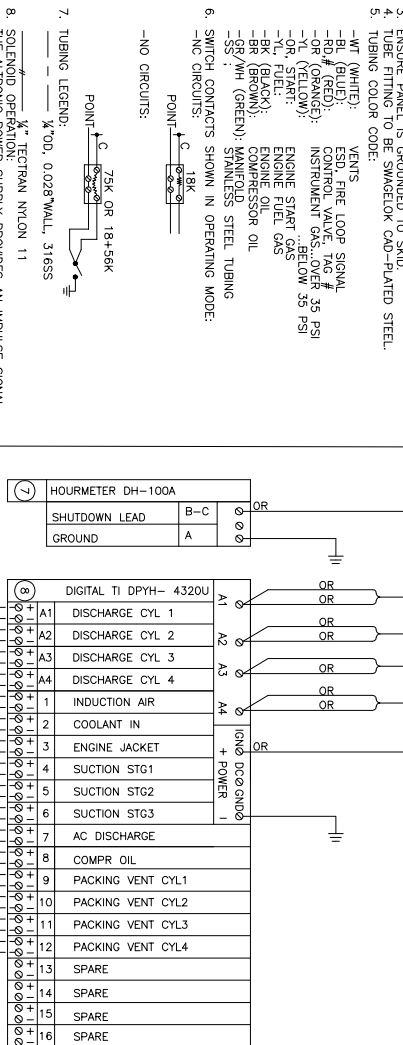
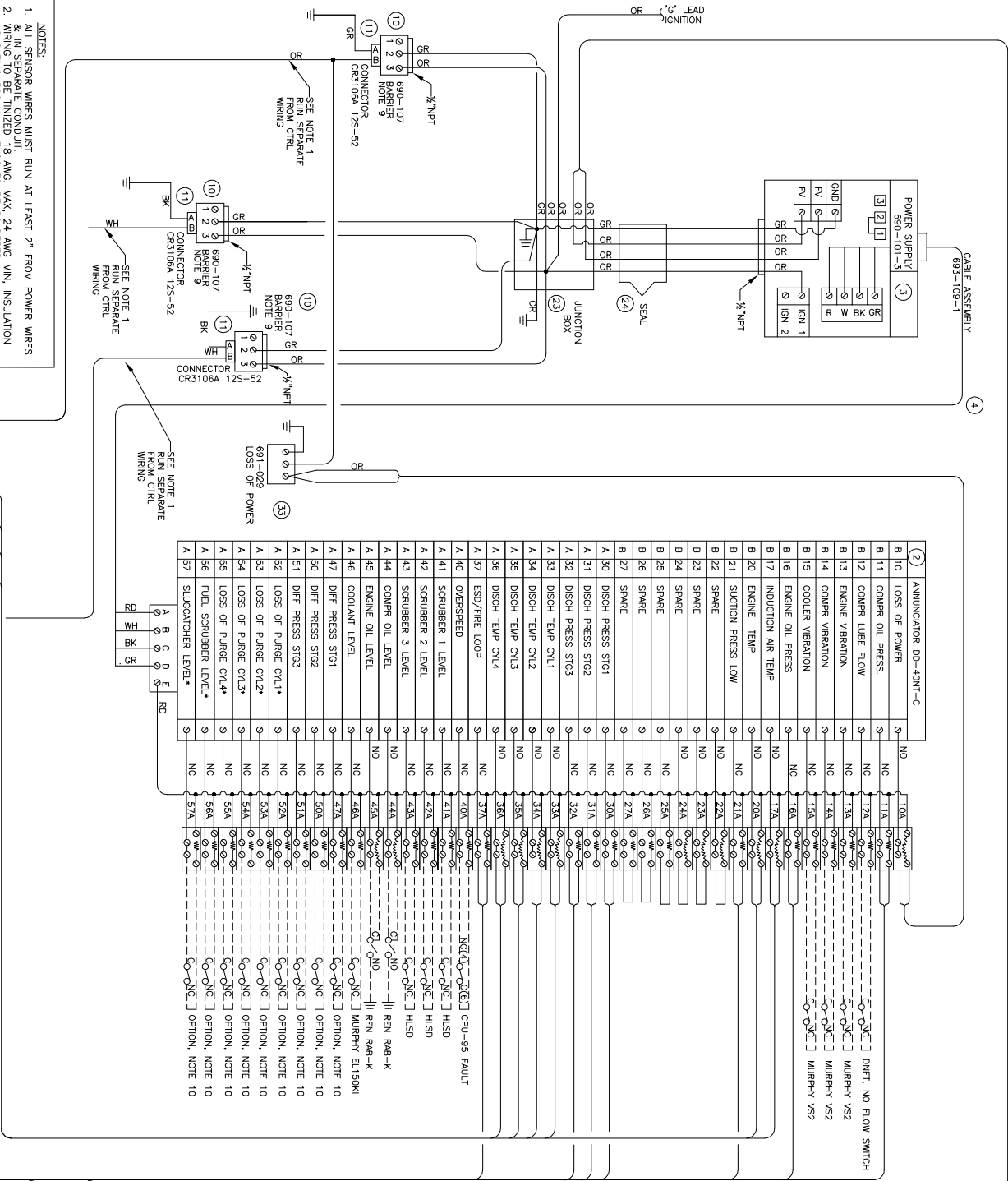
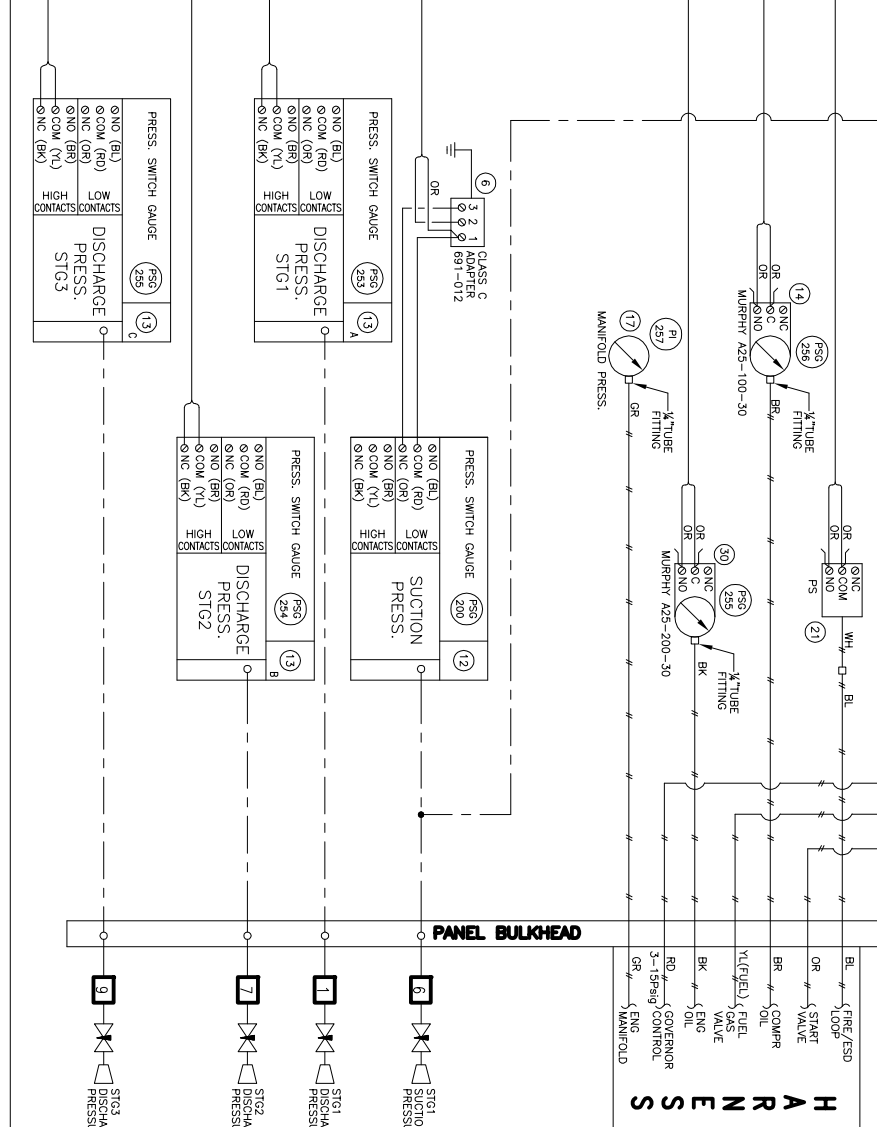
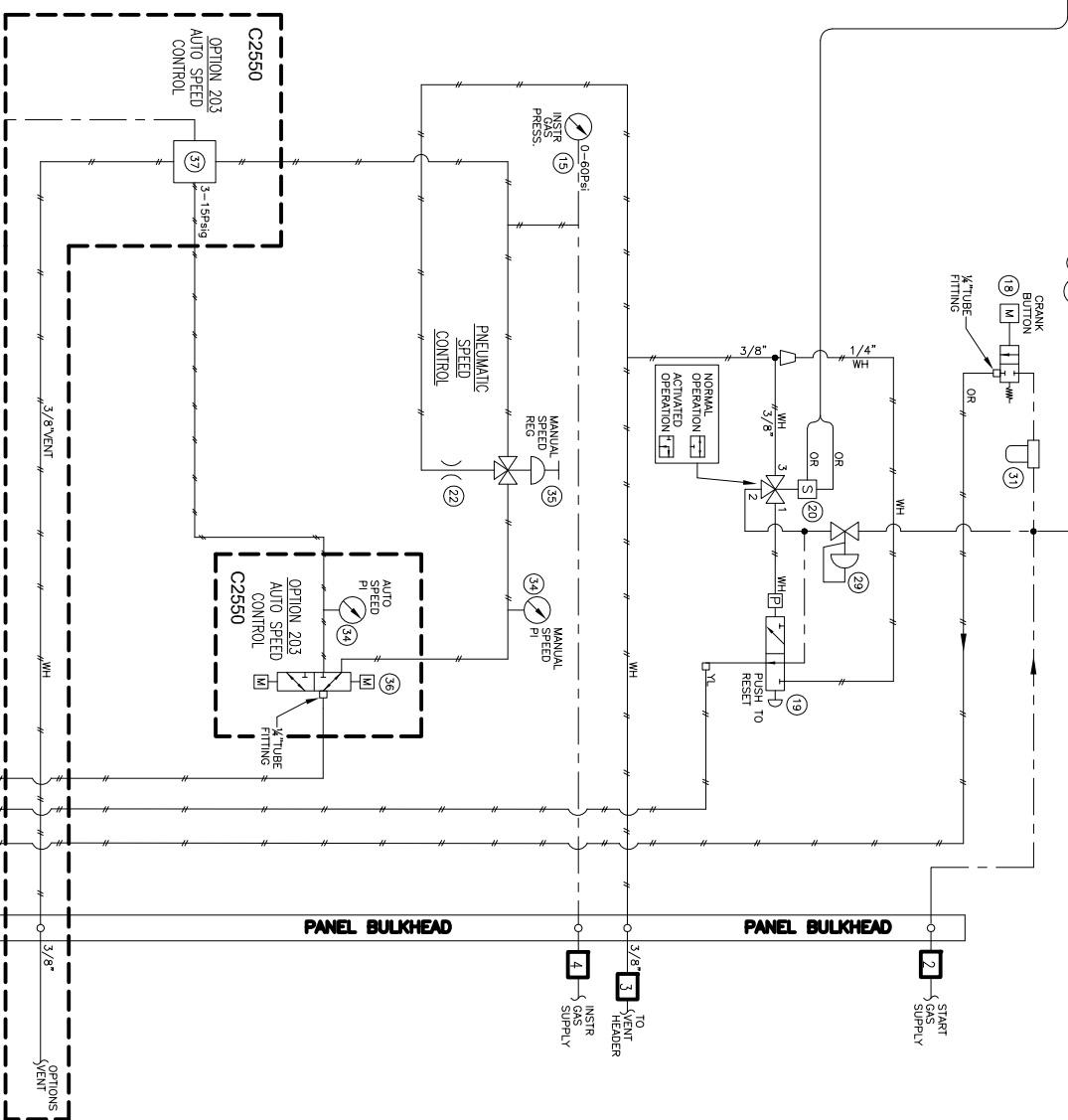




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MATERIAL LIST

ITEM	QTY	DESCRIPTION
1	1	ALUMINUM PANEL CABINET PER DWG R1035
2	1	ALTRONIC DD-40NT-C ANNUNCIATOR
3	1	POWER SUPPLY 690-101-3
4	1	CABLE ASSEMBLY 693-109-1
5	1	MOUNTING BRACKET 610-062
6	1	CLASS C ADAPTOR 691-012
7	1	HOURMETER, ALTRONIC DH-100A
8	2	DIGITAL TI 20 POINT/4SD, ALTRONIC DPH-4320-UI

10	2	BARRIER, ALTRONIC 690-107
11	2	CABLE CONNECTOR, ALTRONIC CR3106 A125-52
12	1	PS GAUGE, MURPHY 45-PFS-200 PSIG
13A	1	PS GAUGE, MURPHY 45-PFS-400 PSIG
13B	1	PS GAUGE, MURPHY 45-PFS-1000 PSIG
13C	1	PS GAUGE, MURPHY 45-PFS-1500 PSIG
14	1	PS GAUGE, MURPHY A25-E0-100, SET 30PSI
15	1	PI WKA #233.53, 2 1/2"DIA., 0-60PSI DUAL
16	1	PI WKA #233.53, 2 1/2"DIA., 0-300PSI DUAL
17	1	PI WKA#233.53 2 1/2"COMPOUND 0-30"Hg/0-30PSI
18	1	START VALVE, IR SMSG618
19	1	3-WAY VALVE, AMOT 40570022H, TYPE CD
20	1	SOLENOID VALVE, ASOO EF8320-G200 48V
21	1	PS, DUAL SNAP 6702G8003 SET 10PSI
22	1	ORIFICE, AMOT 2185L011 (0.014)
23	1	KILLARK 1/2"GMF-1 STYLE ALUM JUNCTION BOX
24	1	KILLARK 1/2"ENVY-1 ALUM SEAL
25	20	TERMINAL BLOCK, WEIDMULLER DKZ74 11154.6
26	1	TERMINAL PLATE, WEIDMULLER APDK4
27	2	TERMINAL RETAINER, WEIDMULLER EMK1
28	1	MOUNTING RAIL FOR WEIDMULLER DK4, 8" LG
29	1	PRESS REG. FISHER 67AR-226 SPEC, SET 60PSI
30	1	PS GAUGE, MURPHY A25-E0-200 SET 30PSI
31	1	FILTER, NORGREN F07-200-MIMA
33	1	LOSS OF POWER RELAY 691029
34	2	PI, WKA 2 1/2" LIQUID FILLED, 0-30PSIG
35	1	MANUAL SPEED REG. FISHER 67, 3-18PSIG
36	1	MANUAL/AUTO SPEED SELECTOR VALVE, WHITEY
37	1	AUTO SPEED CTRLER FISHER 4150K.3-15PSig D.A.
		W/ 100 PSIG BOURDON TUBE.

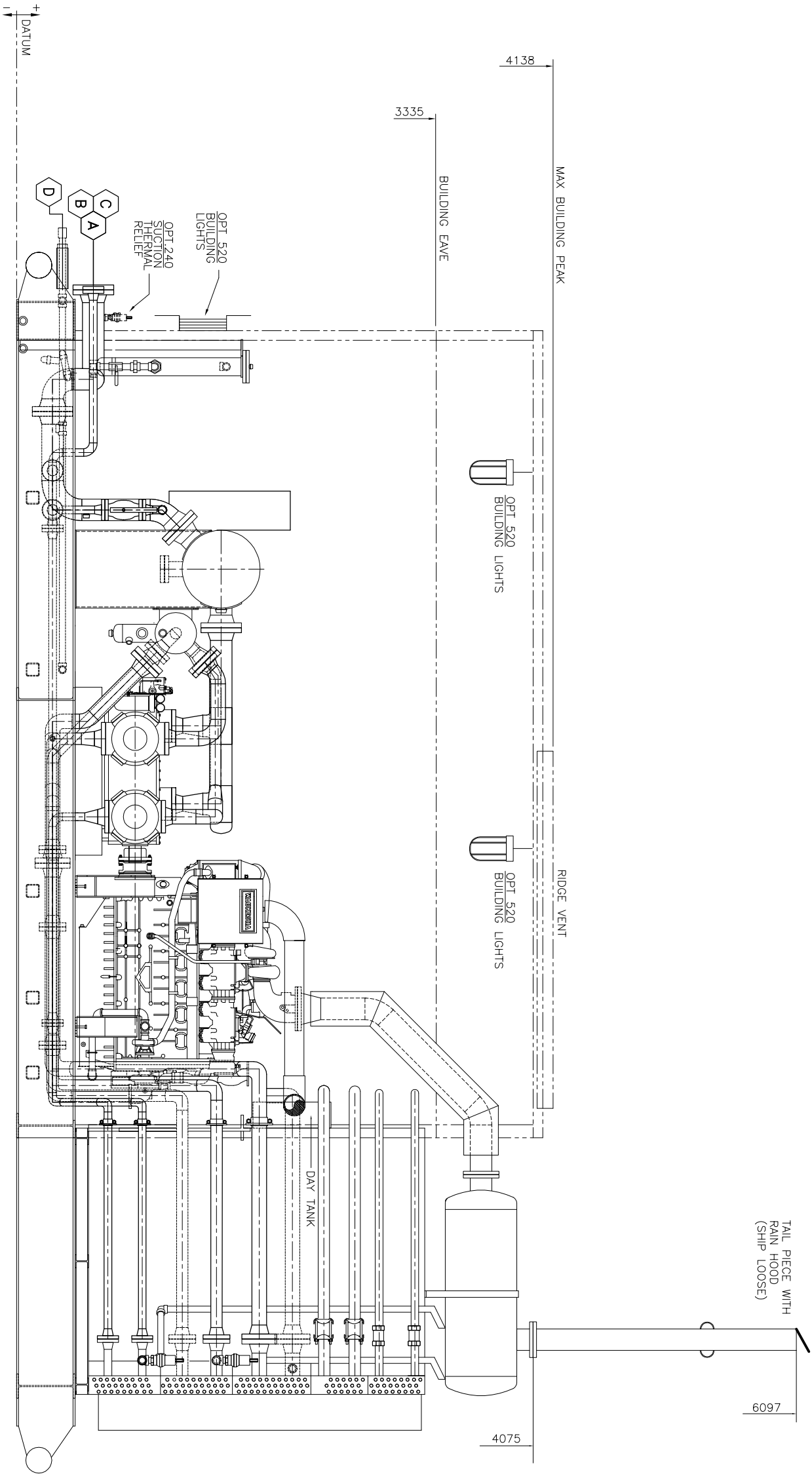
DATE	SCALE	TITLE		
98.06.08	NTS	CONTROL PANEL		
CHK'D	APP'D	WIRING & INSTRUMENTATION		
ORAVIN	SYSTEM	B400S/LP & 530S/LP-3 STAGE		
KLS	ACAD	DWG. NO.	SHEET	ISS.
		9903-A0041	1 of 1	99.07

REV.	DESCRIPTION	DATE	BY
A	NEW PANEL FOR 3 STAGE	1998 06.09	PB KLS

C	AS BUILT	1999 07.12	PB
B	GENERAL REVISION	1998 11.23	PB

**BTB** *Compressors*

ENERFLEX SYSTEMS LTD.



ELEVATION VIEW

SERVICE CONNECTIONS		
ITEM	CONNECTION	RATING

A	SUCTION	6"	150#RF
B	DISCHARGE	2"	600#RF
C	UTILITY GAS INLET	1 1/2"	NPT
D	COALESCER DRAIN	1 1/2"	NPT

BUILDING OPTIONS

OPT #	DESCRIPTION
540	
541	
542	

MISCELLANEOUS OPTIONS

OPT #	DESCRIPTION
240	SUCTION THERMAL RELIEF VALVE
335	
336	
340	
355	
425	
426	
520	
521	BUILDING LIGHTS 12VDC (2) 100W
522	XP WITH 30' BATTERY CABLES
530	
532	

BUILDING SPECIFICATIONS:

- SELF FRAMING METAL BUILDING 14' WIDE x 20'10" LONG x 9'3" WALL HEIGHT.
ROOF SLOPE 4:12
INTERIOR LINER: 24ga ALUMINUM
EXTERIOR LINER: 22ga GALVANIZED STEEL
INSULATION: WALLS/ROOF R12 FIBREGLOSS, NO VAPOR BARRIER C/W (2) DOUBLE MAN DOORS, 6'x7', R4 INSULATED STEEL, WITH WINDOW, PANIC BARS AND CHECK CHAINS.
(2) DOUBLE GLAZED SLIDING WINDOWS, 40"x40" WITH SCREENS
(3) WALL VENTS, 12"x18" WITH SLIDERS AND SCREENS.
(1) RIDGE VENT, 6'x110", CHAIN ADJUSTABLE, WITH SCREEN.

ELECTRICAL SPECIFICATIONS:

NEMA JUNCTION BOX ON REAR OF BUILDING
ONE SWITCH, EXPLOSION PROOF, MOUNTED BY PRIMARY ACCESS DOOR.
TWO INCANDESCENT FIXTURES, EXPLOSION PROOF 100W AC/DC EA. MOUNTED ON SWITCH SIDE OF BUILDING CENTER LINE.
PERMIT LABELLING

NOTES:

- 1) ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE NOTED.
- 2) OVERALL AND MINIMUM DIMENSIONS TO BE OBSERVED. ALL OTHERS MAY BE MODIFIED TO ACCOMODATE FRAMING.
- 3) WARRANTY ON CUSTOMER REQUESTED SPECIAL OPTIONS (CODE 777) IS LIMITED TO MATERIAL AND WORKMANSHIP

C	AS BUILT	1999	PB
B	GENERAL REVISIONS	1999	RS
A	NEW DRAWING	1998	BP
REV.	DESCRIPTION	DATE	BY

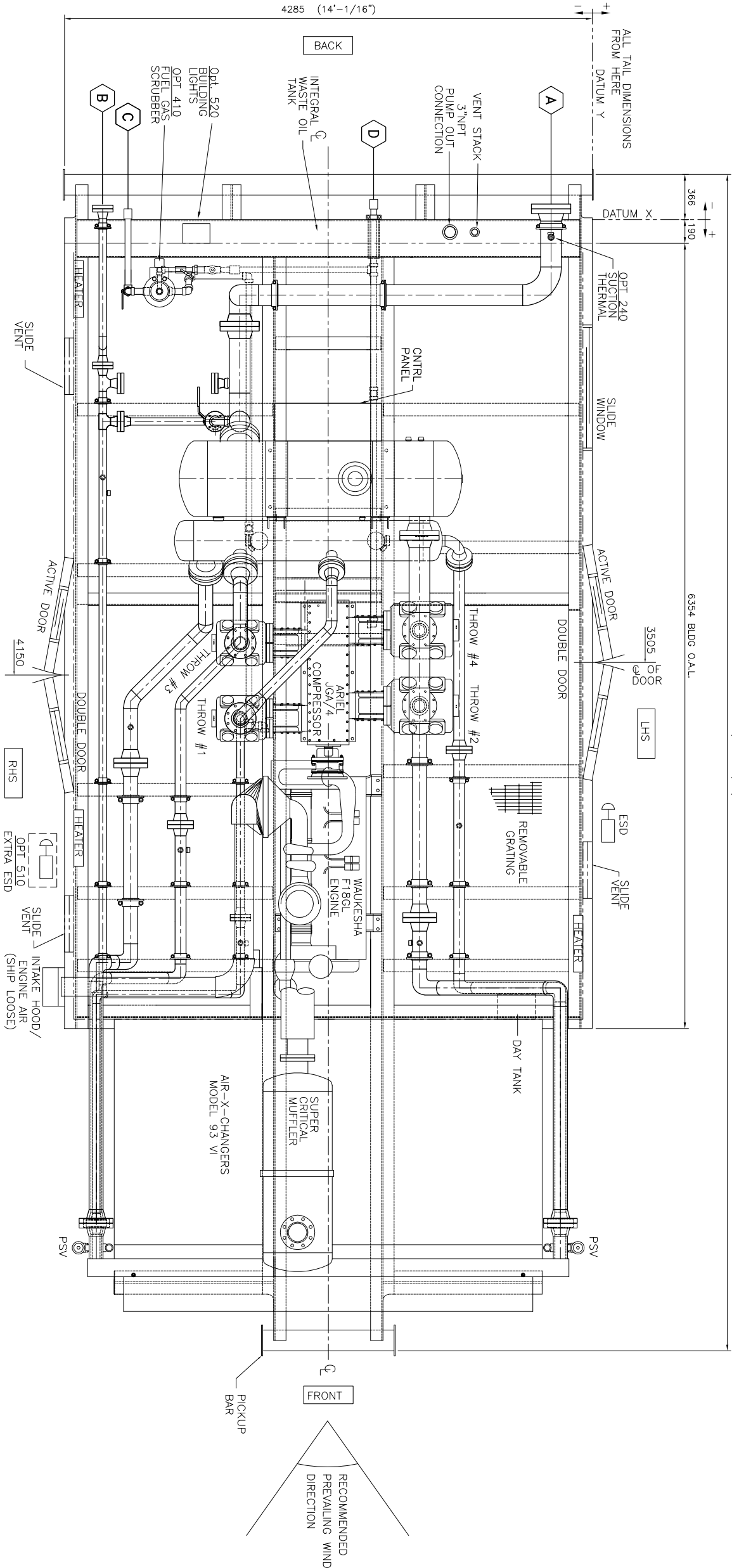
BTB Compressors

DATE	SCALE	TITLE	GENERAL ARRANGEMENT
98/06/17	1:40	APPD	(ELEVATION)
CHK'D	UNIT	B400	3-STAGE
DRAWN	SYSTEM	DWG. NO.	SHEET
BP	ACLT	9903-A0041	2 of 6
FILE:	GA9903C.DWG		ISS. 99.07

DIMENSION TOLERANCES

THE DIMENSIONS SHOWN FOR LOCATION OF PROCESS/SERVICE CONNECTIONS ARE ±6mm UNLESS OTHERWISE NOTED.

9511 (31'-2 1/2") O.A.L.



B400 PROCESS/SERVICE CONNECTIONS

ITEM	CONNECTION	SIZE	RATING	DISTANCE FROM DATUM					
				X		Y		Z	
				mm.	in.	mm.	in.	mm.	in.
A	SUCTION	6"	150#RF	-83	-3 1/4	-322	-12 11/16	+600	+23 5/8
B	DISCHARGE	2"	600#RF	-88	-3 1/2	-3958	-155 7/8	+600	+23 5/8
C	UTILITY GAS INLET	1 1/2"	NPT	-88	-3 1/2	-3750	-147 5/8	+600	+23 5/8
D	COALESCE DRAIN	1 1/2"	NPT	-140	-5 1/2	-1768	-69 5/8	+359	+14 1/8
			150#RF						

OPTIONS

OPT#	DESCRIPTION	OPT#	DESCRIPTION
205/6	SUCTION RELIEF THERMAL PORT	501	EXTRA ESD BUILDING LIGHTS
210		520	
240		605	
245		606	
410	FUEL GAS SCRUBBER	671	
445		680	
482		685	
484		691	

NOTES:

- ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE NOTED.
- NOZZLE LOCATIONS ARE SUBJECT TO COMPOUND TOLERANCES.
- CUSTOMIZED OR MODIFIED UNITS MAY DIFFER FROM THIS FROM THIS DRAWING.
- GRAVEL PAD FOUNDATION RECOMMENDED. SHOULD SOIL CONDITIONS REQUIRE THE ADDITION OF PILES, MINIMUM SUPPORT LOCATIONS ARE SHOWN THUS: ○
- SITE INSTALLATION AND START UP MINIMUM REQUIREMENTS PER BTB SPEC 905-1 TO 905-7 MUST BE FOLLOWED.
- WARRANTY ON CUSTOMER REQUESTED SPECIAL OPTIONS (CODE 777) IS LIMITED TO MATERIAL AND WORKMANSHIP

C	AS BUILT	1999	PB
B	GENERAL REVISION	1999	RS
A	NEW DRAWING	1998	BP
REV.	DESCRIPTION	DATE	BY
ENERFLEX SYSTEMS LTD. BTB Compressors			
DATE	SCALE	TITLE	GENERAL ARRANGEMENT (PLAN)
98/06/17	1:40		
CHK'D	APP'D	UNIT	
DRAWN	SYSTEM	DWG. NO.	B400 3 STAGE
BP	ACAD	9903-A0041	SHEET 1 of 6
FILE:	GA9903C.DWG		ISS. 99.07

MATERIAL LIST

PART	ITEM	QTY	DESCRIPTION
C5486B	1	1	INLET SEPARATOR, 24" BTB
C3477D	2	1	2 COMPARTMENT INTERSTAGE SEPARATOR,12"
C0484	4	4	BALL VALVE, 1"NPT WKM B136-CS-02-CS
C0313	5	2	DUMP VALVE, 1"NPT MURPHY DV 1500
C2122	7	8	TYPE J THERMOCOUPLES
C2437	9	2	LOUVER ACTUATOR (GARZO 501-12)

C0259	15	1	BALL VALVE, 2"-600#RF FP WKM
	16	1	CYLINDER ARIEL 6 1/8" JG C/W WCP
C0522	17	5	NEEDLE VALVE, CENTURY 3/4"x1/2"
C0316	18	3	LEVEL CONTROLLER, 2"NPT MURPHY L1200DVO
C2533	19	2	TEMPERATURE CONTROLLER, KIMRAY HT-18
C2532	20	2	KIMRAY 1" SS-18SS THERMOWELL
	25	8	ORIFICE GASKETS, AS NOTED (316SS)
	26	1	CYLINDER, ARIEL 8 7/8" JG C/W WCP
	27	1	CYLINDER, ARIEL 8 7/8" JG C/W WCP
	28	1	CYLINDER ARIEL 3 5/8" JG C/W WCP
	29	1	PSV, TAYLOR 8200, 1.5"x2", F ORIFICE
	30	1	PSV, TAYLOR 8200, 1"x2", E ORIFICE
	31	1	PSV, TAYLOR 8200, 1"x2", D ORIFICE
	32	2	HCA (8 7/8" JG)
	33	2	HCA (8 7/8" JG)
	34	1	CHECK VALVE, NEWCO, 1" NPT

C1005	52	1	SUCTION SCREEN, 6"-150#
C5329	53	1	THERMAL PSV, TAYLOR 8200 1"x1"

C2804	57	1	LEVEL GAUGE DANIEL 82R 1/2"NPT
C2466B	60	1	BOOT 10"Ø 720P-sig MAMP @100°F

C5527	62	1	DUMP VALVE MURPHY DV2000 SS 2"NPT
C3805	63	2	LEVEL GAUGE, DANIEL 42 RL

C	AS BUILT	1999	PB
B	GENERAL REVISIONS	1999	RS
A	NEW DRAWING	1998	BP
REV.	DESCRIPTION	DATE	BY



DATE	SCALE	TITLE
98/06/17	NTS	PROCESS FLOW SHEET
CHK'D	APP'D	UNIT
DRAWN	SYSTEM	DWG. NO.
KLS	ACAD13	9903-A0041
FILE: FT9903C.DWG		SHEET
		3 of 6
		99.07

PSV
PSV-500 SET@230 PSIG
PSV-501 SET@655 PSIG
PSV-502 SET@1315 PSIG

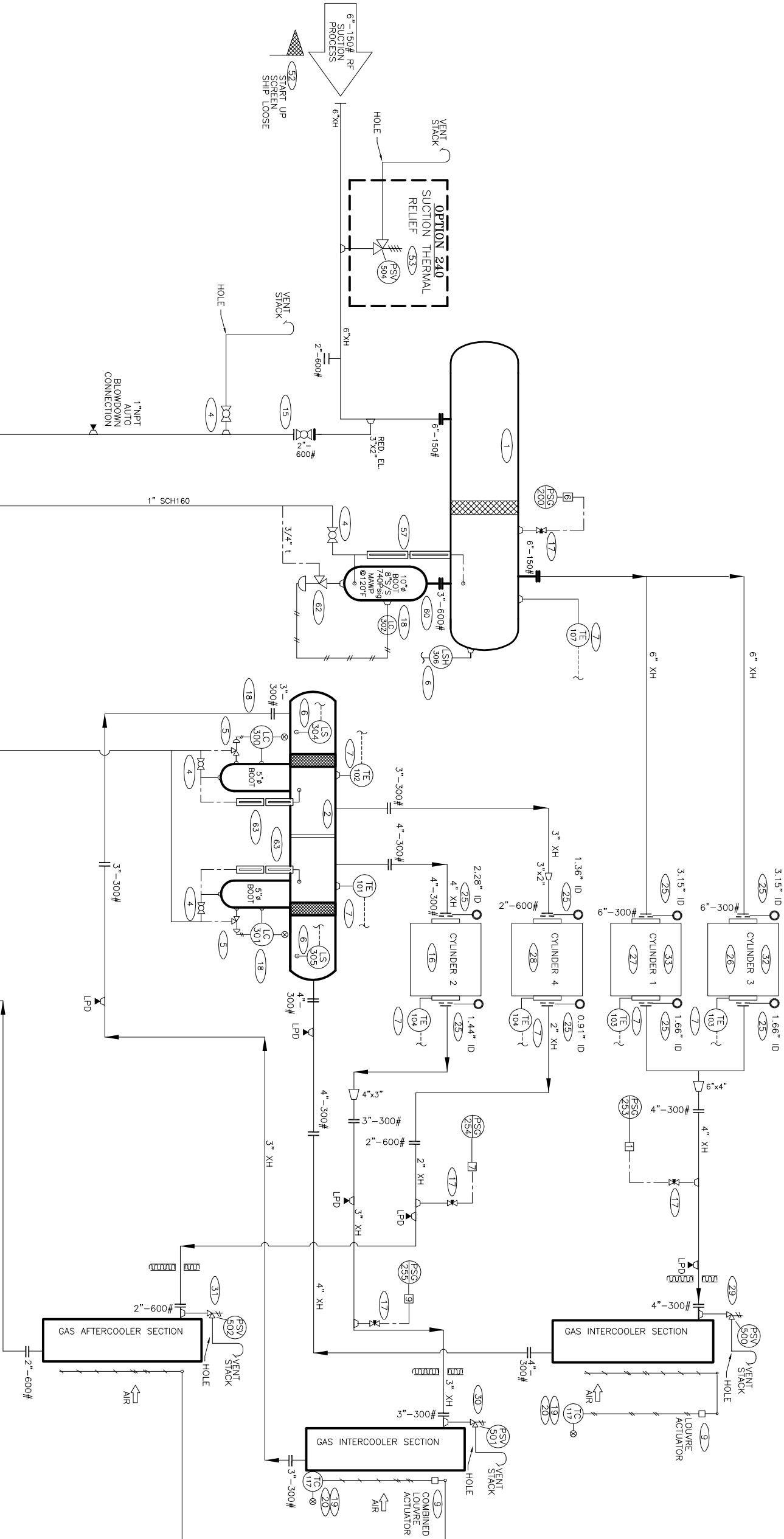
AXC 93VI
COOLER
IC SECTION: 655 MAMP @300°F
IC SECTION: 655 MAMP @300°F
AC SECTION: 1315 MAMP @300°F

ARIEL CYLINDERS
CYL #1 8 7/8" JG 375 PSIG MAMP
CYL #2 6 1/8" JG 635 PSIG MAMP
CYL #3 8 7/8" JG 230 PSIG MAMP
CYL #4 3 5/8" JG 1320 PSIG MAMP

TWO CHAMBER SEPARATOR
12"Ø NOM. x 72"
740 PSIG MAMP @100°F

INLET SEPARATOR
24"Ø NOM. x 72"
285 PSIG MAMP @100°F

PSV OPTION 240
PSV-504 SET@285 PSIG



OPT #	OPTIONS INCLUDED IN THIS DRAWING
205/6	SUCTION RELIEF VALVE
210	
240/5	
250	
331	
332	
482	
484	
605	
777	
691	

LEGEND
PROCESS PIPING
UTILITY PIPING
TUBING - STAINLESS STEEL,
TUBING - NYLON
HOSE (PRE-LUBE OIL, DRAIN)
ELECTRICAL SIGNAL

TUBING COLOR CODE:
-BK (BLACK): VENTS
-BL (BLUE): ESD, FIRE LOOP SIGNAL
-RD, # (RED): CONTROL VALVE, TAG #
-OR (ORANGE): INSTRUMENT GAS...OVER 35 PSI
-YL (YELLOW): ...BELOW 35 PSI
-OR, FUEL: ENGINE FUEL GAS
-YL, FUEL: ENGINE FUEL GAS
-BK (BLACK): ENGINE OIL
-BK (BROWN): COMPRESSOR OIL
-GR/WH (GREEN): MANIFOLD
-SS : STAINLESS STEEL TUBING

NOTES:

1. SITE INSTALLATION AND START UP MINIMUM REQUIREMENTS
2. WARRANTY ON CUSTOMER REQUESTED SPECIAL OPTIONS (CODE 777) IS LIMITED TO MATERIAL AND WORKMANSHIP.

MATERIAL LIST

PART	ITEM	QTY	DESCRIPTION
CO0299	1	1	STARTER, 1R150 LFGC-21-RH6
CO0297	2	1	STARTER RELAY VALVE, 1R SRV 125 1 1/4"NPT
CI1683	3	2	BALL VALVE, 1 1/2"NPT NIBCO c/w LATCH
CO0481	4	2	BALL VALVE, 1"NPT NIBCO c/w LATCH
CO1071	5	1	GAS VALVE, FISHER 119-12.9/16" ORIFICE
CI1214	6	1	REGULATOR, FISHER 62/R-198, 1"NPT, 1/2"ORIFICE

C0451	8	1	TEMP. IND.TREND SF30025(-40°-120°F)LIQUID FILLED
C0312	9	1	SUPER CRITICAL MUFFLER
C1538	10	1	EXHAUST LINE, 8"

C1061	12	1	EXHAUST RAIN CAP, 6"
C2587B	13	1	EXHAUST STACK, 6"
C3077	14	1	CPU95 IGNITION SYSTEM, ALTRONIC

CO295	24	3	HEATER, CATADYNE
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C1726	35	1	GOV. ACTUATOR, REXROTH A-2-H
C1972	51	1	FUEL FILTER/SCRUBBER BIB
C2092	52	1	FILTER ELEMENT, PECO FG-36-MS
C1689	53	1	LEVEL GAUGE, PENBERTHY, RM7
C0315	54	1	LEVEL SWITCH, MURPHY, L1100, 1 1/2"NPT
C0481	55	1	BALL VALVE, NIBCO 1"NPT
C1050	56	1	CHECK VALVE, NEWCO 1"NPT

C	AS BUILT	1999 07.12	PB
B	GENERAL REVISION	1999 06.28	RS
A	NEW DRAWING	1998 12.09	BP
REV.	DESCRIPTION	DATE	BY



BTB Compressors

DATE	SCALE	TITLE	
98.06.12	NTS	SERVICE FLOW SHEET	
CHK'D	APP'D	AIR & GAS	
UNIT		B400 - 3 STAGE	
DRAWN	SYSTEM	DWG. NO.	SHEET
CLS	ACAD	9903-A0041	4 of 6
TITLE: SF9903C.DWG		ISS. 99.07	

MATERIAL LIST

PART	ITEM	QTY	DESCRIPTION
	1	1	ARIEL JGA/4 COMPRESSOR FRAME
C	2	1	ENGINE, WAUKESHA F18GL
	3	1	COUPLING, THOMAS 350 CMR
	5	1	COOLER, AXC 93VI – 3 STAGE GAS SECTION
	6	1	COOLER BUG SCREEN

	9	1	ARIEL DNFT
C1704	10	2	OIL LEVEL CONTROLLER, REN RAB-0
C1696	11	2	OIL SAMPLE VALVE, NUPRO 1/4"
C0481	12	1	BALL VALVE, 1"NPT NIBCO c/w LATCH
C1222	13	1	ENGINE STUB SHAFT,
C2489	15	1	DRIVE SHEAVE, BROWNING SK 2 7/16"
C2490	16	1	SHEAVE BUSHING, BROWNING SK 2 7/16"
C0597	17	1	COOLANT SURGE TANK
C0482	18	3	BALL VALVE, 1/2"NPT NIBCO c/w LATCH
C0136	19	3	GAUGE VALVE SET, 1/2"NPT
C1257	20	1	OIL STORAGE TANK ~125 LITRE
C1243	21	1	DRIVE SHEAVE, BROWNING 25V2800E
C1244	22	1	SHEAVE BUSHING, BROWNING 'E' 2 7/16"
C2489	23	1	DRIVE SHEAVE, BROWNING 25V630SK
C2491	24	1	SHEAVE BUSHING, BROWNING SK 2 3/16"
C1419	25	2	DRIVE BELTS, GRIPNOTCH 5VX 1400
C0479	26	2	BALL VALVE, 3/4" GINELL 3911-A9
C0138	27	4	COUPLING, 3" DRESSER STYLE 38
	28	2	COUPLING, 2" DRESSER STYLE 38

C3133	32	1	COOLER DRIVE BELT GUARD
C3530	33	1	FLYWHEEL/COUPLING GUARD 500 CMR.
C0314	34	1	LEVEL SWITCH GAUGE, MURPHY EL-150-K1
C0624	35	1	OIL COOLER, EK-712

C0318	38	3	VIBRATION SWITCH, MURPHY VS-2
C3143	39	1	TEMPERATURE SWITCH, AMOT 8253 SET@ 210°F
	49	1	PUMP, WILDEN
C1183	50	1	REGULATOR, FISHER 67 AFR SET 90PSI
C1225	51	1	CONTROL VALVE, AMOT 4057,C2
C2896	52	1	FLOW CONTROL VALVE, SMC NMS 4000-02

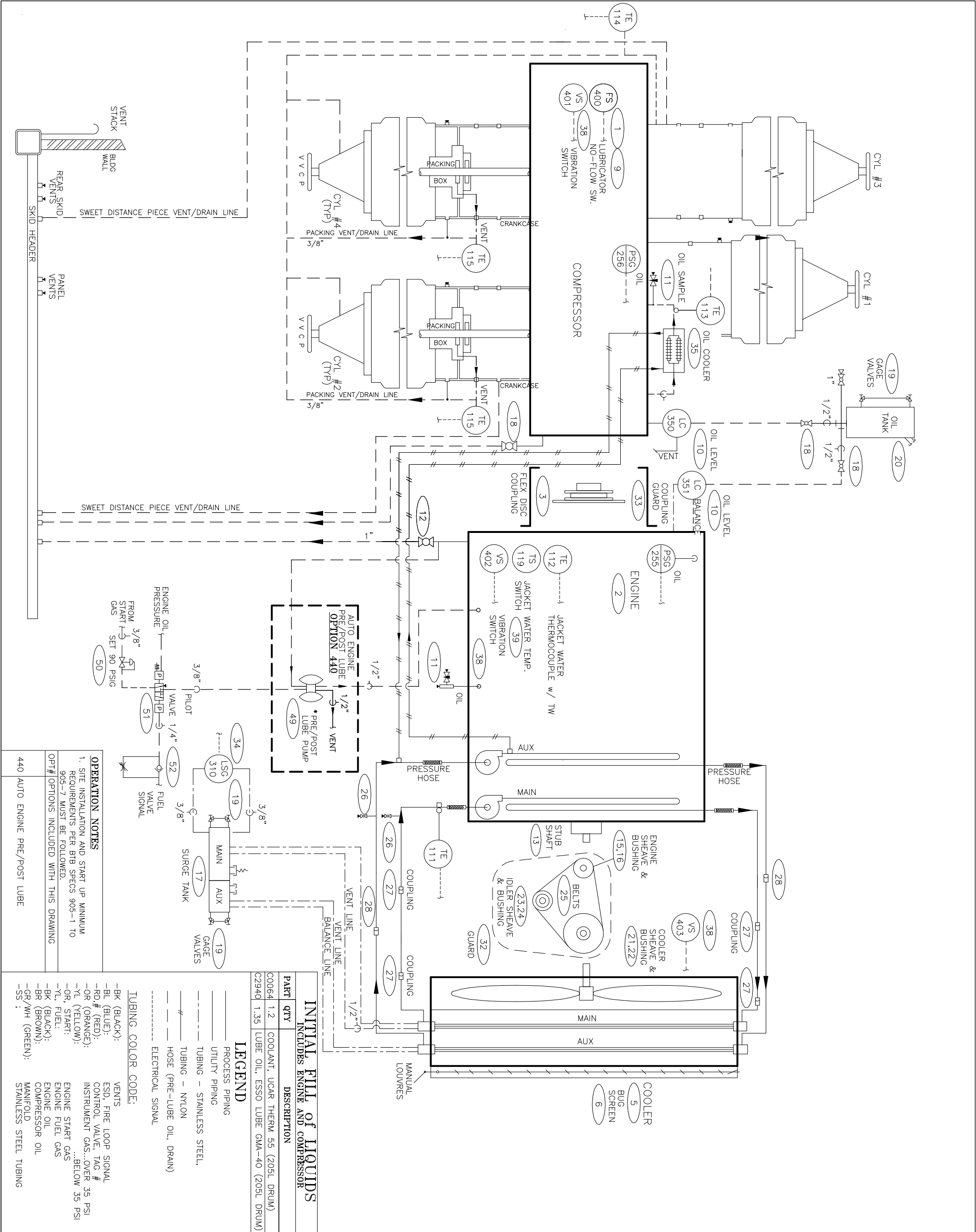
	C	AS BUILT	1999 07.12	PB
	B	GENERAL REVISION	1999 06.28	RS
	A	NEW DRAWING	1998 12.09	BP

REV.	DESCRIPTION	DATE	BY
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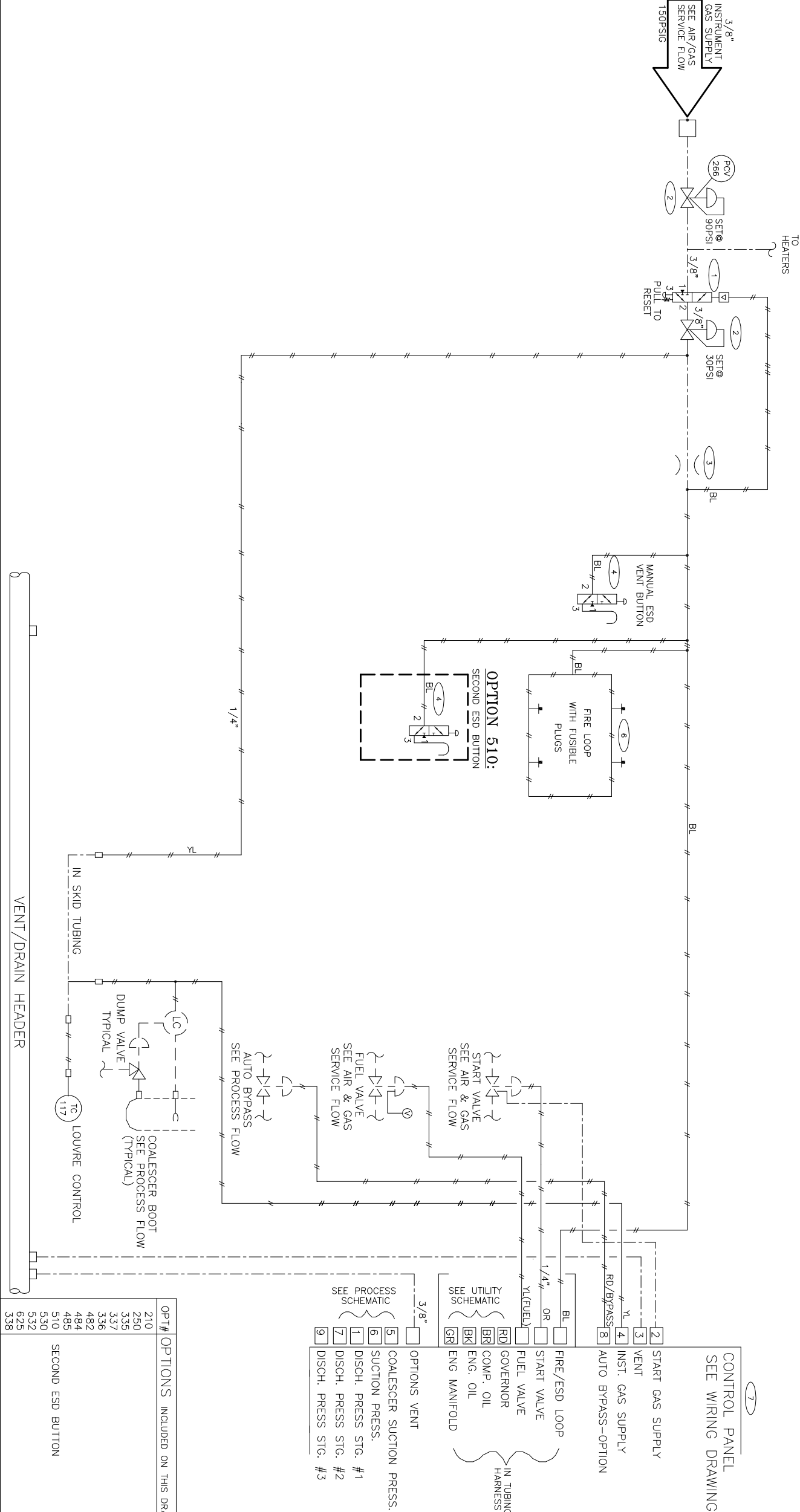
BTB Compressors

DATE	SCALE	TITLE
98.06.15	NTS	SERVICE FLOW SHEET
CHK'D	APP'D	OIL & GLYCOL
DRAWN	SYSTEM	B400 – 3 STAGE
KLS	ACAD	DWG. NO. 9903-A0041
FILE: SF9903C.DWG		SHEET 5 of 6 ISS. 99.07



SHUTDOWN KEY		**						INST. GAS BLOCK
PANEL ANNUNCIATOR SHUTDOWN	CLOSED							
MANUAL PUSH (STOP) PANEL FUEL BUTTON	CLOSED							
DE-ENERGIZE REMOTE SD SOLENOID	CLOSED							
BREAK ESD CIRCUIT	CLOSED							
RUPTURE FIRE LOOP (PUSH ESD BUTTON)*	CLOSED							
DE-ENERGIZE REMOTE ESD SOLENOID	CLOSED							
HI GAS/FIRE LEVEL	CLOSED							

** NOTE: DEPRESSURIZATION OF FIRE LOOP REQUIRES MANUAL RESET
 *** NOTE: FUEL VALVE IS OPERATED BY PANEL FUEL BUTTON. PANEL ANNUNCIATOR WILL TRIP
 FUEL BUTTON OUT TO TURN OFF FUEL VALVE.
 ⑦ VENT TO VENT HEADER



MATERIAL LIST			
REF	ITEM	QTY	DESCRIPTION
C2522	1	1	CONTROL VALVE, AMOT 4057 CE
C2523	2	2	REGULATOR, FISHER 67 AFR SET@ 90PSI
C1149	3	1	ORIFICE, AMOT 2185LO11, .014" DIA.
C0013	4	2	RED KNOB CONTROL VALVE, AMOT 4057-CA
C1345	6	4	FUSIBLE PLUG, SWAGelok SS-4-FTA-255, 1/4"
C3462	7	1	BTB CONTROL PANEL WITH ALTRONIC ANNUNCIATOR
C1204	8	1	3-WAY VALVE, AMOT 4057 TYPE CG
C2522	11	1	3-WAY VALVE, AMOT 4057 TYPE CE

C	AS BUILT	1999 07.12	PB
B	GENERAL REVISIONS	1999 06.28	RS
A	NEW DRAWING	1998 12.09	BP
REV.	DESCRIPTION	DATE	BY

		BTB <i>Compressors</i>	
ENERFLEX SYSTEMS LTD.			
DATE	SCALE	TITLE	
98.06.15	NIS	TUBING SCHEMATIC	
CHK'D	APP'D	UNIT	
		B400 — 3 STAGE	
DRAWN	SYSTEM	DWG. NO.	SHEET
CLS	ACAD14	9903-A0041	6 of 6
FILE: IN9903C.DWG			ISS. 99.07

B.HUXTER - BTB Compressors CUSTOMER:ANDERSON EXPLORATION

ELEVAT'N FT: 2500

QUOTE :UNIT # 9903

INQUIRY :DOUG WHITESIDE

BARMTR PSIA: 13.400

REMARKS :MIN PS DCHG TEMP PROJECT :RED 10-5

AMB'NT DegF: 90

COMPRESSOR DATA:

DRIVER DATA:

FRAME MODEL:JGA/4	STROKE	INCH:3.000	ROD DIA INCH:1.125	TYPE :GAS ENGINE
MAX RL #TOT:20000	MAX RL #TENS:10000		MAX RL #COMP:11000	MFR :WAUKESHA
RATED RPM:1800	RATED BHP:560		RATED PS FPM:900	MODEL:F18GL
CALC RPM:1800	CALC BHP:164		CALC PS FPM:900	BHP :370 (CONT)

SERVICES

..... GATHERING

STAGE DATA:

	STAGE 1	STAGE 2	STAGE 3
FLOW REQ'D MMSCFD	0.000	0.000	0.000
FLOW CALC MMSCFD	0.572	0.572	0.572
CYL HP PER STAGE	59.5	46.3	45.7
SPECIFIC GRAVITY	0.6500	0.6500	0.6500
RATIO OF SP HT 'N'	1.2633	1.2543	1.2542
COMPRSBLY SUC ZS	0.9969	0.9898	0.9656
COMPRSBLY DCH ZD	0.9957	0.9873	0.9640
PRES SUC LINE PSIG	2.00	N/A	N/A
PRES SUC FLG PSIG	2.00	62.65	245.06
PRES DCH FLG PSIG	67.65	250.06	860.02
PRES DCH LINE PSIG	N/A	N/A	850.0
PRES RATIO F/F	5.2629	3.4644	3.3794
TEMP SUC DegF	50.0	120.0	120.0
TEMP CLR DCH DegF	120.0	120.0	120.0

MIN P₃ DUE
TO DISCHARGE
TEMP = 2 psig

CYLINDER DATA:

	THROW 1	THROW 2	THROW 3	THROW 4
CYLINDER MODEL	8-7/8JG	8-7/8JG	6-1/2JG	3-5/8JG
CYLINDER BORE INCH	8.875	8.875	6.125	3.625
CYL RDP (API) PSIG	341.0	341.0	577.0	1200.0
CYLINDER MAWP PSIG	375.0	375.0	635.0	1320.0
CYLINDER ACTION	DBL	DBL	DBL	DBL
CYLINDER DISP CFM	383.533	383.533	181.048	61.398
PRES SUC INTL PSIG	0.63	0.63	58.48	224.48
TEMP SUC INTL DegF	59.46	59.46	126.14	125.21
CMPSB'Y SUC Zsph	0.9971	0.9971	0.9901	0.9666
PRES DCH INTL PSIG	74.07	74.07	263.81	925.01
TEMP DCH INTL DegF	300.51	300.51	310.33	311.31
HE SUC GAS VEL FPM	9529	9529	7981	9803
HE DCH GAS VEL FPM	9059	9059	7435	9065
HE SPACRS USED/MAX	0/4	0/4	0/4	0/1
HE VVPKT %CL AVAIL	1.7+81.8	1.7+81.8	1.7+65.8	1.0+49.5
% OF VVPKT USED	0.00	0.00	30.00	70.00
HE MIN CLEARANCE %	14.88	14.88	15.93	12.48
HE TOT CLEARANCE %	16.60	16.60	37.38	48.13
HE VOL EFF %	46.50	46.50	30.35	15.03
CE SUC GAS VEL FPM	9375	9375	7712	8858
CE DCH GAS VEL FPM	8914	8914	7185	8192
CE SPACRS USED/MAX	0/4	0/4	0/4	0/1
CE MIN CLEARANCE %	14.51	14.51	16.59	15.46
CE TOT CLEARANCE %	14.51	14.51	16.59	15.46
CE VOL EFF %	52.09	52.09	64.99	67.77
SUC PSEU-Q HE/CE %	11.5/11.3	11.5/11.3	5.7 /6.1	6.5 /8.1
GAS ROD LD OUT #	4549 C	4549 C	6118 C	7499 C
GAS ROD LD IN #	4465 T	4465 T	5779 T	6273 T
GAS ROD LD TOT #	9013	9013	11896	13772
GAS ROD LD REVRSL	YES	YES	YES	YES
FLOW CALC MMSCFD	0.286	0.286	0.572	0.572
CYLINDER HP	29.7	29.7	46.3	45.7

NOTE: '*'=OUT OF LIMIT '^'=SPECIAL APPL MMSCFD AT 14.700 PSIA 60F ADD COOLER HP

NOTE: Ariel only guarantees
performance within 6% tolerance for
suction pressures below 10 psig.

B.HUXTER - BTB Compressors CUSTOMER:ANDERSON EXPLORATION ELEVAT'N FT: 2500
 QUOTE :UNIT # 9903 INQUIRY :DOUG WHITESIDE BARMTR PSIA: 13.400
 REMARKS :PS=10 PD=850 PROJECT :RED 10-5 AMB'NT DegF: 90
 COMPRESSOR DATA: DRIVER DATA:

FRAME MODEL:JGA/4	STROKE INCH:3.000	ROD DIA INCH:1.125	TYPE :GAS ENGINE
MAX RL #TOT:20000	MAX RL #TENS:10000	MAX RL #COMP:11000	MFR :WAUKESHA
RATED RPM:1800	RATED BHP:560	RATED PS FPM:900	MODEL:F18GL
CALC RPM:1800	CALC BHP:262	CALC PS FPM:900	BHP :370 (CONT)

SERVICES

STAGE DATA:	.....	GATHERING
.....	STAGE 1	STAGE 2 STAGE 3
FLOW REQ'D MMSCFD	 0.000	 0.000 0.000
FLOW CALC MMSCFD	 1.055	 1.055 1.055
CYL HP PER STAGE	 94.2	 73.3 82.1
SPECIFIC GRAVITY	 0.6500	 0.6500 0.6500
RATIO OF SP HT 'N'	 1.2668	 1.2572 1.2547
COMPRSBLY SUC ZS	 0.9953	 0.9874 0.9642
COMPRSBLY DCH ZD	 0.9939	 0.9850 0.9631
PRES SUC LINE PSIG	 10.00	 N/A N/A
PRES SUC FLG PSIG	 10.00	 80.43 255.63
PRES DCH FLG PSIG	 85.43	 260.63 860.01
PRES DCH LINE PSIG	 N/A	 N/A 850.0
PRES RATIO F/F	 4.2234	 2.9206 3.2465
TEMP SUC DegF	 50.0	 120.0 120.0
TEMP CLR DCH DegF	 120.0	 120.0 120.0

CYLINDER DATA:

.....	THROW 1	THROW 2	THROW 3	THROW 4
CYLINDER MODEL	8-7/8JG	8-7/8JG	6-1/2JG	3-5/8JG
CYLINDER BORE INCH	8.875	8.875	6.125	3.625
CYL RDP (API) PSIG	341.0	341.0	577.0	1200.0
CYLINDER MAWP PSIG	375.0	375.0	635.0	1320.0
CYLINDER ACTION	DBL	DBL	DBL	DBL
CYLINDER DISP CFM	383.533	383.533	181.048	61.398
PRES SUC INTL PSIG	7.91	7.91	75.27	234.18
TEMP SUC INTL DegF	58.23	58.23	125.33	125.10
CMPSB'Y SUC Zsph	0.9955	0.9955	0.9878	0.9653
PRES DCH INTL PSIG	93.62	93.62	275.45	925.56
TEMP DCH INTL DegF	267.89	267.89	285.20	306.99
HE SUC GAS VEL FPM	9529	9529	7981	9803
HE DCH GAS VEL FPM	9059	9059	7435	9065
HE SPACRS USED/MAX	0/4	0/4	0/4	0/1
HE VVPKT %CL AVAIL	1.7+81.8	1.7+81.8	1.7+65.8	1.0+49.5
% OF VVPKT USED	0.00	0.00	0.00	0.00
HE MIN CLEARANCE %	14.88	14.88	15.93	12.48
HE TOT CLEARANCE %	16.60	16.60	17.63	13.45
HE VOL EFF %	57.36	57.36	69.81	72.27
CE SUC GAS VEL FPM	9375	9375	7712	8858
CE DCH GAS VEL FPM	8914	8914	7185	8192
CE SPACRS USED/MAX	0/4	0/4	0/4	0/1
CE MIN CLEARANCE %	14.51	14.51	16.59	15.46
CE TOT CLEARANCE %	14.51	14.51	16.59	15.46
CE VOL EFF %	61.71	61.71	71.19	69.19
SUC PSEU-Q HE/CE %	11.7/11.3	11.7/11.3	6.6 /6.1	10.0/8.2
GAS ROD LD OUT #	5316 C	5316 C	5983 C	7414 C
GAS ROD LD IN #	5204 T	5204 T	5616 T	6178 T
GAS ROD LD TOT #	10520	10520	11598	13592
GAS ROD LD REVRSL	YES	YES	YES	YES
FLOW CALC MMSCFD	0.527	0.527	1.055	1.055
CYLINDER HP	47.1	47.1	73.3	82.1

NOTE: '*'=OUT OF LIMIT '~'=SPECIAL APPL MMSCFD AT 14.700 PSIA 60F ADD COOLER HP

B.HUXTER - BTB Compressors CUSTOMER:ANDERSON EXPLORATION ELEVAT'N FT: 2500
 QUOTE :UNIT # 9903 INQUIRY :DOUG WHITESIDE BARMTR PSIA: 13.400
 REMARKS :PS=20 PD=850 PROJECT :RED 10-5 AMB'NT DegF: 90

COMPRESSOR DATA:

DRIVER DATA:

FRAME MODEL:JGA/4	STROKE INCH:3.000	ROD DIA INCH:1.125	TYPE :GAS ENGINE
MAX RL #TOT:20000	MAX RL #TENS:10000	MAX RL #COMP:11000	MFR :WAUKESHA
RATED RPM:1800	RATED BHP:560	RATED PS FPM:900	MODEL:F18GL
CALC RPM:1800	CALC BHP:338	CALC PS FPM:900	BHP :370 (CONT)

SERVICES

..... GATHERING

STAGE DATA:

	STAGE 1	STAGE 2	STAGE 3
FLOW REQ'D MMSCFD	0.000	0.000	0.000
FLOW CALC MMSCFD	1.543	1.543	1.543
CYL HP PER STAGE	134.2	98.9	93.2
SPECIFIC GRAVITY	0.6500	0.6500	0.6500
RATIO OF SP HT 'N'	1.2673	1.2585	1.2591
COMPRSBLY SUC ZS	0.9932	0.9824	0.9536
COMPRSBLY DCH ZD	0.9914	0.9797	0.9542
PRES SUC LINE PSIG	20.00	N/A	N/A
PRES SUC FLG PSIG	20.00	118.17	336.88
PRES DCH FLG PSIG	123.17	341.88	859.99
PRES DCH LINE PSIG	N/A	N/A	850.0
PRES RATIO F/F	4.0889	2.7003	2.4934
TEMP SUC DegF	50.0	120.0	120.0
TEMP CLR DCH DegF	120.0	120.0	120.0

CYLINDER DATA:

	THROW 1	THROW 2	THROW 3	THROW 4
CYLINDER MODEL	8-7/8JG	8-7/8JG	6-1/2JG	3-5/8JG
CYLINDER BORE INCH	8.875	8.875	6.125	3.625
CYL RDP (API) PSIG	341.0	341.0	577.0	1200.0
CYLINDER MAWP PSIG	375.0	375.0	635.0	1320.0
CYLINDER ACTION	DBL	DBL	DBL	DBL
CYLINDER DISP CFM	383.533	383.533	181.048	61.398
PRES SUC INTL PSIG	17.01	17.01	110.90	308.58
TEMP SUC INTL DegF	58.05	58.05	124.96	124.05
CMPSB'Y SUC Zsph	0.9936	0.9936	0.9829	0.9547
PRES DCH INTL PSIG	134.60	134.60	361.50	929.65
TEMP DCH INTL DegF	263.20	263.20	273.76	268.66
HE SUC GAS VEL FPM	9529	9529	7981	9803
HE DCH GAS VEL FPM	9059	9059	7435	9065
HE SPACRS USED/MAX	0/4	0/4	0/4	0/1
HE VVPKT %CL AVAIL	1.7+81.8	1.7+81.8	1.7+65.8	1.0+49.5
% OF VVPKT USED	0.00	0.00	0.00	0.00
HE MIN CLEARANCE %	14.88	14.88	15.93	12.48
HE TOT CLEARANCE %	16.60	16.60	17.63	13.45
HE VOL EFF %	58.77	58.77	72.50	79.53
CE SUC GAS VEL FPM	9375	9375	7712	8858
CE DCH GAS VEL FPM	8914	8914	7185	8192
CE SPACRS USED/MAX	0/4	0/4	0/4	0/1
CE MIN CLEARANCE %	14.51	14.51	16.59	15.46
CE TOT CLEARANCE %	14.51	14.51	16.59	15.46
CE VOL EFF %	62.96	62.96	73.74	77.43
SUC PSEU-Q HE/CE %	11.7/11.4	11.7/11.4	6.6 /6.2	10.1/8.3
GAS ROD LD OUT #	7299 C	7299 C	7506 C	6760 C
GAS ROD LD IN #	7133 T	7133 T	7013 T	5452 T
GAS ROD LD TOT #	14432	14432	14520	12212
GAS ROD LD REVRSL	YES	YES	YES	YES
FLOW CALC MMSCFD	0.771	0.771	1.543	1.543
CYLINDER HP	67.1	67.1	98.9	93.2

NOTE: '*'=OUT OF LIMIT '^'=SPECIAL APPL MMSCFD AT 14.700 PSIA 60F ADD COOLER HP

B.HUXTER - BTB Compressors CUSTOMER:ANDERSON EXPLORATION
 QUOTE :UNIT # 9903 INQUIRY :DOUG WHITESIDE
 REMARKS :MIN PS LOAD HP PROJECT :RED 10-5
 COMPRESSOR DATA:

DRIVER DATA:

FRAME MODEL:JGA/4 STROKE INCH:3.000 ROD DIA INCH:1.125 TYPE :GAS ENGINE
 MAX RL #TOT:20000 MAX RL #TENS:10000 MAX RL #COMP:11000 MFR :WAUKESHA
 RATED RPM:1800 RATED BHP:560 RATED PS FPM:900 MODEL:F18GL
 CALC RPM:1800 CALC BHP:370 CALC PS FPM:900 BHP :370 (CONT)

SERVICES

..... GATHERING

STAGE DATA:

	STAGE 1	STAGE 2	STAGE 3
FLOW REQ'D MMSCFD	0.000	0.000	0.000
FLOW CALC MMSCFD	1.764	1.764	1.764
CYL HP PER STAGE	152.2	110.0	95.7
SPECIFIC GRAVITY	0.6500	0.6500	0.6500
RATIO OF SP HT 'N'	1.2675	1.2589	1.2606
COMPRBLTY SUC ZS	0.9923	0.9801	0.9489
COMPRBLTY DCH ZD	0.9903	0.9774	0.9504
PRES SUC LINE PSIG	24.50	N/A	N/A
PRES SUC FLG PSIG	24.50	135.05	372.77
PRES DCH FLG PSIG	140.05	377.77	859.98
PRES DCH LINE PSIG	N/A	N/A	850.0
PRES RATIO F/F	4.0489	2.6350	2.2616
TEMP SUC DegF	50.0	120.0	120.0
TEMP CLR DCH DegF	120.0	120.0	120.0

MIN P_s TO
 LOAD HP
 = 24.5 psig

CYLINDER DATA:

	THROW 1	THROW 2	THROW 3	THROW 4
CYLINDER MODEL	8-7/8JG	8-7/8JG	6-1/2JG	3-5/8JG
CYLINDER BORE INCH	8.875	8.875	6.125	3.625
CYL RDP (API) PSIG	341.0	341.0	577.0	1200.0
CYLINDER MAWP PSIG	375.0	375.0	635.0	1320.0
CYLINDER ACTION	DBL	DBL	DBL	DBL
CYLINDER DISP CFM	383.533	383.533	181.048	61.398
PRES SUC INTL PSIG	21.10	21.10	126.83	341.41
TEMP SUC INTL DegF	57.99	57.99	124.84	123.67
CMPSB'Y SUC Zsph	0.9927	0.9927	0.9807	0.9500
PRES DCH INTL PSIG	152.93	152.93	399.54	931.27
TEMP DCH INTL DegF	261.79	261.79	270.22	254.73
HE SUC GAS VEL FPM	9529	9529	7981	9803
HE DCH GAS VEL FPM	9059	9059	7435	9065
HE SPACRS USED/MAX	0/4	0/4	0/4	0/1
HE VVPKT %CL AVAIL	1.7+81.8	1.7+81.8	1.7+65.8	1.0+49.5
% OF VVPKT USED	0.00	0.00	0.00	0.00
HE MIN CLEARANCE %	14.88	14.88	15.93	12.48
HE TOT CLEARANCE %	16.60	16.60	17.63	13.45
HE VOL EFF %	59.19	59.19	73.31	81.83
CE SUC GAS VEL FPM	9375	9375	7712	8858
CE DCH GAS VEL FPM	8914	8914	7185	8192
CE SPACRS USED/MAX	0/4	0/4	0/4	0/1
CE MIN CLEARANCE %	14.51	14.51	16.59	15.46
CE TOT CLEARANCE %	14.51	14.51	16.59	15.46
CE VOL EFF %	63.33	63.33	74.50	80.04
SUC PSEU-Q HE/CE %	11.7/11.4	11.7/11.4	6.6 /6.2	10.2/8.3
GAS ROD LD OUT #	8185 C	8185 C	8175 C	6469 C
GAS ROD LD IN #	7995 T	7995 T	7626 T	5130 T
GAS ROD LD TOT #	16180	16180	15800	11599
GAS ROD LD REVRSL	YES	YES	YES	YES
FLOW CALC MMSCFD	0.882	0.882	1.764	1.764
CYLINDER HP	76.1	76.1	110.0	95.7

NOTE: '~' = OUT OF LIMIT '~' = SPECIAL APPL MMSCFD AT 14.700 PSIA 60F ADD COOLER HP

B.HUXTER - BTB Compressors CUSTOMER:ANDERSON EXPLORATION ELEVAT'N FT: 2500
 QUOTE :UNIT # 9903 INQUIRY :DOUG WHITESIDE BARMTR PSIA: 13.400
 REMARKS :PS=30 PD=850 PROJECT :RED 10-5 AMB'NT DegF: 90

COMPRESSOR DATA:

DRIVER DATA:

FRAME MODEL:JGA/4	STROKE INCH:3.000	ROD DIA INCH:1.125	TYPE :GAS ENGINE
MAX RL #TOT:20000	MAX RL #TENS:10000	MAX RL #COMP:11000	MFR :WAUKESHA
RATED RPM:1800	RATED BHP:560	RATED PS FPM:900	MODEL:F18GL
CALC RPM:1800	CALC BHP:370	CALC PS FPM:900	BHP :370 (CONT)

SERVICES

..... GATHERING

STAGE DATA:

	STAGE 1	STAGE 2	STAGE 3
FLOW REQ'D MMSCFD	0.000	0.000	0.000
FLOW CALC MMSCFD	1.846	1.846	1.846
CYL HP PER STAGE	148.0	114.1	96.3
SPECIFIC GRAVITY	0.6500	0.6500	0.6500
RATIO OF SP HT 'N'	1.2690	1.2590	1.2611
COMPRSBLY SUC ZS	0.9912	0.9793	0.9472
COMPRSBLY DCH ZD	0.9892	0.9765	0.9490
PRES SUC LINE PSIG	30.00	N/A	N/A
PRES SUC FLG PSIG	30.00	141.28	385.96
PRES DCH FLG PSIG	146.28	390.96	859.99
PRES DCH LINE PSIG	N/A	N/A	850.0
PRES RATIO F/F	3.6794	2.6141	2.1870
TEMP SUC DegF	50.0	120.0	120.0
TEMP CLR DCH DegF	120.0	120.0	120.0

CYLINDER DATA:

	THROW 1	THROW 2	THROW 3	THROW 4
CYLINDER MODEL	8-7/8JG	8-7/8JG	6-1/2JG	3-5/8JG
CYLINDER BORE INCH	8.875	8.875	6.125	3.625
CYL RDP (API) PSIG	341.0	341.0	577.0	1200.0
CYLINDER MAWP PSIG	375.0	375.0	635.0	1320.0
CYLINDER ACTION	DBL	DBL	DBL	DBL
CYLINDER DISP CFM	383.533	383.533	181.048	61.398
PRES SUC INTL PSIG	26.10	26.10	132.71	353.46
TEMP SUC INTL DegF	57.47	57.47	124.81	123.54
CMPSB'Y SUC Zsph	0.9916	0.9916	0.9799	0.9483
PRES DCH INTL PSIG	159.97	159.97	413.51	931.87
TEMP DCH INTL DegF	247.81	247.81	269.07	249.97
HE SUC GAS VEL FPM	9529	9529	7981	9803
HE DCH GAS VEL FPM	9059	9059	7435	9065
HE SPACRS USED/MAX	0/4	0/4	0/4	0/1
HE VVPKT %CL AVAIL	1.7+81.8	1.7+81.8	1.7+65.8	1.0+49.5
% OF VVPKT USED	12.60	12.60	0.00	0.00
HE MIN CLEARANCE %	14.88	14.88	15.93	12.48
HE TOT CLEARANCE %	26.91	26.91	17.63	13.45
HE VOL EFF %	45.01	45.01	73.56	82.58
CE SUC GAS VEL FPM	9375	9375	7712	8858
CE DCH GAS VEL FPM	8914	8914	7185	8192
CE SPACRS USED/MAX	0/4	0/4	0/4	0/1
CE MIN CLEARANCE %	14.51	14.51	16.59	15.46
CE TOT CLEARANCE %	14.51	14.51	16.59	15.46
CE VOL EFF %	66.86	66.86	74.74	80.89
SUC PSEU-Q HE/CE %	11.6/11.4	11.6/11.4	6.6 /6.2	10.2/8.3
GAS ROD LD OUT #	8317 C	8317 C	8420 C	6363 C
GAS ROD LD IN #	8113 T	8113 T	7850 T	5012 T
GAS ROD LD TOT #	16430	16430	16270	11374
GAS ROD LD REVRSL	YES	YES	YES	YES
FLOW CALC MMSCFD	0.923	0.923	1.846	1.846
CYLINDER HP	74.0	74.0	114.1	96.3

DATE:06-25-1999

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B.HUXTER - BTB Compressors CUSTOMER:ANDERSON EXPLORATION ELEVAT'N FT: 2500
 QUOTE :UNIT # 9903 INQUIRY :DOUG WHITESIDE BARMTR PSIA: 13.400
 REMARKS :PS=40 PD=850 PROJECT :RED 10-5 AMB'NT DegF: 90

COMPRESSOR DATA:

DRIVER DATA:

FRAME MODEL:JGA/4	STROKE	INCH:3.000	ROD DIA INCH:1.125	TYPE :GAS ENGINE
MAX RL #TOT:20000	MAX RL #TENS:10000	MAX RL #COMP:11000	MFR :WAUKESHA	
RATED RPM:1800	RATED BHP:560	RATED PS FPM:900	MODEL:F18GL	
CALC RPM:1800	CALC BHP:370	CALC PS FPM:900	BHP :370 (CONT)	

SERVICES

GATHERING

STAGE DATA:

	STAGE 1	STAGE 2	STAGE 3
FLOW REQ'D MMSCFD	0.000	0.000	0.000
FLOW CALC MMSCFD	1.977	1.977	1.977
CYL HP PER STAGE	140.6	120.6	96.9
SPECIFIC GRAVITY	0.6500	0.6500	0.6500
RATIO OF SP HT 'N'	1.2712	1.2592	1.2619
COMPRSBLY SUC ZS	0.9892	0.9780	0.9445
COMPRSBLY DCH ZD	0.9873	0.9752	0.9469
PRES SUC LINE PSIG	40.00	N/A	N/A
PRES SUC FLG PSIG	40.00	151.21	406.91
PRES DCH FLG PSIG	156.21	411.91	860.01
PRES DCH LINE PSIG	N/A	N/A	850.0
PRES RATIO F/F	3.1763	2.5837	2.0780
TEMP SUC DegF	50.0	120.0	120.0
TEMP CLR DCH DegF	120.0	120.0	120.0

CYLINDER DATA:

	THROW 1	THROW 2	THROW 3	THROW 4
CYLINDER MODEL	8-7/8JG	8-7/8JG	6-1/2JG	3-5/8JG
CYLINDER BORE INCH	8.875	8.875	6.125	3.625
CYL RDP (API) PSIG	341.0	341.0	577.0	1200.0
CYLINDER MAWP PSIG	375.0	375.0	635.0	1320.0
CYLINDER ACTION	DBL	DBL	DBL	DBL
CYLINDER DISP CFM	383.533	383.533	181.048	61.398
PRES SUC INTL PSIG	35.18	35.18	142.07	372.59
TEMP SUC INTL DegF	56.68	56.68	124.75	123.35
CMPSRB'Y SUC Zsph	0.9896	0.9896	0.9786	0.9456
PRES DCH INTL PSIG	171.22	171.22	435.72	932.79
TEMP DCH INTL DegF	226.96	226.96	267.38	242.76
HE SUC GAS VEL FPM	9529	9529	7981	9803
HE DCH GAS VEL FPM	9059	9059	7435	9065
HE SPACRS USED/MAX	0/4	0/4	0/4	0/1
HE VVPKT %CL AVAIL	1.7+81.8	1.7+81.8	1.7+65.8	1.0+49.5
% OF VVPKT USED	1.45	1.45	0.00	0.00
HE MIN CLEARANCE %	14.88	14.88	15.93	12.48
HE TOT CLEARANCE %	17.79	17.79	17.63	13.45
HE VOL EFF %	66.99	66.99	73.94	83.68
CE SUC GAS VEL FPM	9375	9375	7712	8858
CE DCH GAS VEL FPM	8914	8914	7185	8192
CE SPACRS USED/MAX	4/4	4/4	0/4	0/1
CE MIN CLEARANCE %	14.51	14.51	16.59	15.46
CE TOT CLEARANCE %	43.43	43.43	16.59	15.46
CE VOL EFF %	29.59	29.59	75.10	82.14
SUC PSEU-Q HE/CE %	11.8/10.7	11.8/10.7	6.6 /6.2	10.2/8.3
GAS ROD LD OUT #	8460 C	8460 C	8808 C	6193 C
GAS ROD LD IN #	8236 T	8236 T	8206 T	4824 T
GAS ROD LD TOT #	16696	16696	17013	11017
GAS ROD LD REVRSL	YES	YES	YES	YES
FLOW CALC MMSCFD	0.988	0.988	1.977	1.977
CYLINDER HP	70.3	70.3	120.6	96.9

DATE:06-25-1999

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B.HUXTER - BTB Compressors CUSTOMER:ANDERSON EXPLORATION ELEVAT'N FT: 2500
 QUOTE :UNIT # 9903 INQUIRY :DOUG WHITESIDE BARMTR PSIA: 13.400
 REMARKS :PS=50 PD=850 PROJECT :RED 10-5 AMB'NT DegF: 90

COMPRESSOR DATA:

DRIVER DATA:

FRAME MODEL:JGA/4	STROKE INCH:3.000	ROD DIA INCH:1.125	TYPE :GAS ENGINE
MAX RL #TOT:20000	MAX RL #TENS:10000	MAX RL #COMP:11000	MFR :WAUKESHA
RATED RPM:1800	RATED BHP:560	RATED PS FPM:900	MODEL:F18GL
CALC RPM:1800	CALC BHP:370	CALC PS FPM:900	BHP :370 (CONT)

SERVICES

..... GATHERING

STAGE DATA:

	STAGE 1	STAGE 2	STAGE 3
FLOW REQ'D MMSCFD	0.000	0.000	0.000
FLOW CALC MMSCFD	2.098	2.098	2.098
CYL HP PER STAGE	134.0	126.5	97.2
SPECIFIC GRAVITY	0.6500	0.6500	0.6500
RATIO OF SP HT 'N'	1.2729	1.2594	1.2626
COMPRBLTY SUC ZS	0.9872	0.9768	0.9421
COMPRBLTY DCH ZD	0.9854	0.9740	0.9449
PRES SUC LINE PSIG	50.00	N/A	N/A
PRES SUC FLG PSIG	50.00	160.41	426.23
PRES DCH FLG PSIG	165.41	431.23	860.02
PRES DCH LINE PSIG	N/A	N/A	850.0
PRES RATIO F/F	2.8203	2.5582	1.9867
TEMP SUC DegF	50.0	120.0	120.0
TEMP CLR DCH DegF	120.0	120.0	120.0

CYLINDER DATA:

	THROW 1	THROW 2	THROW 3	THROW 4
CYLINDER MODEL	8-7/8JG	8-7/8JG	6-1/2JG	3-5/8JG
CYLINDER BORE INCH	8.875	8.875	6.125	3.625
CYL RDP (API) PSIG	341.0	341.0	577.0	1200.0
CYLINDER MAWP PSIG	375.0	375.0	635.0	1320.0
CYLINDER ACTION	DBL	DBL	DBL	DBL
CYLINDER DISP CFM	383.533	383.533	181.048	61.398
PRES SUC INTL PSIG	44.26	44.26	150.74	390.23
TEMP SUC INTL DegF	56.04	56.04	124.71	123.17
CMPSB'Y SUC Zsph	0.9876	0.9876	0.9774	0.9431
PRES DCH INTL PSIG	181.65	181.65	456.20	933.61
TEMP DCH INTL DegF	210.06	210.06	265.96	236.45
HE SUC GAS VEL FPM	9529	9529	7981	9803
HE DCH GAS VEL FPM	9059	9059	7435	9065
HE SPACRS USED/MAX	0/4	0/4	0/4	0/1
HE VVPKT %CL AVAIL	1.7+81.8	1.7+81.8	1.7+65.8	1.0+49.5
% OF VVPKT USED	25.62	25.62	0.00	0.00
HE MIN CLEARANCE %	14.88	14.88	15.93	12.48
HE TOT CLEARANCE %	37.56	37.56	17.63	13.45
HE VOL EFF %	46.77	46.77	74.26	84.61
CE SUC GAS VEL FPM	9375	9375	7712	8858
CE DCH GAS VEL FPM	8914	8914	7185	8192
CE SPACRS USED/MAX	4/4	4/4	0/4	0/1
CE MIN CLEARANCE %	14.51	14.51	16.59	15.46
CE TOT CLEARANCE %	43.43	43.43	16.59	15.46
CE VOL EFF %	39.51	39.51	75.39	83.20
SUC PSEU-Q HE/CE %	11.7/11.4	11.7/11.4	6.6 /6.2	10.3/8.4
GAS ROD LD OUT #	8553 C	8553 C	9165 C	6036 C
GAS ROD LD IN #	8309 T	8309 T	8533 T	4651 T
GAS ROD LD TOT #	16862	16862	17698	10687
GAS ROD LD REVRSL	YES	YES	YES	YES
FLOW CALC MMSCFD	1.049	1.049	2.098	2.098
CYLINDER HP	67.0	67.0	126.5	97.2

 $P_s = 50 \text{ psig}$ $P_d = 850 \text{ psig}$ $Q = 2.0 \text{ MM}^3/\text{Fd}$

B.HUXTER - BTB Compressors CUSTOMER:ANDERSON EXPLORATION
 QUOTE :UNIT # 9903 INQUIRY :DOUG WHITESIDE
 REMARKS :MIN PS DCHG TEMP PROJECT :RED 10-5

ELEVAT'N FT: 2500
 BARMTR PSIA: 13.400
 AMB'NT DegF: 90

COMPRESSOR DATA:

DRIVER DATA:

FRAME MODEL:JGA/4	STROKE	INCH:3.000	ROD DIA	INCH:1.125	TYPE :GAS ENGINE
MAX RL #TOT:20000	MAX RL #TENS:10000	MAX RL #COMP:11000	MFR	:WAUKESHA	
RATED RPM:1800	RATED BHP:560	RATED PS FPM:900	MODEL:F18GL		
CALC RPM:1800	CALC BHP:184	CALC PS FPM:900	BHP :370 (CONT)		

SERVICES

GATHERING

STAGE DATA:

	STAGE 1	STAGE 2	STAGE 3
FLOW REQ'D MMSCFD	0.000	0.000	0.000
FLOW CALC MMSCFD	0.653	0.653	0.653
CYL HP PER STAGE	67.4	52.4	51.7
SPECIFIC GRAVITY	0.6500	0.6500	0.6500
RATIO OF SP HT 'N'	1.2634	1.2544	1.2543
COMPRBLTY SUC ZS	0.9965	0.9885	0.9615
COMPRBLTY DCH ZD	0.9952	0.9858	0.9609
PRES SUC LINE PSIG	4.00	N/A	N/A
PRES SUC FLG PSIG	4.00	72.37	276.41
PRES DCH FLG PSIG	77.37	281.41	959.97
PRES DCH LINE PSIG	N/A	N/A	950.0
PRES RATIO F/F	5.2168	3.4372	3.3586
TEMP SUC DegF	50.0	120.0	120.0
TEMP CLR DCH DegF	120.0	120.0	120.0

MIN PS DUE TO
 DISCHARGE
 TEMP = 4 psig

CYLINDER DATA:

	THROW 1	THROW 2	THROW 3	THROW 4
CYLINDER MODEL	8-7/8JG	8-7/8JG	6-1/2JG	3-5/8JG
CYLINDER BORE INCH	8.875	8.875	6.125	3.625
CYL RDP (API) PSIG	341.0	341.0	577.0	1200.0
CYLINDER MAWP PSIG	375.0	375.0	635.0	1320.0
CYLINDER ACTION	DBL	DBL	DBL	DBL
CYLINDER DISP CFM	383.533	383.533	181.048	61.398
PRES SUC INTL PSIG	2.45	2.45	67.67	253.24
TEMP SUC INTL DegF	59.41	59.41	126.10	125.19
CMPSB'Y SUC Zsph	0.9967	0.9967	0.9889	0.9626
PRES DCH INTL PSIG	84.58	84.58	296.85	1032.71
TEMP DCH INTL DegF	299.21	299.21	309.17	310.52
HE SUC GAS VEL FPM	9529	9529	7981	9803
HE DCH GAS VEL FPM	9059	9059	7435	9065
HE SPACRS USED/MAX	0/4	0/4	0/4	0/1
HE VVPKT %CL AVAIL	1.7+81.8	1.7+81.8	1.7+65.8	1.0+49.5
% OF VVPKT USED	0.00	0.00	30.00	70.00
HE MIN CLEARANCE %	14.88	14.88	15.93	12.48
HE TOT CLEARANCE %	16.60	16.60	37.38	48.13
HE VOL EFF %	46.97	46.97	30.98	15.78
CE SUC GAS VEL FPM	9375	9375	7712	8858
CE DCH GAS VEL FPM	8914	8914	7185	8192
CE SPACRS USED/MAX	0/4	0/4	0/4	0/1
CE MIN CLEARANCE %	14.51	14.51	16.59	15.46
CE TOT CLEARANCE %	14.51	14.51	16.59	15.46
CE VOL EFF %	52.50	52.50	65.29	68.02
SUC PSEU-Q HE/CE %	11.5/11.3	11.5/11.3	5.8 /6.1	6.7 /8.2
GAS ROD LD OUT #	5089 C	5089 C	6831 C	8348 C
GAS ROD LD IN #	4991 T	4991 T	6448 T	6976 T
GAS ROD LD TOT #	10080	10080	13278	15324
GAS ROD LD REVRSL	YES	YES	YES	YES
FLOW CALC MMSCFD	0.326	0.326	0.653	0.653
CYLINDER HP	33.7	33.7	52.4	51.7

NOTE: '~'=OUT OF LIMIT '~'=SPECIAL APPL MMSCFD AT 14.700 PSIA 60F ADD COOLER HP

NOTE: Ariel only guarantees
 performance within 6% tolerance for
 suction pressures below 10 psig.

B.HUXTER - BTB Compressors

CUSTOMER:ANDERSON EXPLORATION

ELEVAT'N FT: 2500

QUOTE :UNIT # 9903

INQUIRY :DOUG WHITESIDE

BARMTR PSIA: 13.400

REMARKS :PS=10 PD=950

PROJECT :RED 10-5

AMB'NT DegF: 90

COMPRESSOR DATA:

DRIVER DATA:

FRAME MODEL:JGA/4	STROKE INCH:3.000	ROD DIA INCH:1.125	TYPE :GAS ENGINE
MAX RL #TOT:20000	MAX RL #TENS:10000	MAX RL #COMP:11000	MFR :WAUKESHA
RATED RPM:1800	RATED BHP:560	RATED PS FPM:900	MODEL:F18GL
CALC RPM:1800	CALC BHP:263	CALC PS FPM:900	BHP :370 (CONT)

SERVICES

..... GATHERING

STAGE DATA:

	STAGE 1	STAGE 2	STAGE 3
FLOW REQ'D MMSCFD	0.000	0.000	0.000
FLOW CALC MMSCFD	1.035	1.035	1.035
CYL HP PER STAGE	94.1	77.9	79.4
SPECIFIC GRAVITY	0.6500	0.6500	0.6500
RATIO OF SP HT 'N'	1.2664	1.2557	1.2549
COMPRSBLY SUC ZS	0.9953	0.9871	0.9598
COMPRSBLY DCH ZD	0.9939	0.9843	0.9597
PRES SUC LINE PSIG	10.00	N/A	N/A
PRES SUC FLG PSIG	10.00	83.07	289.59
PRES DCH FLG PSIG	88.07	294.59	959.97
PRES DCH LINE PSIG	N/A	N/A	950.0
PRES RATIO F/F	4.3362	3.1927	3.2126
TEMP SUC DegF	50.0	120.0	120.0
TEMP CLR DCH DegF	120.0	120.0	120.0

CYLINDER DATA:

	THROW 1	THROW 2	THROW 3	THROW 4
CYLINDER MODEL	8-7/8JG	8-7/8JG	6-1/2JG	3-5/8JG
CYLINDER BORE INCH	8.875	8.875	6.125	3.625
CYL RDP (API) PSIG	341.0	341.0	577.0	1200.0
CYLINDER MAWP PSIG	375.0	375.0	635.0	1320.0
CYLINDER ACTION	DBL	DBL	DBL	DBL
CYLINDER DISP CFM	383.533	383.533	181.048	61.398
PRES SUC INTL PSIG	7.91	7.91	77.77	265.32
TEMP SUC INTL DegF	58.37	58.37	125.75	125.05
CMPSB'Y SUC Zsph	0.9955	0.9955	0.9875	0.9609
PRES DCH INTL PSIG	96.44	96.44	310.97	1033.43
TEMP DCH INTL DegF	271.77	271.77	298.40	305.19
HE SUC GAS VEL FPM	9529	9529	7981	9803
HE DCH GAS VEL FPM	9059	9059	7435	9065
HE SPACRS USED/MAX	0/4	0/4	0/4	0/1
HE VVPKT %CL AVAIL	1.7+81.8	1.7+81.8	1.7+65.8	1.0+49.5
% OF VVPKT USED	0.00	0.00	0.00	25.00
HE MIN CLEARANCE %	14.88	14.88	15.93	12.48
HE TOT CLEARANCE %	16.60	16.60	17.63	25.83
HE VOL EFF %	56.16	56.16	66.50	53.96
CE SUC GAS VEL FPM	9375	9375	7712	8858
CE DCH GAS VEL FPM	8914	8914	7185	8192
CE SPACRS USED/MAX	0/4	0/4	0/4	0/1
CE MIN CLEARANCE %	14.51	14.51	16.59	15.46
CE TOT CLEARANCE %	14.51	14.51	16.59	15.46
CE VOL EFF %	60.65	60.65	68.06	69.59
SUC PSEU-Q HE/CE %	11.7/11.3	11.7/11.3	6.6 /6.1	10.0/8.2
GAS ROD LD OUT #	5490 C	5490 C	6960 C	8242 C
GAS ROD LD IN #	5375 T	5375 T	6552 T	6858 T
GAS ROD LD TOT #	10865	10865	13511	15101
GAS ROD LD REVSL	YES	YES	YES	YES
FLOW CALC MMSCFD	0.517	0.517	1.035	1.035
CYLINDER HP	47.0	47.0	77.9	79.4

NOTE: '*'=OUT OF LIMIT '^'=SPECIAL APPL MMSCFD AT 14.700 PSIA 60F ADD COOLER HP

B.HUXTER - BTB Compressors CUSTOMER:ANDERSON EXPLORATION

ELEVAT'N FT: 2500

QUOTE :UNIT # 9903

INQUIRY :DOUG WHITESIDE

BARMTR PSIA: 13.400

REMARKS :PS=20 PD=950

PROJECT :RED 10-5

AMB'NT DegF: 90

COMPRESSOR DATA:

DRIVER DATA:

FRAME MODEL:JGA/4	STROKE	INCH:3.000	ROD DIA	INCH:1.125	TYPE :GAS ENGINE
MAX RL #TOT:20000	MAX RL #TENS:10000	MAX RL #COMP:11000	MFR :WAUKESHA		
RATED RPM:1800	RATED BHP:560	RATED PS FPM:900	MODEL:F18GL		
CALC RPM:1800	CALC BHP:348	CALC PS FPM:900	BHP :370 (CONT)		

SERVICES

GATHERING

STAGE DATA:

	STAGE 1	STAGE 2	STAGE 3
FLOW REQ'D MMSCFD	0.000	0.000	0.000
FLOW CALC MMSCFD	1.537	1.537	1.537
CYL HP PER STAGE	134.3	100.4	100.8
SPECIFIC GRAVITY	0.6500	0.6500	0.6500
RATIO OF SP HT 'N'	1.2673	1.2582	1.2577
COMPRBLTY SUC ZS	0.9932	0.9823	0.9525
COMPRBLTY DCH ZD	0.9914	0.9795	0.9536
PRES SUC LINE PSIG	20.00	N/A	N/A
PRES SUC FLG PSIG	20.00	118.86	345.67
PRES DCH FLG PSIG	123.86	350.67	960.04
PRES DCH LINE PSIG	N/A	N/A	950.0
PRES RATIO F/F	4.1097	2.7527	2.7110
TEMP SUC DegF	50.0	120.0	120.0
TEMP CLR DCH DegF	120.0	120.0	120.0

CYLINDER DATA:

	THROW 1	THROW 2	THROW 3	THROW 4
CYLINDER MODEL	8-7/8JG	8-7/8JG	6-1/2JG	3-5/8JG
CYLINDER BORE INCH	8.875	8.875	6.125	3.625
CYL RDP (API) PSIG	341.0	341.0	577.0	1200.0
CYLINDER MAWP PSIG	375.0	375.0	635.0	1320.0
CYLINDER ACTION	DBL	DBL	DBL	DBL
CYLINDER DISP CFM	383.533	383.533	181.048	61.398
PRES SUC INTL PSIG	17.01	17.01	111.55	316.65
TEMP SUC INTL DegF	58.08	58.08	125.05	124.38
CMPSB'Y SUC Zsph	0.9936	0.9936	0.9828	0.9537
PRES DCH INTL PSIG	135.34	135.34	370.71	1036.44
TEMP DCH INTL DegF	263.94	263.94	276.58	280.81
HE SUC GAS VEL FPM	9529	9529	7981	9803
HE DCH GAS VEL FPM	9059	9059	7435	9065
HE SPACRS USED/MAX	0/4	0/4	0/4	0/1
HE VVPKT %CL AVAIL	1.7+81.8	1.7+81.8	1.7+65.8	1.0+49.5
% OF VVPKT USED	0.00	0.00	0.00	0.00
HE MIN CLEARANCE %	14.88	14.88	15.93	12.48
HE TOT CLEARANCE %	16.60	16.60	17.63	13.45
HE VOL EFF %	58.55	58.55	71.85	77.43
CE SUC GAS VEL FPM	9375	9375	7712	8858
CE DCH GAS VEL FPM	8914	8914	7185	8192
CE SPACRS USED/MAX	0/4	0/4	0/4	0/1
CE MIN CLEARANCE %	14.51	14.51	16.59	15.46
CE TOT CLEARANCE %	14.51	14.51	16.59	15.46
CE VOL EFF %	62.76	62.76	73.12	75.05
SUC PSEU-Q HE/CE %	11.7/11.4	11.7/11.4	6.6 /6.2	10.1/8.3
GAS ROD LD OUT #	7345 C	7345 C	7759 C	7793 C
GAS ROD LD IN #	7178 T	7178 T	7256 T	6359 T
GAS ROD LD TOT #	14523	14523	15015	14152
GAS ROD LD REVRSL	YES	YES	YES	YES
FLOW CALC MMSCFD	0.769	0.769	1.537	1.537
CYLINDER HP	67.1	67.1	100.4	100.8

NOTE: '*'=OUT OF LIMIT '^'=SPECIAL APPL MMSCFD AT 14.700 PSIA 60F ADD COOLER HP

B.HUXTER - BTB Compressors CUSTOMER:ANDERSON EXPLORATION

ELEVAT'N FT: 2500

QUOTE :UNIT # 9903

INQUIRY :DOUG WHITESIDE

BARMTR PSIA: 13.400

REMARKS :MIN PS LOAD HP

PROJECT :RED 10-5

AMB'NT DegF: 90

COMPRESSOR DATA:

DRIVER DATA:

FRAME MODEL:JGA/4	STROKE	INCH:3.000	ROD DIA	INCH:1.125	TYPE :GAS ENGINE
MAX RL #TOT:20000	MAX RL #TENS:10000	MAX RL #COMP:11000	MFR :WAUKESHA		
RATED RPM:1800	RATED BHP:560	RATED PS FPM:900	MODEL:F18GL		
CALC RPM:1800	CALC BHP:370	CALC PS FPM:900	BHP :370 (CONT)		

SERVICES

GATHERING

STAGE DATA:

	STAGE 1	STAGE 2	STAGE 3
FLOW REQ'D MMSCFD	0.000	0.000	0.000
FLOW CALC MMSCFD	1.685	1.685	1.685
CYL HP PER STAGE	146.3	107.9	103.4
SPECIFIC GRAVITY	0.6500	0.6500	0.6500
RATIO OF SP HT 'N'	1.2674	1.2585	1.2587
COMPRBLTY SUC ZS	0.9926	0.9808	0.9493
COMPRBLTY DCH ZD	0.9907	0.9780	0.9510
PRES SUC LINE PSIG	23.00	N/A	N/A
PRES SUC FLG PSIG	23.00	130.13	369.70
PRES DCH FLG PSIG	135.13	374.70	959.97
PRES DCH LINE PSIG	N/A	N/A	950.0
PRES RATIO F/F	4.0805	2.7040	2.5408
TEMP SUC DegF	50.0	120.0	120.0
TEMP CLR DCH DegF	120.0	120.0	120.0

MIN PS TO LOAD
HP=23 psig

CYLINDER DATA:

	THROW 1	THROW 2	THROW 3	THROW 4
CYLINDER MODEL	8-7/8JG	8-7/8JG	6-1/2JG	3-5/8JG
CYLINDER BORE INCH	8.875	8.875	6.125	3.625
CYL RDP (API) PSIG	341.0	341.0	577.0	1200.0
CYLINDER MAWP PSIG	375.0	375.0	635.0	1320.0
CYLINDER ACTION	DBL	DBL	DBL	DBL
CYLINDER DISP CFM	383.533	383.533	181.048	61.398
PRES SUC INTL PSIG	19.74	19.74	122.18	338.62
TEMP SUC INTL DegF	58.04	58.04	124.97	124.13
CMPSB'Y SUC Zsph	0.9930	0.9930	0.9813	0.9506
PRES DCH INTL PSIG	147.57	147.57	396.17	1037.55
TEMP DCH INTL DegF	262.91	262.91	273.98	271.47
HE SUC GAS VEL FPM	9529	9529	7981	9803
HE DCH GAS VEL FPM	9059	9059	7435	9065
HE SPACRS USED/MAX	0/4	0/4	0/4	0/1
HE VVPKT %CL AVAIL	1.7+81.8	1.7+81.8	1.7+65.8	1.0+49.5
% OF VVPKT USED	0.00	0.00	0.00	0.00
HE MIN CLEARANCE %	14.88	14.88	15.93	12.48
HE TOT CLEARANCE %	16.60	16.60	17.63	13.45
HE VOL EFF %	58.85	58.85	72.45	79.10
CE SUC GAS VEL FPM	9375	9375	7712	8858
CE DCH GAS VEL FPM	8914	8914	7185	8192
CE SPACRS USED/MAX	0/4	0/4	0/4	0/1
CE MIN CLEARANCE %	14.51	14.51	16.59	15.46
CE TOT CLEARANCE %	14.51	14.51	16.59	15.46
CE VOL EFF %	63.03	63.03	73.69	76.93
SUC PSEU-Q HE/CE %	11.7/11.4	11.7/11.4	6.6/6.2	10.2/8.3
GAS ROD LD OUT #	7937 C	7937 C	8208 C	7599 C
GAS ROD LD IN #	7753 T	7753 T	7667 T	6144 T
GAS ROD LD TOT #	15689	15689	15874	13743
GAS ROD LD REVRSL	YES	YES	YES	YES
FLOW CALC MMSCFD	0.842	0.842	1.685	1.685
CYLINDER HP	73.1	73.1	107.9	103.4

NOTE:~*~=OUT OF LIMIT ~^~=SPECIAL APPL MMSCFD AT 14.700 PSIA 60F ADD COOLER HP

DATE:06-25-1999

ARIEL - VER 5.2A

PAGE: 3

B.HUXTER - BTB Compressors CUSTOMER:ANDERSON EXPLORATION ELEVAT'N FT: 2500
 QUOTE :UNIT # 9903 INQUIRY :DOUG WHITESIDE BARMTR PSIA: 13.400
 REMARKS :PS=30 PD=950 PROJECT :RED 10-5 AMB'NT DegF: 90

COMPRESSOR DATA:

DRIVER DATA:

FRAME MODEL:JGA/4	STROKE	INCH:3.000	ROD DIA	INCH:1.125	TYPE :GAS ENGINE
MAX RL #TOT:20000	MAX RL #TENS:10000		MAX RL #COMP:11000		MFR :WAUKESHA
RATED RPM:1800	RATED BHP:560		RATED PS FPM:900		MODEL:F18GL
CALC RPM:1800	CALC BHP:370		CALC PS FPM:900		BHP :370 (CONT)

SERVICES

..... GATHERING

STAGE DATA:

	STAGE 1	STAGE 2	STAGE 3
FLOW REQ'D MMSCFD	0.000	0.000	0.000
FLOW CALC MMSCFD	1.781	1.781	1.781
CYL HP PER STAGE	140.1	112.8	104.8
SPECIFIC GRAVITY	0.6500	0.6500	0.6500
RATIO OF SP HT 'N'	1.2693	1.2586	1.2594
COMPRBLTY SUC ZS	0.9912	0.9798	0.9473
COMPRBLTY DCH ZD	0.9893	0.9770	0.9493
PRES SUC LINE PSIG	30.00	N/A	N/A
PRES SUC FLG PSIG	30.00	137.51	385.37
PRES DCH FLG PSIG	142.51	390.37	960.01
PRES DCH LINE PSIG	N/A	N/A	950.0
PRES RATIO F/F	3.5923	2.6756	2.4410
TEMP SUC DegF	50.0	120.0	120.0
TEMP CLR DCH DegF	120.0	120.0	120.0

CYLINDER DATA:

	THROW 1	THROW 2	THROW 3	THROW 4
CYLINDER MODEL	8-7/8JG	8-7/8JG	6-1/2JG	3-5/8JG
CYLINDER BORE INCH	8.875	8.875	6.125	3.625
CYL RDP (API) PSIG	341.0	341.0	577.0	1200.0
CYLINDER MAWP PSIG	375.0	375.0	635.0	1320.0
CYLINDER ACTION	DBL	DBL	DBL	DBL
CYLINDER DISP CFM	383.533	383.533	181.048	61.398
PRES SUC INTL PSIG	26.10	26.10	129.14	352.95
TEMP SUC INTL DegF	57.34	57.34	124.92	123.97
CMPSB'Y SUC Zsph	0.9916	0.9916	0.9804	0.9485
PRES DCH INTL PSIG	155.93	155.93	412.78	1038.35
TEMP DCH INTL DegF	244.32	244.32	272.46	265.73
HE SUC GAS VEL FPM	9529	9529	7981	9803
HE DCH GAS VEL FPM	9059	9059	7435	9065
HE SPACRS USED/MAX	0/4	0/4	0/4	0/1
HE VVPKT %CL AVAIL	1.7+81.8	1.7+81.8	1.7+65.8	1.0+49.5
% OF VVPKT USED	17.04	17.04	0.00	0.00
HE MIN CLEARANCE %	14.88	14.88	15.93	12.48
HE TOT CLEARANCE %	30.55	30.55	17.63	13.45
HE VOL EFF %	40.28	40.28	72.80	80.08
CE SUC GAS VEL FPM	9375	9375	7712	8858
CE DCH GAS VEL FPM	8914	8914	7185	8192
CE SPACRS USED/MAX	0/4	0/4	0/4	0/1
CE MIN CLEARANCE %	14.51	14.51	16.59	15.46
CE TOT CLEARANCE %	14.51	14.51	16.59	15.46
CE VOL EFF %	67.71	67.71	74.02	78.05
SUC PSEU-Q HE/CE %	11.3/11.4	11.3/11.4	6.6 /6.2	10.2/8.3
GAS ROD LD OUT #	8067 C	8067 C	8499 C	7473 C
GAS ROD LD IN #	7868 T	7868 T	7934 T	6004 T
GAS ROD LD TOT #	15934	15934	16433	13477
GAS ROD LD REVRSL	YES	YES	YES	YES
FLOWCALC MMSCFD	0.891	0.891	1.781	1.781
CYLINDER HP	70.1	70.1	112.8	104.8

DATE:06-25-1999

ARIEL - VER 5.2A

PAGE: 2

B.HUXTER - BTB Compressors CUSTOMER:ANDERSON EXPLORATION

ELEVAT'N FT: 2500

QUOTE :UNIT # 9903

INQUIRY :DOUG WHITESIDE

BARMTR PSIA: 13.400

REMARKS :PS=40 PD=950

PROJECT :RED 10-5

AMB'NT DegF: 90

COMPRESSOR DATA:

DRIVER DATA:

FRAME MODEL:JGA/4	STROKE	INCH:3.000	ROD DIA	INCH:1.125	TYPE :GAS ENGINE
MAX RL #TOT:20000	MAX RL #TENS:10000		MAX RL #COMP:11000		MFR :WAUKESHA
RATED RPM:1800	RATED BHP:560		RATED PS FPM:900		MODEL:F18GL
CALC RPM:1800	CALC BHP:370		CALC PS FPM:900		BHP :370 (CONT)

SERVICES

..... GATHERING

STAGE DATA:

	.....	STAGE 1	.....	STAGE 2	.....	STAGE 3
FLOW REQ'D MMSCFD	.....	0.000	.....	0.000	.....	0.000
FLOW CALC MMSCFD	.....	1.907	.....	1.907	.....	1.907
CYL HP PER STAGE	.....	132.8	.....	119.1	.....	106.3
SPECIFIC GRAVITY	.....	0.6500	.....	0.6500	.....	0.6500
RATIO OF SP HT 'N'	.....	1.2715	.....	1.2588	.....	1.2602
COMPRSBLY SUC ZS	.....	0.9892	.....	0.9785	.....	0.9447
COMPRSBLY DCH ZD	.....	0.9873	.....	0.9757	.....	0.9472
PRES SUC LINE PSIG	.....	40.00	.....	N/A	.....	N/A
PRES SUC FLG PSIG	.....	40.00	.....	147.09	.....	405.66
PRES DCH FLG PSIG	.....	152.09	.....	410.66	.....	959.99
PRES DCH LINE PSIG	.....	N/A	.....	N/A	.....	950.0
PRES RATIO F/F	.....	3.0991	.....	2.6423	.....	2.3228
TEMP SUC DegF	.....	50.0	.....	120.0	.....	120.0
TEMP CLR DCH DegF	.....	120.0	.....	120.0	.....	120.0

CYLINDER DATA:

	THROW 1	THROW 2	THROW 3	THROW 4
CYLINDER MODEL	8-7/8JG	8-7/8JG	6-1/2JG	3-5/8JG
CYLINDER BORE INCH	8.875	8.875	6.125	3.625
CYL RDP (API) PSIG	341.0	341.0	577.0	1200.0
CYLINDER MAWP PSIG	375.0	375.0	635.0	1320.0
CYLINDER ACTION	DBL	DBL	DBL	DBL
CYLINDER DISP CFM	383.533	383.533	181.048	61.398
PRES SUC INTL PSIG	35.18	35.18	138.19	371.49
TEMP SUC INTL DegF	56.55	56.55	124.86	123.78
CMPSB'Y SUC Zsph	0.9896	0.9896	0.9791	0.9459
PRES DCH INTL PSIG	166.81	166.81	434.28	1039.27
TEMP DCH INTL DegF	223.43	223.43	270.65	258.64
HE SUC GAS VEL FPM	9529	9529	7981	9803
HE DCH GAS VEL FPM	9059	9059	7435	9065
HE SPACRS USED/MAX	0/4	0/4	0/4	0/1
HE VVPKT %CL AVAIL	1.7+81.8	1.7+81.8	1.7+65.8	1.0+49.5
% OF VVPKT USED	7.01	7.01	0.00	0.00
HE MIN CLEARANCE %	14.88	14.88	15.93	12.48
HE TOT CLEARANCE %	22.34	22.34	17.63	13.45
HE VOL EFF %	61.49	61.49	73.21	81.25
CE SUC GAS VEL FPM	9375	9375	7712	8858
CE DCH GAS VEL FPM	8914	8914	7185	8192
CE SPACRS USED/MAX	4/4	4/4	0/4	0/1
CE MIN CLEARANCE %	14.51	14.51	16.59	15.46
CE TOT CLEARANCE %	43.43	43.43	16.59	15.46
CE VOL EFF %	31.73	31.73	74.40	79.38
SUC PSEU-Q HE/CE %	11.8/10.9	11.8/10.9	6.6 /6.2	10.2/8.3
GAS ROD LD OUT #	8187 C	8187 C	8876 C	7309 C
GAS ROD LD IN #	7968 T	7968 T	8279 T	5822 T
GAS ROD LD TOT #	16155	16155	17156	13131
GAS ROD LD REVRSL	YES	YES	YES	YES
FLOW CALC MMSCFD	0.954	0.954	1.907	1.907
CYLINDER HP	66.4	66.4	119.1	106.3

B.HUXTER - BTB Compressors CUSTOMER:ANDERSON EXPLORATION

ELEVAT'N FT: 2500

QUOTE :UNIT # 9903

INQUIRY :DOUG WHITESIDE

BARMTR PSIA: 13.400

REMARKS :PS=50 PD=950

PROJECT :RED 10-5

AMB'NT DegF: 90

COMPRESSOR DATA:

DRIVER DATA:

FRAME MODEL:JGA/4	STROKE	INCH:3.000	ROD DIA	INCH:1.125	TYPE :GAS ENGINE
MAX RL #TOT:20000	MAX RL #TENS:10000		MAX RL #COMP:11000		MFR :WAUKESHA
RATED RPM:1800	RATED BHP:560		RATED PS FPM:900		MODEL:F18GL
CALC RPM:1800	CALC BHP:370		CALC PS FPM:900		BHP :370 (CONT)

SERVICES

..... GATHERING

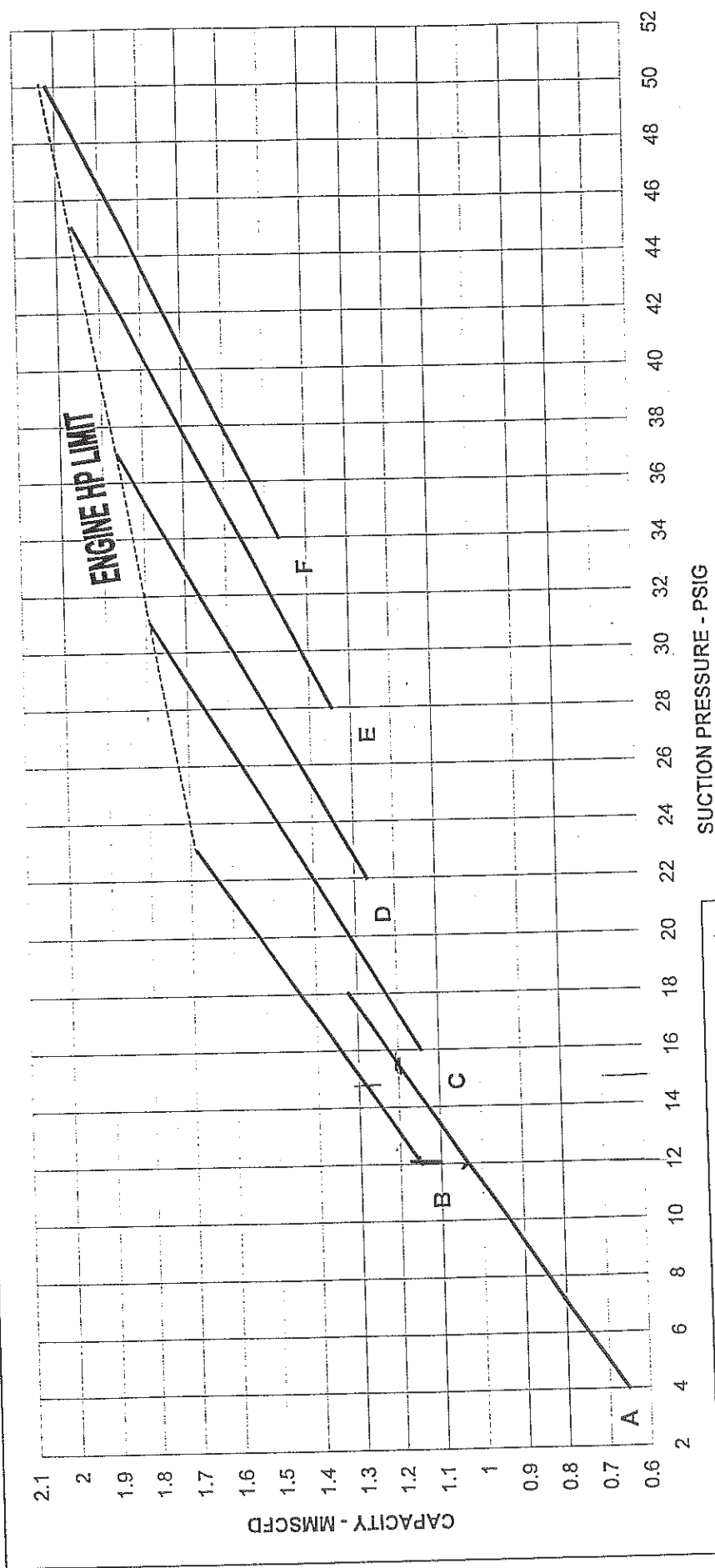
STAGE DATA:	STAGE 1	STAGE 2	STAGE 3
FLOW REQ'D MMSCFD	0.000	0.000	0.000
FLOW CALC MMSCFD	2.021	2.021	2.021
CYL HP PER STAGE	125.9	124.8	107.2
SPECIFIC GRAVITY	0.6500	0.6500	0.6500
RATIO OF SP HT 'N'	1.2733	1.2590	1.2608
COMPRBLTY SUC ZS	0.9872	0.9774	0.9424
COMPRBLTY DCH ZD	0.9855	0.9745	0.9454
PRES SUC LINE PSIG	50.00	N/A	N/A
PRES SUC FLG PSIG	50.00	155.68	423.79
PRES DCH FLG PSIG	160.68	428.79	959.95
PRES DCH LINE PSIG	N/A	N/A	950.0
PRES RATIO F/F	2.7458	2.6152	2.2264
TEMP SUC DegF	50.0	120.0	120.0
TEMP CLR DCH DegF	120.0	120.0	120.0

CYLINDER DATA:

	THROW 1	THROW 2	THROW 3	THROW 4
CYLINDER MODEL	8-7/8JG	8-7/8JG	6-1/2JG	3-5/8JG
CYLINDER BORE INCH	8.875	8.875	6.125	3.625
CYL RDP (API) PSIG	341.0	341.0	577.0	1200.0
CYLINDER MAWP PSIG	375.0	375.0	635.0	1320.0
CYLINDER ACTION	DBL	DBL	DBL	DBL
CYLINDER DISP CFM	383.533	383.533	181.048	61.398
PRES SUC INTL PSIG	44.26	44.26	146.29	388.04
TEMP SUC INTL DegF	55.90	55.90	124.81	123.61
CMPSB'Y SUC Zsph	0.9876	0.9876	0.9780	0.9436
PRES DCH INTL PSIG	176.59	176.59	453.50	1040.06
TEMP DCH INTL DegF	206.27	206.27	269.16	252.62
HE SUC GAS VEL FPM	9529	9529	7981	9803
HE DCH GAS VEL FPM	9059	9059	7435	9065
HE SPACRS USED/MAX	0/4	0/4	0/4	0/1
HE VVPKT %CL AVAIL	1.7+81.8	1.7+81.8	1.7+65.8	1.0+49.5
% OF VVPKT USED	32.90	32.90	0.00	0.00
HE MIN CLEARANCE %	14.88	14.88	15.93	12.48
HE TOT CLEARANCE %	43.52	43.52	17.63	13.45
HE VOL EFF %	41.51	41.51	73.55	82.22
CE SUC GAS VEL FPM	9375	9375	7712	8858
CE DCH GAS VEL FPM	8914	8914	7185	8192
CE SPACRS USED/MAX	4/4	4/4	0/4	0/1
CE MIN CLEARANCE %	14.51	14.51	16.59	15.46
CE TOT CLEARANCE %	43.43	43.43	16.59	15.46
CE VOL EFF %	41.62	41.62	74.72	80.48
SUC PSEU-Q HE/CE %	11.5/11.4	11.5/11.4	6.6 /6.2	10.2/8.4
GAS ROD LD OUT #	8240 C	8240 C	9213 C	7162 C
GAS ROD LD IN #	8001 T	8001 T	8587 T	5660 T
GAS ROD LD TOT #	16241	16241	17799	12822
GAS ROD LD REVRSL	YES	YES	YES	YES
FLOW CALC MMSCFD	1.010	1.010	2.021	2.021
CYLINDER HP	62.9	62.9	124.8	107.2

$P_s = 50 \text{ psig}$
 $P_d = 950 \text{ psig}$
 $Q = 2.0 \text{ MMSCFD}$

DESIGN POINT FOR
VALVES SELECTION



NOTE: Capacity performance is expected and not guaranteed.
A guarantee can be provided for a single design point on request.

WARNING - VALVE SPRING RANGE:

To achieve high efficiency, Ariel valves are sprung to cover a limited, pre-selected pressure band. Valve selection is based on the start up conditions as designated by the purchaser. Refer to the Performance Section of the Parts and Instruction Manual for spring ranges of the supplied valves.

NOTE: If the start up conditions have changed, contact your nearest Service Branch to re-evaluate spring ranges and revise as required.

Incorrect valve springing MAY CAUSE VALVE FAILURE.

LOADING TABLE													Valves Installed at time of shipment	
STEP	ITEM	A	B	C	D	E	F	G	H	I	J		SUCTION	DISCHARGE
8-7/8" JG CYLINDER	%V VCP	0	0	20	0	20	33						N/A	N/A
	HCA'S	0	0	0	4	4	4						N/A	N/A
8-7/8" JG CYLINDER	%V VCP	0	0	20	0	20	33						N/A	N/A
	HCA'S	0	0	0	4	4	4						N/A	N/A
6-1/8" JG CYLINDER	%V VCP	30	0	0	0	0	0						N/A	N/A
	HCA'S	0	0	0	0	0	0						N/A	N/A
3-5/8" JG CYLINDER	%V VCP	70	0	0	0	0	0						N/A	N/A
	HCA'S	0	0	0	0	0	0						N/A	N/A

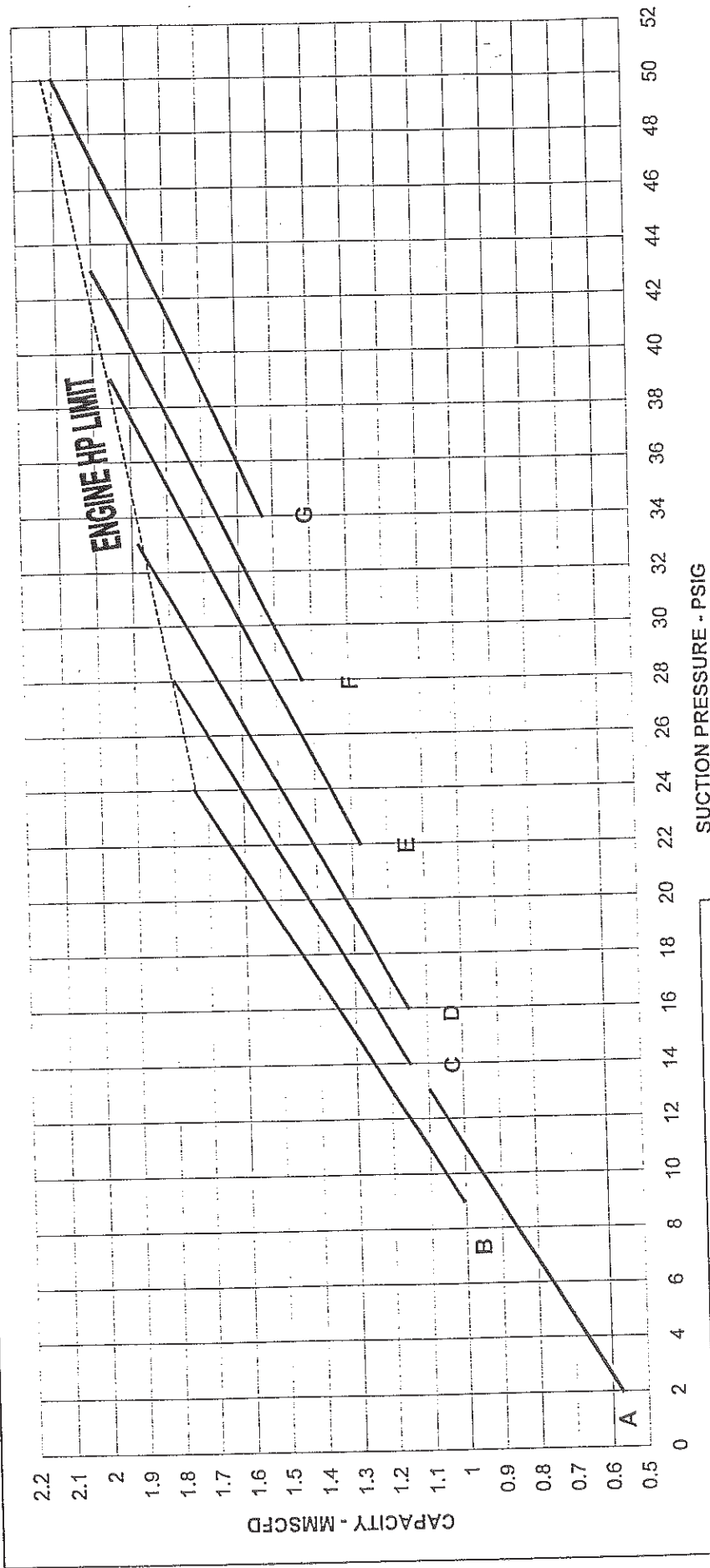


PERFORMANCE JRVE - ESTIMATED
ANDERSON EXPLORATION, RED 10-5

MODEL 400S
UNIT # 9903

Specific Gravity = 0.6500
Suction Temp = 50 F
Aftercooler = 120 F

850 PSIG DISCHARGE - 3 STAGE CONFIGURATION - 1800 RPM



NOTE: Capacity performance is expected and not guaranteed.
A guarantee can be provided for a single design point on request.

WARNING - VALVE SPRING RANGE:
To achieve high efficiency, Ariel valves are sprung to cover a limited, pre-selected pressure band. Valve selection is based on the start up conditions as designated by the purchaser. Refer to the Performance Section of the Parts and Instruction Manual for spring ranges of the supplied valves.
NOTE: If the start up conditions have changed, contact your nearest Service Branch to re-evaluate spring ranges and revise as required.

LOADING TABLE													Valves Installed at time of shipment	
STEP	ITEM	A	B	C	D	E	F	G	H	I	J		SUCTION	DISCHARGE
8-7/8" JG CYLINDER	%V VCP	0	0	10	20	0	4	10	26				N/A	N/A
	HCA'S	0	0	0	0	4	4	4	4				N/A	N/A
8-7/8" JG CYLINDER	%V VCP	0	0	10	20	0	10	26	4				N/A	N/A
	HCA'S	0	0	0	0	4	4	4	4				N/A	N/A
6-1/8" JG CYLINDER	%V VCP	30	0	0	0	0	0	0	0				N/A	N/A
	HCA'S	0	0	0	0	0	0	0	0				N/A	N/A
3-5/8" JG CYLINDER	%V VCP	70	0	0	0	0	0	0	0				N/A	N/A
	HCA'S	0	0	0	0	0	0	0	0				N/A	N/A

Incorrect valve springing MAY CAUSE VALVE FAILURE.

FOR: Enerflex Leasing Limited

AREA:

LSD:

ENGINE WAUKESHA F18GL S/N: C-61414/1
Ignition: Module: CPU-95 Coils: Altronic P/N: 591-011B
Plugs: Champion RTB-80N
* Champion RBT 502UP
Starter: IR150 LFGE-21-RH6
Oil Filter: Wauk P/N 304126 (3)
Air Filter: Wauk P/N: 208349 (Prim) 169180F (Sec) Fuel Filter: Headline 385A-70C
CRN# : N/A
*Fuel Gas Filter /Separator S/N: 98-914 MAWP: 285 psig Elements: Peco FG-36-MS (1)
CRN# : OH1642.215346
*UPS S/N: N/A Belts: N/A

COOLER AIR-X-CHANGERS 93VI
Fan: Moore 93", 6 Blade, Left Hand, 40ED Pitch: 12.2° at Cleviss
Shaft Bearings: 2-7/16" Link Belt P339 (2) Idler: Dodge Van and Blower 2-3/16"
Drive Belts: 5VX-1400 (2) Louvre Actuator: Garzo 501-12
Coolant Hoses: Aeroquip FC 300-32, 2"
AW Sect. S/N: JW Sect. S/N: 984441.1/2
IC Sect. S/N: 984441.3 MAWP: 655 AC Sect S/N: 984441.5 MAWP: 1315
IC2 Sect. S/N: 984441.4 MAWP: 655
CRN# : H6616.213 CRN#: K7602.213

PROCESS Inlet Separator: 24" Dia S/N: 98-912 MAWP: 285
CRN# : L4506.213
Elements: (N/A) PECO FG-36-MS
Interstage Meshpad Scubbers: 12" Dia S/N: 98-911 MAWP: 740 CRN: L4428.213
Relief Valves: LHS (Cyl #1) Mercer set @ 230 Psig
RHS (Cyl #2) Mercer set @ 655 Psig
RHS (Stg #3) Mercer set @ 1315 Psig
*Suction Thermal Taylor set @ 285 Psig
*Suction Full Port N/A set @ N/A Psig

Orifices: Refer to the Process Flow Sheet in the Drawing Section of your Operating Manual.

Stage 1 Discharge Bottle S/N: N/A MAWP: N/A Psig at 300°F CRN#: N/A
Stage 2 Discharge Bottle S/N: N/A MAWP: N/A Psig at 300°F CRN#: N/A
Stage 3 Discharge Bottle S/N: N/A MAWP: N/A Psig at 300°F CRN#: N/A

*Slugcatcher S/N: N/A MAWP: *Blowcase S/N: N/A
CRN# N/A CRN# N/A

* Auto Bypass: Model: N/A Orifice: N/A Action: F/O
Controller Action: Direct Bourdon Tube Range: Psi, output

* Auto Suction: Model: N/A Orifice: N/A Action: F/C
Controller Action: Reverse Bourdon Tube Range: N/A Psi, output
Compressor Unit Inlet System: Refer to Process Flow Sheet in the Drawing section of your Operating Manual.

Checked By:

PANEL Process Pressure Gauge Ranges

Stg # 1 suction	:	0 - 200	Psig
Stg # 1 discharge	:	0 - 600	Psig
Stg # 2 discharge	:	0 - 2000	Psig
Stg # 3 discharge	:	0 - 2000	Psig

Note: Process Pressure and Temperature Shutdown Settings should be reset to reflect actual operating field conditions.

*Differential Pressure Set Points: Stg #1 N/A Psid, Stg #2 N/A Psid Stg #3 N/A Psid

FLUIDS Oil: Esso Type: GLX40 Engine Capacity: 217.3 litres (48.2 Imp gal)
Comp. Capacity: 23 litres (5 Imp gal)
Engine Coolant: UCARTHERM 50/50 Capacity: 275 litres (61 Imp gal)

COMPRESSOR

ARIEL JGA/4 Frame S/N: F-13775
Oil Filter: Ariel P/N: A-0661

CONFIGURATION	THROW #1	THROW #3	THROW #2	THROW #4
Cylinder #	2	4	3	1
Stage #	3	2	1	1
Cylinder Bore, In.	3.625	6 1/8	8.875	8 7/8
Class	JG	JG	JG	JG
MAWP, Psig	1320	635	375	230
Cylinder S/N	C-41937	C-39579	C-40682	C-3845

CLEARANCE FEATURES

High Clearance Assy., Qty:	N/A	N/A	N/A	N/A
VVCP, S/N (or NA):	U23460	U21701	U22517	U615

VALVES

Suction: Part# (as shipped)	N/A ELL Supplied	N/A ELL Supplied	N/A ELL Supplied	N/A ELL Supplied
Discharge: Part # (as shipped)	N/A ELL Supplied	N/A ELL Supplied	N/A ELL Supplied	N/A ELL Supplied

Valve Operating Ranges: Refer to the Performance Section in your Operating Manual.

BALANCE AND LUBRICATION: Refer to the Frame section in your Operating Manual.

COUPLING

Type: Thomas

ELECTRICAL CSA Reg#: 407554

* Denotes Options

Checked by: