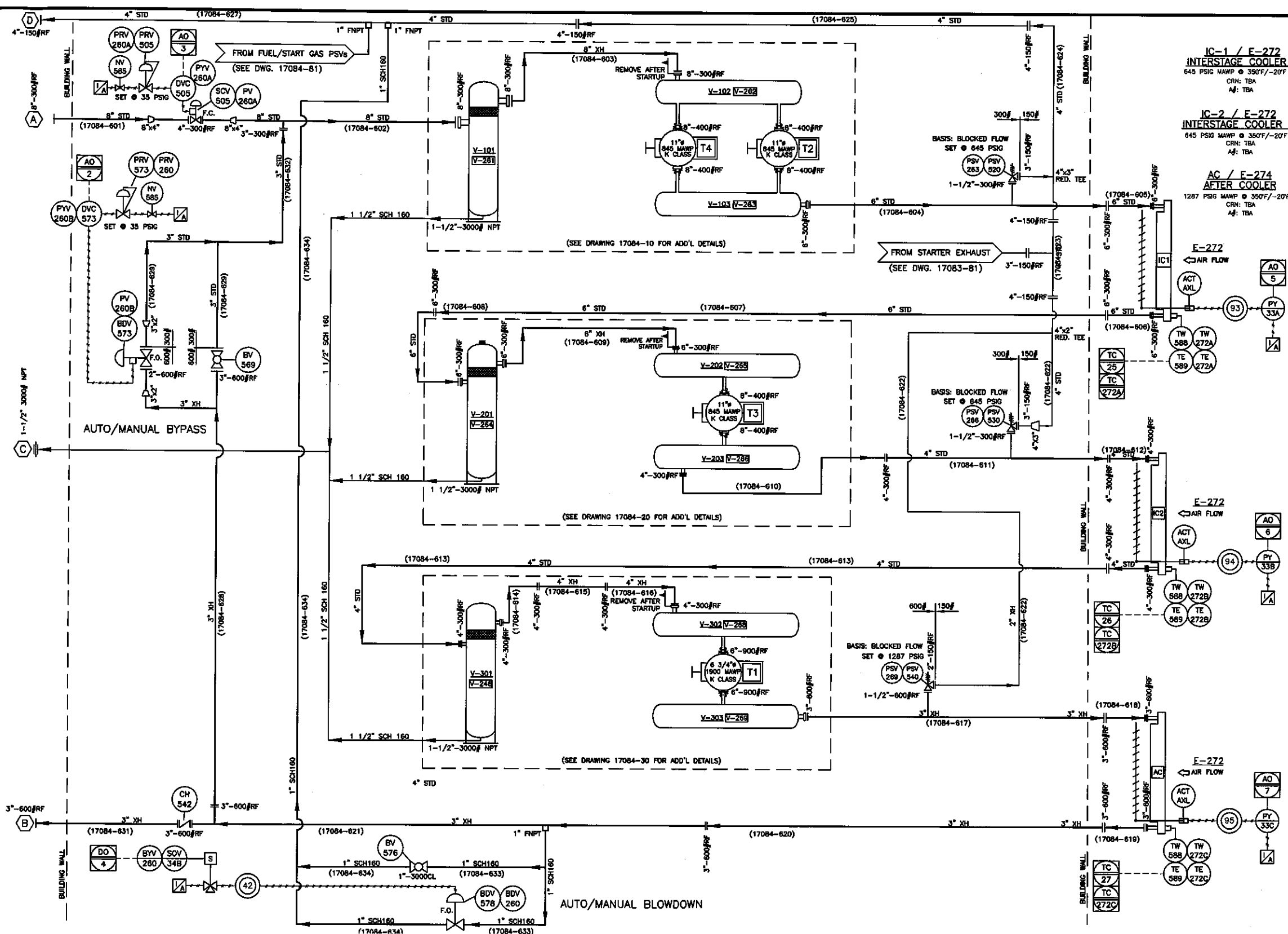




BILL OF MATERIAL			
NOTE: ITEM No. = FIRST DIGIT (DWG REF.), LAST TWO DIGITS (item No.)			
ITEM	PART NO.	QTY.	DESCRIPTION
505	807597	1	VALVE, CONTROL, 4"-300/600CLRF, LH MNT, STC, P1, 0-30 PSI OP, RGE, FAIL CLOSED, WCC BODY, DVC8200 POS., FISHER 2052-2-V200-DVC8200
520	804575-645	1	FARRIS 26GA12-120 RELIEF VALVE, SET @ 645 PSIG/350F (GAS)
			1-1/2"-300CL RF x 3"-150CL RF CONNECTIONS, CS BODY & BONNET
			316 SST TRIM, CHROME STEEL SPRING
			COMPLIES TO NACE MR-01-75 IN PRIMARY ZONE
			S/N: 817017-4-A10/G
530	804575-645	1	FARRIS 26GA12-120 RELIEF VALVE, SET @ 645 PSIG/350F (GAS)
			1-1/2"-300CL RF x 3"-150CL RF CONNECTIONS, CS BODY & BONNET
			316 SST TRIM, CHROME STEEL SPRING
			COMPLIES TO NACE MR-01-75 IN PRIMARY ZONE
			S/N: 817017-5-A10/G
540	803975-1287	1	FARRIS 26FA13-120/00 RELIEF VALVE, SET @ 1287 PSIG/350F (GAS)
			1-1/2"-600CL RF x 2"-150CL RF CONNECTIONS, CS BODY & BONNET
			316 SST TRIM, CHROME STEEL SPRING
			COMPLIES TO NACE MR-01-75 IN PRIMARY ZONE
			S/N: 816978-14-A10/G
542	806316		VALVE, CHECK, PISTON, 3"-600CL RF, NON-SLAM, A352 LCC LOW TEMP. BODY, 316SS NACE TRIM, VALTEK (MK-4)
569	807215	1	VALVE, BALL, 3"-600CL RF, RP, LH, NACE, NUTRON (T3R30R03S)
573	807706	1	VALVE, CONTROL, 2"-600CL RF, SIZE 40 ACTUATOR, 0-33 PSI OPERATING RANGE, FAIL OPEN, 1" TRIM, FISHER D4 C/W DVC-2600/DVC MTG/67CFR
576	802456	1	VALVE, BALL, 1"-300CL NPT, RP, LH, STD TRIM, WKM (2168054-10-31)
578	806287	1	VALVE, CONTROL, 1"-900# NPT, LCC HT BODY, 1/4"-1/2" TRIM, NACE, 0-35PSI, FAIL OPEN, SET @ 3/8" PORT, FISHER (D2-1687-52179)
585	802997	2	VALVE, NEEDLE, 1/4" x 1/4" MxM, 6000PSIG, STD. BODY, STD. TRIM
588	807121	3	THERMOWELL, 1" x 1/2" NPT, 0.260" BORE, 12" STEM, 10-1/2" U, 316SS, WIKA
589	807574	3	THERMOCOUPLE, TYPE K, 14" PROBE, 20" SS ARMOUR LEAD, PIC C/W CONNECTORS M & F (1015-K, 1065-K)

CUSTOMER CONNECTIONS		
TAG	DESCRIPTION	SIZE/(VOLTAGE)
A	SUCTION INLET	8"-300CL RF
B	FINAL DISCHARGE	3"-600CL RF
C	SCRUBBER DRAIN HEADER	1-1/2"-300CL NPT
D	PSV VENT HEADER	4"-180CL RF

GENERAL NOTES		
1.	ALL PRESSURE VESSELS ARE DESIGNED, FABRICATED AND TESTED IN ACCORDANCE WITH ASME SECTION VIII, DIV.1.	
	C.A. = 1/16"	
	RADIOGRAPHY = 100% ALL CATEGORY WELDS.	
2.	ALL PROCESS & THREADED PIPING DESIGNED, FABRICATED AND TESTED IN ACCORDANCE WITH ASME B31.3.	
	C.A. = 1/16"	
	RADIOGRAPHY = 100%	
	SEE WELDED PROCESS PIPING DRAWINGS FOR MATERIAL SPECIFICATIONS.	
	ALL THREADED PROCESS PIPING TO UTILIZE SA106-B PIPE & SA105N FITTINGS	
3.	PROCESS INSTRUMENT LINES:	
	316SS 1/2" Ø 0.049" WALL TUBING c/w SWAGelok	
	316SS FITTINGS w/	
	316SS BACK FERRULE & 316SS FRONT FERRULE	
	UNLESS OTHERWISE NOTED	
4.	UTILITY INSTRUMENT LINES:	
	316SS 3/8" (MIN) 0.035" WALL TUBING c/w	
	SWAGelok 316SS FITTINGS w/	
	316SS BACK FERRULE & 316SS FRONT FERRULE	
	UNLESS OTHERWISE NOTED	

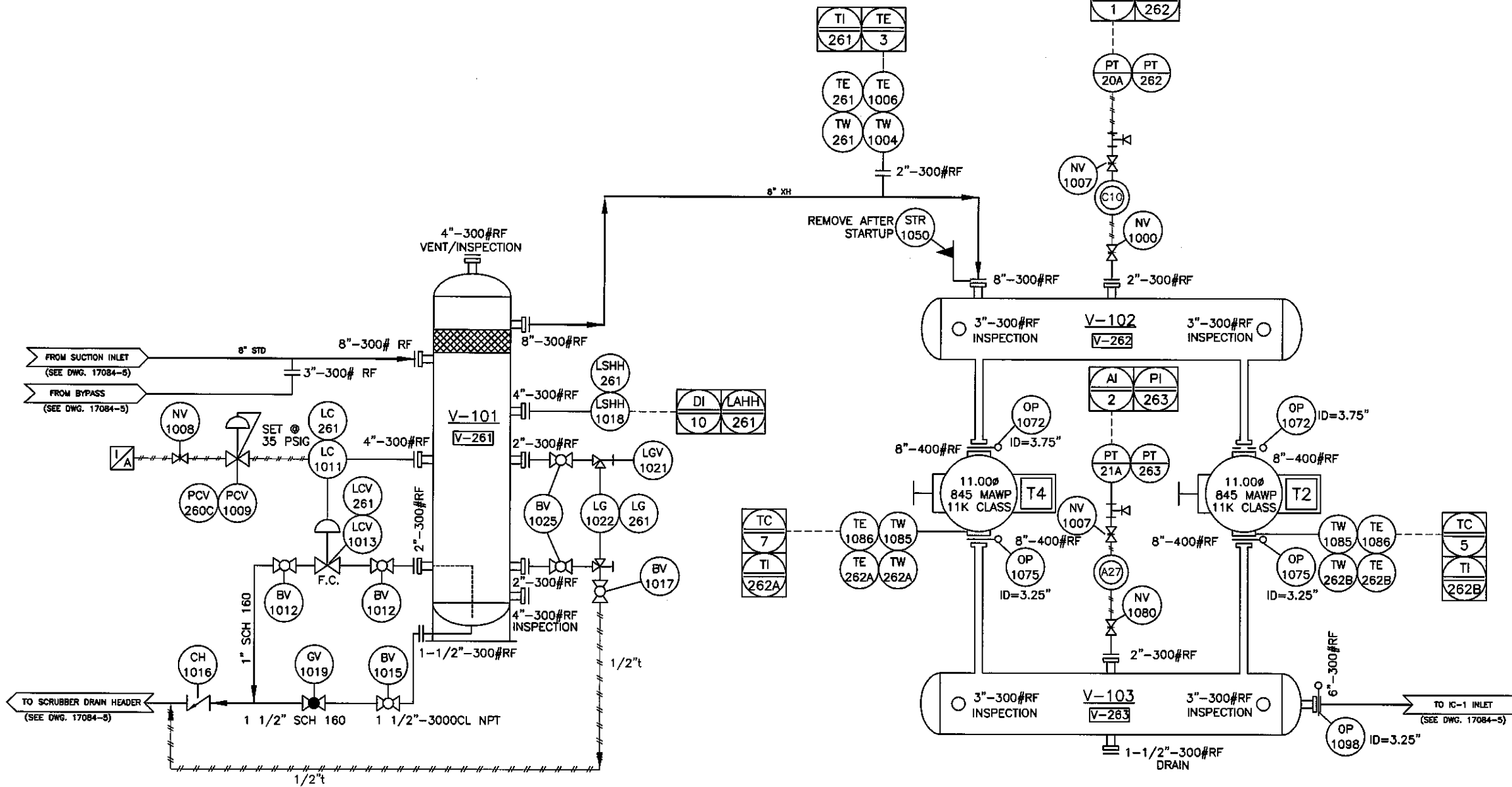
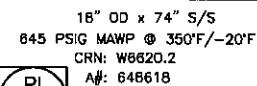
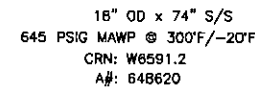
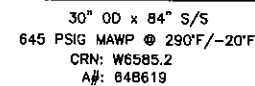
5.	INSTRUMENT MEDIUM: CLEAN, DRY AIR
6.	PROCESS HARDWARE:
	STUDS: B7
	NUTS: 2H
	GASKETS: FLEXITALLIC (316SS GREY STRIPE)
7.	BE
8.	SURFACE PREPARATION: SSPC-SP2
	PAINT: (ONE) COAT F34 WARM GREY ENAMEL

STAMP AREA			
AS BUILT			
BY: [Signature]			
DATE: 12/15/14			
THIS DOCUMENT IS SUPPLIED IN CONFIDENCE. REPRODUCTION OR DISTRIBUTION IN WHOLE OR PART WITHOUT THE WRITTEN PERMISSION OF NCC COMPRESSION SOLUTIONS IS STRICTLY PROHIBITED.			
1	KMB	AS BUILT	12/03/14
0	KMB	ISSUED FOR FABRICATION	09/15/14
A	KMB	ISSUED FOR APPROVAL	07/07/14
REV.	BY	CHK'D	REVISION DESCRIPTION

NCC COMPRESSION SOLUTIONS			
TITLE: PROCESS FLOW DIAGRAM			
ARIEL JGK/4; WAUKESHA L5774LT; AXG 144EF-102-24			
4 THROW, 3 STAGE, SWEET NATURAL GAS COMPRESSOR PKG.			
END USER/CONSULTANT: HUSKY OIL OPERATIONS LTD.			
LOCATION: ANSELL, ALBERTA			
LSD: 02-20-050-18-W5M			
DRAWN BY: K. BUCK			
DATE: 06/27/14			
UNIT NO: 17084			
CHK'D BY: KDM			
SCALE: NTS			
DWG. No. 17084-05			

NOTE: ITEM No. = FIRST DIGIT (DWG REF.), LAST TWO DIGITS (item No.)

ITEM	PART NO.	QTY.	DESCRIPTION
1000	802998	1	VALVE, NEEDLE, 3/4 X 1/2 Mxf NPT, 6000 PSIG WP, STD TRIM, CENTURY (CM23M64BV)
1004	803070	1	THERMOWELL, 3/4" X 1/2" NPT, 0.260" BORE, 6" STEM, 4-1/2" U, 316SS
1006	804455	1	THERMOCOUPLE, TYPE K, 8" PROBE, 30' SS ARMOUR LEAD, PIC (PN 2008-8-K-360) C/W CONNECTORS M & F (1015-K, 1065-K)
1007	807887	2	VALVE, NEEDLE, 1/2" T X 1/2" T, SS, SWAGelok (SS-1V58)
1008	802997	1	VALVE, NEEDLE, 1/4" x 1/4" Mxf NPT, 6000PSIG, STD. BODY, STD. TRIM CENTURY, MODEL: CM2-3-M22T-8-V
1009	801886	1	REGULATOR, PRESSURE, 5-35 PSI RANGE, FISHER, 67CFR-362
1011	803004	1	CONTROLLER, LIQUID LEVEL, 2" NPT, DIRECT SNAP ACTING, NACE, FISHER (L2)
1012	803707	2	VALVE, BALL, 1"-3000CL, NPT, RP, LH, NACE, NUTRON (T3-R10S30S)
1013	802477	1	VALVE, CONTROL, 1" NPT, GLOBE, 1/2" ORIFICE, 30-35PSI, FAIL CLOSED, NACE, FISHER D2 PROFLO
1015	803862	1	VALVE, BALL, 1-1/2-3000CL, FP, LH, NACE, NUTRON (T3-F15S30S)
1016	803964	1	VALVE, CHECK, PISTON, 1-1/2"-800CL NPT, NACE TRIM, NEWCO 48T-FS4-3
1017	803966	1	VALVE, BALL, 1/2"-3000CL, NPT, FP, LH, NACE, NUTRON (T3-F05S30S)
1018	805768	1	SWITCH, LEVEL, 2" NPT, SS BODY / FLOAT, MEETS ANSI 12.27.01 REQ. FOR SINGLE / DUAL SEAL APPROVAL, KIMRAY (CEC2)
1019	803967	1	VALVE, GLOBE, 1-1/2"-800CL NPT, NACE TRIM, NEWCO 28T-FS4-3
1021	803005	1	VALVE, GAUGE, SET, 3/4" VESSEL CONN. x 1/2" DRAIN, NACE, QUALITY, MODEL: QM Q146
1022	802813	1	LEVEL GAUGE, NACE, QUALITY, MODEL: Q19R20
1025	807012	2	VALVE, BALL, 3/4"-3000CL, NPT, RP, LH, STD TRIM, FIRE SAFE NUTRON (T3-R07S30BZ)
1050	802065-XH	1	SUCTION SCREEN, CONE, 8"-300CL, 150% SCH XH BORE, CS C/W 316SS SIZE 40 MESH
1072	804603	2	PLATE, ORIFICE, 8"-400CL, RF, 3.75 ID, 1/4" THK., SA516-70
1075	807776	2	PLATE, ORIFICE, 8"-400CL, RF, 3.25 ID, 1/4" THK., SA516-70
1080	802998	1	VALVE, NEEDLE, 3/4 X 1/2 Mxf NPT, 6000 PSIG WP, STD TRIM, CENTURY (CM23M64BV)
1085	803690	2	THERMOWELL, 1/2" X 1/2" NPT, 6" STEM LENGTH, 4-1/2" O.D. 0.260 BORE, 316SS
1086	804455	2	THERMOCOUPLE, TYPE K, 8" PROBE, 30' SS ARMOUR LEAD, PIC (PN 2008-8-K-360) C/W CONNECTORS M & F (1015-K, 1065-K)
1098	805565	1	PLATE, ORIFICE, 6"-300CL, RF, 3.25 ID, 1/8" THK., SA516-70

[illegible]

1. ALL PRESSURE VESSELS ARE DESIGNED, FABRICATED AND TESTED IN ACCORDANCE WITH ASME SECTION VIII, DIV.1. C.A. = 1/16 RADIOGRAPHY = 100% ALL CATEGORY WELDS. PWHT = INC.	
2. ALL PROCESS & THREADED PIPING DESIGNED, FABRICATED AND TESTED IN ACCORDANCE WITH ASME B31.3. C.A. = 1/16 RADIOGRAPHY = 100% PWHT = N/A SEE WELDED PROCESS PIPING DRAWINGS FOR MATERIAL SPECIFICATIONS. ALL THREADED PROCESS PIPING TO UTILIZE SA108-B PIPE & SA105N FITTINGS	
3. PROCESS INSTRUMENT LINES: 316SS 1/2" 0.049" WALL TUBING c/w SWAGelok 316SS FITTINGS w/ 316SS BACK FERRULE & 316SS FRONT FERRULE UNLESS OTHERWISE NOTED	
4. UTILITY INSTRUMENT LINES: 316SS 3/8" (MIN) 0.035" WALL TUBING c/w - SWAGelok 316SS FITTINGS w/ 316SS BACK FERRULE & 316SS FRONT FERRULE UNLESS OTHERWISE NOTED	
	5. INSTRUMENT MEDIUM: CLEAN, DRY AIR
	6. PROCESS HARDWARE: STUDS: B7 NUTS: 2H GASKETS: FLEXITALLIC (316SS GREY STRIPE)
	7. HOW TO LIFE USER "SAFE AREA" SHALL BE MAINTAINED AT ALL TIMES. NO WORK SHALL BE PERFORMED WITHIN THE "SAFE AREA" WITHOUT THE PRESENT OF A LICENSED OPERATOR. THE "SAFE AREA" SHALL BE MAINTAINED AT ALL TIMES. NO WORK SHALL BE PERFORMED WITHIN THE "SAFE AREA" WITHOUT THE PRESENT OF A LICENSED OPERATOR. THE "SAFE AREA" SHALL BE MAINTAINED AT ALL TIMES. NO WORK SHALL BE PERFORMED WITHIN THE "SAFE AREA" WITHOUT THE PRESENT OF A LICENSED OPERATOR.
	8. SURFACE PREPARATION: SSPC-SP2 PAINT: (ONE) COAT F34 WARM GREY ENAMEL

AS BUILT

BY: [Signature]

DATE: 12/19/14

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2	KMB	AH	AS BUILT	12/03/14
1	KMB	KOM	ADDED NEEDLE VALVES	11/18/14
0	KMB	AH	ISSUED FOR FABRICATION	09/15/14
A	KMB	AH	ISSUED FOR APPROVAL	07/07/14
REV.	BY	CHK'D	REVISION DESCRIPTION	DATE

TITLE: STAGE ONE PRESSURE VESSEL SYSTEM
 ARIEL JGK/4; WAUKESHA L75774LT; AXC 144EF-102-24
 4 THROW, 3 STAGE, SWEET NATURAL GAS COMPRESSOR PKG.

END USER/CONSULTANT: HUSKY OIL OPERATIONS LTD.		CUST. P.O. No.: —	
LOCATION: ANSELL, ALBERTA		REVISION 2	
LSD: 02-20-050-18-W5M		DWG. REFERENCE: —	
DRAWN BY K. BUCK	W.O. No. 17084-NC	DWG. No. 17084-10	
DATE 06/27/14	Unit No. 17084		
CHK'D BY KDM	No. REQ'D 1 (ONE)		
CHK'D BY KDM	Rev'd No. 1 (ONE)		

STAMP AREA AS BUILT BY: <u>[Signature]</u> DATE: <u>12/19/14</u>	COMPRESSION SOLUTIONS																																		
THIS DOCUMENT IS SUPPLIED IN CONFIDENCE. REPRODUCTION OR DISTRIBUTION IN WHOLE OR PART WITHOUT THE WRITTEN PERMISSION OF NGC COMPRESSION SOLUTIONS IS STRICTLY PROHIBITED. <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 5%;">2</td> <td style="width: 10%;">KMB</td> <td style="width: 10%;">AH</td> <td style="width: 40%;">AS BUILT</td> <td style="width: 25%;">12/03/14</td> </tr> <tr> <td>1</td> <td>KMB</td> <td>KDM</td> <td>ADDED NEEDLE VALVES</td> <td>11/18/14</td> </tr> <tr> <td>0</td> <td>KMB</td> <td>AH</td> <td>ISSUED FOR FABRICATION</td> <td>08/19/14</td> </tr> <tr> <td>A</td> <td>KMB</td> <td>AH</td> <td>ISSUED FOR APPROVAL</td> <td>07/07/14</td> </tr> <tr> <td>REV</td> <td>BY</td> <td>CHK'D</td> <td>REASON DESCRIPTION</td> <td></td> </tr> </table>		2	KMB	AH	AS BUILT	12/03/14	1	KMB	KDM	ADDED NEEDLE VALVES	11/18/14	0	KMB	AH	ISSUED FOR FABRICATION	08/19/14	A	KMB	AH	ISSUED FOR APPROVAL	07/07/14	REV	BY	CHK'D	REASON DESCRIPTION		TITLE: STAGE TWO PRESSURE VESSEL SYSTEM ARIEL JGK/4; WAUKESHA L75774LT; AXC 144EF-102-24 4 THROW, 3 STAGE, SWEET NATURAL GAS COMPRESSOR PKG. <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;"> END USER/CONSULTANT: HUSKY OIL OPERATIONS LTD. </td> <td style="width: 50%;"> CUST. P.Q. No.: - </td> </tr> <tr> <td> LOCATION: ANSELL, ALBERTA LSD: 02-20-050-18-W5M </td> <td> REVISION: 2 </td> </tr> <tr> <td> DRAWN BY: K. BUCK DATE: 06/27/14 CHK'D BY: KDM </td> <td> UNIT No.: 17084-NC No. REQ'D: 1 (ONE) </td> </tr> <tr> <td colspan="2" style="text-align: right;"> DWG. REFERENCE: 17084-20 </td> </tr> </table>	END USER/CONSULTANT: HUSKY OIL OPERATIONS LTD.	CUST. P.Q. No.: -	LOCATION: ANSELL, ALBERTA LSD: 02-20-050-18-W5M	REVISION: 2	DRAWN BY: K. BUCK DATE: 06/27/14 CHK'D BY: KDM	UNIT No.: 17084-NC No. REQ'D: 1 (ONE)	DWG. REFERENCE: 17084-20	
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