

MATERIAL SPECIFICATIONS

PAINT: OVERALL UNIT: VALSPAR 20-F-34 "WARM GRAY".
...

PRIMER: COMMERCIAL IRON OXIDE NON-LIFTING PRIMER.

TUBING: ALL PROCESS TUBING TO BE 316SS C/W 316SS SWAGelok FITTINGS w/ STAINLESS STEEL FERRULES. ALL INSTRUMENT TUBING TO BE 304SS C/W CADMIUM PLATED SWAGelok FITTINGS w/ STAINLESS STEEL FERRULES.

PROCESS: 100% X-RAY, 1/8" CORROSION ALLOWANCE, STRESS RELIEVING, PICKLE & OIL, AND HYDROTESTING (1.5xMAWP).

SCRUBBERS: FULL X-RAY PER UW11a(3b), 1/8" CORROSION ALLOWANCE, HYDROTESTING (1.5xMAWP), STRESS RELIEVING, AND PICKLE & OIL.

OIL: ESSOLUBE GMA-40 IN COMPRESSOR FRAME.

BILL OF MATERIALS: ON SEPARATE SHEET TO BE PROVIDED WITH DRAWING.

NOTE #1: SPACER PLATES ARE PROVIDED FOR FUTURE INSTALLATION OF DRIFICE PLATES (IF REQUIRED)

NOTE #2: ALL PIPE NIPPLES IN CONTACT WITH PROCESS VESSELS ARE TO BE SCH. XXS.

NOTE #3: BYPASS/BLOWDOWN LINES ARE TO BE BUTTWELDED.

NOTE #4: BOLTING ON ALL PROCESS FLANGE CONNECTIONS TO BE: SA-193-B7M STUDS, SA-194-2HM NUTS, AND 316SS GASKETS.

NOTE #5: METER RUN IS A JUNIOR TYPE w/ BUTTWELDED ENDS. METER RUN, VALVES, 5 VALVE MANIFOLD, AND 2 PEN RECORDER ARE TO BE SUPPLIED BY GULF.

GENERAL INFORMATION

COMPRESSOR FRAME - ENERGY INDUSTRIES FE-332D-22
- RATED RPM = 1800
- SERIAL NUMBER = 32F819

MOTOR - TOSHIBA TEFC
- RATED 300 BHP @ 1800 RPM
- 460V/3PH/60Hz
- SERIAL NUMBER = 95912259
- GEA RAINEY J54-0743
- SERIAL NUMBER = T0232

COOLER - GEA RAINEY J54-0743
- SERIAL NUMBER = T0232

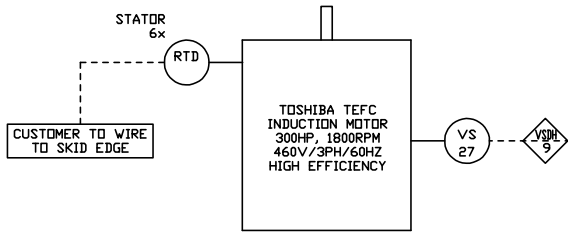
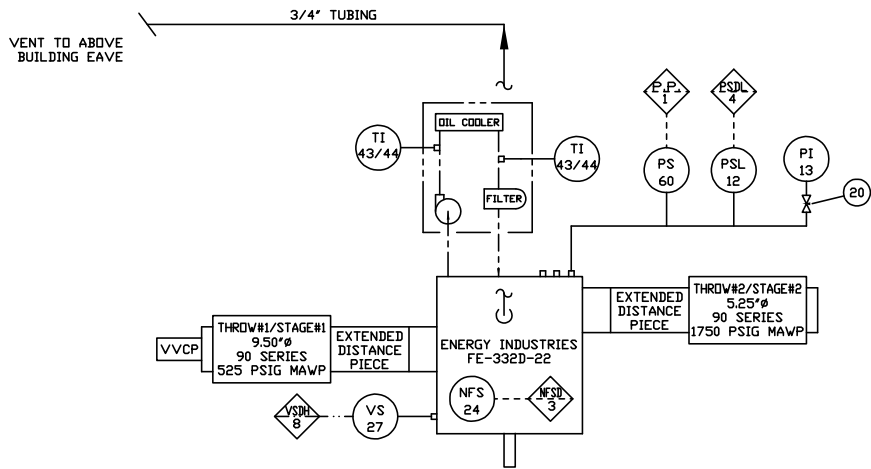
CYL. STAGE #1 CRANK #1 - SERIAL NUMBER = 90C550
CYL. STAGE #1 CRANK #2 - SERIAL NUMBER = 90C551

LEGEND

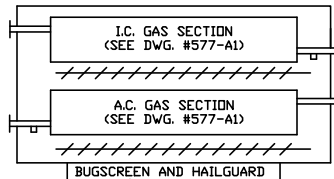
— PROCESS LINES
— FUEL GAS, START GAS, DRAIN AND VENT LINES
--- SUPPLY (CLEAN) OIL LINES
--- WASTE OIL LINES
--- WATER LINES
--- PNEUMATIC TUBING
--- ELECTRICAL WIRING
○ SPACER
○ SPECTICAL BLIND
▲ SCREEN (CONE STRAINER)
◇ PANEL CONNECTION (ELECTRIC)
◇ PANEL CONNECTION (PNEUMATIC)
○ LOCAL MOUNTED GAUGE
○ LOCAL MOUNTED INSTRUMENT

NOTE: SOUR PROCESS GAS

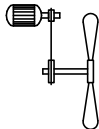
4	'AS-BUILT'/FUEL GAS SCRUBBER AND PIPING ADDED	02/06/96	D.W.
3	ADDED METER RUN AND PANEL TAG NUMBERS	11/17/95	D.W.
2	REVISED AS PER CUSTOMER REQUESTS AND ISSUED FOR CONSTRUCTION	11/02/95	D.W.
1	ISSUED FOR APPROVAL	10/30/95	D.W.
0	ISSUED FOR PRELIMINARY VIEWING	10/24/95	D.W.
No.	REVISION	DATE	BY
ENERGY INDUSTRIES A Division of EnServ Corporation			
4303 - 11TH STREET N.E. CALGARY ALBERTA CANADA			
TITLE: PROCESS FLOW DIAGRAM TOSHIBA HIGH EFFICIENCY 300HP / FE-332D-22 ENERGY INDUSTRIES J54-0743		CUSTOMER: GULF CANADA RESOURCES LTD. c/o: QUANTEL ENGINEERING ZAMA 9-28 COMPRESSOR LSD: 09-28-117-04 W6M	
SCALE: NONE	DATE: 10/23/95	BY: D.W.	DATE RELEASED: RELEASED BY:
UNIT #577		DRAWING NO: 577-A1	REV.4



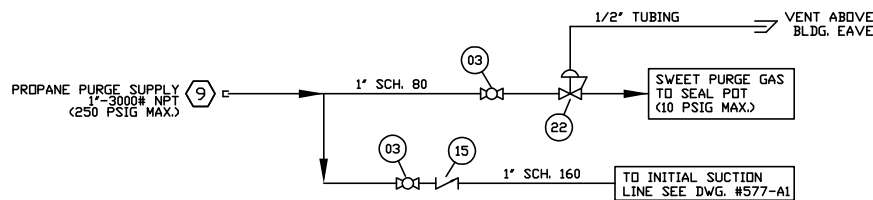
GEA RAINEY
J54-0743
(FAN SPEED - 850RPM/5HP)



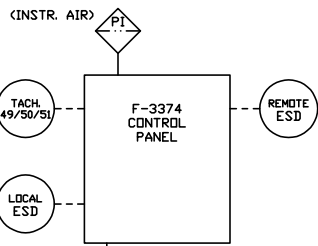
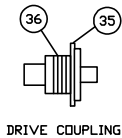
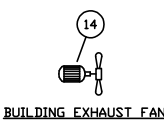
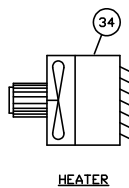
COOLER FAN MOTOR
7 1/2HP 460VAC/3PH/60Hz
EXPLOSION PROOF 850RPM



MAJOR EQUIPMENT INSTRUMENTATION

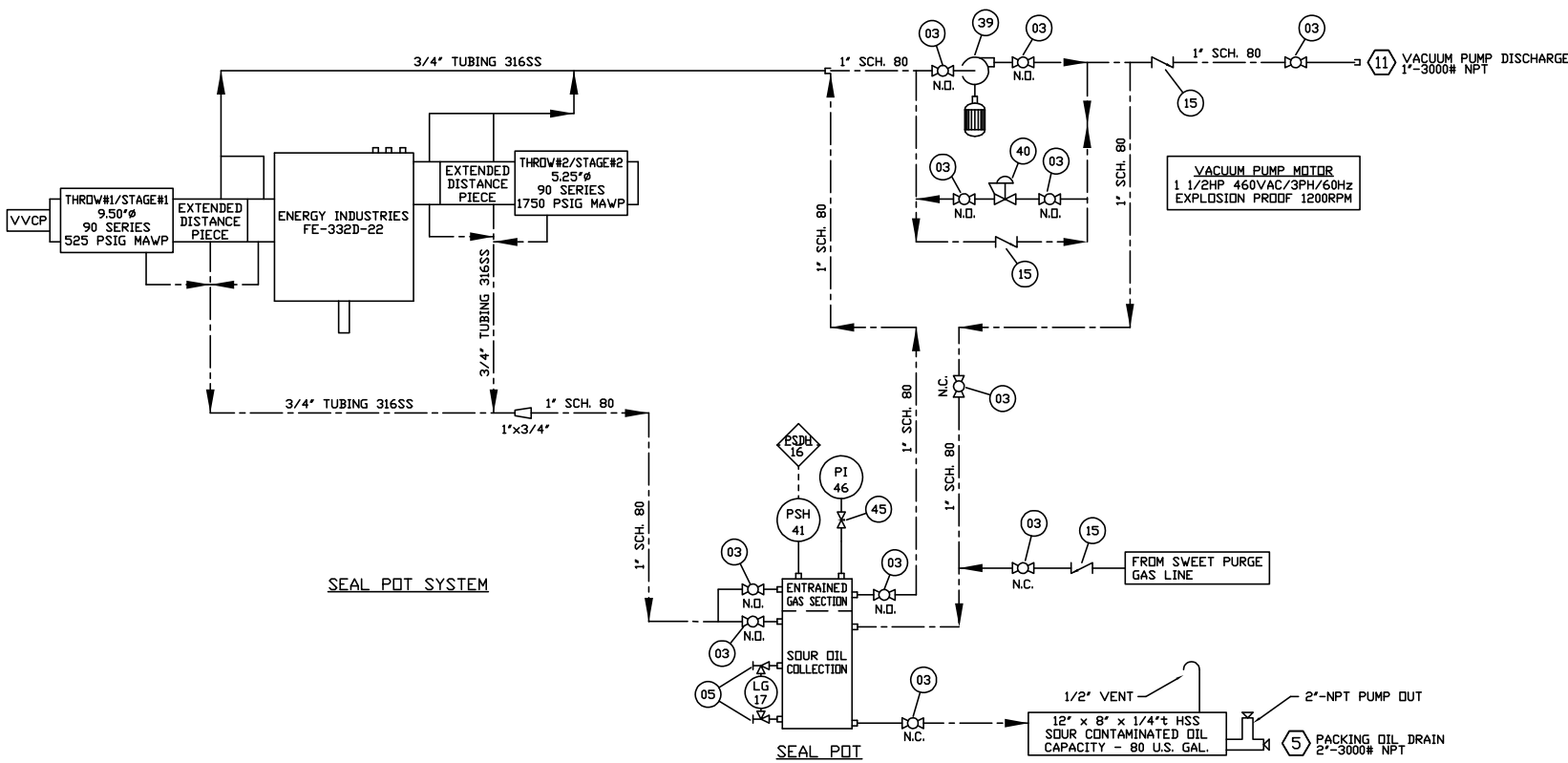


PROPANE PURGE SYSTEM

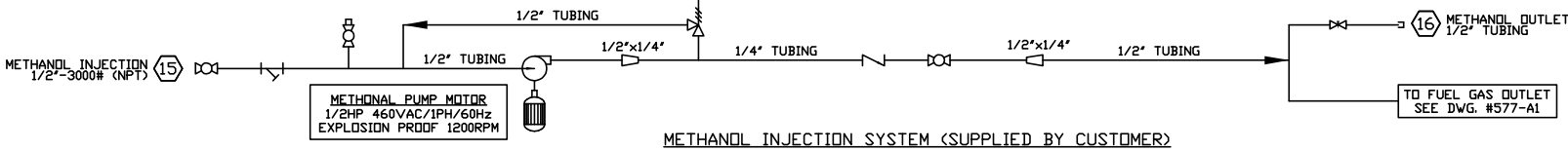


INSTRUMENT AIR SUPPLY
1 inch SCH. 80

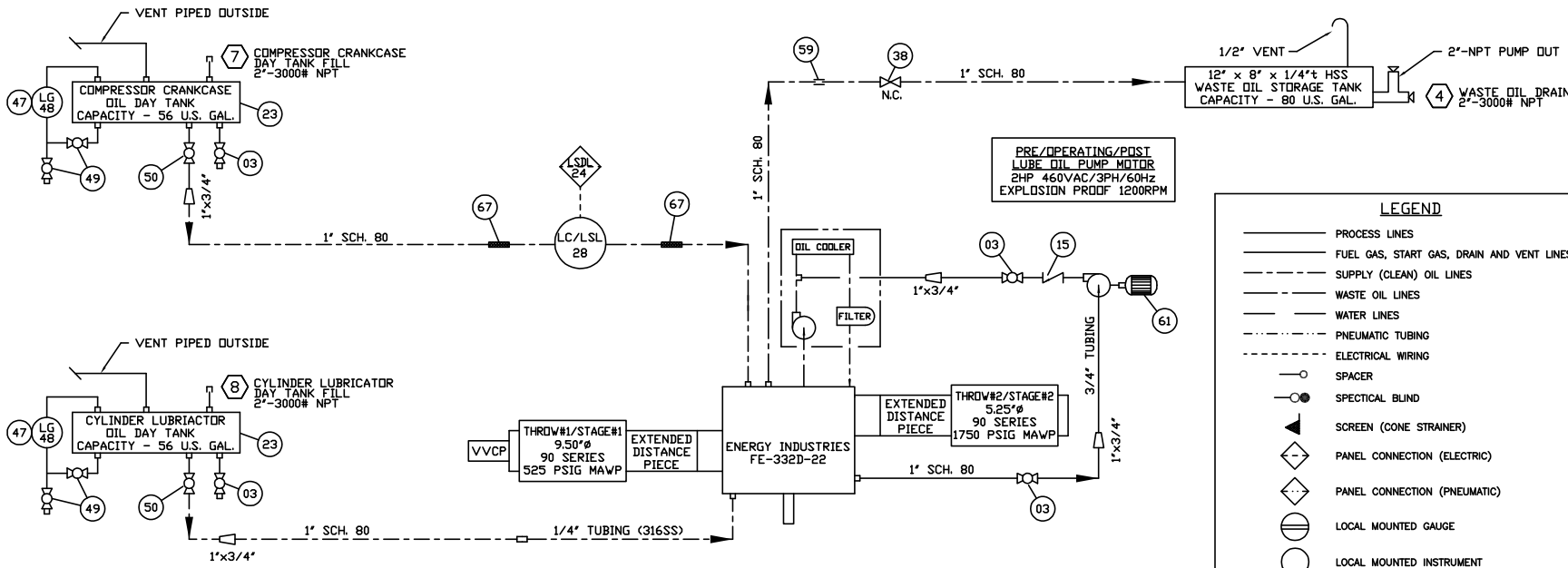
CONTROL PANEL AND MISCELLANEOUS



SEAL POT SYSTEM



METHANOL INJECTION SYSTEM (SUPPLIED BY CUSTOMER)



LEGEND

- PROCESS LINES
- FUEL GAS, START GAS, DRAIN AND VENT LINES
- SUPPLY (CLEAN) OIL LINES
- WASTE OIL LINES
- WATER LINES
- PNEUMATIC TUBING
- ELECTRICAL WIRING
- SPACER
- SPECTICAL BLIND
- SCREEN (CONE STRAINER)
- PANEL CONNECTION (ELECTRIC)
- PANEL CONNECTION (PNEUMATIC)
- LOCAL MOUNTED GAUGE
- LOCAL MOUNTED INSTRUMENT

NOTE: SOUR PROCESS GAS

NOTES:

1. FOR ALL OTHER NOTES AND GENERAL INFORMATION SEE DWG. #577-A1

No.	REVISION	DATE	BY
4	"AS-BUILT"	02/07/96	D.W.
3	ADDED CONNECTION #11 AND PANEL TAG NUMBERS	11/17/95	D.W.
2	REVISED AS PER CUSTOMER REQUESTS AND ISSUED FOR CONSTRUCTION	11/02/95	D.W.
1	ISSUED FOR APPROVAL	10/30/95	D.W.
0	ISSUED FOR PRELIMINARY VIEWING	10/24/95	D.W.

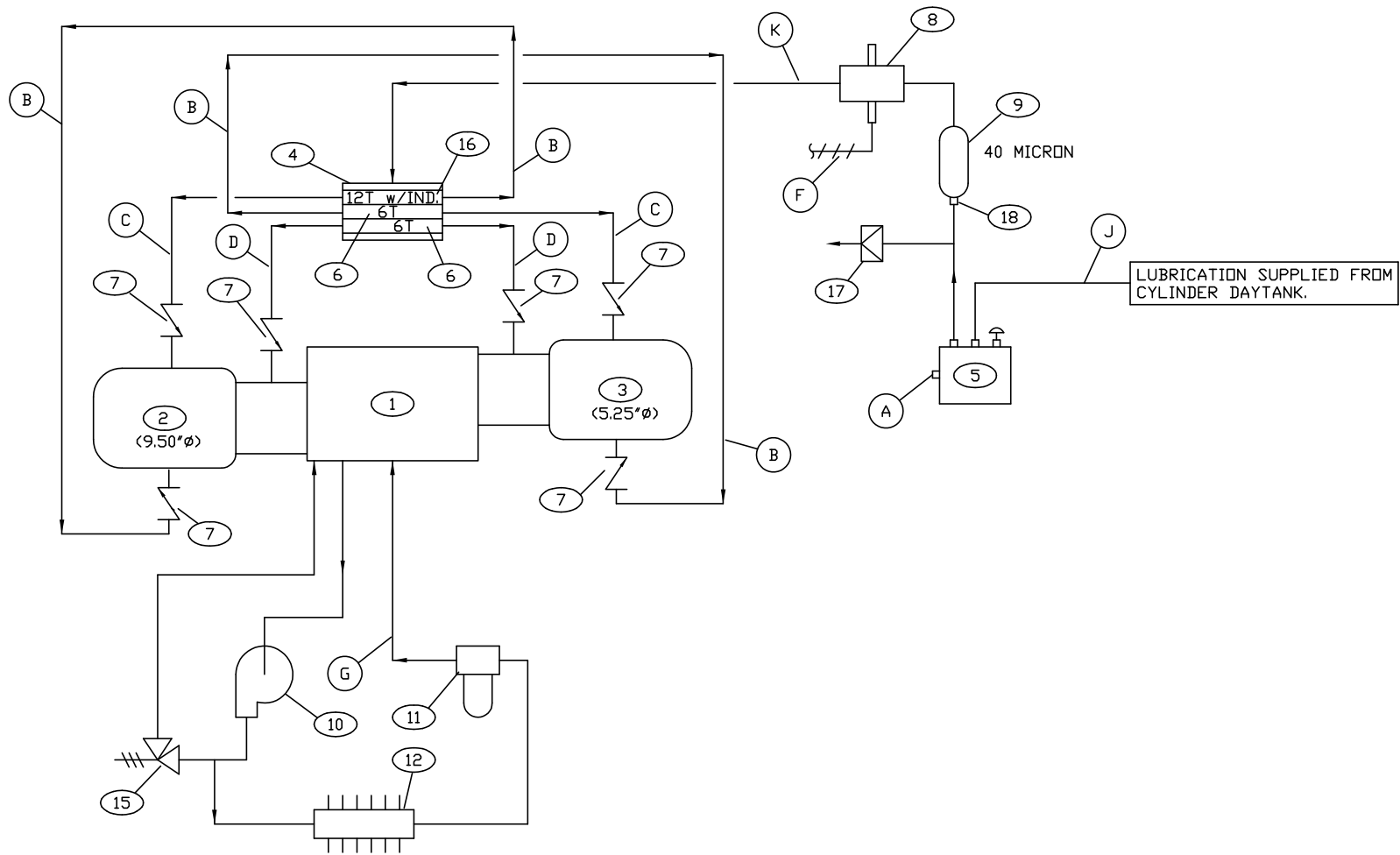
ENERGY INDUSTRIES
A Division of EnServ Corporation

4303 - 11TH STREET N.E. CALGARY ALBERTA CANADA

TITLE:
UTILITY FLOW DIAGRAM
TOSHIBA HIGH EFFICIENCY 300HP / FE-332D-22
ENERGY INDUSTRIES J54-0743

CUSTOMER:
GULF CANADA RESOURCES LTD.
c/o: QUANTEL ENGINEERING
ZAMA 9-28 COMPRESSOR
LSD: 09-28-117-04 W6M

SCALE: NONE	DATE: 10/23/95	BY: D.W.	DATE RELEASED:	RELEASED BY:
UNIT #577	DRAWING NO: 577-A2	REV.4		



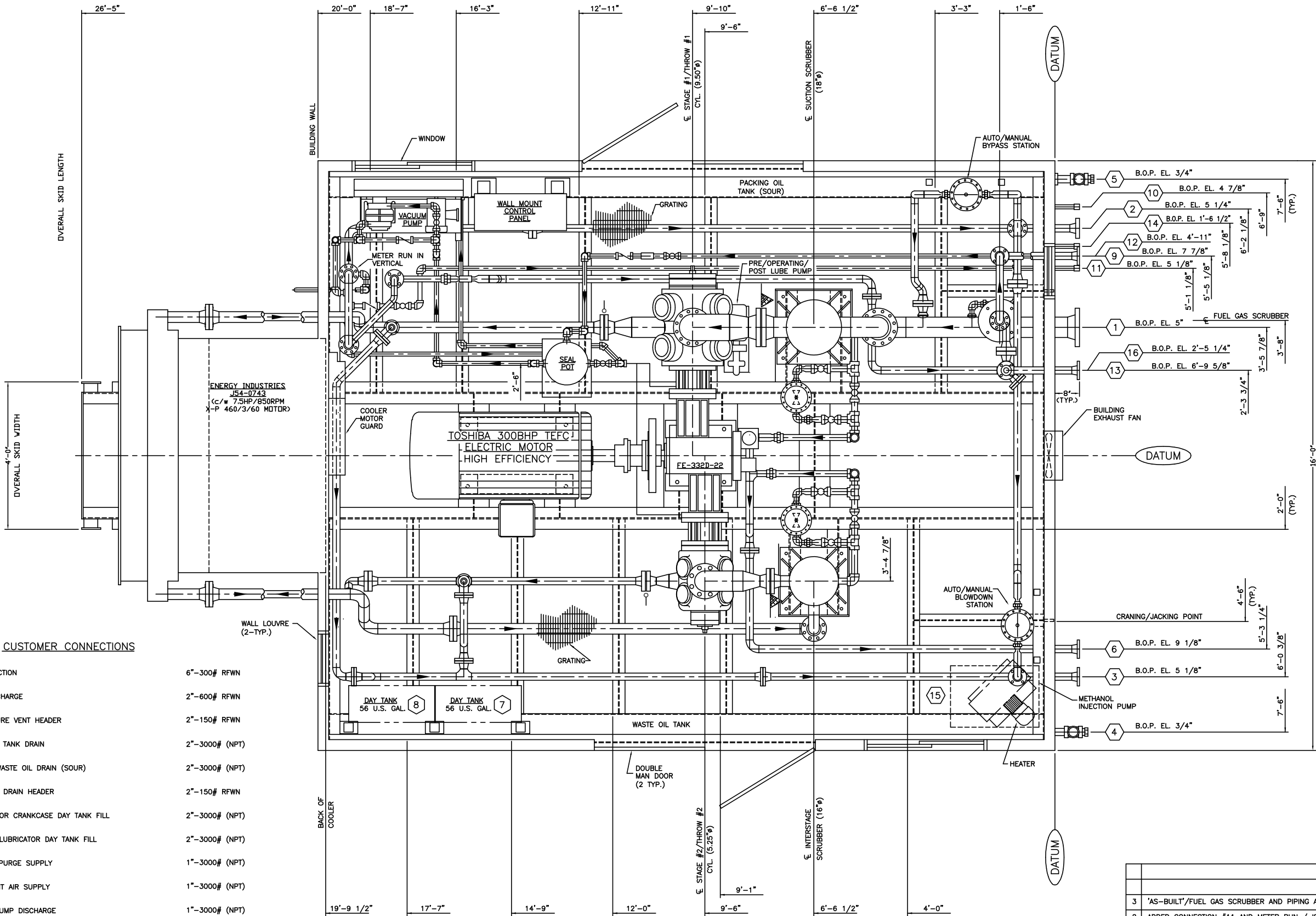
NOTE:
1. CYCLE TIME IS 23.7 SECONDS.
2. ALL TUBING TO BE 304ss c/w STAINLESS STEEL
SWAGelok FITTINGS WITH STAINLESS STEEL FERRULES.
3. LUBE FLOW RATE 6.075 US PPD.

BILL OF MATERIALS			
No.	PART No.	DESCRIPTION	QTY
1	-	COMPRESSOR FE-332D	1
2	-	CYLINDER #1 9.50"Ø	1
3	-	CYLINDER #2 5.25"Ø	1
4	12A977A	DIVIDER BLOCK BASE MCL-3	1
5	880087	LINCOLN LUBE PUMP 1/4" PLUNGER MODEL 55	1
6	13A384	DIVIDER VALVE 6T	2
7	88A957	CHECK VALVE <BALL>	6
8	-	LUBE SENTRY VALVE <SEE FLOW DIA. BILL OF MATERIALS>	1
9	11A066	IN-LINE SINTERED FILTER <40 MICRON>	1
10	-	LUBE PUMP <GEAR DRIVEN> <c/w COMPRESSOR>	1
11	1-10004	OIL FILTER ASSEMBLY <c/w COMPRESSOR>	1
12	1-100017CS	OIL COOLER ASSEMBLY <c/w COMPRESSOR>	1
13	-	-	-
14	-	-	-
15	3WPS1284	INTERNAL RELIEF VALVE SET @ 40 PSI <c/w COMPRESSOR>	1
16	12A228	DIVIDER VALVE 12T c/w INDICATOR	1
17	11A068	RUPTURE DISK, BLUE <c/w COMPRESSOR>	1
18	88A824	1/4" NPT HEX-NIPPLE	1
19	-	-	-

LINE LIST

- (A) OVERFLOW LINE <PLUGGED>
- (B) LOWER PISTON LUBE
- (C) UPPER PISTON LUBE
- (D) ROD PACKING LUBE
- (E)
- (F) SIGNAL TO PANEL <ELECTRIC>
- (G) FRONT & BACK, MAIN & JOURNAL BEARING LUBE
- (J) OIL SUPPLY TO LUBRICATOR PUMP FROM DAYTANK
- (K) HIGH PRESSURE OIL LINE TO DIVIDER BLOCK

0	ISSUED FOR CONSTRUCTION	11/22/95	D.W.
No.	REVISION	DATE	BY
<div><div>ENERGY INDUSTRIES LTD.</div><div>4303 - 11TH STREET N.E. CALGARY ALBERTA CANADA</div></div>			
TITLE: LUBE OIL FLOW DIAGRAM TOSHIBA HIGH EFFICIENCY 300HP / FE-332D-22 ENERGY INDUSTRIES J54-0743		CUSTOMER: GULF CANADA RESOURCES LTD. c/o QUANTEL ENGINEERING ZAMA 9-28 COMPRESSOR LSD: 09-28-117-04 W6M	
SCALE: NONE	DATE: 11/22/95	BY: D.W.	DATE RELEASED: RELEASED BY:
STEP #511		UNIT #577	DRAWING NO: 577-A3 REV.0



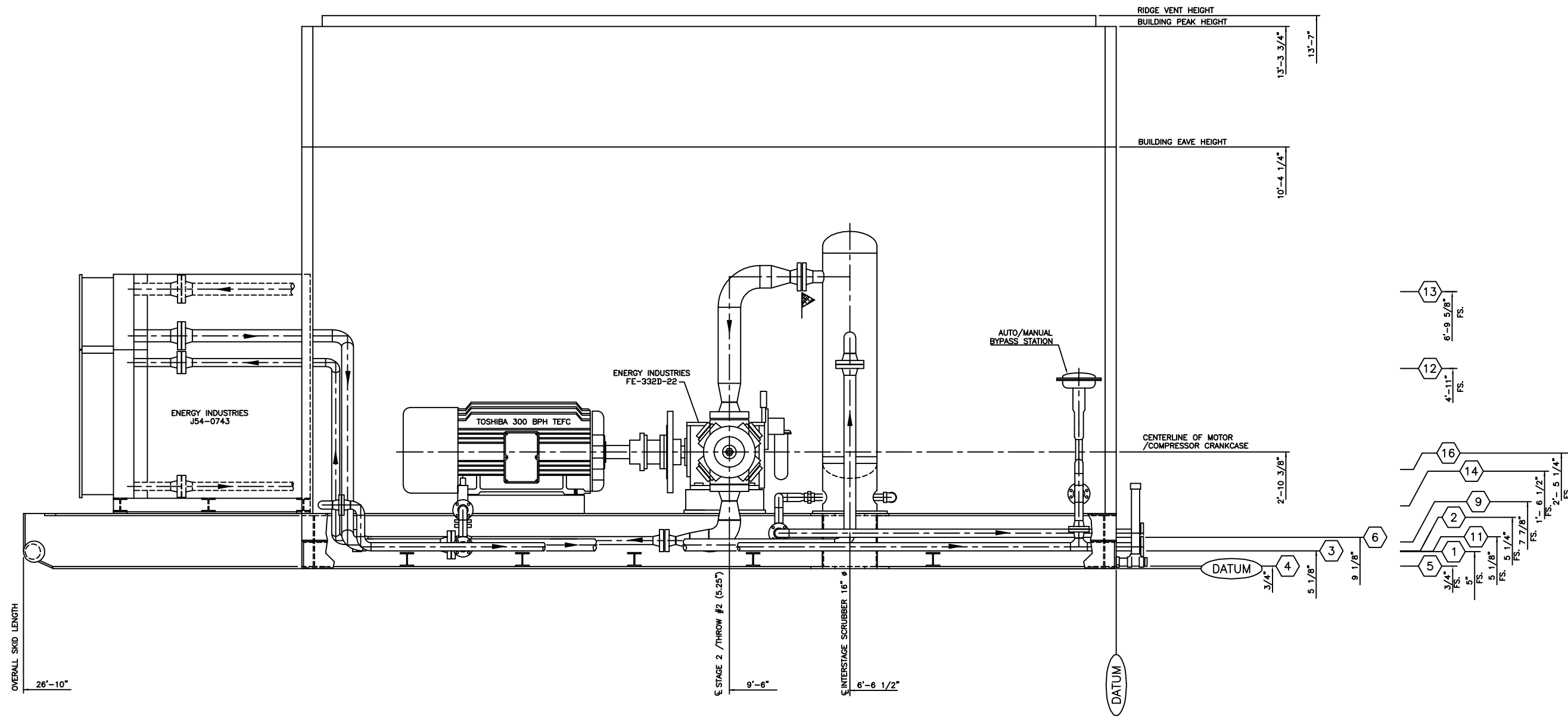
CUSTOMER CONNECTIONS

- | | | |
|----|------------------------------------|------------------|
| 1 | INITIAL SUCTION | 6"-300# RFWN |
| 2 | FINAL DISCHARGE | 2"-600# RFWN |
| 3 | HI PRESSURE VENT HEADER | 2"-150# RFWN |
| 4 | WASTE OIL TANK DRAIN | 2"-3000# (NPT) |
| 5 | PACKING WASTE OIL DRAIN (SOUR) | 2"-3000# (NPT) |
| 6 | SCRUBBER DRAIN HEADER | 2"-150# RFWN |
| 7 | COMPRESSOR CRANKCASE DAY TANK FILL | 2"-3000# (NPT) |
| 8 | CYLINDER LUBRICATOR DAY TANK FILL | 2"-3000# (NPT) |
| 9 | PROPANE PURGE SUPPLY | 1"-3000# (NPT) |
| 10 | INSTRUMENT AIR SUPPLY | 1"-3000# (NPT) |
| 11 | VACUUM PUMP DISCHARGE | 1"-3000# (NPT) |
| 12 | FUEL GAS SCRUBBER OUTLET | 2"-150# RFWN |
| 13 | FUEL GAS RELIEF VENT HEADER | 2"-150# RFWN |
| 14 | FUEL GAS SCRUBBER DRAIN HEADER | 1"-3000# (NPT) |
| 15 | METHANOL INJECTION PUMP INLET | 1/2"-3000# (NPT) |
| 16 | METHANOL OUTLET | 1/2" TUBING |

NOTES:

- UNIT PAINT COLOUR TO BE VALSPAR 20-F-34 "WARM GRAY".
- BYPASS/BLOWDOWN LINES ARE BUTTWELDED.
- PROCESS PIPING AND SCRUBBERS ARE TO HAVE:
1/8" CORROSION ALLOWANCE, FULL X-RAY, STRESS RELIEVING,
PICKLE AND OIL, AND HYDROTESTING (1.5xMAWP).
- ESTIMATED PACKAGE WEIGHT 62,000 lbs.
- 1/2" SHIMS UNDER COOLER.
- UNIT SUITABLE FOR CRANING OR LIVE ROLL.
- ALL PROCESS TUBING IS TO BE 316SS c/w 316SS SWAGelok
FITTINGS w/ STAINLESS STEEL FERRULES.

3	'AS-BUILT'/FUEL GAS SCRUBBER AND PIPING ADDED	02/07/96	D.W.
2	ADDED CONNECTION #11 AND METER RUN / ISSUED FOR CONSTRUCTION	11/14/95	D.W.
1	REVISED AS PER CUSTOMER REQUESTS AND ISSUED FOR CONSTRUCTION	11/02/95	D.W.
0	ISSUED FOR PRELIMINARY VIEWING	10/30/95	D.W.
No.	REVISION	DATE	BY
<div><div><div>ENERGY INDUSTRIES</div><div>A Division of EnServ Corporation</div></div><div>4303 - 11TH STREET N.E. CALGARY ALBERTA CANADA</div></div>			
TITLE: GENERAL ARRANGEMENT TOSHIBA HIGH EFFICIENCY 300HP / FE-332D-22 ENERGY INDUSTRIES J54-0743		CUSTOMER: <u>GULF CANADA RESOURCES LTD.</u> c/o: QUANTEL ENGINEERING ZAMA 9-28 COMPRESSOR LSD: 09-28-117-04 W6M	
SCALE: 3/4"=1'-0"		DATE: 10/26/95	BY: D.W.
		UNIT# 577	DRAWING NO: 577-B
			REV.3



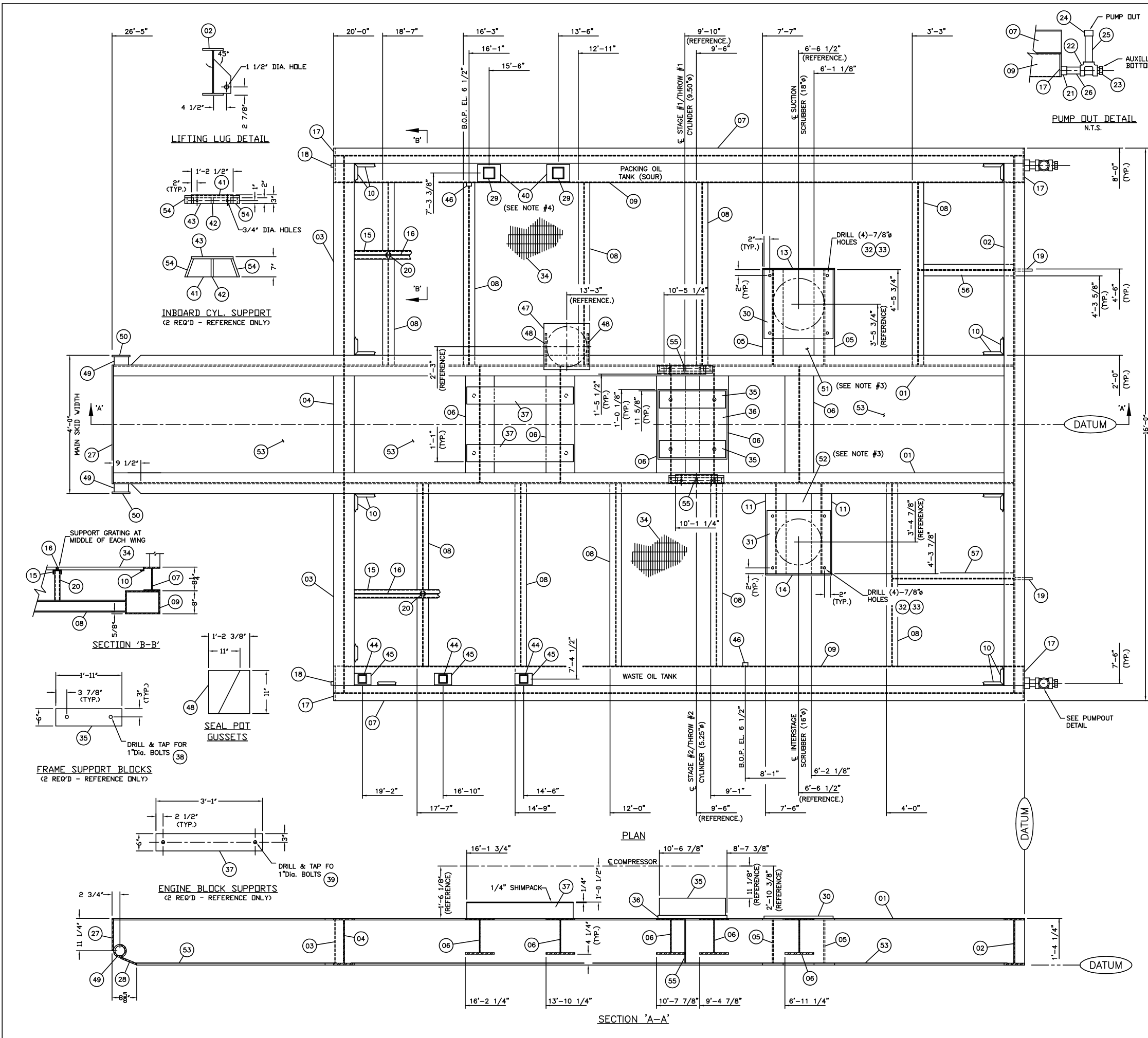
CUSTOMER CONNECTIONS

1	INITIAL SUCTION	6"	300# RFWN	9	PROPANE PURGE SUPPLY	1"	3000# (NPT)
2	FINAL DISCHARGE	2"	600# RFWN	10	INSTRUMENT AIR SUPPLY	1"	3000# (NPT)
3	HI PRESSURE VENT HEADER	2"	150# RFWN	11	VACUUM PUMP DISCHARGE	1"	3000# (NPT)
4	WASTE OIL TANK DRAIN	2"	3000# (NPT)	12	FUEL GAS SCRUBBER OUTLET	2"	150# RFWN
5	PACKING WASTE OIL DRAIN (SOUR)	2"	3000# (NPT)	13	FUEL GAS RELIEF VENT HEADER	2"	150# RFWN
6	SCRUBBER DRAIN HEADER	2"	150# RFWN	14	FUEL GAS SCRUBBER DRAIN HEADER	1"	3000# (NPT)
7	COMPRESSOR CRANKCASE DAY TANK FILL	2"	3000# (NPT)	15	METHANOL INJECTION PUMP INLET	1/2"	3000# (NPT)
8	CYLINDER LUBRICATOR DAY TANK FILL	2"	3000# (NPT)	16	METHANOL OUTLET	1/2"	TUBING

NOTES:

1. UNIT PAINT COLOUR TO BE VALSPAR 20-F-34 "WARM GRAY".
2. BYPASS/BLOWDOWN LINES ARE BUTTWELDED.
3. PROCESS PIPING AND SCRUBBERS ARE TO HAVE:
1/8" CORROSION ALLOWANCE, FULL X-RAY, STRESS RELIEVING,
PICKLE AND OIL, AND HYDROTESTING (1.5xMAWP).
4. ESTIMATED PACKAGE WEIGHT 62,000 lbs.
5. 1/2" SHIMS UNDER COOLER.
6. UNIT SUITABLE FOR CRANING OR LIVE ROLL.
7. ALL PROCESS TUBING IS TO BE 316SS c/w 316SS SWAGelok
FITTINGS w/ STAINLESS STEEL FERRULES.

0	AS BUILT	07/07/97	JWV
No.	REVISION	DATE	BY
<div><div>ENERGY INDUSTRIES</div><div>4303 - 11TH STREET N.E. CALGARY ALBERTA CANADA</div></div>			
TITLE: LEFT ELEVATION TOSHIBA HIGH EFFICIENCY 300HP / FE-332D-22 ENERGY INDUSTRIES J54-0743		CUSTOMER: GULF CANADA RESOURCES LTD. c/o: QUANTEL ENGINEERING ZAMA 9-28 COMPRESSOR LSD: 09-28-117-04 W6M	
SCALE: 3/4"=1'-0"	DATE: 07/02/97	BY: J.W.V.	DATE RELEASED:
		UNIT# 577	DRAWING NO: 577-C1
			REV.0



BILL OF MATERIALS				
MARK	PART No.	DESCRIPTION	QUANTITY	
01	17S322	WIDE FLANGE 16" x 50#/FT	26'-0 3/4"LG.	2
02	17S322	WIDE FLANGE 16" x 50#/FT	15'-6 1/2"LG.	1
03	17S322	WIDE FLANGE 16" x 50#/FT	6'-0 5/8"LG.	2
04	17S322	WIDE FLANGE 16" x 50#/FT	3'-4 1/2"LG.	1
05	17S322	WIDE FLANGE 16" x 50#/FT	2'-9 1/8"LG.	2
06	10X011	WIDE FLANGE 12" x 53#/FT	3'-4 1/2"LG.	5
07	NPN	WIDE FLANGE 8" x 21#/FT	20'-0"LG.	2
08	17S312	WIDE FLANGE 4" x 13#/FT	5'-3 3/8"LG.	10
09	88A810	H.S.S. 12" x 8" x 1/4"t	19'-11"LG.	2
10	17S364	ANGLE 1 1/4" x 1 1/4" x 3/16"t	-	90'
11	17S322	WIDE FLANGE 16" x 50#/FT	2'-7 1/4"LG.	2
12	NPN	CONCRETE MIX 89, SLUMP 80, AIR 5	-	3.5m ³
13	17S328	PLATE 1/2"t x 1'-4 1/4" WIDE	2'-1"LG.	1
14	17S328	PLATE 1/2"t x 1'-4 1/4" WIDE	1'-11"LG.	1
15	17S300	CHANNEL 3" x 4.1#/FT	16'-9 3/4"LG.	2
16	17S333	FLATBAR 1" x 1/4"t	16'-9 3/4"LG.	2
17	88A623	FLATBAR 8" x 1/2"t	12"LG.	4
18	12D025	HALF COUPLING 1/2"-3000# F.S. SCR'D	-	2
19	17S341	FLATBAR 6" x 1"t	1'-0"LG.	2
20	11K007	1 1/2" PIPE SCH. 80	10 1/4"LG.	10
21	12D021	HALF COUPLING 2"-3000# F.S. SCR'D	-	2
22	88A822	TEE 2"-3000# F.S. SCR'D	-	2
23	27D006	PLUG 2"-6000# F.S. SCR'D	-	2
24	12C210	PIPE CAP 2"-3000# F.S. SCR'D	-	2
25	11K008	PIPE 2"-SCH. 80 T.B.E.	1'-0"LG.	2
26	19F167	NIPPLE 2"-SCH. 80 T.B.E.	4"LG.	2
27	17S328	PLATE 1/2"t x 11 1/4" WIDE	3'-5 1/4"LG.	1
28	17S328	PLATE 1/2"t x 5 1/2" WIDE	3'-5 1/4"LG.	1
29	88A791	H.S.S. 4" x 4" x 1/4"t	6'-6"LG.	2
30	17S330	PLATE 3/4"t x 2'-0" SQUARE (SCRUBBER PLATE)	-	1
31	17S330	PLATE 3/4"t x 1'-10" SQUARE (SCRUBBER PLATE)	-	1
32	3B2968	CAPSCREW 3/4"Ø N.C. GRADE 8	3 1/2"LG.	8
33	1B4331	HEX NUT 3/4"Ø NC	-	8
34	17S352	BAR GRATING 1" DEEP x 3/16"t	-	187ft ²
35	NPN	PLATE 6"t x 6" WIDE	1'-11"LG.	2
36	88A454	PLATE 1"t x 2'-0" WIDE	2'-0 1/4"LG.	1
37	NPN	PLATE 5 3/8"t x 6" WIDE	3'-1"LG.	2
38	1F7464	1"-NF GRADE 8 CAPSCREW w/ WASHERS	4"LG.	4
39	NPN	1"-NF GRADE 8 CAPSCREW w/ WASHERS	3 1/2"LG.	4
40	88A666	FLATBAR 5" x 1/2"t	8"LG.	2
41	17S330	PLATE 3/4"t x 6 1/4" WIDE	1'-7 1/2"LG.	2
42	NPN	FLATBAR 2" x 3/4"t	6 1/4"LG.	2
43	10X056	FLATBAR 3" x 3/4"t	1'-2 1/2"LG.	2
44	88A757	H.S.S. 3" x 3" x 1/4"t	7'-4"LG.	3
45	17S338	FLATBAR 4" x 1/2"t	6"LG.	3
46	12D023	HALF COUPLING 1"-3000# F.S. SCR'D	-	2
47	17S328	PLATE 1/2"t x 1'-4" SQUARE (SEAL POT PLATE)	-	1
48	17S328	PLATE 1/2"t x 1'-2 3/8" WIDE (ONE CUTS TWD)	11"LG.	1
49	11K019	PIPE 4"-SCH. 160	3'-11"LG.	1
50	17S328	PLATE 1/2"t x 6 1/4"Ø	-	2
51	88A782	PLATE 10 GAUGE x 1'-2" WIDE	2'-8"LG.	1
52	88A782	PLATE 10 GAUGE x 1'-0" WIDE	2'-5"LG.	1
53	88A782	PLATE 10 GAUGE (8' LG. x 3' WIDE SHT.)	-	4
54	NPN	FLATBAR 2" x 3/4"t	7"LG.	4
55	88A633	FLATBAR 3" x 1/2"t	1'-3"LG.	2
56	17S312	WIDE FLANGE 4" x 15#/FT	2'-9 1/8"LG.	1
57	17S312	WIDE FLANGE 4" x 15#/FT	3'-6 1/8"LG.	1
58	-	-	-	-
59	-	-	-	-

- NOTES:
1. 1/4" SHIMPACK UNDER ENGINE.
 2. SLEEPERS REST ON INSIDE EDGE OF WIDE FLANGE.
 3. SCRUBBER BASE SUPPORTS TO BE FILLED WITH CONCRETE.
 4. DO NOT PLACE UNTIL PANEL IS SECURE.

1	ADDED ITEMS #56 & 57/ MODIFIED ITEMS #19 & 4 / ISSUED FOR CONSTRUCTION	11/09/95	D.W.
0	ISSUED FOR CONSTRUCTION	10/24/95	D.W.
No.	REVISION	DATE	BY
<div><div>ENERGY INDUSTRIES</div><div>A Division of EnServ Corporation</div></div> <div>4303 - 11TH STREET N.E. CALGARY ALBERTA CANADA</div>			
TITLE: COMPRESSOR BASE TOSHIBA HIGH EFFICIENCY 300HP / FE-332D-22 ENERGY INDUSTRIES J54-0743		CUSTOMER: GULF CANADA RESOURCES LTD. c/o: QUANTEL ENGINEERING ZAMA 9-28 COMPRESSOR LSD: 09-28-117-04 WGM	
SCALE: 3/4"=1'-0"	DATE: 10/23/95	BY: D.W.	DATE RELEASED: RELEASED BY:
STEP #577-311	UNIT# 577	DRAWING NO: 577-D1	REV.0