

Bill of Materials		
SIZE	DESCRIPTION	QUANTITY
4	FLANGE WN S.S. 150#RF SCH. 10S A182 F304 ASME B16.5	1
14	FLANGE WN S.S. 150#RF SCH. 10S A182 F304 ASME B16.5	2
4	ELBOW 90 S.S. LR SCH 10S BW A403 WP304 ASME B16.9	4
14	ELBOW 90 S.S. LR SCH 10S BW A403 WP304 ASME B16.9	7
14	CAP SS SCH 10S BW A403 WP304 ASME B16.9	1
4	SPRAL WOUND GASKET 150# RF 304/GRAPHITE ASME B16.20	1
14	SPRAL WOUND GASKET 150# RF 304/GRAPHITE ASME B16.20	3
14	GATE VALVE, FLEXIBLE WEDG, BB, DS&Y 150#RF A351 CF8 304 API600	1
14	SWING CHECK VALVE, BC 150#RF A351CF8 304 API600/BS1868	1
5/8 X 0.09 m	STUD BOLT WITH 2 HEAVY HEX NUTS 150#RF A193 BB ASME B18.21	8
1 X 0.13 m	STUD BOLT WITH 2 HEAVY HEX NUTS 150#RF A193 BB ASME B18.21	36
4	SEAMLESS PIPE SS SCH 10S PE A312 TP304 ASME B36.19	7.26 m
14	EFW WELDED PIPE SS ASME B36.19	33.20 m

MTO = Material Take off

بریت آسک انان لوانا در سیم لوانا

Gasket سیم 2 از انان لوانا (لاک)

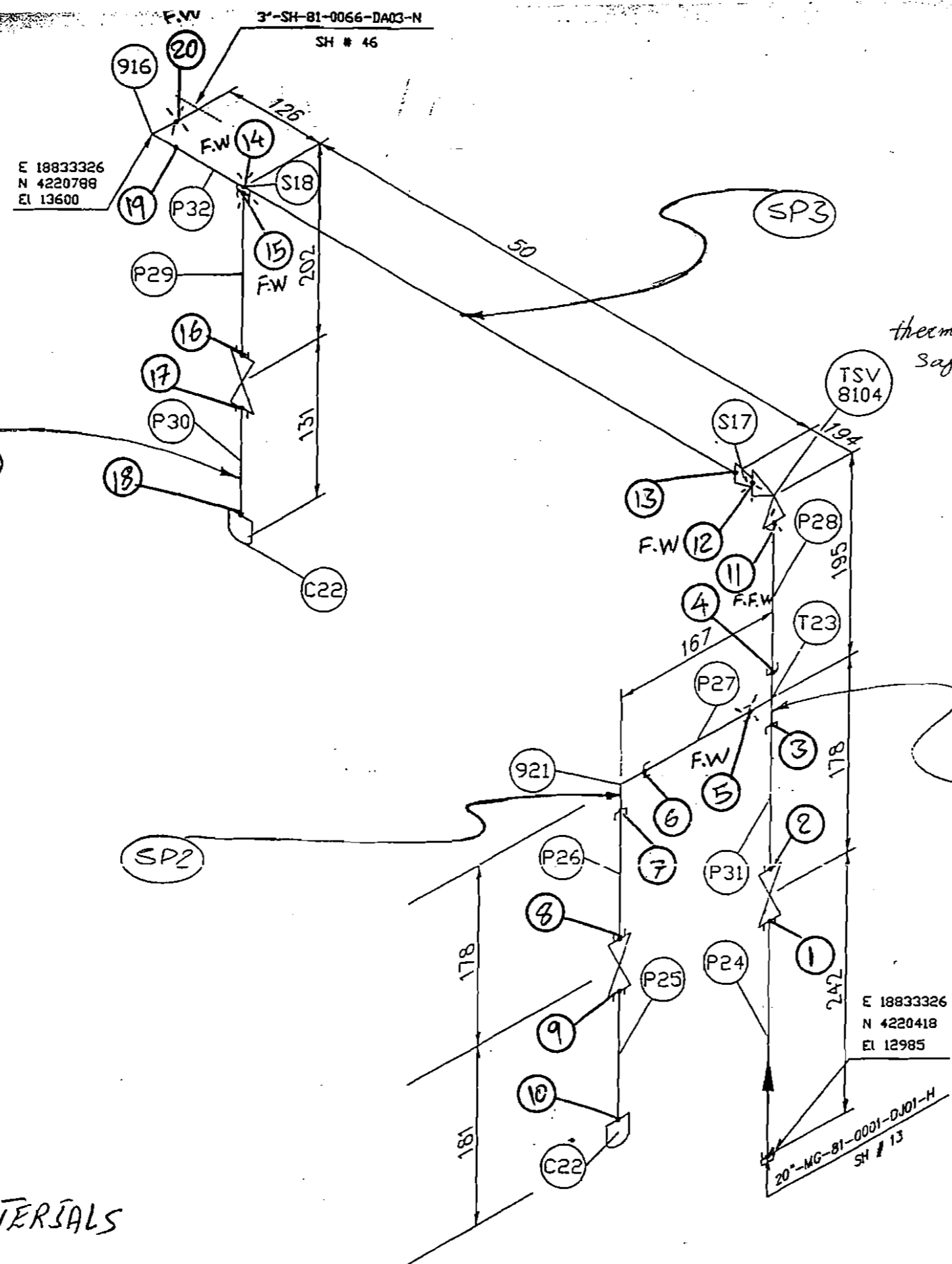
$1989 - 2(\text{سیرال}) - 2(\text{gap}) = 7922$
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 سیم 2 از انان لوانا

FOR CONT. SEE SHEET 1 OF 2

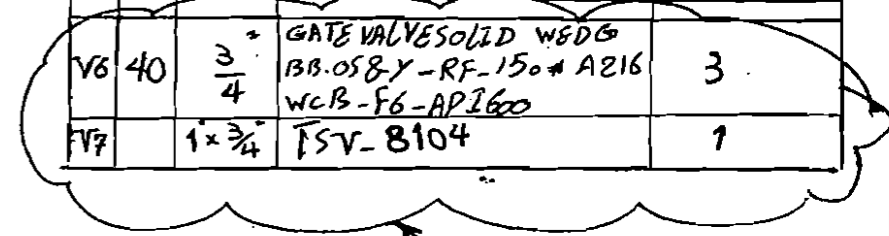
NO CONSTRUCTION PERMITTED UNLESS DRAWING APPROVED

P&ID NO. 41-82-PR-DIA-2DS8-1-1 STANDARD PIPE SUPPORT DWG. 41-80-PI-DWG-5170-4-2 PIPING REF. DWG. PIPE SUPPORT LIST: 41-82-PI-DWG-5124-1-1		OPERATING CONDITION PRESSURE : 3 BARG TEMPRATURE : -76 °C DESIGN CONDITION PRESSURE : 3.5 BARG TEMPRATURE : -104/60 °C	TEST PRESSURE : 3.85 BARG FLUID : AIR INSULATION/TRACING TYPE: C THK: 160	STRESS ANALYSIS YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> X-RAY REQUIREMENTS YES <input type="checkbox"/> NO <input type="checkbox"/>	OWNER 	PIPING ISOMETRIC DRAWING BERTH 14 14"-E-82-0006-DJ01-C	MOBYN REF. 41 EPC CODE 82 DISCIPLINE CODE PI DOCUMENT CODE ISO SEQUENCE NO. 0101 SHEET SIZE 3 REV. 1 SHEET 2 OF 2 JOB NO. 0350
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Bill of Materials				
NO.	TYPE	SIZE	DESCRIPTION	QUANTITY
916	40	2	ELBOW 90 C.S. LR SCH 40 BW A234 WPB ASME B16.9	1
S17	STD	2 X 1	REDUCED CONCENTRIC SWAGE BEVEL-THREAD STANDARD BE X TE	1
S18	3000LB	2 X 3/4	SOCKET C.S. 3000# A105 MSS SP 97	1
921	3000LB	3/4	ELBOW 90 C.S. 3000# SV A105 ASME B16.11	1
C22	3000LB	3/4	CAP C.S. 3000# SCR A105 ASME B16.11	2
T23	3000LB	3/4	EQUAL TEE C.S. 3000# SV A105 ASME B 16.11	1
P24	90	3/4	SEAMLESS PIPE C.S. SCH 80 A106 Gr.B PE ASME B36.10	0.22 m
P25	80	3/4	SEAMLESS PIPE C.S. SCH 80 A106 Gr.B PE ASME B36.10 PE X TE	0.13 m
P26	80	3/4	SEAMLESS PIPE C.S. SCH 80 A106 Gr.B PE ASME B36.10 PBE	0.13 m
P27	80	3/4	SEAMLESS PIPE C.S. SCH 80 A106 Gr.B PE ASME B36.10 PBE	0.13 m
P28	90	3/4	SEAMLESS PIPE C.S. SCH 80 A106 Gr.B PE ASME B36.10 PE X TE	0.11 m
P29	80	3/4	SEAMLESS PIPE C.S. SCH 80 A106 Gr.B PE ASME B36.10 PBE	0.13 m
P30	80	3/4	SEAMLESS PIPE C.S. SCH 80 A106 Gr.B PE ASME B36.10 PE X TE	0.08 m
P31	80	3/4	SEAMLESS PIPE C.S. SCH 80 A106 Gr.B PE ASME B36.10 PBE	0.13 m
P32	40	2	SEAMLESS PIPE C.S. SCH 40 A106 Gr.B BE ASME B36.10 BBE	SUB 1.04 m
				SUB 0.10 m
V6	40	3/4	GATE VALVE SOLID WDG B.B. OS & Y - RF - 150# A216 WCB - F6 - API 600	3
TV7		1 x 3/4	TSV - 8104	1



thermal safety valve



SP4

SP3

SP1

SP2

A1

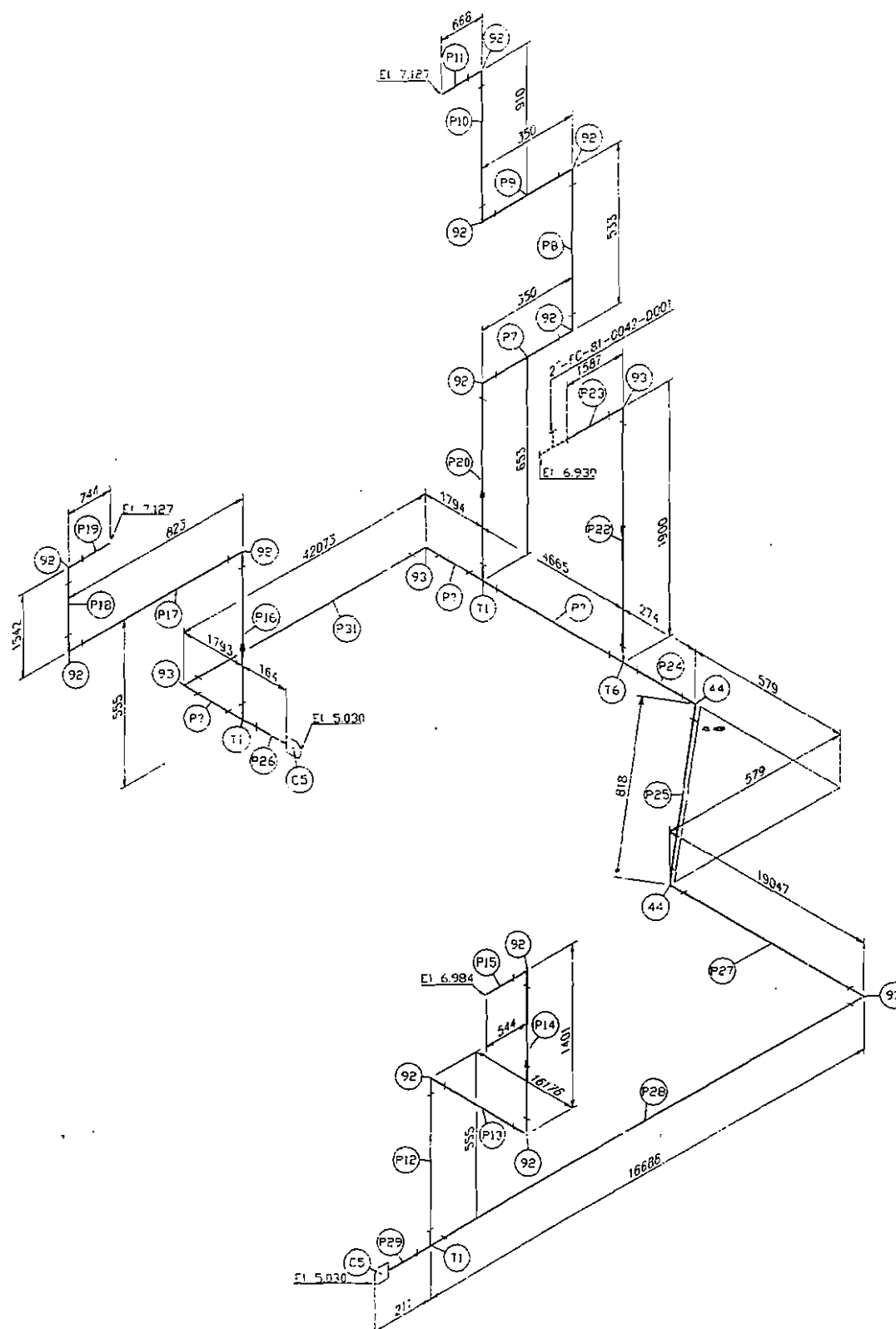
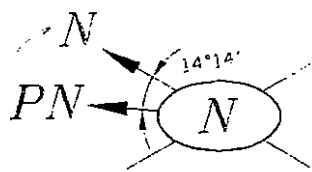
13, NOV, 005

A1 REVISED OF MATERIALS

40
MG-40-06#-001-DA03

NO CONSTRUCTION PERMITTED UNLESS DRAWING APPROVED

OPERATING CONDITION		TEST		STRESS ANALYSIS		PIPING ISOMETRIC DRAWING		2'-MG-81-0006#-DA03-N								
PRESSURE : HOLD BARG		PRESSURE : HOLD BARG		YES <input type="checkbox"/> NO <input type="checkbox"/>		MAIN OFF SITE										
TEMPERATURE : HOLD °C		FLUID : HOLD		X-RAY REQUIREMENTS												
DESIGN CONDITION		INSULATION/TRACING		YES <input type="checkbox"/> NO <input type="checkbox"/>												
PRESSURE : HOLD BARG		TYPE: N THK: -														
TEMPERATURE : HOLD °C																
P&ID NO.	STANDARD PIPE SUPPORT DWG.															
41-BI-PR-DIA-2075-1-4	41-80-PI-DWG-5170-4-2															
PIPING REF. DWG.	PIPE SUPPORT LIST:															
41-81-PI-DWG-5204 (SH1)	41-81-PI-IND-0000-4-0															
								MOBIL REF.	EPC CODE	DISCIPLINE CODE	DOCUMENT CODE	SEQUENCE NO.	SHEET SIZE	REV.	SHEET	Avea
								41	81	PI	DWG	0116	3	A1	16	40





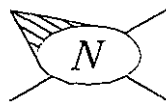
offset

Bill of Materials

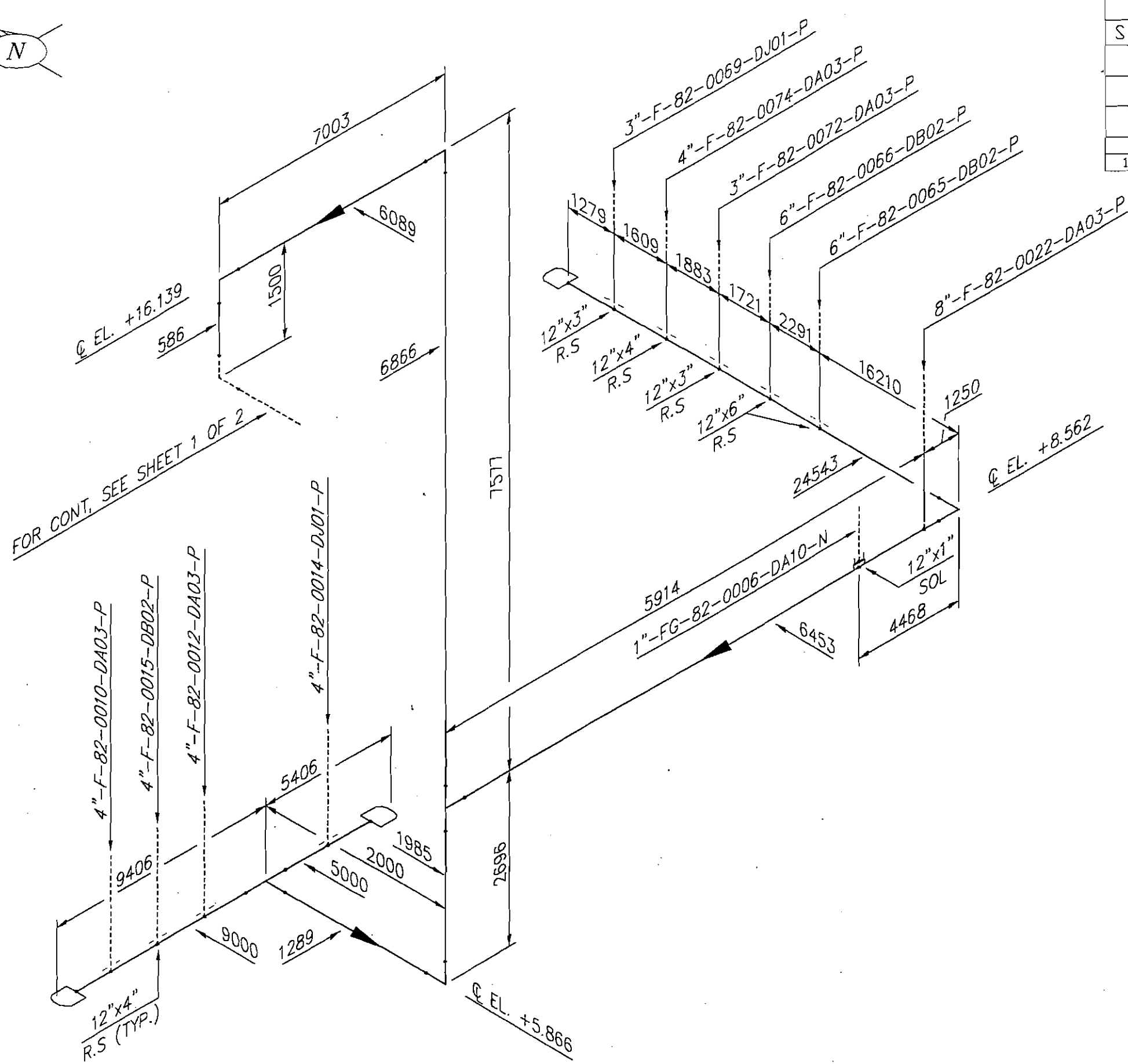
NO.	SIZE	DESCRIPTION	QUANTITY
T1	2 X 1	RED TEE GALVANIZED 3000#SCR A105 GALV. ASME B16.11	3
P2	1	ELBDW90 GALVANIZED 3000#SCR A105 GALV. ASME B16.11	11
P3	2	ELBDW45 GALVANIZED 3000#SCR A105 GALV. ASME B16.11	4
44	2	ELBDW45 GALVANIZED 3000#SCR A105 GALV. ASME B16.11	2
C5	2	CAP 3000#SCR ASTM A105GALV ASME B16.11	2
T6	2	EQUAL TEE GALVANIZED 3000#SCR A105 GALV. ASME B16.11	1
P7	1	SEAMLESS PIPE GALVANIZED C.S SCH 80 A106 Gr.B GALV. ASME B36.10 NPT TBE	0.30 m
P8	1	SEAMLESS PIPE GALVANIZED C.S SCH 80 A106 Gr.B GALV. ASME B36.10 NPT TBE	0.48 m
P9	1	SEAMLESS PIPE GALVANIZED C.S SCH 80 A106 Gr.B GALV. ASME B36.10 NPT TBE	0.30 m
P10	1	SEAMLESS PIPE GALVANIZED C.S SCH 80 A106 Gr.B GALV. ASME B36.10 NPT TBE	0.86 m
P11	1	SEAMLESS PIPE GALVANIZED C.S SCH 80 A106 Gr.B GALV. ASME B36.10 NPT TBE	0.66 m
P12	1	SEAMLESS PIPE GALVANIZED C.S SCH 80 A106 Gr.B GALV. ASME B36.10 NPT TBE	0.48 m
P13	1	SEAMLESS PIPE GALVANIZED C.S SCH 80 A106 Gr.B GALV. ASME B36.10 NPT TBE	16.12 m
P14	1	SEAMLESS PIPE GALVANIZED C.S SCH 80 A106 Gr.B GALV. ASME B36.10 NPT TBE	1.35 m
P15	1	SEAMLESS PIPE GALVANIZED C.S SCH 80 A106 Gr.B GALV. ASME B36.10 NPT PE X TE	0.52 m
P16	1	SEAMLESS PIPE GALVANIZED C.S SCH 80 A106 Gr.B GALV. ASME B36.10 NPT TBE	0.48 m
P17	1	SEAMLESS PIPE GALVANIZED C.S SCH 80 A106 Gr.B GALV. ASME B36.10 NPT TBE	0.77 m
P18	1	SEAMLESS PIPE GALVANIZED C.S SCH 80 A106 Gr.B GALV. ASME B36.10 NPT TBE	1.49 m
P19	1	SEAMLESS PIPE GALVANIZED C.S SCH 80 A106 Gr.B GALV. ASME B36.10 NPT PE X TE	0.72 m
P20	1	SEAMLESS PIPE GALVANIZED C.S SCH 80 A106 Gr.B GALV. ASME B36.10 NPT TBE	0.58 m
		SUB 25.08 m	
P21	2	SEAMLESS PIPE GALVANIZED C.S SCH 80 A106 Gr.B GALV. ASME B36.10 NPT TBE	4.57 m
P22	2	SEAMLESS PIPE GALVANIZED C.S SCH 80 A106 Gr.B GALV. ASME B36.10 NPT TBE	1.81 m
P23	2	SEAMLESS PIPE GALVANIZED C.S SCH 80 A106 Gr.B GALV. ASME B36.10 NPT TBE	1.56 m
P24	2	SEAMLESS PIPE GALVANIZED C.S SCH 80 A106 Gr.B GALV. ASME B36.10 NPT PE X TE	0.18 m
P25	2	SEAMLESS PIPE GALVANIZED C.S SCH 80 A106 Gr.B GALV. ASME B36.10 NPT PBE	0.73 m
P26	2	SEAMLESS PIPE GALVANIZED C.S SCH 80 A106 Gr.B GALV. ASME B36.10 NPT TBE	0.14 m
P27	2	SEAMLESS PIPE GALVANIZED C.S SCH 80 A106 Gr.B GALV. ASME B36.10 NPT PE X TE	18.96 m
P28	2	SEAMLESS PIPE GALVANIZED C.S SCH 80 A106 Gr.B GALV. ASME B36.10 NPT TBE	16.60 m
P29	2	SEAMLESS PIPE GALVANIZED C.S SCH 80 A106 Gr.B GALV. ASME B36.10 NPT	0.14 m
P30	2	SEAMLESS PIPE GALVANIZED C.S SCH 80 A106 Gr.B GALV. ASME B36.10 NPT TBE	1.70 m
P31	2	SEAMLESS PIPE GALVANIZED C.S SCH 80 A106 Gr.B GALV. ASME B36.10 NPT TBE	41.98 m
P32	2	SEAMLESS PIPE GALVANIZED C.S SCH 80 A106 Gr.B GALV. ASME B36.10 NPT TBE	1.70 m
		SUB 90.07 m	

NO CONSTRUCTION PERMITTED UNLESS DRAWING APPROVED

OPERATING CONDITION PRESSURE : BARG TEMPERATURE : °C DESIGN CONDITION: PRESSURE : BARG TEMPERATURE : °C		TEST PRESSURE : BARG FLUID : INSULATION/TRACING TYPE: T.H.:		STRESS ANALYSIS YES <input type="checkbox"/> NO <input checked="" type="checkbox"/> X-RAY REQUIREMENTS YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>		OWNER:  MOCIN PETROCHEMICAL CO.		 PTC PA. ANDAN-TARX ANDISHAN Engineering & Construction Consortium		PIPING ISOMETRIC DRAWING PIPE RACK (MAIN BREAK WATER) 2"-FC-81-0043-D001			MOBIL REF. EPC CODE DISCIPLINE CODE DOCUMENT CODE SEQUENCE NO. SHEET SIZE REV. SHEET No. 0350		
PWD NO: 41-81-FF-DIA-3004-D PIPING REF DWG.		STANDARD PIPE SUPPORT DWG. PIPE SUPPORT LIST:								41 81 PI DWG 0113 3 0 1 OF 1					



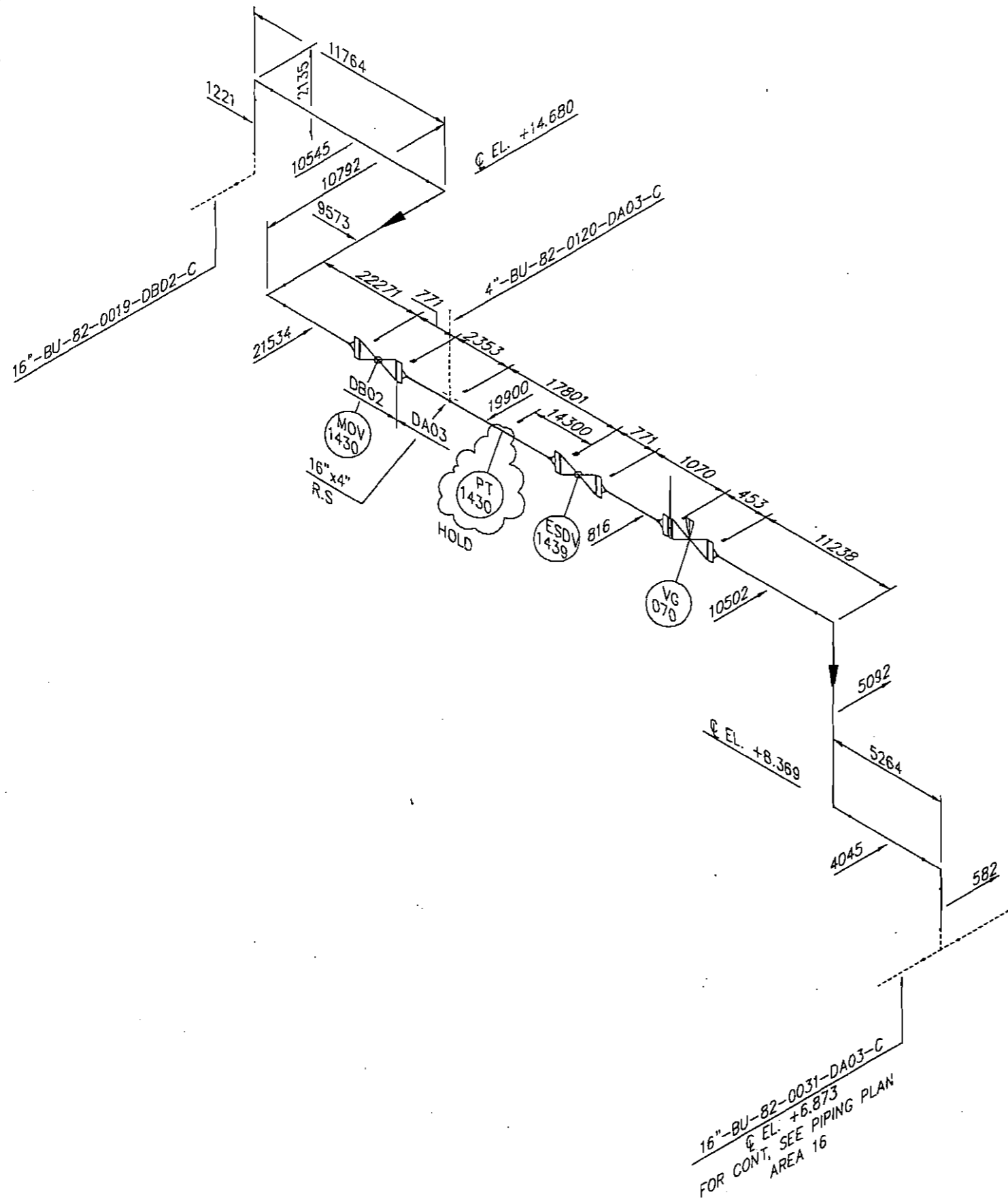
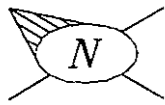
FOR CONT, SEE SHEET 1 OF 2



Bill of Materials		
SIZE	DESCRIPTION	QUANTITY
12	ELBDW90 S.S. LR SCH 10S BW A403 WP304 ASME B16.9	4
12	CAP SS SCH 10S BW A403 WP304 ASME B16.9	3
12	EQUAL TEE SS SCH 10S BW A403 WP304 ASME B16.9	2
12	EFW WELDED PIPE SS	61.81 m
12x1	SOCKET 3000# ASTM A182 F304	1

NO CONSTRUCTION PERMITTED UNLESS DRAWING APPROVED

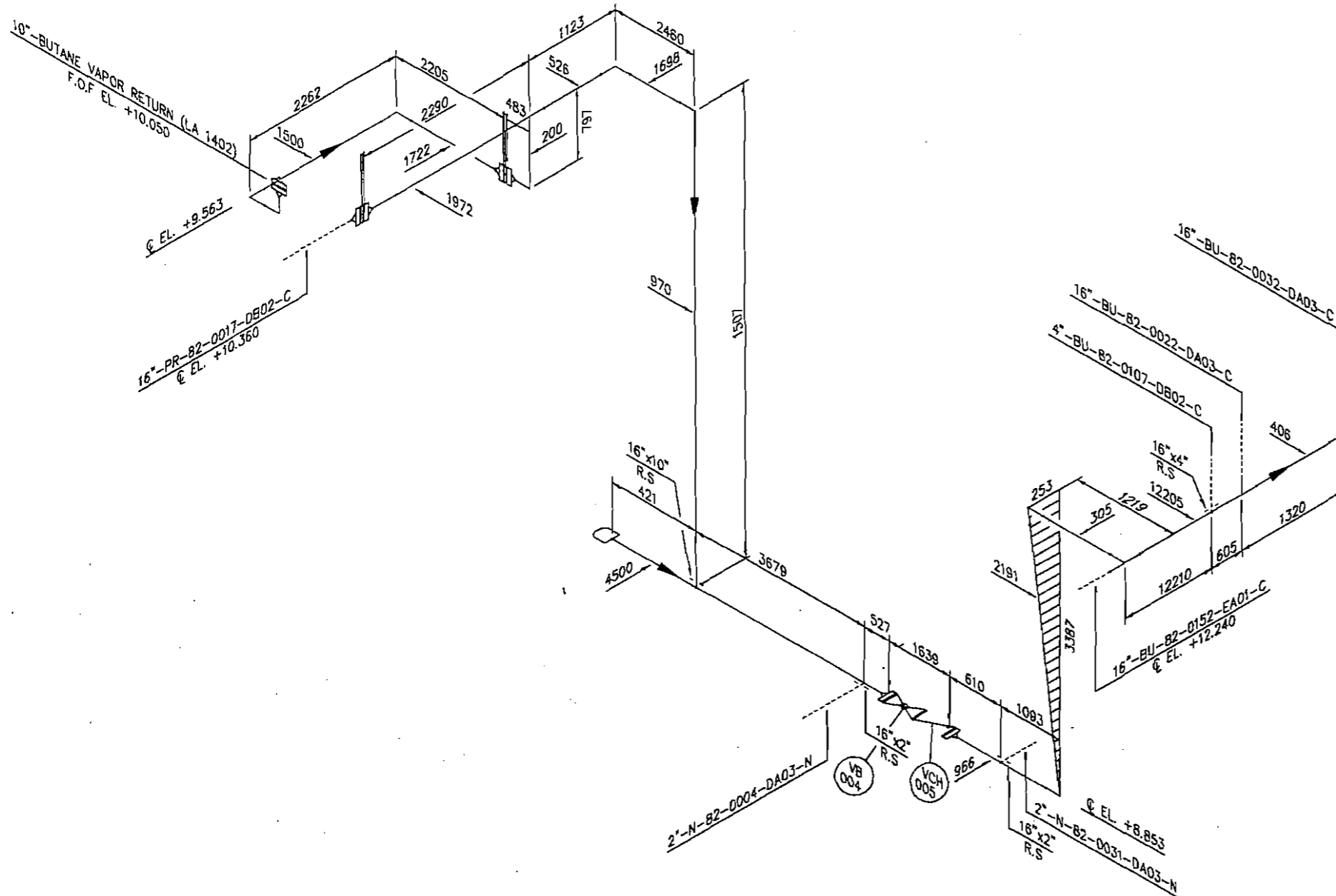
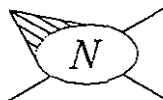
P&ID NO. 41-82-PR-DIA-2165-1-1 STANDARD PIPE SUPPORT DWG. 41-80-PI-DWG-5170-4-2 PIPING REF. DWG. 41-82-PI-DWG-5123/5124-1-1 PIPE SUPPORT LIST:		OPERATING CONDITION PRESSURE : 3.3 BARG TEMPERATURE : -3.6 °C DESIGN CONDITION PRESSURE : 15 BARG TEMPERATURE : 60 °C	TEST PRESSURE : 22.5 BARG FLUID : WATER INSULATION/TRACING TYPE: P THK: 50	STRESS ANALYSIS YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> X-RAY REQUIREMENTS YES <input type="checkbox"/> NO <input type="checkbox"/>	OWNER: MOHIN PETROCHEMICAL CO.	 PAYANDAH-TARH ANTIKORAN Engineering & Construction Company	PIPING ISOMETRIC DRAWING BERTH 14 12"-F-82-0002-DJ01-P	MOBIN REF. 41 EPC CODE 82 DISCIPLINE CODE PI DOCUMENT CODE ISO SEQUENCE NO. 0101 SHEET SIZE 3 REV. 1 SHEET 1 OF 2 JOB NO. 0350
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Bill of Materials		
SIZE	DESCRIPTION	QUANTITY
16	FLANGE WN C.S. 150#RF SCH 20 A105 ASME B16.5	5
16	FLANGE WN L.T.C.S 150# RF SCH 20 A350 LF2 ASME B16.5	1
16	ELBDW 90 C.S. LR SCH 20 BW A234 WPB ASME B16.9	3
16	ELBDW 90 LTCS LR SCH. 20 BW A420 WPL6 ASME B16.9	3
16	SPIRAL WOUND GASKET 150# RF 304/GRAPHITE ASME B16.20	7
16	GATE VALVE SOLID WEDG BB.DS&Y 150# RF A216 WCB F6 API 600 HANDWHEEL	1
16	SPACER RING 150# RF ASTM A105 ANSI B16.5	1
1 X 0.14 m	STUD BOLT WITH 2 HEAVY HEX NUTS 150# RF A193 B7 ASME B18.21	64
1 X 0.14 m	STUD BOLT WITH 2 HEAVY HEXNUTS 150# RF ASTM A320 L7 ASME B18.21	32
16	SEAMLESS PIPE C.S. SCH. 20 A106 Gr.B BE ASME B36.10 BBE	40.93 m
16	SEAMLESS PIPE L.T.C.S A333 Gr.6 SCH.20 BE ASME B36.10	42.86 m

NO CONSTRUCTION PERMITTED UNLESS DRAWING APPROVED

P&ID NO.		OPERATING CONDITION		TEST		STRESS ANALYSIS		OWNER:		PIPING ISOMETRIC DRAWING				JOB NO.			
41-82-PR-DIA-2053-1-1		PRESSURE : 0.17 BARG		PRESSURE : 0.85 BARG		YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>		 PT PERTAMINA (PERSERO)		BERTH 14				16"-BU-82-0032-DA03-C		41 82 PI ISO 0101 3 1 1 OF 1 0350	
41-82-PI-DWG-5121-1-1		TEMPERATURE : 2.4 °C		FLUID : AIR		X-RAY REQUIREMENTS				SEQUENCE NO. SHEET SIZE REV. SHEET							
41-82-PR-DIA-2053-1-1		DESIGN CONDITION		INSULATION/TRACING		YES <input type="checkbox"/> NO <input type="checkbox"/>		 PT PTP		DOCUMENT CODE				JOB NO. 0350			
41-82-PI-DWG-5121-1-1		PRESSURE : 3.5 BARG		TYPE: C THK: 50		YES <input type="checkbox"/> NO <input type="checkbox"/>				SEQUENCE NO. SHEET SIZE REV. SHEET							
41-82-PI-DWG-5121-1-1		TEMPERATURE : -20 °C						 PT PTP		SEQUENCE NO. SHEET SIZE REV. SHEET				JOB NO. 0350			

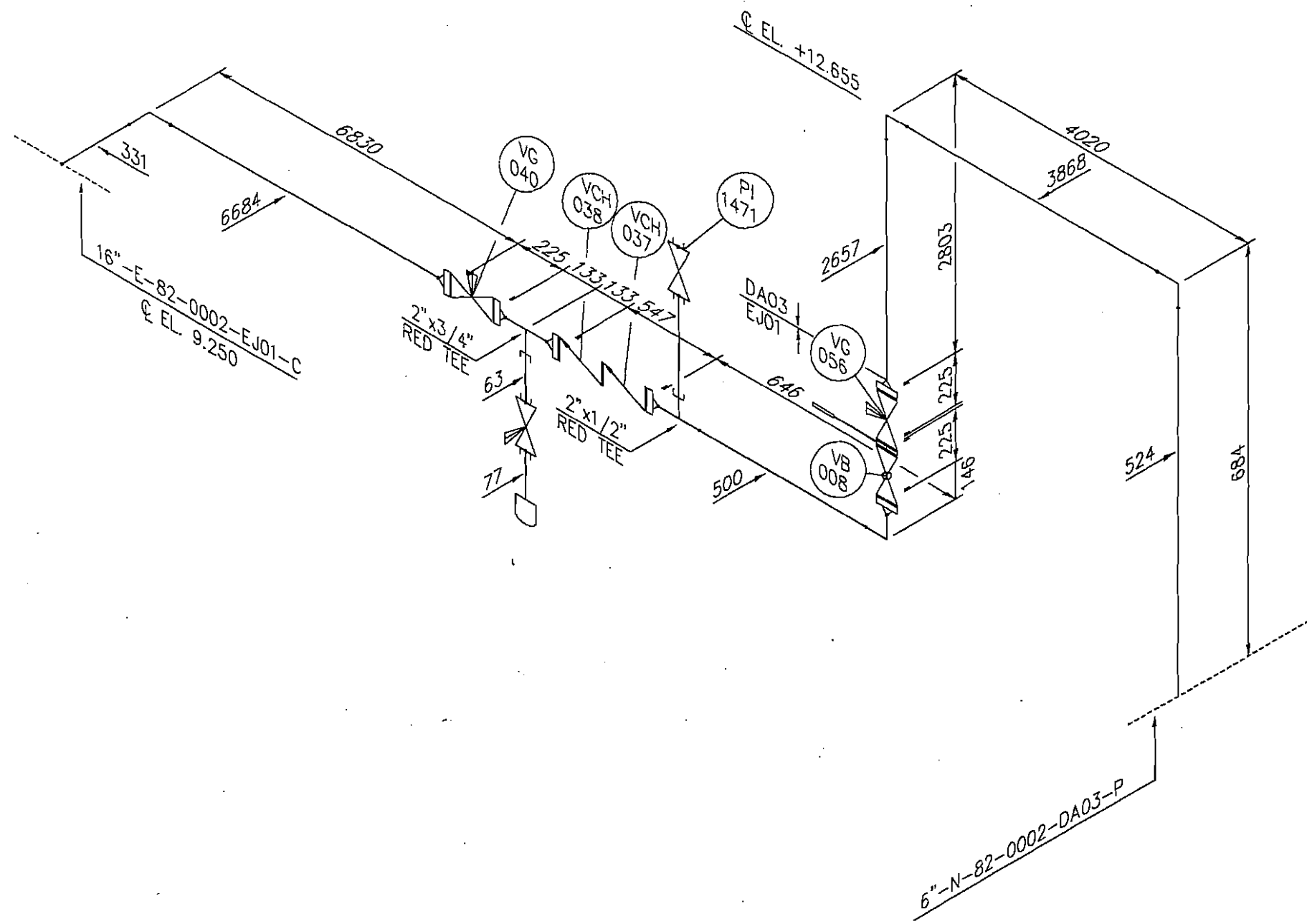
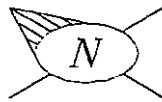


Bill of Materials

SIZE	DESCRIPTION	QUANTITY
10	FLANGE WN L.T.C.S 150# RF SCH 20 A350 LF2 ASME B16.5	5
16	FLANGE WN L.T.C.S 150# RF SCH 20 A350 LF2 ASME B16.5	2
10	ELBDW 90 LTCS LR SCH. 20 BW A420 WPL6 ASME B16.9	6
16	ELBDW 90 LTCS LR SCH. 20 BW A420 WPL6 ASME B16.9	3
16	CAP SCHED. 20 BW ASTM A420 WPL6 ASME B16.9	1
10	EQUAL TEE L.T.C.S. SCH. 20 . BW A420 WPL6 ASME B16.9	1
16	EQUAL TEE L.T.C.S. SCH. 20 . BW A420 WPL6 ASME B16.9	2
10	SPIRAL WOUND GASKET 150# RF 304/GRAPHITE ASME B16.20	5
16	SPIRAL WOUND GASKET 150# RF 304/GRAPHITE ASME B16.20	3
16	BALL VALVE REDUCED BORE 150#RF A352 LCB 304 API.6D	1
16	SWING CHECK VALVE BC 150# RF A352LCB 304 API 600/BS1868	1
10	SPECTACLE BLIND LTCS 150#RF A350 LF2 ASME B16.5	2
7/8 X 0.11 m	STUD BOLT WITH 2 HEAVY HEXNUTS 150# RF ASTM A193 B7 ASME B18.21	36
1 X 0.14 m	STUD BOLT WITH 2 HEAVY HEXNUTS 150# RF ASTM A320 L7 ASME B18.21	48
10	SEAMLESS PIPE L.T.C.S A333 Gr.6 SCH.20 BE ASME B36.10 BBE	8.59 m
16	SEAMLESS PIPE L.T.C.S A333 Gr.6 SCH.20 BE ASME B36.10 BBE	20.57 m

NO CONSTRUCTION PERMITTED UNLESS DRAWING APPROVED

P&ID NO. 41-82-PR-DIA-2052-1-1 PIPING REF. DWG. 41-82-PI-DWG-5124-1-1		STANDARD PIPE SUPPORT DWG. 41-80-PI-DWG-5170-4-2 PIPE SUPPORT LIST:		OPERATING CONDITION PRESSURE : 0.17 BARG TEMPERATURE : 2.4 °C DESIGN CONDITION PRESSURE : 3.5 BARG TEMPERATURE : -20 °C	TEST PRESSURE : 3.85 BARG FLUID : AIR INSULATION/TRACING TYPE: C THK: 50	STRESS ANALYSIS YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> X-RAY REQUIREMENTS YES <input type="checkbox"/> NO <input type="checkbox"/>	OWNER: 	PIPING ISOMETRIC DRAWING BERTH 14				16"-BU-82-0019-DB02-C			
MOBIN REF.	EPC CODE	DISCIPLINE CODE	DOCUMENT CODE	SEQUENCE NO.	SHEET SIZE	REV.	SHEET	JOB No:							
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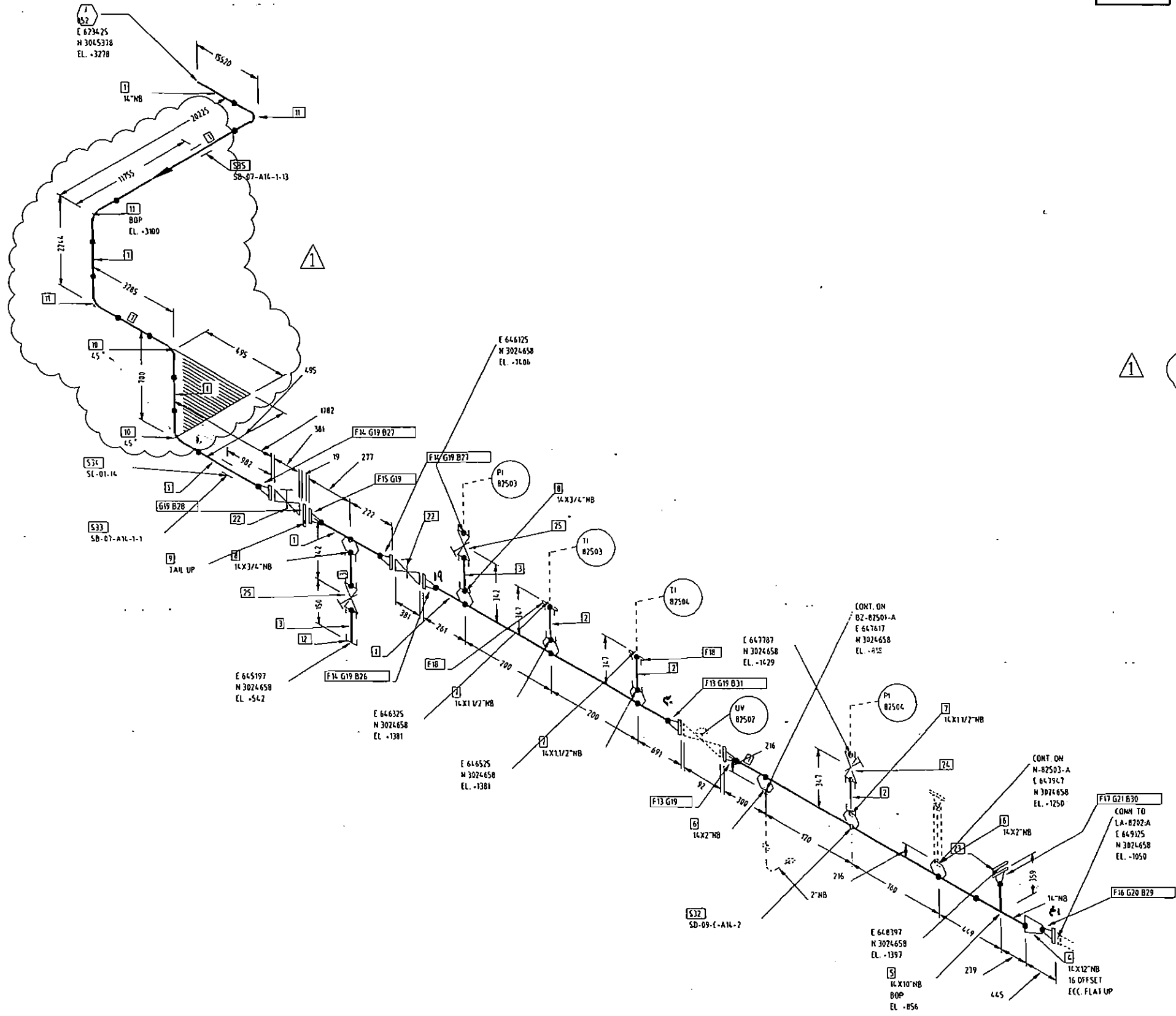
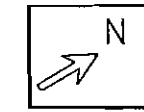


Bill of Materials		
SIZE	DESCRIPTION	QUANTITY
2	FLANGE WN SS 300#RF SCH 10S A182 F304 ASME B16.5	6
2	ELBDW 90 C.S. LR SCH 40 BW A234 WPB ASME B16.9	2
2	ELBDW 90 SCH 10S BW A403 WP304 ASME B16.9	2
2 X 3/4	LADISH BUTTWELD REDUCING TEE 40S	1
2 X 1/2	LADISH BUTTWELD REDUCING TEE 40S	1
2	SPIRAL WOUND GASKET 300#RF 304/GRAPHITE ASME B16.20	9
3/4	GATE VALVE SOLID WEDG BB OS&Y 800#SW A182 F304 304 API 602 HANDWHEEL	1
1/2	GATE VALVE SOLID WEDG BB OS&Y 800#SW A182 F304 304 API 602 HANDWHEEL	1
2	BALL VALVE REDUCED BORE 300#RF A351 CF8 API 6D	1
2	GATE VALVE,FLEXIBLE WEDG,BB,OS&Y 300#RF A351 CF8 304 API600 HANDWHEEL	2
2	SWING CHECK VALVE,BC 300#RF A351CF8 304 API600/BS1868	2
3/4	CAP SS 3000#SCR A182 F304 ASME B16.11	1
2	SPECTACLE BLIND 300# RF ASTM A182 F304 ANSI B16.5	1
5/8 X 0.09 n	STUD BOLT WITH 2 HEAVY HEXNUTS 300# RF ASTM A193 B8 ASME B18.21	64
3/4	SEAMLESS PIPE SS SCH 40S PE A312 TP304 ASME B36.19 BE X PE	0.14 m
1/2	SEAMLESS PIPE SS SCH 40S PE A312 TP304 ASME B36.19 BE X PE	0.10 m
2	SEAMLESS PIPE SS SCH 10S PE A312 TP304 ASME B36.19	7.51 m
2	SEAMLESS PIPE C.S. SCH. 40 A106 Gr.B BE ASME B36.10 BBE	7.05 m

NO CONSTRUCTION PERMITTED UNLESS DRAWING APPROVED

P&ID NO. 41-82-PR-DIA-2058-1-1		STANDARD PIPE SUPPORT DWG. 41-80-PI-DWG-5170-4-2		OPERATING CONDITION PRESSURE : 7 BARG TEMPERATURE : AMB °C		TEST PRESSURE : 22.5 BARG FLUID : WATER		STRESS ANALYSIS YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>		OWNER 		PIPING ISOMETRIC DRAWING BERTH 14				2"-N-82-0043-DA03-N						
PIPING REF. DWG. 41-82-PI-DWG-5124-1-1		PIPE SUPPORT LIST:		DESIGN CONDITION PRESSURE : 10 BARG TEMPERATURE : 75 °C		INSULATION/TRACING TYPE: N THK: 0		X-RAY REQUIREMENTS YES <input type="checkbox"/> NO <input type="checkbox"/>		MOBIL PETROCHEMICAL CO.		PAYANDAN-TAREH ANDHRIAN Engineering&Construction Consortium		MOBIL REF. 41	EPC CODE 82	DISCIPLINE CODE PI	DOCUMENT CODE ISO	SEQUENCE NO. 0101	SHEET SIZE 3	REV. 1	SHEET 1 OF 1	JOB NO. 0350

NOTE: 1. FOR 1 1/2" AND SMALLER, PIPING ROUTING DIMENSIONS AND ELEVATIONS TO BE CHECKED BY CONSTRUCTION CONTRACTOR BEFORE INSTALLATION.
 2. FOR 1 1/2" AND SMALLER, SUPPORTS TO BE SELECTED BY CONSTRUCTION CONTRACTOR.
 3. BEFORE PRE-FABRICATION CHECK ACTUAL SIZE OF SPECIAL ITEMS.



BILL OF MATERIAL

NO.	CODE	QUANTITY	DESCRIPTION
FABRICATION MATERIALS			
1	PPAULBAL	41.7	14 IN NS PIPE API5LGR. B-ERW BE SCH 20 : ASME B36.10M
2	PPTBSAAH	0.4	1. 1/2 IN NS PIPE ASTM A106GR. B-SMLS PE SCH 80 : ASME B36.10M
3	PPTBSAAH	0.4	3/4 IN NS PIPE ASTM A106GR. B-SMLS PE SCH 80 : ASME B36.10M
4	RBTBJCAL	1	14 IN NS * 12 IN NS ECCENTRIC REDUCER ASTM A234GR. WPB-SMLS or WELD BW SCH 20 * SCH 20 : ASME B16.9
5	TBTBJCAL	1	14 IN NS * 10 IN NS REDUCING TEE ASTM A234GR. WPB-SMLS or WELD BW SCH 20 * SCH 20 : ASME B16.9
6	WHTATCALAJ	2	14 IN NS * 2 IN NS WELDING OUTLET ASTM A105-FORGED BW SCH 20 * SCH 40 : MSS SP-97
7	WETATFAW	3	14 IN NS * 1. 1/2 IN NS SOCKET OUTLET ASTM A105-FORGED SWCL. 3000 : MSS SP-97
8	WETATFAW	2	14 IN NS * 3/4 IN NS SOCKET OUTLET ASTM A105-FORGED SW CL. 3000 : MSS SP-97
9	OTTAODE	1	14 IN NS SPACER & BLANKS ASTM A105 CL. 15 ORF : A3.0512.61
10	ABTBJCAL	2	14 IN NS 45 ELBOW ASTM A234GR. WPB-SMLS or WELD BW SCH 20 : ASME B16.9
11	EATBJCAL	3	14 IN NS 90 ELBOW ASTM A234GR. WPB-SMLS or WELD BW SCH 20 : ASME B16.9
12	JATAOFAW	1	3/4 IN NS CAP ASTM A105 SW CL. 3000 : ASME B16.11
13	FATABDFEAL	2	14 IN NS FLANGE ASTM A105 ASME CL. 150 WN-RF SCH 20 : ASME B16.5
14	FATABDFEAL	3	14 IN NS FLANGE ASTM A105 ASME CL. 150 WN-RF SCH 20 : ASME B16.5
15	MJTAODFEAL	1	14 IN NS FLANGE ASTM A105 ASME CL. 150 WN-RF SCH 20 : ASME B16.5
16	FATABDFEAL	1	12 IN NS FLANGE ASTM A105 ASME CL. 150 WN-RF SCH 20 : ASME B16.5
17	FATABDFEAL	1	10 IN NS FLANGE ASTM A105 ASME CL. 150 WN-RF SCH 20 : ASME B16.5
18	FATABDAEAH	2	1. 1/2 IN NS FLANGE ASTM A105 ASME CL. 150 SW-RF SCH 80 : ASME B16.5
19	GA333BBDCR	7	14 IN NS GASKET SPIRAL WOUND GASKET (TS-333B) ASME CL. 150 RF THICK 4.5 mm : ASME B16.20
20	GA333BBDCR	1	12 IN NS GASKET SPIRAL WOUND GASKET (TS-333B) ASME CL. 150 RF THICK 4.5 mm : ASME B16.20
21	GA333BBDCR	1	10 IN NS GASKET SPIRAL WOUND GASKET (TS-333B) ASME CL. 150 RF THICK 4.5 mm : ASME B16.20
22	VAF211EG	2	14 IN NS VAF211E GEAR OPERATION GATE VALVE CL. 150 ASTM A216GR. WCB/W1 RF BB, OS&Y STD : ASME B16.10/API 600/ASME B16.5, GASKET/PACKING : 92U/78PA+61QA

ISSUED
 No. 2005.7.15
 GS E&C
FOR CONSTRUCTION

4TH AROMATICS PLANT PROJECT

OWNER: NATIONAL PETROCHEMICAL COMPANY
 BORZOUYEH PETROCHEMICAL COMPANY

CONSORTIUM OF:
 TOYO ENGINEERING COMPANY
 SAZEH CONSULTANTS
 LG Engineering & Construction Corp.

LINE NO.	14"-BZ-81510-A1A2		
PROJECT NO.	BA-0512	UNIT 8200	COMMODITY BZ
SHEET	BZ-81510-A		REV. 1

INSULATION CODE	PAINTING	TYPE (A,)	TEST (HYDRO)	24.0	REF. P810	STRESS CHECK	A	REV	DESCRIPTION	DATE	DRWN	CHKD	APPR	
														SIZE (INCH)
	NDT	10	OPERATING	11.0	45	8100-L4032-107	FABRICATION	FIELD	1	A. F. C-1	JUL. 11 2005	KIM. H.S	KIM. B.S	SONG .K.S
	PWHT	NO	DESIGN	16.0	60	REF. PLAN DWG			0	A. F. C	JUL. 22 2004	KIM. H.S	KIM. B.S	SONG .K.S