	
1:50	65.5	88°	82° 85.5°	
2:00	65.5	88°	82° 85.5°	
2:10	65.5	88°	82° 85.5°	
2:20	65.5	87°	82° 85.5°	

TEST FOREMAN Manuel Flores INSPECTOR


TEXAS
Instruments, Inc.
VALVE P.I. #11 TEST SECT 2
AV-GAS #1
METER NUMBER
265A-3505
TIME PUT ON
1:50 P.M.
DATE PUT ON
10-21 1997
TUBE & ORIF. SIZE
TIME TAKEN OFF
2:20 P.M.
DATE TAKEN OFF
10-21 1997
4 MIN. = 1 HR
MW-MP 150
SIGNED
TEMP
PRINTED IN U.S.A.
12 NOON
1 P.M.
2 P.M.
3 P.M.
4 P.M.
5 P.M.
6 P.M.
7 P.M.
8 P.M.
9 P.M.
10 P.M.
11 P.M.
12 A.M.
3 A.M.
4 A.M.
5 A.M.
6 A.M.
7 A.M.
8 A.M.
9 A.M.
10 A.M.
11 A.M.

0115DB122

TEXAS

Instruments, Inc.

Valve Pit Fall Test Strip 2

AV-GAS #1

METER NUMBER 2950

TIME PUT ON 1:50 P.M.

DATE PUT ON 10-21 1957

TIME TAKEN OFF 2:20 P.M.

DATE TAKEN OFF 10-21 1957

TUBE & ORIF. SIZE

MW-MP 150

+Max.=1/2

SIGNED [illegible]

PRESSURE

PRINTED IN U.S.A.

12 NOON 1 P.M. 2 P.M. 3 P.M. 4 P.M. 5 P.M. 6 P.M. 7 P.M. 8 P.M. 9 P.M. 10 P.M. 11 P.M. 12 MIDNIGHT 1 A.M. 2 A.M. 3 A.M. 4 A.M. 5 A.M. 6 A.M. 7 A.M. 8 A.M. 9 A.M. 10 A.M. 11 A.M.

18 November 1997

Mr. Morris Cherry
Morco Testing, Inc.
2516 Revere Dr.
Pasadena, Texas 77502

Subject	Certification of Nitrogen Test
Client	Department of the Navy
Contractor	Bechtel Environmental, Inc.
Description	6-inch AV - Gas #1
Date Test Accepted	21 October 1997

Dear Mr. Cherry;

This letter is certify that the nitrogen test performed on the 6-inch AV - Gas #1 Pipeline from Valve Pit Number 11 to Valve Pit 10 by Morco Testing, Inc. met the requirements of ASME/ANSI B31.3 "Chemical Plant and Petroleum Refinery Piping" and "Department of the Navy Southern Division Technical Specification for Pipeline Pressure Testing" 324-SP738-002 Rev. 0.

This section of the pipe line was tested for thirty (30) minutes, using nitrogen as the test medium, at a minimum measured test pressure of 65.5 psig. This successfully completed the leak test requirements of the above code and specification. This leak test did not loose five (5) psig during the test period. The line showed no lost during the test period. If the test were held for an additional hour, the data indicates that no-additional loss would have occurred. This is within acceptable limits as set forth in Specification "Department of the Navy Southern Division Technical Specification for Pipeline Pressure Testing" 324-SP738-002 Rev. 0.

Sincerely yours,

John P. Mc Kernan, PE PLS

Company	Department of the Navy	AFE Number	N62467-93-D-0935-073
Construction Co	Bechtel Enviromental, Inc.	AFE Number	22567
Testing Co.	Morco Testing, Inc.	Project Number	0
Project Name	Naval Air Station Pipeline - Abandonment Project -AV Gas #1		
File Name	C:\LOTSUITE\123R5W\WORK\MORCO\000007.WK4		

TEST LOG

TIME	PRESSURE	AMBIENT TEMP	PIPE TEMP	REMARKS
21-Oct-97				
01:50 PM	65.5	88.0	82.0	On Test
02:00 PM	65.5	88.0	82.0	
02:10 PM	65.5	88.0	82.0	
02:20 PM	65.5	87.0	82.0	Off Test
				Ground Temperature Taken at Four Locations
				Along Test Section and Then Averaged For Value
				Reported.
21-Oct-97				

65.5	PSIG HI	TOTAL OZ BLEED	0
65.5	PSIG LOW	TOTAL OZ. INJECTED	0

Company	Department of the Navy	AFE Number	N62467-93-D-0536-073
Construction Co	Bechtel Enviromental, Inc.	AFE Number	22567
Testing Co.	Morco Testing, Inc.	Project No.	0
Project Name	Naval Air Station Pipeline - Abandonment Project -AV Gas #1		
File Name	C:\LOTSUITE\123R5W\WORK\MORCO\00007.WK4		

NITROGEN TEST

PIPELINE: AV Gas#1 TEST DATE 21-Oct-97

FROM : Valve Pit #11 Test Sect. #2 AV-Gas# TO : Valve Pit #10

SECT. LENGTH: 593 PIPE DIA.: 6.625 WALL THK. 0.280

SPECK. NA GRADE : NA

INITIAL PRESSURE AT TEST POINT	65.5 PSIG	TIME:	01:50 PM	PIPE TEMP :	82
INITIAL AMBIENT TEMPERATURE	88 F	ELEV @ TEST PT		-1 MSL	
IN. PRES. @ OTHER END	66 PSIG	ELEV.	3	LOCATION :	Valve Pit #10
FINAL PRESSURE AT TEST POINT	65.5 PSIG	TIME:	02:20 PM	PIPE TEMP :	82
FINAL AMBIENT TEMPERATURE	87 F	ELEV @ TEST PT		-1 MSL	
IN. PRES. @ OTHER END	65.5 PSIG	ELEV.		3 MSL	

IDEAL GAS LAW:

PV = RZT

WHERE

P = Pressure (psia) 14.696 psia

V = Volume (scf)

R = Gas Constant

Z = Compressibility Factor

T = Temperature (R) 527.67 R

Volume of Line at Standard Condition 119.0 Cubic Feet

Time	Pressure	Pipe Temp	Volume
13:50	65.5	82	665.2
14:00	65.5	82	665.2
14:10	65.5	82	665.2
14:20	65.5	82	665.2

(- loss, + gain) 0 scf

(- loss, + gain) 0.0 scf per hour

Test Duration 0.5 Hours

TESTED ACCEPTED X YES NO

IF NO EXPLAIN

REMARKS

JOHN P. MCKERNAN, PE PLS

11/18/97

DATE

STATE OF TEXAS
JOHN P. McKERNAN
41275
REGISTERED
PROFESSIONAL ENGINEER

MTI Morco Testing, Inc.
HYDROSTATIC TESTING LEAK DETECTION

HYDROSTATIC TEST REPORT

PIPELINE DIVISIC

PIPELINE COMPANY: DEPARTMENT OF THE NAVY | JOB NO: 22567
W.O. NO: N62467-93-D-0936-0
PIPELINE CONTRACTOR: BECHTEL ENVIRONMENTAL, INC. | AFE NO:

TEST SECTION NO.: VALVE PIT #11 TEST SECT #2 JP-5 #2 TO VALVE PIT #10

TEST BEGAN: DATE 10-21-97 TIME 2:50 PM | PRESSURE AIR LIQUIDE UNIT NO. 2821 STATION NO. VP#11

TEST END: DATE 10-21-97 TIME 3:20 PM | ELEVATION -1' TO +3

PIPE DATA: 593' 6.625" O.D. .280 W.T. SCH 40

TEST MEDIUM - NITROGEN

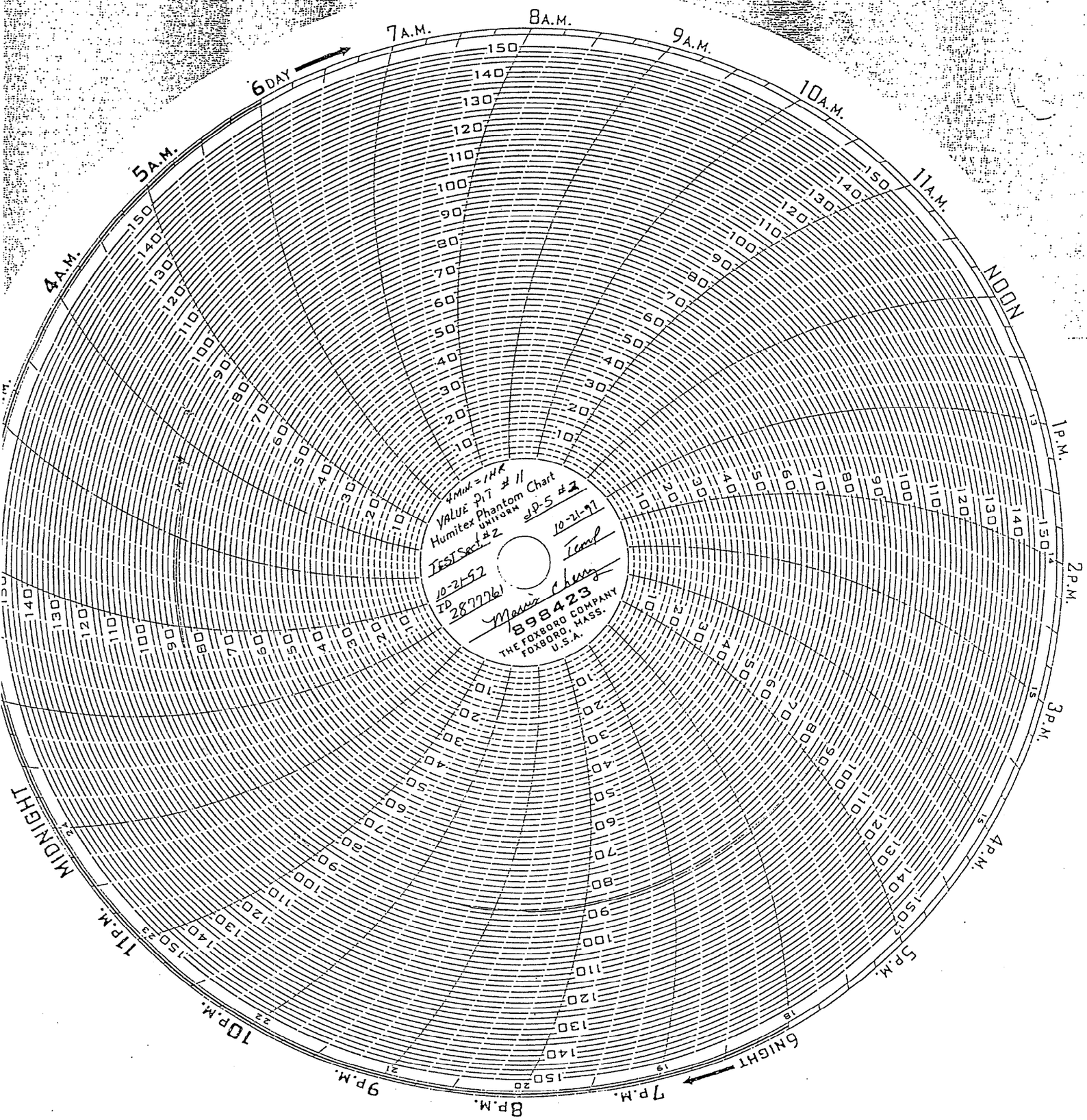
DEADWEIGHT SERIAL NUMBER 4½" Peema-Cal Gauge 12916-02-04 DATE CERTIFIED 10-10-97
PRESSURE RECORDER SERIAL NUMBER 2953 DATE CERTIFIED 10-10-97
TEMPERATURE RECORDER SERIAL NUMBER 2877761 DATE CERTIFIED 10-10-97
TEST IS ☒ ACCEPTED ☐ REJECTED IF REJECTED, EXPLAIN

DEADWEIGHT RECORD

TEMPERATURE

Time	Pressure	Ambient	Pipe or Ground		Remarks
2:40 PM	25 PSI	87°	89°	85.50	GROUND TEMP TAKEN AT 4 POINTS
2:30	50	87°	87°	85.50	ALONG TEST SECT. AND AVG.
2:50	65	86°	87°	85.50	
3:00	65	86°	86°	85.50	
3:10	65	86°	86°	85.50	
3:20	65	86°	85°	85.50	

TEST FOREMAN [signature] INSPECTOR [signature]



4 A.M.
5 A.M.
6 DAY
7 A.M.
8 A.M.
9 A.M.
10 A.M.
11 A.M.
NOON
1 P.M.
2 P.M.
3 P.M.
4 P.M.
5 P.M.
6 NIGHT
7 P.M.
8 P.M.
9 P.M.
10 P.M.
11 P.M.
MIDNIGHT
4 MIN = 1 HR
VALUE PIT # 11
Humitex Phantom Chart
UNIFORM
JP-5 #2
TEST Sect #2
10-21-97
Temp
10-21-97
ID 2877761
Marvin Cherry
898423
THE FOXBORO COMPANY
FOXBORO, MASS.
U.S.A.

0115DB137

12 NOON
1 P.M.
2 P.M.
3 P.M.
4 P.M.
5 P.M.
6 P.M.
7 P.M.
8 P.M.
9 P.M.
10 P.M.
11 P.M.
12 MIDNIGHT
1 A.M.
2 A.M.
3 A.M.
4 A.M.
5 A.M.
6 A.M.
7 A.M.
8 A.M.
9 A.M.
10 A.M.
11 A.M.
10 20 30 40 50 60 70 80 90 100 110 120 130 140
TEAS
Instruments, Inc.
PIT #11 SECT #2
JP-5 #2
TUBE & ORIF. SIZE
TIME TAKEN OFF
2:20 P.M.
DATE TAKEN OFF
10-21 19
VALVE
METER NUMBER
2953
TIME PUT ON
2:50 P.M.
DATE PUT ON
10-21 19
4 MM. = 1 HR.
MW-MP 150
SIGNED
PRESSURE
PRINTED IN U.S.A.

18 November 1997

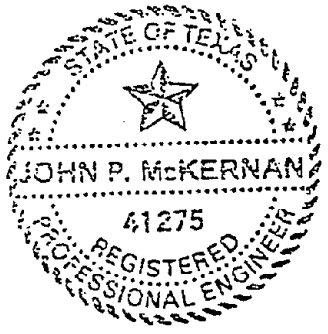
Mr. Morris Cherry
Morco Testing, Inc.
2516 Revere Dr.
Pasadena, Texas 77502

Subject	Certification of Nitrogen Test
Client	Department of the Navy
Contractor	Bechtel Environmental, Inc.
Description	6-inch JP-5 #2
Date Test Accepted	21 October 1997

Dear Mr. Cherry;

This letter is certify that the nitrogen test performed on the 6-inch JP-5 #2 Pipeline from Valve Pit Number 11 to Valve Pit 10 by Morco Testing, Inc. met the requirements of ASME/ANSI B31.3 "Chemical Plant and Petroleum Refinery Piping" and "Department of the Navy Southern Division Technical Specification for Pipeline Pressure Testing" 324-SP738-002 Rev. 0.

This section of the pipe line was tested for thirty (30) minutes, using nitrogen as the test medium, at a minimum measured test pressure of 65 psig. This successfully completed the leak test requirements of the above code and specification. This leak test did not loose five (5) psig during the test period. The line lost a calculated 2.4 standard cubic feet. If the test were held for an additional hour, the data indicates a loss of 4.9 standard cubic feet would have occurred. This loss corresponds to a calculated pressure loss of less than one (1) psig. This is within acceptable limits as set forth in Specification "Department of the Navy Southern Division Technical Specification for Pipeline Pressure Testing" 324-SP738-002 Rev. 0.



Sincerely yours,

John P. Mc Kernan, PE PLS

C:\LOTSUITE\AMIPRO\DOCS\MORCO\020.SAM

Company	Department of the Navy	AFE Number	N62467-93-D-0836-073
Construction Co	Bechtel Enviromental, Inc.	AFE Number	22567
Testing Co.	Morco Testing, Inc.	Project Number	0
Project Name	Naval Air Station Pipeline - Abandonment Project - JP - 5 #2		
File Name	C:\LOTSUITE\123R5W\WORK\MORCO\00008.WK4		

TEST LOG

TIME	PRESSURE	AMBIENT TEMP	PIPE TEMP	REMARKS
21-Oct-97				
02:50 PM	65.0	86.0	87.0	On Test
03:00 PM	65.0	86.0	86.0	
03:10 PM	65.0	86.0	86.0	
03:20 PM	65.0	86.0	85.0	Off Test
				Ground Temperature Taken at Four Locations
				Along Test Section and Then Averaged For Value
				Reported.
21-Oct-97				

65	PSIG HI	TOTAL OZ. BLEED	0
65	PSIG LOW	TOTAL OZ. INJECTED	0

Company	Department of the Navy	AFE Number	N62467-93-D-0906-073
Construction Co	Bechtel Enviromental, Inc.	AFE Number	22567
Testing Co.	Morco Testing, Inc.	Project No.	0
Project Name	Naval Air Station Pipeline - Abandonment Project - JP - 5 #2		
File Name	C:\LOTSUITE\123R5W\WORK\MORC0\00008.WK4		

NITROGEN TEST

PIPELINE: JP - 5 #2 TEST DATE 21-Oct-97

FROM : Valve Pit #11 Test Sect. #2 JP-5 #2 TO : Valve Pit #10

SECT. LENGTH: 593 PIPE DIA.: 6.625 WALL THK. 0.280

SPECK. NA GRADE : NA

INITIAL PRESSURE AT TEST POINT	65 PSIG	TIME:	02:50 PM	PIPE TEMP :	87
INITIAL AMBIENT TEMPERATURE	86 F	ELEV @ TEST PT		-1 MSL	
IN. PRES. @ OTHER END	65 PSIG	ELEV.	3	LOCATION :	Valve Pit #10
FINAL PRESSURE AT TEST POINT	65.0 PSIG	TIME:	03:20 PM	PIPE TEMP :	85
FINAL AMBIENT TEMPERATURE	86 F	ELEV @ TEST PT		-1 MSL	
IN. PRES. @ OTHER END	65.0 PSIG	ELEV.		3 MSL	

IDEAL GAS LAW:

PV = RZT

WHERE

P =	Pressure (psia)	14.696 psia
V =	Volume (scf)	
R =	Gas Constant	
Z =	Compressibility Factor	
T =	Temperature (R)	527.67 R

Volume of Line at Standard Conditions 119.0 Cubic Feet

Time	Pressure	Pipe Temp	Volume
14:50	65.0	87	667.2
15:00	65.0	86	666.0
15:10	65.0	86	666.0
15:20	65.0	85	664.7

(- loss, + gain)	-2.4 scf
(- loss, + gain)	-4.9 scf per hour
Test Duration	0.5 Hours

TESTED ACCEPTED X YES NO

IF NO EXPLAIN

REMARKS

JOHN P. MCKERNAN, PE PLS

11/18/97

DATE

STATE OF TEXAS
JOHN P. McKERNAN
41275
REGISTERED
PROFESSIONAL ENGINEER

MTI Morco Testing, Inc.
HYDROSTATIC TESTING LEAK DETECTION

HYDROSTATIC TEST REPORT

PIPELINE DIVISIC

PIPELINE COMPANY: DEPARTMENT OF THE NAVY | JOB NO: 22567
PIPELINE CONTRACTOR: BECHTEL ENVIRONMENTAL, INC. | W.O. NO: N62467-93-D-0936-0
AFE NO:

TEST SECTION NO.: VALVE PIT #11 TEST SECT #2 JP-5 #3 TO VALVE PIT #10

TEST BEGAN: DATE 10-21-97 TIME 2:30 PM
TEST END: DATE 10-21-97 TIME 3:00 PM

PRESSURE AIR LIQUIDE
UNIT NO. 2821 STATION NO. VP #11
ELEVATION -1 TO +3

PIPE DATA: 593' 6.625" O.D. .280 W.T. SCH 40

TEST MEDIUM - NITROGEN

DEADWEIGHT SERIAL NUMBER 4½" 3D Press Gauge 8500543N DATE CERTIFIED 10-10-97
PRESSURE RECORDER SERIAL NUMBER 2948 DATE CERTIFIED 10-10-97
TEMPERATURE RECORDER SERIAL NUMBER 2957 DATE CERTIFIED 10-10-97
TEST IS ☒ ACCEPTED ☐ REJECTED IF REJECTED, EXPLAIN

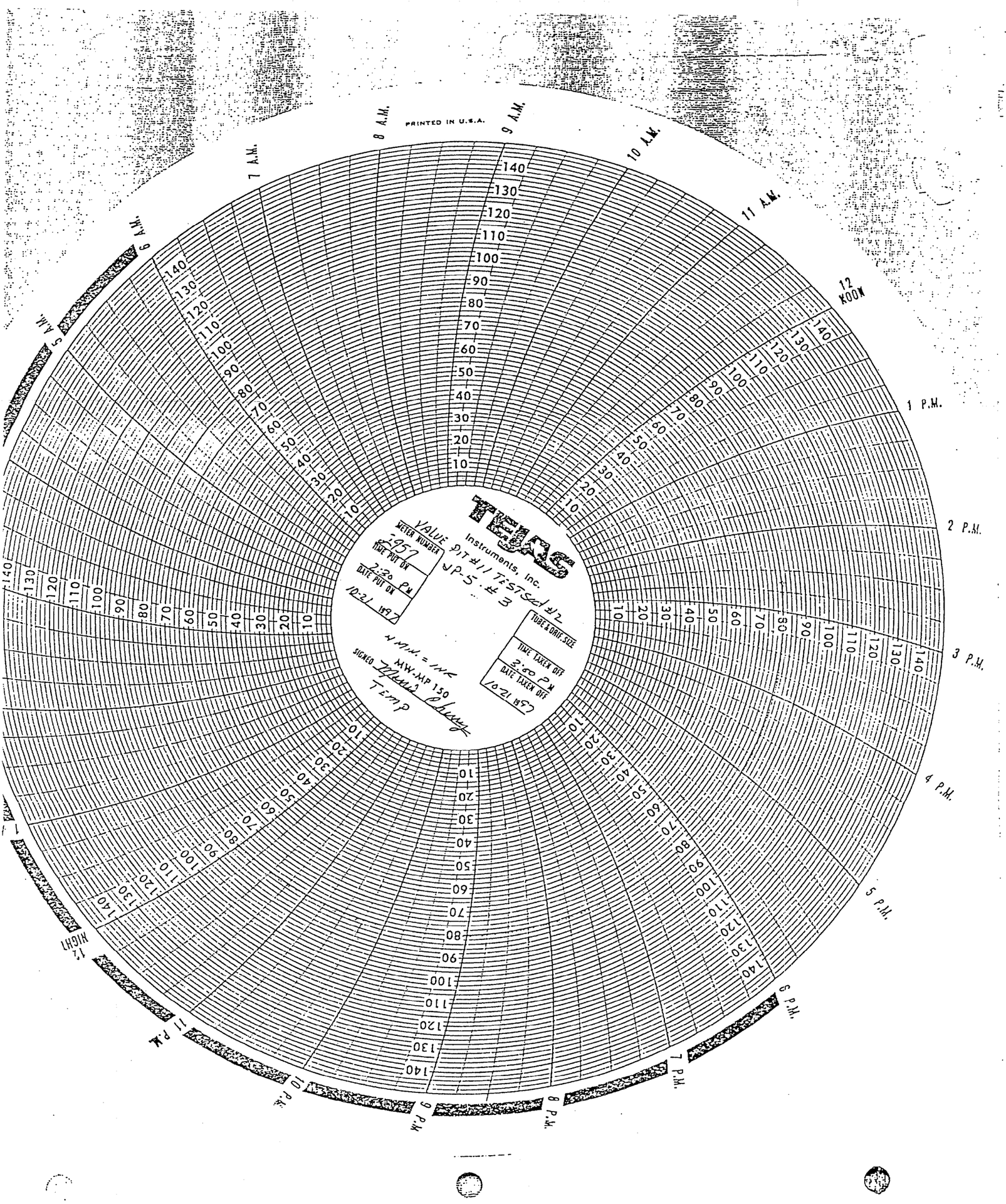
DEADWEIGHT RECORD

TEMPERATURE

Time	Pressure	Ambient	Pipe or Ground	Remarks
2:00 PM	25 PSI	88°	80° 85.50	GROUND Temp. TAKEN AT 4 POINTS
2:10	50	88°	80° 85.50	ALONG TEST SECT. AND AVG
2:25	65	88°	80° 85.50	
2:30	65	87°	80° 85.50	
2:40	65	86°	80° 85.50	
3:00	65	86°	80° 85.50	

TEST FOREMAN

INSPECTOR


PRINTED IN U.S.A.
TPC
Instruments, Inc.
VALVE PIT #11 TEST Set #2
VP-5 #3
METER NUMBER
1952
TIME PUT ON
2:20 PM
DATE PUT ON
10-21
TUBE & ORIF. SIZE
TIME TAKEN OFF
3:00 PM
DATE TAKEN OFF
10-21
4 MIN. = INK
MW-MP 150
SIGNED
Temp
6 A.M.
7 A.M.
8 A.M.
9 A.M.
10 A.M.
11 A.M.
12 NOON
1 P.M.
2 P.M.
3 P.M.
4 P.M.
5 P.M.
6 P.M.
7 P.M.
8 P.M.
9 P.M.
10 P.M.
11 P.M.
12 NIGHT
1 A.M.
2 A.M.
3 A.M.
4 A.M.
5 A.M.

7 A.M.
8 A.M.
9 A.M.
10 A.M.
11 A.M.
12 NOON
1 P.M.
70
80
90
100
110
120
130
140
PRINTED IN U.S.A.

18 November 1997

Mr. Morris Cherry
Morco Testing, Inc.
2516 Revere Dr.
Pasadena, Texas 77502

Subject	Certification of Nitrogen Test
Client	Department of the Navy
Contractor	Bechtel Environmental, Inc.
Description	6-inch JP-5 #3
Date Test Accepted	21 October 1997

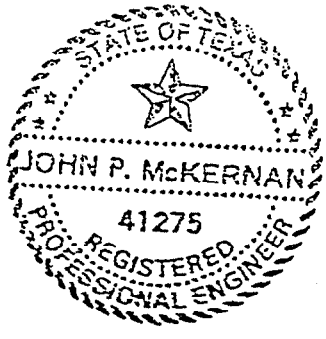
Dear Mr. Cherry;

This letter is certify that the nitrogen test performed on the 6-inch JP-5 #3 Pipeline from Valve Pit Number 11 to Valve Pit 10 by Morco Testing, Inc. met the requirements of ASME/ANSI B31.3 "Chemical Plant and Petroleum Refinery Piping" and "Department of the Navy Southern Division Technical Specification for Pipeline Pressure Testing" 324-SP738-002 Rev. 0.

This section of the pipe line was tested for thirty (30) minutes, using nitrogen as the test medium, at a minimum measured test pressure of 65 psig. This successfully completed the leak test requirements of the above code and specification. This leak test did not loose five (5) psig during the test period. The line showed no lost during the test period. If the test were held for an additional hour, the data indicates that no additional loss would have occurred. This is within acceptable limits as set forth in Specification "Department of the Navy Southern Division Technical Specification for Pipeline Pressure Testing" 324-SP738-002 Rev. 0.

Sincerely yours,

John P. Mc Kernan, PE PLS



C:\LOTSUITE\AMIPRO\DOCS\MORCO\021.SAM

Company	Department of the Navy	AFE Number	N62467-93-D-0936-073
Construction Co	Bechtel Enviromental, Inc.	AFE Number	22567
Testing Co.	Morco Testing, Inc.	Project Number	0
Project Name	Naval Air Station Pipeline - Abandonment Project - JP - 5 #3		
File Name	C:\LOTSUITE\123R5\WORK\MORCO\000009.WK4	File Revised 18 Nov. 97	

TEST LOG

TIME	PRESSURE	AMBIENT TEMP	PIPE TEMP	REMARKS
21-Oct-97				
02:30 PM	65.0	87.0	80.0	On Test
02:40 PM	65.0	86.0	80.0	
03:00 PM	65.0	86.0	80.0	Off Test
				Ground Temperature Taken at Four Locations
				Along Test Section and Then Averaged For Value
				Reported.
21-Oct-97				

65	PSIG HI	TOTAL OZ BLEED	0
65	PSIG LOW	TOTAL OZ INJECTED	0

Company	Department of the Navy	AFE Number	N62467-93-D-0536-073
Construction Co	Bechtel Enviromental, Inc.	AFE Number	22567
Testing Co.	Morco Testing, Inc.	Project No.	0
Project Name	Naval Air Station Pipeline - Abandonment Project - JP - 5 #3		
File Name	C:\LOTSUITE\123RSW\WORK\MORCO\00009.WK4		

NITROGEN TEST

PIPELINE: JP - 5 #3 TEST DATE 21-Oct-97

FROM : Valve Pit #11 Test Sect. #2 JP-5 #3 TO : Valve Pit #10

SECT. LENGTH:	593	PIPE DIA.:	6.625	WALL THK.	0.280
SPECK.	NA	GRADE :	NA		

INITIAL PRESSURE AT TEST POINT	65 PSIG	TIME:	02:30 PM	PIPE TEMP :	80
INITIAL AMBIENT TEMPERATURE	87 F	ELEV @ TEST PT		-1 MSL	
IN. PRES. @ OTHER END	65 PSIG	ELEV.	3	LOCATION :	Valve Pit #10
FINAL PRESSURE AT TEST POINT	65.0 PSIG	TIME:	03:00 PM	PIPE TEMP :	80
FINAL AMBIENT TEMPERATURE	86 F	ELEV @ TEST PT		-1 MSL	
IN. PRES. @ OTHER END	65.0 PSIG	ELEV.		3 MSL	

IDEAL GAS LAW:

PV = RZT

WHERE

P = Pressure (psia) 14.696 psia

V = Volume (scf)

R = Gas Constant

Z = Compressibility Factor

T = Temperature (R) 527.67 R

Volume of Line at Standard Condition 119.0 Cubic Feet

Time	Pressure	Pipe Temp	Volume
14:30	65.0	80	658.6
14:40	65.0	80	658.6
15:00	65.0	80	658.6

(- loss, + gain) 0 scf

(- loss, + gain) 0.0 scf per hour

Test Duration 0.5 Hours

TESTED ACCEPTED X YES NO

IF NO EXPLAIN

REMARKS

JOHN P. MCKERNAN, PE PLS

11/18/97

DATE

STATE OF TEXAS
JOHN P. McKERNAN
41275
REGISTERED
PROFESSIONAL ENGINEER

MTI Morco Testing, Inc.
HYDROSTATIC TESTING LEAK DETECTION

HYDROSTATIC TEST REPORT

PIPELINE DIVISIO

PIPELINE COMPANY DEPARTMENT OF THE NAVY | JOB NO: 22567
W.O. NO: N62467-93-D-0936-07
PIPELINE CONTRACTOR BECHTEL ENVIRONMENTAL, INC. | AFE NO:

TEST SECTION NO. VALVE PIT #10 TEST SECT #3 AVGAS #1 TO VALVE PIT #9

TEST BEGAN: DATE 10-22-97 TIME 10:50 AM | PRESSURE AIR LIQUIDE
UNIT NO. 2821 STATION NO. VP #10

TEST END: DATE 10-22-97 TIME 11:20 AM | ELEVATION -1' TO +3

PIPE DATA: 695' 6.625" O.D. .280 W.T. SCH 40

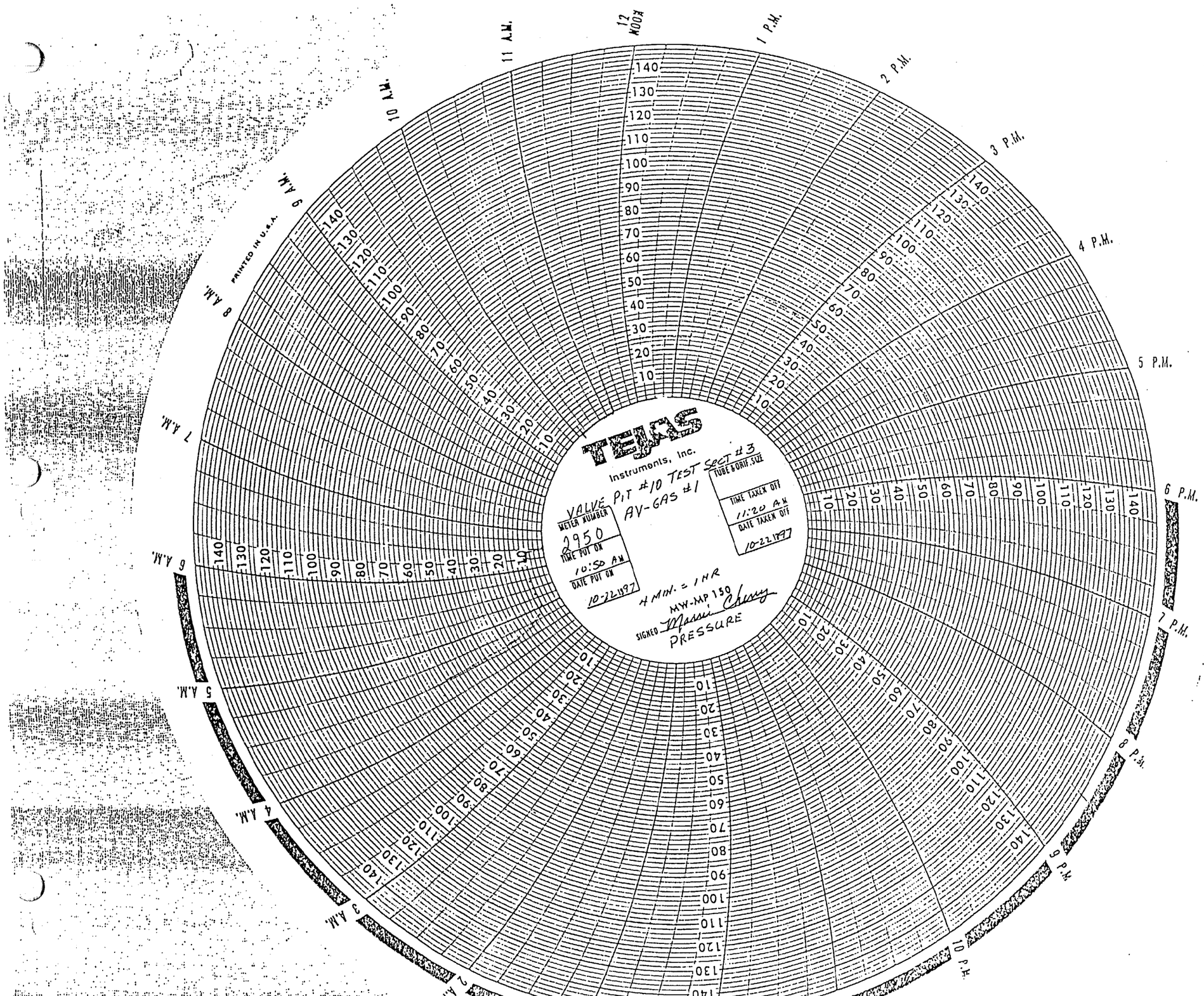
TEST MEDIUM - NITROGEN

DEADWEIGHT SERIAL NUMBER 8" U.S.G. PRESS GAUGE 18938 DATE CERTIFIED 10-10-97
PRESSURE RECORDER SERIAL NUMBER 2950 DATE CERTIFIED 10-10-97
TEMPERATURE RECORDER SERIAL NUMBER 2877761 DATE CERTIFIED 10-10-97
TEST IS ☒ ACCEPTED ☐ REJECTED IF REJECTED, EXPLAIN _____

DEADWEIGHT RECORD

Time	Pressure	TEMPERATURE Ambient	TEMPERATURE Pipe or Ground	Remarks
10:20 AM	25 PSI	84°	86° 85.50	GROUND TEMP TAKEN AT 4 POINTS
10:30	50	84°	85° 85.50	ALONG TEST SECT. AND AVG.
10:41	65	84°	85° 85.50	
10:50	65	85°	85° 85.50	
11:00	65	85°	86° 85.50	
11:10	65	86°	86° 85.50	
11:20	64.5	86°	86° 85.50	

TEST FOREMAN Mark Allen INSPECTOR


12 NOON
1 P.M.
2 P.M.
3 P.M.
4 P.M.
5 P.M.
6 P.M.
7 P.M.
8 P.M.
9 P.M.
10 P.M.
11 P.M.
12 MIDNIGHT
1 A.M.
2 A.M.
3 A.M.
4 A.M.
5 A.M.
6 A.M.
7 A.M.
8 A.M.
9 A.M.
10 A.M.
11 A.M.
10 20 30 40 50 60 70 80 90 100 110 120 130 140
PRINTED IN U.S.A.
TEXAS
Instruments, Inc.
VALVE PIT #10 TEST SECT #3
AV-GAS #1
METER NUMBER
2950
TIME PUT ON
10:50 AM
DATE PUT ON
10-22-1997
TUBE & ORIF. SIZE
TIME TAKEN OFF
11:20 AM
DATE TAKEN OFF
10-22-1997
4 MIN. = 1 HR
MW-MP 150
SIGNED Marvin Cherry
PRESSURE

Q115DB152

8A.M.
9A.M.
10A.M.
11A.M.
NOON
1P.M.
2P.M.
3P.M.
4P.M.
5P.M.
6NIGHT
7P.M.
10P.M.
11P.M.
MIDNIGHT
1A.M.
2A.M.
3A.M.
4A.M.
5A.M.
6DAY
7A.M.
VALVE PIT #10
Humitex Phantom Chart
UNIFORM
TEST SET #3
AV-GAS #1
10-22-97
10-22-97
ID 2817761
898423
THE FOXBORO COMPANY
FOXBORO, MASS.
U.S.A.

18 November 1997

Mr. Morris Cherry
Morco Testing, Inc.
2516 Révere Dr.
Pasadena, Texas 77502

Subject	Certification of Nitrogen Test
Client	Department of the Navy
Contractor	Bechtel Environmental, Inc.
Description	6-inch VA Gas #1
Date Test Accepted	22 October 1997

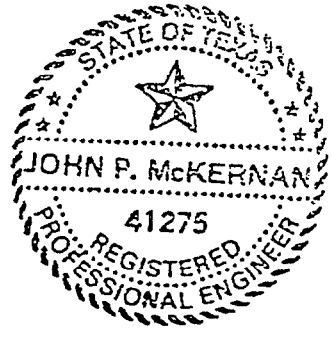
Dear Mr. Cherry;

This letter is certify that the nitrogen test performed on the 6-inch VA Gas #1 Pipeline from Valve Pit Number 10 to Valve Pit Number 9 by Morco Testing, Inc. met the requirements of ASME/ANSI B31.3 "Chemical Plant and Petroleum Refinery Piping" and "Department of the Navy Southern Division Technical Specification for Pipeline Pressure Testing" 324-SP738-002 Rev. 0.

This section of the pipe line was tested for thirty (30) minutes, using nitrogen as the test medium, at a measured test pressure of 64.5 psig. This successfully completed the leak test requirements of the above code and specification. This leak test did not loose five (5) psig during the test period. The line lost a calculated 3.5 standard cubic feet during the test period. If the test were held for an additional hour, the data indicates a loss of 6.9 standard cubic feet would have occurred. This loss corresponds to a calculated pressure loss of less than 1 psig. This is within acceptable limits as set forth in Specification "Department of the Navy Southern Division Technical Specification for Pipeline Pressure Testing" 324-SP738-002 Rev. 0.

Sincerely yours,

John P. Mc Kernan, PE PLS



C:\LOTSUITE\AMIPRO\DOCS\MORCO\022.SAM

Company	Department of the Navy	AFE Number	N62467-93-D-0536-073
Construction Co	Bechtel Enviromental, Inc.	AFE Number	22567
Testing Co.	Morco Testing, Inc.	Project Number	0
Project Name	Naval Air Station Pipeline - Abandonment Project -AV Gas #1		
File Name	C:\LOTSUITE\123R5\WORK\MORCO\00010.WK4	Revised 18 Nov. 97	

TEST LOG

TIME	PRESSURE	AMBIENT TEMP	PIPE TEMP	REMARKS
22-Oct-97				
10:50 AM	65.0	85.0	85.0	On Test
11:00 AM	65.0	85.0	86.0	
11:10 AM	65.0	86.0	86.0	
11:20 AM	64.5	86.0	86.0	Off Test
				Ground Temperature Taken at Four Locations
				Along Test Section and Then Averaged For Value
				Reported.
22-Oct-97				

65	PSIG HI	TOTAL OZ. BLEED	0
64.5	PSIG LOW	TOTAL OZ. INJECTED	0

Company	Department of the Navy	AFE Number	N62467-93-D-0536-073
Construction Co	Bechtel Enviromental, Inc.	AFE Number	22567
Testing Co.	Morco Testing, Inc.	Project No.	0
Project Name	Naval Air Station Pipeline - Abandonment Project -AV Gas #1		
File Name	C:\LOTSUITE\123R5W\WORK\MORCO\000010.WK4		

NITROGEN TEST

PIPELINE: AV Gas#1 TEST DATE 22-Oct-97

FROM : Valve Pit #10 Test Sect. #3 AV Gas#1 TO : Valve Pit #9

SECT. LENGTH: .695 PIPE DIA.: 6.625 WALL THK. 0.280

SPECK. NA GRADE : NA

INITIAL PRESSURE AT TEST POINT	65 PSIG	TIME:	10:50 AM	PIPE TEMP :	85
INITIAL AMBIENT TEMPERATURE	85 F	ELEV @ TEST PT			-1 MSL
IN. PRES. @ OTHER END	65 PSIG	ELEV.	3	LOCATION :	Valve Pit #9
FINAL PRESSURE AT TEST POINT	64.5 PSIG	TIME:	11:20 AM	PIPE TEMP :	86
FINAL AMBIENT TEMPERATURE	86 F	ELEV @ TEST PT			-1 MSL
IN. PRES. @ OTHER END	64.5 PSIG	ELEV.			3 MSL

IDEAL GAS LAW:

PV = RZT

WHERE

P =	Pressure (psia)	14.696 psia
V =	Volume (scf)	
R =	Gas Constant	
Z =	Compressibility Factor	
T =	Temperature (R)	527.67 R

Volume of Line at Standard Conditions 139.4 Cubic Feet

Time	Pressure	Pipe Temp	Volume
10:50	65.0	85	779.1
11:00	65.0	86	780.5
11:10	65.0	86	780.5
11:20	64.5	86	775.6

	(- loss, + gain)	-3.5 scf
	(- loss, + gain)	-6.9 scf per hour
	Test Duration	0.5 Hours

TESTED ACCEPTED X YES NO

IF NO EXPLAIN

REMARKS

JOHN P. MCKERNAN, PE PLS

11/18/97

DATE

STATE OF TEXAS
JOHN P. McKERNAN
41275
REGISTERED
PROFESSIONAL ENGINEER

C:\LOTSUITE\AMIPRO\DOCS\MORCO\022.SAM

MTI Morco Testing, Inc.
HYDROSTATIC TESTING LEAK DETECTION

HYDROSTATIC TEST REPORT

PIPELINE DIVISIO

PIPELINE COMPANY DEPARTMENT OF THE NAVY

JOB NO: 22567
W.O. NO: N-62467-93-D-0936-0
AFE NO:

PIPELINE CONTRACTOR BECHTEL ENVIRONMENTAL, INC.

TEST SECTION NO. VALVE PIT #10 TEST SECT. #3 JP-5 #2 TO VALVE PIT #9

TEST BEGAN: DATE 10-22-97 TIME 11:45 AM

PRESSURE AIR LIQUIDE
UNIT NO. 2821 STATION NO. VP#10

TEST END: DATE 10-22-97 TIME 12:15 PM

ELEVATION -1 - +3

PIPE DATA: 695' 6.625" O.D. .280 W.T. SCH 40

TEST MEDIUM - NITROGEN

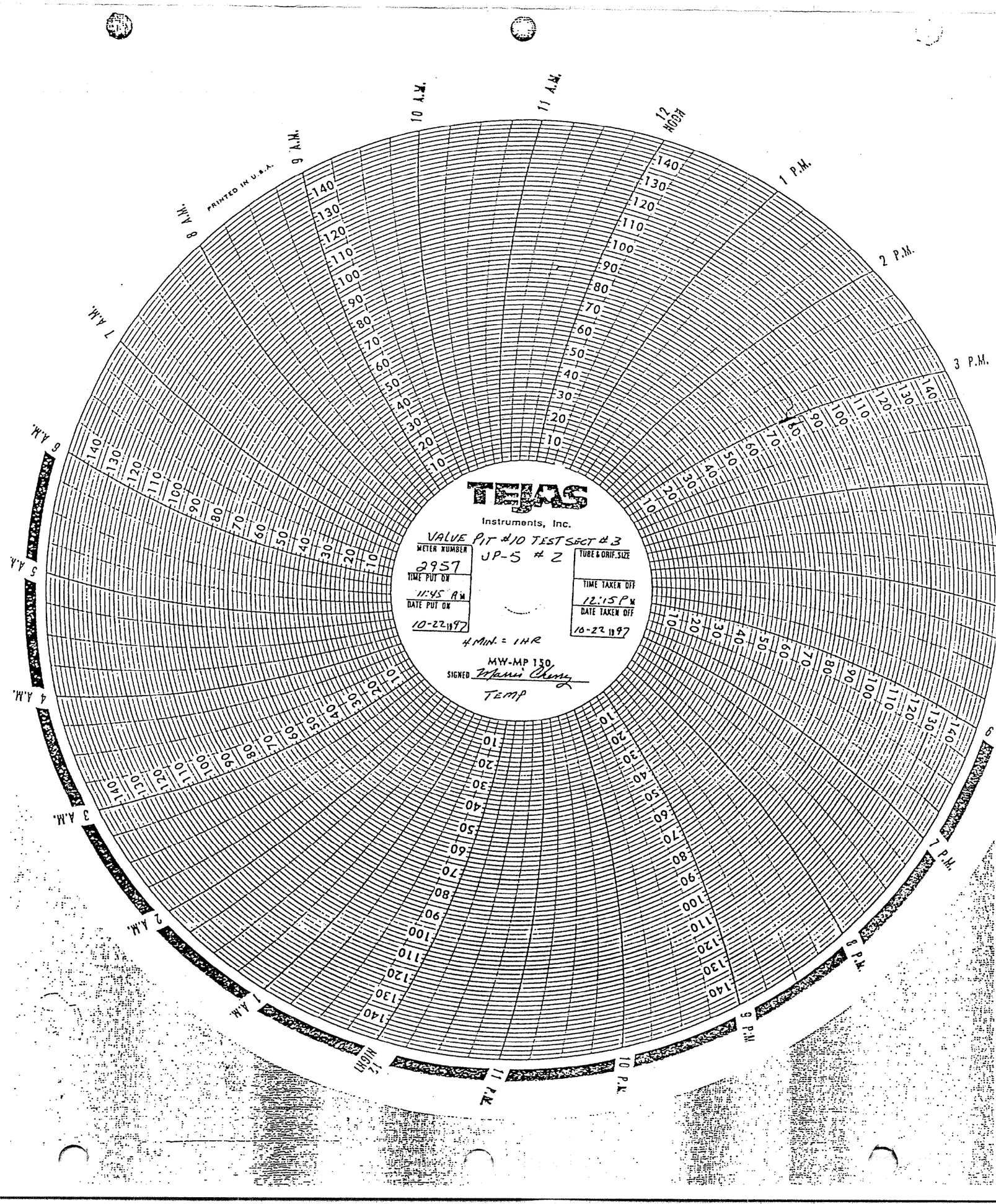
DEADWEIGHT SERIAL NUMBER 4½" PERMA-CAL GAUGE 12916-02-04 DATE CERTIFIED 10-10-97
PRESSURE RECORDER SERIAL NUMBER 2953 DATE CERTIFIED 10-10-97
TEMPERATURE RECORDER SERIAL NUMBER 2957 DATE CERTIFIED 10-10-97
TEST IS ☒ ACCEPTED ☐ REJECTED IF REJECTED, EXPLAIN

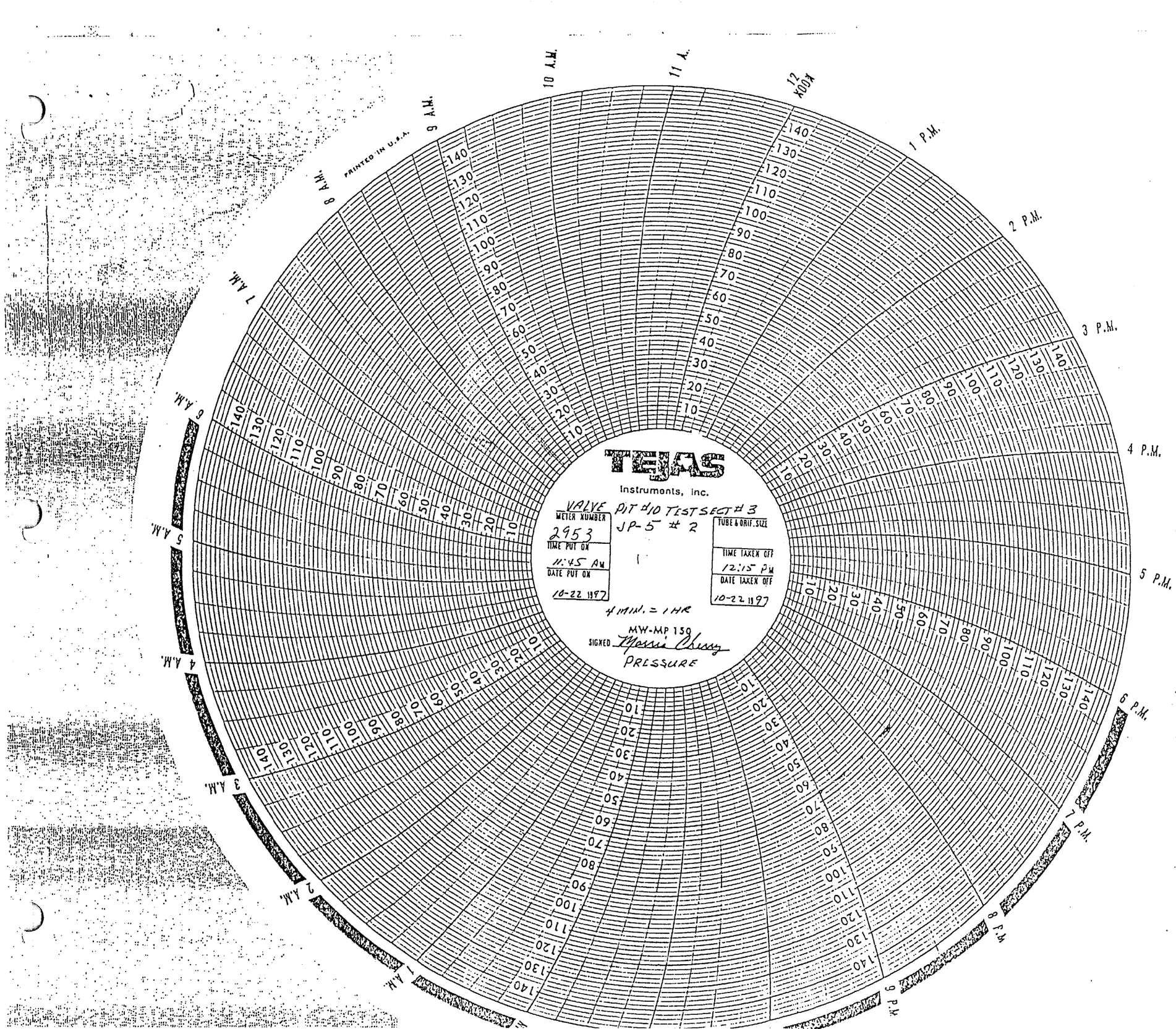
DEADWEIGHT RECORD

TEMPERATURE

Time	Pressure	Ambient	Pipe or Ground	Remarks
11:07 AM	25 PSI	81°	86° 85.50°	GROUND TEMP TAKEN AT 4 POINTS
11:20	50	81°	86° 85.50°	ALONG TEST SECT. AND AVG
11:35	65	81°	86° 85.50°	
11:45	65	81°	86° 85.50°	
11:55	65	82°	86° 85.50°	
12:05 PM	65	82°	86° 85.50°	
12:15	65	82°	86° 85.50°	

TEST FOREMAN [signature] INSPECTOR [signature]


TEXAS
Instruments, Inc.
VALVE PIT #10 TEST SECT #3
METER NUMBER
2957
UP-5 # 2
TUBE & ORIF. SIZE
TIME PUT ON
11:45 AM
TIME TAKEN OFF
12:15 PM
DATE PUT ON
10-22 1997
DATE TAKEN OFF
10-22 1997
4 MIN. = 1 HR
MW-MP 150
SIGNED
TEMP
PRINTED IN U.S.A.
12 NOON
1 P.M.
2 P.M.
3 P.M.
4 P.M.
5 P.M.
6 P.M.
7 P.M.
8 P.M.
9 P.M.
10 P.M.
11 P.M.
MIDNIGHT
1 A.M.
2 A.M.
3 A.M.
4 A.M.
5 A.M.
6 A.M.
7 A.M.
8 A.M.
9 A.M.
10 A.M.
11 A.M.


TEJAS
Instruments, Inc.
VALVE PIT #10 TEST SECT # 3
JP-5 # 2
METER NUMBER
2953
TIME PUT ON
11:45 AM
DATE PUT ON
10-22 1997
TUBE & ORIF. SIZE
TIME TAKEN OFF
12:15 PM
DATE TAKEN OFF
10-22 1997
4 MIN. = 1 HR
MW-MP 150
SIGNED Morris Cherry
PRESSURE
PRINTED IN U.S.A.
12 NOON
1 P.M.
2 P.M.
3 P.M.
4 P.M.
5 P.M.
6 P.M.
7 P.M.
8 P.M.
9 P.M.
10 A.M.
11 A.
9 A.M.
8 A.M.
7 A.M.
6 A.M.
5 A.M.
4 A.M.
3 A.M.
2 A.M.
1 A.M.

18 November 1997

Mr. Morris Cherry
Morco Testing, Inc.
2516 Revere Dr.
Pasadena, Texas 77502

Subject	Certification of Nitrogen Test
Client	Department of the Navy
Contractor	Bechtel Environmental, Inc.
Description	6-inch JP-5 #2
Date Test Accepted	22 October 1997

Dear Mr. Cherry;

This letter is certify that the nitrogen test performed on the 6-inch JP-5 #2 Pipeline from Valve Pit Number 10 to Valve Pit 9 by Morco Testing, Inc. met the requirements of ASME/ANSI B31.3 "Chemical Plant and Petroleum Refinery Piping" and "Department of the Navy Southern Division Technical Specification for Pipeline Pressure Testing" 324-SP738-002 Rev. 0.

This section of the pipe line was tested for thirty (30) minutes, using nitrogen as the test medium, at a minimum measured test pressure of 65 psig. This successfully completed the leak test requirements of the above code and specification. This leak test did not loose five (5) psig during the test period. The line showed no lost during the test period. If the test were held for an additional hour, the data indicates that no additional loss would have occurred. This is within acceptable limits as set forth in Specification "Department of the Navy Southern Division Technical Specification for Pipeline Pressure Testing" 324-SP738-002 Rev. 0.

Sincerely yours,

John P. Mc Kernan, PE PLS

C:\LOTSUITE\AMIPRO\DOCS\MORCO\023.SAM

Company	Department of the Navy	AFE Number	N62467-93-D-0536-073
Construction Co	Bechtel Enviromental, Inc.	AFE Number	22567
Testing Co.	Morco Testing, Inc.	Project Number	0
Project Name	Naval Air Station Pipeline - Abandonment Project - JP-5 #2		
File Name	C:\LOTSUITE\123R5\WWORK\MORCO\00011.WK4	Revised 18 Nov. 97	

TEST LOG

TIME	PRESSURE	AMBIENT TEMP	PIPE TEMP	REMARKS
22-Oct-97				
11:45 AM	65.0	81.0	86.0	On Test
11:55 AM	65.0	82.0	86.0	
12:05 PM	65.0	82.0	86.0	
12:15 PM	65.0	82.0	86.0	Off Test
				Ground Temperature Taken at Four Locations
				Along Test Section and Then Averaged For Value
				Reported.
22-Oct-97				

65	PSIG HI	TOTAL OZ. BLEED	0
65	PSIG LOW	TOTAL OZ. INJECTED	0

Company	Department of the Navy	AFE Number	N62467-93-D-0936-073
Construction. Co	Bechtel Enviromental, Inc.	AFE Number	22567
Testing Co.	Morco Testing, Inc.	Project No.	0
Project Name	Naval Air Station Pipeline - Abandonment Project - JP-5 #2		
File Name	C:\LOTSUITE\123R5W\WORK\MORCO\00011.WK4		

NITROGEN TEST

PIPELINE: JP-5 #2 TEST DATE 22-Oct-97

FROM : Valve Pit #10 Test Sect. #3 - JP-5 #2 TO : Valve Pit #9

SECT. LENGTH:	695	PIPE DIA.:	6.625	WALL THK.	0.280
SPECK.	NA	GRADE :	NA		

INITIAL PRESSURE AT TEST POINT	65 PSIG	TIME:	11:45 AM	PIPE TEMP :	86
INITIAL AMBIENT TEMPERATURE	81 F	ELEV @ TEST PT		-1 MSL	
IN. PRES. @ OTHER END	65 PSIG	ELEV.	3	LOCATION :	Valve Pit #9
FINAL PRESSURE AT TEST POINT	65.0 PSIG	TIME:	12:15 PM	PIPE TEMP :	86
FINAL AMBIENT TEMPERATURE	82 F	ELEV @ TEST PT		-1 MSL	
IN. PRES. @ OTHER END	65.0 PSIG	ELEV.		3 MSL	

IDEAL GAS LAW:

PV = RZT

WHERE

P =	Pressure (psia)	14.696 psia
V =	Volume (scf)	
R =	Gas Constant	
Z =	Compressibility Factor	
T =	Temperature (R)	527.67 R

Volume of Line at Standard Conditions 139.4 Cubic Feet

Time	Pressure	Pipe Temp	Volume
11:45	65.0	86	780.5
11:55	65.0	86	780.5
12:05	65.0	86	780.5
12:15	65.0	86	780.5

(- loss, + gain)	0 scf
(- loss, + gain)	0.0 scf per hour
Test Duration	0.5 Hours

TESTED ACCEPTED X YES NO

IF NO EXPLAIN

REMARKS

JOHN P. MCKERNAN, PE PLS

11/18/97

DATE

STATE OF TEXAS JOHN P. McKERNAN 41275 REGISTERED PROFESSIONAL ENGINEER

MTI Morco Testing, Inc.
HYDROSTATIC TESTING LEAK DETECTION

HYDROSTATIC TEST REPORT

PIPELINE DIVISIO

PIPELINE COMPANY DEPARTMENT OF THE NAVY | JOB NO: 27567
W.O. NO: N62467-93-D-0936-0
PIPELINE CONTRACTOR BECHTEL ENVIRONMENTAL, INC. | AFE NO:

TEST SECTION NO. VALVE PIT #10 TEST SECT #3 JP-5 #3 TO VALVE PIT #9

TEST BEGAN: DATE 10-22-97 TIME 12:20 PM | PRESSURE AIR LIQUIDE
UNIT NO. 2821 STATION NO. VP #10

TEST END: DATE 10-22-97 TIME 12:50 PM | ELEVATION -1 TO +3

PIPE DATA: 695' 6.625" O.D. .280 W.T. SCH 40

TEST MEDIUM - NITROGEN

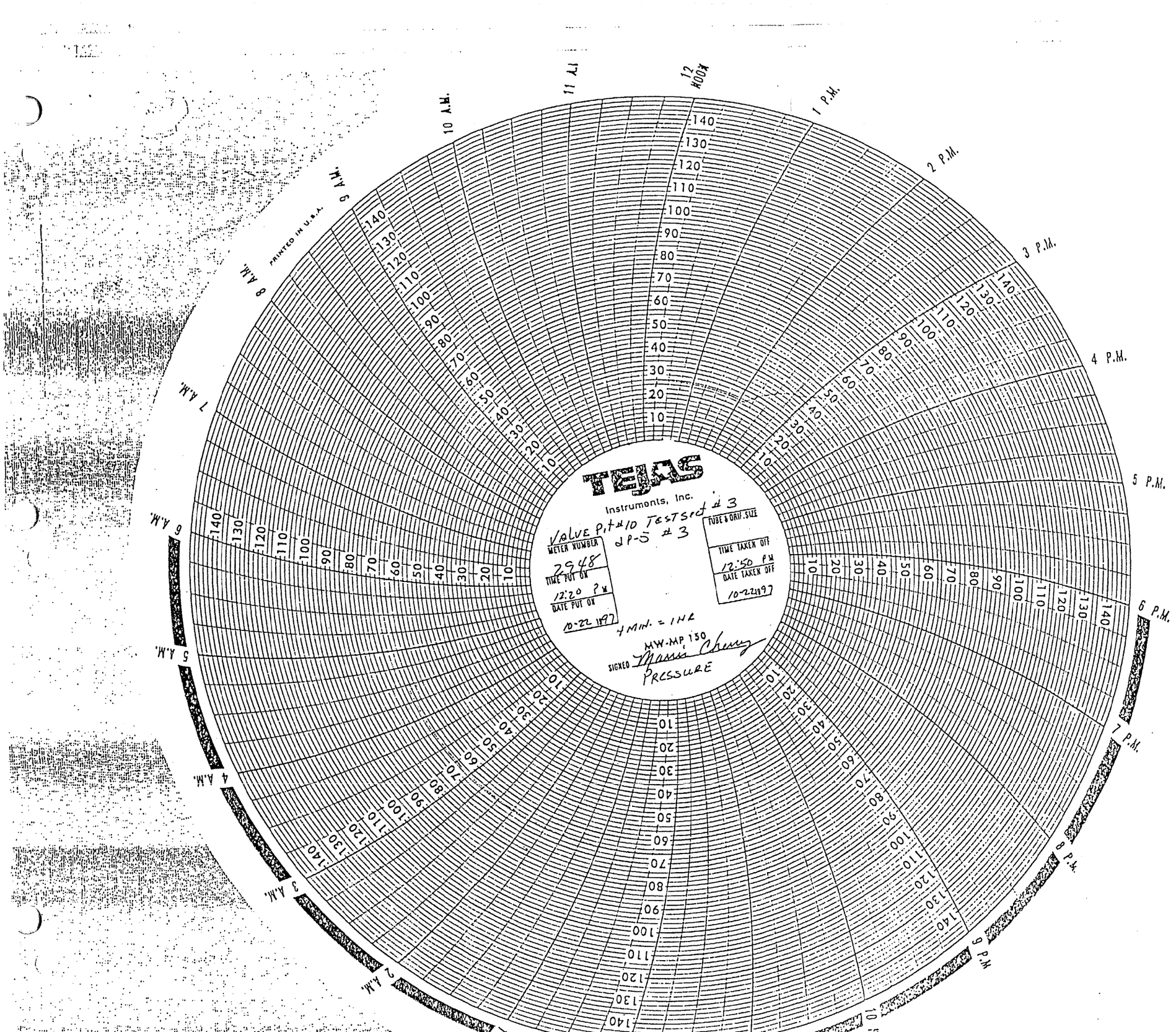
DEADWEIGHT SERIAL NUMBER 4½" 3D Press Gauge 8500543N DATE CERTIFIED 10-10-97
PRESSURE RECORDER SERIAL NUMBER 2948 DATE CERTIFIED 10-10-97
TEMPERATURE RECORDER SERIAL NUMBER 265A3505 DATE CERTIFIED 10-10-97
TEST IS ☒ ACCEPTED ☐ REJECTED IF REJECTED, EXPLAIN _____

DEADWEIGHT RECORD

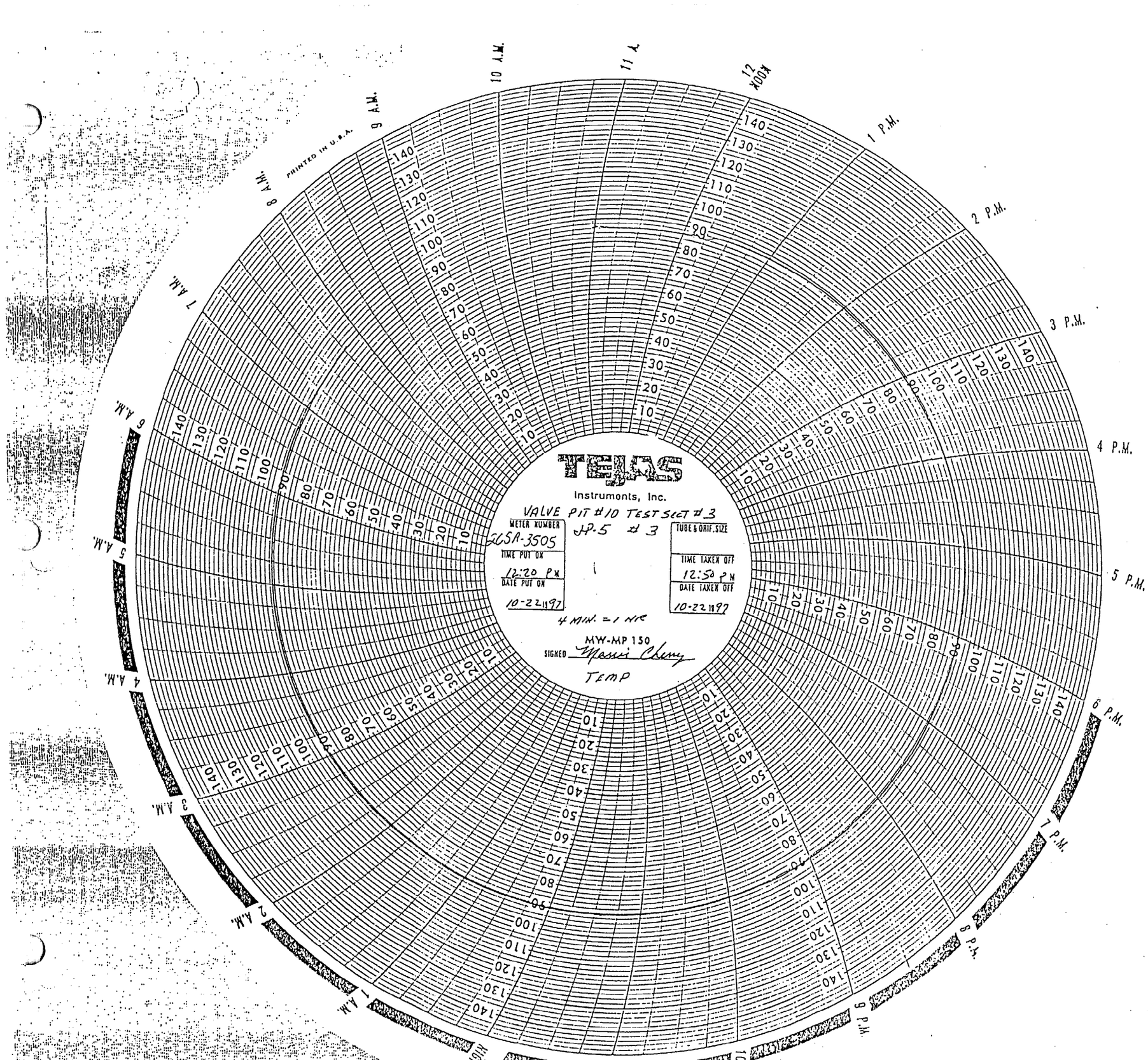
TEMPERATURE

Time	Pressure	Ambient	Pipe or Ground	Remarks
11:55 AM	32 PSI	82°	89° 85.50°	GROUND TEMP TAKEN AT 4 POINTS
12:05 PM	50	82°	90° 85.50°	ALONG TEST SECT AND AVG.
12:15	66	84°	90° 85.50°	
12:20	66	84°	90° 85.50°	
12:30	66	84°	90° 85.50°	
12:40	66	85°	90° 85.50°	
12:50	66	86°	90° 85.50°	

TEST FOREMAN [illegible] INSPECTOR [illegible]


TEJAS
Instruments, Inc.
Valve P,t#10 Tested # 3
dP-5 #3
METER NUMBER
2948
TIME PUT ON
12:20 PM
DATE PUT ON
10-22 1997
TUBE & ORIF. SIZE
TIME TAKEN OFF
12:50 PM
DATE TAKEN OFF
10-22-1997
4 MIN. = 1 HR
MW-MP, 150
SIGNED
PRESSURE
PRINTED IN U.S.A.
12 NOON
1 P.M.
2 P.M.
3 P.M.
4 P.M.
5 P.M.
6 P.M.
7 P.M.
8 P.M.
9 P.M.
10 P.M.
11 P.M.
6 A.M.
7 A.M.
8 A.M.
9 A.M.
10 A.M.
11 A.M.
5 A.M.
4 A.M.
3 A.M.
2 A.M.

045DB173


PRINTED IN U.S.A.
TELES
Instruments, Inc.
VALVE PIT #10 TEST SECT #3
METER NUMBER
SCSA-3505
MP-5 #3
TUBE & ORIF. SIZE
TIME PUT ON
12:20 PM
DATE PUT ON
10-22-1997
TIME TAKEN OFF
12:50 PM
DATE TAKEN OFF
10-22-1997
4 MIN. = 1 HR
MW-MP 150
SIGNED
TEMP
12 NOON
1 P.M.
2 P.M.
3 P.M.
4 P.M.
5 P.M.
6 P.M.
7 P.M.
8 P.M.
9 P.M.
10 A.M.
11 A.M.
9 A.M.
8 A.M.
7 A.M.
6 A.M.
5 A.M.
4 A.M.
3 A.M.
2 A.M.
1 A.M.

18 November 1997

Mr. Morris Cherry
Morco Testing, Inc.
2516 Revere Dr.
Pasadena, Texas 77502

Subject	Certification of Nitrogen Test
Client	Department of the Navy
Contractor	Bechtel Environmental, Inc.
Description	6-inch JP-5 #3
Date Test Accepted	22 October 1997

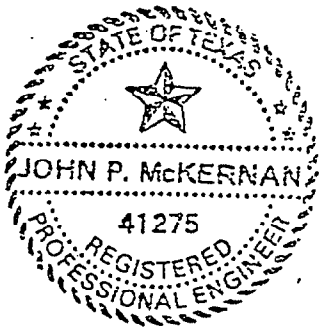
Dear Mr. Cherry;

This letter is certify that the nitrogen test performed on the 6-inch JP-5 #3 Pipeline from Valve Pit Number 10 to Valve Pit 9 by Morco Testing, Inc. met the requirements of ASME/ANSI B31.3 "Chemical Plant and Petroleum Refinery Piping" and "Department of the Navy Southern Division Technical Specification for Pipeline Pressure Testing" 324-SP738-002 Rev. 0.

This section of the pipe line was tested for thirty (30) minutes, using nitrogen as the test medium, at a minimum measured test pressure of 66 psig. This successfully completed the leak test requirements of the above code and specification. This leak test did not loose five (5) psig during the test period. The line showed no lost during the test period. If the test were held for an additional hour, the data indicates that no additional loss would have occurred. This is within acceptable limits as set forth in Specification "Department of the Navy Southern Division Technical Specification for Pipeline Pressure Testing" 324-SP738-002 Rev. 0.

Sincerely yours,

John P. Mc Kernan, PE PLS



C:\LOTSUITE\AMIPRO\DOCS\MORCO\024.SAM

Company	Department of the Navy	AFE Number	N62467-93-D-0536-073
Construction Co	Bechtel Environmental, Inc.	AFE Number	22567
Testing Co.	Morco Testing, Inc.	Project Number	0
Project Name	Naval Air Station Pipeline - Abandonment Project - JP-5 #3		
File Name	C:\LOTSUITE\123R5W\WORK\MORCO\00012.WK4	Revised 18 Nov 97	

TEST LOG

TIME	PRESSURE	AMBIENT TEMP	PIPE TEMP	REMARKS
22-Oct-97				
12:20 PM	66.0	84.0	90.0	On Test
12:20 PM	66.0	84.0	90.0	
12:40 PM	66.0	85.0	90.0	
12:50 PM	66.0	86.0	90.0	Off Test
				Ground Temperature Taken at Four Locations
				Along Test Section and Then Averaged For Value
				Reported.
22-Oct-97				

66	PSIG HI	TOTAL OZ. BLEED	0
66	PSIG LOW	TOTAL OZ. INJECTED	0

Company	Department of the Navy	AFE Number	N62467-93-D-0936-073
Construction Co	Bechtel Enviromental, Inc.	AFE Number	22567
Testing Co.	Morco Testing, Inc.	Project No.	0
Project Name	Naval Air Station Pipeline - Abandonment Project - JP-5 #3		
File Name	C:\LOTSUITE\123R5W\WORK\MORCO\CC012.WK4		

NITROGEN TEST

PIPELINE: JP-5 #3 TEST DATE 22-Oct-97

FROM : Valve Pit #10 Test Sect. #3 - JP-5 #3 TO : Valve Pit #9

SECT. LENGTH: .695 PIPE DIA.: 6.625 WALL THK. 0.280

SPECK. NA GRADE : NA

INITIAL PRESSURE AT TEST POINT	66 PSIG	TIME:	12:20 PM	PIPE TEMP :	90
INITIAL AMBIENT TEMPERATURE	84 F	ELEV @ TEST PT		-1 MSL	
IN. PRES. @ OTHER END	66 PSIG	ELEV.	3	LOCATION :	Valve Pit #9
FINAL PRESSURE AT TEST POINT	66.0 PSIG	TIME:	12:50 PM	PIPE TEMP :	90
FINAL AMBIENT TEMPERATURE	86 F	ELEV @ TEST PT		-1 MSL	
IN. PRES. @ OTHER END	66.0 PSIG	ELEV.		3 MSL	

IDEAL GAS LAW:

PV = RZT

WHERE

P = Pressure (psia) 14.696 psia

V = Volume (scf)

R = Gas Constant

Z = Compressibility Factor

T = Temperature (R) 527.67 R

Volume of Line at Standard Conditions 139.4 Cubic Feet

Time	Pressure	Pipe Temp	Volume
12:20	66.0	90	796.1
12:20	66.0	90	796.1
12:40	66.0	90	796.1
12:50	66.0	90	796.1

(- loss, + gain)	0 scf
(- loss, + gain)	0.0 scf per hour
Test Duration	0.5 Hours

TESTED ACCEPTED X YES NO

IF NO EXPLAIN

REMARKS

JOHN P. MCKERNAN, PE PLS

11/18/97

DATE

STATE OF TEXAS JOHN P. McKERNAN 41275 REGISTERED PROFESSIONAL ENGINEER

C:\LOTSUITE\AMIPRO\DOCS\MORCO\024.SAM

MTI Morco Testing, Inc.
HYDROSTATIC TESTING LEAK DETECTION

HYDROSTATIC TEST REPORT

PIPELINE DIVISIO

PIPELINE COMPANY DEPARTMENT OF THE NAVY | JOB NO: 22567
PIPELINE CONTRACTOR BECHTEL ENVIRONMENTAL, INC. | W.O. NO: N62467-93-D-0936-07 | AFE NO:

TEST SECTION NO. VALVE PIT #6 TEST SECT #4 AV-GAS #1 TO VALVE PIT #9

TEST BEGAN: DATE 10-23-97 TIME 8:30 AM | PRESSURE AIR LIQUIDE UNIT NO. 2821 STATION NO. VP#6

TEST END: DATE 10-23-97 TIME 9:00 AM | ELEVATION -1' TO +3

PIPE DATA: 584' 6.625 O.D. .280 W.T. SCH 40

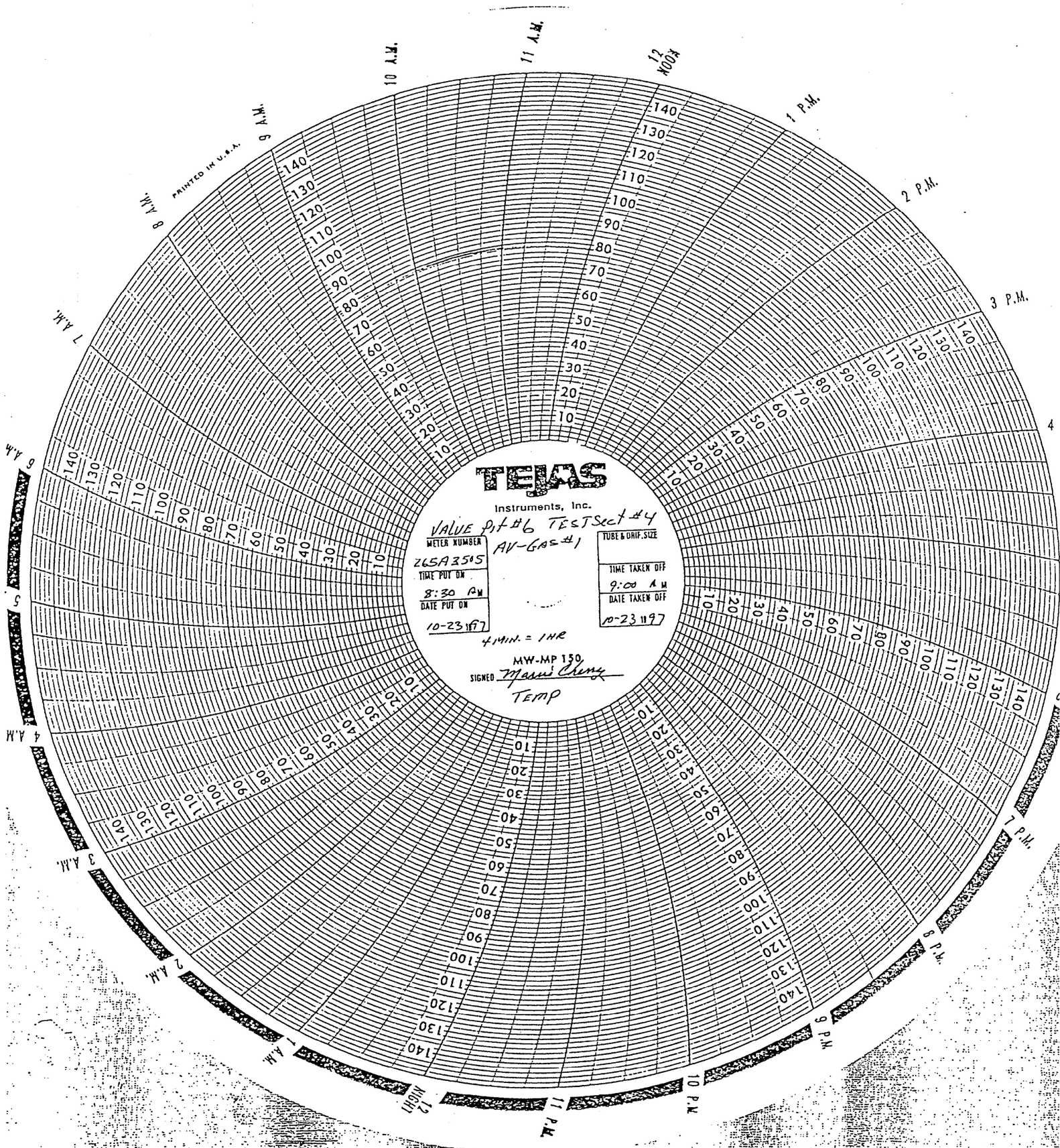
TEST MEDIUM - NITROGEN

DEADWEIGHT SERIAL NUMBER 8" U.S.G. Press Gauge 18938 DATE CERTIFIED 10-10-97
PRESSURE RECORDER SERIAL NUMBER 2950 DATE CERTIFIED 10-10-97
TEMPERATURE RECORDER SERIAL NUMBER 265A3505 DATE CERTIFIED 10-10-97
TEST IS ☒ ACCEPTED ☐ REJECTED IF REJECTED, EXPLAIN _____

DEADWEIGHT RECORD

TEMPERATURE

Time	Pressure	Ambient	Pipe or Ground	Remarks
8:00 AM	25 PSI	75°	79° 84.25	GROUND TEMP TAKEN AT 4 POINTS
8:10	50	75°	78° 84.25	ALONG TEST SECT AND AVG.
8:20	65	75°	78° 84.25	
8:30	65	75°	78° 84.25	
8:40	65	77°	78° 84.25	
8:50	65	78°	78° 84.25	
9:00	65	78°	78° 84.25	


TEJAS
Instruments, Inc.
VALVE Pit #6 TEST Sect #4
AV-GAS #1
METER NUMBER
265A3505
TIME PUT ON
8:30 AM
DATE PUT ON
10-23 1997
TUBE & ORIF. SIZE
TIME TAKEN OFF
9:00 AM
DATE TAKEN OFF
10-23 1997
4 MIN. = 1 HR
MW-MP 150
SIGNED Marvi Cherry
TEMP
PRINTED IN U.S.A.
12 NOON
1 P.M.
2 P.M.
3 P.M.
7 P.M.
8 P.M.
9 P.M.
10 P.M.
11 P.M.
12 NIGHT
1 A.M.
2 A.M.
3 A.M.
4 A.M.
5
6 A.M.
7 A.M.
8 A.M.
9 A.M.
10 A.M.
11 A.M.

PRINTED IN U.S.A.

Valve
WATER NUMBER
2950
TIME PUT ON
5:30 AM
DATE PUT ON
10-23-1957

4 min. = 1 hr

SIGNED Williams Chung
MW-MP 150
PRESSURE

Instruments, Inc.
to Test Seat of
AV-GAS #1

TUBE & ORIFICE SIZE

TIME TAKEN OFF
9:20 AM
DATE TAKEN OFF
10-23-1957

6 A.M. 7 A.M. 8 A.M. 9 A.M. 10 A.M. 11 A.M. NOON 1 P.M. 2 P.M. 3 P.M. 4 P.M. 5 P.M. 6 P.M. 7 P.M. 8 P.M. 9 P.M. 10 P.M. 11 P.M. MIDNIGHT 1 A.M. 2 A.M. 3 A.M. 4 A.M. 5 A.M.

10 20 30 40 50 60 70 80 90 100 110 120 130 140

18 November 1997

Mr. Morris Cherry
Morco Testing, Inc.
2516 Revere Dr.
Pasadena, Texas 77502

Subject	Certification of Nitrogen Test
Client	Department of the Navy
Contractor	Bechtel Environmental, Inc.
Description	6-inch AV-Gas #1
Date Test Accepted	23 October 1997

Dear Mr. Cherry;

This letter is certify that the nitrogen test performed on the 6-inch AV-Gas #1 Pipeline from Valve Pit Number 6 to Valve Pit Number 9 by Morco Testing, Inc. met the requirements of ASME/ANSI B31.3 "Chemical Plant and Petroleum Refinery Piping" and "Department of the Navy Southern Division Technical Specification for Pipeline Pressure Testing" 324-SP738-002 Rev. 0.

This section of the pipe line was tested for thirty (30) minutes, using nitrogen as the test medium, at a minimum measured test pressure of 65 psig. This successfully completed the leak test requirements of the above code and specification. This leak test did not loose five (5) psig during the test period. The line showed no lost during the test period. If the test were held for an additional hour, the data indicates that no additional loss would have occurred. This is within acceptable limits as set forth in Specification "Department of the Navy Southern Division Technical Specification for Pipeline Pressure Testing" 324-SP738-002 Rev. 0.

Sincerely yours,

John P. Mc Kernan, PE PLS

C:\LOTSUITE\AMIPRO\DOCS\MORCO\025.SAM

Company	Department of the Navy	AFE Number	N62467-93-D-0535-073
Construction Co	Bechtel Enviromental, Inc.	AFE Number	22567
Testing Co.	Morco Testing, Inc.	Project Number	0
Project Name	Naval Air Station Pipeline - Abandonment Project - VA-Gas #1		
File Name	C:\LOTSUITE\123R5W\WORK\MORCO\00013.WK4	Revised 18 Nov 97	

TEST LOG

TIME	PRESSURE	AMBIENT TEMP	PIPE TEMP	REMARKS
23-Oct-97				
08:30 AM	65.0	75.0	78.0	On Test
08:40 AM	65.0	77.0	78.0	
08:50 AM	65.0	78.0	78.0	
09:00 AM	65.0	78.0	78.0	Off Test
				Ground Temperature Taken at Four Locations
				Along Test Section and Then Averaged For Value
				Reported.
23-Oct-97				

65	PSIG HI	TOTAL OZ. BLEED	0
65	PSIG LOW	TOTAL OZ. INJECTED	0

Company	Department of the Navy	AFE Number	N62467-93-D-0535-073
Construction Co	Bechtel Enviromental, Inc.	AFE Number	22567
Testing Co.	Morco Testing, Inc.	Project No.	0
Project Name	Naval Air Station Pipeline - Abandonment Project - VA-Gas #1		
File Name	C:\LOTSUITE\123R5W\WORK\MORCO\00013.WK4		

NITROGEN TEST

PIPELINE: VA-Gas #1 TEST DATE 23-Oct-97

FROM : Valve Pit # Test Sect. # VA-Gas #1 TO : Valve Pit #9

SECT. LENGTH: 584 PIPE DIA.: 6.625 WALL THK. 0.280

SPECK. NA GRADE : NA

INITIAL PRESSURE AT TEST POINT 65 PSIG TIME: 08:30 AM PIPE TEMP : 78

INITIAL AMBIENT TEMPERATURE 75 F ELEV @ TEST PT -1 MSL

IN. PRES. @ OTHER END 65 PSIG ELEV. 3 LOCATION : Valve Pit #9

FINAL PRESSURE AT TEST POINT 65.0 PSIG TIME: 09:00 AM PIPE TEMP : 78

FINAL AMBIENT TEMPERATURE 78 F ELEV @ TEST PT -1 MSL

IN. PRES. @ OTHER END 65.0 PSIG ELEV. 3 MSL

IDEAL GAS LAW:

PV = RZT

WHERE

P = Pressure (psia) 14.696 psia

V = Volume (scf)

R = Gas Constant

Z = Compressibility Factor

T = Temperature (R) 527.67 R

Volume of Line at Standard Conditions 117.2 Cubic Feet

Time	Pressure	Pipe Temp	Volume
08:30	65.0	78	646.2
08:40	65.0	78	646.2
08:50	65.0	78	646.2
09:00	65.0	78	646.2

(- loss, + gain) 0 scf

(- loss, + gain) 0.0 scf per hour

Test Duration 0.5 Hours

TESTED ACCEPTED X YES NO

IF NO EXPLAIN

REMARKS

JOHN P. MCKERNAN, PE PLS

11/18/97

DATE

STATE OF TEXAS JOHN P. McKERNAN 41275 REGISTERED PROFESSIONAL ENGINEER

MTI Morco Testing, Inc.
HYDROSTATIC TESTING LEAK DETECTION

HYDROSTATIC TEST REPORT

PIPELINE DIVISIO

PIPELINE COMPANY: DEPARTMENT OF THE NAVY
JOB NO: 22567
W.O. NO: N62467-93-D-0936-0
PIPELINE CONTRACTOR: BECHTEL ENVIRONMENTAL, INC.
AFE NO:

TEST SECTION NO.: VALVE P.T #6 TEST SECT. #4 JP-5 #2 TO VALVE P.T #9

TEST BEGAN: DATE 10-23-97 TIME 9:10 AM
PRESSURE AIR LIQUIDE
UNIT NO. 2821 STATION NO. VP#6

TEST END: DATE 10-23-97 TIME 9:40 AM
ELEVATION -1' TO +3

PIPE DATA: 584' 6.625" O.D. .280 W.T. SCH 40

TEST MEDIUM - NITROGEN

DEADWEIGHT SERIAL NUMBER 4½" PERMA-CAL GAUGE 12916-02-04 DATE CERTIFIED 10-10-97
PRESSURE RECORDER SERIAL NUMBER 2953 DATE CERTIFIED 10-10-97
TEMPERATURE RECORDER SERIAL NUMBER 2957 DATE CERTIFIED 10-10-97
TEST IS ☒ ACCEPTED ☐ REJECTED IF REJECTED, EXPLAIN

DEADWEIGHT RECORD

Time	Pressure	TEMPERATURE Ambient	TEMPERATURE Pipe or Ground	Remarks
8:40 AM	25 PSI	78°	80° 84.75	GROUND TEMP TAKEN AT 4 POINTS
8:50	50	78°	82° 84.75	ALONG TEST SECT. AND AVG.
9:00	65	78°	81° 84.75	
9:10	65	78°	81° 84.75	
9:20	65	78°	81° 84.75	
9:30	65	79°	81° 84.75	
9:40	65	79°	81° 84.75	

TEST FOREMAN

PRINTED IN U.S.A.

6 A.M. 7 A.M. 8 A.M. 9 A.M. 10 A.M. 11 A.M. 12 NOON 1 P.M. 2 P.M. 3 P.M. 4 P.M. 5 P.M. 6 P.M. 7 P.M. 8 P.M. 9 P.M. 10 P.M. 11 P.M. 12 NIGHT 1 A.M. 2 A.M. 3 A.M. 4 A.M. 5 A.M.

10 20 30 40 50 60 70 80 90 100 110 120 130 140

VALVE METER NUMBER 2957

TIME PUT ON 9:10 AM

DATE PUT ON 10-23-97

Instruments, Inc. TESTED BY JPS

TUBE & ORIFICE SIZE

TIME TAKEN OFF 9:40 AM

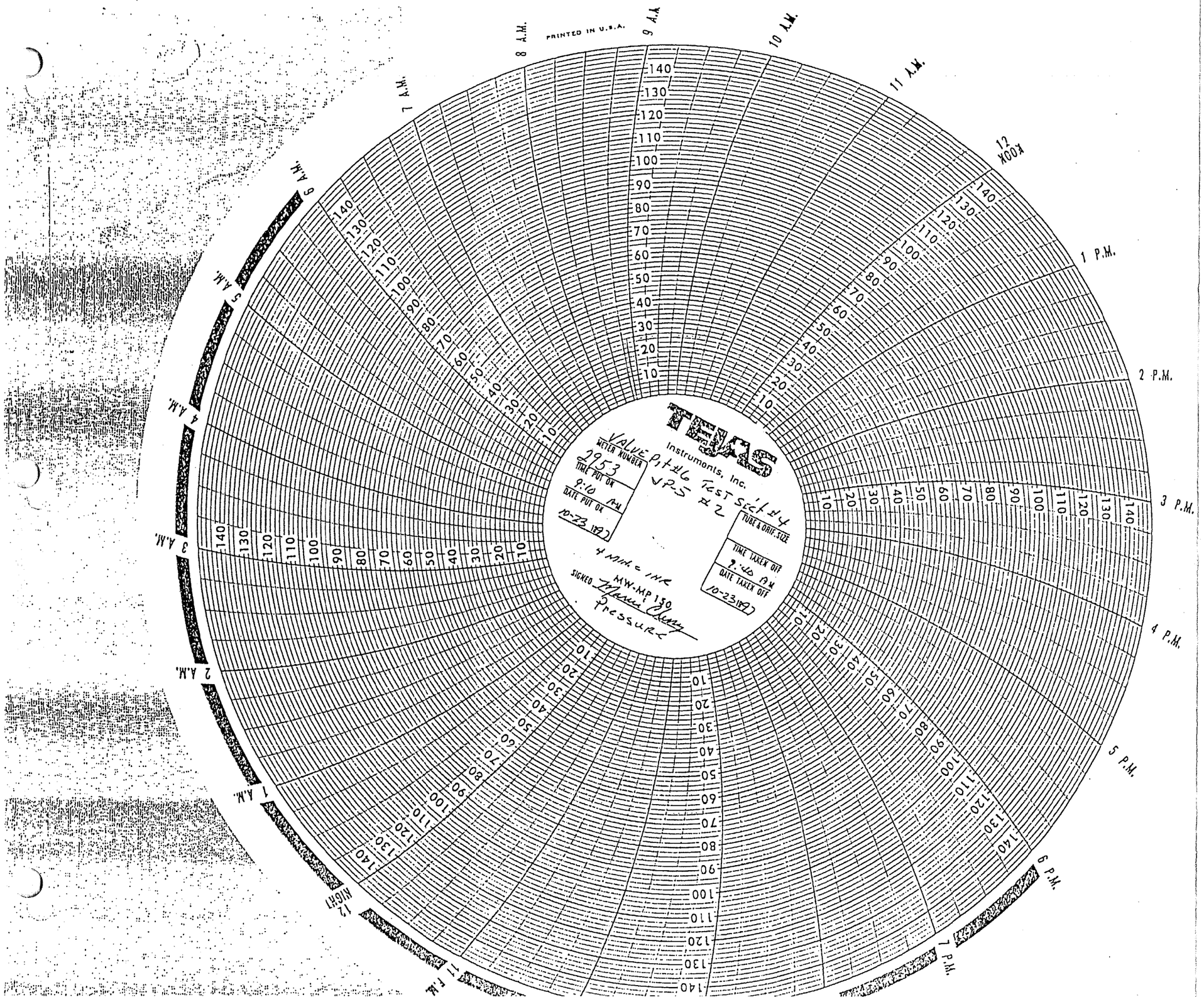
DATE TAKEN OFF 10-23-97

MAX. MIN. 159

SIGNED Thomas Chung

Temp

045DB197


PRINTED IN U.S.A.
TEXAS
Instruments, Inc.
VALVE Pit #6 Test Sect #4
VP-5 #2
METER NUMBER
2953
TIME PUT ON
9:10 AM
DATE PUT ON
10-23 1997
TUBE & ORIF. SIZE
TIME TAKEN OFF
9:40 AM
DATE TAKEN OFF
10-23 1997
4 MIN. = 1 HR
MW-MP 150
SIGNED
Pressure
6 A.M.
5 A.M.
4 A.M.
3 A.M.
2 A.M.
1 A.M.
12 NIGHT
11 P.M.
7 A.M.
8 A.M.
9 A.M.
10 A.M.
11 A.M.
12 NOON
1 P.M.
2 P.M.
3 P.M.
4 P.M.
5 P.M.
6 P.M.
7 P.M.

18 November 1997

Mr. Morris Cherry
Morco Testing, Inc.
2516 Revere Dr.
Pasadena, Texas 77502

Subject	Certification of Nitrogen Test
Client	Department of the Navy
Contractor	Bechtel Environmental, Inc.
Description	6-inch JP-5 #2
Date Test Accepted	23 October 1997

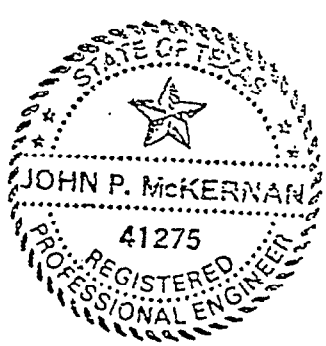
Dear Mr. Cherry;

This letter is certify that the nitrogen test performed on the 6-inch JP-5 #2 Pipeline from Valve Pit Number 6 to Valve Pit Number 9 by Morco Testing, Inc. met the requirements of ASME/ANSI B31.3 "Chemical Plant and Petroleum Refinery Piping" and "Department of the Navy Southern Division Technical Specification for Pipeline Pressure Testing" 324-SP738-002 Rev. 0.

This section of the pipe line was tested for thirty (30) minutes, using nitrogen as the test medium, at a minimum measured test pressure of 65 psig. This successfully completed the leak test requirements of the above code and specification. This leak test did not loose five (5) psig during the test period. The line showed no lost during the test period. If the test were held for an additional hour, the data indicates that no additional loss would have occurred. This is within acceptable limits as set forth in Specification "Department of the Navy Southern Division Technical Specification for Pipeline Pressure Testing" 324-SP738-002 Rev. 0.

Sincerely yours,

John P. Mc Kernan, PE PLS



C:\LOTSUITE\AMIPRO\DOCS\MORCO\026.SAM

Company	Department of the Navy	AFE Number	N62467-93-D-0836-073
Construction Co	Bechtel Enviromental, Inc.	AFE Number	22567
Testing Co.	Morco Testing, Inc.	Project Number	0
Project Name	Naval Air Station Pipeline - Abandonment Project - JP-5 #2		
File Name	C:\LOTSUITE\123R5\WORK\MORCO\00014.WK4	Revised 18 Nov 97	

TEST LOG

TIME	PRESSURE	AMBIENT TEMP	PIPE TEMP	REMARKS
23-Oct-97				
09:10 AM	65.0	78.0	81.0	On Test
09:20 AM	65.0	78.0	81.0	
09:30 AM	65.0	79.0	81.0	
09:40 AM	65.0	79.0	81.0	Off Test
				Ground Temperature Taken at Four Locations
				Along Test Section and Then Averaged For Value
				Reported.
23-Oct-97				

65	PSIG HI	TOTAL OZ. BLEED	0
65	PSIG LOW	TOTAL OZ. INJECTED	0

Company	Department of the Navy	AFE Number	N62467-93-D-0936-073
Construction Co	Bechtel Enviromental, Inc.	AFE Number	22567
Testing Co.	Morco Testing, Inc.	Project No.	0
Project Name	Naval Air Station Pipeline - Abandonment Project - JP-5 #2		
File Name	C:\LOTSUITE\123R5\WORK\MORCO\00014.WK4		

NITROGEN TEST

PIPELINE: JP-5 #2 TEST DATE 23-Oct-97

FROM : Valve Pit #6 Test Sect. #4 JP-5 #2 TO : Valve Pit #9

SECT. LENGTH: 584 PIPE DIA.: 6.625 WALL THK. 0.280

SPECK. NA GRADE : NA

INITIAL PRESSURE AT TEST POINT	65 PSIG	TIME:	09:10 AM	PIPE TEMP :	81
INITIAL AMBIENT TEMPERATURE	78 F	ELEV @ TEST PT		-1 MSL	
IN. PRES. @ OTHER END	65 PSIG	ELEV.	3	LOCATION :	Valve Pit #9
FINAL PRESSURE AT TEST POINT	65.0 PSIG	TIME:	09:40 AM	PIPE TEMP :	81
FINAL AMBIENT TEMPERATURE	79 F	ELEV @ TEST PT		-1 MSL	
IN. PRES. @ OTHER END	65.0 PSIG	ELEV.		3 MSL	

IDEAL GAS LAW:

PV = RZT

WHERE

P = Pressure (psia) 14.696 psia

V = Volume (scf)

R = Gas Constant

Z = Compressibility Factor

T = Temperature (R) 527.67 R

Volume of Line at Standard Conditions 117.2 Cubic Feet

Time	Pressure	Pipe Temp	Volume
09:10	65.0	81	649.8
09:20	65.0	81	649.8
09:30	65.0	81	649.8
09:40	65.0	81	649.8

(- loss, + gain) 0 scf

(- loss, + gain) 0.0 scf per hour

Test Duration 0.5 Hours

TESTED ACCEPTED X YES NO

IF NO EXPLAIN

REMARKS

JOHN P. MCKERNAN, PE PLS

11/18/97

DATE

STATE OF TEXAS JOHN P. McKERNAN 41275 REGISTERED PROFESSIONAL ENGINEER

C:\LOTSUITE\AMIPRO\DOCS\MORCO\026.SAM

MTI Morco Testing, Inc.
HYDROSTATIC TESTING LEAK DETECTION

HYDROSTATIC TEST REPORT

PIPELINE DIVISION

PIPELINE COMPANY: DEPARTMENT OF THE NAVY
JOB NO: 22567
W.O. NO: N62467-93-D-0936-073
PIPELINE CONTRACTOR: BECHTEL ENVIRONMENTAL, INC.
AFE NO:

TEST SECTION NO.: VALVE PIT #6 TEST SECT. #4 JP5 #3 TO VALVE PIT #9

TEST BEGAN: DATE 10-23-97 TIME 9:50 AM
PRESSURE AIR LIQUIDE
UNIT NO. 2821 STATION NO. VP #6

TEST END: DATE 10-23-97 TIME 10:20 AM
ELEVATION -1 TO +3

PIPE DATA: 584' 6.625" O.D. .280 W.T. SCH 40

TEST MEDIUM - NITROGEN

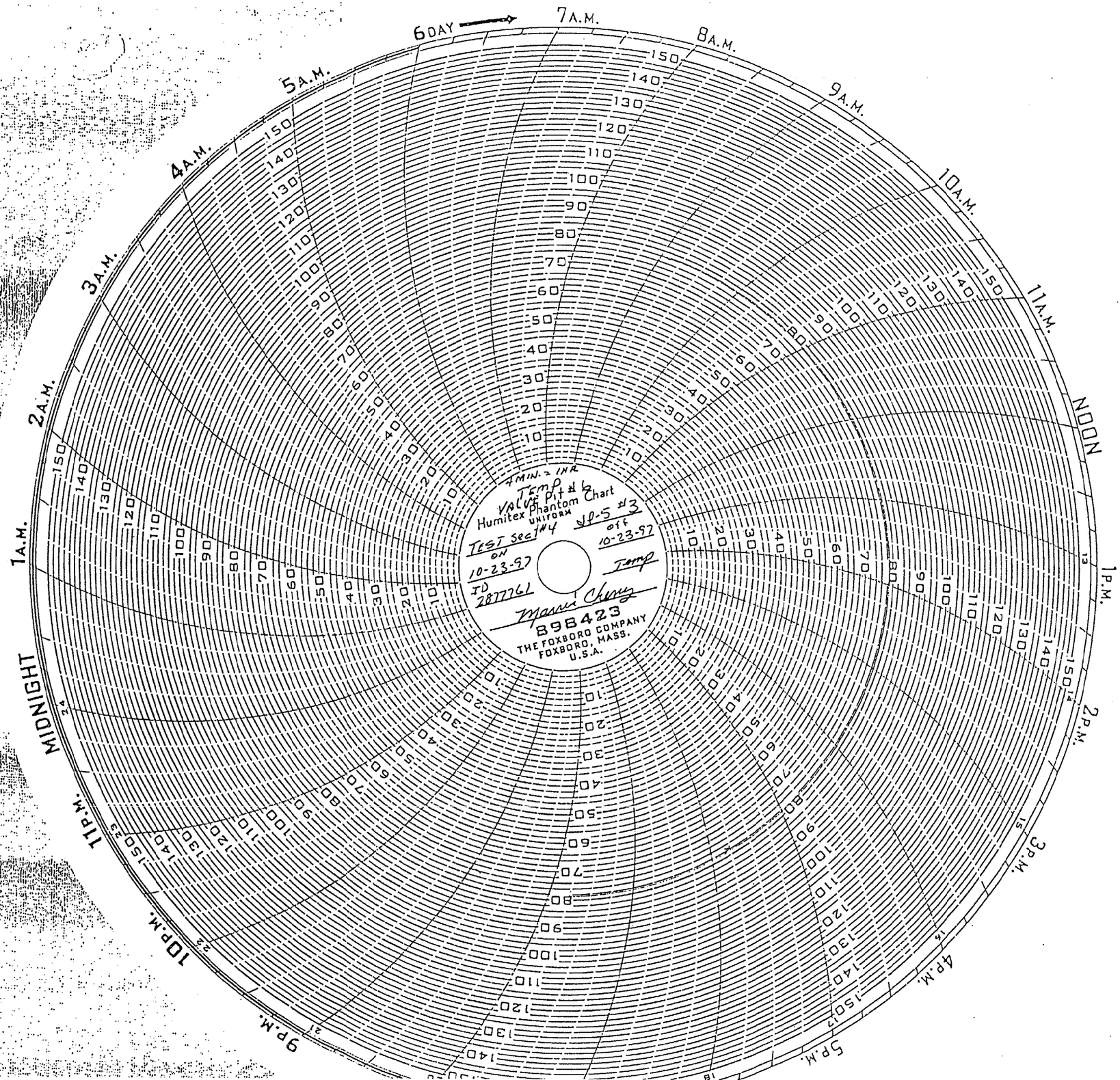
DEADWEIGHT SERIAL NUMBER 4½" 3D PRESS GAUGE 8500543N DATE CERTIFIED 10-10-97
PRESSURE RECORDER SERIAL NUMBER 2948 DATE CERTIFIED 10-10-97
TEMPERATURE RECORDER SERIAL NUMBER 2877761 DATE CERTIFIED 10-10-97
TEST IS ☒ ACCEPTED ☐ REJECTED IF REJECTED, EXPLAIN

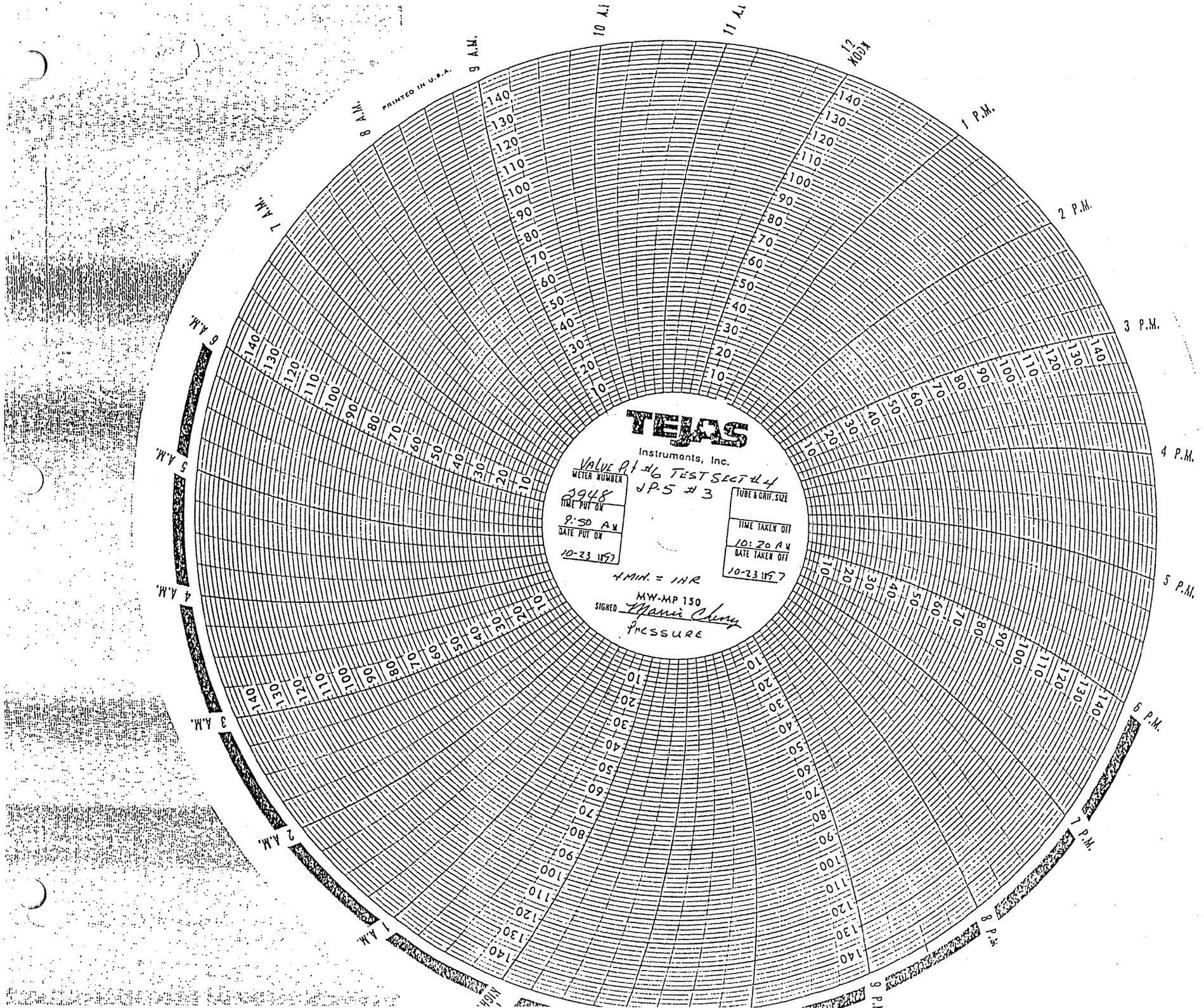
DEADWEIGHT RECORD

TEMPERATURE

Time	Pressure	Ambient	Pipe or Ground	Remarks
9:23 AM	25 PSI	78°	78° 83.50°	GROUND TEMP TAKEN AT 4 POINTS
9:30	50	78°	78° 83.50°	ALONG TEST SECT. AND AVG
9:40	65	78°	78° 83.50°	
9:50	65	79°	78° 83.50°	
10:00	65	80°	78° 83.50°	
10:10	65	81°	78° 83.50°	
10:20	65	82°	78° 83.50°	

TEST FOREMAN


6 DAY
7 A.M.
8 A.M.
9 A.M.
10 A.M.
11 A.M.
NOON
1 P.M.
2 P.M.
3 P.M.
4 P.M.
5 P.M.
6 P.M.
7 P.M.
8 P.M.
9 P.M.
10 P.M.
11 P.M.
MIDNIGHT
1 A.M.
2 A.M.
3 A.M.
4 A.M.
5 A.M.
4 MIN. = 1 HR.
Temp
Valve Pit # 6
Humitex Phantom Chart
UNIFORM
TEST Sec 1W4
ON
10-23-97
ID
2877761
VP-5 #3
off
10-23-97
Temp
Mason Chung
898423
THE FOXBORO COMPANY
FOXBORO, MASS.
U.S.A.


TEJAS
Instruments, Inc.
Value at #6 TEST SECT #4
JP-5 #3
METER NUMBER
2948
TIME PUT ON
9:50 A.M.
DATE PUT ON
10-23 1967
TUBE & ORIF. SIZE
TIME TAKEN OFF
10:20 A.M.
DATE TAKEN OFF
10-23 1967
4 MIN. = 1 HR
MW-MP 130
SIGNED
Pressure
PRINTED IN U.S.A.
12 NOON
1 P.M.
2 P.M.
3 P.M.
4 P.M.
5 P.M.
6 P.M.
7 P.M.
8 P.M.
9 P.M.
10 P.M.
11 P.M.
8 A.M.
9 A.M.
7 A.M.
6 A.M.
5 A.M.
4 A.M.
3 A.M.
2 A.M.
1 A.M.

18 November 1997

Mr. Morris Cherry
Morco Testing, Inc.
2516 Revere Dr.
Pasadena, Texas 77502

Subject	Certification of Nitrogen Test
Client	Department of the Navy
Contractor	Bechtel Environmental, Inc.
Description	6-inch JP-5 #3
Date Test Accepted	23 October 1997

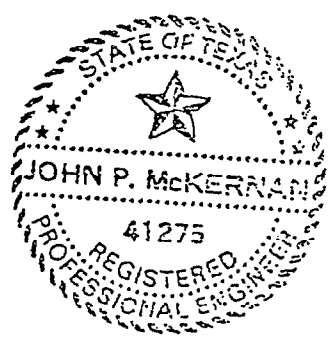
Dear Mr. Cherry;

This letter is certify that the nitrogen test performed on the 6-inch JP-5 #3 Pipeline from Valve Pit Number 6 to Valve Pit Number 9 by Morco Testing, Inc. met the requirements of ASME/ANSI B31.3 "Chemical Plant and Petroleum Refinery Piping" and "Department of the Navy Southern Division Technical Specification for Pipeline Pressure Testing" 324-SP738-002 Rev. 0.

This section of the pipe line was tested for thirty (30) minutes, using nitrogen as the test medium, at a minimum measured test pressure of 65 psig. This successfully completed the leak test requirements of the above code and specification. This leak test did not loose five (5) psig during the test period. The line showed no lost during the test period. If the test were held for an additional hour, the data indicates that no additional loss would have occurred. This is within acceptable limits as set forth in Specification "Department of the Navy Southern Division Technical Specification for Pipeline Pressure Testing" 324-SP738-002 Rev. 0.

Sincerely yours,

John P. Mc Kernan, PE PLS



C:\LOTSUITE\AMIPRO\DOCS\MORCO\027.SAM

Company	Department of the Navy	AFE Number	N62467-93-D-0936-073
Construction Co	Bechtel Enviromental, Inc.	AFE Number	22567
Testing Co.	Morco Testing, Inc.	Project Number	0
Project Name	Naval Air Station Pipeline - Abandonment Project - JP 5 #3		
File Name	C:\LOTSUITE\123R5\WORK\MORCO00015.WK4	Revised 18 Nov 97	

TEST LOG

TIME	PRESSURE	AMBIENT TEMP	PIPE TEMP	REMARKS
23-Oct-97				
09:50 AM	65.0	79.0	78.0	On Test
10:00 AM	65.0	80.0	78.0	
10:10 AM	65.0	81.0	78.0	
10:20 AM	65.0	82.0	78.0	Off Test
				Ground Temperature Taken at Four Locations
				Along Test Section and Then Averaged For Value
				Reported.
23-Oct-97				

65	PSIG HI	TOTAL OZ BLEED	0
65	PSIG LOW	TOTAL OZ INJECTED	0

Company	Department of the Navy	AFE Number	N62467-93-D-0536-073
Construction Co	Bechtel Enviromental, Inc.	AFE Number	22567
Testing Co.	Morco Testing, Inc.	Project No.	0
Project Name	Naval Air Station Pipeline - Abandonment Project - JP 5 #3		
File Name	C:\LOTSUITE\123R5W\WORK\MORCO\00015.WK4		

NITROGEN TEST

PIPELINE: JP 5 #3 TEST DATE 23-Oct-97

FROM : Valve Pit #6 Test Sect. #4 JP-5 #3 TO : Valve Pit #9

SECT. LENGTH: 584 PIPE DIA.: 6.625 WALL THK. 0.280

SPECK. NA GRADE : NA

INITIAL PRESSURE AT TEST POINT	65 PSIG	TIME:	09:50 AM	PIPE TEMP :	78
INITIAL AMBIENT TEMPERATURE	79 F	ELEV @ TEST PT		-1 MSL	
IN. PRES. @ OTHER END	65 PSIG	ELEV.	3	LOCATION :	Valve Pit #9
FINAL PRESSURE AT TEST POINT	65.0 PSIG	TIME:	10:20 AM	PIPE TEMP :	78
FINAL AMBIENT TEMPERATURE	82 F	ELEV @ TEST PT		-1 MSL	
IN. PRES. @ OTHER END	65.0 PSIG	ELEV.		3 MSL	

IDEAL GAS LAW:

PV = RZT

WHERE

P =	Pressure (psia)	14.696 psia
V =	Volume (scf)	
R =	Gas Constant	
Z =	Compressibility Factor	
T =	Temperature (R)	527.67 R

Volume of Line at Standard Conditions 117.2 Cubic Feet

Time	Pressure	Pipe Temp	Volume
09:50	65.0	78	646.2
10:00	65.0	78	646.2
10:10	65.0	78	646.2
10:20	65.0	78	646.2

(- loss, + gain)	0 scf
(- loss, + gain)	0.0 scf per hour
Test Duration	0.5

TESTED ACCEPTED X YES NO

IF NO EXPLAIN

REMARKS

JOHN P. MCKERNAN, PE PLS

11/18/97

DATE

STATE OF TEXAS
JOHN P. McKERNAN
41275
REGISTERED
PROFESSIONAL ENGINEER

MTI Morco Testing, Inc.
HYDROSTATIC TESTING · LEAK DETECTION

HYDROSTATIC TEST REPORT

PIPELINE DIVISION

PIPELINE COMPANY DEPARTMENT OF THE NAVY | JOB NO: 27567
PIPELINE CONTRACTOR BECHTEL ENVIRONMENTAL, INC. | W.O. NO: N62467-93-D-0936-073 | AFE NO:

TEST SECTION NO. VALVE PIT #5 TEST SECT. #5 AV-GAS #1 TO VALVE PIT #6

TEST BEGAN: DATE 10-23-97 TIME 11:30 AM | PRESSURE AIR LIQUIDE UNIT NO. 2821 STATION NO. VP #5

TEST END: DATE 10-23-97 TIME 12:00 NOON | ELEVATION -1 TO +3

PIPE DATA: 739' 6.625" O.D. .280 W.T. SCH 40

TEST MEDIUM - NITROGEN

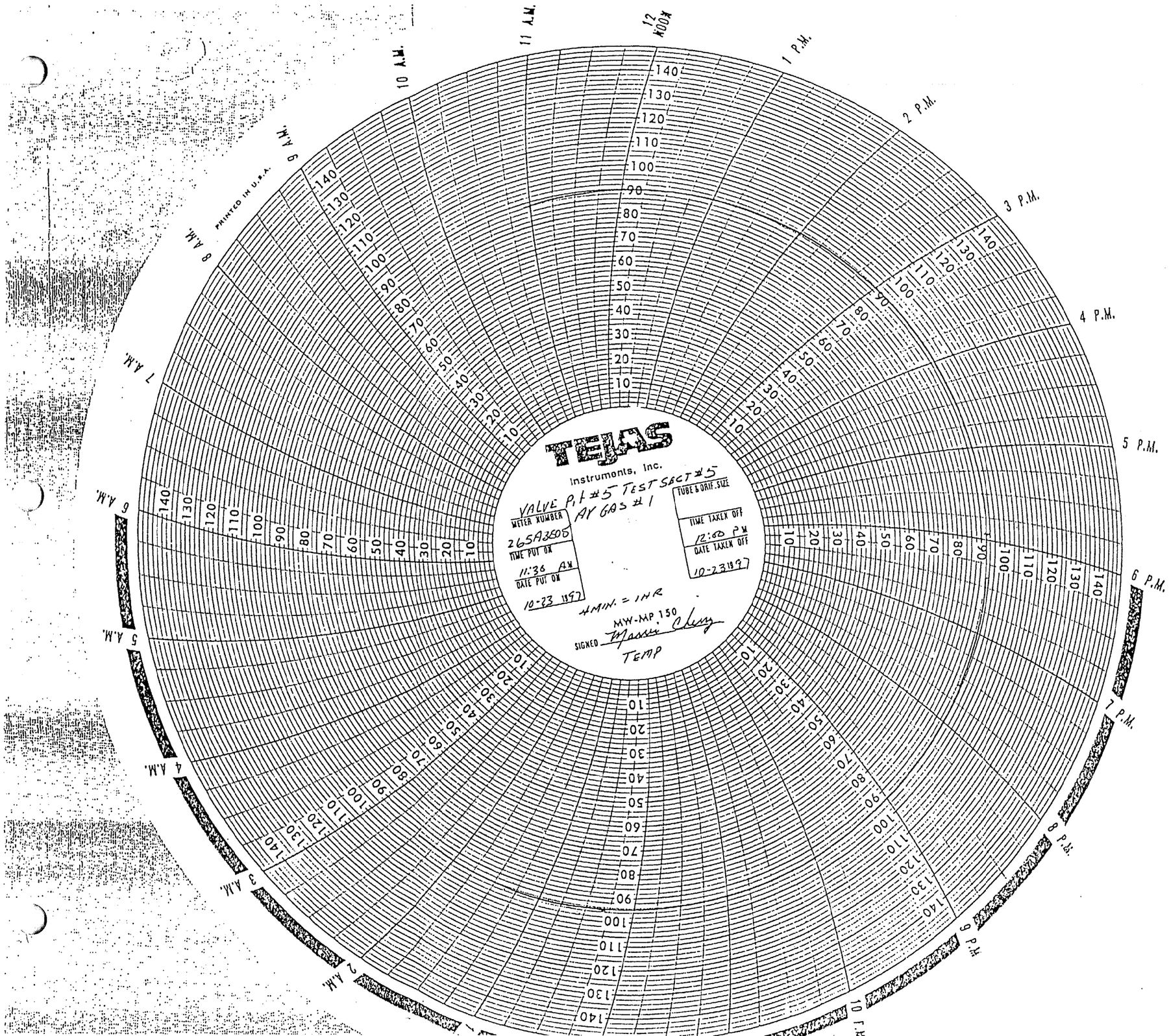
DEADWEIGHT SERIAL NUMBER 8" U.S.G. PRESS GAUGE 18938 DATE CERTIFIED 10-10-97
PRESSURE RECORDER SERIAL NUMBER 2950 DATE CERTIFIED 10-10-97
TEMPERATURE RECORDER SERIAL NUMBER 265A3505 DATE CERTIFIED 10-10-97
TEST IS ☒ ACCEPTED ☐ REJECTED IF REJECTED, EXPLAIN _____

DEADWEIGHT RECORD

TEMPERATURE

Time	Pressure	Ambient	Pipe or Ground	Remarks
11:05 AM	25 PSI	82°	90° 85.75	GROUND TEMP TAKEN AT 4 POINTS
11:15	50	82°	92° 85.75	ALONG TEST SECT. AND AVE
11:25	65	83°	92° 85.75	
11:30	65	83°	92° 85.75	PIPE TEMP PROBE OUT SIDE OF
11:40	65	84°	93° 85.75	PIPE DUE TO BAD PLUG IN PIPELINE
11:50	65	85°	93° 85.75	TEMP NOT TRUE INSIDE PIPE TEMP.
12:00 N.	65	86°	94° 85.75	

TEST FOREMAN _____ INSPECTOR _____


12 NOON
1 P.M.
2 P.M.
3 P.M.
4 P.M.
5 P.M.
6 P.M.
7 P.M.
8 P.M.
9 P.M.
10 P.M.
11 P.M.
12 MIDNIGHT
1 A.M.
2 A.M.
3 A.M.
4 A.M.
5 A.M.
6 A.M.
7 A.M.
8 A.M.
9 A.M.
10 A.M.
11 A.M.
PRINTED IN U.S.A.
TEJAS
Instruments, Inc.
VALVE P.I. #5 TEST SECT #5
METER NUMBER
265A3606
AT GAS #1
TUBE & ORIF. SIZE
TIME PUT ON
11:36 AM
DATE PUT ON
10-23 1997
TIME TAKEN OFF
12:00 PM
DATE TAKEN OFF
10-23 1997
*MIN. = 1HR
MW-MP 150
SIGNED
TEMP

045 DB217

TEXAS
Instruments, Inc.

VALVE PIT # 5 TEST Sect # 5
AV GAS # 1

METER NUMBER: 2950
TIME PUT ON: 11:30 AM
DATE PUT ON: 10-23 1997

TUBE & ORIF. SIZE:
TIME TAKEN OFF: 12:00 PM
DATE TAKEN OFF: 10-23 1997

4 MIN. = 1 HR
MW-MP 150
SIGNED Massie Chesy
PRESSURE

12 NOON 1 P.M. 2 P.M. 3 P.M. 4 P.M. 5 P.M. 6 P.M. 7 P.M. 8 P.M. 9 P.M. 10 P.M. 11 P.M. 12 MID. 1 A.M. 2 A.M. 3 A.M. 4 A.M. 5 A.M. 6 A.M. 7 A.M. 8 A.M. 9 A.M. 10 A.M. 11 A.M.

10 20 30 40 50 60 70 80 90 100 110 120 130 140

PRINTED IN U.S.A.

18 November 1997

Mr. Morris Cherry
Morco Testing, Inc.
2516 Revere Dr.
Pasadena, Texas 77502

Subject	Certification of Nitrogen Test
Client	Department of the Navy
Contractor	Bechtel Environmental, Inc.
Description	6-inch AV-Gas #1
Date Test Accepted	23 October 1997

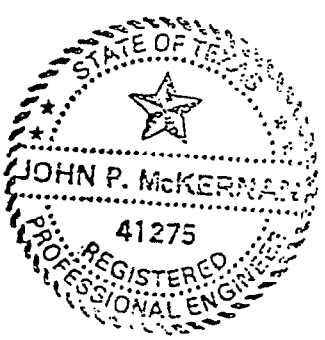
Dear Mr. Cherry;

This letter is certify that the nitrogen test performed on the 6-inch AV-Gas #1 Pipeline from Valve Pit Number 5 to Valve Pit Number 6 by Morco Testing, Inc. met the requirements of ASME/ANSI B31.3 Chemical Plant and Petroleum Refinery Piping and Specification "Department of the Navy Southern Division Technical Specification for Pipeline Pressure Testing" 324-SP738-002 Rev. 0.

This section of the pipe line was tested for thirty (30) minutes, using nitrogen as the test medium, at a measured test pressure of 65 psig. This successfully completed the leak test requirements of the above code and specification. This leak test did not loose five (5) psig during the test period. The line gain a calculated 3.0 standard cubic feet. If the test were held for an additional hour, the data indicates a gain of 6.1 standard cubic feet would have occurred. This gain corresponds to a calculated pressure gain of less than one (1) psig. This is within acceptable limits as set forth in Specification "Department of the Navy Southern Division Technical Specification for Pipeline Pressure Testing" 324-SP738-002 Rev. 0.

Sincerely yours,

John P. Mc Kernan, PE PLS



C:\LOTSUITE\AMIPRO\DOCS\MORCO\028.SAM

Company	Department of the Navy	AFE Number	N62467-93-D-0536-073
Construction Co	Bechtel Enviromental, Inc.	AFE Number	22567
Testing Co.	Morco Testing, Inc.	Project Number	0
Project Name	Naval Air Station Pipeline - Abandonment Project - AV Gas #1		
File Name	C:\LOTSUITE\123R5W\WORK\MORCO\CC016.WK4	Revised 18 Nov. 97	

TEST LOG

TIME	PRESSURE	AMBIENT TEMP	PIPE TEMP	REMARKS
23-Oct-97				
11:30 AM	65.0	83.0	92.0	On Test
11:40 AM	65.0	84.0	93.0	
11:50 AM	65.0	85.0	93.0	
12:00 PM	65.0	86.0	94.0	Off Test
				Ground Temperature Taken at Four Locations
				Along Test Section and Then Averaged For Value
				Reported.
23-Oct-97				

65	PSIG HI	TOTAL OZ BLEED	0
65	PSIG LOW	TOTAL OZ INJECTED	0

Company	Department of the Navy	AFE Number	N62467-93-D-0936-073
Construction Co	Bechtel Enviromental, Inc.	AFE Number	22567
Testing Co.	Morco Testing, Inc.	Project No.	0
Project Name	Naval Air Station Pipeline - Abandonment Project - AV Gas #1		
File Name	C:\LOTSUITE\123R5W\WORK\MORCO\C0016.WK4		

NITROGEN TEST

PIPELINE: Av-Gas#1 TEST DATE 23-Oct-97

FROM : Valve Pit #5 Test Sect. #5 AV-Gas#1 TO : Valve Pit #6

SECT. LENGTH: 739 PIPE DIA.: 6.625 WALL THK. 0.280

SPECK. NA GRADE : NA

INITIAL PRESSURE AT TEST POINT	65 PSIG	TIME:	11:30 AM	PIPE TEMP :	92
INITIAL AMBIENT TEMPERATURE	83 F	ELEV @ TEST PT		-1 MSL	
IN. PRES. @ OTHER END	65 PSIG	ELEV.	3	LOCATION :	Valve Pit #6
FINAL PRESSURE AT TEST POINT	65.0 PSIG	TIME:	12:00 PM	PIPE TEMP :	94
FINAL AMBIENT TEMPERATURE	86 F	ELEV @ TEST PT		-1 MSL	
IN. PRES. @ OTHER END		65.0 PSIG	ELEV.	3 MSL	

IDEAL GAS LAW:

PV = RZT

WHERE

P = Pressure (psia) 14.696 psia

V = Volume (scf)

R = Gas Constant

Z = Compressibility Factor

T = Temperature (R) 527.67 R

Volume of Line at Standard Conditions 148.3 Cubic Feet

Time	Pressure	Pipe Temp	Volume
11:30	65.0	92	839.1
11:40	65.0	93	840.6
11:50	65.0	93	840.6
12:00	65.0	94	842.1

(- loss, + gain)	3.0 scf
(- loss, + gain)	6.1 scf per hour
Test Duration	0.5 Hours

TESTED ACCEPTED X YES NO

IF NO EXPLAIN

REMARKS

JOHN P. MCKERNAN, PE PLS

11/18/97

DATE

STATE OF TEXAS JOHN P. McKERNAN 41275 REGISTERED PROFESSIONAL ENGINEER

C:\LOTSUITE\AMIPRO\DOCS\MORCO\028.SAM

MTI Morco Testing, Inc.
HYDROSTATIC TESTING LEAK DETECTION

HYDROSTATIC TEST REPORT

PIPELINE DIVISIO

PIPELINE COMPANY: DEPARTMENT OF THE NAVY
JOB NO: 22567
W.O. NO: N62467-93-D-0936-0
PIPELINE CONTRACTOR: BECHTEL ENVIRONMENTAL, INC.
AFE NO:

TEST SECTION NO.: VALVE PIT #5 TEST SECT #5 JPS #2 TO VALVE PIT #6

TEST BEGAN: DATE 10-23-97 TIME 12:20 PM
PRESSURE AIR LIQUIDE
UNIT NO. 2821 STATION NO. VP #5

TEST END: DATE 10-23-97 TIME 12:50 PM
ELEVATION -1 TO +3

PIPE DATA: 739' 6.625" O.D. .280 W.T. SCH 40

TEST MEDIUM - NITROGEN

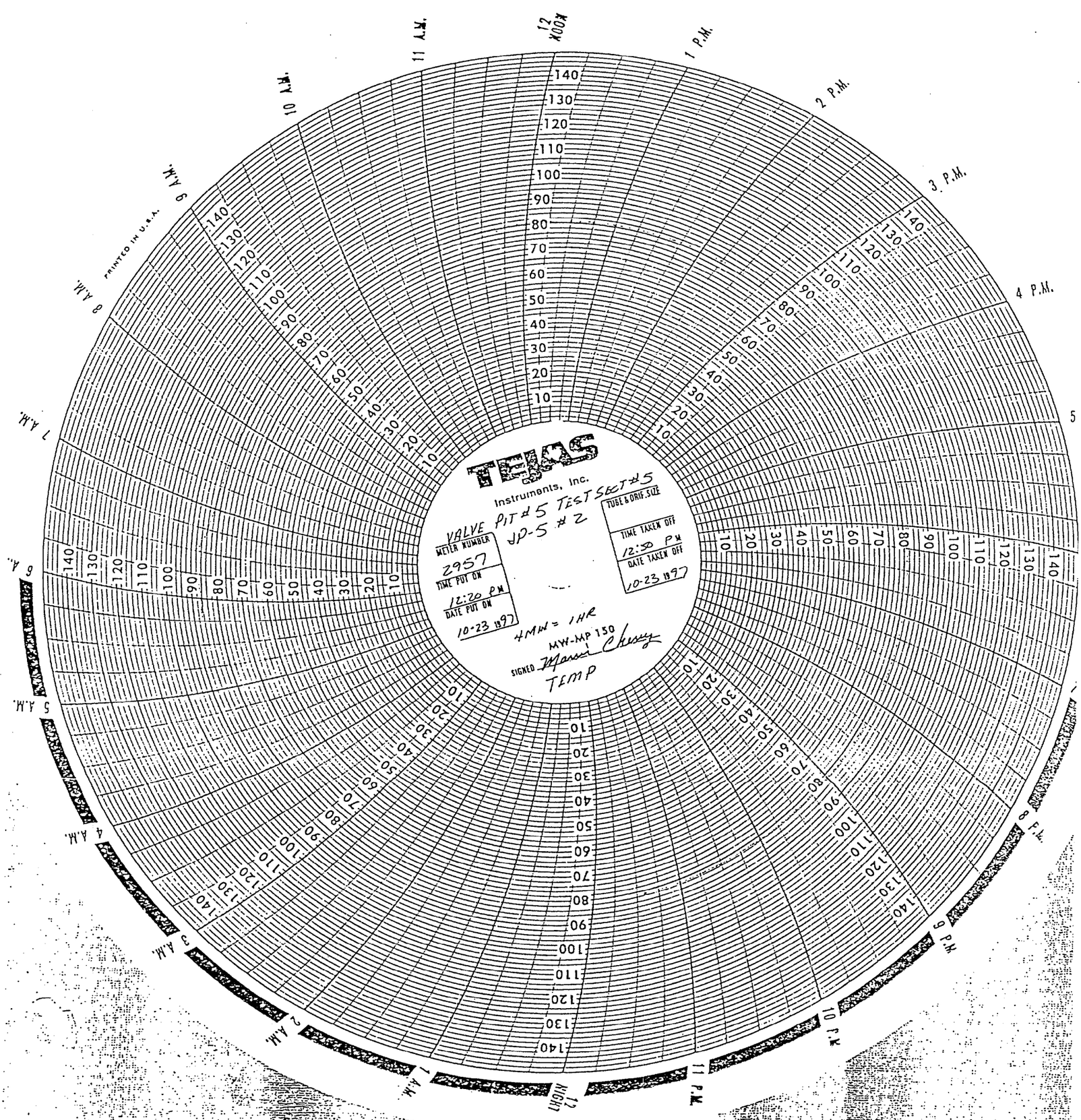
DEADWEIGHT SERIAL NUMBER 4½" PERMA-CAL GAUGE 12916-02-04 DATE CERTIFIED 10-10-97
PRESSURE RECORDER SERIAL NUMBER 2953 DATE CERTIFIED 10-10-97
TEMPERATURE RECORDER SERIAL NUMBER 2957 DATE CERTIFIED 10-10-97
TEST IS ☒ ACCEPTED ☐ REJECTED IF REJECTED, EXPLAIN

DEADWEIGHT RECORD

Time	Pressure	Temperature: Ambient	Temperature: Pipe or Ground	Remarks
11:50 AM	25 PSI	84°	81° 85.75°	GROUND TEMP TAKEN AT 4 POINTS
12:00 N	53	84°	81° 85.75°	ALONG TEST SECT AND AVG
12:15 PM	65	84°	82° 85.75°	
12:20	65	85°	82° 85.75°	
12:30	65	86°	82° 85.75°	
12:40	65	86°	82° 85.75°	
12:50	65	87°	82° 85.75°	

TEST FOREMAN

INSPECTOR


TEJAS
Instruments, Inc.
VALVE PIT #5 TEST SECT #5
JP-5 #2
METER NUMBER
2957
TIME PUT ON
12:20 PM
DATE PUT ON
10-23 1997
TUBE & ORIF. SIZE
TIME TAKEN OFF
12:50 PM
DATE TAKEN OFF
10-23 1997
4MIN = 1HR
MW-MP 150
SIGNED Marvin Cherry
TEMP
PRINTED IN U.S.A.
12 NOON
1 P.M.
2 P.M.
3 P.M.
4 P.M.
5
8 P.M.
9 P.M.
10 P.M.
11 P.M.
12 NIGHT
1 A.M.
2 A.M.
3 A.M.
4 A.M.
5 A.M.
6 A.
7 A.M.
8 A.M.
9 A.M.
10 A.M.
11 A.M.

12 Noon
1 P.M.
2 P.M.
3 P.M.
4 P.M.
5 P.M.
6 P.M.
7 P.M.
8 P.M.
9 P.M.
10 P.M.
11 P.M.
12 Midnight
1 A.M.
2 A.M.
3 A.M.
4 A.M.
5 A.M.
6 A.M.
7 A.M.
8 A.M.
9 A.M.
10 A.M.
11 A.M.

10 20 30 40 50 60 70 80 90 100 110 120 130 140

TIME TAKEN OFF
12:30 P.M.
DATE TAKEN OFF
10-23-1957

TUBE & UNIT SIZE
25-53
MFR'S NUMBER
12:20
2 P.M.
DATE PUT ON
10-23-1957

SIGNED
PRESSURE
MIN-MAP 150
MAX-MAP
MIN-MAP

Valve Pitas Test Sects #5
JP-5 #2

Instruments, Inc.

PITAS

PRINTED IN U.S.A.

18 November 1997

Mr. Morris Cherry
Morco Testing, Inc.
2516 Revere Dr.
Pasadena, Texas 77502

Subject	Certification of Nitrogen Test
Client	Department of the Navy
Contractor	Bechtel Environmental, Inc.
Description	6-inch ~~AV-Gas #1~~ JP5-2
Date Test Accepted	24 October 1997

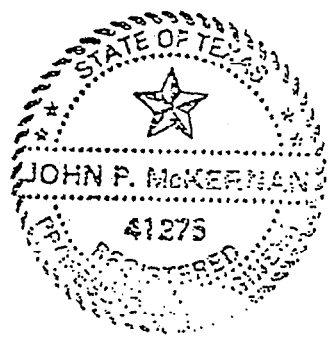
Dear Mr. Cherry;

This letter is certify that the nitrogen test performed on the 6-inch ~~AV-Gas #1~~ JP-5 #2 Pipeline from Valve Pit Number ~~4~~ 5 to Valve Pit Number ~~8~~ 6 by Morco Testing, Inc. met the requirements of ASME/ANSI B31.3 "Chemical Plant and Petroleum Refinery Piping" and "Department of the Navy Southern Division Technical Specification for Pipeline Pressure Testing" 324-SP738-002 Rev. 0.

This section of the pipe line was tested for thirty (30) minutes, using nitrogen as the test medium, at a minimum measured test pressure of 65 psig. This successfully completed the leak test requirements of the above code and specification. This leak test did not loose five (5) psig during the test period. The line showed no lost during the test period. If the test were held for an additional hour, the data indicates that no additional loss would have occurred. This is within acceptable limits as set forth in Specification "Department of the Navy Southern Division Technical Specification for Pipeline Pressure Testing" 324-SP738-002 Rev. 0.

Sincerely yours,

John P. Mc Kernan, PE PLS



C:\LOTSUITE\AMIPRO\DOCS\MORCO\029.SAM

Company	Department of the Navy	AFE Number	N62467-93-D-0936-073
Construction Co	Bechtel Enviromental, Inc.	AFE Number	22567
Testing Co.	Morco Testing, Inc.	Project Number	0
Project Name	Naval Air Station Pipeline - Abandonment Project - JP 5 #2		
File Name	C:\LOTSUITE\123R5W\WORK\MORCO\00017.WK4	Revised 18 Nov. 97	

TEST LOG

TIME	PRESSURE	AMBIENT TEMP	PIPE TEMP	REMARKS
23-Oct-97				
12:20 PM	65.0	85.0	82.0	On Test
12:30 PM	65.0	86.0	82.0	
12:40 PM	65.0	86.0	82.0	
12:50 PM	65.0	87.0	82.0	Off Test
				Ground Temperature Taken at Four Locations
				Along Test Section and Then Averaged For Value
				Reported.
23-Oct-97				

65	PSIG HI	TOTAL OZ. BLEED	0
65	PSIG LOW	TOTAL OZ. INJECTED	0

Company	Department of the Navy	AFE Number	N62467-93-D-0306-073
Construction Co	Bechtel Enviromental, Inc.	AFE Number	22567
Testing Co.	Morco Testing, Inc.	Project No.	0
Project Name	Naval Air Station Pipeline - Abandonment Project - JP 5 #2		
File Name	C:\LOTSUITE\123R5W\WORK\MORCO\00017.WK4		

NITROGEN TEST

PIPELINE: JP 5 #2 TEST DATE 23-Oct-97

FROM : Valve Pit #5 Test Sect. #5 JP-5 #2 TO : Valve Pit #6

SECT. LENGTH: 739 PIPE DIA.: 6.625 WALL THK. 0.280

SPECK. NA GRADE : NA

INITIAL PRESSURE AT TEST POINT	65 PSIG	TIME:	12:20 PM	PIPE TEMP :	82
INITIAL AMBIENT TEMPERATURE	85 F	ELEV @ TEST PT		-1 MSL	
IN. PRES. @ OTHER END	65 PSIG	ELEV.	3	LOCATION :	Valve Pit #6
FINAL PRESSURE AT TEST POINT	65.0 PSIG	TIME:	12:50 PM	PIPE TEMP :	82
FINAL AMBIENT TEMPERATURE	87 F	ELEV @ TEST PT		-1 MSL	
IN. PRES. @ OTHER END	65.0 PSIG	ELEV.		3 MSL	

IDEAL GAS LAW:

PV = RZT

WHERE

P = Pressure (psia) 14.696 psia

V = Volume (scf)

R = Gas Constant

Z = Compressibility Factor

T = Temperature (R) 527.67 R

Volume of Line at Standard Conditions 148.3 Cubic Feet

Time	Pressure	Pipe Temp	Volume
12:20	65.0	82	823.8
12:30	65.0	82	823.8
12:40	65.0	82	823.8
12:50	65.0	82	823.8

(- loss, + gain) 0 scf

(- loss, + gain) 0.0 scf per hour

Test Duration 0.5 Hours

TESTED ACCEPTED X YES NO

IF NO EXPLAIN

REMARKS

JOHN P. MCKERNAN, PE PLS

11/18/97

DATE

STATE OF TEXAS JOHN P. McKERNAN 41275 REGISTERED PROFESSIONAL ENGINEER

MTI Morco Testing, Inc.
HYDROSTATIC TESTING LEAK DETECTION

HYDROSTATIC TEST REPORT

PIPELINE DIVISIOI

PIPELINE COMPANY DEPARTMENT OF THE NAVY

JOB NO: 22567
W.O. NO: N62467-93-D-0936-073
AFE NO:

PIPELINE CONTRACTOR BECHTEL ENVIRONMENTAL, INC.

TEST SECTION NO. VALVE P.T #5 TEST SECT. 5 JP5 #3 TO VALVE P.T #6

TEST BEGAN: DATE 10-27-97 TIME 2:55 PM

PRESSURE AIR LIQUIDE
UNIT NO. 1821 STATION NO. VP #5

TEST END: DATE 10-27-97 TIME 3:25 PM

ELEVATION -1 TO +3

PIPE DATA: 739' 6.625" O.D. .280 W.T. SCH 40

TEST MEDIUM – NITROGEN

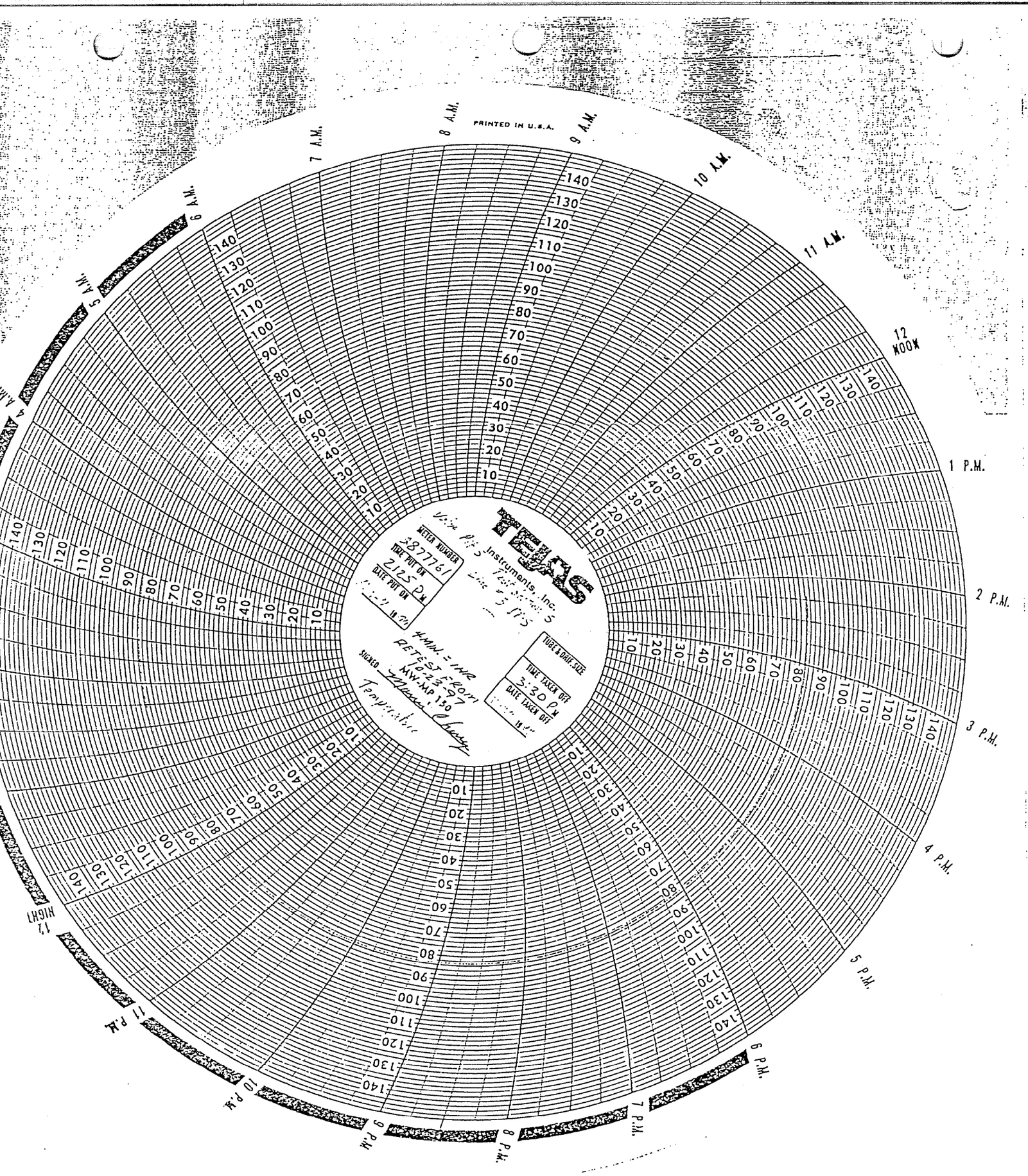
DEADWEIGHT SERIAL NUMBER 4½" 3D PRESS GAUGE 8500543 DATE CERTIFIED 10-10-97
PRESSURE RECORDER SERIAL NUMBER 2948 DATE CERTIFIED 10-10-97
TEMPERATURE RECORDER SERIAL NUMBER 2877761 DATE CERTIFIED 10-10-97
TEST IS ☒ ACCEPTED ☐ REJECTED IF REJECTED, EXPLAIN _____

DEADWEIGHT RECORD

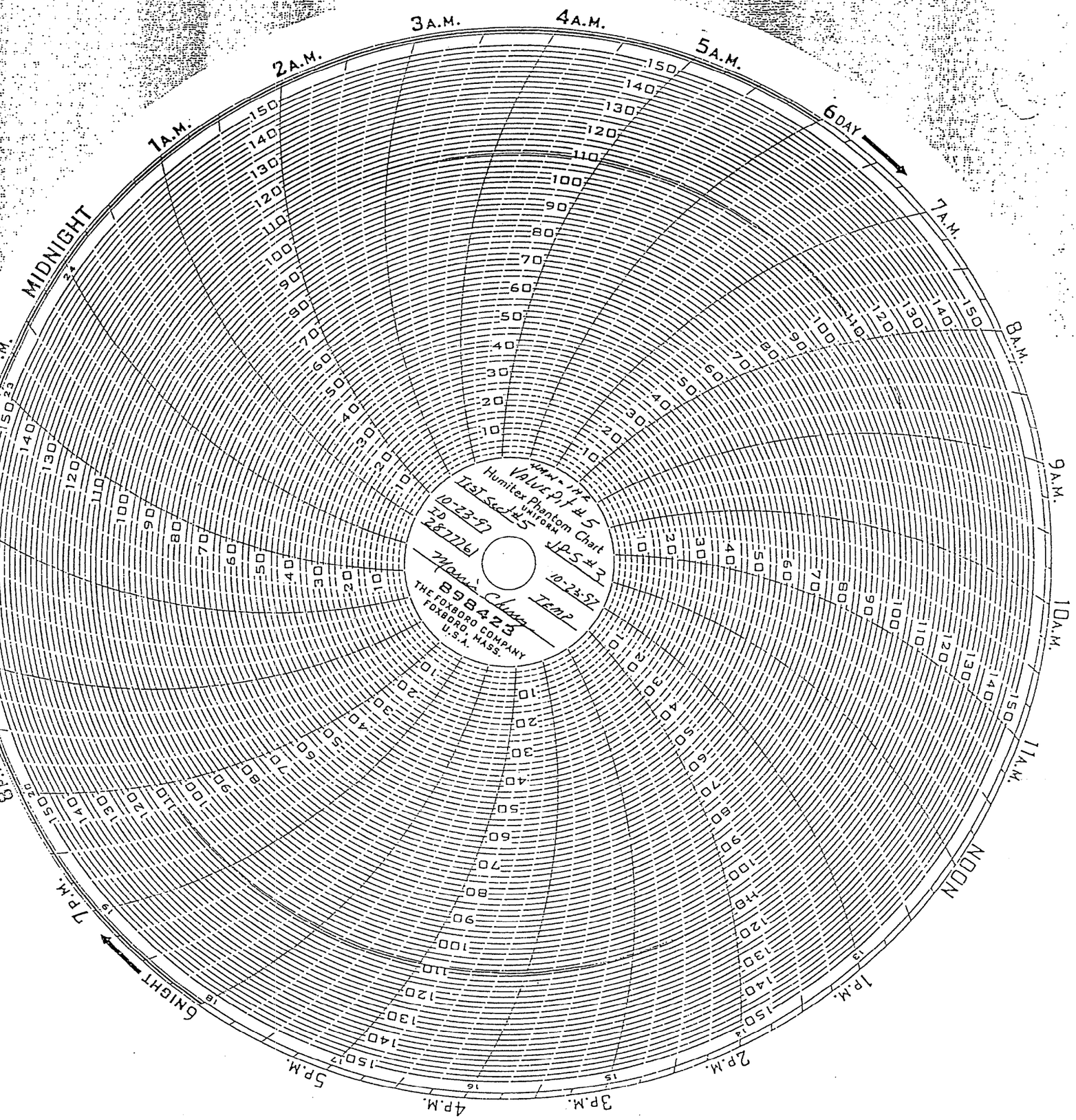
TEMPERATURE

Time	Pressure	Ambient	Pipe or Ground	Remarks
2:28 PM	25 PSI	85°	83° 87.25°	THIS IS A RETEST AFTER LEAK
2:38	50	86°	83° 87.25°	WAS FOUND AND REPAIRED.
2:48	65	86°	83° 87.25°	
2:55	65	87°	83° 87.25°	GROUND TEMP TAKEN AT 4 POINTS
3:05	65	88°	83° 87.25°	ALONG TEST SECT. AND AUG.
3:15	65	87°	83° 87.25°	
3:25	65	87°	83° 87.25°	

TEST FOREMAN _____ INSPECTOR _____


PRINTED IN U.S.A.
TEXAS
Instruments, Inc.
METER NUMBER
3877761
TIME PUT ON
2125 PM
DATE PUT ON
TUBE & ORIF. SIZE
TIME TAKEN OFF
3:30 PM
DATE TAKEN OFF
4 MIN. = 1 HR
RETEST FROM
10-23-97
MW-MP 150
SIGNED
Temperature
12 NOON
1 P.M.
2 P.M.
3 P.M.
4 P.M.
5 P.M.
6 P.M.
7 P.M.
8 P.M.
9 P.M.
10 P.M.
11 P.M.
12 HIGHT
5 A.M.
6 A.M.
7 A.M.
8 A.M.
9 A.M.
10 A.M.
11 A.M.

0115DB23Z



MIDNIGHT
1A.M.
2A.M.
3A.M.
4A.M.
5A.M.
6 DAY
7A.M.
8A.M.
9A.M.
10A.M.
11A.M.
NOON
1P.M.
2P.M.
3P.M.
4P.M.
5P.M.
6 NIGHT
7P.M.
Humitex Phantom Chart
UNIFORM
TEST Sect #5
10-23-97
ID 2877761
JP-5 #3
10-23-97
Temp
898423
THE FOXBORO COMPANY
FOXBORO, MASS.
U.S.A.

12 NOON
1 P.M.
2 P.M.
3 P.M.
4 P.M.
5 P.M.
6 P.M.
7 P.M.
8 P.M.
9 P.M.
10 P.M.
11 P.M.
12 MIDNIGHT
1 A.M.
2 A.M.
3 A.M.
4 A.M.
5 A.M.
6 A.M.
7 A.M.
8 A.M.
9 A.M.
10 A.M.
11 A.M.
10 20 30 40 50 60 70 80 90 100 110 120 130 140
TEL-TRU
Instruments, Inc.
VALVE Pit #5 TEST SECT #5
HP5 #3
METER NUMBER
2948
TIME PUT ON
12:20 PM
DATE PUT ON
10-23 1971
TUBE & ORIF. SIZE
TIME TAKEN OFF
DATE TAKEN OFF
11
4 MIN. = 1 INCH
LEAK IN PIPE
NW-MP 150
SIGNED
PRESSURE
PRINTED IN U.S.A.

19 November 1997

Mr. Morris Cherry
Morco Testing, Inc.
2516 Revere Dr.
Pasadena, Texas 77502

Subject	Certification of Nitrogen Test
Client	Department of the Navy
Contractor	Bechtel Environmental, Inc.
Description	6-inch JP-5 #3
Date Test Accepted	27 October 1997

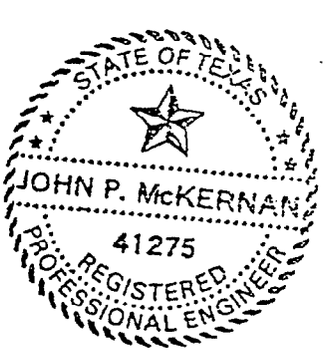
Dear Mr. Cherry;

This letter is certify that the nitrogen test performed on the 6-inch JP-5 #3 Pipeline from Valve Pit Number 5 to Valve Pit Number 6 by Morco Testing, Inc. met the requirements of ASME/ANSI B31.3 "Chemical Plant and Petroleum Refinery Piping" and "Department of the Navy Southern Division Technical Specification for Pipeline Pressure Testing" 324-SP738-002 Rev. 0.

This section of the pipe line was tested for thirty (30) minutes, using nitrogen as the test medium, at a minimum measured test pressure of 65 psig. This successfully completed the leak test requirements of the above code and specification. This leak test did not loose five (5) psig during the test period. The line showed no lost during the test period. If the test were held for an additional hour, the data indicates that no additional loss would have occurred. This is within acceptable limits as set forth in Specification "Department of the Navy Southern Division Technical Specification for Pipeline Pressure Testing" 324-SP738-002 Rev. 0.

Sincerely yours,

John P. Mc Kernan, PE PLS



C:\LOTSUITE\AMIPRO\DOCS\MORCO\041.SAM

Company	Department of the Navy	AFE Number	N62467-93-D-0536-073
Construction Co	Bechtel Enviromental, Inc.	AFE Number	22567
Testing Co.	Morco Testing, Inc.	Project Number	0
Project Name	Naval Air Station Pipeline - Abandonment Project - JP-5 #3		
File Name	C:\LOTSUITE\1Z3R5W\WORK\MORCO\00029.WK4	Revised 19 Nov 97	

TEST LOG

TIME	PRESSURE	AMBIENT TEMP	PIPE TEMP	REMARKS
27-Oct-97				
02:55 PM	65.0	87.0	83.0	On Test
03:05 PM	65.0	88.0	83.0	
03:15 PM	65.0	87.0	83.0	
03:25 PM	65.0	87.0	83.0	Off Test
				Ground Temperature Taken at Four Locations
				Along Test Section and Then Averaged For Value
				Reported.
				This is a re-test after leak was found and repaired
27-Oct-97				

65	PSIG HI	TOTAL OZ. BLEED	0
65	PSIG LOW	TOTAL OZ. INJECTED	0

Company	Department of the Navy	AFE Number	N62467-93-D-0936-073
Construction Co	Bechtel Enviromental, Inc.	AFE Number	22567
Testing Co.	Morco Testing, Inc.	Project No.	0
Project Name	Naval Air Station Pipeline - Abandonment Project - JP-5 #3		
File Name	C:\LOTSUITE\123R5W\WORK\MORCO\00029.WK4		

NITROGEN TEST

PIPELINE: JP-5 #3 TEST DATE 27-Oct-97

FROM : Valve Pit #5 Test Sect. #5 JP-5 #3 TO : Valve Pit #6

SECT. LENGTH: 739 PIPE DIA.: 6.625 WALL THK. 0.280

SPECK. NA GRADE : NA

INITIAL PRESSURE AT TEST POINT	65 PSIG	TIME:	02:55 PM	PIPE TEMP :	83
INITIAL AMBIENT TEMPERATURE	87 F	ELEV @ TEST PT		-1 MSL	
IN. PRES. @ OTHER END	65 PSIG	ELEV.	3	LOCATION :	Valve Pit #6
FINAL PRESSURE AT TEST POINT	65.0 PSIG	TIME:	03:25 PM	PIPE TEMP :	83
FINAL AMBIENT TEMPERATURE	87 F	ELEV @ TEST PT		-1 MSL	
IN. PRES. @ OTHER END	65.0 PSIG	ELEV.		3 MSL	

IDEAL GAS LAW:

PV = RZT

WHERE

P = Pressure (psia) 14.696 psia

V = Volume (scf)

R = Gas Constant

Z = Compressibility Factor

T = Temperature (R) 527.67 R

Volume of Line at Standard Conditions 148.3 Cubic Feet

Time	Pressure	Pipe Temp	Volume
14:55	65.0	83	825.4
15:05	65.0	83	825.4
15:15	65.0	83	825.4
15:25	65.0	83	825.4

(- loss, + gain)	0 scf
(- loss, + gain)	0.0 scf per hour
Test Duration	0.5 Hour

TESTED ACCEPTED X YES NO

IF NO EXPLAIN

REMARKS

JOHN P. MCKERNAN, PE PLS

11/19/97

DATE

STATE OF TEXAS
JOHN P. McKERNAN
41275
REGISTERED
PROFESSIONAL ENGINEER

MTI Morco Testing, Inc.
HYDROSTATIC TESTING LEAK DETECTION

HYDROSTATIC TEST REPORT

PIPELINE DIVISI(

PIPELINE COMPANY DEPARTMENT OF THE NAVY | JOB NO: 22567
W.O. NO: N62467-93-D-0936-
PIPELINE CONTRACTOR BECHTEL ENVIRONMENTAL, INC. | AFE NO:

TEST SECTION NO. VALVE P.T #4 TEST SECT. #6 VP-5 #2 TO VALVE P.T #5

TEST BEGAN: DATE 10-24-97 TIME 9:05 AM | PRESSURE AIR LIQUIDE UNIT NO. 2821 STATION NO. VP #4

TEST END: DATE 10-24-97 TIME 9:35 AM | ELEVATION -1 TO +3

PIPE DATA: 607' 6.625" O.D. .280 W.T. SCH 40

TEST MEDIUM - NITROGEN

DEADWEIGHT SERIAL NUMBER 4½" Perma-Cal Gauge 12916-02-04 DATE CERTIFIED 10-10-97
PRESSURE RECORDER SERIAL NUMBER 2953 DATE CERTIFIED 10-10-97
TEMPERATURE RECORDER SERIAL NUMBER 2957 DATE CERTIFIED 10-10-97
TEST IS ☒ ACCEPTED ☐ REJECTED IF REJECTED, EXPLAIN

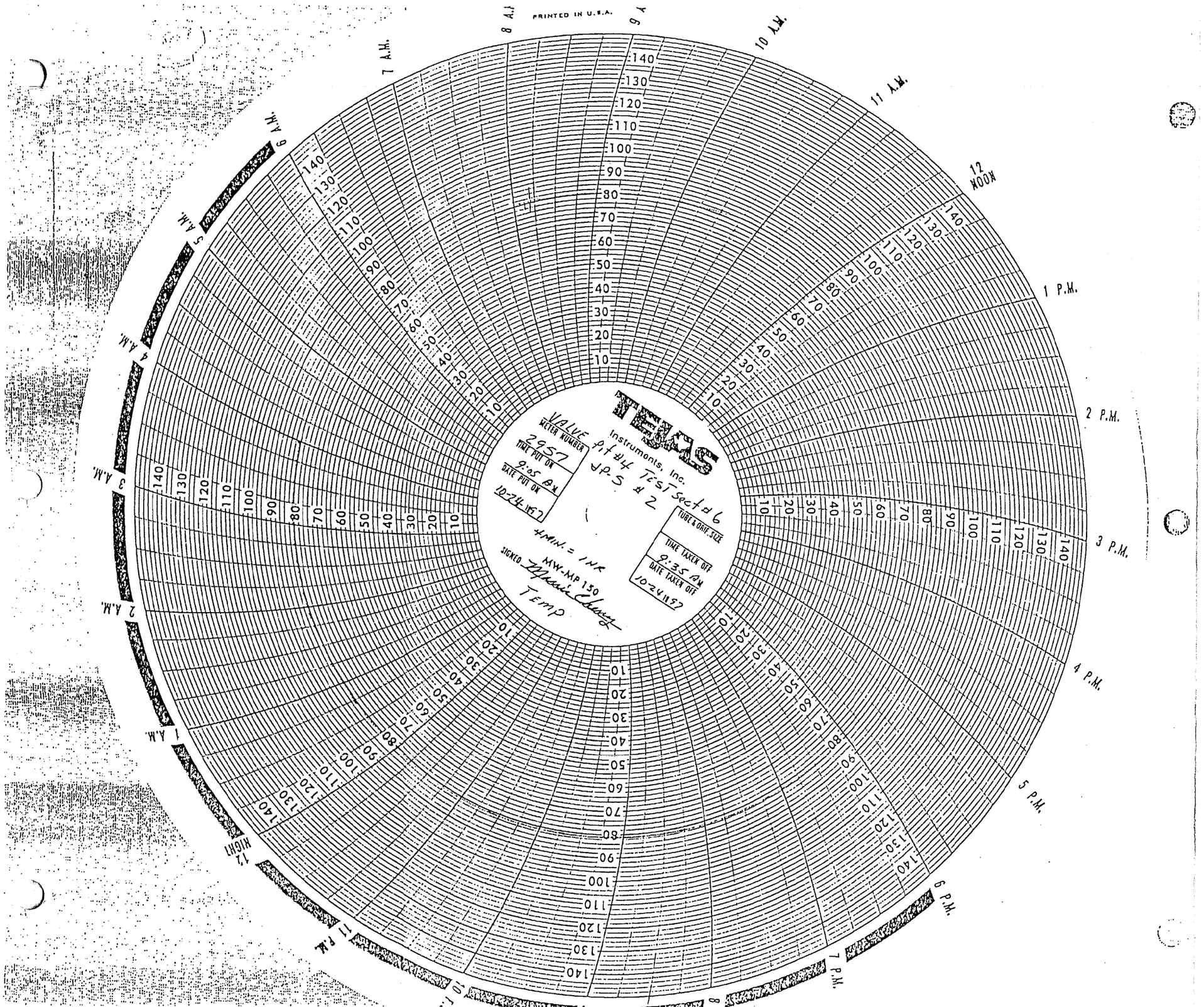
DEADWEIGHT RECORD

TEMPERATURE

Time	Pressure	Ambient	Pipe or Ground	Remarks
8:35 AM	25 PSI	80°	80° 85.25°	GROUND TEMP TAKEN AT 4 POINTS
8:45	50	80°	82° 85.25°	ALONG TEST SECT. AND AVG.
8:55	65	80°	82° 85.25°	
9:05	65	80°	82° 85.25°	
9:15	65	81°	81° 85.25°	
9:25	65	81°	80° 85.25°	
9:35	65	81°	80° 85.25°	

TEST FOREMAN

INSPECTOR


PRINTED IN U.S.A.
TEMS
Instruments, Inc.
VALVE Pit #4 Test Sect #6
JP-5 #2
METER NUMBER
2957
TIME PUT ON
9:05 AM
DATE PUT ON
10-24-1957
TUBE & ORIF. SIZE
TIME TAKEN OFF
9:35 AM
DATE TAKEN OFF
10-24-1957
4 MIN. = 1 NR
MW-MP 150
SIGNED
Temp
1 A.M.
2 A.M.
3 A.M.
4 A.M.
5 A.M.
6 A.M.
7 A.M.
8 A.M.
9 A.M.
10 A.M.
11 A.M.
12 NOON
1 P.M.
2 P.M.
3 P.M.
4 P.M.
5 P.M.
6 P.M.
7 P.M.
8
11 P.M.
12 NIGHT

0115 DB242

PRINTED IN U.S.A.

6 A.M. 7 A.M. 8 A.M. 9 A.M. 10 A.M. 11 A.M. 12 NOON 1 P.M. 2 P.M. 3 P.M. 4 P.M. 5 P.M. 6 P.M.

5 A.M. 4 A.M. 3 A.M. 2 A.M. 1 A.M. 12 MIDNT

10 20 30 40 50 60 70 80 90 100 110 120 130 140

TMS
Instruments, Inc.

Valve
METER NUMBER
2553
TIME PUT ON
9:05 A.M.
DATE PUT ON
10-24-1967

Pitot Test Sect
JP-5 #2

TUBE & ORIFICE SIZE

TIME TAKEN OFF
9:35 A.M.
DATE TAKEN OFF
10-24-1967

1 mm = 1 psi
MW-MP 150
SIGNED Thomas Chung
PRESSURE

18 November 1997

Mr. Morris Cherry
Morco Testing, Inc.
2516 Revere Dr.
Pasadena, Texas 77502

Subject	Certification of Nitrogen Test
Client	Department of the Navy
Contractor	Bechtel Environmental, Inc.
Description	6-inch JP-5 #2
Date Test Accepted	24 October 1997

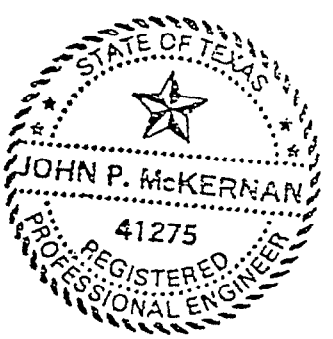
Dear Mr. Cherry;

This letter is certify that the nitrogen test performed on the 6-inch JP-5 #2 Pipeline from Valve Pit Number 4 to Valve Pit Number 5 by Morco Testing, Inc. met the requirements of ASME/ANSI B31.3 "Chemical Plant and Petroleum Refinery Piping" and "Department of the Navy Southern Division Technical Specification for Pipeline Pressure Testing" 324-SP738-002 Rev. 0.

This section of the pipe line was tested for thirty (30) minutes, using nitrogen as the test medium, at a minimum measured test pressure of 65 psig. This successfully completed the leak test requirements of the above code and specification. This leak test did not loose five (5) psig during the test period. The line lost a calculated 2.5 standard cubic feet. If the test were held for an additional hour, the data indicates a loss of 5.0 standard cubic feet would have occurred. This loss corresponds to a calculated pressure loss of less than one (1) psig. . This is within acceptable limits as set forth in Specification "Department of the Navy Southern Division Technical Specification for Pipeline Pressure Testing" 324-SP738-002 Rev. 0.

Sincerely yours,

John P. Mc Kernan, PE PLS



C:\LOTSUITE\AMIPRO\DOCS\MORCO\031.SAM

Company	Department of the Navy	AFE Number	N62467-93-D-0936-073
Construction Co.	Bechtel Enviromental, Inc.	AFE Number	22567
Testing Co.	Morco Testing, Inc.	Project Number	0
Project Name	Naval Air Station Pipeline - Abandonment Project - JP-5 #2		
File Name	C:\LOTSUITE\123R5W\WORK\MORCO\000019.WK4	Revised 18 Nov. 97	

TEST LOG

TIME	PRESSURE	AMBIENT TEMP	PIPE TEMP	REMARKS
24-Oct-97				
09:05 AM	65.0	80.0	82.0	On Test
09:15 AM	65.0	81.0	81.0	
09:25 AM	65.0	81.0	80.0	
09:35 AM	65.0	81.0	80.0	Off Test
				Ground Temperature Taken at Four Locations
				Along Test Section and Then Averaged For Value
				Reported.
24-Oct-97				

65	PSIG HI	TOTAL OZ. BLEED	0
65	PSIG LOW	TOTAL OZ. INJECTED	0

Company	Department of the Navy	AFE Number	N62467-93-D-0936-07
Construction Co.	Bechtel Enviromental, Inc.	AFE Number	22567
Testing Co.	Morco Testing, Inc.	Project No.	0
Project Name	Naval Air Station Pipeline - Abandonment Project - JP-5 #2		
File Name	C:\LOTSUITE\123R5W\WORK\MORCO\00019.WK4		

NITROGEN TEST

PIPELINE: JP-5 #2 TEST DATE: 24-Oct-97

FROM: Valve Pit #4 Test Sect. #6 JP-5 #2 TO: Valve Pit #5

SECT. LENGTH: 607 PIPE DIA.: 6.625 WALL THK. 0.280

SPECK. NA GRADE: NA

INITIAL PRESSURE AT TEST POINT	65 PSIG	TIME:	09:05 AM	PIPE TEMP:	82
INITIAL AMBIENT TEMPERATURE	80 F	ELEV @ TEST PT			-1 MSL
IN. PRES. @ OTHER END	65 PSIG	ELEV.	3	LOCATION:	Valve Pit #5
FINAL PRESSURE AT TEST POINT	65.0 PSIG	TIME:	09:35 AM	PIPE TEMP:	80
FINAL AMBIENT TEMPERATURE	81 F	ELEV @ TEST PT			-1 MSL
IN. PRES. @ OTHER END	65.0 PSIG	ELEV.			3 MSL

IDEAL GAS LAW:

PV = RZT

WHERE

P = Pressure (psia) 14.696 psia

V = Volume (scf)

R = Gas Constant

Z = Compressibility Factor

T = Temperature (R) 527.67 R

Volume of Line at Standard Conditions 121.8 Cubic Feet

Time	Pressure	Pipe Temp	Volume
09:05	65.0	82	676.7
09:15	65.0	81	675.4
09:25	65.0	80	674.2
09:35	65.0	80	674.2

(-loss, +gain) -2.5 scf

(-loss, +gain) -5.0 scf per hour

Test Duration 0.5 Hours

TESTED ACCEPTED X YES NO

IF NO EXPLAIN

REMARKS

JOHN P. MCKERNAN, PE PLS

11/18/97

DATE

STATE OF TEXAS JOHN P. McKERNAN 41275 REGISTERED PROFESSIONAL ENGINEER

M-T-I Morco Testing, Inc.
HYDROSTATIC TESTING LEAK DETECTION

HYDROSTATIC TEST REPORT

PIPELINE DIVISIC

PIPELINE COMPANY DEPARTMENT OF THE NAVY | JOB NO: 22567
PIPELINE CONTRACTOR BECHTEL ENVIRONMENTAL, INC. | W.O. NO: N62467-93-D-0936-0
AFE NO:

TEST SECTION NO. VALVE PIT #4 TEST SECT #6 AV-GAS #1 TO VALVE PIT #5

TEST BEGAN: DATE 10-24-97 TIME 8:20 AM | PRESSURE AIR LIQUIDE UNIT NO. 2821 STATION NO. VP #4

TEST END: DATE 10-24-97 TIME 8:50 AM | ELEVATION -1' TO +3

PIPE DATA: 607' 6.625" O.D. .280 W.T. SCH 40

TEST MEDIUM - NITROGEN

DEADWEIGHT SERIAL NUMBER 8" U.S.G. PRESS GAUGE 18938 DATE CERTIFIED 10-10-97
PRESSURE RECORDER SERIAL NUMBER 2950 DATE CERTIFIED 10-10-97
TEMPERATURE RECORDER SERIAL NUMBER 265A3505 DATE CERTIFIED 10-10-97
TEST IS ☒ ACCEPTED ☐ REJECTED IF REJECTED, EXPLAIN

DEADWEIGHT RECORD

TEMPERATURE

Time	Pressure	Ambient	Pipe or Ground	Remarks
7:50 AM	25 PSI	77°	78° 85.25	GROUND TEMP TAKEN AT 4 POINTS
8:02 AM	50	77°	80° 85.25	ALONG TEST SECT. AND AVG.
8:14	65	78°	80° 85.25	
8:20	65	79°	81° 85.25	PIPE TEMP PROBE OUT SIDE of PIPE
8:30	65	80°	82° 85.25	DUE TO BAD PLUG IN PIPELINE
8:40	65	81°	82° 85.25	TEMP NOT TRUE INSIDE PIPE TEMP.
8:50	65	81°	83° 85.25	

TEST FOREMAN Mario Chavez INSPECTOR

PRINTED IN U.S.A.

7 A.M. 8 A.M. 9 A.M. 10 A.M. 11 A.M. 12 NOON 1 P.M. 2 P.M. 3 P.M. 4 P.M. 5 P.M. 6 P.M. 7 P.M. 8 P.M. 9 P.M. 10 P.M. 11 P.M. 12 MIDNIGHT 1 A.M. 2 A.M. 3 A.M. 4 A.M. 5 A.M. 6 A.M.

10 20 30 40 50 60 70 80 90 100 110 120 130 140

TEXAS Instruments, Inc.

VALVE PIT #4 TEST SET #6
AV-GAS #1

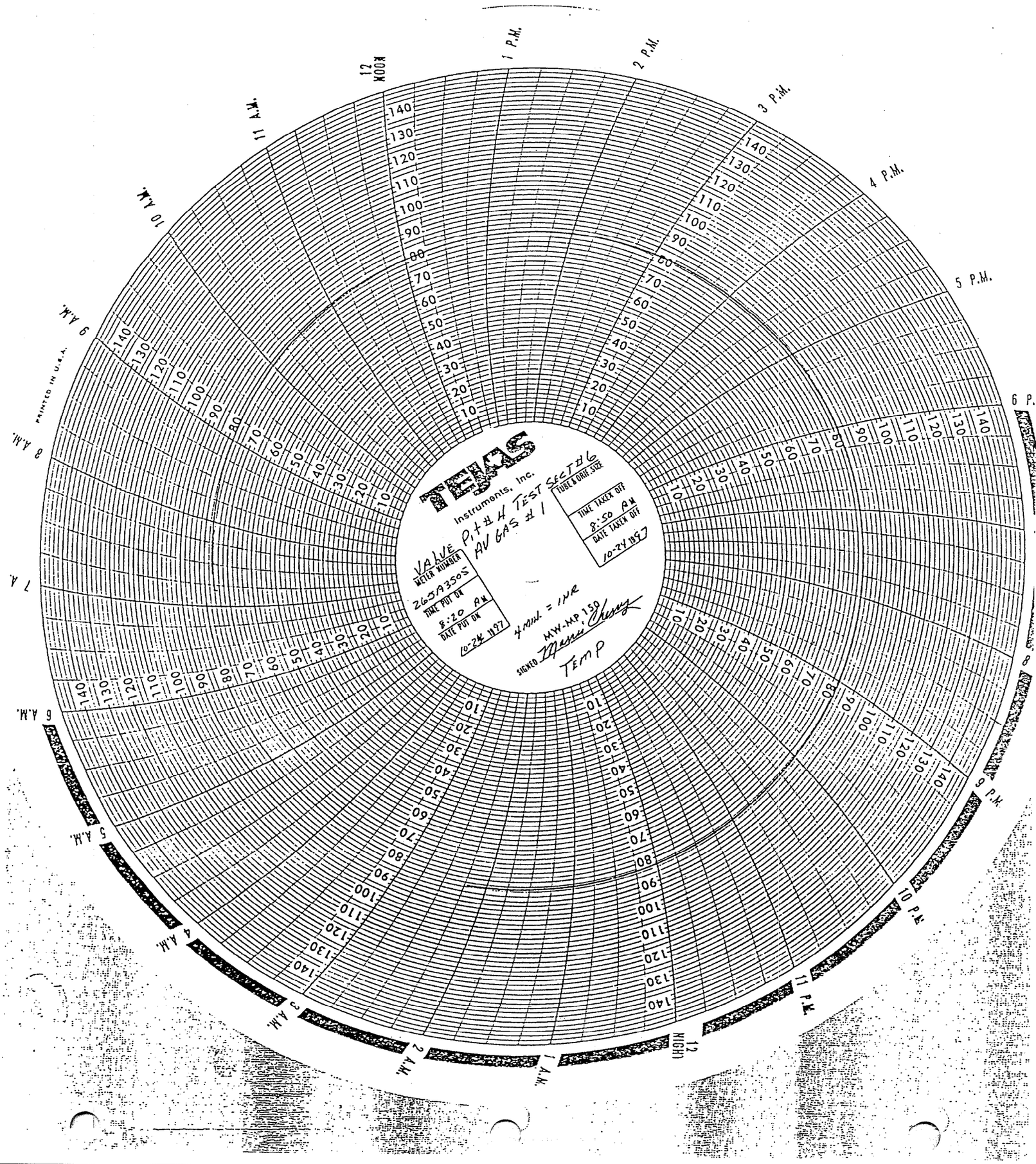
METER NUMBER: 2950
TIME PUT ON: 8:20 AM
DATE PUT ON: 10-25-1977

TUBE & ORIF. SIZE:

TIME TAKEN OFF: 5:50 AM
DATE TAKEN OFF: 10-25-1977

Hours = 1 HR

SIGNED: MW-IMP 150
Natural Gas Pressure


TEJAS
Instruments, Inc.
VALVE Pit #4 TEST SECT #6
AV GAS #1
METER NUMBER
265A3505
TIME PUT ON
8:20 AM
DATE PUT ON
10-24 1997
TUBE & ORIF. SIZE
TIME TAKEN OFF
8:50 AM
DATE TAKEN OFF
10-24 1997
4 MIN. = 1 HR
MW-MP 150
SIGNED Marvin Cherry
TEMP
PRINTED IN U.S.A.
12 NOON
1 P.M.
2 P.M.
3 P.M.
4 P.M.
5 P.M.
6 P.
8
9 P.M.
10 P.M.
11 P.M.
12 NIGHT
1 A.M.
2 A.M.
3 A.M.
4 A.M.
5 A.M.
6 A.M.
7 A.
8 A.M.
9 A.M.
10 A.M.
11 A.M.

18 November 1997

Mr. Morris Cherry
Morco Testing, Inc.
2516 Revere Dr.
Pasadena, Texas 77502

Subject	Certification of Nitrogen Test
Client	Department of the Navy
Contractor	Bechtel Environmental, Inc.
Description	6-inch AV-Gas #1
Date Test Accepted	24 October 1997

Dear Mr. Cherry;

This letter is certify that the nitrogen test performed on the 6-inch AV-Gas #1 Pipeline from Valve Pit Number 4 to Valve Pit Number 5 by Morco Testing, Inc. met the requirements of ASME/ANSI B31.3 "Chemical Plant and Petroleum Refinery Piping" and "Department of the Navy Southern Division Technical Specification for Pipeline Pressure Testing" 324-SP738-002 Rev. 0.

This section of the pipe line was tested for thirty (30) minutes, using nitrogen as the test medium, at a minimum measured test pressure of 65 psig. This successfully completed the leak test requirements of the above code and specification. This leak test did not loose five (5) psig during the test period. The line gain a calculated 2.5 standard cubic feet. If the test were held for an additional hour, the data indicates a gain of 5.0 standard cubic feet would have occurred. This gain corresponds to a calculated pressure gain of less than one (1) psig. This is within acceptable limits as set forth in Specification "Department of the Navy Southern Division Technical Specification for Pipeline Pressure Testing" 324-SP738-002 Rev. 0.

Sincerely yours,

John P. Mc Kernan, PE PLS

C:\LOTSUITE\AMIPRO\DOCS\MORCO\030.SAM

Company	Department of the Navy	AFE Number	N62467-93-D-0936-073
Construction Co	Bechtel Enviromental, Inc.	AFE Number	22567
Testing Co.	Morco Testing, Inc.	Project Number	0
Project Name	Naval Air Station Pipeline - Abandonment Project - AV-Gas #1		
File Name	C:\LOTSUITE\123R5\WORK\MORCO\00018.WK4	Revised 18 Nov. 97	

TEST LOG

TIME	PRESSURE	AMBIENT TEMP	PIPE TEMP	REMARKS
24-Oct-97				
08:20 AM	65.0	79.0	81.0	On Test
08:30 AM	65.0	80.0	82.0	
08:40 AM	65.0	81.0	82.0	
08:50 AM	65.0	81.0	83.0	Off Test
				Ground Temperature Taken at Four Locations
				Along Test Section and Then Averaged For Value
				Reported.
24-Oct-97				

65	PSIG HI	TOTAL OZ. BLEED	0
65	PSIG LOW	TOTAL OZ. INJECTED	0

Company	Department of the Navy	AFE Number	N62467-93-D-0536-073
Construction Co	Bechtel Enviromental, Inc.	AFE Number	22567
Testing Co.	Morco Testing, Inc.	Project No.	0
Project Name	Naval Air Station Pipeline - Abandonment Project - AV-Gas #1		
File Name	C:\LOTSUITE\123R5W\WORK\MORCO\C0018.WK4		

NITROGEN TEST

PIPELINE: AV-Gas #1 TEST DATE 24-Oct-97

FROM : Valve Pit #4 Test Sect. #6 AV-Gas #1 TO : Valve Pit #5

SECT. LENGTH: 607 PIPE DIA.: 6.625 WALL THK. 0.280

SPECK. NA GRADE : NA

INITIAL PRESSURE AT TEST POINT 65 PSIG TIME: 08:20 AM PIPE TEMP : 81

INITIAL AMBIENT TEMPERATURE 79 F ELEV @ TEST PT -1 MSL

IN. PRES. @ OTHER END 65 PSIG ELEV. 3 LOCATION : Valve Pit #5

FINAL PRESSURE AT TEST POINT 65.0 PSIG TIME: 08:50 AM PIPE TEMP : 83

FINAL AMBIENT TEMPERATURE 81 F ELEV @ TEST PT -1 MSL

IN. PRES. @ OTHER END 65.0 PSIG ELEV. 3 MSL

IDEAL GAS LAW:

PV = RZT

WHERE

P = Pressure (psia) 14.696 psia

V = Volume (scf)

R = Gas Constant

Z = Compressibility Factor

T = Temperature (R) 527.67 R

Volume of Line at Standard Conditions 121.8 Cubic Feet

Time	Pressure	Pipe Temp	Volume
08:20	65.0	81	675.4
08:30	65.0	82	676.7
08:40	65.0	82	676.7
08:50	65.0	83	677.9

(- loss, + gain) 2.5 scf

(- loss, + gain) 5.0 scf per hour

Test Duration 0.5 Hours

TESTED ACCEPTED X YES NO

IF NO EXPLAIN

REMARKS

JOHN P. MCKERNAN, PE PLS

11/18/97

DATE

STATE OF TEXAS
JOHN P. McKERNAN
41275
REGISTERED
PROFESSIONAL ENGINEER

MTI Morco Testing, Inc.
HYDROSTATIC TESTING LEAK DETECTION

HYDROSTATIC TEST REPORT

PIPELINE DIVISIC

PIPELINE COMPANY: DEPARTMENT OF THE NAVY | JOB NO: 22567
PIPELINE CONTRACTOR: BECHTEL ENVIRONMENTAL, INC. | W.O. NO: N62467-93-D-0936-C
AFE NO:

TEST SECTION NO.: VALVE PIT #4 TEST SECT #6 MP5 #3 TO VALVE PIT #5

TEST BEGAN: DATE 10-24-97 TIME 10:00 AM | PRESSURE AIR LIQUIDE UNIT NO. 2821 STATION NO. VP #4

TEST END: DATE 10-24-97 TIME 10:30 AM | ELEVATION -1' TO +3

PIPE DATA: 607' 6.625" O.D. .280 W.T. SCH 40

TEST MEDIUM - NITROGEN

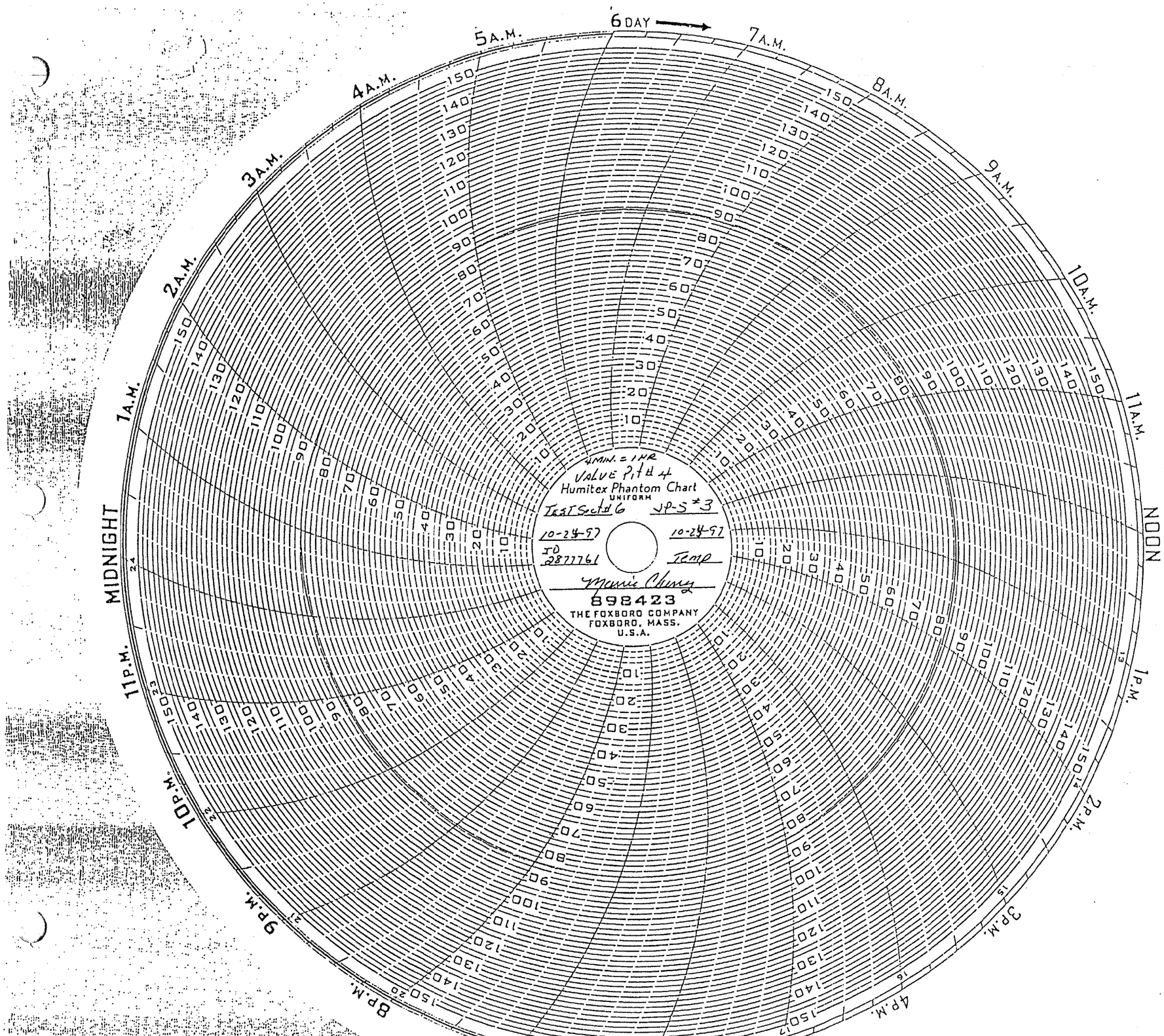
DEADWEIGHT SERIAL NUMBER 4½" 3D Press Gauge 8500543N DATE CERTIFIED 10-10-97
PRESSURE RECORDER SERIAL NUMBER 2948 DATE CERTIFIED 10-10-97
TEMPERATURE RECORDER SERIAL NUMBER 2877761 DATE CERTIFIED 10-10-97
TEST IS ☒ ACCEPTED ☐ REJECTED IF REJECTED, EXPLAIN

DEADWEIGHT RECORD

TEMPERATURE

Time	Pressure	Ambient	Pipe or Ground	Remarks
9:20 AM	25 PSI	81°	83° 85.25°	GROUND TEMP TAKEN AT 4 POINTS
9:35	52	81°	83° 85.25°	ALONG TEST SECT. AND AVE.
9:50	65	81°	83° 85.25°	
10:00	65	82°	84° 85.25°	
10:10	65	82°	84° 85.25°	
10:20	65	82°	84° 85.25°	
10:30	65	83°	84° 85.25°	

TEST FOREMAN [signature] INSPECTOR [signature]


6 DAY
5 A.M.
4 A.M.
3 A.M.
2 A.M.
1 A.M.
MIDNIGHT
11 P.M.
10 P.M.
9 P.M.
8 P.M.
7 A.M.
8 A.M.
9 A.M.
10 A.M.
11 A.M.
NOON
1 P.M.
2 P.M.
3 P.M.
4 P.M.
4 MIN. = 1 HR
VALVE Pit # 4
Humitex Phantom Chart
UNIFORM
Test Sect # 6
JP-5 # 3
10-24-97
10-24-97
ID 2877761
Temp
Marie Cherry
898423
THE FOXBORO COMPANY
FOXBORO, MASS.
U.S.A.

PRINTED IN U.S.A.

TEXAS
Instruments, Inc.

VALVE PIT #4 TEST SECT #6
JP-5 # 3

METER NUMBER	TUBE & ORIF. SIZE
2948	
TIME PUT ON	TIME TAKEN OFF
10:00 AM	10:30 AM
DATE PUT ON	DATE TAKEN OFF
10-24 1987	10-24 1987

4 MIN. = 1 HR

MW-MP 150

SIGNED Marvin Cherry

PRESSURE

19 November 1997

Mr. Morris Cherry
Morco Testing, Inc.
2516 Revere Dr.
Pasadena, Texas 77502

Subject	Certification of Nitrogen Test
Client	Department of the Navy
Contractor	Bechtel Environmental, Inc.
Description	6-inch JP-5 #3
Date Test Accepted	24 October 1997

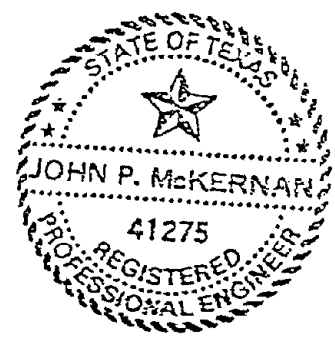
Dear Mr. Cherry;

This letter is certify that the nitrogen test performed on the 6-inch JP-5 #3 Pipeline from Valve Pit Number 4 to Valve Pit Number 5 by Morco Testing, Inc. met the requirements of ASME/ANSI B31.3 "Chemical Plant and Petroleum Refinery Piping" and "Department of the Navy Southern Division Technical Specification for Pipeline Pressure Testing" 324-SP738-002 Rev. 0.

This section of the pipe line was tested for thirty (30) minutes, using nitrogen as the test medium, at a minimum measured test pressure of 65 psig. This successfully completed the leak test requirements of the above code and specification. This leak test did not loose five (5) psig during the test period. The line showed no lost during the test period. If the test were held for an additional hour, the data indicates that no additional loss would have occurred. This is within acceptable limits as set forth in Specification "Department of the Navy Southern Division Technical Specification for Pipeline Pressure Testing" 324-SP738-002 Rev. 0.

Sincerely yours,

John P. Mc Kernan, PE PLS



C:\LOTSUITE\AMIPRO\DOCS\MORCO\032.SAM

Company	Department of the Navy	AFE Number	N62467-93-D-0936-073
Construction Co	Bechtel Environmental, Inc.	AFE Number	22567
Testing Co.	Morco Testing, Inc.	Project Number	0
Project Name	Naval Air Station Pipeline - Abandonment Project - JP-5 #3		
File Name	C:\LOTSUITE\123R5\WIN\WORK\MORCO\C00020.WK4	Revised 19 Nov 97	

TEST LOG

TIME	PRESSURE	AMBIENT TEMP	PIPE TEMP	REMARKS
24-Oct-97				
10:00 AM	65.0	82.0	84.0	On Test
10:10 AM	65.0	82.0	84.0	
10:20 AM	65.0	82.0	84.0	
10:30 AM	65.0	83.0	84.0	Off Test
				Ground Temperature Taken at Four Locations
				Along Test Section and Then Averaged For Value
				Reported.

24-Oct-97					
	65	PSIG HI	TOTAL OZ BLEED		0
	65	PSIG LOW	TOTAL OZ INJECTED		0

Company	Department of the Navy	AFE Number	N62467-93-D-0936-073
Construction Co	Bechtel Enviromental, Inc.	AFE Number	22567
Testing Co.	Morco Testing, Inc.	Project No.	0
Project Name	Naval Air Station Pipeline - Abandonment Project - JP-5 #3		
File Name	C:\LOTSUITE\123R5W\WORK\MORCO\CCC020.WK4		

NITROGEN TEST

PIPELINE: JP-5 #3 TEST DATE 24-Oct-97

FROM : Valve Pit #4 Test Sect. #6 JP-5 #3 TO : Valve Pit #5

SECT. LENGTH: 607 PIPE DIA.: 6.625 WALL THK. 0.280

SPECK. NA GRADE : NA

INITIAL PRESSURE AT TEST POINT 65 PSIG TIME: 10:00 AM PIPE TEMP : 84

INITIAL AMBIENT TEMPERATURE 82 F ELEV @ TEST PT -1 MSL

IN. PRES. @ OTHER END 65 PSIG ELEV. 3 LOCATION : Valve Pit #5

FINAL PRESSURE AT TEST POINT 65.0 PSIG TIME: 10:30 AM PIPE TEMP : 84

FINAL AMBIENT TEMPERATURE 83 F ELEV @ TEST PT -1 MSL

IN. PRES. @ OTHER END 65.0 PSIG ELEV. 3 MSL

IDEAL GAS LAW:

PV = RZT

WHERE

P = Pressure (psia) 14.696 psia

V = Volume (scf)

R = Gas Constant

Z = Compressibility Factor

T = Temperature (R) 527.67 R

Volume of Line at Standard Conditions 121.8 Cubic Feet

Time	Pressure	Pipe Temp	Volume
10:00	65.0	84	679.2
10:10	65.0	84	679.2
10:20	65.0	84	679.2
10:30	65.0	84	679.2

(- loss, + gain) 0 scf

(- loss, + gain) 0.0 scf per hour

Test Duration 0.5 Hour

TESTED ACCEPTED X YES NO

IF NO EXPLAIN

REMARKS

JOHN P. MCKERNAN, PE PLS

11/19/97

DATE

STATE OF TEXAS JOHN P. McKERNAN 41275 REGISTERED PROFESSIONAL ENGINEER

MTI Morco Testing, Inc.
HYDROSTATIC TESTING LEAK DETECTION

HYDROSTATIC TEST REPORT

PIPELINE DIVISIC

PIPELINE COMPANY DEPARTMENT OF THE NAVY | JOB NO: 22567
PIPELINE CONTRACTOR BECHTEL ENVIRONMENTAL, INC. | W.O. NO: N/62467-93-D-0936-0 | AFE NO:

TEST SECTION NO. VALVE PIT #3 TEST SECT. #7 JP-5 #2 TO VALVE PIT #4

TEST BEGAN: DATE 10-24-97 TIME 12:40 PM | PRESSURE AIR LIQUIDE UNIT NO. 2821 STATION NO. VP #3

TEST END: DATE 10-24-97 TIME 1:10 PM | ELEVATION -1' TO +3

PIPE DATA: 608' 6.625" O.D. .280 W.T. SCH 40

TEST MEDIUM - NITROGEN

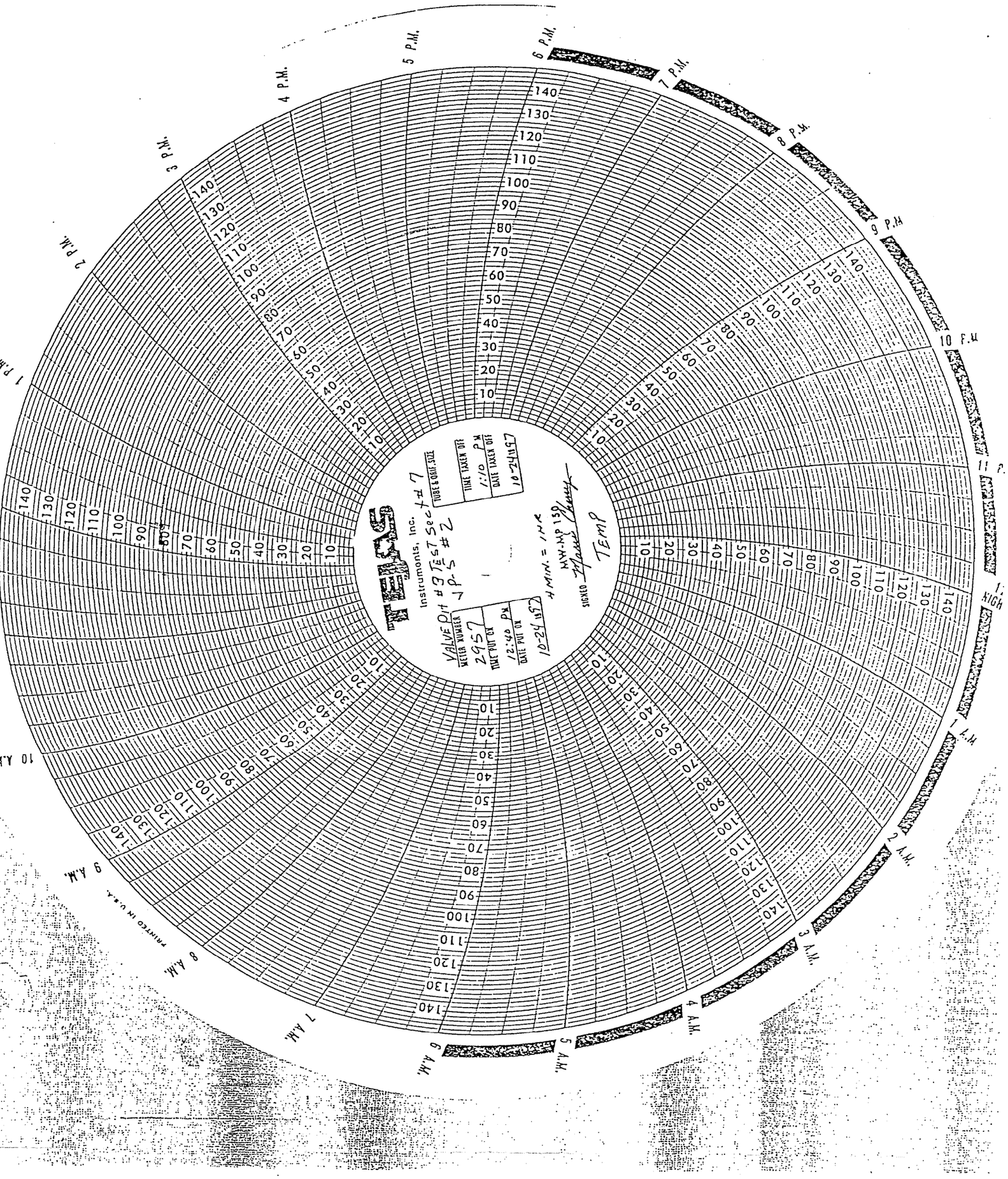
DEADWEIGHT SERIAL NUMBER 4½" PEEMA-CAL GAUGE 12916-02-04 DATE CERTIFIED 10-10-97
PRESSURE RECORDER SERIAL NUMBER 2958 DATE CERTIFIED 10-10-97
TEMPERATURE RECORDER SERIAL NUMBER 2957 DATE CERTIFIED 10-10-97
TEST IS ☒ ACCEPTED ☐ REJECTED IF REJECTED, EXPLAIN _____

DEADWEIGHT RECORD

TEMPERATURE

Time	Pressure	Ambient	Pipe or Ground	Remarks
12:10 PM	25 PSI	86°	82° 87.25°	GROUND TEMP TAKEN AT 4 POINTS
12:20	50	86°	82° 87.25°	ALONG TEST SECT AND AVG.
12:30	65	86°	82° 87.25°	
12:40	65	86°	82° 87.25°	
12:50	65	87°	82° 87.25°	
1:00	65	87°	82° 87.25°	
1:10	65	87°	82° 87.25	

TEST FOREMAN _____ INSPECTOR _____


TEXAS
Instruments, Inc.
VALVE PIT #3 TEST Sect #7
VP-5 #2
TUBE & ORIF. SIZE
TIME TAKEN OFF
1:10 PM
DATE TAKEN OFF
10-24 1997
METER NUMBER
2957
TIME PUT ON
12:40 PM
DATE PUT ON
10-24 1997
4 MIN. = 1 HR
MW-MP 150
SIGNED
TEMP
PRINTED IN U.S.A.
1 P.M.
2 P.M.
3 P.M.
4 P.M.
5 P.M.
6 P.M.
7 P.M.
8 P.M.
9 P.M.
10 P.M.
11 P.
12 HIGH
1 A.M.
2 A.M.
3 A.M.
4 A.M.
5 A.M.
6 A.M.
7 A.M.
8 A.M.
9 A.M.
10 A.M.

12 NOON
1 P.M.
2 P.M.
3 P.M.
4 P.M.
5 P.M.
6 P.M.
7 P.M.
8 P.M.
9 P.M.
10 P.M.
11 P.M.
12 NIGHT
1 A.M.
2 A.M.
3 A.M.
4 A.M.
5 A.M.
6 A.M.
7 A.M.
8 A.M.
9 A.M.
10 A.M.
11 A.M.
10 20 30 40 50 60 70 80 90 100 110 120 130 140
Instruments, Inc.
PRINTED IN U.S.A.

19 November 1997

Mr. Morris Cherry
Morco Testing, Inc.
2516 Revere Dr.
Pasadena, Texas 77502

Subject	Certification of Nitrogen Test
Client	Department of the Navy
Contractor	Bechtel Environmental, Inc.
Description	6-inch JP-5 #2
Date Test Accepted	24 October 1997

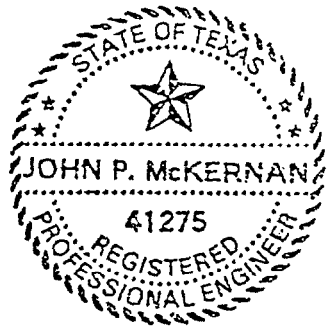
Dear Mr. Cherry;

This letter is certify that the nitrogen test performed on the 6-inch JP-5 #2 Pipeline from Valve Pit Number 3 to Valve Pit Number 4 by Morco Testing, Inc. met the requirements of ASME/ANSI B31.3 "Chemical Plant and Petroleum Refinery Piping" and "Department of the Navy Southern Division Technical Specification for Pipeline Pressure Testing" 324-SP738-002 Rev. 0.

This section of the pipe line was tested for thirty (30) minutes, using nitrogen as the test medium, at a minimum measured test pressure of 65 psig. This successfully completed the leak test requirements of the above code and specification. This leak test did not loose five (5) psig during the test period. The line showed no lost during the test period. If the test were held for an additional hour, the data indicates that no additional loss would have occurred. This is within acceptable limits as set forth in Specification "Department of the Navy Southern Division Technical Specification for Pipeline Pressure Testing" 324-SP738-002 Rev. 0.

Sincerely yours,

John P. Mc Kernan, PE PLS



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Company	Department of the Navy	AFE Number	N62467-93-D-0936-073
Construction Co	Bechtel Enviromental, Inc.	AFE Number	22567
Testing Co.	Morco Testing, Inc.	Project Number	0
Project Name	Naval Air Station Pipeline - Abandonment Project -JP-5 #2		
File Name	C:\LOTSUITE\123R5W\WORK\MORCO\00022.WK4	Revised 19 Nov 97	

TEST LOG

TIME	PRESSURE	AMBIENT TEMP	PIPE TEMP	REMARKS
24-Oct-97				
12:40 PM	65.0	86.0	82.0	On Test
12:50 PM	65.0	87.0	82.0	
01:00 PM	65.0	87.0	82.0	
01:10 PM	65.0	87.0	82.0	Off Test
				Ground Temperature Taken at Four Locations
				Along Test Section and Then Averaged For Value
				Reported.
24-Oct-97				

65	PSIG HI	TOTAL OZ. BLEED	0
65	PSIG LOW	TOTAL OZ. INJECTED	0

Company	Department of the Navy	AFE Number	N62467-93-D-0535-073
Construction Co	Bechtel Enviromental, Inc.	AFE Number	22567
Testing Co.	Morco Testing, Inc.	Project No.	0
Project Name	Naval Air Station Pipeline - Abandonment Project -JP-5 #2		
File Name	C:\LOTSUITE\123R5\WIN\WORK\MORCO\CC022.WK4		

NITROGEN TEST

PIPELINE: JP-5 #2 TEST DATE 24-Oct-97

FROM : Valve Pit #3 Test Sect. #7 JP-5 #2 TO : Valve Pit #4

SECT. LENGTH: 608 PIPE DIA.: 6.625 WALL THK. 0.280

SPECK. NA GRADE : NA

INITIAL PRESSURE AT TEST POINT	65 PSIG	TIME:	12:40 PM	PIPE TEMP :	82
INITIAL AMBIENT TEMPERATURE	86 F	ELEV @ TEST PT		-1 MSL	
IN. PRES. @ OTHER END	65 PSIG	ELEV.	3	LOCATION :	Valve Pit #4
FINAL PRESSURE AT TEST POINT	65.0 PSIG	TIME:	01:10 PM	PIPE TEMP :	82
FINAL AMBIENT TEMPERATURE	87 F	ELEV @ TEST PT		-1 MSL	
IN. PRES. @ OTHER END	65.0 PSIG	ELEV.		3 MSL	

IDEAL GAS LAW:

PV = RZT

WHERE

P = Pressure (psia) 14.696 psia

V = Volume (scf)

R = Gas Constant

Z = Compressibility Factor

T = Temperature (R) 527.67 R

Volume of Line at Standard Conditions 122.0 Cubic Feet

Time	Pressure	Pipe Temp	Volume
12:40	65.0	82	677.8
12:50	65.0	82	677.8
13:00	65.0	82	677.8
13:10	65.0	82	677.8

(- loss, + gain) 0 scf

(- loss, + gain) 0.0 scf per hour

Test Duration 0.5 Hours

TESTED ACCEPTED X YES NO

IF NO EXPLAIN

REMARKS

JOHN P. MCKERNAN, PE PLS

11/19/97

DATE

STATE OF TEXAS JOHN P. McKERNAN 41275 REGISTERED PROFESSIONAL ENGINEER

C:\LOTSUITE\AMIPRO\DOCS\MORCO\034.SAM

MTI Morco Testing, Inc.
HYDROSTATIC TESTING LEAK DETECTION

HYDROSTATIC TEST REPORT

PIPELINE DIVISIO

PIPELINE COMPANY DEPARTMENT OF THE NAVY | JOB NO: ZZ567
W.O. NO: N62467-93-D-0936-07
PIPELINE CONTRACTOR BECHTEL ENVIRONMENTAL, INC. | AFE NO:

TEST SECTION NO. VALVE PIT #3 TEST SECT. #7 JP-5 #3 TO VALVE PIT #4

TEST BEGAN: DATE 10-24-97 TIME 1:20 PM | PRESSURE AIR LIQUIDE UNIT NO. 2821 STATION NO. VP #3

TEST END: DATE 10-24-97 TIME 1:50 PM | ELEVATION -1 TO +3

PIPE DATA: 608' 6.625" O.D. .280 W.T. SCH 40

TEST MEDIUM - NITROGEN

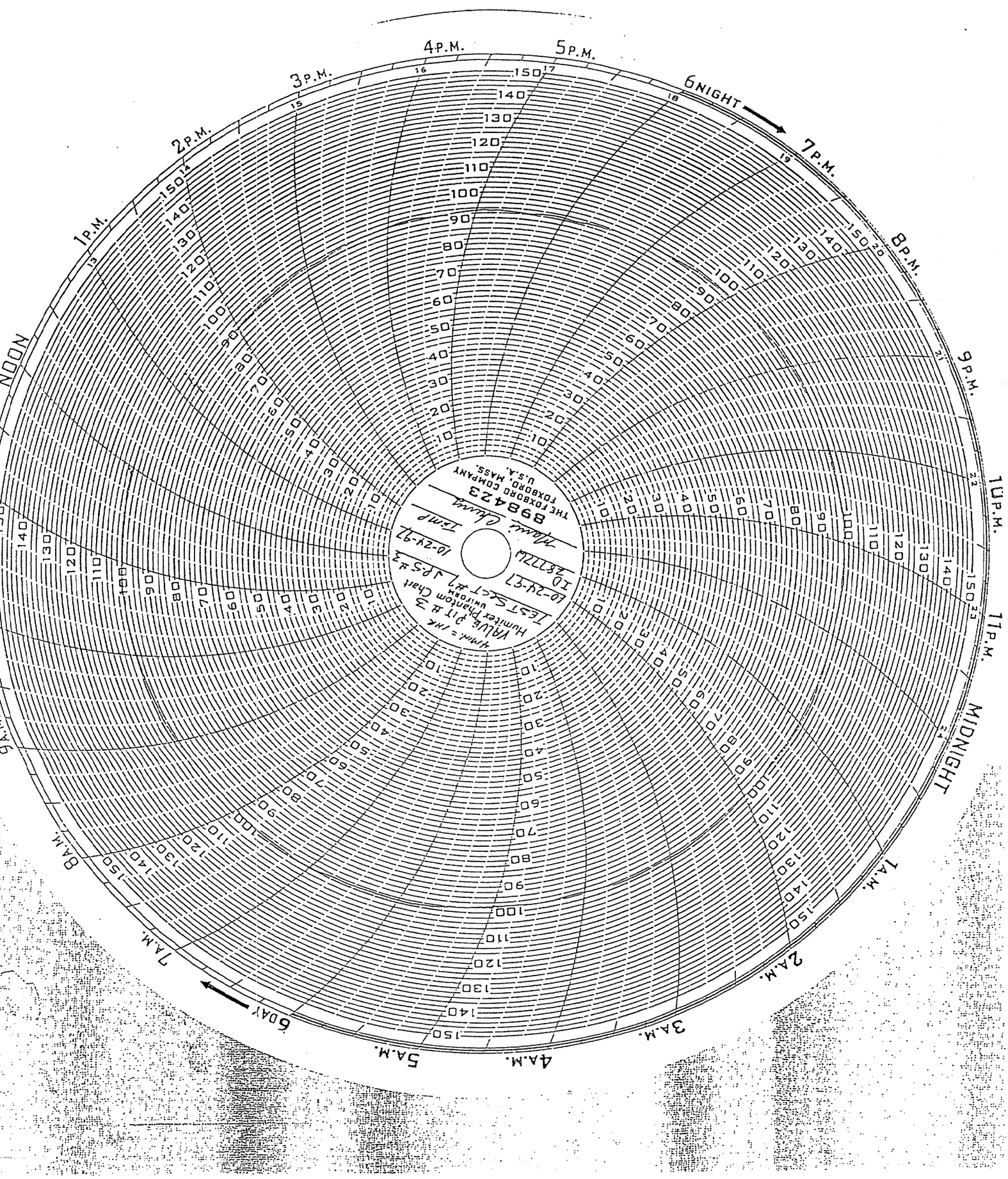
DEADWEIGHT SERIAL NUMBER 4½" 3-D Press GAUGE 8500543N DATE CERTIFIED 10-10-97
PRESSURE RECORDER SERIAL NUMBER 2948 DATE CERTIFIED 10-10-97
TEMPERATURE RECORDER SERIAL NUMBER 2877761 DATE CERTIFIED 10-10-97
TEST IS ☒ ACCEPTED ☐ REJECTED IF REJECTED, EXPLAIN _____

DEADWEIGHT RECORD

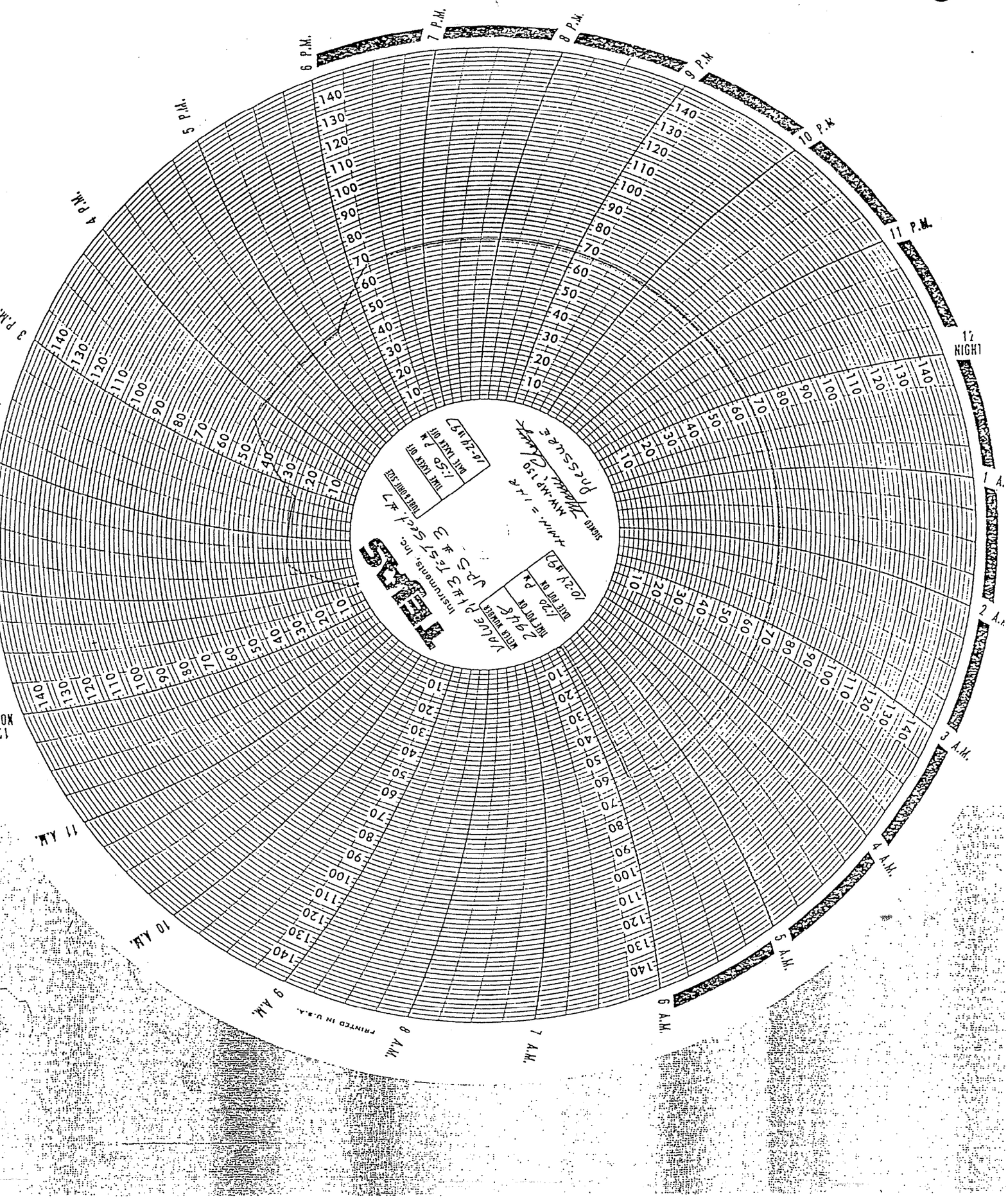
TEMPERATURE

Time	Pressure	Ambient	Pipe or Ground		Remarks
12:50 PM	25 PSI	88°	90°	86°	GROUND TEMP TAKEN AT 4 POINTS
1:00	50	88°	92°	86°	ALONG TEST SECT. AND AVG
1:10	65	88°	94°	86°	
1:20	65	88°	97°	86°	PIPE TEMP PROBE OUTSIDE OF PIPE
1:30	65	87°	98°	86°	DUE TO DAD PLUG IN PIPELINE
1:40	65	87°	98°	86°	TEMP NOT TRUE INSIDE PIPE TEMP
1:50	65	86°	98°	86°	
					AT 50 PSI SMALL VALVE ON
					UNDER SIDE OF PIPELINE STARTED
					LEAKING. WE REPAIRED AND
					CONTINUED ON WITH TEST.

TEST FOREMAN _____ INSPECTOR _____



4 P.M.
5 P.M.
6 NIGHT
7 P.M.
8 P.M.
9 P.M.
10 P.M.
11 P.M.
MIDNIGHT
1 A.M.
2 A.M.
3 A.M.
4 A.M.
5 A.M.
6 DAY
7 A.M.
8 A.M.
NOON
1 P.M.
2 P.M.
3 P.M.
THE FOXBORO COMPANY
FOXBORO, MASS.
U.S.A.
898423
Humitex Phantom Chart
UNIFORM



6 P.M.
7 P.M.
8 P.M.
9 P.M.
10 P.M.
11 P.M.
12 NIGHT
1 A.
2 A.
3 A.M.
4 A.M.
5 A.M.
6 A.M.
7 A.M.
8 A.M.
9 A.M.
10 A.M.
11 A.M.
3 P.M.
4 P.M.
5 P.M.
Pressure
Instruments, Inc.
VALVE Pt #3 Test Sect. #7
VP5 #3
TIME TAKEN OFF
DATE TAKEN OFF
TUBE & ORIF. SIZE
SIGNED
MW-MP-150
DATE PUT ON
TIME PUT ON
METER NUMBER
PRINTED IN U.S.A.

19 November 1997

Mr. Morris Cherry
Morco Testing, Inc.
2516 Revere Dr.
Pasadena, Texas 77502

Subject	Certification of Nitrogen Test
Client	Department of the Navy
Contractor	Bechtel Environmental, Inc.
Description	6-inch JP-5 #3
Date Test Accepted	24 October 1997

Dear Mr. Cherry;

This letter is certify that the nitrogen test performed on the 6-inch JP-5 #3 Pipeline from Valve Pit Number 3 to Valve Pit Number 4 by Morco Testing, Inc. met the requirements of ASME/ANSI B31.3 "Chemical Plant and Petroleum Refinery Piping" and "Department of the Navy Southern Division Technical Specification for Pipeline Pressure Testing" 324-SP738-002 Rev. 0.

This section of the pipe line was tested for thirty (30) minutes, using nitrogen as the test medium, at a minimum measured test pressure of 65 psig. This successfully completed the leak test requirements of the above code and specification. This leak test did not loose five (5) psig during the test period. The line gain a calculated 1.3 standard cubic feet. If the test were held for an additional hour, the data indicates a gain of 2.5 standard cubic feet would have occurred. This gain corresponds to a calculated pressure gain of less than one (1) psig. This is within acceptable limits as set forth in Specification "Department of the Navy Southern Division Technical Specification for Pipeline Pressure Testing" 324-SP738-002 Rev. 0.

Sincerely yours,

John P. Mc Kernan, PE PLS

C:\LOTSUITE\AMIPRO\DOCS\MORCO\035.SAM

Company	Department of the Navy	AFE Number	N62467-93-D-0936-073
Construction Co	Bechtel Enviromental, Inc.	AFE Number	22567
Testing Co.	Morco Testing, Inc.	Project Number	0
Project Name	Naval Air Station Pipeline - Abandonment Project -JP-5 #3		
File Name	C:\LOTSUITE\123R5\WORK\MORCO\00223.WK4	Revised 19 Nov. 97	

TEST LOG

TIME	PRESSURE	AMBIENT TEMP	PIPE TEMP	REMARKS
24-Oct-97				
01:20 PM	65.0	88.0	97.0	On Test
01:30 PM	65.0	87.0	98.0	
01:40 PM	65.0	87.0	98.0	
01:50 PM	65.0	86.0	98.0	Off Test
				Ground Temperature Taken at Four Locations
				Along Test Section and Then Averaged For Value
				Reported.
				Pipe Temperature Probe out side of Pipe Due to
				Bad Plug in Pipeline. Temperature is not true
				pipe temperature.
				At 50 psig small valve on under side of pipeline
				started leaking. Repaired valve and continued on
				with test.
24-Oct-97				

	65	PSIG HI	TOTAL OZ. BLEED	0
	65	PSIG LOW	TOTAL OZ. INJECTED	0

Company	Department of the Navy	AFE Number	N62467-93-D-0936-073
Construction Co	Bechtel Enviromental, Inc.	AFE Number	22567
Testing Co.	Morco Testing, Inc.	Project No.	0
Project Name	Naval Air Station Pipeline - Abandonment Project -JP-5 #3		
File Name	C:\LOTSUITE\123RSW\WORK\MORCO\000023.WK4		

NITROGEN TEST

PIPELINE: JP-5 #3 TEST DATE 24-Oct-97

FROM : Valve Pit #3 Test Sect. #7 JP-5 #3 TO : Valve Pit #4

SECT. LENGTH: 608 PIPE DIA.: 6.625 WALL THK. 0.280

SPECK. NA GRADE : NA

INITIAL PRESSURE AT TEST POINT 65 PSIG TIME: 01:20 PM PIPE TEMP : 97

INITIAL AMBIENT TEMPERATURE 88 F ELEV @ TEST PT -1 MSL

IN. PRES. @ OTHER END 65 PSIG ELEV. 3 LOCATION : Valve Pit #4

FINAL PRESSURE AT TEST POINT 65.0 PSIG TIME: 01:50 PM PIPE TEMP : 98

FINAL AMBIENT TEMPERATURE 86 F ELEV @ TEST PT -1 MSL

IN. PRES. @ OTHER END 65.0 PSIG ELEV. 3 MSL

IDEAL GAS LAW:

PV = RZT

WHERE

P = Pressure (psia) 14.696 psia

V = Volume (scf)

R = Gas Constant

Z = Compressibility Factor

T = Temperature (R) 527.67 R

Volume of Line at Standard Conditions 122.0 Cubic Feet

Time	Pressure	Pipe Temp	Volume
13:20	65.0	97	696.6
13:30	65.0	98	697.9
13:40	65.0	98	697.9
13:50	65.0	98	697.9

(- loss, + gain) 1.3 scf

(- loss, + gain) 2.5 scf per hour

Test Duration 0.5 Hours

TESTED ACCEPTED X YES NO

IF NO EXPLAIN

REMARKS

JOHN P. MCKERNAN, PE PLS

11/19/97

DATE

STATE OF TEXAS JOHN P. McKERNAN 41275 REGISTERED PROFESSIONAL ENGINEER

MTI Marco Testing, Inc.
HYDROSTATIC TESTING LEAK DETECTION

HYDROSTATIC TEST REPORT

PIPELINE DIVISION

PIPELINE COMPANY DEPARTMENT OF THE NAVY | JOB NO: 22567
W.O. NO: N62467-93-D-0936-07
PIPELINE CONTRACTOR BECHTEL ENVIRONMENTAL, INC. | AFE NO:

TEST SECTION NO. VALVE PIT #2 TEST SECT #8 AV-GAS #1 TO VALVE PIT #3

TEST BEGAN: DATE 10-24-97 TIME 2:50 PM | PRESSURE AIR LIQUIDE UNIT NO. 2821 STATION NO. VP #2

TEST END: DATE 10-24-97 TIME 3:20 PM | ELEVATION -1 TO +3

PIPE DATA: 574' 6.625" O.D. .280 W.T. SCH 40

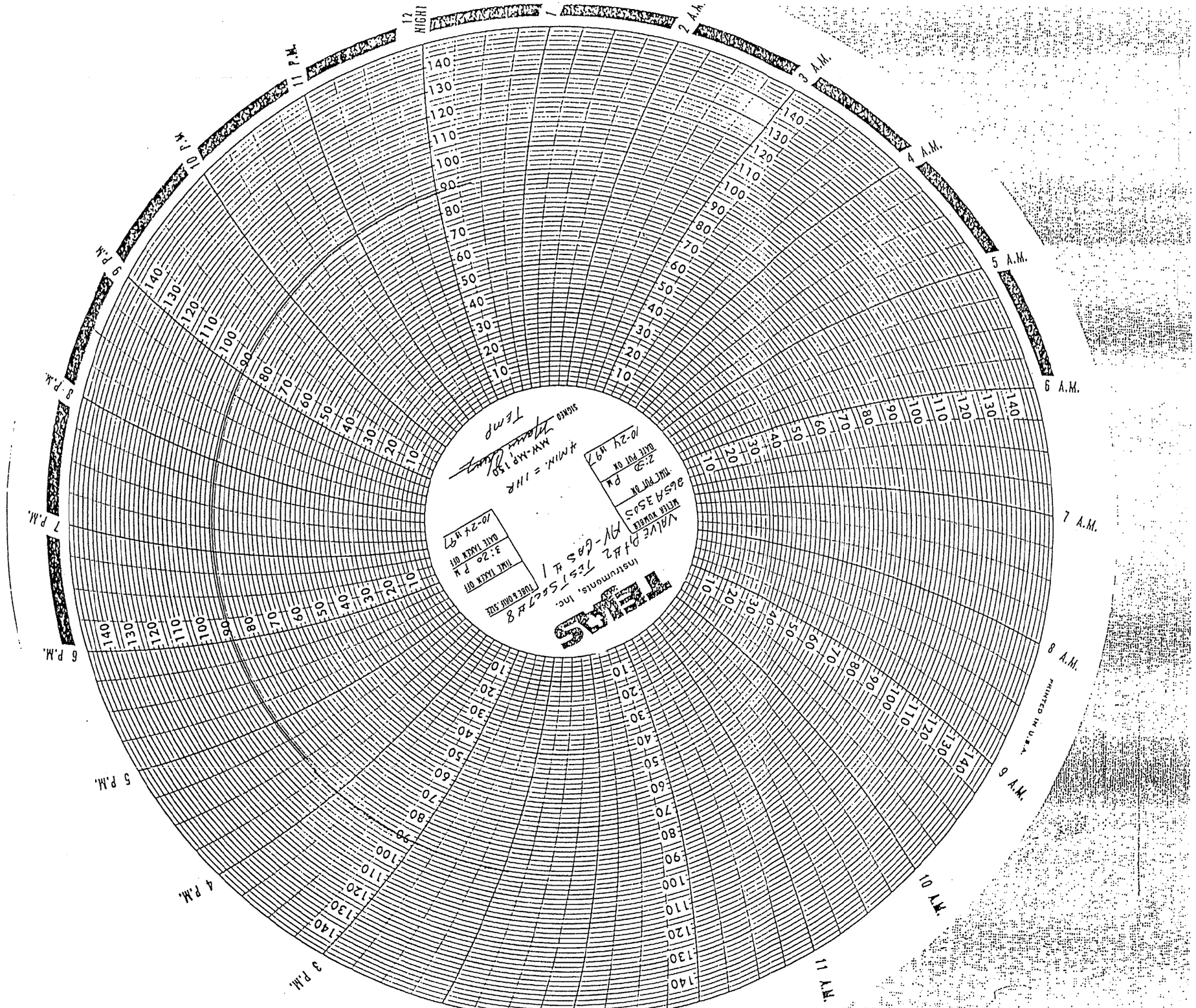
TEST MEDIUM - NITROGEN

DEADWEIGHT SERIAL NUMBER 8" U.S.G. Press Gauge 18938 DATE CERTIFIED 10-10-97
PRESSURE RECORDER SERIAL NUMBER 2950 DATE CERTIFIED 10-10-97
TEMPERATURE RECORDER SERIAL NUMBER 26SA3505 DATE CERTIFIED 10-10-97
TEST IS ☒ ACCEPTED ☐ REJECTED IF REJECTED, EXPLAIN _____

DEADWEIGHT RECORD

Time	Pressure	Temperature: Ambient	Temperature: Pipe or Ground	Remarks
2:25 PM	28 PSI	85°	90° 88.25	GROUND TEMP TAKEN AT 4 POINTS
2:33	50	85°	89° 88.25	ALONG TEST SECT. AND AVG.
2:40	65	85°	89° 88.25	
2:50	65	85°	89° 88.25	
3:00	65	85°	89° 88.25	
3:10	65	85°	89° 88.25	
3:20	65	85°	89° 88.25	

TEST FOREMAN _____ INSPECTOR _____



TEXAS
Instruments, Inc.
Valve #1 #2 Test Sec 7 #8
AV-GAS #1
Meter Number
265A3505
Time Put On
2:30 PM
Date Put On
10-24 1997
Time Taken Off
3:20 PM
Date Taken Off
10-24 1997
Tube & Orif. Size
4 MIN. = 1 HR
Signed
Temp
Printed in U.S.A.
12 NIGHT
1
2 A.M.
3 A.M.
4 A.M.
5 A.M.
6 A.M.
7 A.M.
8 A.M.
9 A.M.
10 A.M.
11 A.M.
12 NOON
1 P.M.
2 P.M.
3 P.M.
4 P.M.
5 P.M.
6 P.M.
7 P.M.
8 P.M.
9 P.M.
10 P.M.
11 P.M.

0115AR297

MIDNIGHT
1 A.M.
2 A.M.
3 A.M.
4 A.M.
5 A.M.
6 A.M.
7 A.M.
8 A.M.
9 A.M.
10 A.M.
11 A.M.
NOON
1 P.M.
2 P.M.
5 P.M.
6 P.M.
7 P.M.
8 P.M.
9 P.M.
10 P.M.
11 P.M.
10 20 30 40 50 60 70 80 90 100 110 120 130 140
TIME TAKEN OFF
DATE TAKEN OFF
TIME TO BE PUT ON
DATE PUT ON
VALVE NUMBER
METER NUMBER
Instruments, Inc.
PRINTED IN U.S.A.

19 November 1997

Mr. Morris Cherry
Morco Testing, Inc.
2516 Revere Dr.
Pasadena, Texas 77502

Subject	Certification of Nitrogen Test
Client	Department of the Navy
Contractor	Bechtel Environmental, Inc.
Description	6-inch AV-5 #1
Date Test Accepted	24 October 1997

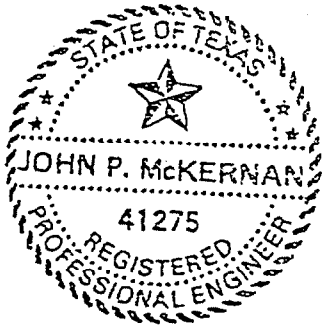
Dear Mr. Cherry;

This letter is certify that the nitrogen test performed on the 6-inch AV-5 #1 Pipeline from Valve Pit Number 2 to Valve Pit Number 3 by Morco Testing, Inc. met the requirements of ASME/ANSI B31.3 "Chemical Plant and Petroleum Refinery Piping" and "Department of the Navy Southern Division Technical Specification for Pipeline Pressure Testing" 324-SP738-002 Rev. 0.

This section of the pipe line was tested for thirty (30) minutes, using nitrogen as the test medium, at a minimum measured test pressure of 65 psig. This successfully completed the leak test requirements of the above code and specification. This leak test did not loose five (5) psig during the test period. The line showed no lost during the test period. If the test were held for an additional hour, the data indicates that no additional loss would have occurred. This is within acceptable limits as set forth in Specification "Department of the Navy Southern Division Technical Specification for Pipeline Pressure Testing" 324-SP738-002 Rev. 0.

Sincerely yours,

John P. Mc Kernan, PE PLS



C:\LOTSUITE\AMIPRO\DOCS\MORCO\036.SAM

Company	Department of the Navy	AFE Number	N62467-93-D-0606-073
Construction Co	Bechtel Enviromental, Inc.	AFE Number	22567
Testing Co.	Morco Testing, Inc.	Project Number	0
Project Name	Naval Air Station Pipeline - Abandonment Project - AV-Gas #1		
File Name	C:\LOTSUITE\123R5W\WORK\MORCO\00024.WK4	Revised 19 Nov. 97	

TEST LOG

TIME	PRESSURE	AMBIENT TEMP	PIPE TEMP	REMARKS
24-Oct-97				
02:50 PM	65.0	85.0	89.0	On Test
03:00 PM	65.0	85.0	89.0	
03:10 PM	65.0	85.0	89.0	
03:20 PM	65.0	85.0	89.0	Off Test
				Ground Temperature Taken at Four Locations
				Along Test Section and Then Averaged For Value
				Reported.
24-Oct-97				

65	PSIG HI	TOTAL OZ. BLEED	0
65	PSIG LOW	TOTAL OZ. INJECTED	0

Company	Department of the Navy	AFE Number	N62467-93-D-0936-073
Construction Co	Bechtel Enviromental, Inc.	AFE Number	22567
Testing Co.	Morco Testing, Inc.	Project No.	0
Project Name	Naval Air Station Pipeline - Abandonment Project - AV-Gas #1		
File Name	C:\LOTSUITE\123R5W\WORK\MORCO\00024.WK4		

NITROGEN TEST

PIPELINE: AV-Gas#1 TEST DATE 24-Oct-97

FROM : Valve Pit #2 Test Sect. #8 AV-Gas#1 TO : Valve Pit #3

SECT. LENGTH: 574 PIPE DIA.: 6.625 WALL THK. 0.280

SPECK. NA GRADE : NA

INITIAL PRESSURE AT TEST POINT 65 PSIG TIME: 02:50 PM PIPE TEMP : 89

INITIAL AMBIENT TEMPERATURE 85 F ELEV @ TEST PT -1 MSL

IN. PRES. @ OTHER END 65 PSIG ELEV. 3 LOCATION : Valve Pit #3

FINAL PRESSURE AT TEST POINT 65.0 PSIG TIME: 03:20 PM PIPE TEMP : 89

FINAL AMBIENT TEMPERATURE 85 F ELEV @ TEST PT -1 MSL

IN. PRES. @ OTHER END 65.0 PSIG ELEV. 3 MSL

IDEAL GAS LAW:

PV = RZT

WHERE

P = Pressure (psia) 14.696 psia

V = Volume (scf)

R = Gas Constant

Z = Compressibility Factor

T = Temperature (R) 527.67 R

Volume of Line at Standard Conditions 115.2 Cubic Feet

Time	Pressure	Pipe Temp	Volume
14:50	65.0	89	648.2
15:00	65.0	89	648.2
15:10	65.0	89	648.2
15:20	65.0	89	648.2

(- loss, + gain) 0 scf

(- loss, + gain) 0.0 scf per hour

Test Duration 0.5 Hours

TESTED ACCEPTED X YES NO

IF NO EXPLAIN

REMARKS

JOHN P. MCKERNAN, PE PLS

11/19/97

DATE

STATE OF TEXAS JOHN P. McKERNAN 41275 REGISTERED PROFESSIONAL ENGINEER

C:\LOTSUITE\AMIPRO\DOCS\MORCO\036.SAM

MTI Morco Testing, Inc.
HYDROSTATIC TESTING LEAK DETECTION

HYDROSTATIC TEST REPORT

PIPELINE DIVISIC

PIPELINE COMPANY DEPARTMENT OF THE NAVY | JOB NO: 22567
W.O. NO: N62467-93-D-0936-0
PIPELINE CONTRACTOR BECHTEL ENVIRONMENTAL, INC. | AFE NO:

TEST SECTION NO.: VALVE PIT #2 TEST SECT #8 JP-5 #2 TO VALVE PIT #3

TEST BEGAN: DATE 10-24-97 TIME 3:15 PM | PRESSURE AIR LIQUIDE UNIT NO. 2821 STATION NO. VP #2

TEST END: DATE 10-24-97 TIME 3:45 PM | ELEVATION -1' TO +3

PIPE DATA: 574' 6.625" O.D. .280 W.T. SCH 40

TEST MEDIUM - NITROGEN

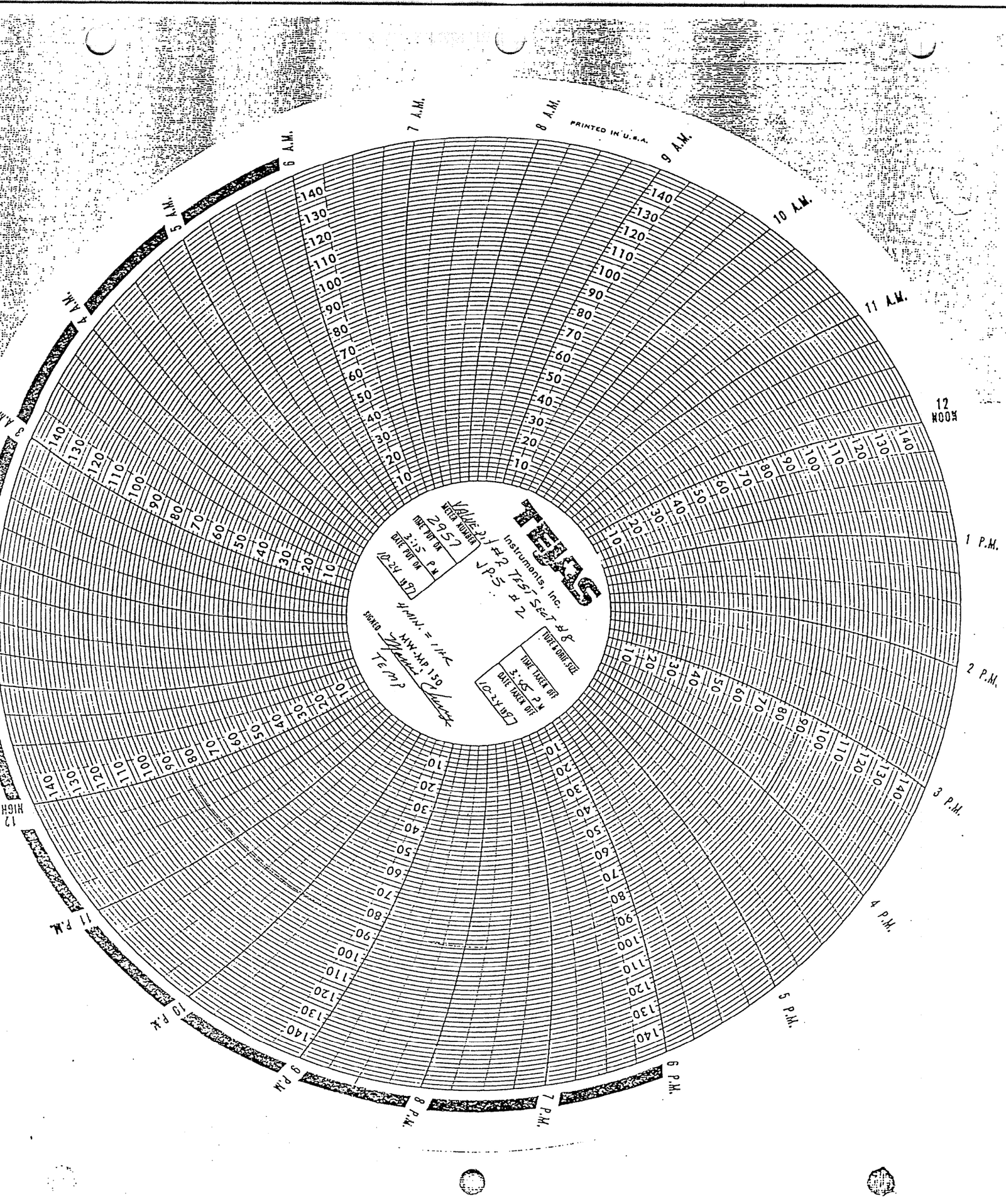
DEADWEIGHT SERIAL NUMBER 4½" PERMA-CAL PRESS. GA. 12916-02-04 DATE CERTIFIED 10-10-97
PRESSURE RECORDER SERIAL NUMBER 2953 DATE CERTIFIED 10-10-97
TEMPERATURE RECORDER SERIAL NUMBER 2957 DATE CERTIFIED 10-10-97
TEST IS ☒ ACCEPTED ☐ REJECTED IF REJECTED, EXPLAIN _____

DEADWEIGHT RECORD

TEMPERATURE

Time	Pressure	Ambient	Pipe or Ground	Remarks
2:50 PM	25 PSI	85°	88° 88.25°	GROUND TEMP TAKEN AT 4 POINTS
3:00 PM	50	85°	88° 88.25°	ALONG TEST SECT. AND AVE.
3:10	65	85°	87° 88.25°	
3:15	65	85°	86° 88.25°	AT 51 PSI VALVE ON UNDER SIDE
3:25	65	85°	85° 88.25°	of PIPELINE blew open. It was
3:35	65	84°	85° 88.25°	closed AND we continued on
3:45	65	84°	85° 88.25	with TEST.

TEST FOREMAN _____ INSPECTOR _____


PRINTED IN U.S.A.
TEXAS
Instruments, Inc.
Valve 2, #2 Test Sect #8
JP-5 #2
METER NUMBER
2957
TIME PUT ON
3:15 P.M.
DATE PUT ON
10-24 1997
TUBE & ORIF. SIZE
TIME TAKEN OFF
3:45 P.M.
DATE TAKEN OFF
10-24 1997
4 MIN. = 1 HR
MW-MP 150
SIGNED
TEMP
6 A.M.
7 A.M.
8 A.M.
9 A.M.
10 A.M.
11 A.M.
12 NOON
1 P.M.
2 P.M.
3 P.M.
4 P.M.
5 P.M.
6 P.M.
7 P.M.
8 P.M.
9 P.M.
10 P.M.
11 P.M.
12 HIGH
3 A.M.
4 A.M.
5 A.M.

PRINTED IN U.S.A.
TEXAS
Instruments, Inc.
VALVE PIT 2 TEST SECT # 8
METER NUMBER
2953
JP-5 # 2
TIME PUT ON
3:15 PM
DATE PUT ON
10-24 1977
TUBE & ORIF. SIZE
TIME TAKEN OFF
3:45 PM
DATE TAKEN OFF
10-24 1977
4 MIN. = 1 HR
MW-MP 150
SIGNED
Pressure
7 A.M.
8 A.M.
9 A.M.
10 A.M.
11 A.M.
12 NOON
1 P.M.
2 P.M.
3 P.M.
4 P.M.
5 P.M.
6 P.M.
7 P.M.
8 P.M.
9 P.M.
10 P.M.
11 P.M.
MIDNIGHT
1 A.M.
2 A.M.
6 A.M.

19 November 1997

Mr. Morris Cherry
Morco Testing, Inc.
2516 Revere Dr.
Pasadena, Texas 77502

Subject	Certification of Nitrogen Test
Client	Department of the Navy
Contractor	Bechtel Environmental, Inc.
Description	6-inch JP-5 #2
Date Test Accepted	24 October 1997

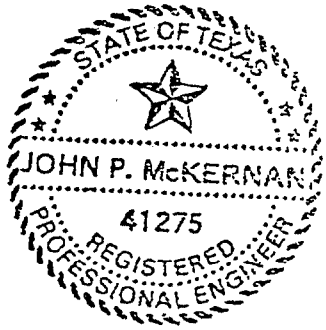
Dear Mr. Cherry;

This letter is certify that the nitrogen test performed on the 6-inch JP-5 #2 Pipeline from Valve Pit Number 2 to Valve Pit Number 3 by Morco Testing, Inc. met the requirements of ASME/ANSI B31.3 "Chemical Plant and Petroleum Refinery Piping" and "Department of the Navy Southern Division Technical Specification for Pipeline Pressure Testing" 324-SP738-002 Rev. 0.

This section of the pipe line was tested for thirty (30) minutes, using nitrogen as the test medium, at a minimum measured test pressure of 65 psig. This successfully completed the leak test requirements of the above code and specification. This leak test did not loose five (5) psig during the test period. The line lost a calculated 1.2 standard cubic feet. If the test were held for an additional hour, the data indicates a loss of 2.4 standard cubic feet would have occurred. This loss corresponds to a calculated pressure loss of less than one (1) psig. This is within acceptable limits as set forth in Specification "Department of the Navy Southern Division Technical Specification for Pipeline Pressure Testing" 324-SP738-002 Rev. 0.

Sincerely yours,

John P. Mc Kernan, PE PLS



C:\LOTSUITE\AMIPRO\DOCS\MORCO\043.SAM

Company	Department of the Navy	AFE Number	N62467-93-D-0936-073
Construction Co	Bechtel Enviromental, Inc.	AFE Number	22567
Testing Co.	Morco Testing, Inc.	Project Number	0
Project Name	Naval Air Station Pipeline - Abandonment Project - JP 5 #2		
File Name	C:\LOTSUITE\123R5W\WORK\MORCO\00031.WK4	Revised 19 Nov 97	

TEST LOG

TIME	PRESSURE	AMBIENT TEMP	PIPE TEMP	REMARKS
24-Oct-97				
03:15 PM	65.0	85.0	86.0	On Test
03:25 PM	65.0	85.0	85.0	
03:35 PM	65.0	84.0	85.0	
03:45 PM	65.0	84.0	85.0	Off Test
				Ground Temperature Taken at Four Locations
				Along Test Section and Then Averaged For Value
				Reported.
24-Oct-97				

65	PSIG HI	TOTAL OZ BLEED	0
65	PSIG LOW	TOTAL OZ INJECTED	0

Company	Department of the Navy	AFE Number	N62467-93-D-0936-073
Construction Co	Bechtel Enviromental, Inc.	AFE Number	22567
Testing Co.	Morco Testing, Inc.	Project No.	0
Project Name	Naval Air Station Pipeline - Abandonment Project - JP 5 #2		
File Name	C:\LOTSUITE\123R5W\WORK\MORCO\000031.WK4		

NITROGEN TEST

PIPELINE: JP 5 #2 TEST DATE 24-Oct-97

FROM : Valve Pit #2 Test Sect. #8 JP-5 #2 TO : Valve Pit #3

SECT. LENGTH: 574 PIPE DIA.: 6.625 WALL THK. 0.280

SPECK. NA GRADE : NA

INITIAL PRESSURE AT TEST POINT	65 PSIG	TIME:	03:15 PM	PIPE TEMP :	86
INITIAL AMBIENT TEMPERATURE	85 F	ELEV @ TEST PT		-1 MSL	
IN. PRES. @ OTHER END	65 PSIG	ELEV.	3	LOCATION :	Valve Pit #3
FINAL PRESSURE AT TEST POINT	65.0 PSIG	TIME:	03:45 PM	PIPE TEMP :	85
FINAL AMBIENT TEMPERATURE	84 F	ELEV @ TEST PT		-1 MSL	
IN. PRES. @ OTHER END	65.0 PSIG	ELEV.		3 MSL	

IDEAL GAS LAW:

PV = RZT

WHERE

P =	Pressure (psia)	14.696 psia
V =	Volume (scf)	
R =	Gas Constant	
Z =	Compressibility Factor	
T =	Temperature (R)	527.67 R

Volume of Line at Standard Conditions 115.2 Cubic Feet

Time	Pressure	Pipe Temp	Volume
15:15	65.0	86	644.6
15:25	65.0	85	643.4
15:35	65.0	85	643.4
15:45	65.0	85	643.4

(- loss, + gain)	-1.2 scf
(- loss, + gain)	-2.4 scf per hour
Test Duration	0.5 Hours

TESTED ACCEPTED X YES NO

IF NO EXPLAIN

REMARKS

JOHN P. MCKERNAN, PE PLS

11/19/97

DATE

STATE OF TEXAS
JOHN P. McKERNAN
41275
REGISTERED
PROFESSIONAL ENGINEER

MTI Morco Testing, Inc.
HYDROSTATIC TESTING LEAK DETECTION

HYDROSTATIC TEST REPORT

PIPELINE DIVISIO

PIPELINE COMPANY DEPARTMENT OF THE NAVY | JOB NO: 22567
PIPELINE CONTRACTOR BECTEL ENVIRONMENTAL, INC. | W.O. NO: N62467-93-D-0936
AFE NO:

TEST SECTION NO. VALVE PIT #2 TEST SECT #8 VP-5 #3 TO VALVE PIT #3

TEST BEGAN: DATE 10-27-97 TIME 1:50 PM | PRESSURE AIR LIQUIDE UNIT NO. 2821 STATION NO. VP#2

TEST END: DATE 10-27-97 TIME 2:20 | ELEVATION -1' TO +3

PIPE DATA: 574' 6.625" O.D. .280 W.T. SCH 40

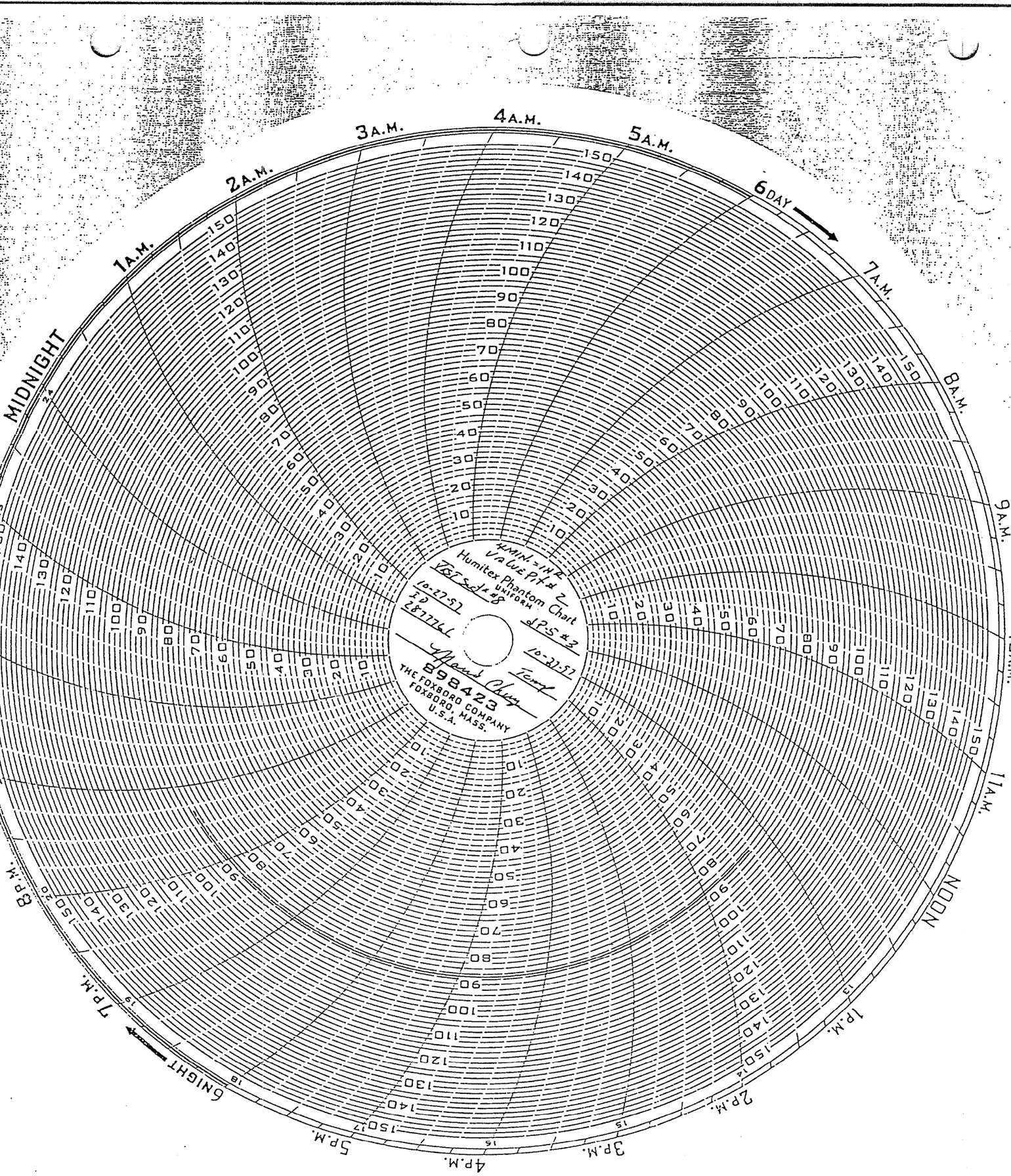
TEST MEDIUM - NITROGEN

DEADWEIGHT SERIAL NUMBER 4½" 3D PRESS GAUGE 85005YBN DATE CERTIFIED 10-10-97
PRESSURE RECORDER SERIAL NUMBER 2948 DATE CERTIFIED 10-10-97
TEMPERATURE RECORDER SERIAL NUMBER 2877761 DATE CERTIFIED 10-10-97
TEST IS ☐ ACCEPTED ☒ REJECTED IF REJECTED, EXPLAIN PRESS DROP MORE THAN 5 PSI THRU TEST PERIOD

DEADWEIGHT RECORD

Time	Pressure	TEMPERATURE Ambient	TEMPERATURE Pipe or Ground	Remarks
1:20 PM	25 PSI	88°	87° 88.25	FAILED TEST DUE TO
1:30	50	88°	87° 88.25	UNKNOWN LEAK POINT
1:42	65	88°	87° 88.25	
1:50	63	88°	87° 88.25	GROUND TEMP TAKEN AT 4 POINTS
2:00	61	89°	87° 88.25	ALONG TEST SECT AND AVG.
2:10	58	89°	87° 88.25	
2:20	55	89°	87° 88.25	
2:30	48	89°	87° 88.25	

TEST FOREMAN Mario Flores INSPECTOR


MIDNIGHT
1A.M.
2A.M.
3A.M.
4A.M.
5A.M.
6DAY
7A.M.
8A.M.
9A.M.
10A.M.
11A.M.
NOON
1P.M.
2P.M.
3P.M.
4P.M.
5P.M.
6NIGHT
7P.M.
8P.M.
Humitex Phantom Chart
Uniform
898423
THE FOXBORO COMPANY
FOXBORO, MASS.
U.S.A.

6 P.M.
7 P.M.
8 P.M.
9 P.M.
10 P.M.
11 P.M.
12 NIGHT
1 A.M.
2 A.M.
3 A.M.
4 A.M.
5 A.M.
6 A.M.
7 A.M.
8 A.M.
9 A.M.
10 A.M.
11 A.M.
12 NOON
1 P.M.
2 P.M.
3 P.M.
4 P.M.
5 P.M.

10 20 30 40 50 60 70 80 90 100 110 120 130 140

TIME TAKEN OFF 2:30 P.M.
DATE TAKEN OFF 10-27-52

Phillips 66
Pressure
Stocked at Phillips 66 Service Stations
MAX. MIN. 150 / 75 lbs. per sq. in.

TIME PUT ON
DATE PUT ON
RECEIPT NUMBER 29448
INSP. NOT ON

VALUE $1.25

Instrumants, Inc.
TEST SEAL
PRINTED IN U.S.A.

19 November 1997

Mr. Morris Cherry
Morco Testing, Inc.
2516 Revere Dr.
Pasadena, Texas 77502

Subject	Certification of Nitrogen Test
Client	Department of the Navy
Contractor	Bechtel Environmental, Inc.
Description	6-inch JP-5 #3
Date Test Accepted	27 October 1997

FAILED

Dear Mr. Cherry;

This letter is certify that the nitrogen test performed on the 6-inch JP-5 #3 Pipeline from Valve Pit Number 2 to Valve Pit Number 3 by Morco Testing, Inc. did not meet the requirements of ASME/ANSI B31.3 "Chemical Plant and Petroleum Refinery Piping" and "Department of the Navy Southern Division Technical Specification for Pipeline Pressure Testing" 324-SP738-002 Rev. 0.

This section of the pipe line was tested for twenty (20) minutes, using nitrogen as the test medium. This leak test lost more than five (5) psig during the test period. The pressure loss was due to a leak at an undetermined location. This unsuccessfully completed the leak test requirements of the above specification. This is outside the acceptable limits as set forth in Specification "Department of the Navy Southern Division Technical Specification for Pipeline Pressure Testing" 324-SP738-002 Rev. 0.

Sincerely yours,

John P. Mc Kernan, PE PLS

C:\LOTSUITE\AMIPRO\DOCS\MORCO\037.SAM

Company	Department of the Navy	AFE Number	N62467-93-D-0606-073
Construction Co	Bechtel Enviromental, Inc.	AFE Number	22567
Testing Co.	Morco Testing, Inc.	Project Number	0
Project Name	Naval Air Station Pipeline - Abandonment Project -JP-5 #3		
File Name	C:\LOTSUITE\123R5W\WORK\MORCO\00025.WK4	Revised 19 Nov 97	

TEST LOG

TIME	PRESSURE	AMBIENT TEMP	PIPE TEMP	REMARKS
27-Oct-97				
01:50 PM	63.0	88.0	87.0	On Test
02:00 PM	61.0	89.0	87.0	
02:10 PM	58.0	89.0	87.0	
02:20 PM	Unknown	89.0	87.0	Off Test - Test Failed Due to Unknown Leak Point
27-Oct-97				

58	PSIG HI	TOTAL OZ BLEED	0
0	PSIG LOW	TOTAL OZ INJECTED	0

Company	Department of the Navy	AFE Number	N62467-93-D-0936-072
Construction Co	Bechtel Enviromental, Inc.	AFE Number	22567
Testing Co.	Morco Testing, Inc.	Project No.	0
Project Name	Naval Air Station Pipeline - Abandonment Project -JP-5 #3		
File Name	C:\LOTSUITE\123R5W\WORK\MORCO\00025.WK4		

NITROGEN TEST

PIPELINE: JP-5 #3 TEST DATE 27-Oct-97

FROM : Valve Pit #2 Test Sect. #8 JP-5 #3 TO : Valve Pit #3

SECT. LENGTH: 574 PIPE DIA.: 6.625 WALL THK. 0.280

SPECK. NA GRADE : NA

INITIAL PRESSURE AT TEST POINT	63 PSIG	TIME:	01:50 PM	PIPE TEMP :	87
INITIAL AMBIENT TEMPERATURE	88 F	ELEV @ TEST PT	-1 MSL		
IN. PRES. @ OTHER END	63 PSIG	ELEV.	3	LOCATION :	Valve Pit #3
FINAL PRESSURE AT TEST POINT	Unknown PSIG	TIME:	02:20 PM	PIPE TEMP :	87
FINAL AMBIENT TEMPERATURE	89 F	ELEV @ TEST PT	-1 MSL		
IN. PRES. @ OTHER END	Unknown PSIG	ELEV.	3 MSL		

IDEAL GAS LAW:

PV = RZT

WHERE

P =	Pressure (psia)	14.696 psia
V =	Volume (scf)	
R =	Gas Constant	
Z =	Compressibility Factor	
T =	Temperature (R)	527.67 R

Volume of Line at Standard Conditions 115.2 Cubic Feet

Time	Pressure	Pipe Temp	Volume
13:50	63.0	87	629.6
14:00	61.0	87	613.4
14:10	58.0	87	589.1
14:20	Unknown	87	119.1

(- loss, + gain)	-510.5 scf
(- loss, + gain)	-1021.0 scf per hour
Test Duration	0.5 Hours

TESTED ACCEPTED ____ YES X NO

IF NO EXPLAIN The test failed at 2:10 PM due to an unknown leak point and a loss of 5 psig pressure. This exceeds the allowable amount of pressure loss.

REMARKS

JOHN P. MCKERNAN, PE PLS

11/19/97

DATE

STATE OF TEXAS
JOHN P. McKERNAN
41275
REGISTERED
PROFESSIONAL ENGINEER

SITE DATA SHEET

Date 10-28-97

Client DEPARTMENT OF THE NAVY MTI Job No. 22567

Contractor BECHTEL ENVIRONMENTAL, INC. Customer P.O. N62467-93-D-0936-073

Name of Product / Line VALVE PIT #2 TEST SECT. #8 JP-5 #3

Diameter 6.625" O.D. .280 W.T. SCH40 M. P. VALVE PIT #2 To M.P. Valve Pit #3

Volume APPROX 1200 ft³ -NITROGEN Volume S.F.6. # ft³

Detector Serial No. 56A-110

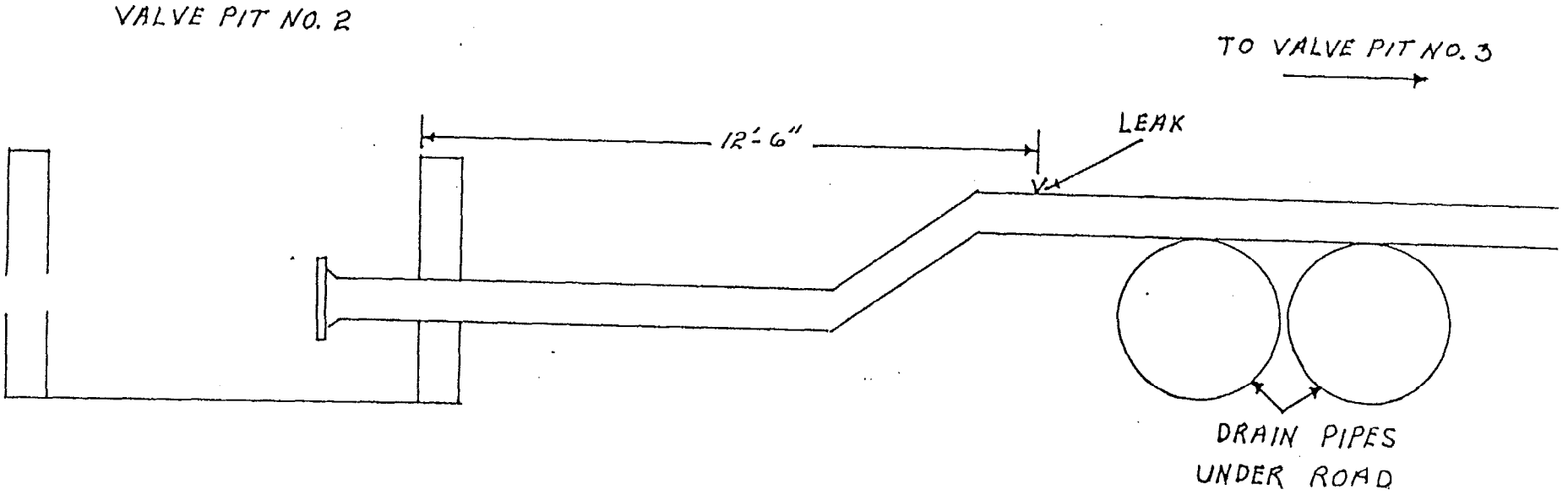
Additional Information TEST SECTION to 65 PSI AT 1:42 PM 10-27-97 - LEAKING
INJECTED SF6 10/28/97, Probe Hole for leak Detection, FOUND LEAK.

Point Ref	Date/Time Reading	Scale Sensitivity				Remarks
		1	2	3	4	
# 01	10/28/97 1:25 PM	100Σ	100Σ	100Σ	100Σ	12'6" FROM VALVE PIT #2 FOUND LEAK
						LEAKING SECTION 574' LONG

Technician Mario Chung Client

BOCA CHICA FUEL PIPELINE

JP 5 NO. 3



MTI Morco Testing, Inc.
HYDROSTATIC TESTING LEAK DETECTION

HYDROSTATIC TEST REPORT

PIPELINE DIVISIC

PIPELINE COMPANY DEPARTMENT OF THE NAVY

JOB NO: Z Z 567
W.O. NO: N62467-93-D-0936-0
AFE NO:

PIPELINE CONTRACTOR BECHTEL ENVIRONMENTAL, INC.

TEST SECTION NO. VALVE PIT #1 TEST SECT. 9 AV-GAS #1 TO VALVE PIT #2

TEST BEGAN: DATE 10-27-97 TIME 12:25 PM

PRESSURE AIR LIQUIDE
UNIT NO. 2821 STATION NO. VP #1

TEST END: DATE 10-27-97 TIME 12:55 PM

ELEVATION -1' TO +3

PIPE DATA: 586' 6.625 O.D. .280 W.T. SCH 40

TEST MEDIUM - NITROGEN

DEADWEIGHT SERIAL NUMBER 8" U.S.G. PRESS GAUGE 18938 DATE CERTIFIED 10-10-97
PRESSURE RECORDER SERIAL NUMBER 2950 DATE CERTIFIED 10-10-97
TEMPERATURE RECORDER SERIAL NUMBER 265A3505 DATE CERTIFIED 10-10-97
TEST IS ☒ ACCEPTED ☐ REJECTED IF REJECTED, EXPLAIN

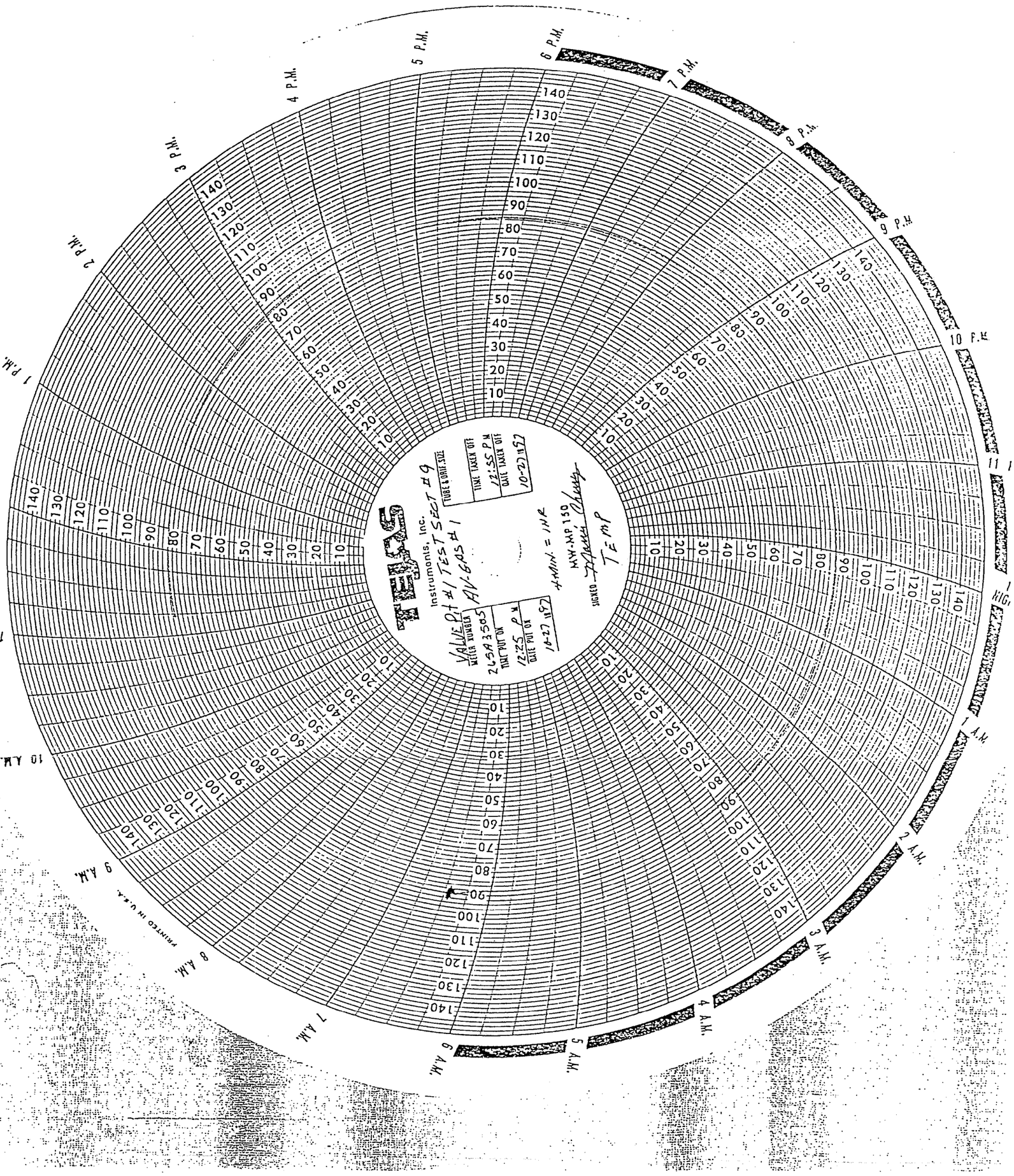
DEADWEIGHT RECORD

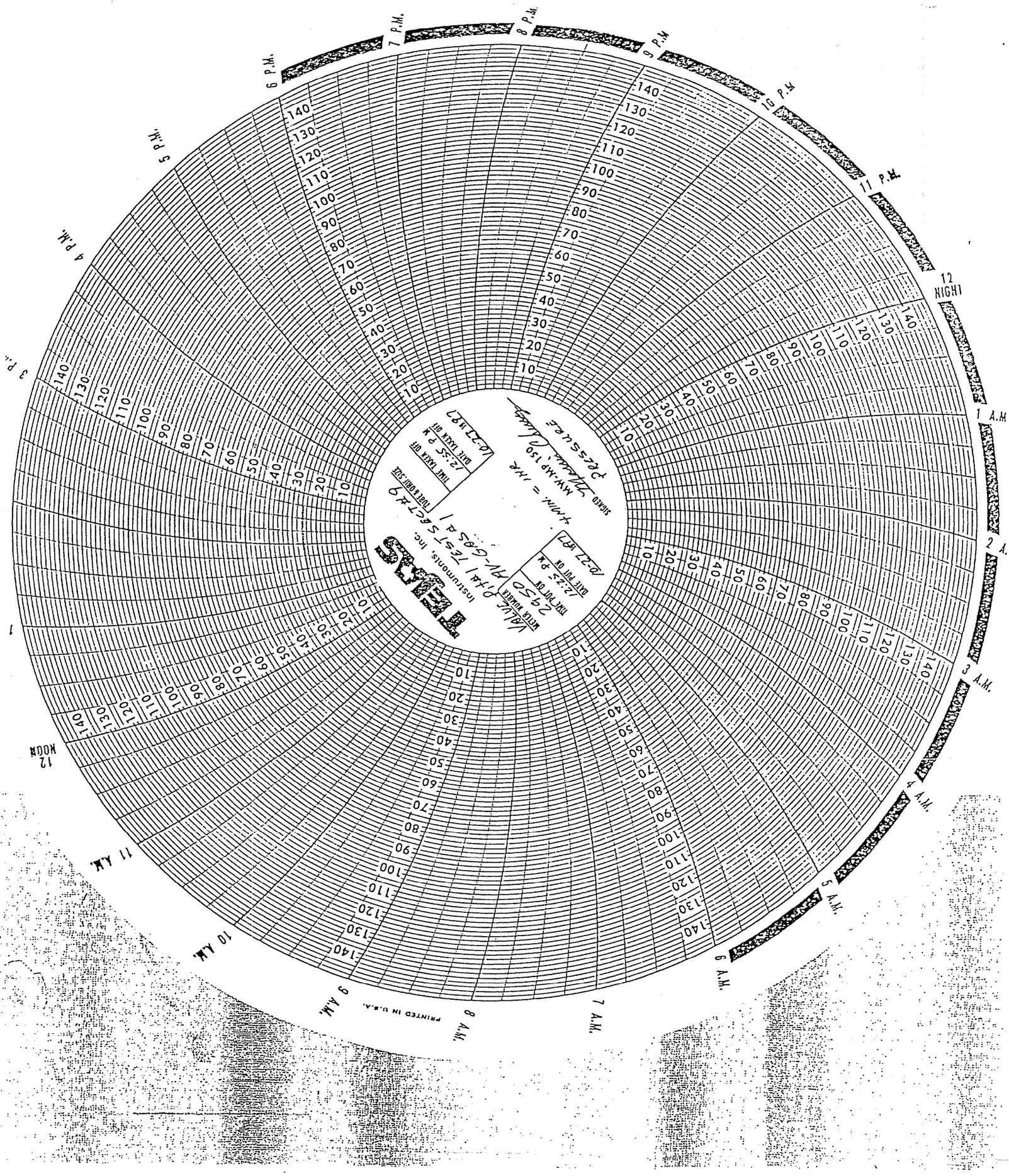
TEMPERATURE

Time	Pressure	Ambient	Pipe or Ground	Remarks
11:55 AM	25 PSI	87°	83° 89.75	GROUND TEMP TAKEN AT 4 POINTS
12:05 PM	50	87°	84° 89.75	ALONG TEST SECT. AND AVG.
12:15	65	87°	84° 89.75	
12:25	65	87°	85° 89.75	PIPE TEMP PROBE outside of PIPE
12:35	65	88°	85° 89.75	DUE to BAD PLUG IN PIPELINE
12:45	65	88°	86° 89.75	TEMP NOT TRUE INSIDE PIPE TEMP
12:55	65	88°	87° 89.75	

TEST FOREMAN Marvin Cherry

INSPECTOR [signature]


TEIAS
Instruments, Inc.
Valve Pit #1 Test Sect #9
AV-GAS #1
METER NUMBER
TUBE & ORIF. SIZE
TIME TAKEN OFF
12:55 P.M.
DATE TAKEN OFF
10-27 1987
TIME PUT ON
12:25 P.M.
DATE PUT ON
10-27 1987
4 MIN. = 1 HR
MW-MP 150
SIGNED
TEMP
PRINTED IN U.S.A.
1 P.M.
2 P.M.
3 P.M.
4 P.M.
5 P.M.
6 P.M.
7 P.M.
8 P.M.
9 P.M.
10 P.M.
11 P.M.
1 A.M.
2 A.M.
3 A.M.
4 A.M.
5 A.M.
6 A.M.
7 A.M.
8 A.M.
9 A.M.
10 A.M.



TEXAS
Instruments, Inc.
Valve Pit # 1 Test Sect # 9
2950
AV-GAS # 1
Meter Number
Time Put On
12:25 P.M.
Date Put On
10-27 1997
Time Taken Off
12:35 P.M.
Date Taken Off
10-27 1997
Tube & Orif. Size
4 min. = 1 hr
MW-MP 150
Pressure
Sigmo
Time Taken Off
12:35 P.M.
Date Taken Off
10-27 1997
Tube & Orif. Size
Pressure
1 A.M.
2 A.M.
3 A.M.
4 A.M.
5 A.M.
6 A.M.
7 A.M.
8 A.M.
9 A.M.
10 A.M.
11 A.M.
12 NOON
1
2
3 P.M.
4 P.M.
5 P.M.
6 P.M.
7 P.M.
8 P.M.
9 P.M.
10 P.M.
11 P.M.
12 NIGHT
PRINTED IN U.S.A.

19 November 1997

Mr. Morris Cherry
Morco Testing, Inc.
2516 Revere Dr.
Pasadena, Texas 77502

Subject	Certification of Nitrogen Test
Client	Department of the Navy
Contractor	Bechtel Environmental, Inc.
Description	6-inch ~~JP-5 #2~~ AV-GAS #1
Date Test Accepted	24 October 1997

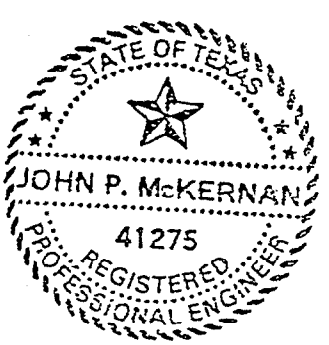
Dear Mr. Cherry;

This letter is certify that the nitrogen test performed on the 6-inch ~~JP-5 #2~~ AV-GAS #1 Pipeline from Valve Pit Number ~~2~~ 1 to Valve Pit Number ~~3~~ 2 by Morco Testing, Inc. met the requirements of ASME/ANSI B31.3 "Chemical Plant and Petroleum Refinery Piping" and "Department of the Navy Southern Division Technical Specification for Pipeline Pressure Testing" 324-SP738-002 Rev. 0.

This section of the pipe line was tested for thirty (30) minutes, using nitrogen as the test medium, at a minimum measured test pressure of 65 psig. This successfully completed the leak test requirements of the above code and specification. This leak test did not loose five (5) psig during the test period. The line gain a calculated 2.4 standard cubic feet. If the test were held for an additional hour, the data indicates a gain of 4.8 standard cubic feet would have occurred. This gain corresponds to a calculated pressure gain of less than one (1) psig. This is within acceptable limits as set forth in Specification "Department of the Navy Southern Division Technical Specification for Pipeline Pressure Testing" 324-SP738-002 Rev. 0.

Sincerely yours,

John P. Mc Kernan, PE PLS



C:\LOTSUITE\AMIPRO\DOCS\MORCO\038.SAM

Company	Department of the Navy	AFE Number	N62467-93-D-0836-073
Construction Co	Bechtel Enviromental, Inc.	AFE Number	22567
Testing Co.	Morco Testing, Inc.	Project Number	0
Project Name	Naval Air Station Pipeline - Abandonment Project - AV-Gas #1		
File Name	C:\LOTSUITE\123R5W\WORK\MORCO\00026.WK4	Revised 19 Nov 97	

TEST LOG

TIME	PRESSURE	AMBIENT TEMP	PIPE TEMP	REMARKS
27-Oct-97				
12:25 PM	65.0	87.0	85.0	On Test
12:35 PM	65.0	88.0	85.0	
12:45 PM	65.0	88.0	86.0	
12:55 PM	65.0	88.0	87.0	Off Test
				Ground Temperature Taken at Four Locations
				Along Test Section and Then Averaged For Value
				Reported.
				Pipe Temperature Probe out side of Pipe Due to
				Bad Plug in Pipeline. Temperature is not true
				pipe temperature.
27-Oct-97				

65	PSIG HI	TOTAL OZ. BLEED	0
65	PSIG LOW	TOTAL OZ. INJECTED	0

Company	Department of the Navy	AFE Number	N62467-93-D-0936-073
Construction Co	Bechtel Enviromental, Inc.	AFE Number	22567
Testing Co.	Morco Testing, Inc.	Project No.	0
Project Name	Naval Air Station Pipeline - Abandonment Project - AV-Gas #1		
File Name	C:\LOTSUITE\123R5W\WORK\MORCO\000226.WK4		

NITROGEN TEST

PIPELINE: AV-Gas#1 TEST DATE 27-Oct-97

FROM : Valve Pit #1 Test Sect. #9 AV-Gas#1 TO : Valve Pit #2

SECT. LENGTH: 586 PIPE DIA.: 6.625 WALL THK. 0.280

SPECK. NA GRADE : NA

INITIAL PRESSURE AT TEST POINT	65 PSIG	TIME:	12:25 PM	PIPE TEMP :	85
INITIAL AMBIENT TEMPERATURE	87 F	ELEV @ TEST PT		-1 MSL	
IN. PRES. @ OTHER END	65 PSIG	ELEV.	3	LOCATION :	Valve Pit #2
FINAL PRESSURE AT TEST POINT	65.0 PSIG	TIME:	12:55 PM	PIPE TEMP :	87
FINAL AMBIENT TEMPERATURE	88 F	ELEV @ TEST PT		-1 MSL	
IN. PRES. @ OTHER END	65.0 PSIG	ELEV.		3 MSL	

IDEAL GAS LAW:

PV = RZT

WHERE

P = Pressure (psia) 14.696 psia

V = Volume (scf)

R = Gas Constant

Z = Compressibility Factor

T = Temperature (R) 527.67 R

Volume of Line at Standard Conditions 117.6 Cubic Feet

Time	Pressure	Pipe Temp	Volume
12:25	65.0	85	656.9
12:35	65.0	85	656.9
12:45	65.0	86	658.1
12:55	65.0	87	659.3

	(- loss, + gain)	2.4 scf
	(- loss, + gain)	4.8 scf per hour
	Test Duration	0.5 Hours

TESTED ACCEPTED X YES NO

IF NO EXPLAIN

REMARKS

JOHN P. MCKERNAN, PE PLS

11/19/97

DATE

STATE OF TEXAS JOHN P. McKERNAN 41275 REGISTERED PROFESSIONAL ENGINEER

C:\LOTSUITE\AMIPRO\DOCS\MORCO\038.SAM

MTI Morco Testing, Inc.
HYDROSTATIC TESTING LEAK DETECTION

HYDROSTATIC TEST REPORT

PIPELINE DIVISION

PIPELINE COMPANY DEPARTMENT OF THE NAVY | JOB NO: 22567
W.O. NO: N62467-93-D-0936-0
PIPELINE CONTRACTOR BECHTEL ENVIRONMENTAL, INC. | AFE NO:

TEST SECTION NO. VALVE PIT #1 TEST SECT #9 LP-5 #2 TO VALVE PIT #2

TEST BEGAN: DATE 10-27-97 TIME 10:55 AM | PRESSURE AIR LIQUIDE UNIT NO. 2821 STATION NO. VP #1

TEST END: DATE 10-27-97 TIME 11:25 AM | ELEVATION -1' TO +3

PIPE DATA: 586' 6.625" O.D. .280 W.T. SCH 40

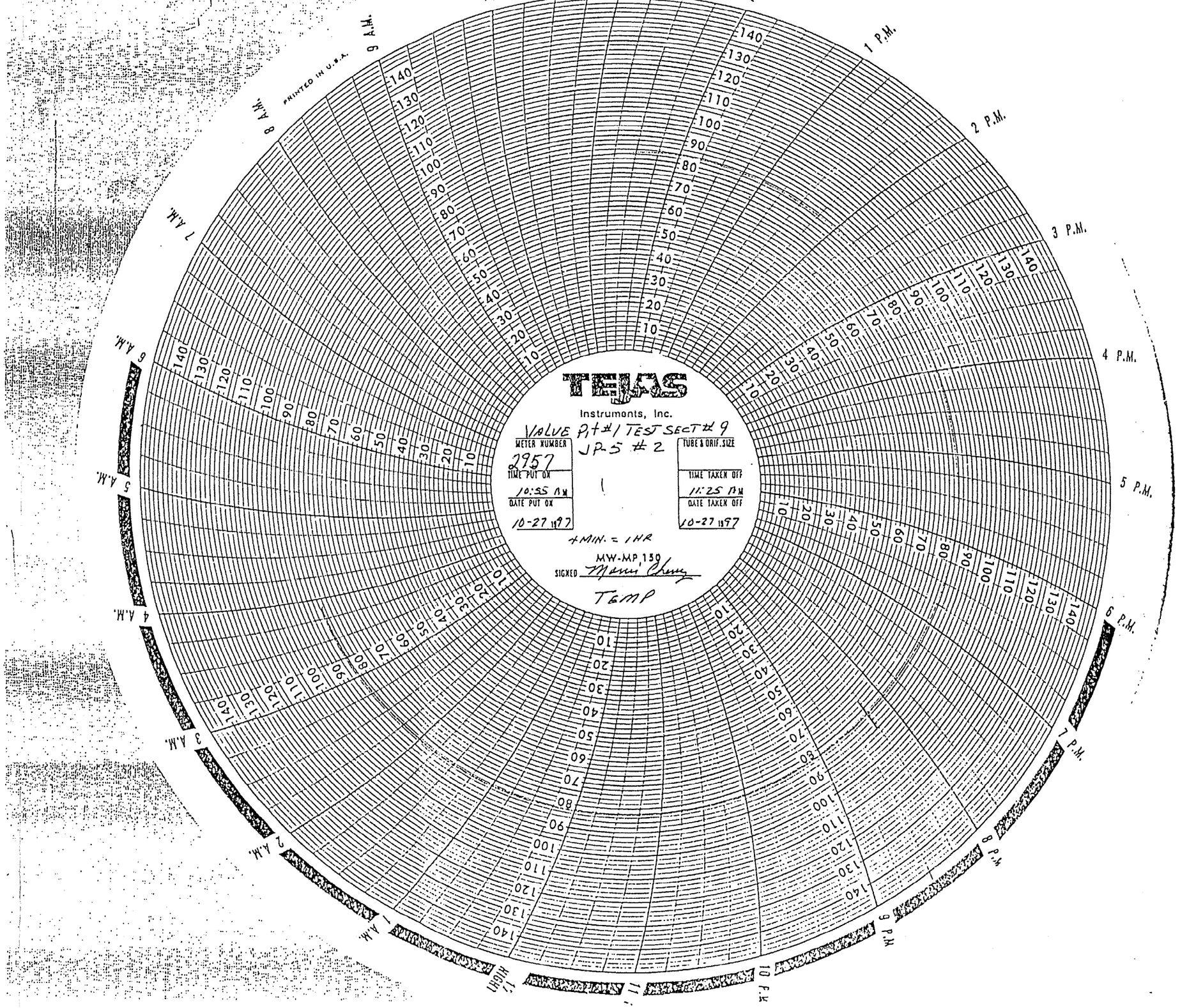
TEST MEDIUM - NITROGEN

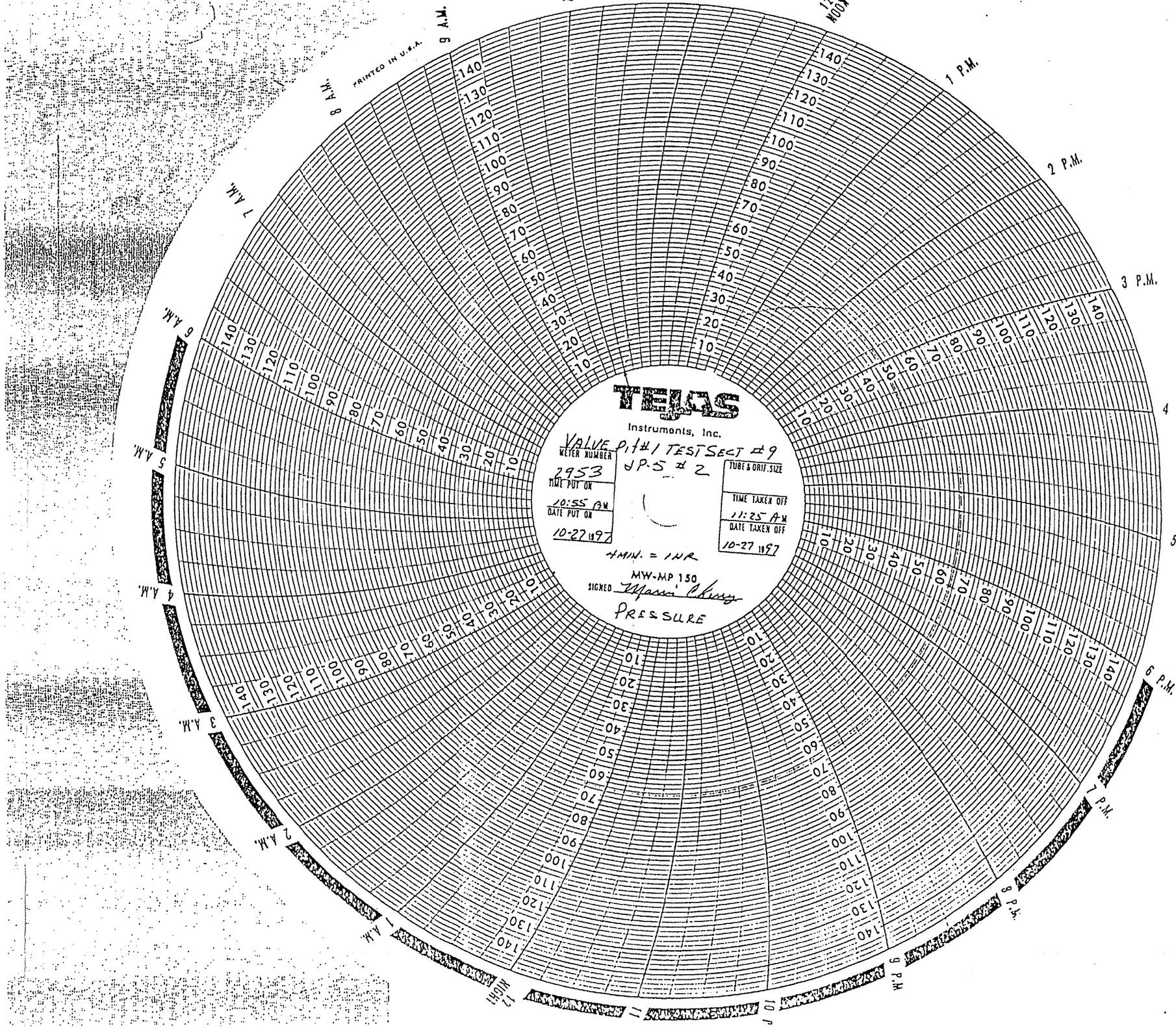
DEADWEIGHT SERIAL NUMBER 4½" PERMA-CAL PRESS GA. 129160204 DATE CERTIFIED 10-10-97
PRESSURE RECORDER SERIAL NUMBER 2953 DATE CERTIFIED 10-10-97
TEMPERATURE RECORDER SERIAL NUMBER 2957 DATE CERTIFIED 10-10-97
TEST IS ☒ ACCEPTED ☐ REJECTED IF REJECTED, EXPLAIN _____

DEADWEIGHT RECORD

Time	Pressure	TEMPERATURE Ambient	TEMPERATURE Pipe or Ground	Remarks
10:25 AM	25 PSI	86°	84° 89.75	GROUND TEMP TAKEN AT 4 POINTS
10:35	50	86°	84° 89.75	ALONG TEST SECT. AND AVG.
10:45	65	86°	84° 89.75	
10:55	65	87°	83° 89.75	
11:05	65	87°	83° 89.75	
11:15	65	88°	83° 89.75	
11:25	65	88°	83° 89.75	

TEST FOREMAN Manuel Chan INSPECTOR


TEXAS
Instruments, Inc.
VALVE PIT #1 TEST SECT # 9
METER NUMBER
2957
JP-5 # 2
TUBE & ORIF. SIZE
TIME PUT ON
10:55 AM
TIME TAKEN OFF
11:25 AM
DATE PUT ON
10-27 1997
DATE TAKEN OFF
10-27 1997
4 MIN. = 1 HR
MW-MP 139
SIGNED
TEMP
PRINTED IN U.S.A.
9 A.M.
8 A.M.
7 A.M.
6 A.M.
5 A.M.
4 A.M.
3 A.M.
2 A.M.
1 A.M.
MIDN.
11
10 P.M.
9 P.M.
8 P.M.
7 P.M.
6 P.M.
5 P.M.
4 P.M.
3 P.M.
2 P.M.
1 P.M.


TEXAS
Instruments, Inc.
VALVE PIT #1 TEST SECT #9
WETER NUMBER
2953
TIME PUT ON
10:55 AM
DATE PUT ON
10-27 1957
TUBE & ORIF. SIZE
TIME TAKEN OFF
11:25 AM
DATE TAKEN OFF
10-27 1957
4 MIN. = 1 HR
MW-MP 150
SIGNED
PRESSURE
PRINTED IN U.S.A.
9 A.M.
8 A.M.
7 A.M.
6 A.M.
5 A.M.
4 A.M.
3 A.M.
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1 A.M.
12 MIDNT
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9 P.M.
8 P.M.
7 P.M.
6 P.M.
5 P.M.
4 P.M.
3 P.M.
2 P.M.
1 P.M.
12 NOON

19 November 1997

Mr. Morris Cherry
Morco Testing, Inc.
2516 Revere Dr.
Pasadena, Texas 77502

Subject	Certification of Nitrogen Test
Client	Department of the Navy
Contractor	Bechtel Environmental, Inc.
Description	6-inch JP-5 #2
Date Test Accepted	27 October 1997

Dear Mr. Cherry;

This letter is certify that the nitrogen test performed on the 6-inch JP-5 #2 Pipeline from Valve Pit Number 1 to Valve Pit Number 2 by Morco Testing, Inc. met the requirements of ASME/ANSI B31.3 "Chemical Plant and Petroleum Refinery Piping" and "Department of the Navy Southern Division Technical Specification for Pipeline Pressure Testing" 324-SP738-002 Rev. 0.

This section of the pipe line was tested for thirty (30) minutes, using nitrogen as the test medium, at a minimum measured test pressure of 65 psig. This successfully completed the leak test requirements of the above code and specification. This leak test did not loose five (5) psig during the test period. The line showed no lost during the test period. If the test were held for an additional hour, the data indicates that no additional loss would have occurred. This is within acceptable limits as set forth in Specification "Department of the Navy Southern Division Technical Specification for Pipeline Pressure Testing" 324-SP738-002 Rev. 0.

Sincerely yours,

John P. Mc Kernan, PE PLS

C:\LOTSUITE\AMIPRO\DOCS\MORCO\039.SAM

Company	Department of the Navy	AFE Number	N62467-93-D-0936-073
Construction Co	Bechtel Enviromental, Inc.	AFE Number	22567
Testing Co.	Morco Testing, Inc.	Project Number	0
Project Name	Naval Air Station Pipeline - Abandonment Project - JP-5 #2		
File Name	C:\LOTSUITE\123R5W\WORK\MORCO\C0027.WK4	Revised 19 Nov 97	

TEST LOG

TIME	PRESSURE	AMBIENT TEMP	PIPE TEMP	REMARKS
27-Oct-97				
10:55 AM	65.0	87.0	83.0	On Test
11:05 AM	65.0	87.0	83.0	
11:15 AM	65.0	88.0	83.0	
11:25 AM	65.0	88.0	83.0	Off Test
				Ground Temperature Taken at Four Locations
				Along Test Section and Then Averaged For Value
				Reported.
27-Oct-97				

65	PSIG HI	TOTAL OZ BLEED	0
65	PSIG LOW	TOTAL OZ INJECTED	0

Company	Department of the Navy	AFE Number	N62467-93-D-0936-073
Construction Co	Bechtel Enviromental, Inc.	AFE Number	22567
Testing Co.	Morco Testing, Inc.	Project No.	0
Project Name	Naval Air Station Pipeline - Abandonment Project - JP-5 #2		
File Name	C:\LOTSUITE\123R5W\WORK\MORCO\00027.WK4		

NITROGEN TEST

PIPELINE: JP-5 #2 TEST DATE 27-Oct-97

FROM : Valve Pit #1 Test Sect. #9 JP-5 #2 TO : Valve Pit #2

SECT. LENGTH: 586 PIPE DIA.: 6.625 WALL THK. 0.280

SPECK. NA GRADE : NA

INITIAL PRESSURE AT TEST POINT	65 PSIG	TIME:	10:55 AM	PIPE TEMP :	83
INITIAL AMBIENT TEMPERATURE	87 F	ELEV @ TEST PT			-1 MSL
IN. PRES. @ OTHER END	65 PSIG	ELEV.	3	LOCATION :	Valve Pit #2
FINAL PRESSURE AT TEST POINT	65.0 PSIG	TIME:	11:25 AM	PIPE TEMP :	83
FINAL AMBIENT TEMPERATURE	88 F	ELEV @ TEST PT			-1 MSL
IN. PRES. @ OTHER END	65.0 PSIG	ELEV.			3 MSL

IDEAL GAS LAW:

PV = RZT

WHERE

P = Pressure (psia) 14.696 psia

V = Volume (scf)

R = Gas Constant

Z = Compressibility Factor

T = Temperature (R) 527.67 R

Volume of Line at Standard Conditions 117.6 Cubic Feet

Time	Pressure	Pipe Temp	Volume
10:55	65.0	83	654.5
11:05	65.0	83	654.5
11:15	65.0	83	654.5
11:25	65.0	83	654.5

(- loss, + gain) 0 scf

(- loss, + gain) 0.0 scf per hour

Test Duration 0.5 Hours

TESTED ACCEPTED X YES NO

IF NO EXPLAIN

REMARKS

JOHN P. MCKERNAN, PE PLS

11/19/97

DATE

STATE OF TEXAS JOHN P. McKERNAN 41275 REGISTERED PROFESSIONAL ENGINEER

MTI Morco Testing, Inc.
HYDROSTATIC TESTING LEAK DETECTION

HYDROSTATIC TEST REPORT

PIPELINE DIVISIC

PIPELINE COMPANY DEPARTMENT OF THE NAVY | JOB NO: 22567
W.O. NO: N62467-93-D-0936-C
PIPELINE CONTRACTOR BECHTEL ENVIRONMENTAL, INC. | AFE NO:

TEST SECTION NO.: VALVE PIT #1 TEST SECT. #9 JP-5 #3 TO VALVE PIT #2

TEST BEGAN: DATE 10-27-97 TIME 9:20 AM | PRESSURE AIR LIQUIDE UNIT NO. 2821 STATION NO. VP #1

TEST END: DATE 10-27-97 TIME 9:50 AM | ELEVATION -1' TO +3

PIPE DATA: 586' 6.625" O.D. .280 SCH 40

TEST MEDIUM – NITROGEN

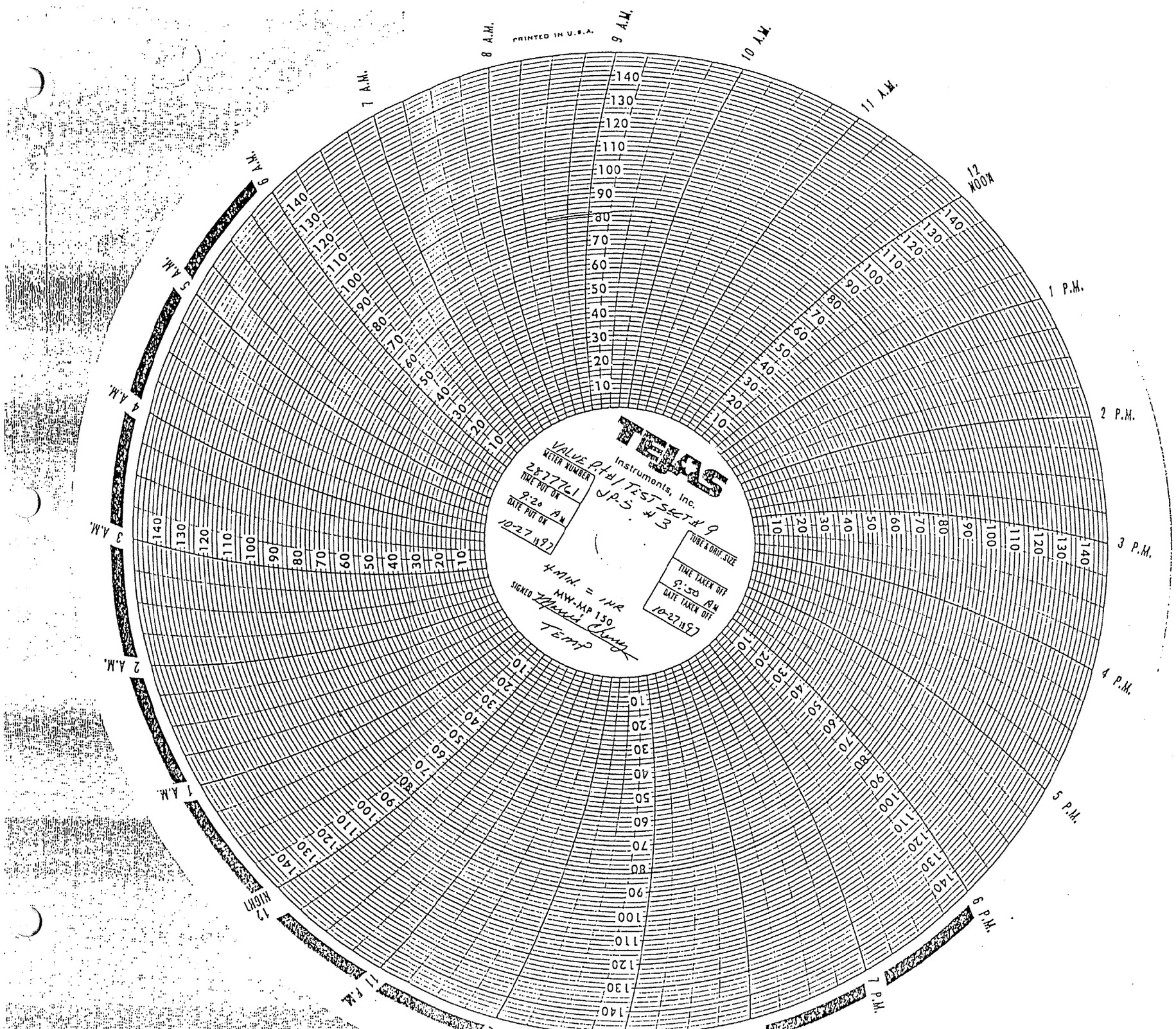
DEADWEIGHT SERIAL NUMBER 4½" 2D PRESS GAUGE 8500543N DATE CERTIFIED 10-10-97
PRESSURE RECORDER SERIAL NUMBER 2948 DATE CERTIFIED 10-10-97
TEMPERATURE RECORDER SERIAL NUMBER 2877761 DATE CERTIFIED 10-10-97
TEST IS ☒ ACCEPTED ☐ REJECTED IF REJECTED, EXPLAIN _____

DEADWEIGHT RECORD

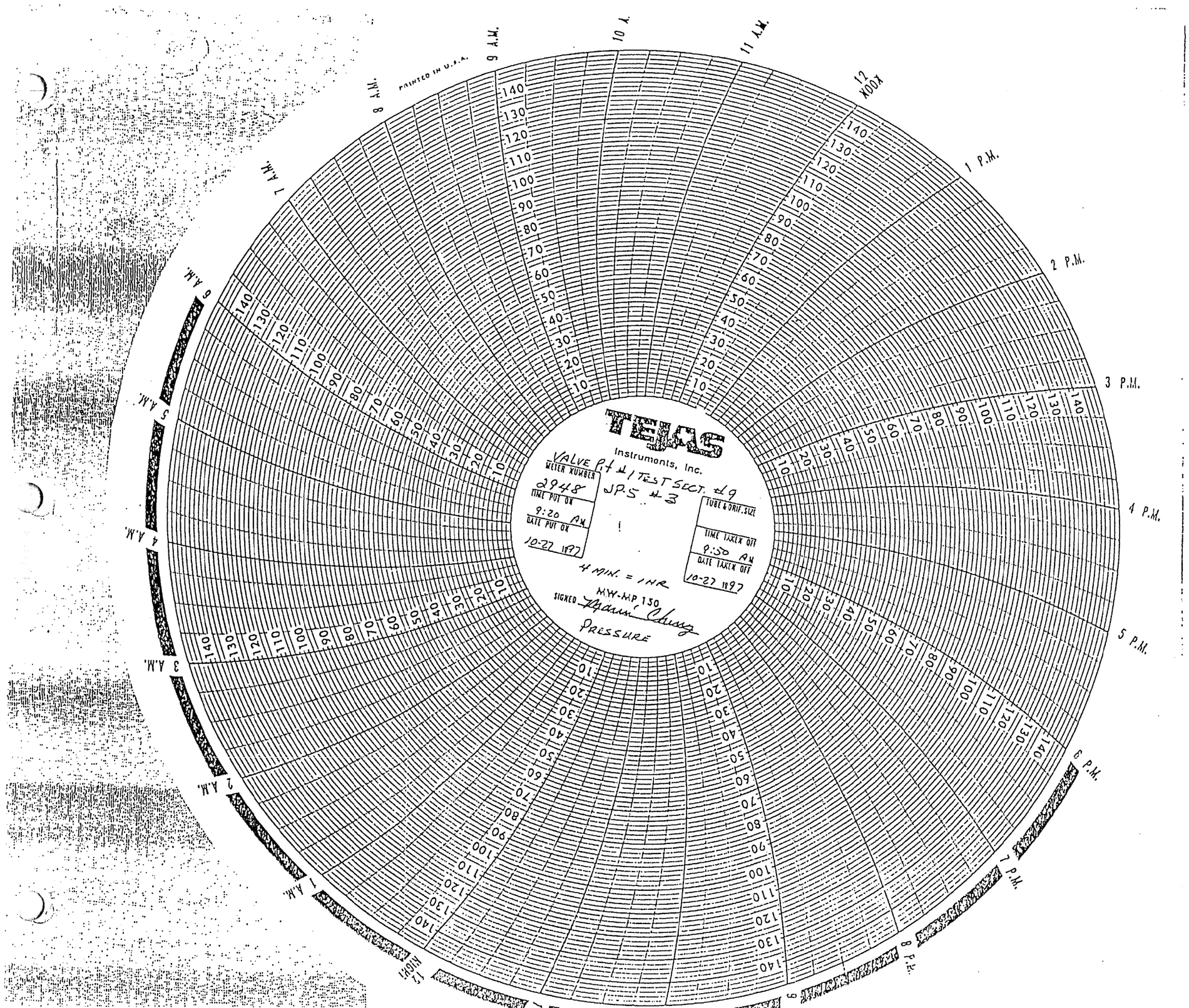
TEMPERATURE

Time	Pressure	Ambient	Pipe or Ground	Remarks
8:50 AM	25 PSI	84°	82° 89.75°	GROUND TEMP TAKEN AT 4 POINTS
9:03	50	84°	82° 89.75°	ALONG TEST SECT. AND AVG.
9:10	65	84°	82° 89.75°	
9:20	65	85°	82° 89.75°	
9:30	65	86°	82° 89.75°	
9:40	65	86°	82° 89.75°	
9:50	65	86°	82° 89.75°	

TEST FOREMAN [illegible] INSPECTOR [illegible]


PRINTED IN U.S.A.
TELAS
Instruments, Inc.
VALVE P.t#1 TEST SECT#9
JP-5 #3
METER NUMBER
2877761
TIME PUT ON
9:20 AM
DATE PUT ON
10-27 1997
TUBE & ORIF. SIZE
TIME TAKEN OFF
9:50 AM
DATE TAKEN OFF
10-27 1997
4 MIN. = 1 HR
MW-MP 150
SIGNED
TEMP
1 A.M.
2 A.M.
3 A.M.
4 A.M.
5 A.M.
6 A.M.
7 A.M.
8 A.M.
9 A.M.
10 A.M.
11 A.M.
12 NOON
1 P.M.
2 P.M.
3 P.M.
4 P.M.
5 P.M.
6 P.M.
7 P.M.
11 P.M.
12 NIGHT

A115 DB 347


TEJAS
Instruments, Inc.
VALVE Pit #1 TEST SECT. #9
JP-5 #3
METER NUMBER
2948
TIME PUT ON
9:20 AM
DATE PUT ON
10-27 1997
TUBE & ORIF. SIZE
TIME TAKEN OFF
9:50 AM
DATE TAKEN OFF
10-27 1997
4 MIN. = 1 HR
MW-MP 150
SIGNED
PRESSURE
PRINTED IN U.S.A.
12 NOON
1 P.M.
2 P.M.
3 P.M.
4 P.M.
5 P.M.
6 P.M.
7 P.M.
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9 A.M.
10 A.
11 A.M.
8 A.M.
7 A.M.
6 A.M.
5 A.M.
4 A.M.
3 A.M.
2 A.M.
1 A.M.
12 NIGHT

19 November 1997

Mr. Morris Cherry
Morco Testing, Inc.
2516 Revere Dr.
Pasadena, Texas 77502

Subject	Certification of Nitrogen Test
Client	Department of the Navy
Contractor	Bechtel Environmental, Inc.
Description	6-inch JP-5 #3
Date Test Accepted	27 October 1997

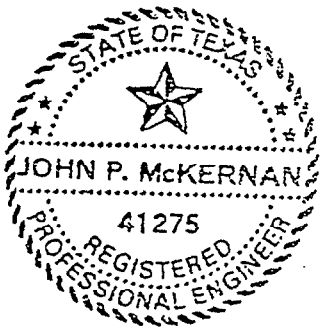
Dear Mr. Cherry;

This letter is certify that the nitrogen test performed on the 6-inch JP-5 #3 Pipeline from Valve Pit Number 1 to Valve Pit Number 2 by Morco Testing, Inc. met the requirements of ASME/ANSI B31.3 "Chemical Plant and Petroleum Refinery Piping" and "Department of the Navy Southern Division Technical Specification for Pipeline Pressure Testing" 324-SP738-002 Rev. 0.

This section of the pipe line was tested for thirty (30) minutes, using nitrogen as the test medium, at a minimum measured test pressure of 65 psig. This successfully completed the leak test requirements of the above code and specification. This leak test did not loose five (5) psig during the test period. The line showed no lost during the test period. If the test were held for an additional hour, the data indicates that no additional loss would have occurred. This is within acceptable limits as set forth in Specification "Department of the Navy Southern Division Technical Specification for Pipeline Pressure Testing" 324-SP738-002 Rev. 0.

Sincerely yours,

John P. Mc Kernan, PE PLS



C:\LOTSUITE\AMIPRO\DOCS\MORCO\040.SAM

Company	Department of the Navy	AFE Number	N52467-93-D-0306-073
Construction Co	Bechtel Enviromental, Inc.	AFE Number	22567
Testing Co.	Morco Testing, Inc.	Project Number	0
Project Name	Naval Air Station Pipeline - Abandonment Project - JP-5 #3		
File Name	C:\LOTSUITE\123R5\WORK\MORCO\00028.WK4	Revised 19 Nov 97	

TEST LOG

TIME	PRESSURE	AMBIENT TEMP	PIPE TEMP	REMARKS
27-Oct-97				
09:20 AM	65.0	85.0	82.0	On Test
09:30 AM	65.0	86.0	82.0	
09:40 AM	65.0	86.0	82.0	
09:50 AM	65.0	86.0	82.0	Off Test
				Ground Temperature Taken at Four Locations
				Along Test Section and Then Averaged For Value
				Reported.
27-Oct-97				

65	PSIG HI	TOTAL OZ. BLEED	0
65	PSIG LOW	TOTAL OZ. INJECTED	0

Company	Department of the Navy	AFE Number	N62467-93-D-0936-073
Construction Co	Bechtel Enviromental, Inc.	AFE Number	22567
Testing Co.	Morco Testing, Inc.	Project No.	0
Project Name	Naval Air Station Pipeline - Abandonment Project - JP-5 #3		
File Name	C:\LOTSUITE\123R5W\WORK\MORCO\C00028.WK4		

NITROGEN TEST

PIPELINE: JP-5 #3

FROM : Valve Pit #1 Test Sect. #9 JP-5 #3 TO : Valve Pit #2 TEST DATE 27-Oct-97

SECT. LENGTH: 586 PIPE DIA.: 6.625 WALL THK. 0.280

SPECK. NA GRADE : NA

INITIAL PRESSURE AT TEST POINT 65 PSIG TIME: 09:20 AM PIPE TEMP : 82

INITIAL AMBIENT TEMPERATURE 85 F ELEV @ TEST PT -1 MSL

IN. PRES. @ OTHER END 65 PSIG ELEV. 3 LOCATION : Valve Pit #2

FINAL PRESSURE AT TEST POINT 65.0 PSIG TIME: 09:50 AM PIPE TEMP : 82

FINAL AMBIENT TEMPERATURE 86 F ELEV @ TEST PT -1 MSL

IN. PRES. @ OTHER END 65.0 PSIG ELEV. 3 MSL

IDEAL GAS LAW:

PV = RZT

WHERE

P = Pressure (psia) 14.696 psia

V = Volume (scf)

R = Gas Constant

Z = Compressibility Factor

T = Temperature (R) 527.67 R

Volume of Line at Standard Conditions 117.6 Cubic Feet

Time	Pressure	Pipe Temp	Volume
09:20	65.0	82	653.3
09:30	65.0	82	653.3
09:40	65.0	82	653.3
09:50	65.0	82	653.3

(- loss, + gain) 0 scf

(- loss, + gain) 0.0 scf per hour

Test Duration 0.5 Hour

TESTED ACCEPTED X YES NO

IF NO EXPLAIN

REMARKS

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DATE

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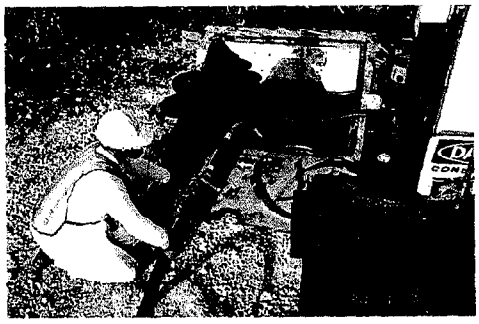
Remedial Action Update

NAS Key West

Naval Facilities Engineering Command, Southern Division

At Naval Air Station (NAS) Key West, Florida, an underground fuel pipeline closure project has been completed at the Boca Chica Airfield and on the Island of Key West. This closure has been conducted as part of the Navy's Petroleum/Underground Storage Tank Restoration Program. The pipelines were cleaned, tested and abandoned.



Description of the Problem

On Boca Chica, three 6-inch diameter underground fuel pipelines were to be abandoned. The total length of piping to be abandoned on Boca Chica was approximately 18,300 feet. These pipelines were formerly used to transfer jet fuel and AVGAS from the pier to the fuel farm.

On the Island of Key West, one 8-inch diameter and two 10-inch diameter underground fuel pipelines were to be abandoned. The total length of piping to be abandoned was approximately 16,300 feet. These pipelines were used to transfer fuel from the Trumbo Tank Fuel Farm to the Outer Mole and from Tank Island to the Trumbo Tank Fuel Farm. A large portion of these pipelines ran under city streets in downtown Key West.

How the Problem Was Addressed

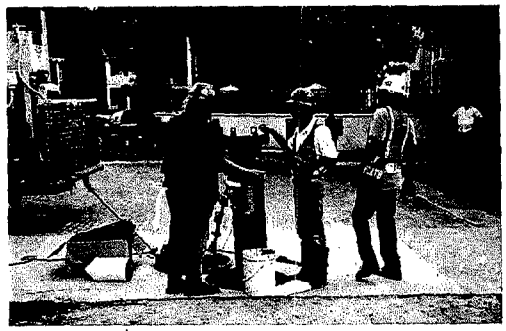
Because of the unknown conditions involved with the project, especially with the portion of the pipeline that traversed through downtown Key West, SODIV and the station selected Bechtel, rather than a fixed price contractor, to perform this pipeline cleaning and abandonment project.

The pipelines were abandoned by draining the remaining fuels from the pipelines, pressure testing the pipelines to ensure their integrity, identification of any leaks, cleaning with surfactants and driving piping pigs through the pipelines with pressurized nitrogen. Once the pipelines were clean, they were filled with foam in select locations.

SODIV's fear of the unknown was realized when an undocumented and damaged high point vent valve leaked in the City of Key West during the piping abandonment process. Bechtel responded quickly to the situation and worked closely with city officials and local business affected by the work, even scheduling work around tourists events.

Savings Realized

* The pressure required for the pipeline integrity testing was reduced from 100 psi to 65 and 50 psi. This reduced pressure also made the testing safer and resulted in cost savings of $3,000.
* The required piping modifications were simplified by eliminating welding on active piping. The cost savings were $10,000.
* Design specifications required the complete filling of the pipeline after cleaning. This requirement was reduced and the pipeline was only filled with foam at key locations. This change resulted in cost savings of $40,000.



* The recovered fuels from the pipeline were recycled for a cost savings of $13,000.
* Use of corporate apartments, BOQ's, discount airfares and combined trips saved more than $11,000.

Participants (Bechtel Environmental, Inc.; Enterprise Engineering Inc.; Florida Department of Environmental Protection; Naval Facilities Engineering Command, Southern Division)