UNITED STATES DEPARTMENT OF THE INTERIOR
MINERALS MANAGEMENT SERVICE
GULF OF MEXICO OCS REGION
IMPERIAL OFFICE BLDG., 3301 N. CAUSEWAY BLVD.
P. O. BOX 7944
METAIRIE, LOUISIANA 70010

504-837-4720

Entered OIS 1/16/92 DTK

SN 5747

In Reply Refer To: ~~LE-3-1~~ OCS-G 4295

September 27, 1983

ACTION

ABN 12" GAL 157

Transcontinental Gas Pipe Line Corporation — Right-of-Way

Relinquishment of Right-of-Way Grant
Abandonment of Pipeline

On February 22, 1980, Transcontinental Gas Pipe Line Corporation filed an application for a right-of-way to construct, maintain, and operate a twelve inch (12") natural gas pipeline, 0.37 miles in length, from McMoRan OFFSHORE EXPLORATION CO's Platform "AJ" to a subsea tie-in with Transcontinental Gas Pipe Line Corporation's proposed 16-inch (16") pipeline, all located in Block A-157, Galveston Area, South Addition. By Action dated May 1, 1980, the application was approved and the right-of-way granted. Proof of construction was subsequently accepted on March 19, 1981, on 0.39 miles of pipeline.

On July 18, 1983, grantee requested relinquishment of the right-of-way in its entirety. Additionally, grantee requested permission to abandon the pipeline in place.

Because grantee has agreed to comply with 30 CFR 256.89(a)(1), removal of the 0.39 miles of line pipe is hereby waived.

Therefore, the pipeline right-of-way grant is relinquished effective as of July 18, 1983, the date the request for relinquishment was filed in this office.

John L. Rankin
Regional Manager

cc:
Fish and Wildlife Service, USDI
Office of Pipeline Safety Regulations, USDT

SN 5747

OK on PLAT 10/3/83 GHS Jr

OK ON HAND 10/4/83

OCT 03 1983

Transcontinental Gas Pipe Line Corporation
A Subsidiary of Transco Energy Company

2700 Post Oak Boulevard
P. O. Box 1396
Houston, Texas 77251
713-871-8000

July 13, 1983

Mr. John L. Rankin
Acting Regional Manager
Minerals Management Service
Gulf of Mexico, OCS Region
P. O. Box 7944
Metairie, Louisiana 70010

Attention: LE-3-1

Reference: Relinquishment of Right-of-Way for a 12-Inch Natural Gas Pipeline in Block 157, Galveston Area, Offshore Texas, Gulf of Mexico, OCS-G 4295

Dear Mr. Rankin:

Transcontinental Gas Pipe Line Corporation ("Transco") is the holder of right-of-way Decision OCS-G 4295 issued May 1, 1980 by the United States Department of the Interior, Bureau of Land Management. That right-of-way is described as follows:

> Right-of-Way 200 feet in width for the construction, maintenance and operation of a 12-inch natural gas pipeline 0.39 miles in length from the McMoran "AJ" platform to a subsea tie-in with Transco's 16-inch pipeline all located in Block A-157, Galveston Area.

Transco wishes to release, relinquish and surrender, in its entirety, to the United States of America, all of its rights, title and interest in that right-of-way described above.

We hereby request your approval and acceptance of the right-of-way relinquishment. The pipeline will be abandoned in place in accordance with the requirements of 30 CFR 256.89(a)(6). Accordingly, we request a written waiver of the removal requirement.

Very truly yours,

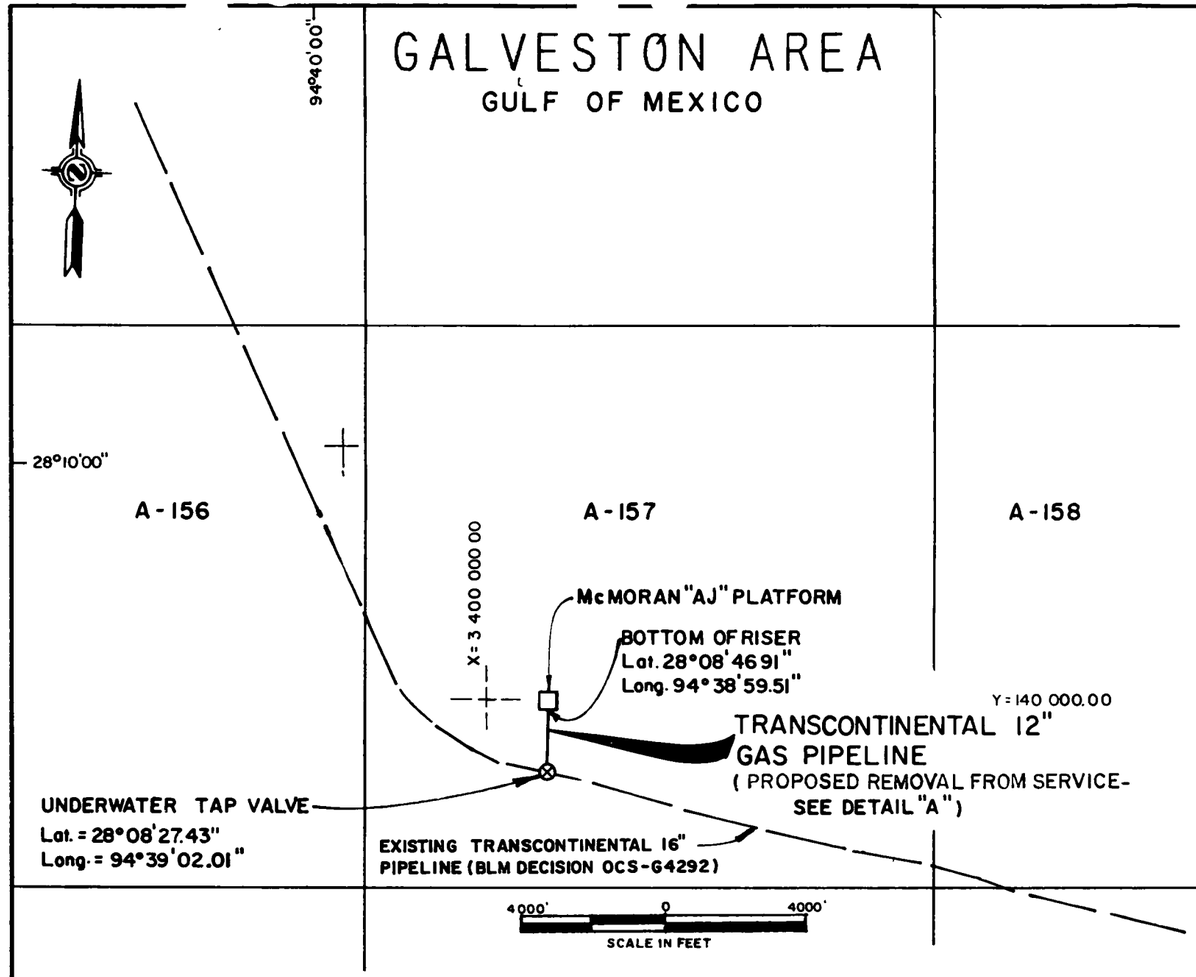
VNW
MS

Robert G. Graves
Vice President, Transmission

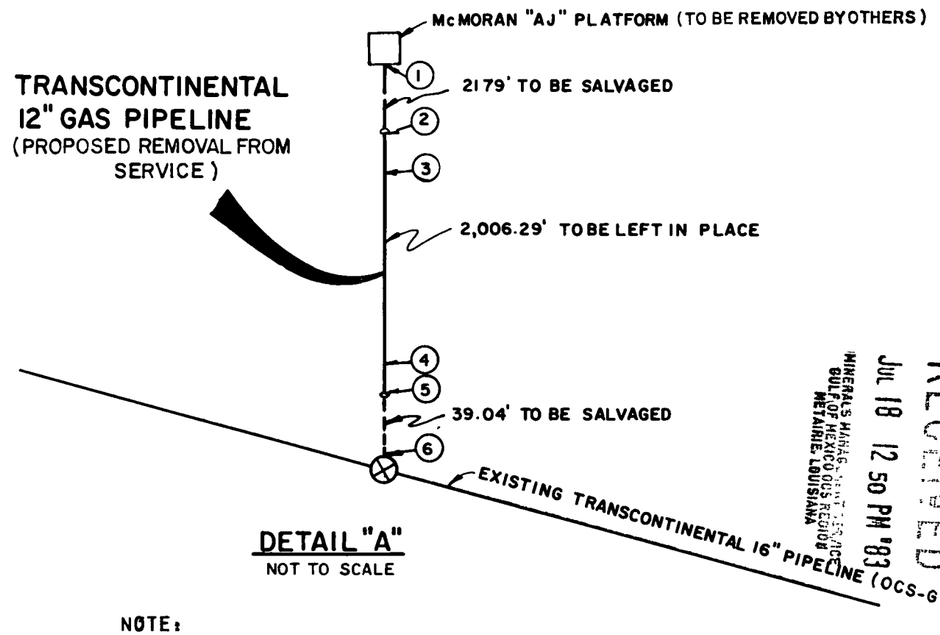
RGG/VNW/ms

ACCEPTED
Regional Manager
Effective Date JUL 18 1983

GALVESTON AREA
GULF OF MEXICO



POINT	X	Y	REMARKS
1	3,401,737.35	139,895.78	BOTTOM OF RISER
2	3,401,739.72	139,874.12	PROPOSED CAP
3	3,401,812.79	139,205.79	PIPELINE
4	3,401,618.28	138,357.91	PIPELINE
5	3,401,588.96	137,959.57	PROPOSED CAP
6	3,401,586.09	137,920.64	VALVE ON EXISTING 16" PIPELINE



DETAIL "A"
NOT TO SCALE

NOTE:
1. COORDINATES AND DISTANCES ARE BASED UPON TEXAS STATE PLANE COORDINATE SYSTEM [LAMBERT-SOUTH CENTRAL ZONE, REFERENCED TO THE CLARKE SPHEROID (ELLIPSOID) OF 1866].
2. AS-BUILT RIGHT-OF-WAY TO BE RELINQUISHED IS 200 FEET WIDE.

THIS MAP REFLECTS THE AS-BUILT COORDINATE LOCATION OF THE 12" PIPELINE AS DETERMINED BY A MRB-201 POSITIONING SYSTEM IN 1980. THE RIGHT-OF-WAY FOR THIS PIPELINE WAS GRANTED BY THE BLM IN DECISION DATED MAY 1, 1980 AND WAS ASSIGNED NO. OCS-G 4295. THE PIPELINE WILL BE REMOVED FROM SERVICE BY TRANSCONTINENTAL GAS PIPE LINE CORPORATION. THE PIPELINE WILL BE PURGED PRIOR TO BEING CAPPED ON BOTH ENDS AND FILLED WITH INHIBITED WATER. THE CAPPED ENDS WILL BE BURIED TO A DEPTH OF AT LEAST 3 FEET BELOW THE UNDISTURBED GULF BOTTOM.

RIGHT-OF-WAY GRANTED UNDER OCS-G4295	2067.12 FEET	0.39 MILE
RIGHT-OF-WAY TO BE RELINQUISHED	-2067.12 FEET	0.39 MILE
TOTAL RIGHT-OF-WAY REMAINING UNDER OCS-G4295	0.00 FEET	0.0 MILE

6-22-83 DATE — Fletcher M. Hartley — 15749 NUMBER

REFERENCE DRAWING — DWG. NO.

TRANSCONTINENTAL GAS PIPE LINE CORPORATION
A Subsidiary of Transco Energy Company
Engineering Department
Houston, Texas

PROPOSED REMOVAL FROM SERVICE
12" NATURAL GAS PIPELINE
IN THE GULF OF MEXICO
GALVESTON AREA BLOCK 157
OFFSHORE TEXAS

DRAWN BY CALCOMP	DATE 08/13/83	APPROVED BY ROG	DATE 6-27-85
DESIGNED BY J.R.N.	DATE 08/13/83	APPROVED BY Karen M. Hines ENGINEER	
APPROVED BY DRAFTING CWW	DATE 6-29-83		
U. S. NO	SCALE SHOWN	SP-GS L-GSN 21-2014	
	SHEET 1 OF 1	DRG NO DI-4B-002	

BY — REVISION — DATE — NO.

United States Department of the Interior

BUREAU OF LAND MANAGEMENT

NEW ORLEANS OUTER CONTINENTAL SHELF OFFICE
HALE BOGGS FEDERAL BUILDING
500 CAMP STREET—SUITE 841
NEW ORLEANS, LA 70130

IN REPLY REFER TO

OCS-G 4295

SN 5747

Galveston Area,
South Addition

March 19, 1981

ACTION

Transcontinental Gas Pipe Line Corporation	:	Right of Way for Pipe Line
	:	Date of Permit: 5/1/80
	:	Decision Requesting Proof of Construction Dated:
	:	Proof of Construction Received: 3/4/81

Proof of Construction Accepted

The above-captioned permittee has submitted the evidence required by the law and regulations 43 CFR 3340.3(a). The proof of construction is hereby accepted and approved with minor deviations.

John L. Rankin
Manager

cc:
U. S. Geological Survey
(w/dwg. and report)

NOTED - NEMEC...

MAR 23 1981

Transcontinental Gas Pipe Line Corporation

A Subsidiary of Transco Companies Inc.

2700 South Post Oak Road
P O Box 1396
Houston, Texas 77001
713-871-8000

February 26, 1981

Mr. John L. Rankin, Manager
New Orleans OCS Office
Bureau of Land Management
Hale Boggs Federal Building
500 Camp Street, Suite 841
New Orleans, Louisiana 70130

Dear Mr. Rankin:

Reference: OCS-G 4295, 12" pipeline in Block A-157 Galveston area, South Addition, Gulf of Mexico.
Line No. 1-1011-2-1 R/W 1, W. O. 5296.08

In compliance with the U. S. Department of Interiors 43 CFR 3300: Subpart 3340.3 and appropriate guidelines, enclosed are three copies of as-built drawing number 21-12-2014/DI-4A-001, Sheets 1 and 2 of 2. Also enclosed are three copies each of the following listed information:

Hydrostatic Test Procedure
Hydrostatic Test Pressure and Temperature Charts
Hydrostatic Test Data Sheets

After your review, please issue Transcontinental your action of proof of construction accepted.

Yours very truly,

Virgil N. Wallace

Virgil N. Wallace
Permit Engineer

VNW:jln
Enclosures

GALVESTON AREA
GULF OF MEXICO

94° 40'00"

28° 10'00"

X = 3 400 000.00

A-156

A-157

A-158

Y = 140 000.00

Mc MORAN "AJ" PLATFORM

BOTTOM OF RISER
X = 3,401,737.35
Y = 139,895.78
Lat = 28°08' 46.91"
Long. = 94°38' 59.51"

AS-BUILT 12" PIPELINE

UNDERWATER TAP VALVE
X = 3,401,586.09
Y = 137,920.64
Lat. = 28°08' 27.43"
Long. = 94°39' 02.01"

FLOW

EXISTING TRANSCONTINENTAL 16" PIPELINE
(BLM DECISION OCS-G 4292)

This map reflects the As-Built coordinate location of the pipeline as determined by an M R B-201 Positioning System The pipeline has been buried to a minimum cover of three feet below the natural gulf bottom, in accordance with B L M Decision OCS-G 4295. This pipeline was designed and constructed in accordance with the Department of Transportation Regulation, Part 192, Title 49.

4,000' 0 4,000'

SCALE IN FEET

RUSSELL J JUDAH
18284
REGISTERED PROFESSIONAL ENGINEER

17 Feb '81
DATE

A. J. Judah
REGISTERED ENGINEER

18284
NUMBER

Transcontinental Gas Pipe Line Corporation Engineering Department
Houston, Texas
A Subsidiary of Transco Companies Inc.

AS-BUILT 12" NATURAL GAS PIPELINE
BLK. A-157 GALVESTON AREA
SOUTH ADDITION, GULF OF MEXICO

By	Revision	Date	No.

Drawn By J G	Date 2/11/81	Approved By R O G	Date 2-13-81
Checked By TMS	Date 2/13/81	Approved By Henry W. Ingram Engineer	
Approved By Drafting C W W.	Date 2-13-81		
W. O. No. 5296.08	Scale As Shown	General Group & Gun Number 21 - 12 - 2014	
	Sheet 1 of 2	Dwg. No. D1 - 4A - 001	

AS-BUILT 12" PIPELINE - BLOCK A-157

PT.	X	Y
BOTTOM OF RISER	3,401,737.35	139,895.78
1	3,401,812.79	139,205.79
2	3,401,618.28	138,357.91
UWTV	3,401,586.09	137,920.64

NOTES:

1. Bearings, Coordinates and Distances are based upon the Texas (Lambert) State Plane Coordinate System (South Central Zone).
2. The pipeline is used to transport natural gas from the Texas O.C.S. to the continental United States.
3. As-Built Permanent Right of Way is 200 feet wide.
4. The total length of 12" pipeline installed from the bottom of the riser on McMoran's "AJ" platform to the UWTV on Transcontinental's 16" pipeline is 2,067.12 feet or 0.39 miles.

This pipeline was designed and constructed in accordance with the Department of Transportation Regulation, Part 192, Title 49.

STATE OF LOUISIANA
RUSSELL J. JUDAH
18284
REGISTERED PROFESSIONAL ENGINEER

R. J. Judah
REGISTERED ENGINEER

17 Feb 81
DATE

18284
NUMBER

By	Revision	Date	No.

Transcontinental Gas Pipe Line Corporation Engineering Department Houston, Texas
A Subsidiary of Transco Companies Inc.

AS-BUILT 12" NATURAL GAS PIPELINE BLK. A-157 GALVESTON AREA SOUTH ADDITION, GULF OF MEXICO

Drawn By J G	Date 2/11/81	Approved By ROG	Date 2-13-81
Checked By TMB.	Date 2/13/81		
Approved By Drafting CWH	Date 2-13-81	Approved By Engineer	
W. O. No. 5296.08	Scale None	General Group & Gun Number 21-12-2014	
PSL	Sheet 2 of 2	Dwg No. DI-4A-001	

Transcontinental Gas Pipe Line Corporation
2700 South Post Oak R
P O Box 1396
Houston Texas 77001

ARTICLE 5.00 PIPELINE SPECIFICATIONS (OFFSHORE)

5.10 Testing

5.101 Onshore - This shall include all work and equipment for hydrostatically testing the completed platform piping, riser assemblies, valve assembly(s) and meter station(s) onshore.

The hydrostatic testing shall be performed after the piping has been assembled. Blind flanges and welding caps shall be used to blank openings where required.

Only fesh clean water shall be used for the test. All air shall be evacuated from the piping and displaced with water.

The minimum test pressure will be stated in the Job Description. Pressure shall be determined by a dead weight tester and corrected as necessary for changes in water temperature. Test data shall be recorded on T.G.P.L. Form 1250. The test period shall be for a duration of four (4) hours. Only test data indicating no pressure drop during the test period will be acceptable. If the piping does not meet this test, repairs as necessary shall be made, and the test repeated until an acceptable test is made.

The piping and meter station shall be cleared of all water and purged with air to remove all moisture residue.

5.102 Offshore - This specification covers the testing of the completed pipeline. The pipeline shall be tested using the fluid set out in the Job Description, after completing the cleaning and trenching operations. Contractor may, with the approval of Company, test the pipe in sections or prior to cleaning and trenching. This test, however, shall not be an acceptance test.

The test pressure shall be held on the pipeline for 8 hours after pressure stabilization and shall be checked by means of a standard dead weight gauge, and the data recorded on T.G.P.L. Form 1250. No drop in pressure, after making corrections for changes in temperature and barometric pressure, shall be allowed.

If the pipeline does not meet this test, such steps as necessary shall be taken to cause the pipeline to meet the requirements of the above test.

Transcontinental Gas Pipe Line Corporation
A Transco Companies Inc
2700 South Post Oak R
P O Box 1396
Houston, Texas 77001

5.102 Offshore (Continued)

After a hydrostatic test has been accepted, the pipeline shall be freed of water by running as many cylinders or squeegees as deemed necessary, but not less than two. These may be propelled with gas or air. If Company cannot conveniently make gas available Contractor shall furnish air. The Company will handle the gas if it is used for dewatering.

When the platform piping and meter station(s) have been hydrostatically tested independent of the pipeline, the piping shall be drained of all water and thoroughly dried internally by use of compressed air.

TGPL-1250
REV 11 77

Test #2 page 1 of 1

Transcontinental Gas Pipe Line Corporation
A subsidiary of Transco Companies Inc

Qualification Test Reco

BEST AVAILABLE COPY

Ref DOT 192.501 and 192.71

Account No.	Contract No. (Prime)
W.O. 5296.08	27727

Prime Contractor: BROWN & ROOT INC.

Test Contractor: HALLIBURTON

Description and Location of Pipeline or Appurtenance Being Tested:
1974 FT OF 12" PIPELINE FROM McMORAN PLATFORM A157 TO UWTI BLK 157 GALV. AREA OFFSHORE TEXAS

LINE DATA

Description of Pipe	Length of Test Section	From (M.P. or Blk.)	To (M.P. or Blk.)	Survey Station No.
OD 12" W.T. .688 Yld. GR B	1979 FT.	McMORAN PLT A157 GALV	UWTI BLK 157 GALV	From To
OD 12" W.T. .562 Yld GR B	Test Section No. 1	Elevation of High Point +27'		Elevation of Low Point -193'
OD W.T. Yld.	Drawing Nos. (Alignment or Fabrication) PEIPOOL GUNF 21-2014			
OD W.T. Yld.	Pipe Manufacturer			Purchase Order No

TEST DATA

Type of Test	Date Fill Started	Date Fill Completed	Water Treatment	Avg. Temp. Water, Air or Gas Fill
Gas [ ] Air [ ] Water [X]	7-13-80	7-13-80	Chem. [X] Filter [ ]	74°

General Weather Conditions: HOT & CLEAR

Location and Elevation Where Dead Weight Readings Taken: M.P. or Block Location BOAT LANDING ON PLATFORM Elevation +5'

Minimum Test Pressure Specified (High Point): 2880 PSI (_____% of Specified Min. Yield)

Maximum Allowable Test Pressure (Low Point): 2900 PSI (_____% of Specified Min. Yield)

TEST WATER AND LEAK DATA

Fill Water	Source: SEA WATER	Location: BLK 157 GALV. AREA GULF OF MEXICO	Survey Sta.	~~M.P.~~ or Block 157 GALV
Test Water Disposal Point	Location: BLOCK 157 GALV AREA		Survey Sta.	~~M.P.~~ or Block 157 GALV
Leak or Test Failures During Test	Location: NONE		Survey Sta.	M.P. or Block
Acidity (pH) of Fill Water	During Fill		During Disposal	
Chemicals Added to Fill Water	Type: EXXON A7730 INHIBITOR & 7650 SURFACTANT		Quantity: 2 GALS EACH	

DEAD WEIGHT PRESSURE AND TEMPERATURE LOG

Date of Readings	Time of Readings	Pressure PSIG	Temperature of Ambient	Ground	Pipe	Remarks
7-15-80	0635	2900	84°		72°	Pressure up To Test Pressure 2900 PSI
	0650	2899	11		11	
	0705	2898	11		73°	
	0720	2895	11		11	
	0735	2894	85°		73°	
	0805	2892	86°		11	
	0830	2890	87°		11	
	0900	2888	88°		11	
	0930	2886	11		11	
	1000	2885	11		11	
	1030	2885	89°		73°	
	1100	2884	89°		11	
	1130	2884	11		11	
	1200	2884	88°		11	
	1230	2884	86°		11	
	1300	2883	11		11	
	1330	2883	87°		11	
	1400	2882	11		11	
	1430	2881	11		74°	
	1500	2880	11		74°	
	1530	2880	11		11	
	1600	2879	89°		75°	
	1630	2878	11		11	
	1700	2873	90°		75°	

RECEIVED
MAR 4 12 13 PM '81
BUR OF LAND MGMT
OUTER CONTINENTAL SHELF
REGIONAL OFFICE
NEW ORLEANS LA

Report Prepared By: [signature] E Coggin — Date: 7-16-80 — Test Supervised By:

Test Witnessed By
(1) — (2)

Test Accepted By: [signature] — Date — Hour

Attached To Original Copy: Pressure Charts [ ] Temperature Charts [ ] Profile Book Ref. _____

Distribution: 1. Pipe Line Design Engineer [ ] 2. Pipe Line Construction Supt [ ] 3. Field File [ ] 4. Permits Engr [ ]

TGPL 1250
REV 11-77

Test # 1.
Page 1 of 1

Transcontinental Gas Pipe Line Corporation
A Subsidiary of Transco Companies Inc

Qualification Test Record

BEST AVAILABLE COPY

Ref DOT 192.501 and 192.719

Account No	Contract No (Prime)
WC 5296-06	27727

Prime Contractor	Test Contractor
BROWN & ROOT INC	HALLIBURTON

Description and Location of Pipeline or Appurtenance Being Tested

1979 FT OF 12" PIPELINE FROM MCMORAN PLATFORM A157 TO UNIT 1 BLOCK 157 GALV. AREA OFFSHORE TEXAS

LINE DATA

Description of Pipe	Length of Test Section	From (M.P. or Blk.)	To (M.P. or Blk.)	Survey Station No.
O.D 12" W.T. .688 Yld. GR B	1979 FT	McMORAN PLT A157 GALV	UNIT BLK 157 GALV	From To
O.D. 12" W.T. .562 Yld. GR B	Test Section No. 1	Elevation of High Point +27'		Elevation of Low Point -193.5'
O.D. W.T. Yld.	Drawing Nos. (Alignment or Fabrication) PF1P001			
O.D W.T. Yld.	Pipe Manufacturer			Purchase Order No

TEST DATA

Type of Test	Date Fill Started	Date Fill Completed	Water Treatment	Avg. Temp. Water, Air or Gas Fill
Gas [ ] Air [ ] Water [X]	7-13-80	7-13-80	Chem. [X] Filter [ ]	74°

General Weather Conditions	Location and Elevation Where Dead Weight Readings Taken	
HOT & CLEAR	M.P. or Block Location BOAT LANDING ON PLATFORM	Elevation +5'

Minimum Test Pressure Specified (High Point)	Maximum Allowable Test Pressure (Low Point)
2840 PSI (_____% of Specified Min. Yield)	2900 PSI (_____% of Specified Min. Yield)

TEST WATER AND LEAK DATA

	Source / Location	Survey Sta.	M.P. or Block
Fill Water	Source: SEA WATER Location: GULF OF MEXICO		157 GALV
Test Water Disposal Point	Location: BLOCK 157 GALV. AREA	Survey Sta.	M.P. or Block 157 GALV
Leak or Test Failures During Test	Location: NONE	Survey Sta.	M.P. or Block
Acidity (pH) of Fill Water	During Fill	During Disposal	
Chemicals Added to Fill Water	Type: EXXON #7730 INHIBITOR & 7650 SURFACTANT	Quantity: 2 GALS EACH	

DEAD WEIGHT PRESSURE AND TEMPERATURE LOG

Date of Readings	Time of Readings	Pressure P S I G.	Temperature of Ambient	Ground	Pipe	Remarks
7-15-80	1710	2878	88°		75°	Bled OFF To 1500#
	1715	1500	"		"	Completed Bleed OFF
	1730	1500	87°		"	
	1745	1501	85°		"	
	1800	1504	"		"	
	1815	1508	"		"	
	1830	1509	"		"	End Test

RECEIVED
AUG 12 1980
BUREAU OF GEOLOGICAL SURVEY
OUTER CONTINENTAL SHELF OFFICE
METAIRIE, LOUISIANA

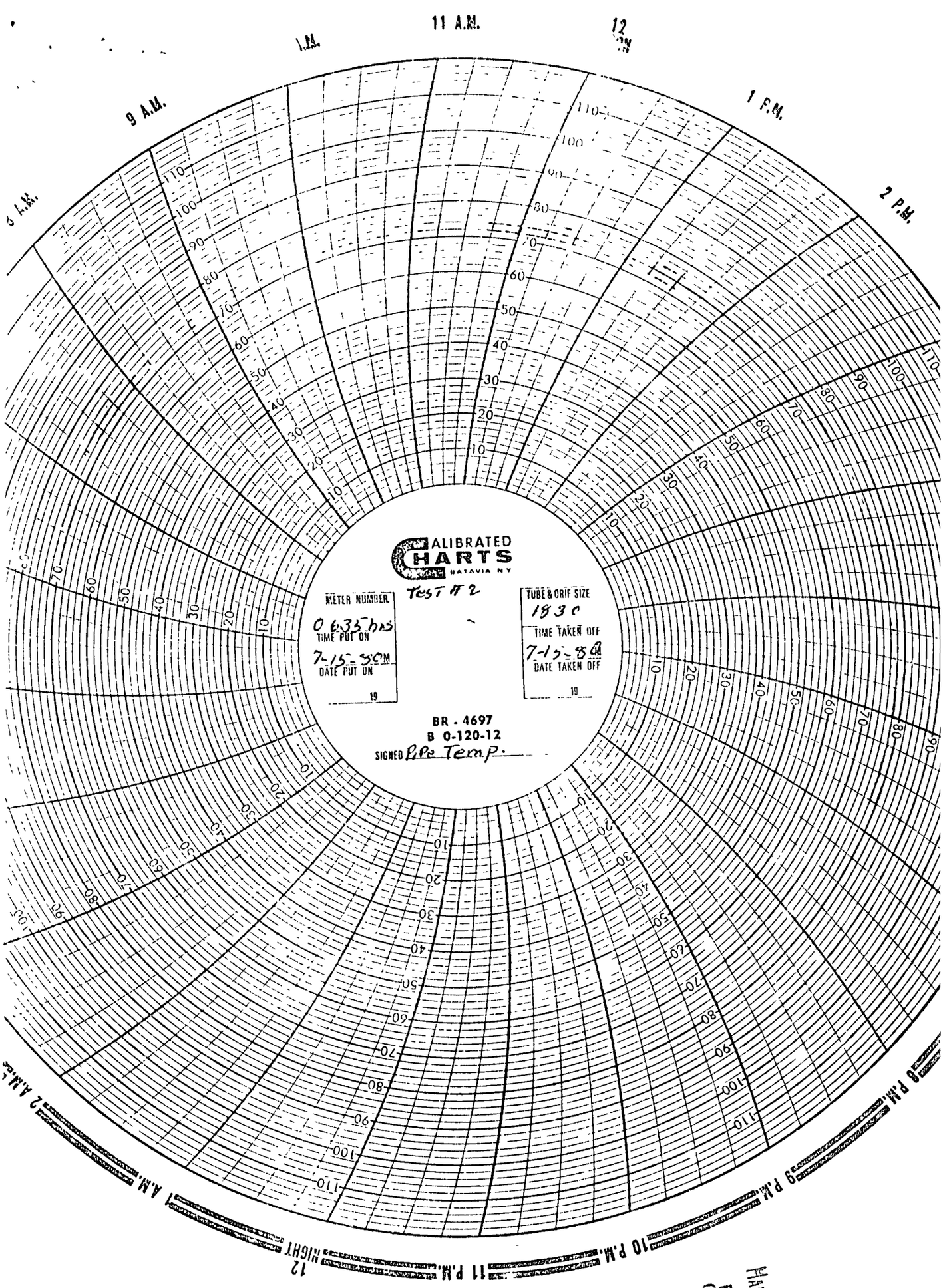
Report Prepared By: Raymond E. Coggin Date 7-16-80 Test Supervised By:

Test Witnessed By:

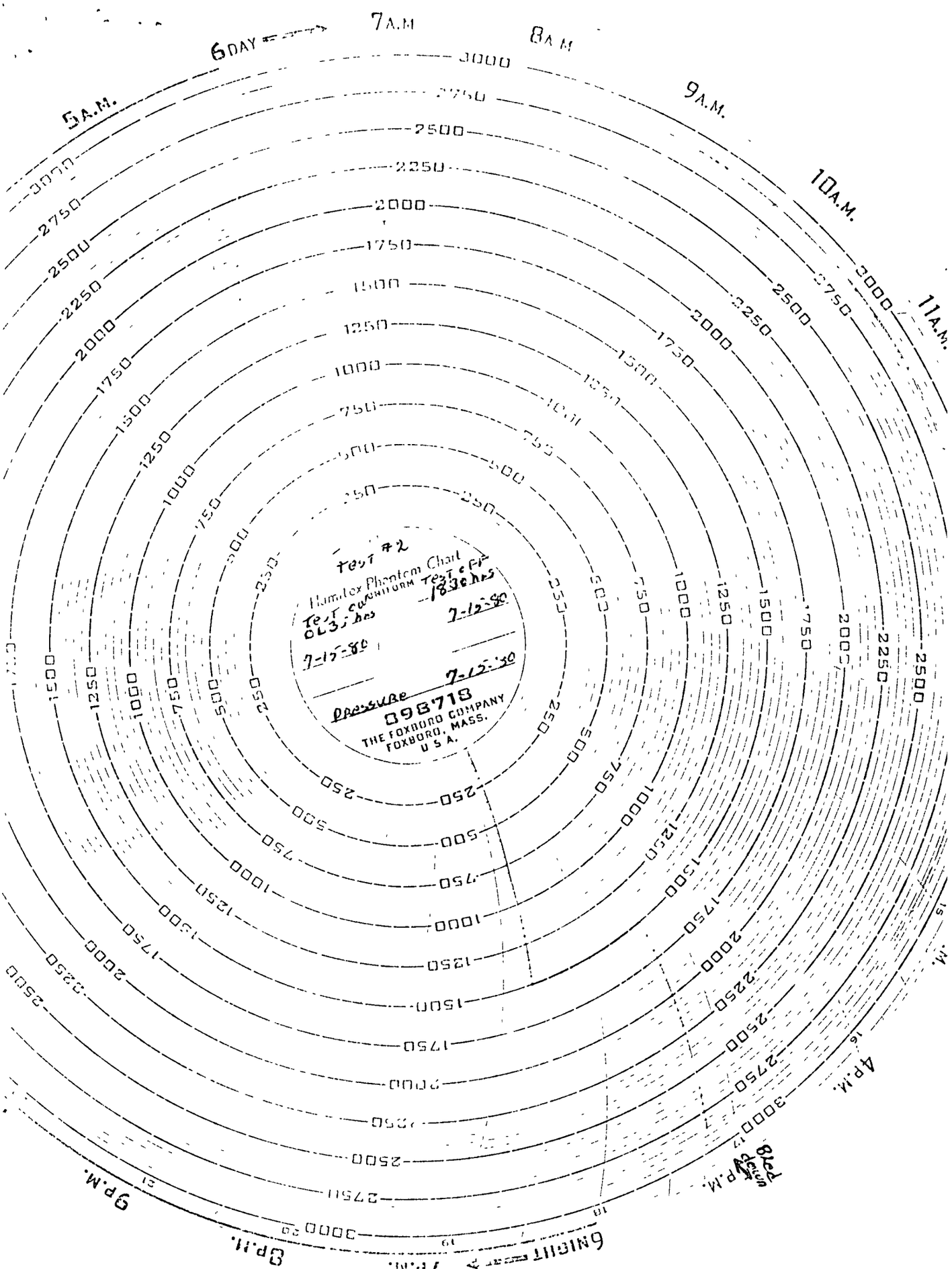
(1) Test Accepted By: (2) Date Hour

Attached To Original Copy: Pressure Charts [ ] Temperature Charts [ ] Profile Book Ref. _____

Distribution: 1. Pipe Line Design Engineer [ ] 2. Pipe Line Construction Supt. [ ] 3. Field File [ ] 4. Permits Engr [ ]



BEST AVAILABLE COPY



BEST AVAILABLE COPY

ATTACHMENT 4

NOTIFICATION OF CONSTRUCTION

Date: 6-4-80

1. OCS Number G 4295
2. Name of Company Transcontinental Gas Pipeline Corp.
3. Name of Contractor Brown & Root INC.
4. Name or Number of Barge #289
5. Size and Length of Pipeline 12" GAS .37 Miles long
6. From where to where McRon "AJ" Platform ~~in block~~ to subsea tie with (OCS-G 4292) all in Block A-157 H.I.A.
   (area, block number and platform)
7. Where construction begins Constructed together with OCS-G 4292
   (area, block number)
8. When will barge begin June 9, 1980
9. How long will barge be on job 90 days
10. Nearest avaialble heliport On Barge
11. Does the pipeline cross or ~~is it~~ in close proximity to fairways or anchorage areas?

    Yes____ No ✓

Name of Company Contact Mike Blackwood

Telephone Number (713) 971-2358

BLM's Notification to: USGS date N/A
U.S. Coast Guard date N/A

NOTE: Notification may be made by calling Autry Britton at A.C. 504 589-6541 between the hours of 7:45 a.m. and 4:15 p.m. Monday through Friday.

Autry J. Britton

SN5747

OCS-G 4295

Galveston Area,
South Addition

May 1, 1980

Transcontinental Gas Pipe Line Corporation — Right-of-Way

ACTION: APPLICATION APPROVED

Your application for a right-of-way 200 feet in width for the construction, maintenance, and operation of a 12-inch natural gas pipeline, 0.37 miles in length, from McMoRan OFFSHORE EXPLORATION CO.'s Platform "AJ", to a subsea tie-in with Transcontinental Gas Pipe Line Corporation's proposed 16-inch pipeline (OCS-G 4292), all of which are located in Block A-157, Galveston Area, South Addition, dated February 19, 1980, with its attachments is hereby approved.

H. P. Sieverding
Acting Manager

cc:
Geological Survey, USDI
Office of Pipeline Safety Operations, USDT

United States Department of the Interior

GEOLOGICAL SURVEY
IMPERIAL OFFICE BLDG . 3301 N CAUSEWAY BLVD
P O BOX 7944
METAIRIE, LOUISIANA 70010
TEL (504) 837-4720

NEW ORLEANS OCS
FILE CODE
ROUTE INITIAL
MGR.
ASST. MGR.
MAR 17 1980
P. LEGAL
PAO
EAD
OPS
STUDIES
MGMT. SER.

In Reply Refer To: OS-5

MAR 14 1980

Memorandum

To: Manager, Bureau of Land Management, 841 Hale Boggs Federal Building, 500 Camp Street, New Orleans, Louisiana 70130

From: Conservation Manager, Gulf of Mexico OCS Region

Subject: Transcontinental Gas Pipe Line Corporation's Pipeline Right-of-Way Application, BLM OCS-G 4295

RECEIVED MAR 17 1980 BUR OF LAND MGMT OUTER CONTINENTAL SHELF NEW ORLEANS

We have reviewed the safety features and design specifications for the subject Right-of-Way Application, dated February 19, 1980, in accordance with the MOU dated August 1, 1974. It is for the construction, maintenance and operation of a 12 3/4-inch gas and gas condensate pipeline 1,979 feet in length from McMoRan's Platform "AJ", to a subsea tie-in with a proposed Transcontinental Gas Pipe Line Corporation's 16-inch pipeline, all located in Galveston Block A-157, lease OCS-G 2347.

Based upon information submitted in the application, the design characteristics of this pipeline are calculated to be as follows:

Pipeline Component	Maximum Allowable Operating Pressure/WP Ratings
Submerged component	2,221 psig
Riser component	1,888 psig
Valves, flanges, fittings	1,440 psig

The hydrostatic pressure test with water will be in the range of 2,840-2,900 psig for eight hours for the submerged component. The riser will be preinstallation-tested to a pressure in the range of 3,475-3,550 psig for four hours. The ANSI 600 valves should not be subjected to a test-pressure differential greater than 1,440 psig. The ANSI 600 valves, flanges, and fittings should not be subjected to a body test greater than 2,175 psig.

Based on these calculations and a maximum allowable operating pressure (MAOP) of 1,440 psig of the receiving 16-inch Transcontinental Gas Pipe Line Corporation pipeline (BLM OCS-G 4292), we recommend that the MAOP for this pipeline be 1,440 psig, and that this pressure may be exceeded only when hydrostatically pressure-testing the pipeline. We also recommend that valves and taps at the subsea tie-in be provided with a minimum of three feet of cover, either through burial or with sandbags.

The technical aspects of the proposed pipeline are acceptable in accordance with appropriate regulations and standards.

We would appreciate receiving a copy of the plat showing the location of the pipeline as installed.

Lowell G. Hammons

United States Department of the Interior

IN REPLY REFER TO
OCS-G 4295

BUREAU OF LAND MANAGEMENT

NEW ORLEANS OUTER CONTINENTAL SHELF OFFICE
HALE BOGGS FEDERAL BUILDING
500 CAMP STREET—SUITE 841
NEW ORLEANS, LA 70130

February 28, 1980

Memorandum

To: Conservation Manager
Gulf of Mexico OCS Operations

From: Manager
New Orleans OCS Office

Subject: Review of Pipeline Right-of-way Application

In accordance with the memorandum of understanding between the Bureau of Land Management and U. S. Geological Survey signed August 1, 1974, the subject application is enclosed.

Please review the technical aspects of the proposed pipeline. If you have any questions regarding this matter, please contact Mr. Autry J. Britton of this office.

John K. Chambers
Acting

Enclosures
1-Application dated February 19, 1980
2-Engineering Data
3-Drawing No. 21-12-2014/DI-A-001, Sheets 1 - 4 of 4
4-Drawing No. 21-2014/DI-A-002, Sheet 1 of 1, Revision 1

NOTED—SCHONEKAS

FEB 29 1980

NOTED—MC INTOSH

FEB 29 1980

Transcontinental Gas Pipe Line Corporation

A Subsidiary of Transco Companies Inc.

2700 South Post Oak Road
P O. Box 1396
Houston, Texas 77001
713-871-8000

February 19, 1980

Mr. John L. Rankin, Manager
New Orleans OCS Office
Bureau of Land Management
Hale Boggs Federal Building
500 Camp Street, Suite 841
New Orleans, Louisiana 70130

Re: Application for right of way for proposed 12" pipeline in Block A-157 Galveston Area, South Addition, Offshore Texas, Gulf of Mexico
Line No. 1-1011-2-1, R/W 1

Dear Mr. Rankin:

Pursuant to the authority granted in Section 5 (e) of the Outer Continental Shelf Lands Act (67 Stat. 462), (43 U.S.C. 1331), as amended (92 Stat. 629), and in compliance with the regulations contained in Title 43 CFR 3340, Transcontinental Gas Pipe Line Corporation hereby applies, in triplicate, for a right-of-way two hundred feet (200 ft.) in width to construct, maintain and operate a 12" natural gas pipeline as shown on the following drawings.

Vicinity, Route, Profile and
Cathodic Protection Drawing
Drawing Number 21-12-2014/DI-A-001

Schematic Drawing
Drawing Number 21-2010/DI-A-002

The 12" pipeline will be used to transport natural gas and condensate from the McMoRan "AJ" platform to a proposed underwater tap valve on Transcontinental's proposed 16" pipeline all located in Galveston Area, South Addition, Gulf of Mexico.

In accordance with applicable regulations, the applicant agrees it will mail to each lessee or right-of-way holder whose lease or right-of-way is affected by this application, by registered mail, return receipt requested, a copy of the application and the maps attached hereto. A list of such lessees and right-of-way holders is attached and copies of the return receipts showing service upon such lessees and right-of-way holders will be forwarded to your office when received.

As set forth in the February 13, 1978 guidelines, and as amended the applicant agrees to the following:

1. The pipeline will be buried a minimum of three (3) feet below the mud line because the water depth does not exceed two hundred (200) feet.

2. The proposed pipeline will cross no existing pipeline.

3. All valves and fittings on the submerged pipeline will be buried to a minimum of one (1) foot below the mud line.

4. Sensing devices and fail close valves will be installed as shown on the enclosed Schematic Drawing 21-2014/DI-A-002.

5. Three (3) copies of a Hazard survey report prepared for Transcontinental were submitted to your office with our application of February 15, 1980.

   The unidentified magnetic anomalies in the area of the proposed route in Block A-157 of the Galveston Area are considered to be debris therefore no additional investigation is planned. However, the unidentified magnetic anomalies near the construction area will be marked by buoy and avoided when placing lay barge anchors.

6. All changes, additions or deletions to any equipment on the pipeline will be made only after first securing the expressed written approval of your office.

7. Your office will be notified at least five (5) days prior to commencing construction and will be advised of construction date, approximate starting time, starting point, name of contractor and barge, availability of heliport facilities and approximate completion date.

8. Your office will be notified forty eight (48) hours in advance of the hydrostatic test and will be advised of the location of the pressure recorder and approximate starting time of the test. Hydrostatic test data, including procedure, hold time and results will be furnished your office within ninety (90) days following the test.

9. Within ninety (90) days after completion of construction, applicant will provide an as-built map establishing the location of the completed pipeline within an accuracy of +/- 100 feet, prepared in accordance with the requirements for the map depicting the proposed route reflecting the total length of the line (all in feet) and depicting those points, if any, at which the pipeline is located outside of the right of way.

10. Any break, leak, failure or accident will be reported within twelve (12) hours after such occurrence as provided for in said guidelines.

11. If any site, structure, or object of historical or archaeological significance should be discovered during the conduct of any operations within the permitted right-of-way it shall report immediately such findings to the Manager, New Orleans OCS Office, and make every reasonable effort to preserve and protect the cultural resource from damage until the Manager, New Orleans OCS Office, has given directions as to its preservation.

12. To comply with all regulations and conditions as may be prescribed by the Secretary of the Interior, or the Secretary of Transportation including, pursuant to section 21(b) of the OCS Lands Act, as amended, provisions to assure maximum environmental protection by utilization of the best available and safest technologies, including the safest practices for pipeline burial. This includes but is not limited to complying with the following stipulations:

    Transport or purchase without discrimination of oil or natural gas produced from submerged lands or Outer Continental Shelf lands in the vicinity of its pipeline in such proportionate amounts as the Federal Energy Regulatory Commission, in consultation with the Secretary of Energy, may, after a full hearing with due notice thereof to the interested parties, determine to be reasonable, taking into account, among other things, conservation and the prevention of waste.

    Operate its pipeline in accordance with the competitive principles set out in section 5(f)(1) of the Outer Continental Shelf Lands Act, as amended, except insofar as the Federal Energy Regulatory Commission may, by order or regulation, exempt such pipeline from any or all of the requirements of section 5(f)(1) pursuant to section 5(f)(2) (which permits such exemption of any pipeline or class of pipelines which feeds into a facility where oil and gas are first collected or a facility where oil and gas are first separated, dehydrated, or otherwise processed).

    Unless so exempted by Federal Energy Regulatory Commission order or regulation, applicant shall operate its pipeline so as to provide open and nondiscriminatory access to both owner and nonowner shippers, and applicant shall comply with any specific conditions which the Secretary of Energy and the Federal Energy Regulatory Commission may require, after consultation with and due consideration given to the views of the Attorney General, to ensure that its pipeline is operated in accordance with the competitive principles set forth in section 5(f)(1).

Additional design criteria data is as follows:

1. The length of the 12" pipeline between the riser and the proposed underwater tap valve is 1,979 feet or 0.37 miles.

2. The line pipe will be:

   12.750" O.D. x .562" W.T., ASTM A-106 Gr. B, 72.22 lbs/ft.
   12.750" O.D. x .688" W.T., ASTM A-106 Gr. B, 88.57 lbs/ft.

3. The riser piping will be:

   12.750" O.D. x .688" W.T., ASTM A-106 Gr. B, 88.57 lbs/ft.

4. The products to be transported by the pipeline are natural gas and condensate.

5. The water depth is approximately 184 feet in Block A-157 Galveston Area, South Addition.

6. The cathodic protection system will be Galvalum III bracelet anodes, as described on Dwg. 21-12-2014/DI-A-001, Sheet 4 of 4.

7. The products to be transported are natural gas and condensate, neither of which is corrosive to carbon steel pipe interior. However, the analysis of the transported product will be monitored and preventive measures such as pigging and/or inhibiting will be employed as necessary.

8. Protective coatings used on the underwater line pipe are:

   12.750" x .562" W.T., 1" thick, 140 PCF concrete, 5/32" asphalt
   12.750" x .688" W.T., 1" thick, 140 PCF concrete, 5/32" asphalt

9. The bulk specific gravity of the empty pipe in seawater is:

Pipe Size	Specific Gravity
12.750" x .562" W.T.	1.51
12.750" x .688" W.T.	1.70

10. The anticipated specific gravity of the natural gas is 0.65 and the condensate is 0.72.

11. The design working pressure of the pipeline is as follows:

    Maximum Allowable Operating Pressure based on valves and flanges will be 1,440 psig (maximum working pressure of ANSI 600# valves and flanges).

Maximum Allowable Operating Pressure based on line pipe will be:

$$MAOP = \frac{2\ St}{D} \times F \times E \times T$$

$$MAOP = \frac{2(35,000) \times .562}{12.750} \times .72 \times 1.0 \times 1.0 = 2,221 \text{ psig}$$

$$MAOP = \frac{2(35,000) \times .688}{12.750} \times .72 \times 1.0 \times 1.0 = 2,719 \text{ psig}$$

Maximum Allowable Operating Pressure based on the riser piping will be:

$$MAOP = \frac{2(35,000) \times .688}{12.750} \times 0.5 \times 1.0 \times 1.0 = 1,888 \text{ psig}$$

Therefore, the Maximum Allowable Operating Pressure of the system is 1,440 psig (based on valves and flange ratings).

12. The anticipated operating pressures are estimated to range from 500 psig to 1,440 psig.

13. The design capacity of the line is 20 MMCFD based on an inlet pressure of 1,064 psig and an outlet pressure of 1,063 psig.

14. The pipeline will be hydrostatically tested to a minimum pressure of 2,840 psig not exceeding a maximum pressure of 2,900 psig and held for 8 hours. The riser piping will be hydrostatically tested to a minimum pressure of 3,475 psig not exceeding a maximum pressure of 3,550 psig and held for 4 hours.

    The ANSI 600# and 900# valves, flanges and fittings will not be subjected to a body test pressure greater that 2,175 and 3,250 psig respectively.

15. The design pipe depth is shown on Drawing No. 21-12-2014/DI-A-001, sheet 3 of 4 sheets.

16. The platform risers below water will be coated with 3 mils (dry) of inorganic zinc-rich primer and then flake glass filled epoxy phenolic for a total dry film thickness of 24 to 40 mils.

    The piping above-water will be coated with 3 mils (dry) inorganic zinc rich primer and then Hi-Build catalyzed epoxy for a total dry film thickness of 15 mils.

17. All piping, fittings, risers and components of the pipeline are designed in compliance with 49 CFR 192.

18. Construction information:

Estimated Starting Date	May 1, 1980
Method of Construction	Lay Barge
Method of Burial	Jet Bury Barge
Estimated time required to bury pipe	1 week
Estimated time to complete project	3 weeks

19. Company Contact:

Paul E. Newton, Supervising Engineer, Permits
Transcontinental Gas Pipe Line Corporation
P. O. Box 1396
Houston, Texas 77001
Telephone (713) 871-2533

Enclosed are three copies each of the maps and drawings referred to above, prepared and certified in accordance with applicable guidelines. Also enclosed is an engineering data attachment of three pages.

A certified copy of the articles of incorporation and a certificate of the Assistant Secretary, under seal, certifying that the corporate officer executing the application has the authority to do so have already been submitted to your office. These documents have been placed on record in a file identified as New Orleans Miscellaneous File No. 011. A filing fee of $100.00, together with the first year's rental of $15.00 computed on 0.37 miles of right-of-way, is enclosed.

Also enclosed please find a Nondiscrimination in Employment statement executed by a Vice President of Transcontinental Gas Pipe Line Corporation.

If the above and attached information meets with your approval, we would appreciate your issuing the necessary right-of-way at your earliest convenience. Inquiries concerning this application may be directed to the applicant at P. O. Box 1396, Houston, Texas 77001.

Very truly yours,

TRANSCONTINENTAL GAS PIPE LINE
CORPORATION

By _____
Vice President

Enclosures

LESSEES AND RIGHT-OF-WAY HOLDERS

GALVESTON AREA, SOUTH ADDITION

Block A-157	Oil & Gas OCS-G 2347	McMoRan OFFSHORE EXPLORATION CO. Kerr-McGee Corporation Monsanto Company Cabot Corporation Weeks Petroleum Corporation Felmont Oil Corporation Case-Pomeroy Oil Corporation Norse - Petroleum (U.S.) Incorporated

NOTE: This form must be executed as an original.

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

NONDISCRIMINATION IN EMPLOYMENT

As a condition precedent to the approval of the granting of the subject pipeline right-of-way, the grantee Transcontinental Gas Pipe Line Corporation hereby agrees and consents to the following stipulation which is to be incorporated into the application for said right-of-way.

During the performance of this grant the grantee agrees as follows:

> During the performance under this grant, the grantee shall fully comply with paragraphs (1) through (7) of section 202 of Executive Order 11246, as amended, (reprinted in 41 CFR 60-1.4 (a)), which are for the purpose of preventing discrimination against persons on the basis of race, color, religion, sex or national origin. Paragraphs (1) through (7) of section 202 of Executive Order 11246, as amended, are incorporated in this grant by reference.

TRANSCONTINENTAL GAS PIPE
LINE CORPORATION

Signature of Grantee
Vice President

Date: February 20, 1980

RECEIVED
FEB 22 10 58 AM '80
BUR OF LAND MGMT.
OUTER CONTINENTAL
SHELF OFFICE
NEW ORLEANS, LA.

ENGINEERING DATA
GALVESTON BLOCK A-157 - 12" PIPELINE

1. The pipeline will be buried to a minimum depth of 3 feet since the water depth does not exceed 200 feet at any point.

2. The proposed pipeline will cross no existing pipeline.

3. All valves and fittings on the submerged component will be buried to a minimum of one (1) foot below the mudline.

4. The length of the line between the riser and proposed underwater tap valve is 1,979 feet or 0.37 miles.

5. The line pipe will be:

   12.750" O.D. x .562" W.T. ASTM A-106 Gr. B, 72.22 lbs/ft.

   12.750" O.D. x .688" W.T., ASTM A-106 Gr. B, 88.57 lbs/ft.

6. The riser piping at the platform will be:

   12.750" O.D. x .688" W.T., ASTM A-106 Gr. B, 88.57 lbs/ft.

7. The water depth is approximately 184 feet throughout the route of the pipeline in Block A-157 Galveston Area.

8. The cathodic protection system will be Galvalum III bracelet anodes, as described on Drawing 21-12-2014/DI-A-001, Sheet 4 of 4.

9. The products to be transported by the pipeline are natural gas and condensate, neither of which is corrosive to carbon steel pipe interior. However, the analysis of the transported product will be monitored and preventive measures such as pigging and/or inhibiting will be employed as necessary.

10. Protective coatings used on the underwater line pipe are:

    12" x .562" W.T., 1" concrete, 5/32" asphalt.

    12" x .688" W.T., 1" concrete, 5/32" asphalt.

11. The bulk specific gravity of the empty pipe in seawater is:

Pipe Size	S.G.
12.750" x .562	1.51
12.750" x .688	1.70

12. The anticipated specific gravity of the natural gas is 0.65 and the condensate is 0.72.

13. The design working pressure of the system is as follows:

Maximum Allowable Operating Pressure based on valves and flanges will be 1,440 psig (maximum working pressure of ANSI 600 valves and flanges).

Maximum Allowable Operation Pressure based on line pipe will be:

$$MAOP = \frac{2\ St}{D} \times F \times E \times T$$

$$MAOP = \frac{2(35{,}000) \times .562}{12.750} \times .72 \times 1.0 \times 1.0 = \underline{2221}\ \text{psig}$$

$$MAOP = \frac{2(35{,}000) \times .688}{12.750} \times .72 \times 1.0 \times 1.0 = \underline{2719}\ \text{psig}$$

Maximum Allowable Operating Pressure based on the riser piping will be:

$$MAOP = \frac{2(35{,}000) \times .688}{12.750} \times 0.5 \times 1.0 \times 1.0 = \underline{1888}\ \text{psig}$$

Therefore, the pipeline segment has a maximum allowable pressure of 1440 psig, based on the 600# valve and flange ratings.

14. The anticipated operating pressures are estimated to range from 500 psig to 1440 psig.

15. The design capacity of the line is 20 MMCFD based on inlet pressure of 1064 psig and outlet pressure of 1063 psig.

16. The hydrostatic test pressure and hold time for the pipeline will be 2840 to 2900 psig for 8 hours. The riser will be hydrostatically tested at 3475 to 3550 psig for 4 hours.

The ANSI 600 and 900 valves, flanges and fittings will not be subjected to a body test greater than 2175 and 3250 psig, respectively.

17. The design burial depth is shown on Drawing No. 21-12-2014/DI-A-001, Sheet 3 of 4.

18. The platform riser below water will be coated with 3 mils (dry) of inorganic zinc-rich primer, and then flake glass-filled epoxy phenolic for a total dry film thickness of 24 and 40 mils.

The above water piping will be coated with 3 mils (dry) of inorganic zinc - rich primer and then Hi-Build catalyzed epoxy for a total dry film thickness of 15 mils.

19. All piping, fittings, riser and components of the pipeline are designed in compliance with 49 CFR 192.

20. Construction information:

A. Estimated Starting Date: May 1, 1980
B. Method fo Construction: Lay Barge
C. Method of Burial: Jet Bury Barge
D. Estimated Time Required to Lay and Bury Pipe: 1 week
E. Estimated Time to Complete Project: 3 weeks

21. Company Contact:

Paul E. Newton, Supervising Engineer
Transcontinental Gas Pipe Line Corporation
P.O. Box 1396 Houston, Texas 77001
Telephone: (713)871-2533

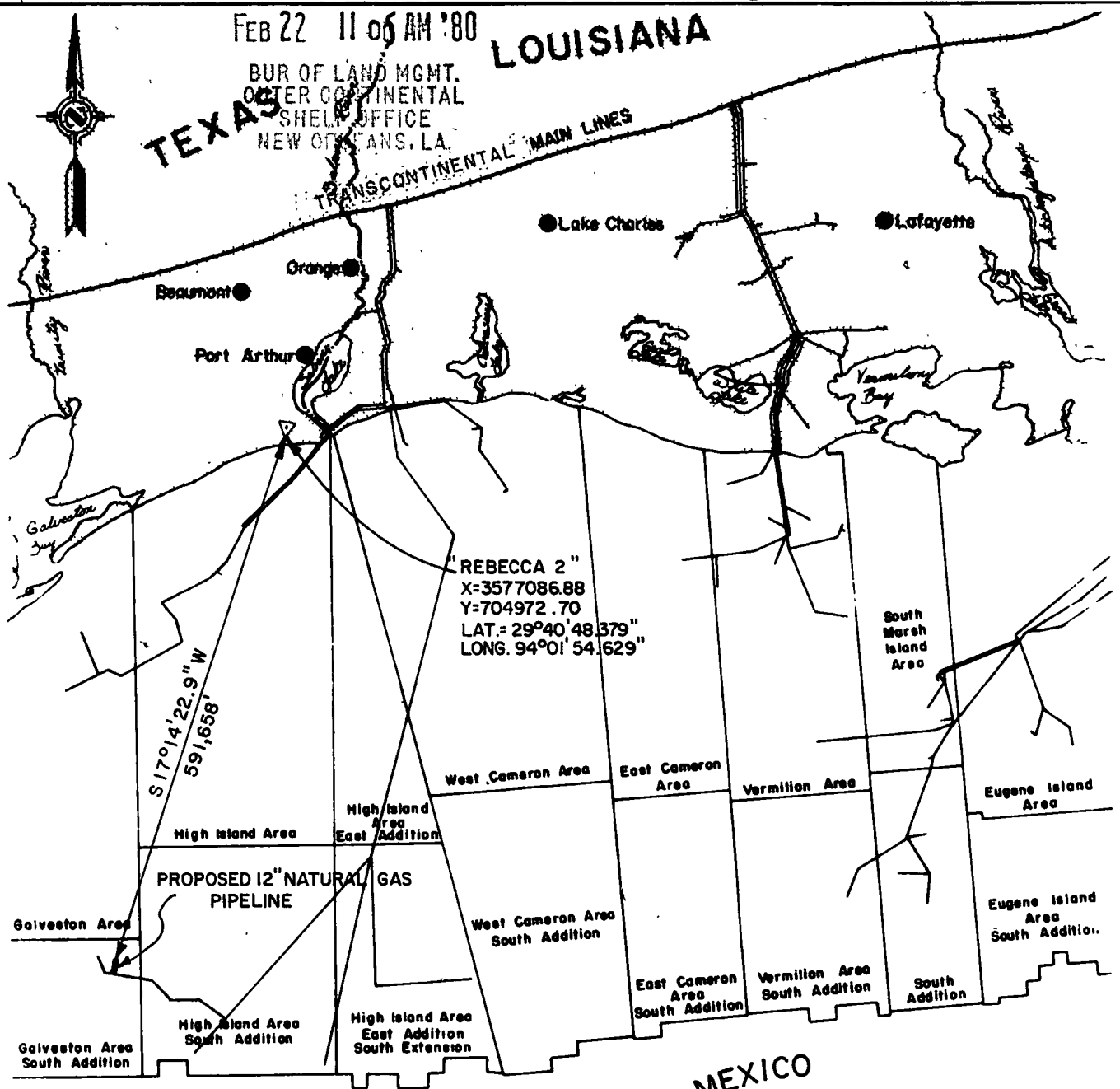
BEST AVAILABLE COPY

RECEIVED

OCS-G 4295

FEB 22 11 06 AM '80

BUR OF LAND MGMT.
OUTER CONTINENTAL
SHELF OFFICE
NEW ORLEANS, LA.



I hereby certify that the design of the Proposed Pipeline complies with Department of Transportation Regulation Part 192, Title 49, and that this map accurately reflects the center line of the proposed Pipeline right-of-way.

STATE OF LOUISIANA
RUSSELL J. JUDAH
18281
REGISTERED PROFESSIONAL ENGINEER

NOTED—MC INTOSH

MANAGER OF CONSTRUCTION

DATE

NUMBER

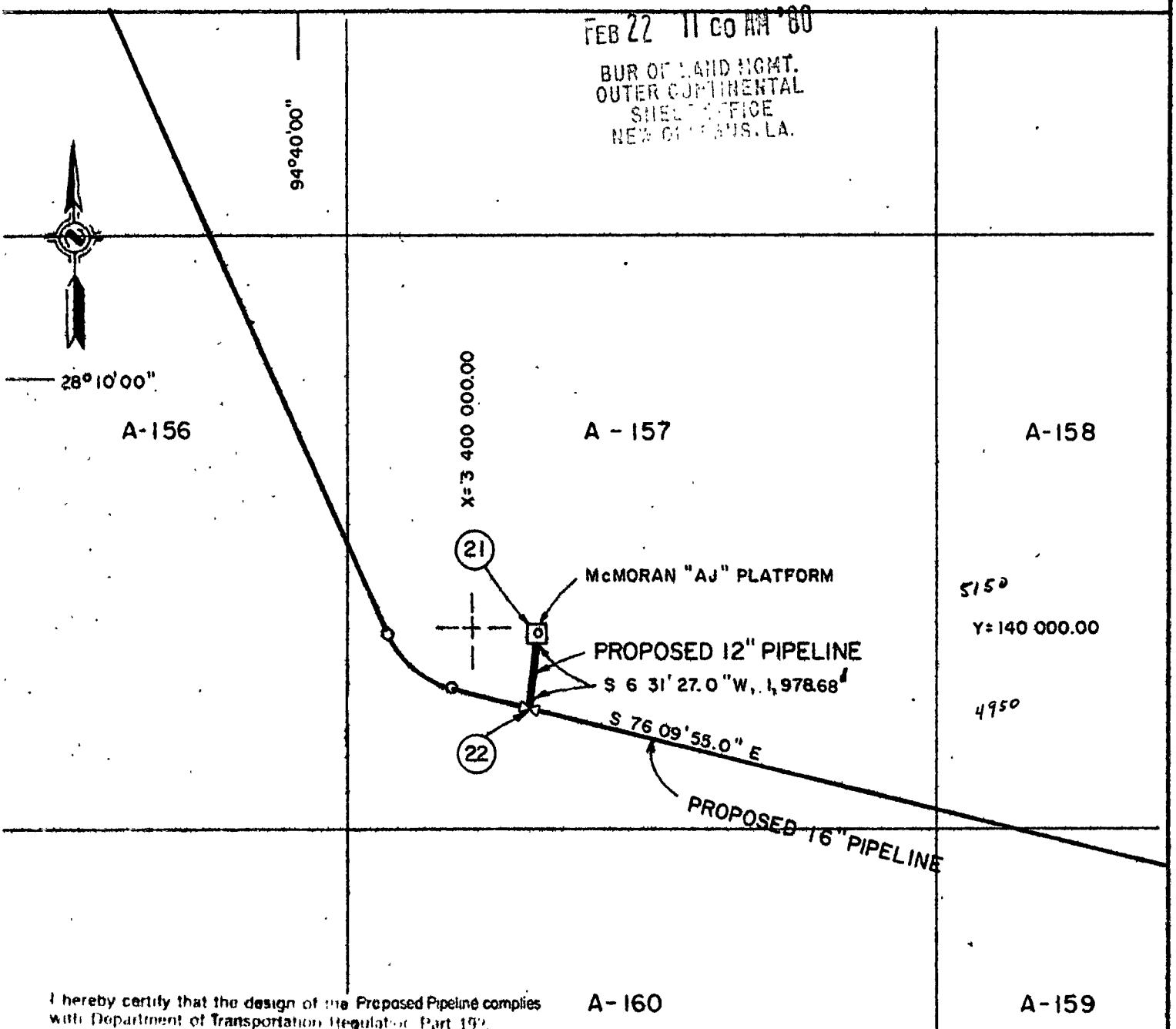
By	Revision	Date

Transcontinental Gas Pipe Line Corporation
A Subsidiary of Transco Companies Inc.
Engineering Department
Houston, Texas

PROPOSED 12" NATURAL GAS PIPELINE
BLK. A-157 GALVESTON AREA SOUTH ADDITION, GULF OF MEXICO

Drawn By E. C.	Date 1-18-80	Approved By [illegible]	Date 1-28-80
Checked By ROG	Date 1-25-80	Approved By Henry D. Livingston Engineer	
Approved By Drafting S	Date 1-28-80		
W. O. No. 5296.08	Scale Shown	General Group & Gen Number 21-12-2014	
No. Dee	Sheet 1 of 4	Dwg. No. DI-A-001	

BEST AVAILABLE COPY



I hereby certify that the design of the Proposed Pipeline complies with Department of Transportation Regulation Part 192, Title 49, and that this map accurately reflects the center line of the proposed Pipeline right-of-way

RUSSELL J. DUBOIS
REGISTERED ENGINEER
LOUISIANA

MANAGER OF CONSTRUCTION

DATE

NUMBER

Transcontinental Gas Pipe Line Corporation Engineering Department Houston, Texas
A Subsidiary of Transco Companies Inc.

PROPOSED 12" NATURAL GAS PIPELINE
BLK. A-157 GALVESTON AREA
SOUTH ADDITION, GULF OF MEXICO

Drawn By L.C.	Date 1-18-80	Approved By R.E.H.	Date 2-7
Checked By R.O.G.	Date 1-25-80		
Approved By Drafting S	Date 1-28-80	Approved By Engineer	
W. O. No. 529608	Scale 1" = 4000'	General Group & Dist Number	21-12-2014
	Sheet 1 of 4	Dwg. No. D.1 -A-001	

By / Revision / Date / No.

NOTES:

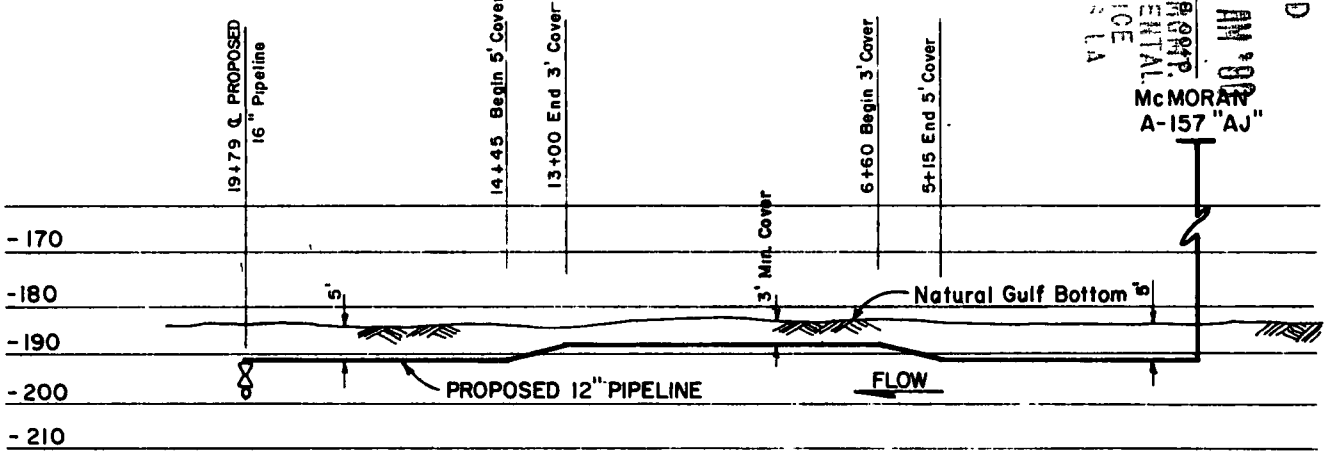
1. THE PIPELINE WILL BE USED TO TRANSPORT NATURAL GAS FROM THE TEXAS O.C.S. TO THE CONTINENTAL UNITED STATES.
2. COORDINATES, BEARINGS, AND DISTANCES SHOWN ARE BASED ON TEXAS (LAMBERT) PLANE COORDINATE SYSTEM, SOUTH CENTRAL ZONE
3. VERTICAL DATUM: LOCAL GULF COAST LEVEL.
4. BOTTOM OF GULF PROFILE TAKEN FROM HAZARD SURVEY CHARTS.
5. PROPOSED PERMANENT R.O.W. 200 FEET IN WIDTH.

Proposed 12" Pipeline From Galveston Blk. A-157 to Tap Valve on 16" Pipeline

Pt	Bearing	Distance	Remarks	X	Y	Lat.	Long.
21			Bottom of Riser Blk A-157	3,401,737 35	139,895.78	28° 08' 46.914"	94° 38' 59 506"
21-22	S 6° 31' 27.0" W	1,978 68'	Eblow at U/W Tie-In	3,401,512.53	137,929 91	28° 08' 27.547"	94° 39' 02 832"

Total Length = 1,978.68 = 0.37 Miles

3401737
3396596
15141



PROFILE OF 12"

I hereby certify that the design of the Proposed Pipeline complies with Department of Transportation Regulation Part 192, Title 49.

RUSSELL J. JORDAN
18284
REGISTERED PROFESSIONAL ENGINEER

MANAGER OF CONSTRUCTION

DATE NUMBER

Transcontinental Gas Pipe Line Corporation — Engineering Department, Houston Texas
A Subsidiary of Transco Companies Inc

PROPOSED 12" NATURAL GAS PIPELINE
BLK. A-157 GALVESTON AREA
SOUTH ADDITION, GULF OF MEXICO

Drawn By E.C.	Date 1-15-80	Approved By [illegible]	Date 1-28-80	
Checked By ROG	Date 1-25-80	Approved By [illegible] Engineer		
Approved By Drafting S	Date 1-28-80			
W. O. No. 5296.08	Scale Shown	General Group & Gun Number 21-12-2014		
	Sheet 3 of 4	Dwg No DI-A-001		

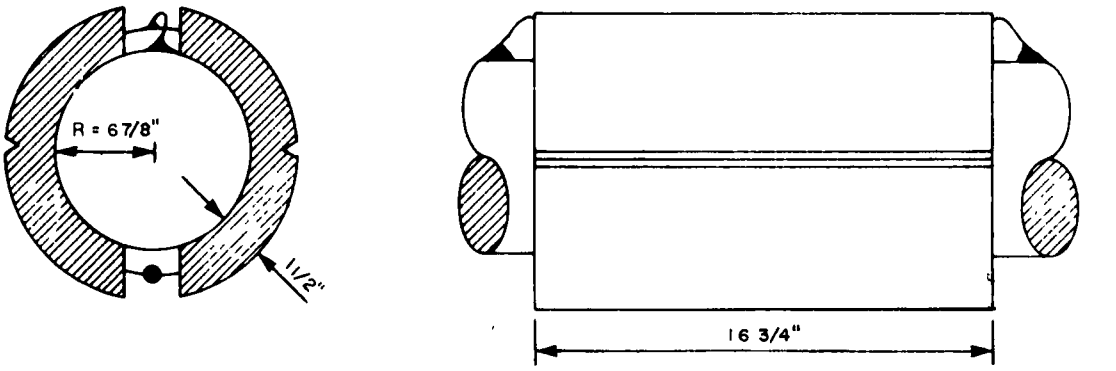
By / Revision / Date / No.

1- 1011-2-1

BEST AVAILABLE COPY

PROPOSED 12'' PIPELINE FROM PLATFORM A-157 ''AJ'' TO PROPOSED 16'' PIPELINE

GALVALUM III BRACELETS



WEIGHT 96 LBS
N T S

NOTES

1 Galvalum III Anodes Theoretical Rating = $\frac{0.1530 \text{ Amp Year}}{\text{Lbs}}$

Practical = 0.1530 x 75% Effective x 85% use factor = $\frac{0.0975 \text{ Amp Year}}{\text{Lbs}}$

2 Assuming 2% Damaged Coating and .005 Amperes Per Square Foot Required for Protection
Current Required = CR
CR = Total Area x 0 02 x 0.005
= 6,764.9 Sq. Ft x 0.0001
CR = 0.68 Amperes

3 Pounds of Galvalum III Required for 40 Years Protection
Lbs. = (0.68 Amperes/$\frac{0.0975 \text{ Amp Year}}{\text{Lb}}$) x 40 Years

Lbs = 260 19

4 13.75" I D Galvalum III Anodes 96 Lbs Each
Number of Anodes Required = N R
N.R. = 260.19 / 96
N.R. = 2.71

5 3-13.75" I D Galvalum III Anodes, On 660 Foot Spacing Will Be Installed The First Anode Will Be 100 Feet From The Platform There Will Be 2 Anodes Placed on the Riser Assembly and one Anode placed on the U/W Top Valve Assembly

6 Pipeline To Environment Voltages Will Be Observed At The Platform After The Line Is In Place To Assure That Adequate Corrosion Protection Is Being Provided

7 Total Number Anodes Required = 6

RECEIVED
FEB 22 11 00 AM '80
BUR OF LAND MGMT.
OUTER CONTINENTAL
SHELF OFFICE
NEW ORLEANS, LA.

I hereby certify that the design characteristics of the pipeline comply with Department of Transportation Regulation Part 192, title 49

RUSSELL J. JUDAH
18984
REGISTERED
PROFESSIONAL ENGINEER

MANAGER OF CONSTRUCTION

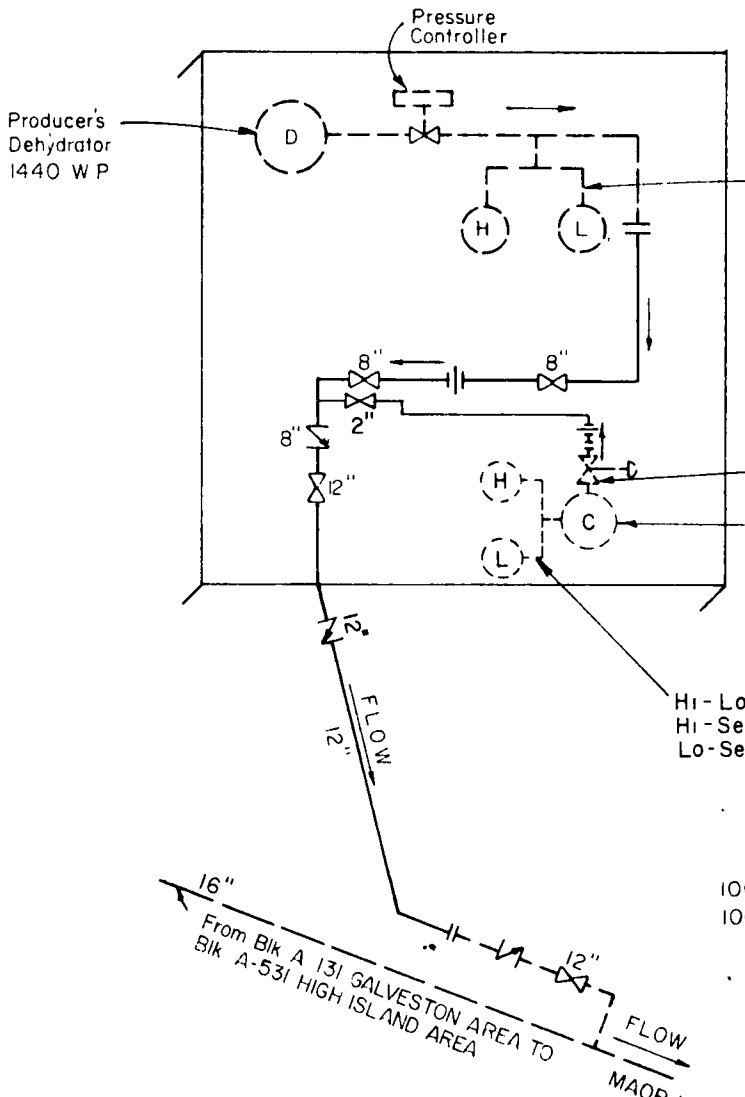
Date

Number

By	Transcontinental Gas Pipe Line Corporation — Engineering Department, Houston Texas — A Subsidiary of Transco Companies Inc			
Revision	PROPOSED 12" NATURAL GAS PIPELINE BLK. A-157 GALVESTON AREA SOUTH ADDITION, GULF OF MEXICO			
Date	Drawn By E.C.	Date 1-14-80	Approved By JW	Date 1-29-80
	Checked By ROG	Date 1-25-80	Approved By Denny W. Morgan Engineer	
	Approved By Drafting S	Date 1-28-80		
	W. O. No. 5296.08	Scale	General Group & Gun Number 21-12-2014	
No.	Sht Desc	Sheet 4 of 4	Dwg. No. D1-A-001	

BEST AVAILABLE COPY

RECEIVED
FEB 22 11 00 AM '80
BUR OF LAND MGMT.
OUTER CONTINENTAL
SHELF OFFICE
NEW ORLEANS, LA.



Hi-Lo Sensors
Hi-Set @ 1440 PSIG Maximum
Lo Set @ 500 PSIG Minimum

McMORAN PLATFORM "AJ" GALVESTON A-157

Dump Valve

Producer's Coalescer 1440 PSIG W P

Hi-Lo Sensors
Hi-Set @ 1440 PSIG Maximum
Lo-Set @ 500 PSIG Minimum

1. System MAOP = 1440 psig
2. ALL Underwater Valves Are ANSI 900 #
3. ALL Abovewater Valves Are ANSI 600 #
4. Pipeline is Cathodically Protected With Sacrificial Anodes

PIPE SPECIFICATIONS

1000' 12 750" OD x 0 688" WT ASTM A106 GR B
1000' 12 750" OD x 0 438" WT API 5L GR B

I hereby certify that the design of the Pipeline complies with Department of Transportation Regulation Part 192 Title 49

OCS-G 4295

No.	Date	Revision	By
1	1/18/80	Added 12" Check Valve	HG

Transcontinental Gas Pipe Line Corporation Engineering Department Houston Texas
A Subsidiary of Transco Companies Inc

SCHEMATIC FLOW DIAGRAM
PROPOSED 12" PIPELINE
BLOCK A-157, GALVESTON AREA

Drawn By [illegible]	Date 11-14-79	Approved By [illegible]	Date 11-26-79
Checked By [illegible]	Date 1-27-79		
Approved By Drafting	Date 1-[illegible]-80	Approved By [illegible] Engineer	
W O No 5296 08	Scale None	General Group & Gun Number	21-2014
	Sheet 1 of 1	Dwg. No	DI-A-002

1-3-80
Date

9001
Number

4295

Revised 1/15/80

PIPELINE APPLICATION CHECK LIST

INSTRUCTIONS: Check the blank on the left if the statement is affirmative or correct data submitted. Make N/A (not applicable) where appropriate. Place an X in the blank if the answer is no or if the data was not submitted. All blanks marked X must be rectified to a check (or qualified) before approval can be given for the pipeline. Enter data in the blanks furnished.

A. Verify the following general information:

I. SOP

✓ a. Do the leases involved on the P/L application appear on the current Suspension of Production (SOP) Lease List?

II. POD

✓ a. Is the pipeline presently covered by an approved Plan of Development (POD)?

III. Lease Stipulation Yes _____ No ✓
If yes, does lease require an archaeological survey? Yes _____
No _____

IV. USGS Application

___ a. The applicant is a Federal lease holder and the pipeline is to be used for such purposes as:

___ 1. Moving production to a control point for gathering, treating, storing, or measuring.

___ 2. Delivery of production to a point of sale.

___ 3. Delivery of production to a pipeline operated by a transportation company.

___ 4. Moving fluids in connection with lease operations, such as for injection purposes.

___ b. The pipeline is within the lease boundary owned by the operator.

___ c. Pipeline is within contiguous lease boundaries.

___ d. Pipeline is within noncontiguous lease boundaries. (Note: Items b, c, and d all fall under 30 CFR 250.18)

___ e. Lessee's "intent to cross" letters are received. (Wait 30 days for letters of objection. Only objections concerning interference with lease operations will be considered.)

___ f. Pursuant to Secretarial Order 2974 of April 30, 1975, check the following:

1. FWS notified _____.

2. FWS comment received _____.

3. BLM notified _____.

4. BLM comment received _____.

5. Environmental Impact Evaluations completed _____.

6. If related to new POD/P, date of POD/P approval _____.

V. BLM Application

✓ a. The pipeline must not be a gathering line.

VI. DOT Pipelines

✓ a. The pipelines are shoreward of the outlet flange at the last process facility (If yes, include 49 CFR 192 for gas P/L or 49 CFR 195 for oil P/L in approval.)

VII. DOI Pipelines

N/A a. Pipelines not covered by VI above.

B. Verify that the information shown on the safety equipment schematic drawing contains the following:

✓ I. The pipeline leaving the platform receiving production from the platform is equipped with high- and low-pressure sensors to directly or indirectly shut-in the well or wells on the platform.

N/A II. The pipeline delivering production to production facilities on the platform is equipped with automatic fail close valve tied into the automatic and remote shut-in system.

N/A III. The pipeline crossing the production platform which does not deliver production to the platform, but which may or may not receive production from the platform, is equipped with high- and low-pressure sensors connected to an automatic fail close valve located in the upstream portion of the pipeline at the platform. In addition, the sensors are tied into either the platform's automatic and remote shut-in system or an independent remote shut-in system.

✓ IV. The pipeline ~~boarding the platform~~ @ SUBSEA TIE-IN is equipped with a check valve.

✓ V. The pipeline leaving the platform is equipped with a check valve.

N/A VI. The pipeline pump is shown as well as its associated high- and low-pressure shut-in device.

N/A VII. If pipeline pilots are located on any pressure vessel or downstream of a departing check valve, all flow restriction(s), (backpressure valve(s), chokes), downstream of the process vessel, or wellhead, and upstream if check valve(s) must be indicated on the schematic.

If flow restriction(s) exist downstream of any process vessel a a low pressure sensor must be installed between the flow restriction(s) and the departing check valve(s). High-pressure sensor(s) must be installed downstream of the wellhead choke.

Reference API RP 14C, Pages 23 and 59

✓ VIII. Pressure source is drawn into the schematic with the following:

✓ a. Source Producer's DEHYDRATOR & PRODUCERS COALESCLER.

✓ b. Maximum source pressure, psig 1440.

✓ IX. The rated working pressures of all separators, pumps, compressors, valves, flanges, and fittings upstream of and including the boarding automatic fail close valve are shown.

C. Verify that the location plat depicts the following:

✓ I. Location of pipeline

✓ II. Length of pipeline

✓ III. Size of pipeline

✓ IV. Type of service

✓ V. Direction of flow

✓ VI. X-Y coordinates of key ponts

D. Verify that the information given on the submitted data sheet is completed; and calculate the $MAOP_{sc}$, $MAOP_{rc}$, $MAOP_{p/l}$.

I. General information for calculating $MAOP_{sc}$, $MAOP_{rc}$, etc.

*1 a. Size of pipeline, inches	12 3/4"	12 3/4"
b. Weight of pipeline, lbs./ft.	72.22	88.57
c. Grade of pipeline	B	B
d. Wall thickness, inches	0.562	0.688
e. Size of riser, inches	12 3/4	
f. Weight of riser, lbs./ft.	88.57	
g. Grade of riser	B	
h. Wall thickness of riser, inches	0.688	
i. Minimum WP rating of piping, fittings, valves, psig	1440	
j. Hydrostatic test pressure (HTP), psig	LINE 2840 - 2900	RISER *2 3475 - 3550
k. Hold time, hrs.	8	4
l. Classification of pipeline (oil or gas)	GAS & CONDENSATE	
m. Type of pipe (ASTM A-106, API-5L, etc.) NOTE: If ASTM A-53 Reference API RP 14E, Section 2.1.a(2)	ASTM A-106	

*1 2 Types of line pipe used.

*2 RISER IS PRE-TESTED

II. DOI Pipelines

a. IP @ SMYS for submerged pipeline = $\frac{2st}{D}$ = _____

b. (.72 x IP @ SMYS) for submerged pipeline = _____ ($MAOP_{sc}$)

c. IP @ SMYS for riser = $\frac{2st}{D}$ = _____

d. (.60 x IP @ SMYS) for riser = _____ ($MAOP_{rc}$)

e. See Ii above ($MAOP_{pfv}$) = _____ ($MAOP_{pfv}$)

_____f. Is 1.25 MSP $\leq$ HTP $\leq$ .95 (IP @ SMYS for smaller IP of a and c above)

_____ $\leq$ _____ $\leq$ _____

_____g. HTP/1.25 = _____

_____h. Is HTP hold time $\geq$ 2 hours

_____i. MAOP of receiving pipeline from IV _____.

_____j. $MAOP_{p/l}$ = the smallest of b, d, e, g, and i above

_____ ($MAOP_{p/l}$)

_____k. Test pressure ANSI & API carbon steel RTJ & RF Flanges and Valves

_____ (From Table 3.1, Page 31 API RP 14E)

_____l. Is K > HTP

NOTE: If note, add statement in approval letter to insure valves and flanges are note subjected to test pressure.

_____m. Is j $\geq$ MSP

_____ $\geq$ _____

If not, one of the following is necessary:

_____ 1. Redundant safety equipment is afforded.

_____ 2. A departure from the requirement for redundant safety equipment

III. DOT Pipelines

a. IP @ SMYS for submerged pipeline = $\frac{2st}{D}$ = 3085

b. (.72 x IP @ SMYS) for submerged pipeline = 2221 ($MAOP_{sc}$)

c. IP @ SMYS for riser = $\frac{2st}{D}$ = 3777

d. For oil P/L (.60 x IP @ SMYS) for riser = N/A ($MAOP_{rc}$)

For gas P/L (.50 x IP @ SMYS) for riser = 1,888

e. See Ii above 1440 ($MAOP_{pfv}$)

f. Limit of Testing

N/A 1. For oil P/L

Is 1.25 MSP $\leqq$ HTP $\leqq$ .95 (IP @ SMYS for smaller IP of a and c above)

____ $\leqq$ ____ $\leqq$ ____

✓ 2. For gas P/L riser component:

Is 1.50 MSP = HTP of riser = .95 (IP @ SMYS of c above)

2160 $\leqq$ 3550 $\leqq$ 3588

✓ 3. For gas P/L submerged component:

Is 1.25 MSP = HTP of submerged component = .95 (IP @ SMYS of a above

1800 $\leqq$ 2900 $\leqq$ 2930

g. $MAOP_{p/l}$ based on HTP

1. For oil P/L HTP 1.25 = N/A

2. For gas P/L riser component HTP/1.5 = 2366 of riser

3. For gas P/L submerged component HTP/1.25 = 2320 of submerged component

h. ~~For oil P/L~~ ~~Is HTP hold time ≥ 24 hours~~

For gas P/L Is HTP hold time ≥ 8 hours

i. MAOP of receiving pipeline from IV 1440

j. $MAOP_{p/l}$ = the smallest of b, d, e, g, and i above

1440 ($MAOP_{p/l}$)

k. Test pressure ANSI & API carbon steel RTJ & RF flanges and valves

2175 (From table 3.1, page 31 API RP 14E)

l. Is k > HTP No

ADD TO LETTER

NOTE: If not, add statement in approval letter to insure valves and flanges are not subjected to test pressure.

m. Is j ≥ MSP

1440 ≥ 1440.

If not, one of the following is necessary:

_____ 1. Redundant safety equipment is afforded

_____ 2. A departure from the requirement for redundant safety equipment.

IV. Pipeline Receiving Production (Installed Prior to July 31, 1977)

		Submerged Component	Riser
a.	Size, inches	16	
b.	Grade		
c.	Wall thickness, inches		
d.	Minimum working pressure of valves and flanges	(MAOPpfv)	
e.	Date of last hydrostatic test		
f.	HTP, psig		
g.	Hold time, hrs.		
h.	MAOP based on HTP HTP/1.25		
i.	IP@SMYS for submerged P/L 2ST/D		
j.	(.72 x IP@SMYS) for submerged P/L	(MAOPsc)	
k.	IP@SMYS for riser 2ST/D		
l.	(.60 x IP@SMYS) for riser	(MAOPrc)	

m. If the receiving P/L is a DOT gas P/L and has not been tested since July 1, 1971, then what is the HAOP to which the segment was subjected during the 5 years prior to July 1, 1976? _____

n. MAOP of receiving P/L ≥ MAOP of proposed P/L ≥ MSP of proposed P/L

1440 ≥ 1440 ≥ 1440

*HAOP - Highest actual operating pressure

E. Verify that the information was given on the submitted data sheet is complete; and calculate the life expectancy of the pipelines corrosion protection ($LE_{p/l}$)

I. General Information for Calculating $LE_{p/l}$

✓ a. Type of corrosion protection (platform anodes, P/L anodes, or rectifier

✓ b. If pipeline anodes are used:

1. Type of anode GALVALUM

2. Spacing interval, ft. 660

3. Weight of unit anode, lbs. 96

II. Calculate Life Expectancy of Corrosion Protection

N/A a. If platform anodes are used, annual pipe-to-electrolyte potential measurements are required.

✓ b. If pipeline anodes are used:

$LE_{p/l} = 3.82 \times 10^4 \times W^o/DIR? =$ 45 yrs

W^o = weight of one anode, pounds =

D = outside diameter of pipe, inches

I = interval = length of pipe, feet ÷ total number of anodes

R = comsumption rate, lbs./amp-yr.

✓ c. Is our calculated $LE_{p/l} \geq 20$ years.

If not, one of the following is necessary:

___ 1. The company agrees to increase their cathodic protection to meet the 20-year requirement.

___ 2. Annual pipe-to-electrolyte potential measurements will be required.

F. Verify that the information given on the submitted data sheet is complete; and calculate the specific gravity on the pipeline ($SP_{p/l}$)

I. General Information pertaining to $SG_{p/l}$

a. Description of pipelines protective coating 5/32" ASPHALT

b. Description of risers protective coating EPOXY 24 to 40 mils

c. Description of pre-concrete coating 5/32" ASPHALT

d. Density of concrete, lbs./cu. ft. 140

e. Thickness of concrete, inches 1"

f. Thickness of asphalt/somastic 5/32" ASPHALT

g. Gravity or density of products:

For gas 0.65 (air = 1.0)

For oil/condensate N/A ° API, N/A (water = 1.0)

h. Given $SG_{p/l}$ 1.51

II. $SG_{p/l}$

N/A a. Expoxy-coated pipelines:

$SG_{p/l} = 2.865\ W/D^2$

W = weight of bare pipe, lbs./ft.

D = diameter of pipe, inches

✓ b. For weighted pipelines:

$$SG_{p/l} = \frac{dc}{d} + \left[\frac{k_2}{(T-k_1)^2}\left(\frac{W+P}{k_3} - \frac{dc}{d}\right)\right]$$

dc = density of concrete, lbs./ft.^{3}

d = density of fluid in which pipeline is submerged, lbs./ft.^{3}

k_1, k_2, k_3 = coefficients from tables

T = thickness of concrete coating, inches

W = weight of bare pipe, lbs./ft.

P = weight of double enamel coat and felt wrap, or weight of asphaltmastic coating, lbs./ft.

$SG_{p/l}$ = 1.43

✓ c. Is our calculated SG = operator's given SG

1.42 = 1.51

NOTE: These values should be approximately the same. If not, resolve. If the SG is close to a value of 1, the pipeline is unacceptable and must be weighted with concrete or anchored securely to the bottom.

G. Verify the following general information:

I. Water Depth, ft. 185 (Max) _____ (Min)

II. Burial Depth, ft. 3'

III. Maximum Operating Pressure (MOP) 1440

IV. Capacity 20 MMCFD base on 1,063 psig

V. No. of lines: Existing 0 Proposed 1 - line being tied into