



PTT GLOBAL CHEMICAL PUBLIC COMPANY LIMITED

PIPING INSPECTION REPORT

Plant	: GC16 EOEG	Report No. :	: VI-Glycol-24-003
Line No.	: P-1767-E3P0-NA/B01S	Type	: OSI Non Intrusive
Equipment Description	: From P-1753 / To P-1742	Reason For Inspection	: Inspection Plan
Inspector Name	: Kritsada S.	Inspection Date	: 24/Jan/24

1. PIPING DATA

Design Pressure	: 35.6	Kg/cm ² G	Operating Pressure	: 33.0	Kg/cm ² G
Design Temperature	: 84	°C	Operating Temperature	: 52	°C
Design Code	: ASME B.31.3		Year Service	: 8/Jul/2006	
Design Life	: 20	Years	Operation Fluid	: Process Material	
Material Specification	: A312 GR.TP304		Nominal Thickness	: 2" 3.91 mm. / 1" 3.38 mm.	
Corrosion Allowance	: 0.0	mm.	MAWT	: 2" 2 mm / 1" 1.77 mm.	
Insulation	: NO		Degradation Mechanism	: Corrosion	

2. EXECUTIVE SUMMARY

Inspection method :
- P-1767-E3P0-NA/B01S, Inspection by - VI + UTM

External Visual Inspection :
- An external visual inspection is performed to determine the condition of the outside of the piping that still in good condition.
- Visible significant vibrations were not noticed. All small bore fittings were also noted in good condition without any sign of cracking/corrosion.
- All pipe supports and welds were found to be in satisfactory condition.

NDT:

UTM Result								
: ' The minimum thickness more than nominal thickness								
Location	Part	Min. Actual THK	T Nom.	Required THK.	LTCR	STCR	LTRL	STRL
14,G	PIPE	3.92	3.91	2	-	-	-	-

CORROSION RATE :	1.92	mm./Years	REMAINING LIFE:	> 20	Years	NEXT INSPECTION :	120	Month
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3. ACTION TAKEN

N/A

4. RECOMMENDATION

ACTION PARTY

- Next external inspection should be set 5 years
- Next OSI inspection should be set 10 years to monitor the thickness

T-II-IP1

5. REMARKS/COMMENTS

N/A

COMPLETED BY

SIGNATURE :

NAME :

DATE :



VISUAL INSPECTION REPORT

PIPING INSPECTION

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Insulation	: NO		Degradation Mechanism	: corrosion	

External Visual Inspection

Item	COMPONENTS	N	AB	N/A	Finding/Location
1	Run Pipe/Branch Pipe				
	- Insulation			✓	N/A
	- Paint			✓	N/A
	- Corrosion	✓			Normal condition
	- Crack	✓			Normal condition
	- Fretting, Mechanical damage	✓			Normal condition
	- Vibration	✓			Normal condition
	- Pipe Sleeve/Wrapping			✓	N/A
	- Bolt, Nut	✓			Normal condition
	- Small bore	✓			Normal condition
2	Stream tracing				
	- Corrosion			✓	N/A
	- Crack			✓	N/A
	- Fretting, Mechanical damage			✓	N/A
	- Vibration			✓	N/A
3	Pipe Support				
	- Corrosion	✓			Normal condition
	- Crack	✓			Normal condition
	- Fretting, Mechanical damage	✓			Normal condition
	- Vibration	✓			Normal condition
4	Other				
	- Shoe off support			✓	N/A

Comment/Discussion

- Overall external condition was in satisfied appearance and safe for operation.

COMPLETED BY	INSPECTED BY	REVIEWED BY	APPROVED BY
SIGNATURE :			
NAME :			
DATE :			

ATTACHMENT

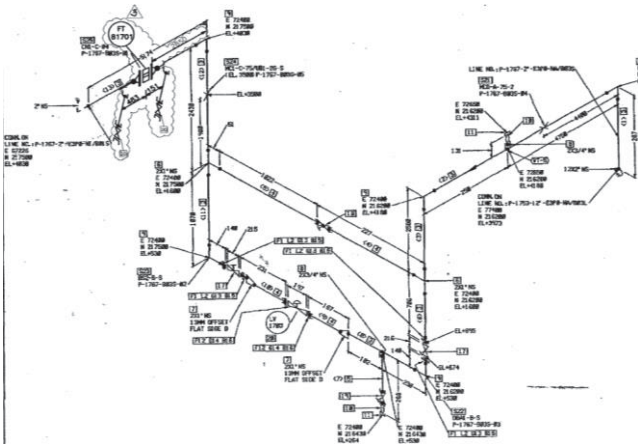


Figure 1



Figure 2

DRAWING_LINE_NO._P-1767-E3P0-NA_B03S (she 1)

Pipe,Bolt Nut,Supports - Found in normal condition.



Figure 3



Figure 4

Pipe,Bolt Nut,Supports - Found in normal condition.

Pipe,Bolt Nut,Supports - Found in normal condition.

ATTACHMENT

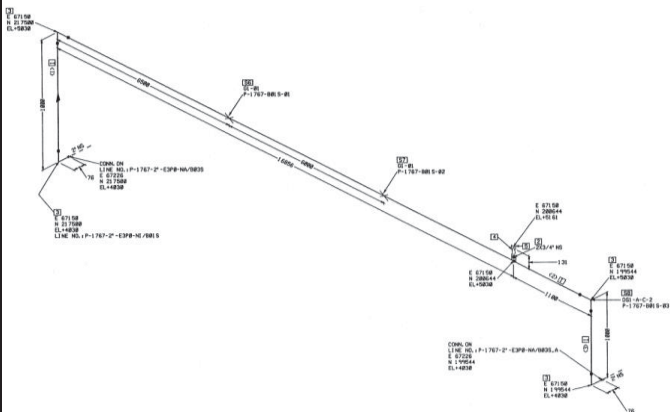


Figure 5



Figure 6

DRAWING_LINE_NO._P-1767-E3P0-NA_B01S (she 2)

Pipe,Bolt Nut,Supports - Found in normal condition.



Figure 7



Figure 8

Pipe,Bolt Nut,Supports - Found in normal condition.

Pipe,Bolt Nut,Supports - Found in normal condition.



Figure 13

Pipe,Bolt Nut,Supports - Found in normal condition.



Figure 14

Pipe,Bolt Nut,Supports - Found in normal condition.


BILL OF MATERIAL

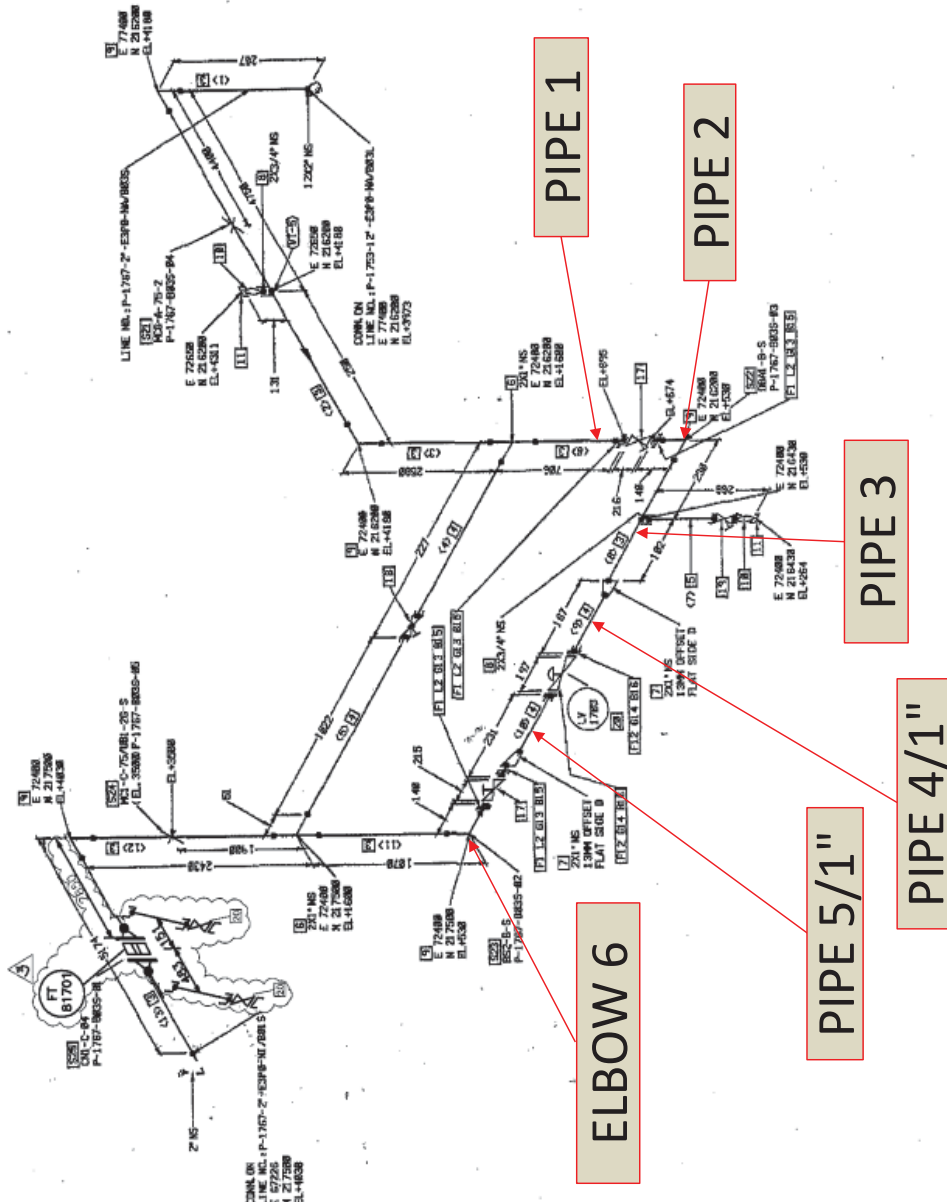
NO.	CODE NO.	SCORE	SIZE	QTY	DESCRIPTION
1	1FAMAS0000	F	2	4	FLAME AI05 ASME Class 300 LJ
2	2CALBR2011	D	2	4	STEP END AI05 GR WP004 W BM SCH05 MSS TYP E Class 300 100% B/T
3	3ALINJAL0	P	2	16.5	PIPE AS12 GR TP004 EPW BR SCH05
4	4ALINJAL0	P	1	1.3	PIPE AS12 GR TP004 EPW BR SCH05
5	5ALINJAL0	P	3/4	0.1	PIPE AS12 GR TP004 EPW BR SCH05
6	6DOUBERJAL011	T	1	2	TEE AI05 GR WP004 LJ W SCH05 SCH05 100% B/T
7	7ELJCEJAL0011	T	1	2	ELC-REDUCER AI05 GR WP004 W BM SCH05 SCH05 100% B/T
8	8DOUBERJAL0011	RE	3/4	12	HALF COUPLER AI02 GR F304 W IN SCH05 3000
9	9EGJEDG0001	TI	3/4	2	90 ELBOW AI02 GR WP004 W BM SCH05 100% B/T
10	10BALJAKAM0	E	2	2	NUTPLE AS12 GR TP004 EPW PLTICE SCH05 75mm
11	11BALJAKAM0	JNT	3/4	4	CAP AI02 GR F304 NPT Class 3000
12	12FIBRA0000	DFT	3/4	1	PIPE AI02 GR F304 ASME Class 300 3W RF SCH05
13	13GUSHERB	G	2	4	GASKET 330D : SPTRAC-ROTOR (GUSSEDA-00A)-1/3300A, 0/33 ASME Class 300 4.5mm RF
14	14GUSHERB	G	1	2	GASKET 330D : SPTRAC-RELAY (GUSSEDA-00A)-1/3300A, 0/33 ASME Class 300 4.5mm RF
15	15NIEHAB00	B	15/8	100.4	1 IN. 100.4 x 1 IN. 100.4 GR.8 ASME STUD HEX NUT 8WV
16	16NIEHAB00	B	15/8	85.2	1 IN. 85.2 x 1 IN. 85.2 GR.8 ASME STUD HEX NUT 8WV
17	17NIEHAB00A	VA	2	2	GATE VALVE AS81 GR-018M TYP163 ASME Class 300 FLD W BR 05007 AF5
18	18WALENCAI005	VS	1	1	SOVA
19	19WALENCAI005	VS	1	1	GLOBE VALVE AI02 GR F316 TYP161 API Class 300 3W BR 05007 B500DIA
20	20WALENCAI005	VA	3/4	4	GATE VALVE AI02 GR F316 TYP161 API Class 300 3W BR 05007 B500DIA
21	21WALENCAI005	VA	1/2	2	GATE VALVE AI05 130-THY1613 API CLASS300 3W NPT BR0507 ANOMAX
PWR DATA					
P	1767	EPO	VA	3/4	P 0.1 DPT-2, JNT-2, TH-2, W-1
P	1767	EPO	VA	1	P 1.3 BUB-1,2,3,4, D-2, G-2, W-1
P	1767	EPO	VA	1	P 16.6 BR-1000 J-2, D-4, E-5, F-4, G-4, BEI-1,2,3, T-1, T-2, W-2
CUTTING LENGTH FOR Reference Only					
(1)	2"	0.131M	(2)	2"	4.908M
(3)	1"	0.122M	(6)	2"	0.579M
(4)	1"	0.070M	(10)	1"	0.025M
(13)	2"	5.038M			

DRAWING - 1

Visual + UTM

[illegible]

REVISION (mm)		TOC Gycol Company Limited									
5											
4											
3											
2	May 31 00	H-S-B	J.M.R	AS BUILT							
1	Jan 15 00	R-FD	J.M.R	REVISED							
0	Nov 24 99	B-BED	J.M.S	A.F.C							
REV	DATE	DWN	CHKD	DESCRIPTION							
							PROJECT NO. SC008 SAMSUNG ENGINEERING CO., LTD. SEOUL, KOREA JOB NO. SC008 A/C No.				
LINE NO.				P-105-EXP-00-0035		DWC. No.		52-9-0C100-305-0035-304			

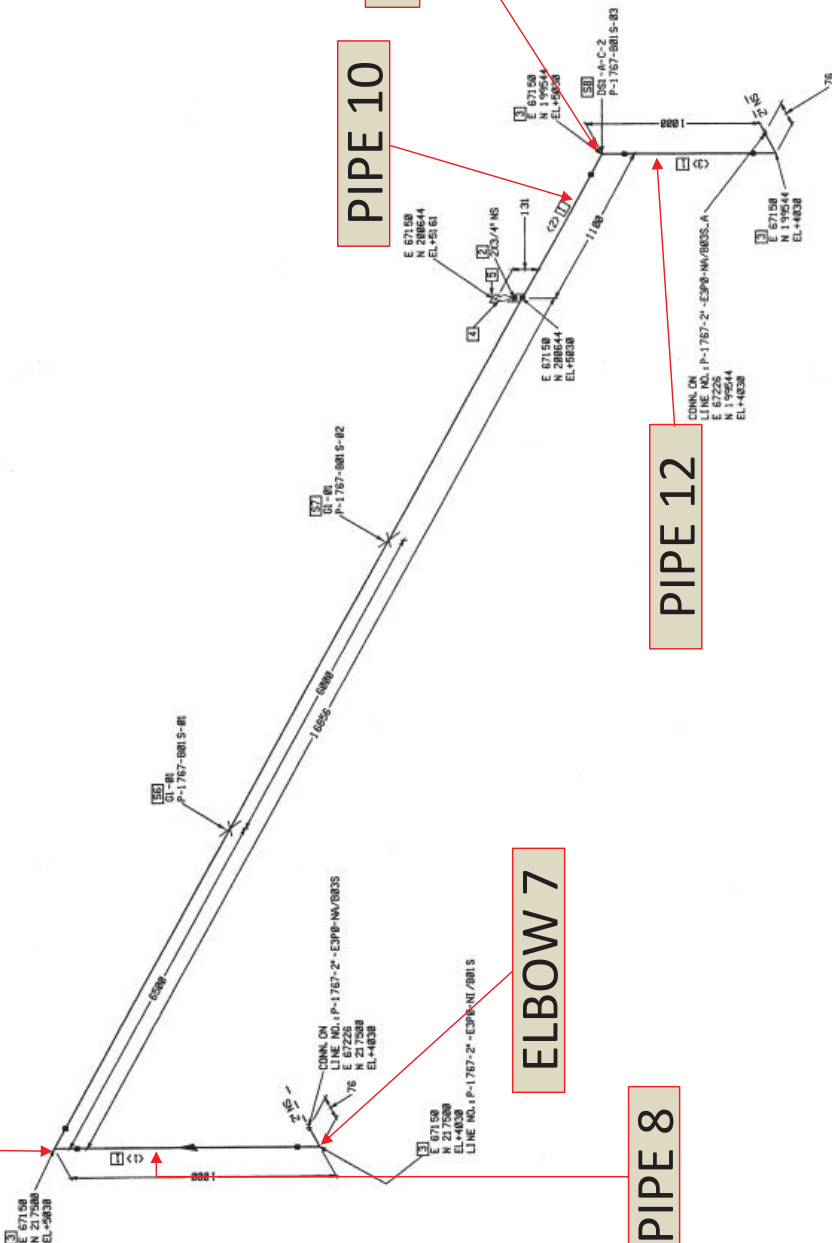


P-1767-B03S

WELD	SOCKET WELD	SCREENED JOINT	TRACED PIPE	SUPPORT BLOCK
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BILL OF MATERIAL

No.	CODE No.	SIZE	Q'TY	DESCRIPTION	
[E300]					
1	BAJAMAU	P 2	19.5	PIPE A312 GR. TP304 EPW BE SCH40S	
2	ESGAP-BK00	TH 3/4	1	HALF COUPLING A182 GR.F304 3M Class 3000	
3	DAJOSBAU0011	E 2	4	90 ELBOW A403 GR. WP304 W BN SCH40S 100% R/T	
4	BAJAMAU	JNT 3/4	1	NIPPLE A312 GR. TP304 EPW BE/IDE SCH40S 75mm	
5	ESBACKB000	DPT 3/4	1	CAP A182 GR.F304 NPT Class 3000	
PBM DATA					
P	1767	E300	NA 3/4	P 0.0 OPT-1, JNT-1, TH-1	
P	1767	E300	NA 2	P 19.5 E-4	
CUTTING LENGTH For Reference Only					
(1) 2"	0.6106	(12) 2"	17.8046	(13) 2"	0.8484



DRAWING - 2

Visual + UTM

PIPING CLASS	E300	PIPING CLASS	E300
P.A. ID. No.	D-17-3	OPER/DESN. PRES. (kg/cm ² g)	33.0/25.6
PLAN DWG. No.	51-Q-C-100-352A	OPER/DESN. TEMP. (deg. C)	52/84
LINE FROM	P-1763	FLUID PHASE	LIQUID
LINE TO	P-1742	TEST MEDIA/PRES. (kg/cm ² g)	HYDR. (53.40)
PAINT SPECIFICATION	N	N D E 1X1	5
STRESS ANALYSIS	N/A	STRESS RELIEVING	N/A
REMARK		TEST PACKAGE No.	1P26-P-207
INSULATION (mm)			



EO / E3 PROJECT PROJECT NO. SC0089
SAMSUNG ENGINEERING CO., LTD.
SEOUL, KOREA
JOB No. SC0089
ENGINEERING A/C No.

LINE No. P-1767-E300-NA/801S
DWG. No. 52-3-02100-302-801S-119

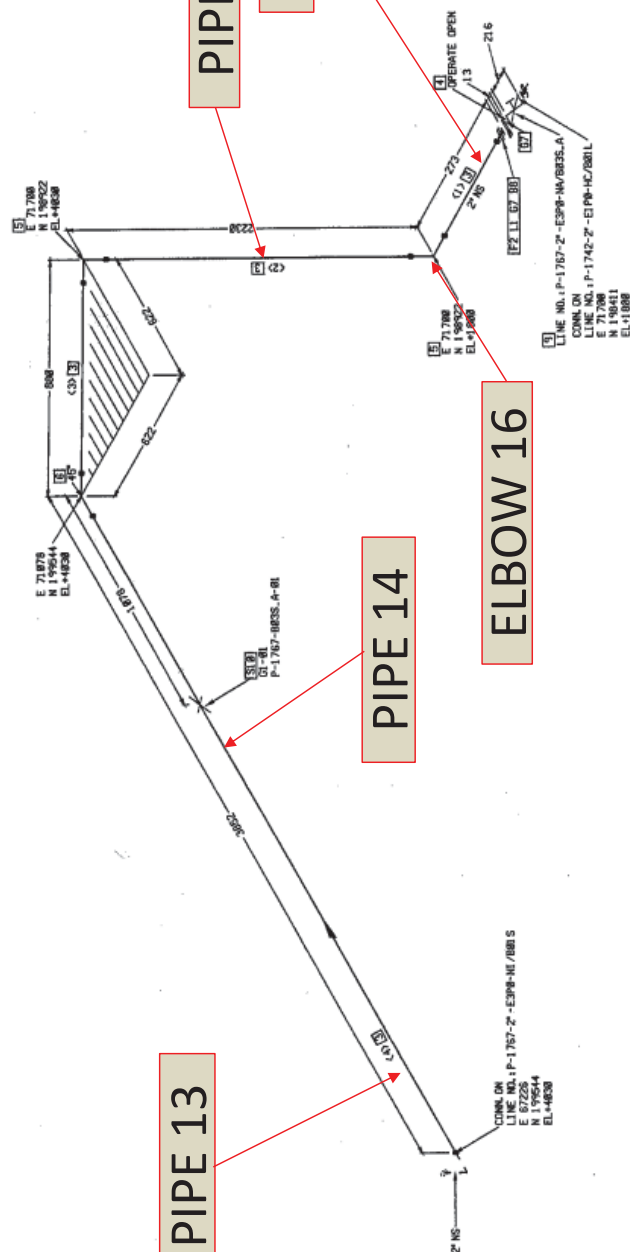
REV	DATE	BY	CHKD	DESCRIPTION
5				
4				
3				
2	May-31-06	H.C.S	J.M.K	AS BUILT
1	Oct-20-06	K.C.L	J.M.K	REVISED 1
0	Mar-18-05	K.C.L	J.M.K	A.F.C

P-1767-B01S

WELD	SOCKET WELD	SCREWED JOINT	TRACED PIPE	SUPPORT MARK
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BILL OF MATERIAL

No.	CODE No. [EXP]	SIZE	Q'TY	DESCRIPTION
1	GAPBPAUBR11	D 2	1	STAB END A03 GR.WP3OL W BN SCHMS MS TYPE A Class 300 100% R/T
2	FAMBR0000	F 2	1	FLANGE A105 ASME Class 300 LJ
3	AUMALUO	P 2	6.8	PIPE A312 GR.TP304 EPW BE SCHMS
4	FOBAMP1000	FB 2	1	SPECTACLE BLIND A105 GR.F04 ASME Class 300 FIG.B RF
5	DECBFPA00011	E 2	2	90 ELBOW A03 GR.WP3OL W BN SCHMS 100% R/T
6	DCBFA000011	EA 2	1	45 ELBOW A03 GR.WP3OL W BN SCHMS 100% R/T
7	GASSA0RB1	C 2	2	GASKET 330D : SPIRAL-WOUND 1B/SS304HRA-1/SS304 OVS ASME Class 300 4-5mm RF
8	NBBARNDIO	BF 1/8" B	120 1 X 8	NUT/LINUT A193 GR.B8 CL.2 A194 GR.8 ASME STUD HEX NUT HEVY
9	VAKHBANM005A	VA 2	1	GATE VALVE A351 GR.CS6M TYPE316 ASME Class 300 FLOD RF BR.OSEK #3
				SDIA
PSM DATA				
	[TET]	MM 2	P	B.8 [SF(120.1)-1, D-1, E-2, EA-1, F=1, FB-1, G=2, VA-1
CUTTING LENGTH Reference Only				
2.6	0.533M	(2) .24'	(3). 2"	O.TERM (4) 2" 3.81TM



PIPELINE CLASS	PIPELINE CLASS	EXP'D
D-17-3	OPER/DESIGN PRESS./kg/cm ² · g	33.0/25.6
PLAN Dwg. No.	OPER/DESIGN TEMP./deg C	52/84
LINE FROM	FLUID PHASE	LIQUID
LINE TO	TEST MEDIUM/PRESS./kg/cm ² · g	HPDR. (53.40)
SPECIFICATION	N D E (°)	5
STRESS ANALYSIS	STRESS RELIEVING	N/A
STRESS	TEST PACKAGE No.	HPDR-001

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P-1767-B03S-A

WELD	SOCKET WELD	SCREWED JOINT	TRACED PIPE	SUPPORT MARK

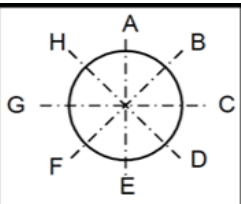


GC Maintenance and Engineering Co.,Ltd.

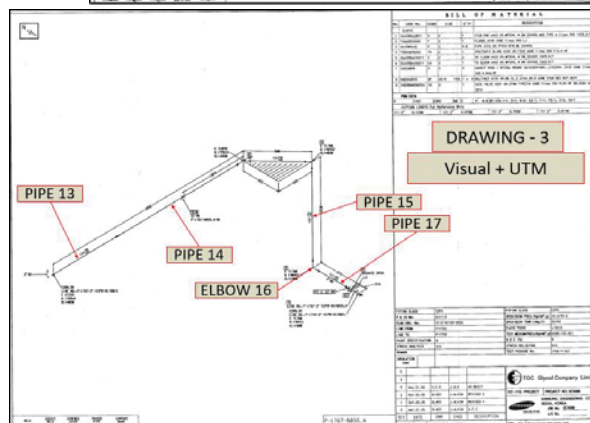
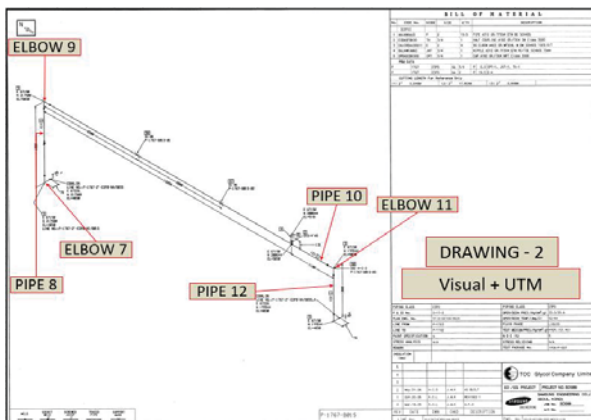
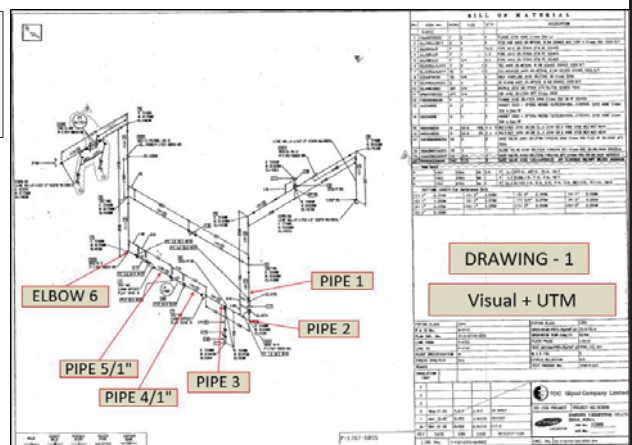
ULTRASONIC THICKNESS MEASUREMENT REPORT

Page No. : 1 of 2

Client :	PTT Global Chemical Public Company Limited.(EOEG)	Report No. :	UTM-Glycol-24-003	
Project Name. :	RBI - 2024	Test Date. :	24-Jan-24	
Written Examination Procedure No. :	N/A	Job No. :	N/A	
Tag / Line No. :	P-1767-E3P0-NA/B01S	Description. :	From P-1753 / To P-1742	
Key Point Dwg. No. :	52-3-GC100-302-B01S-119	Corr. Circuit No. :	-	
Material Spec. :	A312 GR.TP304	Fluid. :	Process Material	
Design Pressure. :	35.6 Kg/cm ² G	Design Temp. :	84 °C	Corrosion Allowance
Operate Pressure. :	33.0 Kg/cm ² G	Operate Temp. :	52 °C	0.0 mm.
Paint. :	NO	Insulation. :	NO	
Equipment		Probe		Others
UT MFR. :	Olympus	Probe Model. :	D790-SM	Couplant. : Sono 600
Model. :	38DL Plus	Frequency. :	5 MHz	Stepwedge. : stainless steel
Techniques Scan. :	A Scan	Tip Dia. :	11 mm.	Calibration Range. : 2.5 - 12.5 mm.
Series No. :	151116006	Series No. :	1007929	Sound Velocity : 5790 m/s.
Inspection Type. :	<input checked="" type="checkbox"/> On-stream <input type="checkbox"/> SD-Internal <input checked="" type="checkbox"/> SD-External <input checked="" type="checkbox"/> Bare metal <input type="checkbox"/> Through paint			



Note:
For nozzle, the starting 0° point is always at the top side for horizontal nozzle/pipe, and at plant north side. for vertical nozzle/pipe, viewing direction for other point (90°, 180° 270°) are always follow flow direction.



Remark

Completed By :	GCME Inspected	Review By	Approved By
Signature :			
Name :			
Date :			



SUMMARY ULTRASONIC THICKNESS REPORT

Revision : 0

[illegible]

