HIP - 39

GENERAL CORRESPONDENCE

YEAR(S): 1993 - 1989

MERIDIAN OIL

July 29, 1993

State of New Mexico
Oil Conservation Division
P.O. Box 2088
Land Office Building
Santa Fe, New Mexico 87504-2088

ATTN: Mr. Roger Anderson
Environmental Engineer

Dear Mr. Anderson:

Meridian Oil Gathering Inc. is planning to hydrostatic test Trunk MB 22" Loop pipeline. This project consists of two segments, 1) Constructing 6931' of new pipe for which an application letter was sent on 6/24/93, and a water discharge approval granted on 7/1/93 (see attachments), and 2) Purchase from Williams Field Service .9 miles of existing 22" pipeline which will be tied in to the southern end of the newly constructed pipeline described in 1., above.

This letter pertains particularly to the segment purchased from Williams Field Service and listed in 2., above. The purchased pipeline is shown on the attached map. The pipeline is .9 miles long. It crosses lands owned by the Bureau of Land Management. The landowner is aware of this work and has agreed in principal to this testing plan.

The line will be tested in one closed loop. The amount of water required is 3650 barrels. The test will be conducted at 90% to 95% of the specified minimum yield strength. Duration of the test will be 8 hours.

The water used in the test will be taken from storage tanks at a salt water disposal well. Upon completion of the test, the water will be returned to one of Meridian's salt water disposal wells. A typical water analysis is attached for your information.

If you have any questions, please call me at (505) 326-9843.

Sincerely,

Loren W Fothergill
Loren Fothergill
Senior Staff Engineer

Attachments

MERIDIAN OIL

June 24, 1993

State of New Mexico
Oil Conservation Division
P.O. Box 2088
Land Office Building
Santa Fe, NM 87504-2088

ATTN: Mr Roger C Anderson
Environmental Engineer

Dear Mr. Anderson:

Meridian Oil Gathering, Inc. is planning to hydrostatic test its Trunk MB 22" Loop west of it's Pump Canyon Compressor Station. The line is presently under construction. The lands is owned by the US. Government and managed by the BLM.

Trunk MB 22" Loop is constructed of 22 inch steel pipe, 6,931 feet long. The line will be tested in one closed loop. The amount of water required is 5,325 barrels of water. The test will be conducted at 90% of the specified minimum yield strength. Duration of the test will be 8 hours.

The water used in the test will be taken from storage tanks a salt water disposal well. Upon completion of the test, the water will be returned to one of Meridian's salt water disposal wells. A typical water analysis is attached for your information.

If you have any questions, please call me at (505) 326-9843.

Sincerely,

Loren W. Fothergill
Senior Staff Engineer

Meridian Oil Inc., 3535 East 30th St., P.O. Box 4289, Farmington, New Mexico 87499-4289, Telephone 505-326-9700

Foreman: GARY GBORNE

STRICKCO

Water Analysis Laboratories

FARMINGTON, NEW MEXICO 87401

File WA/0437/91

Company MERIDIAN OIL INC. Well Name Nordhaus #711 Sample No. One

Formation Fruitland Coal Depth N/A Sampled From Produced

Location SW NW 01-31N-9W Field Basin Fruitland County San Juan State N.M.

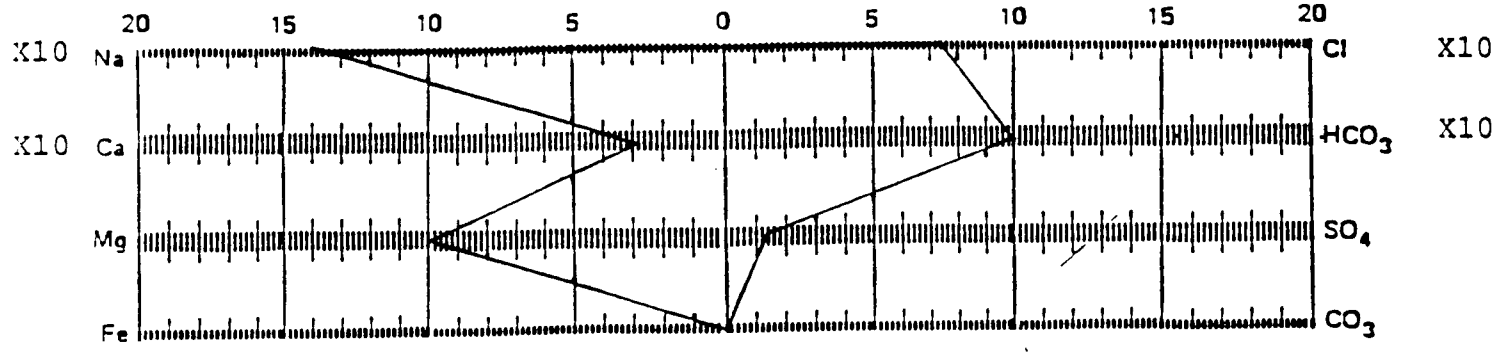
Date Sampled 4/29/91 Date Analyzed 5/1/91 Engineer WDS

Total Dissolved Solids 12,573 mg/L Calculated Sp. Gr. 1.011 @ 64 °F.

Resistivity 0.78 ohm-meters @ 64 °F. Measured pH 7.92 @ 64 °F. Measure

Constituents	meq/L	mg/L	Constituents	meq/L	mg/L
Sodium	136.5	3,138	Chloride	73.1	2,591
Calcium	27.9	560	Bicarbonate	100.0	6,100
Magnesium	10.0	122	Sulfate	1.3	62 (Gra
Iron	-0-	-0-	Carbonate	-0-	-0-
Hydrogen Sulfide	Absent		Hydroxide	-0-	-0-

Scale: meq/L

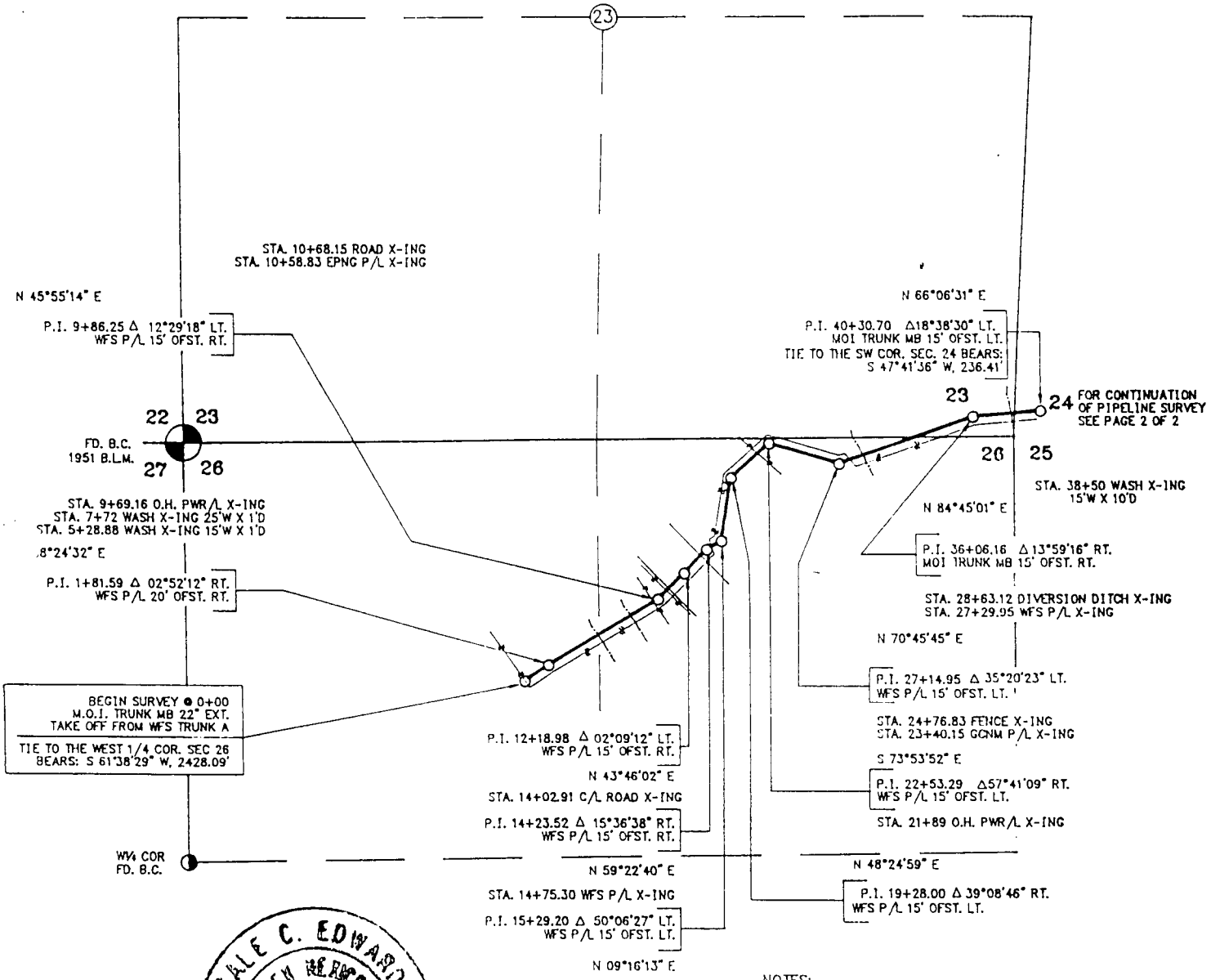


All analyses except iron determination performed on a filtered sample.

TRUNK MB–22" LOOP EXTENSION

N1/2 SEC. 26, & SE1/4 SEC. 23 T. 30 N., R. 9 W., N.M.P.M.
SAN JUAN COUNTY, NEW MEXICO

B.L.M.	0+00 TO 40+30.70	4030.70 FT./ 244.26 RODS



I, NEALE C. EDWARDS, A REGISTERED PROFESSIONAL SURVEYOR UNDER THE LAWS OF THE STATE OF NEW MEXICO, HEREBY CERTIFY THAT THIS PLAT WAS PREPARED FROM FIELD NOTES OF AN ACTUAL SURVEY MEETING THE MINIMUM REQUIREMENTS OF THE STANDARDS FOR LAND SURVEYS AND IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

NEALE C. EDWARDS
NEW MEXICO 6857 REGISTERED LAND SURVEYOR
NEALE C. EDWARDS
N.M.R.L.S. #6857

4-1-93
DATE:

NOTES:
1.) BASIS OF BEARING: SOLAR OBSERVATION
2.) ALL OFFSET DISTANCES ARE SLACK CHAIN DISTANCES.

SCALE: 1" = 1000'

MERIDIAN OIL
FARMINGTON, NEW MEXICO

GAS PIPELINE

DATE SURVEYED:	REV. DATE:	DATE DRAWN:	DRAWN BY:	DRWG. NO.:
3/16/92		3/26/93	J.B.	A520B026

SURVEYED BY:
NCE SURVEYS, INC.
4900 KAYENTA DRIVE
FARMINGTON, NEW MEXICO 87402
(505) 325-2654

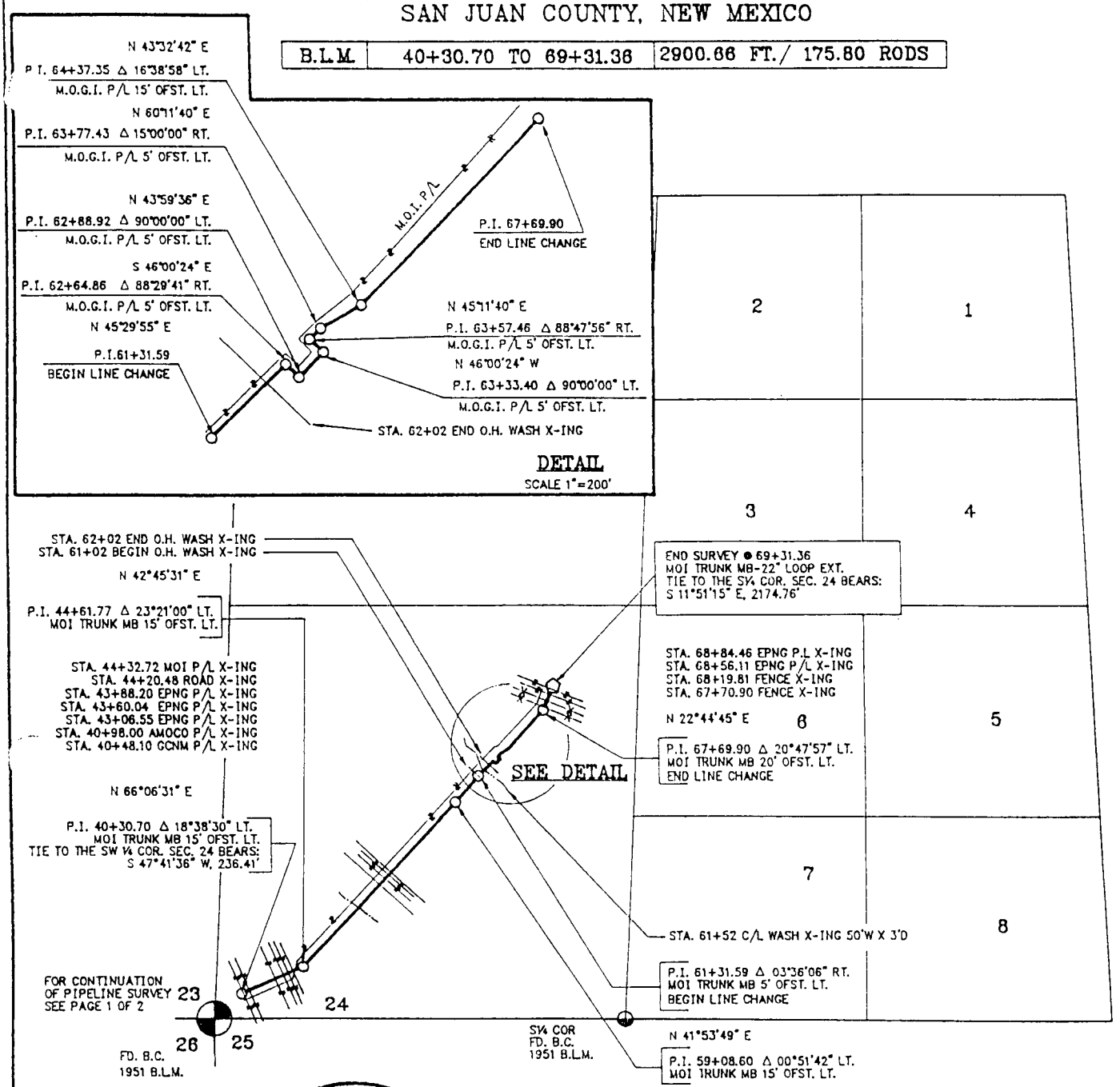
PREPARED BY:
TRIGON ENGINEERING INC
DENVER COLORADO
FARMINGTON NEW MEXICO

TRUNK MB-22" LOOP EXTENSION

SW1/4 SEC. 24, T. 30 N., R. 9 W., N.M.P.M.

SAN JUAN COUNTY, NEW MEXICO

B.L.M.	40+30.70 TO 69+31.36	2900.66 FT./ 175.80 RODS



NOTES:

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NEALE C. EDWARDS
NEW MEXICO
6857
REGISTERED LAND SURVEYOR

4-27-93
DATE:

NEALE C. EDWARDS
N.M.R.L.S. #6857

SCALE: 1" = 1000'

MERIDIAN OIL
FARMINGTON, NEW MEXICO

GAS PIPELINE

DATE SURVEYED:	REV. DATE:	DATE DRAWN:	DRAWN BY:	DRWG. NO.:
3/16/92	4/15/93	3/26/92	J.B.	A520B024

SURVEYED BY:
NCE SURVEYS, INC.
4900 KAYENTA DRIVE
FARMINGTON, NEW MEXICO 87402
(505) 325-2654

PREPARED BY:
TRIGON ENGINEERING INC
DENVER COLORADO
FARMINGTON NEW MEXICO

22" Line Purchased from Williams Field Service

RIGHT OF WAY

STA. 0+00

ADDITIONAL 25' TEMP. R.O.W. SOUTH SIDE 0+00 TO 14+75.3

ADDITIONAL 25' TEMP. R.O.W. 25' NORTH SIDE 25' SOUTH SIDE 0+00 TO 1+00

APPROX. AREA WITH SAW ROCK 0+00 TO 1+35

APPROX. AREA WITH RIP ROCK 1+35 TO 2+81

ADDITIONAL 25' TEMP. R.O.W. 25' NORTH SIDE 25' SOUTH SIDE 9+68.2 TO 11+88.2

APPROX. AREA WITH SAW ROCK 3+09 TO 12+04

APPROX. AREA WITH RIP ROCK 12+04 TO 13+59

ARCHAEOLOGICAL SITE SOUTH SIDE OF R.O.W. 19+50 TO 23+50

APPROX. AREA WITH SAW ROCK 13+39 TO 23+59

APPROX. AREA WITH RIP ROCK 23+59 TO 23+90

ADDITIONAL 25' TEMP. R.O.W. 25' NORTH SIDE 25' SOUTH SIDE 13+02.9 TO 25+52.9

B.L.M. (2) 50 FT. ROW 25 FT. TUP 420.1 RODS

ADDITIONAL 25' TEMP. R.O.W. 25' NORTH SIDE 25' SOUTH SIDE 26+30 TO 28+30

APPROX. AREA WITH SAW ROCK 23+90 TO 28+28

APPROX. AREA WITH SAW ROCK 32+56 TO 38+47

ADDITIONAL 25' TEMP. R.O.W. SOUTH SIDE 37+90.7 TO 40+30.7

APPROX. AREA WITH SAW ROCK 38+92 TO 39+84

ADDITIONAL 25' TEMP. R.O.W. 25' NORTH SIDE 25' SOUTH SIDE 40+30.7 TO 43+40.7

ADDITIONAL 25' TEMP. R.O.W. 25' NORTH SIDE 25' SOUTH SIDE 48+90 TO 50+90

ADDITIONAL 25' TEMP. R.O.W. NORTH SIDE 44+32.7 TO 69+31.4

ADDITIONAL 25' TEMP. R.O.W. 25' NORTH SIDE 25' SOUTH SIDE 50+90 TO 53+90

ADDITIONAL 25' TEMP. R.O.W. 25' NORTH SIDE 25' SOUTH SIDE 58+40.1 TO 69+31.4

APPROX. AREA WITH SAW ROCK 59+64 TO 60+04

APPROX. AREA WITH RIP ROCK 60+04 TO 60+85

APPROX. AREA WITH SAW ROCK 60+85 TO 61+43

APPROX. AREA WITH RIP ROCK 65+82 TO 68+88

STA. 69+31.4

DEPTH OF COVER: 36"

STATIONS

9+00 BEGIN SURVEY

P.I. 11+81.6 Δ 3°51'41" RT.

54+28.9 C/L WASH CROSSING (25'W x 10')

74+72 C/L WASH CROSSING (25'W x 10')

94+69.2 O/H POWER LINE CROSSING

P.I. 9+96.3 Δ 12°39'18" LT.

10+38.6 E.P.N.G. PIPELINE CROSSING

10+68.2 C/L ROAD CROSSING

P.I. 12+19 Δ 2°39'13" LT.

14+02.6 C/L ROAD CROSSING

P.I. 14+38.3 Δ 15°38'08" RT.

14+78.5 WFS TRUNK A CROSSING

P.I. 15+29.2 Δ 50°08'27" LT.

15+50 BEGIN ARCH. TEST R.O.W.

P.I. 18+28 Δ 36°06'46" RT.

20+00 END ARCH. TEST R.O.W.

21+99 O/H POWER LINE CROSSING

P.I. 23+53.0 Δ 57°41'09" RT.

24+16.6 FENCE CROSSING

P.I. 27+15 Δ 35°20'23" LT.

27+30 WFS PIPELINE CROSSING

28+63.1 DIVERSION DITCH CROSSING

P.I. 36+06.2 Δ 13°59'16" RT.

38+50 C/L WASH CROSSING (15'W x 10')

P.I. 40+36.7 Δ 18°36'36" LT.

40+45.1 C.N.M. PIPELINE CROSSING

40+98 AMOCO PIPELINE CROSSING

43+06.8 E.P.N.G. PIPELINE CROSSING

43+55.2 E.P.N.G. PIPELINE CROSSING

43+85.2 E.P.N.G. PIPELINE CROSSING

44+20.5 C/L ROAD CROSSING

44+32.7 W.O. TRUNK MB PIPELINE CROSSING

P.I. 44+61.8 Δ 53°21'00" LT.

49+92.8 C/L WASH CROSSING (45'W x 10')

51+83.8 C/L ROAD CROSSING

52+40.1 E.P.N.G. PIPELINE CROSSING

52+70.1 WILLIAMS FIELD SERVICES 20" PIPELINE CROSSING "A" DOGLEG OFFSET 15"

52+92.8 C/L ROAD CROSSING

P.I. 59+08.8 Δ 0°51'45" LT.

61+31.6 BEGIN ARCH. TEST R.O.W.

P.I. 61+31.8 Δ 3°38'08" RT.

61+32 C/L WASH CROSSING (50'W x 3')

P.I. 67+64.9 Δ 86°29'41" RT.

P.I. 82+97.1 Δ 90°00'00" LT.

82+97.1 END C.M. WASH CROSSING

P.I. 83+33.4 Δ 90°00'00" RT.

P.I. 83+57.5 Δ 88°42'58" RT.

P.I. 83+77.4 Δ 15°00'00" RT.

P.I. 84+37.4 Δ 16°38'34" LT.

P.I. 87+68.9 Δ 28°57'32" LT.

87+70.8 CHAIN LINK FENCE CROSSING

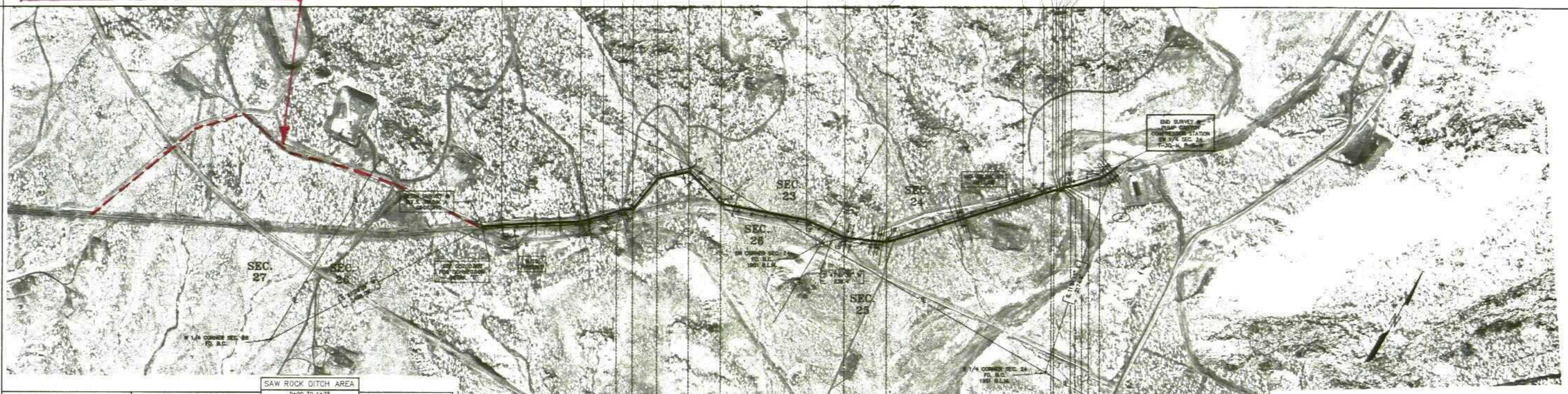
88+31.1 E.P.N.G. PIPELINE CROSSING

88+56.1 E.P.N.G. PIPELINE CROSSING

88+84.5 E.P.N.G. PIPELINE CROSSING

89+31.4 END SURVEY ● PUMP CANYON COMPRESSOR STATION

ALIGNMENT

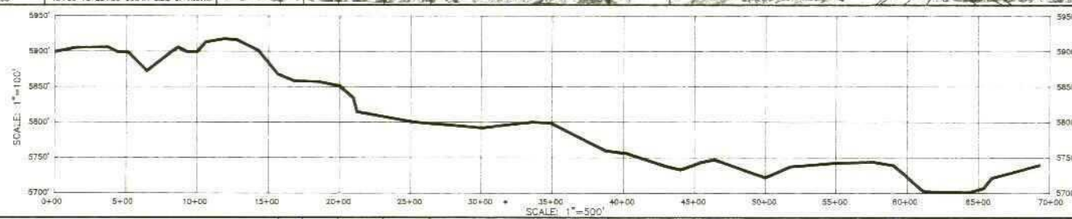


MB 22" LOOP EXTENSION
STA. 0+00 TO STA. 69+31.4
SECTION 26, 24, & 23, T-30-N, R-9-W
SAN JUAN COUNTY, NEW MEXICO

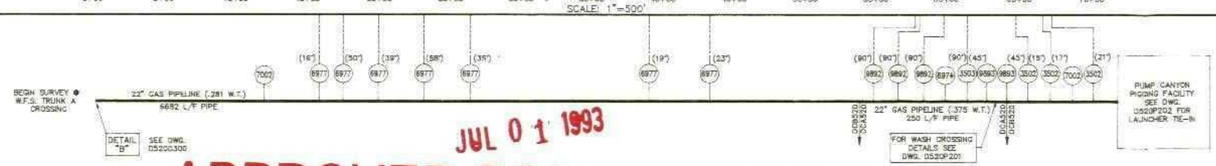
B.L.M. TUP AREA	B.L.M. TUP AREA	SAW ROCK DITCH AREA	RIP ROCK DITCH AREA
9A) 0+00 TO 14+75.3 25' TO SOUTH SIDE	58) 37+90.7 TO 40+30.7 25' TO SOUTH SIDE	0+00 TO 1+35	
10) 44+32.7 TO 69+31.3 25' TO NORTH SIDE	59) 40+30.7 TO 43+40.7 25' TO BOTH SIDES	3+09 TO 12+04	1+35 TO 2+81
54) 0+00 TO 1+00 25' BOTH SIDES	60) 48+90 TO 50+90 25' TO BOTH SIDES	13+59 TO 23+59	12+04 TO 13+59
55) 9+68.2 TO 11+68.2 25' TO BOTH SIDES	61) 50+90 TO 53+90 25' TO BOTH SIDES	23+90 TO 28+28	23+59 TO 23+90
56) 13+02.9 TO 25+52.9 10' TO BOTH SIDES	62) 58+40.1 TO 69+31.4 25' TO BOTH SIDES	32+56 TO 38+47	58+22 TO 59+64
57) 26+30 TO 28+30 25' TO BOTH SIDES		38+92 TO 39+84	59+64 TO 60+04
		60+85 TO 61+43	60+04 TO 60+85
			65+82 TO 68+88

ARCHAEOLOGICAL SITE
19+50 TO 23+50 SOUTH SIDE OF R.O.W.

PROFILE



MATERIAL



JUL 01 1993

APPROVED FOR CONSTRUCTION

LEGEND

- MOTOR OPERATED VALVE
- BALL VALVE
- GATE VALVE
- CHECK VALVE
- CATHODIC TEST STA.
- PIPE CHANGE
- PIPELINE WARNING SIGN
- CONCRETE COATED PIPE
- CASING
- EXISTING PIPELINE
- INTERSTATE HIGHWAY
- FEDERAL HIGHWAY
- STATE HIGHWAY
- TRACT NUMBER
- EQUATION
- POWER LINE
- RIGHT OF WAY
- PROPERTY LINE
- SECTION LINE
- RANGE LINE
- TOWNSHIP LINE
- WATER LINE
- FENCE
- UNDERGROUND CABLE

NOTES:
1. BASIS OF BEARING: SOLAR OBSERVATION.
2. ALL OFFSET DISTANCES ARE SLACK CHAIN DISTANCES.

MATERIAL

ITEM	DESCRIPTION	QUANTITY
7002	22" GAS PIPELINE (.281 W.T.) API 5L X-65	6682'
6977	22" 6D RADIUS HOT BENDS 15° OR GREATER (API 5L X-65)	10
6981	22" 6D RADIUS 90° HOT BENDS (API 5L X-60)	2
8992	22" 6D RADIUS 90° HOT BENDS (API 5L X-60)	2
7893	22" 6D RADIUS 45° HOT BENDS (API 5L X-60)	2
6974	22" GAS PIPELINE (.375 W.T.) API 5L X-60	250'

REFERENCE DRAWINGS

DWG. NO.	TITLE
D520P101	PUMP CANYON WASH CROSSING
D520P202	LAUNCHER SITE PLAN
D5200300	EXISTING 22" PIPELINE CONNECTIONS

REVISIONS

NO.	DATE	BY	DESCRIPTION	AFE.	APP.
0	7/1/93	JC	ISSUED FOR CONSTRUCTION		

PREPARED BY:
TRIGON ENGINEERING INC
DENVER COLORADO

MERIDIAN OIL

GAS PIPELINE
MB 22" LOOP EXTENSION
SAN JUAN COUNTY, NEW MEXICO

SCALE: 1"=500'
AFE:
DWG. NO. D520M201
REV. 0

MERIDIAN OIL

RECEIVED

JUN 25 1993

OIL CONSERVATION DIV.
SANTA FE

June 24, 1993

State of New Mexico
Oil Conservation Division
P.O. Box 2088
Land Office Building
Santa Fe, NM 87504-2088

ATTN: Mr Roger C Anderson
Environmental Engineer

Dear Mr. Anderson:

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223,650 gallons

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If you have any questions, please call me at (505) 326-9843.

Sincerely,

Loren W. Fothergill
Senior Staff Engineer

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Foreman: GARY GBORNE

STRICKCO

Water Analysis Laboratories

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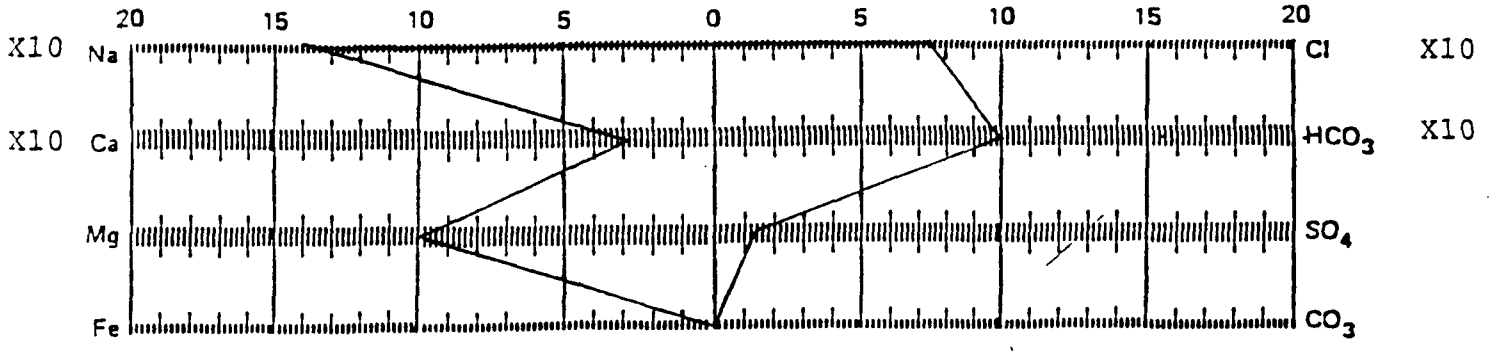

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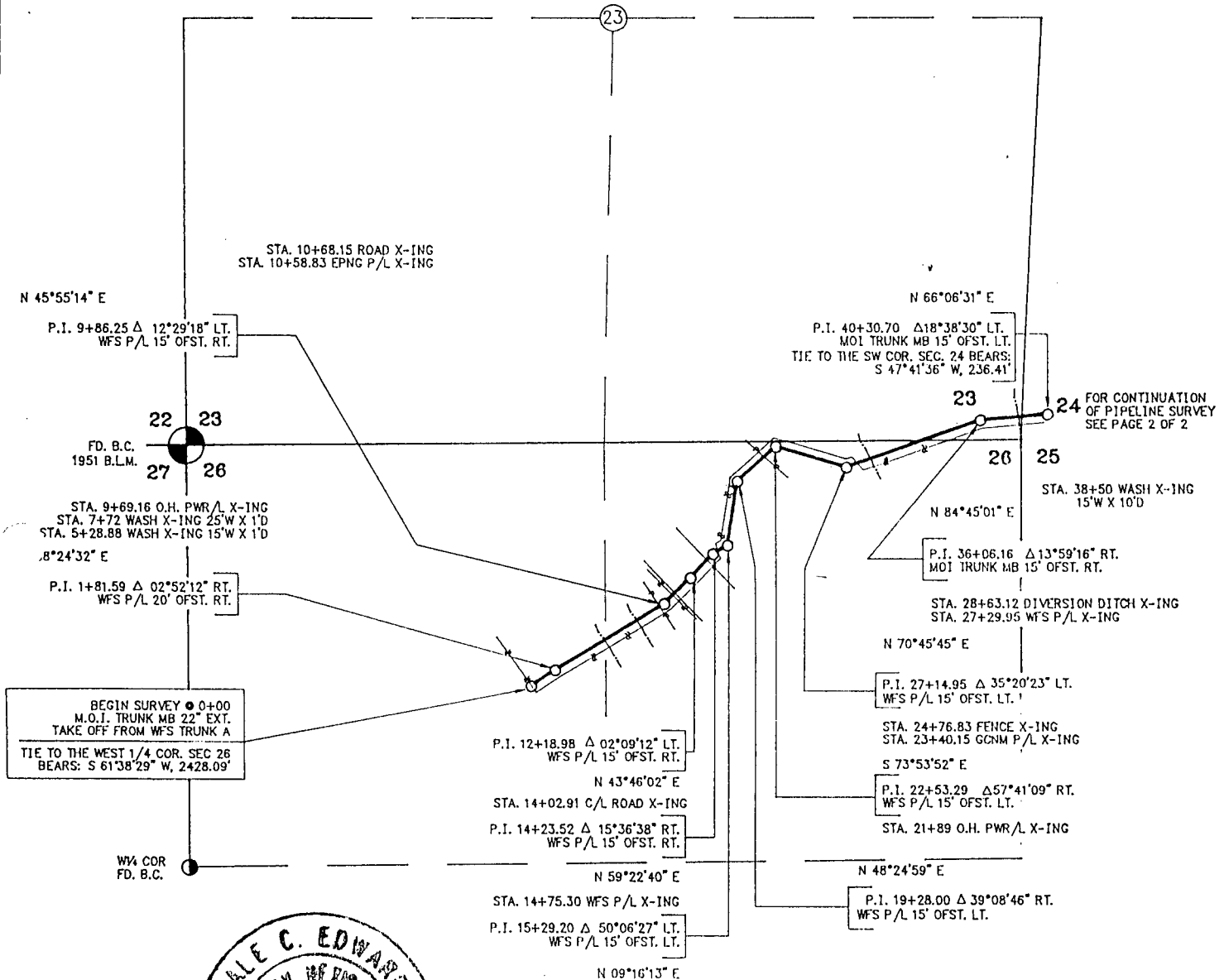
TRUNK MB–22" LOOP EXTENSION

N1/2 SEC. 26, & E1/4 SEC. 23 T. 30 N., R. 9 N.M.P.M.

SAN JUAN COUNTY, NEW MEXICO

B.L.M.	0+00 TO 40+30.70	4030.70 FT./ 244.28 RODS



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NEALE C. EDWARDS
NEW MEXICO
6857
REGISTERED LAND SURVEYOR

4-1-93
DATE:

NEALE C. EDWARDS
N.M.R.L.S. #6857

NOTES:
1.) BASIS OF BEARING: SOLAR OBSERVATION
2.) ALL OFFSET DISTANCES ARE SLACK CHAIN DISTANCES.

SCALE: 1" = 1000'

MERIDIAN OIL
FARMINGTON, NEW MEXICO

GAS PIPELINE

DATE SURVEYED:	REV. DATE:	DATE DRAWN:	DRAWN BY:	DRWG. NO.:
3/16/92		3/26/93	J.B.	A520B026

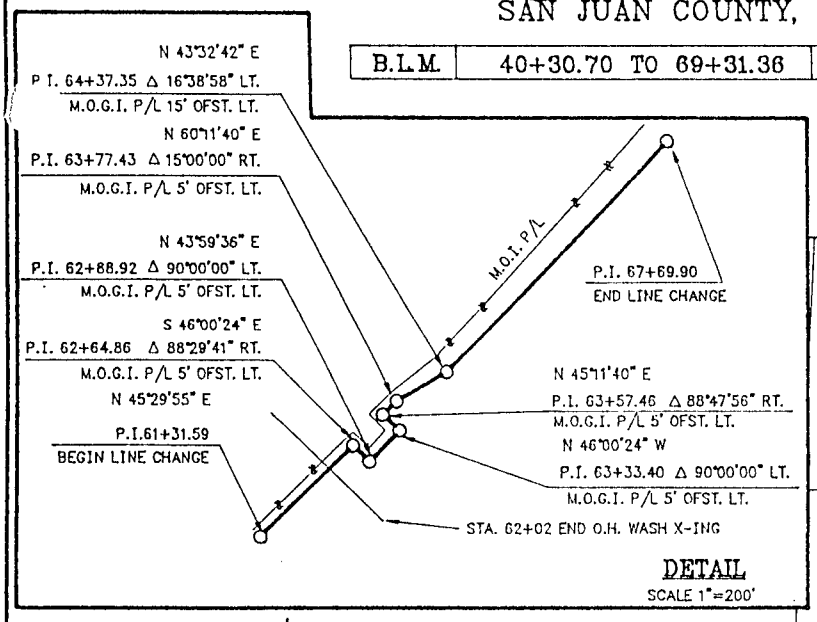
SURVEYED BY:
NCE SURVEYS, INC.
4900 KAYENTA DRIVE
FARMINGTON, NEW MEXICO 87402
(505) 325-2654

PREPARED BY:
TRIGON ENGINEERING INC
DENVER COLORADO
FARMINGTON NEW MEXICO

TRUNK MB–22" LOOP EXTENSION

SW1/4 [redacted]C. 24, T. 30 N., R. 9 W., N.M.[redacted].
SAN JUAN COUNTY, NEW MEXICO

B.L.M.	40+30.70 TO 69+31.36	2900.66 FT./ 175.80 RODS



DETAIL
SCALE 1"=200'

STA. 62+02 END O.H. WASH X-ING
STA. 61+02 BEGIN O.H. WASH X-ING
N 42°45'31" E
P.I. 44+61.77 Δ 23°21'00" LT.
MOI TRUNK MB 15' OFST. LT.
STA. 44+32.72 MOI P/L X-ING
STA. 44+20.48 ROAD X-ING
STA. 43+88.20 EPNG P/L X-ING
STA. 43+60.04 EPNG P/L X-ING
STA. 43+06.55 EPNG P/L X-ING
STA. 40+98.00 AMOCO P/L X-ING
STA. 40+48.10 GCNM P/L X-ING
N 66°06'31" E
P.I. 40+30.70 Δ 18°38'30" LT.
MOI TRUNK MB 15' OFST. LT.
TIE TO THE SW ¼ COR. SEC. 24 BEARS:
S 47°41'36" W, 236.41'

END SURVEY @ 69+31.36
MOI TRUNK MB–22" LOOP EXT.
TIE TO THE SW¼ COR. SEC. 24 BEARS:
S 11°51'15" E, 2174.76'

STA. 68+84.46 EPNG P/L X-ING
STA. 68+56.11 EPNG P/L X-ING
STA. 68+19.81 FENCE X-ING
STA. 674-70.90 FENCE X-ING
N 22°44'45" E
P.I. 67+69.90 Δ 20°47'57" LT.
MOI TRUNK MB 20' OFST. LT.
END LINE CHANGE

SEE DETAIL

STA. 61+52 C/L WASH X-ING 50'W X 3'D
P.I. 61+31.59 Δ 03°36'06" RT.
MOI TRUNK MB 5' OFST. LT.
BEGIN LINE CHANGE

N 41°53'49" E
P.I. 59+08.60 Δ 00°51'42" LT.
MOI TRUNK MB 15' OFST. LT.
STA. 52+92.59 C/L ROAD X-ING
STA. 52+70.10 M.O.I RIDDLE "A" COM 260 P/L X-ING
STA. 52+40.18 EPNG P/L X-ING
STA. 51+83.92 C/L ROAD X-ING
STA. 49+92.77 WASH X-ING 45'W X 6'D

1 2 3 4 5 6 7 8

FOR CONTINUATION OF PIPELINE SURVEY SEE PAGE 1 OF 2

23 24 26 25

FD. B.C.
1951 B.L.M.

SW¼ COR
FD. B.C.
1951 B.L.M.

NOTES:
1.) BASIS OF BEARING: SOLAR OBSERVATION
2.) ALL OFFSET DISTANCES ARE SLACK CHAIN DISTANCES.

I, NEALE C. EDWARDS, A REGISTERED PROFESSIONAL SURVEYOR UNDER THE LAWS OF THE STATE OF NEW MEXICO, HEREBY CERTIFY THAT THIS PLAT WAS PREPARED FROM FIELD NOTES OF AN ACTUAL SURVEY MEETING THE MINIMUM REQUIREMENTS OF THE STANDARDS FOR LAND SURVEYS AND IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

NEALE C. EDWARDS
NEW MEXICO
REGISTERED LAND SURVEYOR

4-27-93
DATE:

NEALE C. EDWARDS
N.M.R.L.S. #6857

N

SCALE: 1" = 1000'

MERIDIAN OIL
FARMINGTON, NEW MEXICO

GAS PIPELINE

DATE SURVEYED:	REV. DATE:	DATE DRAWN:	DRAWN BY:	DRWG. NO.:
3/16/92	4/15/93	3/26/92	J.B.	A520B024

SURVEYED BY:
NCE SURVEYS, INC.
4900 KAYENTA DRIVE
FARMINGTON, NEW MEXICO 87402
(505) 325-2654

PREPARED BY:
TRIGON ENGINEERING INC
DENVER COLORADO
FARMINGTON NEW MEXICO

MERIDIAN OIL

OIL CONSER[illegible]N DIVISION
RE[illegible]VED
'92 OCT 15 PM 9 00

October 13, 1992

State of New Mexico
Oil Conservation Division
P.O. Box 2088
Land Office Building
Santa Fe, NM 87504-2088

ATTN: Mr. Roger C. Anderson
Environmental Engineer

Dear Mr. Anderson:

Meridian Oil Gathering Inc. is planning to hydrostatic test 22" Trunk MB Loop pipeline. This pipeline was recently purchased from Williams Field Service. The pipeline ties into Meridian's Trunk MB and runs from south of the Pump Canyon Compressor Station to near the William's Milagro Plant. This line is shown on the attached map. The 22" pipeline is 10.8 miles long. It crosses lands owned by the U.S. and managed by the BLM, as well as lands owned by the State of New Mexico and private individuals. All land owners are aware of this work and have agreed in principal to this testing plan.

This line is constructed of steel pipe. The line will be tested in three sections with a single test for each section. The line will require a total of 8,500 barrels of water for each test section. The test water will be pushed from one test section to another.

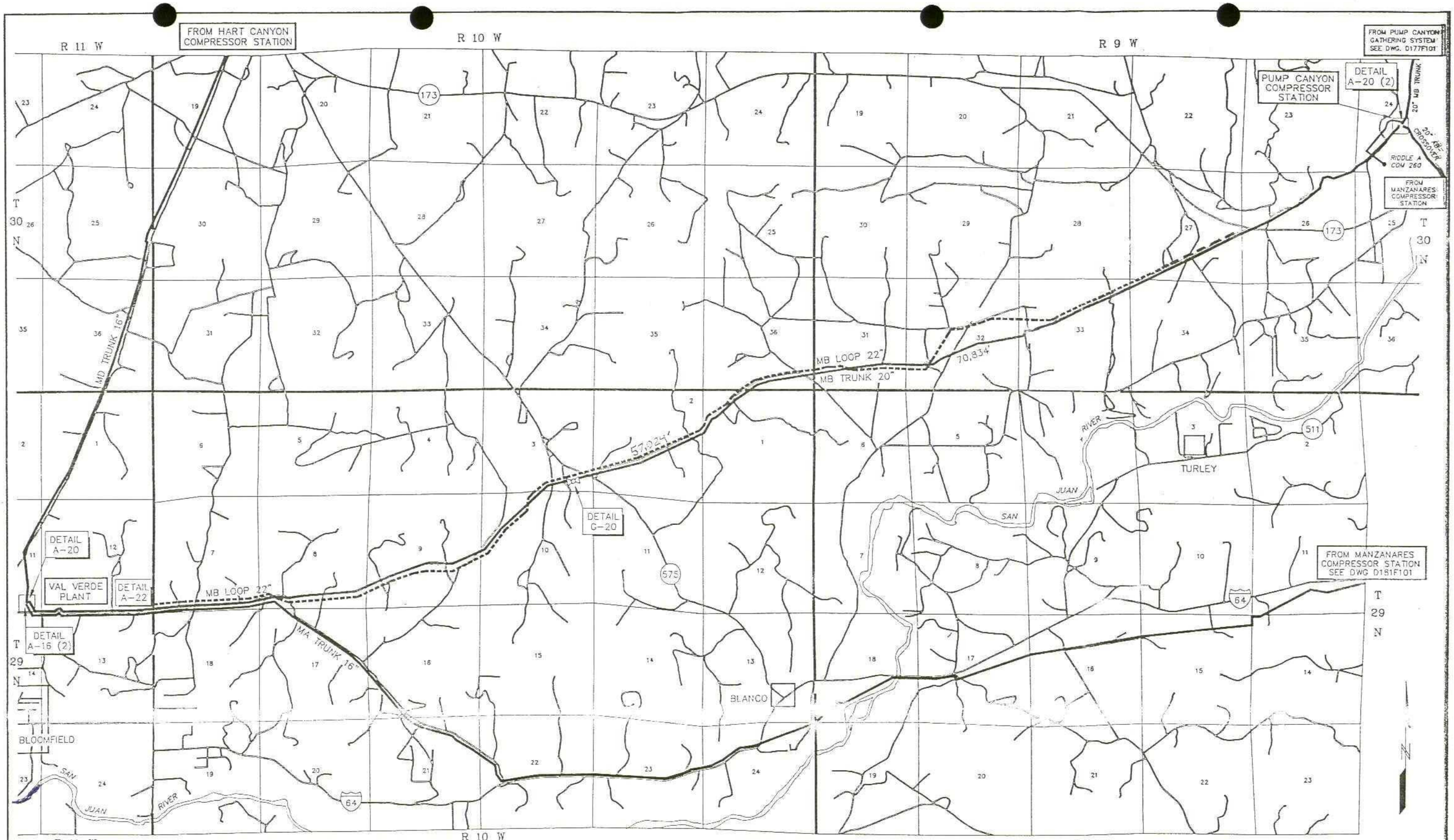
The tests will be conducted at a maximum test pressure of 1400 psi. Duration of each test will be 8 hours.

The water used in the tests will be taken from storage tanks at various well locations. Upon completion of the tests, the water they have been using will be taken to the salt water disposal well.

If you have any questions, please contact myself at (505) 326-9866 or John Enochs at (505) 325-1266.

Sincerely,

Rick Benson
Senior Staff Engineer



NOTES:

APPR

OCT 13 1992

LEGEND

EXISTING PIPELINE

PROPOSED PIPELINE

DETAIL A – RECEIVER
DETAIL B – LAUNCHER
DETAIL G – BLOCK VALVE

REFERENCE DRAWINGS	
D181F101	MANZANARES AREA GATHERING SYSTEM MAP
D177F101	PUMP CANYON GATHERING SYSTEM MAP
DWG. NO.	TITLE

REVISIONS				
NO.	DESCRIPTION	BY	CHK.	APPR.
1	REVISED 22" LENGTH	NRS 10/13/92	NRS 10/13/92	INT 10/13/92
2	ISSUED FOR CONSTRUCTION	CHG 8/28/92	JLH 12-4-92	12-4-92
3	ISSUED FOR APPROVAL	LA 6/24/92	JLH 7-6-92	
4	PRELIMINARY	LA 6/18/92		
		BY DATE	CHK. DATE	APPR. DATE

MERIDIAN OIL GATHERING INC.
FARMINGTON, NEW MEXICO

SCALE: 1"=2000' | DRAWN BY: LA 6/18/92 | CHK'D BY: JLH 12-4-92 | APPROV'D BY: JLS 12-4-92

MB TRUNK AND MB LOOP SYSTEM MAP
VAL VERDE TO PUMP CANYON
SAN JUAN COUNTY, NEW MEXICO
VAL VERDE GATHERING SYSTEM

TRIGON ENGINEERING INC
DENVER COLORADO

DRAWING NUMBER: D520F101 | REV: 0

MERIDIAN OIL

OIL CONSERVATION DIVISION
RECEIVED
'92 JAN 23 AM 8 53

January 14, 1991

State of New Mexico
Oil Conservation Division
P.O. Box 2088
Land Office Building
Santa Fe, NM 87504-2088

ATTN: Mr. Roger C. Anderson
Environmental Engineer

Dear Mr. Anderson:

Meridian Oil Gathering Inc. is planning to hydrostatic test its Unicon Pump Canyon project pipelines. This includes main lateral MB-16, laterals MB-19 and MB-20, as well as the associated well ties. This system is shown on the attached map. These lines are presently under construction. They cross lands owned by the U.S. and managed by the BLM, as well as lands owned by the State of New Mexico and private individuals. All land owners are aware of this work and have agreed in principal to this testing plan.

All lines are constructed of steel pipe. The attached table illustrates line sizes and footages for the above mentioned laterals and well ties.

The system will be split into six separate closed loop test sections. More than one section may be under test at one time, the largest using 5,424 barrels of water. Portions of this water will be pumped into the remaining sections in sequence.

Tests will be conducted at 90% of the specified minimum yield strength for the 12 inch and 8 inch pipes respectively. Duration of each test will be 8 hours.

The water used in the tests will be taken from storage tanks at a salt water disposal well. Upon completion of the contractor's series of tests, the water they have been using will be returned to the salt water disposal well. A typical water analysis is attached for your information.

If you have any questions, please contact myself at (505) 326-9843 or Greg Thompson at (505) 325-1266.

Sincerely,

Loren W. Fothergill

Loren W. Fothergill
Senior Staff Engineer

Attachments

Meridian Oil Inc., 3535 East 30th St., P.O. Box 4289, Farmington, New Mexico 87499-4289, Telephone 505-326-9700

MERIDIAN OIL GATHERING, INC.
UNICON PUMP CANYON PROJECT LATERAL LINE SIZES AND FOOTAGES
(INCLUDES ASSOCIATED WELL TIE FOOTAGES)

LINE	SIZE (O.D.)	FOOTAGE
Lateral MB-16	12.750	34,394
	8.625	14,821
	6.625	41,805
	4.500	68,144
	2.375	31,858
Lateral MB-19	6.625	8,975
	4.500	172
Lateral MB-20	8.625	11,577
	6.625	9,843
	4.500	40,002
	2.375	26,877

Foreman: LYI[redacted]NATION

STRICKCO

Water Analysis Laboratories

FARMINGTON, NEW MEXICO 87401

File WA/0616/91

Company MERIDIAN OIL INC. Well Name Cedar Hill SWD #1 Sample No. One

Formation Fruitland Coal Depth N/A Sampled From Produced

Location N/A Field Basin Fruitland County San Juan State N.M.

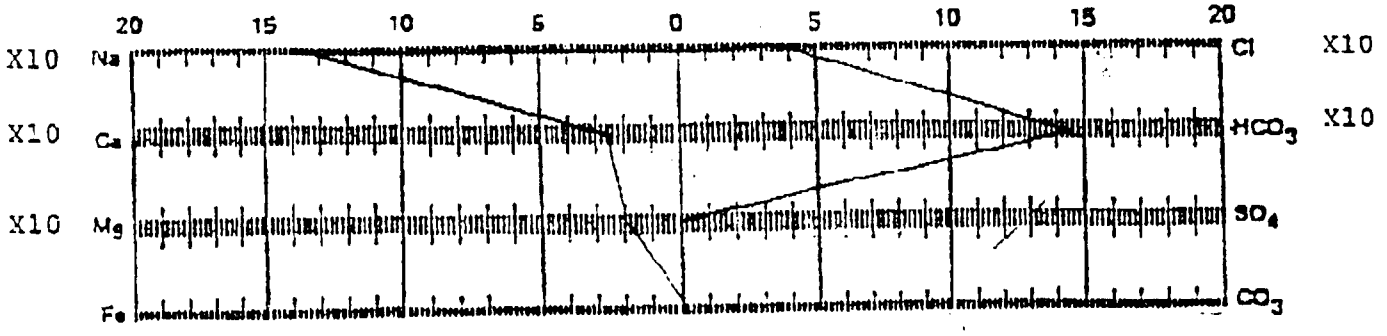
Date Sampled 11/13/91 Date Analyzed 11/14/91 Engineer WDS

Total Dissolved Solids 14,143 mg/L Calculated Sp. Gr. 1.009 @ 65 °F.

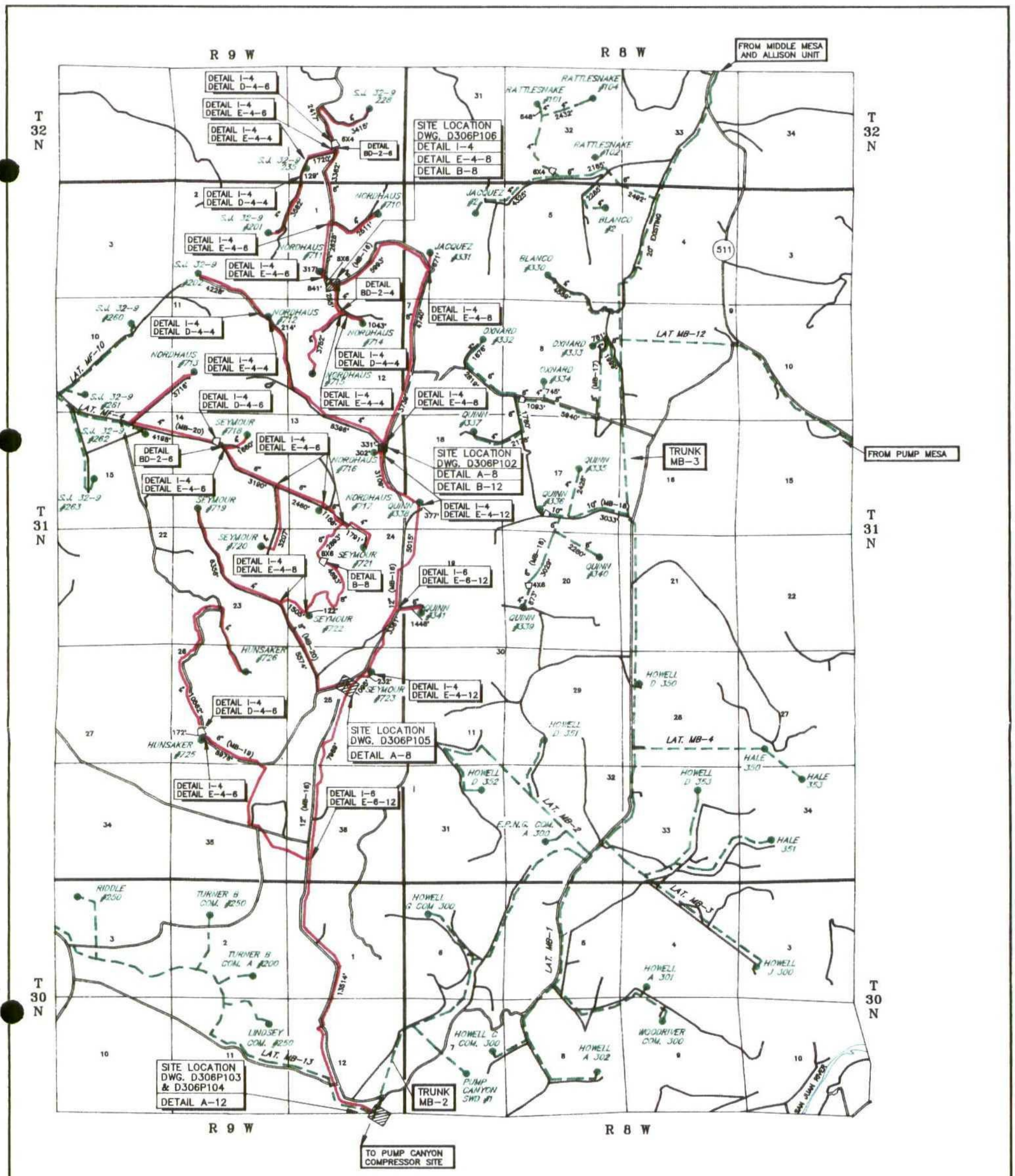
Resistivity 0.78 ohm-meters @ 65 °F. Measured pH 7.96 @ 65 °F. Measured

Constituents	meq/L	mg/L	Constituents	meq/L	mg/L
Sodium	138.1	3,175	Chloride	40.1	1,420
Calcium	25.9	520	Bicarbonate	144.0	8,784
Magnesium	20.1	244	Sulfate	TR	TR (Grav.)
Iron	-0-	-0-	Carbonate	-0-	-0-
Hydrogen Sulfide	Absent		Hydroxide	-0-	-0-

Scale: meq/L



All analyses except iron determination performed on a filtered sample.



NOTES:

REFERENCE DRAWINGS	
D306D121	DETAIL I-4, I-6, I-2
D306D100	DETAIL E-4-4, E-4-6, E-4-8, E-4-10, E-4-12
D306D111	DETAIL D-4-6, D-4-4, & D-6-6
D306D101	DETAIL E-6-12
D306D116	DETAIL BD-2-4, BD-2-6
D306D100	DETAIL E-2-4
D306D209	DETAIL B-8

NO.	DESCRIPTION	BY	DATE	CHK.	DATE	APPR.	DATE
0	ISSUED FOR CONSTRUCTION						

MERIDIAN OIL GATHERING INC.
FARMINGTON, NEW MEXICO

UNICON PUMP CANYON
1991 GAS FLOW DIAGRAM

SAN JUAN COUNTY, NEW MEXICO — VIL VERDE GATHERING SYSTEM

SCALE 1"=4000' | DRAWN BY | CHK'D BY | APPROV'D BY

TRICON ENGINEERING INC
DENVER COLORADO

D306F102 | 0

MERIDIAN OIL

November 15, 1991

State of New Mexico
Oil Conservation Division
P.O. Box 2088
Land Office Building
Santa Fe, NM 87504-2088

ATTN: Mr. Roger C. Anderson
Environmental Engineer

Dear Mr. Anderson:

Meridian Oil Gathering Inc. is planning to hydrostatic test its San Juan 32-9 Unit pipelines. This includes main Trunk MF, laterals MF-1, MF-3, MF-4, MF-5, and MF-6, as well as the associated well ties. This system is shown on the attached map. These lines are presently under construction. They cross lands owned by the U.S. and managed by the BLM, as well as lands owned by the State of New Mexico and private individuals. All land owners are aware of this work and have agreed in principal to this testing plan.

All lines are constructed of steel pipe. The attached table illustrates line sizes and footages for the above mentioned trunk and laterals.

The 32-9 unit system is being constructed by three separate contractors. Fourteen separate closed loop test sections will be split amongst these contractors. As many as five sections may be under test at any one time.

One contractor is building Trunk MF and laterals MF-5 and MF-6. This job will require eight separate tests, the largest using 6,014 barrels of water. Portions of this water will be pumped into the remaining sections in sequence.

A second contractor is constructing laterals MF-1 and MF-3. Three separate sections will be tested simultaneously, requiring a total of 5,413 barrels of water.

Lateral MF-4 is under construction by a third contractor who will be conducting three separate tests. It will take 1,251 barrels of water to fill the largest section. Portions of this water will be pumped into the other two sections in sequence.

Tests will be conducted at 90% of the specified minimum yield strength for the 16 inch, 12 inch, and 8 inch pipes respectively. Duration of each test will be 8 hours.

The water used in the tests will be taken from storage tanks at a salt water disposal well. Upon completion of each contractor's series of tests, the water they have been using will be returned to

the salt water disposal well. A typical water analysis is attached for your information.

If you have any questions, please contact myself at (505) 326-9843 or Greg Thompson at (505) 325-1266.

Sincerely,

Loren W Fothergill

Loren W. Fothergill
Senior Staff Engineer

Attachments

MERIDIAN OIL GATHERING, INC.
SAN JUAN 32-9 UNIT TRUNK AND LATERAL LINE SIZES AND FOOTAGES

LINE	SIZE (O.D.)	FOOTAGE
Trunk MF	16.000	51,884
	10.750	12,541
	6.625	35,353
Lateral MF-1	12.750	16,212
	8.625	12,041
	6.625	16,212
	4.500	16,560
	2.375	4,519
Lateral MF-3	8.625	6,500
	4.500	6,500
Lateral MF-4	8.625	15,381
	6.625	3,694
	4.500	20,748
Lateral MF-5	8.625	8,210
	6.625	3,074
	4.500	19,227
	2.375	7,943
Lateral MF-6	6.625	10,231
	4.500	10,455
	2.375	6,205

Foreman: LYLE N[redacted]ION

STRICKCO

Water Analysis Laboratories

FARMINGTON, NEW MEXICO 87401

File WA/0616/91

Company MERIDIAN OIL INC. Well Name Cedar Hill SWD #1 Sample No. One

Formation Fruitland Coal Depth N/A Sampled From Produced

Location N/A Field Basin Fruitland County San Juan State N.M.

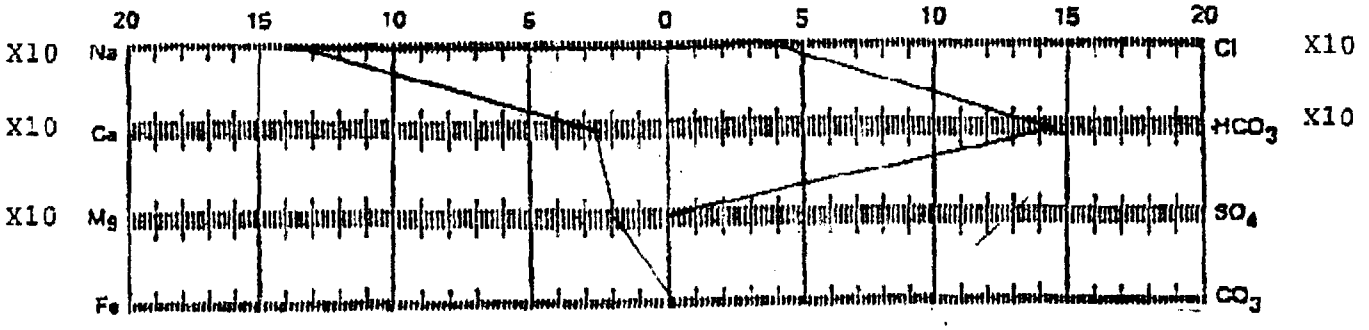
Date Sampled 11/13/91 Date Analyzed 11/14/91 Engineer WDS

Total Dissolved Solids 14,143 mg/L Calculated Sp. Gr. 1.009 @ 65 °F,

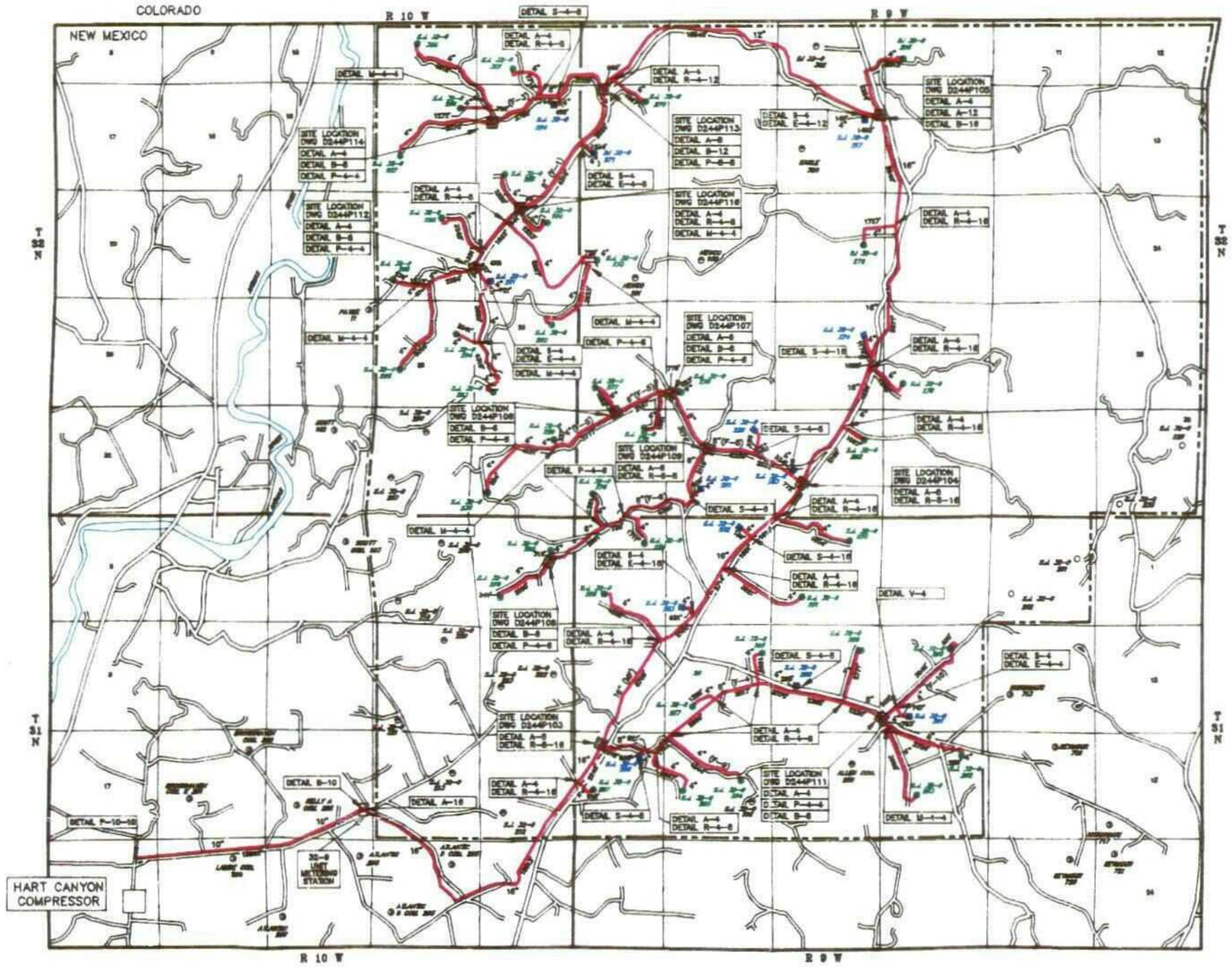
Resistivity 0.78 ohm-meters @ 65 °F. Measured pH 7.96 @ 65 °F. Measured

Constituents	meq/L	mg/L	Constituents	meq/L	mg/L
Sodium	138.1	3,175	Chloride	40.1	1,420
Calcium	25.9	520	Bicarbonate	144.0	8,784
Magnesium	20.1	244	Sulfate	TR	TR (Grav.)
Iron	-0-	-0-	Carbonate	-0-	-0-
Hydrogen Sulfide	Absent		Hydroxide	-0-	-0-

Scale: meq/L



All analyses except iron determination performed on a filtered sample.



WELL CONNECTION SUMMARY

WELL NAME 32-9 (NF AREA)	PIPE SIZE	LAUNCHER	RECEIVER	ADDITIONAL COMMENTS (SEE LEGEND BELOW)
NF-3				
387	4"	X	X	
388	4"	X		
389	4"	X		
390	4"	X	X	
384	4"			SLOPE
NF-1				
371	4"			D & D
368	4"	X	X	
164	4"	X		
382	4"	X	X	
373	4"	X		
386	4"	X	X	
385	4"	X		
369	4"	X		
221	4"			D
384	4"	X		
383	4"	X	X	
370	4"	X	X	
217	4"			DRY CONN.
TRUNK NF				
215	4"	X	X	
372	4"	X	X	
374	4"			SLOPE
219	4"	X	X	
392	4"	X	X	
220	4"	X	X	
356	4"			SLOPE
381	4"	X	X	
353	4"			D & D
380	4"	X	X	
357	4"	X	X	
NF-2				
376	4"	X		
229	4"	X		
377	4"	X		
378	4"	X		
379	4"	X		
228	4"			SLOPE
353	4"			SLOPE
NF-5				
398	4"	X		
396	4"	X		
179	4"	X		
354	4"	X		
397	4"			SLOPE
NF-10				
395	4"	X		
391	4"			DRY CONN.
NF-4				
362	4"	X		
363	4"	X	X	
358	4"	X	X	
359	4"			SLOPE
105	4"	X	X	
357	4"	X	X	
385	4"	X	X	
359	4"			SLOPE
364	4"	X	X	

ADDITIONAL LAUNCHER RECEIVER SUMMARY

TRUNK / LATERAL NAME	PIPE SIZE	LAUNCHER	RECEIVER
NF-4	4"	X	X
NF-5	4"	X	X
NF-10	4"	X	X
NF	16"	X	X
NF	20"	X	X
NF-1	4"	X	
NF-1	4"	X	X
NF-1	16"	X	X

TOTAL WELL CONNECTIONS - 62
TOTAL 4" LAUNCHERS - 39
TOTAL 4" RECEIVERS - 23

LEGEND
SLOPE- PIPE SLOPES FROM WELL TO LATERAL TIE-IN
DRY CONN.- DRY GAS CONNECTION (DOUBLE)
D&D- DEHYDRATOR & DMP. PIPE TO SLOPE (NOTE 3) FROM LATERAL TIE-IN TO WELL PAD
D- DEHYDRATOR ONLY
DETAIL A - RECEIVER
DETAIL B - LAUNCHER
DETAIL C - VERTICAL LATERAL TIE-IN - DRY
DETAIL F - WELL CONNECTION - DRY (NOTE 2)
DETAIL P - LATERAL TIE-IN - WET
DETAIL M - LATERAL END TIE-IN - WET
DETAIL I - DOG LEG WITH CHECK VALVE - DRY
DETAIL R - LATERAL TIE-IN FROM RECEIVER - WET
DETAIL T - LATERAL TIE-IN (SLOPED) - WET
DETAIL V - 8in-LINE VALVE ASSEMBLY
32-9 UNIT BOUNDARY
WELLS WITH LAUNCHERS (NOTE 1)
WELLS WITHOUT LAUNCHERS (NOTE 2)
WELLS IN 32-9 UNIT TO BE ROUTED TO PUMP UNCOM AREA
WELLS IN 32-9 NOT TO BE INCLUDED IN 199
WELLS NOT IN 32-9 AREA

NOTES:

NOTE 1: WELLS WITH LAUNCHERS TO HAVE 4" AB-6GLV ASSEMBLY, DWG. D244P105 FIELD TO LOCATE.

NOTE 2: WELLS WITHOUT LAUNCHERS WILL HAVE AN F-4 DETAIL AT WELL SITE. FIELD TO LOCATE.

NOTE 3: FIELD TO LOCATE DMP ASSEMBLY, DWG. D244P104

REFERENCE DRAWINGS		REFERENCE DRAWINGS		REFERENCE DRAWINGS		REVISIONS				
D244P001	16" 600# LAUNCHER ASSEMBLY, S.A.	D244P145	GAS LATERAL END TIE-IN DETAIL B-4-4	D244P150	VERTICAL GAS LATERAL TIE-IN DETAILS B-4-4 THRU B-8-16					
D244P002	16" 600# RECEIVER ASSEMBLY, S.A.	D244P146	GAS WELL CONNECTION DETAIL F-4	D244P150	4" LAUNCHER AB-6GLV (NOTE 1)					
D244P004	16" 600# LAUNCHER ASSEMBLY, S.A.	D244P003	4" 600# RECEIVER ASSEMBLY, S.A.	D244P120	DOG LEG CONNECTION TO WET GAS LATERAL DETAILS S-4-8 & V-4					
D244P001	16" 600# LAUNCHER ASSEMBLY, S.A.	D244P005	6" 600# LAUNCHER ASSEMBLY, S.A.	D244P125	GAS LATERAL TIE-IN FROM RECEIVER DETAILS S-4-4 THRU S-8-16					
D244P003	16" 600# SMART RECEIVER RECEIVER S.A.	D244P004	6" 600# RECEIVER ASSEMBLY, S.A.	D244P126	GAS LATERAL TIE-IN DETAILS P-4-4 & P-4-8					
		D244P006	6" 600# LAUNCHER ASSEMBLY, S.A.	D244P128	GAS LATERAL TIE-IN DETAIL P-4-4 & P-10-10					
		D244P007	6" 600# SMART RECEIVER ASSEMBLY, S.A.	D244P145	GAS LATERAL TIE-IN (SLOPED) DETAILS S-4-4 AND S-4-8					
		D244P010	6" 600# SMART RECEIVER ASSEMBLY, S.A.	D244P141	GAS LATERAL TIE-IN (SLOPED) DETAIL S-4-16	1	ISSUED FOR CONSTRUCTION	BY	4/25/96	GEL
DWG. NO	TITLE	DWG. NO	TITLE	DWG. NO	TITLE	NO.	DESCRIPTION	DATE		

MERIDIAN OIL GATHERING INC.
FARMINGTON, NEW MEXICO

SAN JUAN 32-9 UNIT
GAS GATHERING FLOW DIAGRAM

SAN JUAN COUNTY, NEW MEXICO — VAL VERDE GATHERING SYSTEM

SCALE 1"=2000' | DRAWN BY | DATE 4/25/96 | CHK'D BY | APPR'D BY

TRIBON ENGINEERING INC
DENVER COLORADO

DRAWING NUMBER D244F103 | REV. 0

MERIDIAN OIL

October 29, 1990

State of New Mexico
Oil Conservation Division
P.O. Box 2088
Land Office Building
Santa Fe, NM 87504-2088

ATTN: Mr. Roger C. Anderson
Environmental Engineer

Dear Mr. Anderson:

Meridian Oil Gathering Inc. is planning to hydrostatic test additional Pump Mesa Area pipelines. These lines include Trunk MB extension, lateral MB-12 and lateral MB-15 which are shown on the attached map. These lines are presently under construction. They cross lands owned by the U.S. and managed by the BLM, as well as lands owned by the State of New Mexico and private individuals. All land owners are aware of this work and have agreed in principal to this testing plan.

The Trunk MB extension is constructed of 61,195 feet of 20 inch O.D. steel pipe. Lateral MB-12 consists of 17,042 feet of 16 inch O.D. steel pipe and lateral MB-15 consists of 31,760 feet of 20 inch O.D. steel pipe.

These pipelines will be tested as five separate closed loop sections. Copies of the testing plans for each section are attached for your information. Testing will begin at the south end of Trunk MB extension using 12,500 bbls of water. The trunk will be tested in three sections proceeding north using the same water as in the initial section. Lateral MB-12 will use 4,000 bbls. of water from the trunk line for its hydrostatic testing. The water used in trunk MB extension will be used to fill lateral MB-15. This lateral will require 11,600 bbls. of water.

Tests will be conducted at 90% of the specified minimum yield strength for the 20 inch and 16 inch pipes respectively. Duration of each test will be 8 hours.

The water used in the tests will be taken from storage tanks at a salt water disposal well. Upon completion of all the testing the water will be returned to the salt water disposal well. A typical water analysis is attached for your information.

If you have any questions, please contact myself at (505)326-9843 or Gerry Brower at (505)326-9806.

Sincerely,

Loren W Fothergill

Loren W. Fothergill
Senior Staff Engineer

GTB/LWF/dj

Meridian Oil Inc., 3535 East 30th St., P.O. Box 4289, Farmington, New Mexico 87499-4289, Telephone 505-326-9700

TRUNK MB3 HYDROSTATIC TEST PRESSURES
REVISED AS OF: 29-Oct-90

LOCATION	ELEV. FT.	PIPE	TEST PRESSURES MAX PSIG	TEST PRESSURES MIN PSIG	MAOP PSIG	TEST DATE	VOLUME REQD BBLS
SECTION 1							
ES 530+00 TO 608+72		20"x.312 X60					2,875
ES 608+72	6500		1605	1515			
ES 549+56 LOW PT.	6100		1780	1685			
ES 530+00 HIGH PT.	6512		1600	1510			
SECTION 2							
ES 530+00 TO 342+55		20"x.312 X60					6,820
ES 530+00 LOW PT.	6512		1780	1685			
ES 491+00 HIGH PT.	6970		1580	1487			
ES 342+55	6750		1683	1590			
SECTION 3							
ES 342+55 TO 1056+75		20"x.312 X60					12,480
ES 342+55 HIGH PT	6750		1636	1542			
ES 238+55 LOW PT.	6420		1780	1685			
ES 1056+75	6550		1722	1629			

LATERAL MB-12 HYDROSTATIC TEST PRESSURES
REVISED AS OF: 29-Oct-90

LOCATION	ELEV. FT.	PIPE	TEST PRESSURES MAX PSIG	TEST PRESSURES MIN PSIG	MAOP PSIG	TEST DATE	VOLUME REQD BBLS
SECTION 1							
ES 0+00 TO 170+42		16"x.250 X52					4,000
ES 0+00 MB-EXT START	6590		1510	1430			
ES 26+00 LOW PT.	6510		1545	1465			
ES 67+00 HIGH PT.	6730		1450	1370			
ES 170+42 CPD	6580		1515	1435			

LATERAL MB-15 HYDROSTATIC TEST PRESSURES
REVISED AS OF: 29-Oct-90

LOCATION	ELEV. FT.	PIPE	TEST PRESSURES MAX PSIG	TEST PRESSURES MIN PSIG	MAOP PSIG	TEST DATE	VOLUME REQD BBLS
SECTION 1							
ES 0+00 TO 317+60		20"x.312 X60					11,600
ES 0+00 MB-EXT START	6495		1700	1600			
ES 55+00 LOW PT.	6315		1780	1680			
ES 200+68 HIGH PT.	6790		1575	1475			
ES 370+60 CPD	6580		1665	1565			

TECH INC
333 East [illegible]

API WATER ANALYSIS REPORT FORM

Company	Sample No.	Date Sampled
MERIDIAN OIL COMPANY		7/20/88

Field	Legal Description	County or Parish	State
-			

Lease or Unit	Well	Depth	Formation	Water, B/D
Howell D	# 350			

Type of Water (Produced, Supply, etc.)	Sampling Point	Sampled By

DISSOLVED SOLIDS

CATIONS	mg/l	me/l
Sodium, Na (calc.)	5991	261.4
Calcium, Ca	48	2.4
Magnesium, Mg	49	4.0
Barium, Ba		

ANIONS	mg/l	me/l
Chloride, Cl	1314	37.0
Sulfate, SO_4	0	0
Carbonate, CO_3	0	0
Bicarbonate, HCO_3	14091	231.0

OTHER PROPERTIES

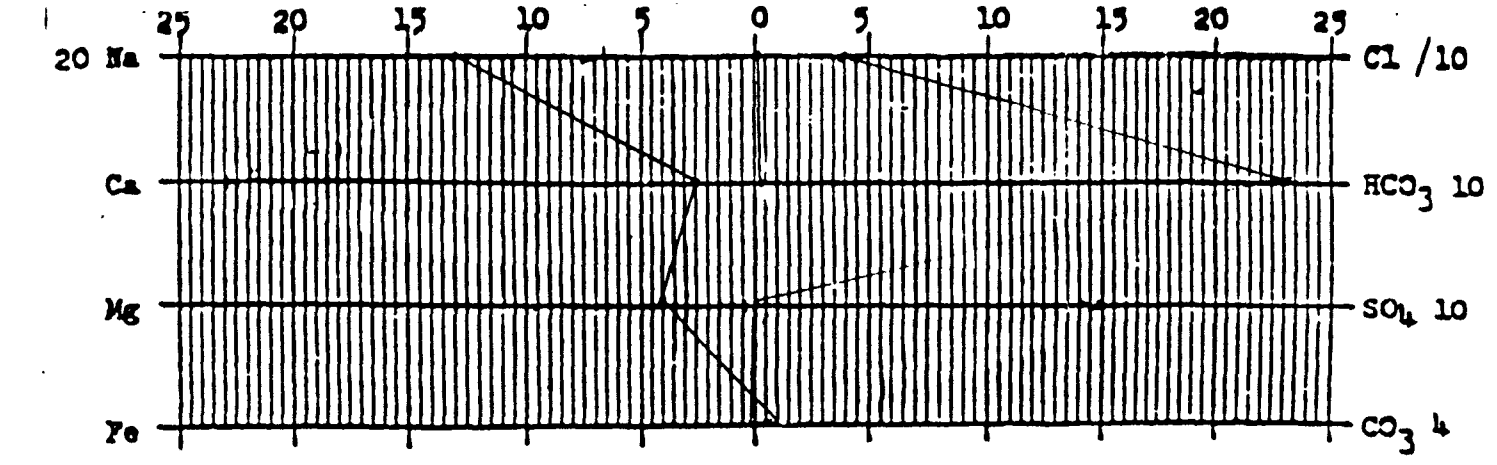
pH	7.34
Specific Gravity, 60/60 F.	1.008
Resistivity (ohm-meters) 90° F.	.182
Conductivity	μmho

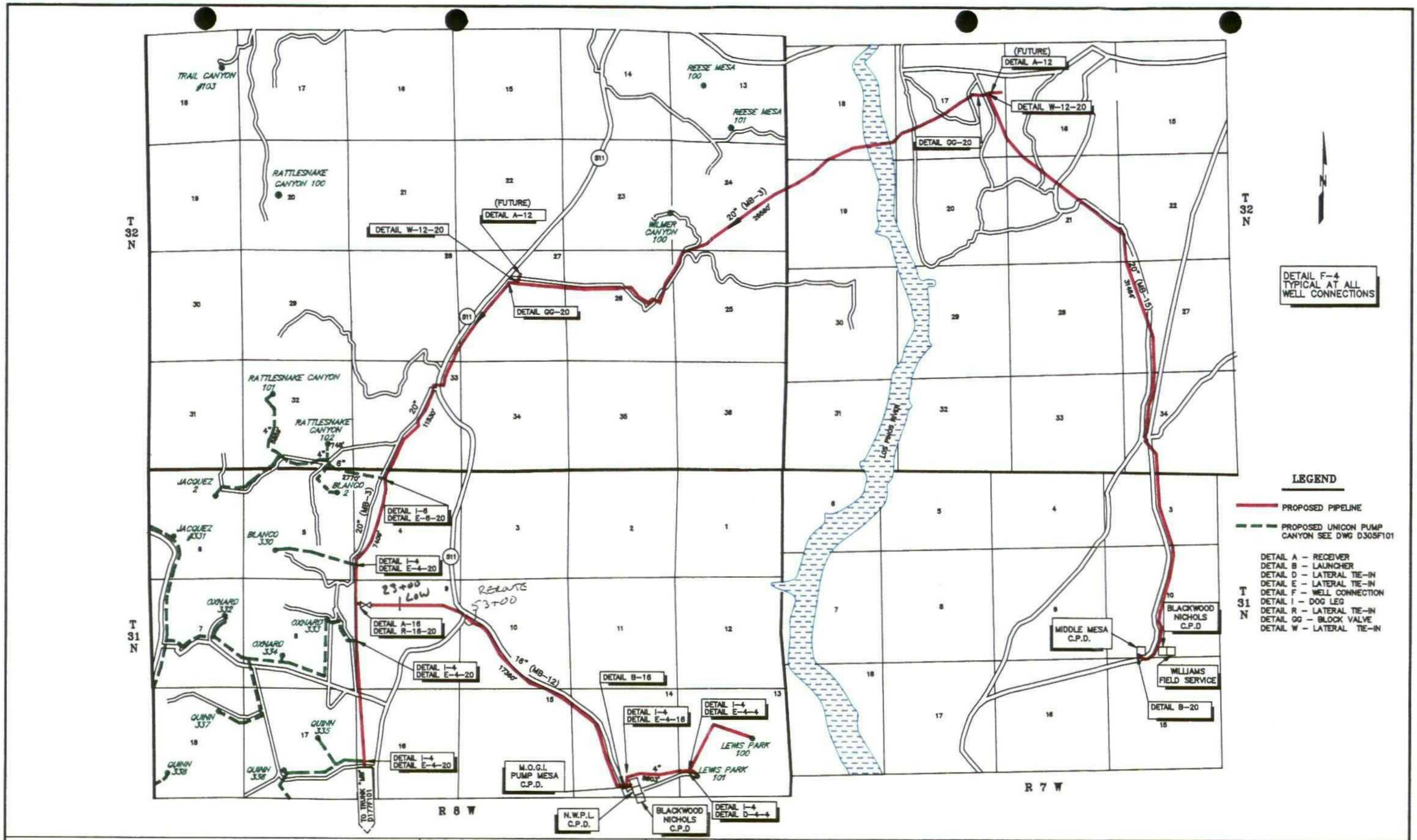
Total Dissolved Solids (calc.) 21,500

Iron, Fe (total) —

Sulfide, as H_2S neg

REMARKS & RECOMMENDATIONS:





NOTES:

1: FOR DETAIL SEE DRAWING D180F102.
2: DETAIL F TYPICAL AT ALL WELL CONNECTION.

REFERENCE DRAWINGS		REFERENCE DRAWINGS	
D180P120	DETAIL GG-20	D180P104	DETAIL E-4-4, E-4-8, & E-4-10
D180P121	DETAIL W-12-20	D180P105	DETAIL E-6-20, E-4-20
		D180P111	DETAIL D-4-4, & D-4-8
		D310P102	16" SMART SCRAPER LAUNCHER ASSEMBLY
		D310P101	16" SMART SCRAPER RECEIVER ASSEMBLY
		D180P208	20" SMART SCRAPER LAUNCHER ASSEMBLY
		D180P118	DETAIL R-16-20
DWG. NO.	TITLE	D180F102	DETAIL I-4, I-5, & F-4
		DWG. NO.	TITLE

REVISIONS					
1	REISSUED FOR LAT. MB-12 & MB-15 CONSTRUCTION	LGS	9/21/98	JH	9/21/98
0	ISSUED FOR CONSTRUCTION	LGS	9/21/98	JH	9/21/98
NO.	DESCRIPTION	BY	DATE	CHK'D	APP'D

MERIDIAN OIL GATHERING INC.
FARMINGTON, NEW MEXICO

TRUNK MB-3 FLOW DIAGRAM
GAS FLOW

SAN JUAN COUNTY, NEW MEXICO

TRIGON ENGINEERING INC
DENVER COLORADO

D312F101 | P1

MERIDIAN OIL

August 17, 1990

State of New Mexico
Oil Conservation Division
P.O. Box 2088
Land Office Building
Santa Fe, NM 87504-2088

ATTN: Mr. Roger C. Anderson
Environmental Engineer

Dear Mr. Anderson:

Meridian Oil Gathering Inc. is planning to hydrostatic test its Pump Mesa Area Pipelines. This includes main Trunk MB and the lateral MB-13 as shown on the attached map. These lines are presently under construction. They cross lands owned by the U.S. and managed by the BLM, as well as lands owned by the State of New Mexico and private individuals. All land owners are aware of this work and have agreed in principal to this testing plan.

The Trunk MB is constructed of 34,141 feet of 20 inch O.D. steel pipe. Lateral MB-13 consists of 36,822 feet of 8.625 inch O.D. and 4,968 feet of 6.625 inch O.D. pipe.

These pipelines will be tested as two separate closed loop sections. Testing will begin at the north end of Trunk MB using 12,431 bbls of water. Lateral MB-13 will use 2,620 bbls of water as the 8.625 inch and 6.625 inch lines will be tested simultaneously. Tests will be conducted at 90% of the specified minimum yield strength for the 20 inch and 8 inch pipes respectively. Duration of each test will be 8 hours.

The water used in the tests will be taken from storage tanks at a salt water disposal well. Upon completion of the Trunk MB test, a portion of the water will be moved into lateral MB-13 to conduct its test. The balance will be returned to the salt water disposal well as will the water from MB-13 upon test completion. A typical water analysis is attached for your information.

If you have any questions, please contact Gerry Brower or myself at (505)326-9843.

Sincerely,

Loren W Fothergill

Loren W. Fothergill
Senior Staff Engineer

LWF/dj

TECH INC
333 [illegible]

API WATER ANALYSIS REPORT FORM

Company	Sample No.	Date Sampled
MERIDIAN OIL COMPANY		7/20/88

Field	Legal Description	County or Parish	State
-			

Lease or Unit	Well	Depth	Formation	Water, B/D
Howell D	# 350			

Type of Water (Produced, Supply, etc.)	Sampling Point	Sampled By

DISSOLVED SOLIDS

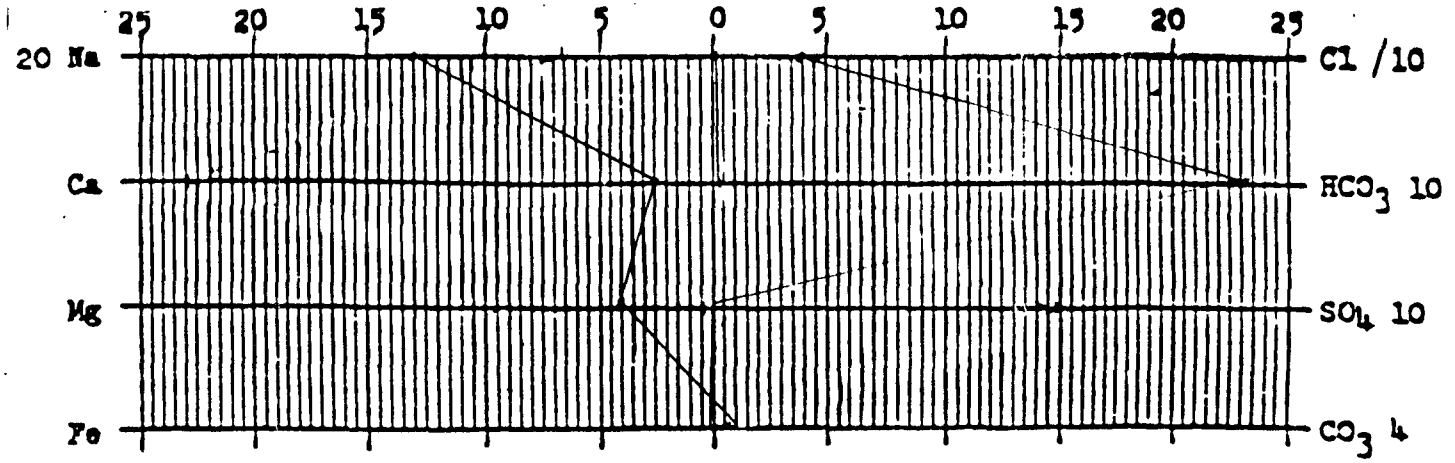
CATIONS	mg/l	me/l
Sodium, Na (calc.)	5991	261.4
Calcium, Ca	48	2.4
Magnesium, Mg	49	4.0
Barium, Ba		

ANIONS	mg/l	me/l
Chloride, Cl	1314	37.0
Sulfate, SO_4	0	0
Carbonate, CO_3	0	0
Bicarbonate, HCO_3	14091	231.0

OTHER PROPERTIES

pH	7.34
Specific Gravity, 60/60 F.	1.008
Resistivity (ohm-meters) 90 ° F.	.82
Conductivity	μmho
Total Dissolved Solids (calc.)	21,500
Iron, Fe (total)	
Sulfide, as H_2S	neg

REMARKS & RECOMMENDATIONS:



MERIDIAN OIL

OIL CONSERVATION DIVISION
RECEIVED
'89 DEC 11 AM 9 11

December 8, 1989

State of New Mexico
Oil Conservation Division
P.O. Box 2088
Land Office Building
Santa Fe, NM 87504-2088

ATTN: Mr. Roger C. Anderson
Environmental Engineer

Dear Mr. Anderson:

Meridian Oil Inc. is planning to Hydrostatic Test its Trunk MB Pipeline, which is shown on the attached map. The line is being constructed presently and crosses land owned by the U.S. and managed by the BLM, owned by the State of New Mexico and owned by private individuals. All land owners are aware of this work and have agreed in principal to this testing plan.

The trunk line consists of 71,365' of 20" O.D. steel pipe and 1,861' of 4" O.D. steel pipelines laying in the same ditch as a portion of the 20" pipe.

The system will be tested as a closed loop system in 3 sections. Testing will begin at the east end pigging facility and move west using 10,500 Bbls. of water. The water used for testing will be taken from the Trunk MA to Trunk MB Crossover pipeline, previously submitted for approved testing to your office. This water will be pumped from the crossover pipelines into the Trunk MB pipeline following a line scraper. When the first section is full (10,500 Bbls.) it will be pressure tested to 90% of specified minimum yield for 8 hours.

The water will then be moved forward in the pipelines by placing a trailing scraper behind the water and using compressed air to propel the water. This procedure will be used to move the water to the west end of the pipeline. Each section will be pressure tested to 90% SMYS before the water is moved.

At the completion of the Hydrostatic Testing of all the pipeline sections the water will be moved back to the east and pumped into trucks for haul to a water disposal well located in the southeast quarter of Section 7, T30N, R8W. The water will be pumped into this disposal well. A typical water analysis is also attached.

If you have any questions, please contact me or Gerry Brower at (505)326-9843.

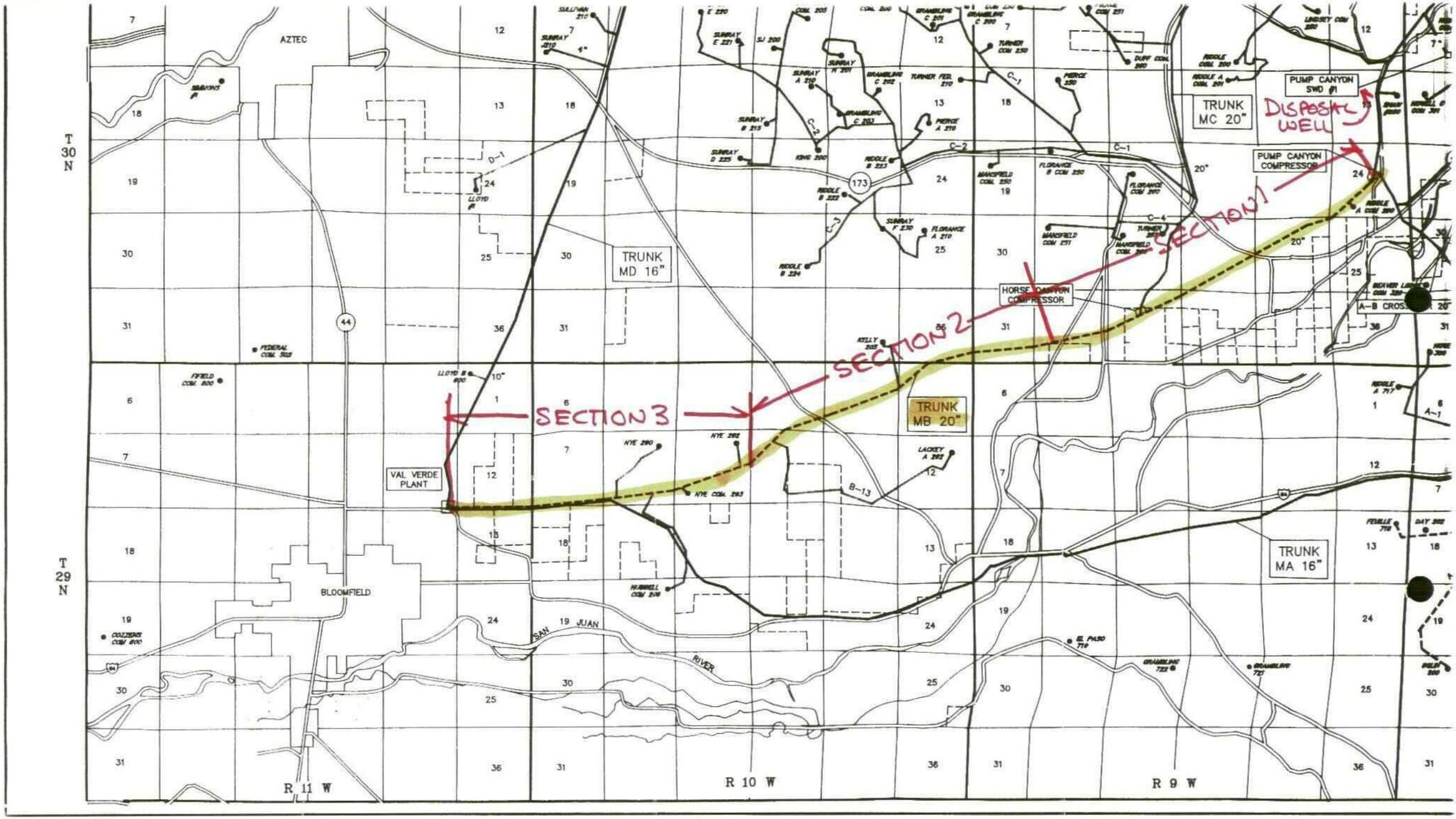
Sincerely,

Loren W Fothergill

Loren W. Fothergill
Senior Staff Engineer

GTB/LWF/dj

xc: G.T. Brower
W.L. Arnold



TRUNK MB HYDROTEST SECTIONS, SAN JUAN COUNTY, NEW MEXICO

TRUNK MB HYDROSTATIC TEST PLAN

LOCATION	ELEV. FT.	PIPE	TEST PRESSURES MIN PSIG	TEST PRESSURES MAX PSIG	MAOP PSIG	VOLUME REQD BBLS
SECTION 1 ES 712+05 TO 459+90 GAS		20"X.344"X52			1190	9900
ES 712+050 - PUMP CANYON STA	5740		1590	1680		
HIGH PT	5910		1495	1585		
PUMP CANYON WASH - LOW PT	5695		1610	1700		
ES 459+90 - SECTION END	5770		1580	1670		
SECTION 2 ES 459+90 TO 221+00 GAS		20"X.344"X52			1190	9300
ES 459+90 - SECTION START	5770		1590	1680		
HIGH PT	6000		1490	1580		
LOW PT	5725		1610	1700		
ES 221+00 - SECTION END	5725		1610	1700		
SECTION 3 ES 221+00 TO 0+00 GAS		20"X.344"X52			1210	8700
ES 221+00 - SECTION START	5725		1575	1665		
HIGH PT	5860		1520	1610		
LOW PT	5645		1610	1700		
ES 0+00 - VAL VERDE	5660		1605	1695		
SECTION 3A ES 712+05 TO 695+91 GAS		4"X.188"X42			1500	32
ES 712+050 - PUMP CANYON STA	5740		1875	1980		
HIGH PT	5740		1875	1980		
PUMP CANYON WASH - LOW PT	5695		1895	2000		
ES 695+91 - SECTION END	5740		1875	1980		

TYPICAL WATER ANALYSIS

API WATER ANALYSIS REPORT FORM

3/10/89

Company MERIDIAN OIL COMPANY		Sample No.	Date Sampled
Field	Legal Description	County or Parish	State
Lease or Unit San Juan 30-6 # 439	Well	Depth	Formation	Water, B/D
Type of Water (Produced, Supply, etc.)	Sampling Point	Sampled By

DISSOLVED SOLIDS

CATIONS	mg/l	me/l
Sodium, Na (calc.)	6412	280.0
Calcium, Ca	72	3.6
Magnesium, Mg	29	2.4
Barium, Ba		

ANIONS	mg/l	me/l
Chloride, Cl	781	22.0
Sulfate, SO_4	0	0
Carbonate, CO_3	0	0
Bicarbonate, HCO_3	14104	264.0

OTHER PROPERTIES

pH	7.46
Specific Gravity, 60/60 F.	1.012
Resistivity (ohm-meters) 72° F.	.39
Total Dissolved Solids (calc.)	23400
Iron, Fe (total)	
Sulfide, as H_2S	neg

REMARKS & RECOMMENDATIONS: