

MASTER BILL OF MATERIALS

NO	REV	DESCRIPTION	QTY	NOTES
101	0	ENGINE "WAUKESHA" 3521 GSI TURBOCHARGED STOCK c/w FOLLOWING: - S/N: C-14815/1 - 738 HP @ 1200 RPM - ALTRONIC III SHIELDED IGNITION (CLASS 1, DIV. 2, 24V DC) - SAE FLYWHEEL AND HOUSING - ENGINE MOUNTED DRY AIR FILTER - STANDARD PANEL	1	
109	0	ENGINE DRIVE PULLEY, 9.6" DIA. 6 "5V" SECTION, (c/w ENGINE)	1	
110	0	ENGINE HYDRAULIC GOVERNOR "WOODWARD" UG-8L, (c/w ENGINE)	1	
111	0	GOVERNOR PNEUMATIC ACTUATOR "WABCO", 3-15 PSIG SIGNAL (c/w ENGINE)	1	
112	C	FUEL/START GAS SUPPLY RELIEF VALVE "TAYLOR" MOD: #8200, 1 1/2"-MNPT IN x 2"-FNPT OUT, "G" ORIFICE, SET @ 150 PSIG, SOUR TRIM	2	PSV-134G
113	0	ENGINE FUEL GAS SHUT-OFF VALVE "MURPHY" M5180-P, 2"-NPT, PNEUMATIC, MAWP = 100 PSIG, c/w (SOLENOID SUPPLIED BY OTHERS)	1	
114	0	ENGINE FUEL GAS REGULATOR "FISHER" 627, 35 TO 80 PSIG RANGE, SET @ 40 PSIG, 1/2" ORIFICE, 1"-NPT, MAWP = 500 PSIG	1	
115	C	REGULATED FUEL GAS RELIEF VALVE "TAYLOR" MOD: #8200, 1"-MNPT IN x 1"-FNPT OUT, ORIFICE 0.212 SQ.IN, SET @ 55 PSIG, SOUR TRIM	1	PSV-122-M
116	0	ENGINE SECONDARY FUEL GAS REGULATOR "MOONEY" FLOWGRID, 1-1 1/2 (c/w ENGINE)	1	
117	0	ENGINE STARTER "TDI" LOW PRESSURE MOD: T121-60001-B1R, 2"-NPT IN x 3" SPEC. FLG. OUT	1	
118	C	VALVE, FUEL TRIM, "TECKNOCRAFT" (C/W AFR PANEL)	1	
120	B	STARTER "Y" STRAINER "MUELLER" #581, 1 1/2"-NPT, CAST STEEL, CLASS 600#, SOUR TRIM	1	
122	0	STARTER QUICK OPENING VALVE, "TDI" MODEL: #RLVA25683001201, 1 1/2"-NPT, SOUR TRIM c/w (SOLENOID SUPPLIED BY OTHERS)	1	
130	0	ENGINE PRELUBE PUMP, GAS OPERATED, PUMP "VIKING" MODEL 90, GAS MOTOR "GAST" MODEL 6AM, NEMA 56C MOUNT, (c/w ENGINE)	1	
131	0	PRELUBE PUMP LUBRICATOR, 1/2"- NPT, "NUMATICS" OR EQUAL, (c/w ENGINE)	1	
132	0	PRELUBE PUMP GAS SUPPLY CONTROL VALVE, "SCHREADER BELLOWS" #536512000 (c/w ENGINE)	1	
133	C	TANK, OIL STORAGE, 60 US GALLON (USABLE), "WCE", C/W FILL-CAP, VENT & LEVEL GAUGE	1	TNK-160
134	0	DUAL COMPARTMENT SURGE TANK, 12"x 12"x1/4"t, 6 FT. LG. HSS, c/w CONNECTIONS FOR GAUGE	1	

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		GLASS, LOW LEVEL SHUTDOWNS, FILL AND MAKE-UP		
135	0	SURGE TANK PRESSURE CAP, AUTOMOTIVE STYLE, SET AT 7 PSIG	2	
136	0	SURGE TANK LOW LEVEL SHUTDOWN, "LINC" #471-11, 2"-NPT, SS HORIZONTAL FLOAT, MAWP = 1500 PSIG @ 300 Deg.F	2	
137	0	TANK GAUGE GLASS, "PENBERTHY" #Z84-A, 1/2"-NPT, c/w VALVES AND IRON PROTECTOR	2	
138	C	GAUGE, LEVEL, 9" NOM LG, ALUMINUM FRAME, BUNA-N SEALS	1	TNK-214
150	0	ENGINE HIGH VIBRATION SENSOR / SHUTDOWN, "MURPHY" VS-2, MANUAL RESET, FIELD SET-UP	1	
151	A	ENGINE OIL PRESSURE TRANSMITTER "WIKA", MODEL 892-13-500, RANGE 0 TO 100 PSIG, PANEL SET AT 25 PSIG FALLING, SUPPLIED BY OTHERS	1	
153	A	ENGINE OIL HIGH TEMPERATURE SENSOR, "K" TYPE THERMOCOUPLE, 1/4" O.D. 6" 316 SS STEM LG., 10 FT. ARMOUR LEAD, c/w NEMA 4 HEAD AND 316 SS THERMOWELL, 1/2" x 3/4" NPT x 2 1/2" STEM LG. PANEL SET AT 205 Deg.F RISING,	1	
154	A	ENGINE J.W. HIGH TEMPERATURE SENSOR, "K" TYPE THERMOCOUPLE, 1/4" O.D. 6" 316 SS STEM LG., 10 FT. ARMOUR LEAD, c/w NEMA 4HEAD AND 316 SS THERMOWELL, 1/2" x 3/4" NPT x 4" STEM LG. PANEL SET AT 200 Deg.F RISING	1	
156	C	ENGINE SPEED SENSOR, MAGNETIC PICKUP (C/W AFR PANEL)	1	
157	C	SPEED SENSOR CABLE (C/W AFR PANEL)	1	
158	0	ENGINE OIL LEVEL CONTROL / LOW LEVEL SHUTDOWN, "KENCO" MODEL LCM-27, I.S. SWITCH, 1 TO 15 FT. STATIC PRESSURE, 1/2"-NPT	1	
159	0	ENGINE SPEED SENSOR, MAGNETIC PICK-UP "ALTRONIC" MOD: 691118-3 c/w 30 FT. CABLE	1	
161	0	"FAIR CHILD" I/P TRANSDUCER, 4 TO 20MA, 0 TO 15 PSIG SIGNAL, LOCATE BY PANEL (c/w Panel)	1	
162	0	FUEL GAS REGULATOR "FISHER" 627, 1"-NPT, SET AT 135 PSIG, 3/8" ORIFICE, STEEL BODY, 70 TO 150 PSIG SPRING RANGE, MAWP = 2000 PSIG, SOUR TRIM	2	
201	0	FIRST STAGE COMPRESSOR CYLINDER: - "ARIEL" CLASS 9.75ET, BORE 9.25" - THROW #1 S/N: C-61569 - THROW #3 S/N: C-61570 - MAWP = 635 PSIG - CONNECTIONS: 6"- 300# FF - HOERBIRGER PLATE TYPE VALVES - AIR COOLED - VARIABLE VOLUME CLEARANCE POCKET (UNMOUNTED)	2	
202	0	SECOND STAGE COMPRESSOR CYLINDER: - "ARIEL" CLASS 4.625ET, BORE 4.625" - THROW #2 S/N: C-61571 - THROW #4 S/N: C-61572 - MAWP = 2600 PSIG	2	

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		- CONNECTIONS: 3"-1500# FF - HOERBIRGER PLATE TYPE VALVES - AIR COOLED - VARIABLE VOLUME CLEARANCE POCKET (UNMOUNTED)		
210	0	COMPRESSOR FRAME "ARIEL" JGH-4: - S/N: F-19519 - COUNTER BALANCED CRANKSHAFT - SAE SERIES 4100 STEEL PISTON RODS - LONG SINGLE COMPARTMENT DISTANCE PIECE - LUBRICATOR PUMP c/w RUPTURE DISK - MAIN OIL PUMP c/w REL. VALVE, FULL FLOW FILTER & THERMOSTAT - CRANKCASE VENT TO OUTSIDE - TOOL BOX	1	
212	0	DRIVE COUPLING "TB WOODS" FSH-55-28-GK, SAE BOLTING, ADAPTOR PLATE O.D. 28 7/8", (27 1/4" B.C.D.), STEEL ROUGH BORE HUB, MACHINE HUB FOR SHRINK FIT FOR COMPRESSOR SHAFT	1	
214	0	COMPRESSOR OIL COOLER, SHELL & TUBE STYLE, "THERMAL TRANSFER", (c/w COMPRESSOR) MOD: EK-1024-0	1	
220	0	COMPRESSOR MAIN OIL PUMP "VIKING", (c/w COMPRESSOR)	1	
224	0	COMPRESSOR PRELUBE PUMP "VIKING" FH-182, 3 US GAL/MIN, 1/2"-NPT CONNECTIONS, c/w "GAST" 4AM AIR/GAS MOTOR, BASE, COUPLING AND COUPLING GUARD	1	
225	0	COMPRESSOR PRELUBE PUMP LUBRICATOR, "NUMATICS" BLK50, 16 oz METAL BOWL c/w INDICATOR, 1/2"-NPT	1	
226	0	COMPRESSOR PRELUBE PUMP SWITCHING VALVE, "FISHER" #119, 1"-NPT, 9/16" ORIFICE c/w "PARKER" SKINNER SOLENOID, 24V DC, MOD: 71335SN2ANJ1NOH111C2	1	
232	0	COMPRESSOR OIL FILTER ASSEMBLY, FILTER P/N A-0661, (c/w COMPRESSOR)	1	
235	C	REGULATOR, 1"-NPT, "FISHER" MODEL 627, 2000 PSIG MAWP, MAXIMUM OUTLET PRESSURE OF 1500 PSIG, 1/2" ORIFICE, STEEL BODY, SS TRIM, 70-150 PSIG RANGE	1	PRV-559
241	0	FIRST CYLINDER SPACER PLATE, 6"-300# RF, 1/8" THICK, FULL BORE, 316 SS	4	
242	0	SECOND STAGE SPACER PLATE, 3"-1500# RF, 1/8" THICK, FULL BORE, 316 SS	4	
243	0	FIRST CYLINDER SPACER PLATE, 4"-300# RF, 1/8" THICK, FULL BORE, 316 SS	1	
244	0	SECOND STAGE SPACER PLATE, 3"-900# RF, 1/8" THICK, FULL BORE, 316 SS	1	
245	0	SPECTACLE BLIND FLANGE, 6"-300# RF, SA-516-70N, 5/8" THICK	1	
246	0	SPECTACLE BLIND FLANGE, 4"-300# RF, SA-516-70N, 1/2" THICK	1	
247	0	SPECTACLE BLIND FLANGE, 3"-900# RF,	1	

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		SA-516-70N, 5/8" THICK		
248	0	SPECTACLE BLIND FLANGE, 2"-900# RF, SA-516-70N, 3/8" THICK	1	
250	0	COMPRESSOR VIBRATION SENSOR / SHUTDOWN, "MURPHY" VS-2, MANUAL RESET, FIELD SET-UP	1	
251	0	COMPRESSOR OIL PRESSURE TRANSMITTER, "WIKA" MOD: 892-13-510, RANGE 0 TO 100 PSIG, PANEL SET AT 35 PSIG FALLING, X-P, SUPPLIED BY OTHERS	1	
253	A	COMPRESSOR OIL TEMPERATURE SENSOR, "K" TYPE THERMOCOUPLE, 1/4" O.D. 6" 316 SS STEM LG., 10 FT. ARMOUR LEAD, c/w NEMA 4 HEAD AND 316 SS THERMOWELL, 1/2" x 3/4" NPT x 2 1/2" STEM LG. PANEL SET AT 180 Deg.F RISING	1	
254	0	LUBRICATOR NO-FLOW SWITCH, "ARIEL" MODEL DNFT-LED-PS, (c/w COMPRESSOR)	2	
257	A	COMPRESSOR DISCHARGE TEMPERATURE SENSOR, "K" TYPE THERMOCOUPLE, 1/4" O.D. 6" 316 SS STEM LG., 10 FT. ARMOUR LEAD, c/w NEMA 4 HEAD AND 316 SS THERMOWELL, 1/2" x 3/4" NPT x 4" STEM LG. PANEL SET AT 25 Deg.F ABOVE DISCHARGE TEMPERATURE	4	
258	0	COMPRESSOR OIL LEVEL CONTROL / LOW LEVEL SHUTDOWN, "KENCO" LCM-9, I.S. SWITCH, 1 TO 15 FT. STATIC PRESSURE, 1/2"-NPT	1	
260	C	PRESSURE TRANSMITTER, "WIKA" MODEL 892-23-510, X-P, AS FOLLOWS: - SUCTION 0 TO 600 PSIG - 1 st DISCHARGE 0 TO 1000 PSIG - 2 nd SUCTION 0 TO 1000 PSIG - 2 nd DISCHARGE 0 TO 2000 PSIG - SUPPLIED BY OTHERS	4	
301	0	GAS COOLER "ACE" MODEL J4A, DIRECT DRIVEN FROM HYDRAULIC MOTOR POWERED BY ENGINE DRIVE, 10000-36VT "MOORE" FAN, c/w FOLLOWING: - S/N: 0400401 I.C. 1 SECTION: - D.P. = 645 PSIG @ 350 Deg.F - 4"- 300# RF CONNECTIONS - SA-179 TUBES - 1/8" CORR. ALLOWANCE, PWHT - 100% X-RAY, UT CAT. "D" WELDS A.C. SECTION: - D.P. = 1650 PSIG @ 350 Deg.F - 3"-900# RTJ CONNECTIONS - SA-179 TUBES - 1/8" CORR. ALLOWANCE, PWHT - 100% UT CAT. "D" WELDS - AUTO SHUTTERS - BUGSCREEN AND HAILGUARD	1	
3011	0	WATER COOLER "ACE" MODEL J4A, BELT DRIVEN FROM ENGINE, 17 HP REQ'D @ 783 RPM, 10000-36VT "MOORE" FAN c/w FOLLOWING:	1	

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		- S/N: 0400301 E.J.W. SECTION: - D.P. = 14 PSIG @ 350 Deg.F - 4"- 150# RF CONNECTIONS - SA-214 TUBES T.A.W. SECTION: - D.P. = 14 PSIG @ 350 Deg.F - 2"- 150# RF CONNECTIONS - SA-214 TUBES - MANUAL SHUTTERS - BUGSCREEN AND HAILGUARD		
302	0	COOLER TEMPERATURE CONTROLLER "KIMRAY" T-12, (c/w COOLER)	2	
303	C	"JOHNSON CONTROLS" #D-3244-4 LOUVRE OPERATOR, AIR/GAS MOTOR, (c/w COOLER)	2	
304	0	AIR/GAS PRESSURE CONTROLLER, "FISHER" 67CFR, 1/4"-NPT, 5-35 PSIG SPRING RANGE	1	
310	0	COOLER SHEAVE, TYPE "E" 21.2" PD, 3 "5V" SECTION c/w 2 3/16" BORE "E" TYPE BUSHING	1	
311	0	COOLER IDLER, TYPE "SF" 11.3" PD, 3 "5V" SECTION c/w 1 15/16" BORE "SF" TYPE BUSHING	1	
312	0	COOLER DRIVE BELTS, "5V" SECTION, LENGTH = 5V1180	3	
350	0	COOLER VIBRATION SENSOR / SHUTDOWN, "MURPHY" VS-2, MANUAL RESET, FIELD SET-UP	2	
501	0	HORIZONTAL SUCTION SCRUBBER: - 30" O.D. x 7'-9 1/2" S/S - DP = 645 PSIG @ 350 Deg.F - 6"t. 316 SS MESH #9 DENSITY - 1/8" CORR. ALLOWANCE, PWHT - 100% X-RAY PER ASME UW 11a, RT-1 - S/N: 03-257-501 - CRN: R4377.231	1	
509A	0	EXTERNAL CAGE BY BIDELL: - 4" NPS x 4" S/S - DP = 645 PSIG @ 350 Deg.F - 1/8" CORR. ALLOWANCE, PWHT - 100% X-RAY PER ASME UW 11a, RT-1 - 3/4"-NPT PROCESS CONN'S - 2"-NPT CONN. FOR SWITCH - 2"-NPT CONN. FOR CALIBRATION - S/N: 03-257-509A - CRN: OH3779.231	1	
509B	0	EXTERNAL CAGE BY BIDELL: - 4" NPS x 4" S/S - DP = 645 PSIG @ 350 Deg.F - 1/8" CORR. ALLOWANCE, PWHT - 100% X-RAY PER ASME UW 11a, RT-1 - 3/4"-NPT PROCESS CONN'S - 2"-NPT CONN. FOR SWITCH	1	

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		- 2"-NPT CONN. FOR CALIBRATION - S/N: 03-257-509B - CRN: OH3779.231		
511	0	FIRST STG. SUCTION BOTTLE: - 16" O.D. x 60" S/S - DP = 645 PSIG @ 350 Deg.F - 1/8" CORR. ALLOWANCE, PWHT - 100% X-RAY PER ASME UW 11a, RT-1 - S/N: 03-257-511 - CRN: R4251.213	1	
512	0	SECOND STG. SUCTION BOTTLE: - 14" O.D. x 60" S/S - DP = 645 PSIG @ 350 Deg.F - 1/8" CORR. ALLOWANCE, PWHT - 100% X-RAY PER ASME UW 11a, RT-1 - S/N: 03-257-512 - CRN: R4249.213	1	
521	0	FIRST STG. DISCHARGE BOTTLE - 14" O.D. x 60" S/S - DP = 645 PSIG @ 350 Deg.F - 1/8" CORR. ALLOWANCE, PWHT - 100% X-RAY PER ASME UW 11a, RT-1 - S/N: 03-257-521 - CRN: R4246.213	1	
522	0	SECOND STG. DISCHARGE BOTTLE: - 12" NPS x 60" S/S - DP = 1935 PSIG @ 350 Deg.F - 1/8" CORR. ALLOWANCE, PWHT - 100% X-RAY PER ASME UW 11a, RT-1 - S/N: 03-257-522 - CRN: R4248.213	1	
530	0	FUEL GAS FILTER SEPARATOR: - 8 5/8" O.D. x 5'- 3" S/S - D.P. = 230 PSIG @ 300 Deg.F - 1/16" CORR. ALLOWANCE - X-RAY PER ASME UW 11a(5b), RT-2 - 2"- NPT IN AND OUT - S/N: 03-257-530 - CRN: L9317.231	1	
550A	0	SCRUBBER REFLEX TYPE GAUGE GLASS, 3/4"-NPT, "PENBERTHY" 1RL-9, MAWP = 1800 PSIG @ 100 Deg.F, SOUR TRIM	1	
550B	0	SCRUBBER REFLEX TYPE GAUGE GLASS, 3/4"-NPT, "PENBERTHY" 1RM-9, MAWP = 2025 PSIG @ 100 Deg.F, SOUR TRIM	1	
552	0	FUEL GAS FILTER SEPARATOR REFLEX TYPE GAUGE GLASS, 3/4"-NPT, "PENBERTHY" 1RL-9 c/w 330J COCKS, MAWP = 1800 PSIG @ 100 Deg.F	1	
553	0	SCRUBBER DUMP VALVE, "NORRISEAL" #2275, 1"-NPT,	2	

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		0-35 PSIG SIGNAL, 1/2" ORIFICE, MAWP = 3920 PSIG @ 100 Deg.F, SOUR TRIM		
554	0	SCRUBBER LIQUID LEVEL CONTROLLER, "LINC" 282-11-10, 2"-NPT, STAINLESS STEEL HORIZONTAL FLOAT, MAWP = 1500 PSIG @ 300 Deg.F. SOUR TRIM	2	
555	D	HIGH LIQUID LEVEL SHUTDOWN, "LINC" MODEL 471-11, 2"-NPT, STAINLESS STEEL HORIZONTAL FLOAT, MAWP = 1500 PSIG @ 300 Deg.F, SOUR TRIM	2	
556	0	AIR/GAS PRESSURE REGULATOR, "FISHER" 67CFR, 0 TO 30 PSIG RANGE, 1/4"-NPT c/w VENTED BONNET AND DRY P.I.	3	
557	D	SWITCH, LEVEL, ELECTRIC, 2"-NPT, "MURPHY" MODEL L1200, STEEL BODY, HORIZONTAL BUOYGLASS FLOAT, 2000 PSIG @ 300°F	1	
561	D	SUCTION SCREEN 6"-300#, 316 SS MESH ON S.S. BACKING, 150 % OPEN AREA, XH BORE	1	
562	D	SUCTION SCREEN 4"-300#, 316 SS MESH ON S.S. BACKING, 150 % OPEN AREA, XH BORE	1	
601	A	SUCTION CONTROL VALVE "DYNAFLO" 4"-300# RF, #560, SIZE DFR070 ACTUATOR, 6-30 PSIG SIGNAL, FAIL CLOSED, c/w "SIEMENS" I/P TRANSDUCER, 4 TO 20mA AND "SIEMENS" #PS2 POSITIONER COMBO, NACE TRIM	1	
602	A	AUTOBYPASS VALVE, "DYNAFLO", 2"-900# RF, "D" BODY, #DF2000, SIZE 2105 ACTUATOR, 6-30 PSIG SIGNAL, FAIL OPEN c/w "SIEMENS" I/P TRANSDUCER, 4 TO 20Ma AND "SIEMENS" #PS2 POSITIONER COMBO, NACE TRIM	1	
603	0	AUTOBLOWDOWN VALVE 1"- NPT "FISHER" MODEL "D2", FAIL OPEN, 1/2" PORT, 6-30 PSIG SIGNAL, c/w LOCAL MOUNTED "ASCO" SOLENOID 24 V DC, MAWP = 100 PSIG, 5/64" ORIFICE, NACE TRIM	1	
651	0	1st STAGE DISCHARGE RELIEF VALVE "MERCER" PILOT OPERATED MOD: 95-56H1317NS, 1 1/2"-300# RF INLET x 3"-150# RF OUTLET, SET @ 635 PSIG, "H" ORIFICE, NACE TRIM c/w PILOT POP VALVE MOD: S-1A00012N AND BACK FLOW PREVENTER S/N: 126958	1	
652	0	2nd STAGE DISCHARGE RELIEF VALVE "MERCER" PILOT OPERATED MOD: 95-56H1317NS, 1"-900# RF INLET x 2"-300# RF OUTLET, SET @ 1650 PSIG, "E" ORIFICE, NACE TRIM c/w PILOT POP VALVE MOD: S-1C00014N AND BACK FLOW PREVENTER S/N: 126960	1	
664	0	MANUAL BYPASS VALVE, 2"-900# RF REG. PORT BALL VALVE, "NUTRON", NACE	1	
665	0	MANUAL BLOWDOWN VALVE, 1"-NPT REG. PORT BALL VALVE, "NUTRON", 3000# WOG, SOUR TRIM	2	
721	B	1"x 1" MNPT x 15 ft LG BRAIDED FLEX HOSE	1	
722	0	FLEXIBLE PIPE CONNECTOR, 2" NOMINAL DIA. x STD. LENGTH, "AEROQUIP"	2	
723	0	FLEXIBLE PIPE CONNECTOR, 3" NOMINAL DIA. x STD LENGTH, "AEROQUIP"	1	
724	0	BRAIDED HOSE CONNECTOR, 4"-150# RF x 15" OAL	2	

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725	C	2"x 2" MNPT x 12" LG BRAIDED FLEX HOSE	3	
726	0	BRAIDED HOSE CONNECTOR, 2"-150# RF x 12" OAL	2	
728	B	1 1/2"x 1 1/2" MNPT x 12" LG BRAIDED FLEX HOSE	1	
922	0	"Y" STRAINER "MUELLER" #11M 1/2"-NPT, MAWP = 400 PSIG	1	
923	C	"Y" STRAINER "MUELLER" #11M 1"-NPT, MAWP = 400 PSIG	2	
931	0	SWING CHECK VALVE "NAVCO" 1/2"-NPT, CLASS 800# WOG	2	
934	A	SWING CHECK VALVE "NAVCO" 1"-NPT, CLASS 800# WOG, SOUR TRIM	4	
935	0	DISCHARGE CHECK VALVE, 3"-900# RF NON SLAM TYPE PISTON CHECK VALVE "NORRISEAL", NACE	1	
941	D	FULL PORT BALL VALVE "VALVE-TEK" 1/4"-NPT, 2000# WOG	4	
942	C	FULL PORT BALL VALVE "VALVE-TEK" 1/2"-NPT, 2000# WOG	6	
943	0	FULL PORT BALL VALVE "VALVE-TEK" 3/4"-NPT, 2000# WOG	2	
944	D	FULL PORT BALL VALVE "VALVE-TEK" 1"-NPT, 2000# WOG, SOUR TRIM	20	
945	D	FULL PORT BALL VALVE "VALVE-TEK" 1-1/2"-NPT, 2000# WOG, SOUR TRIM	1	
947	0	FULL PORT BALL VALVE "VALVE-TEK" 2"-NPT, 2000# WOG, SOUR TRIM	2	
948	0	FINAL DISCHARGE BLOCK VALVE, 3"-900# RF, REG. PORT BALL VALVE, "NUTRON", SOUR TRIM	1	
952	0	GATE VALVE "NAVCO" 1/2"-NPT, CLASS 800# WOG	1	
954	D	GATE VALVE "NAVCO" 1"-NPT, CLASS 800# WOG	1	
956	0	GATE VALVE "NAVCO" 1 1/2"-NPT, CLASS 800# WOG	1	
971	0	NEEDLE VALVE "CENTURY" CM2, 1/4" x 1/4" FNPT, CARBON STEEL	7	
973	0	NEEDLE VALVE "CENTURY" CM2, 3/4" MNPT x 1/2" FNPT, STAINLESS STEEL	4	
981	C	PRESSURE GAUGE, FUEL GAS, "WGI", 2 1/2" DIAL, 1/4"-NPT BOTTOM CONNECTION, DUAL SCALE, LIQUID FILLED, 0-300 PSIG RANGE	2	
982	0	PRESSURE GAUGE, FUEL GAS REGULATED, "WGI", 2 1/2" DIAL, 1/4"- NPT BOTTOM CONNECTION, DUAL SCALE, LIQUID FILLED, 0-60 PSIG RANGE	1	
983	0	PRESSURE GAUGE, COMPRESSOR OIL, "ARIEL", 2 1/2" DIAL, 1/4"- NPT BOTTOM CONNECTION, DUAL SCALE, LIQUID FILLED, 0-100 PSIG, (c/w COMPRESSOR)	2	
984	0	DIFFERENTIAL PRESSURE GAUGE, "MIDWEST" #120-AA-00, 2 1/2" DIAL, 0-30 PSIG, LIQUID FILLED, DUAL SCALE	1	
990	C	FILTER HOUSING ASSEMBLY, OIL, #20 ORB CONN's, "HYDAC" MODEL LFBN/HC240IE10B1.0/12B6, 1500 PSIG MAWP, 11.69" NOM LG, 87 PSID BYPASS, VISUAL POP-UP INDICATOR, 3.74" REMOVAL CLEARANCE, C/W REPLACEABLE 10 MICRON ELEMENT	1	FLT-LFBN
991	C	GENERATOR, "CERAMAG" MODEL A-60, 60A, 3000RPM, CSA, 24VDC ALTERNATOR WITH FAN & SHEAVE, -CBOX-LVC, LOW	1	PNL-298

CANADIAN NATURAL RESOURCES LTD.
 TRAILER MOUNT COMPRESSOR
 SOUR SERVICE < 2% H2S

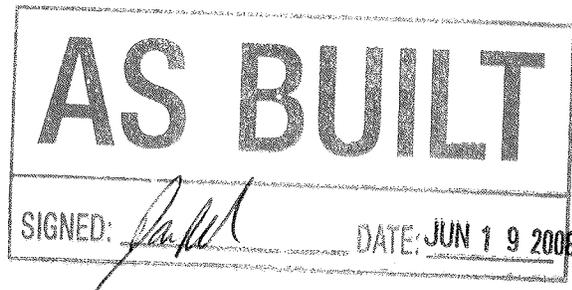
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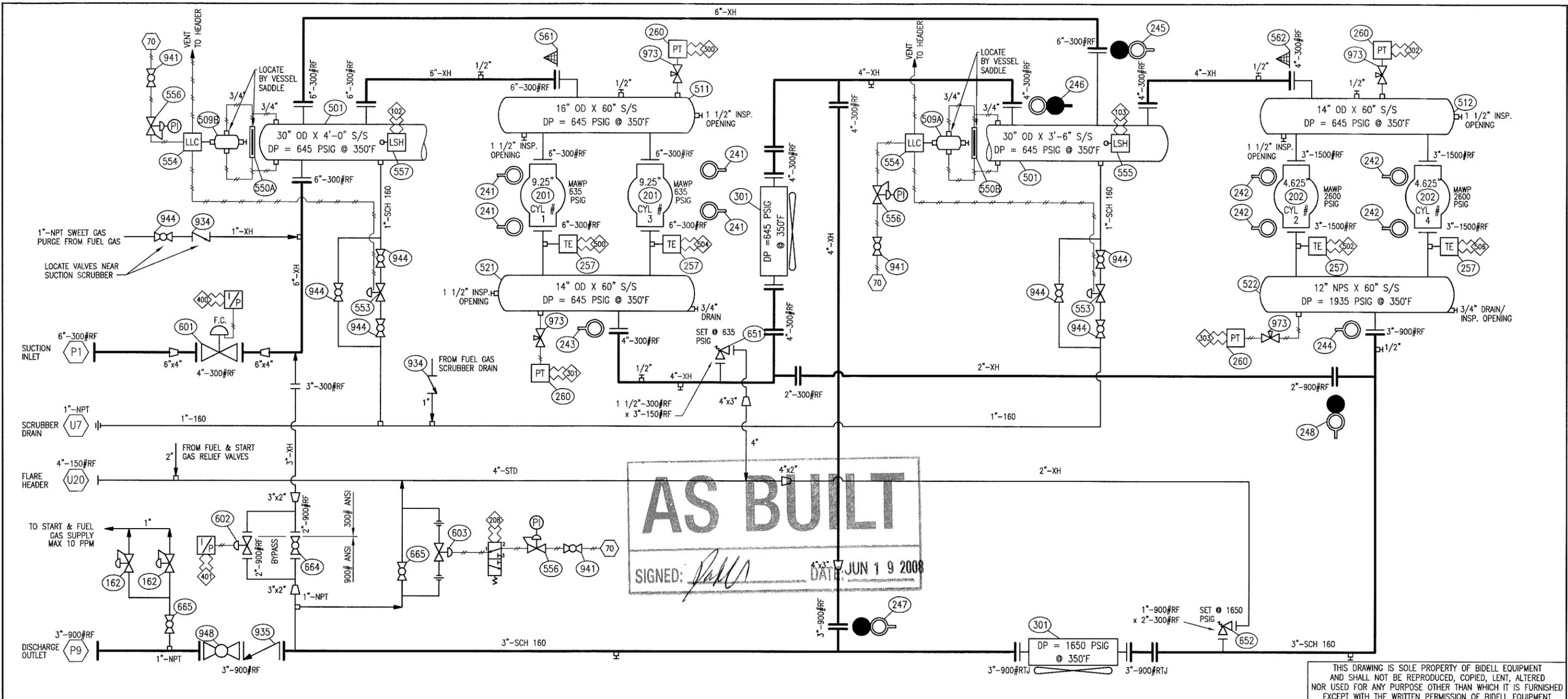
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NO	REV	DESCRIPTION	QTY	NOTES
		VOLTAGE SHUTDOWN, DIGITAL DISPLAY, GPC-DC-LVC-HZ DC VOLTAGE MONITOR, C/W NEMA 4 ENCLOSURE -20" x 20" x 6", CLASS 1, DIV. 2 - B2-BOXINS, (2) BATTERY BOXES WITH (4) 12 VOLT BATTERIES P/N B-AGM-12-100, 100Ahr AGM C/W NEMA 3 ENCLOSURE 17" x 20" x 13" INSULATED		
993	0	BUILDING ELECTRICAL: 1 - ESD CONTACT TO CONNECT TO PLANT ESD SYSTEM	A/R	
994	0	TANK, HYDRAULIC STORAGE, 30 US GALLON, "HYDRA-CRAFT" MODEL WCE30, RECTANGULAR, C/W FILL-CAP, VENT, LEVEL GAUGE, & 2"-NPT BALL VALVE	1	
995	0	HYDRAULIC MOTOR ENGINE DRIVEN PUMP: - "DENISON" VANE PUMP 20 GPM @ 1200 RPM - "PERMCO" P3700 GEAR MOTOR 2 1/2" GEAR SET - "DENISON" R5V RELIEF VALVE - "THERMAL TRANS." MR-25-60 COOLER c/w INTERNAL BYPASS - 30 GALLON HYDRAULIC OIL RESERVOIR - OVERHUNG LOAD ADAPTOR #615-13S c/w BYPASS CHECK VALVE	1	
996	0	HYDRAULIC PUMP DRIVE TWO GROOVE SHEAVE, 9.65" PD "5V" SECTION, BORE TO MATCH 1 1/2" DIA. PUMP SHAFT	1	
997	0	IDLER ASSEMBLY FOR PUMP DRIVE, MODEL DATQ1 & IDQ1-1 c/w 2Q5V56 SHEAVE TWO "5V" GROOVE	1	
998	0	HYDRAULIC PUMP BELT, "5V" SECTION, LENGTH = 5V1060	2	

0-ISSUED FOR APPROVAL / PURCHASING – JAN 16/04
A-ISSUED FOR PURCHASING / CONSTRUCTION – JAN 29/04
B-AS-BUILT – APR 26/04 DR
C-REBUILD ISSUED FOR CONSTRUCTION/PURCHASING – APR 22/09 DR
D-AS-BUILT – JUNE 19/09 DR

Notes: - Trailer VIN: 2A9LB50494N125254





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ELECTRICAL TERMINATIONS

- | | |
|--|--------------------------------------|
| 102 HIGH LIQUID LEVEL SCRUBBER STG. ONE | 303 DISCHARGE PRESSURE STG. TWO |
| 103 HIGH LIQUID LEVEL SCRUBBER STG. TWO | 305 LOW PRESSURE ENGINE OIL |
| 104 FUEL FILTER HIGH LIQUID LEVEL | 306 ENGINE OVERSPEED |
| 105 LOW LEVEL ENGINE OIL | 307 LOW PRESSURE COMPRESSOR OIL |
| 106 LOW LEVEL E.J.W. SURGE TANK | 400 SUCTION CONTROL VALVE SIGNAL |
| 107 LOW LEVEL T.A.W. SURGE TANK | 401 AUTO BYPASS VALVE SIGNAL |
| 108 VIBRATION ENGINE | 402 GOVERNOR SPEED CONTROL SIGNAL |
| 109 LOW LEVEL COMPRESSOR OIL | 500 HIGH DISCHARGE TEMP. CYLINDER #1 |
| 110 LUBRICATOR NO FLOW SWITCH (LEFT) | 502 HIGH DISCHARGE TEMP. CYLINDER #2 |
| 111 LUBRICATOR NO FLOW SWITCH (RIGHT) | 504 HIGH DISCHARGE TEMP. CYLINDER #3 |
| 112 VIBRATION COMPRESSOR | 506 HIGH DISCHARGE TEMP. CYLINDER #4 |
| 113 VIBRATION GAS COOLER | 510 HIGH TEMPERATURE ENGINE OIL |
| 114 VIBRATION WATER COOLER | 512 HIGH TEMPERATURE ENGINE J.W. |
| 200 FUEL GAS VALVE SIGNAL | 514 HIGH TEMPERATURE COMPRESSOR OIL |
| 201 ENGINE CRANK SIGNAL | 408 AFR PANEL |
| 202 AUX LUBE PUMP SIGNAL (ENGINE & COMP) | |
| 203 AUTOBLOWDOWN VALVE SIGNAL | |
| 300 SUCTION PRESSURE STG. ONE | |
| 301 DISCHARGE PRESSURE STG. ONE | |
| 302 SUCTION PRESSURE STG. TWO | |

PNEUMATIC TERMINATIONS

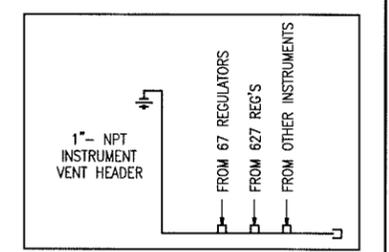
70 INSTRUMENT GAS

GENERAL NOTES

- INSTRUMENTATION**
 - TEMP. & PRESS. GAUGES SHALL BE DUAL SCALE
 - INSTRUMENT MEDIUM TO BE CLEAN DRY AIR / GAS
 - CONTROL PANEL POWERED BY - 24 V DC
 - PROCESS TUBING TO BE 1/4" OD MIN x .035" w.t. 316 SS
 - FITTINGS TO BE 316 SS c/w SS FERRULES
 - INSTRUMENT TUBING TO BE 1/4" OD MIN x .035" w.t. 316 SS
 - FITTINGS TO BE 316 SS c/w SS FERRULES
 - LUBE OIL TUBING TO BE OD 1/4" OD MIN x .035" w.t. 316 SS
 - FITTINGS TO BE 316 SS c/w SS FERRULES
 - TUBING RUNS IN TRAFFIC AREAS SHALL BE PROTECTED WITH REMOVABLE COVER
 - ON SKID N.I. WIRING SHALL BE PROTECTED INSIDE RIGID ALUMINUM CONDUIT
- PROCESS PIPING**
 - CONSTRUCTED IN ACCORDANCE WITH ANSI B31.3
 - HYDROSTATIC TESTED TO 1.5 x DESIGN PRESS @ AMBIENT
 - CORROSION ALLOWANCE = 0.125 INCHES
 - RADIOGRAPHIC EXAMINATION = FULL (100%)
 - STRESS RELIEVED - 1150 Deg.F / ONE HOUR
 - EXTERNALLY PICKLED
 - INTERNALLY PICKLED AND RUST PROTECTED
 - ALL FLANGED RELIEF VALVES SHALL BE BRACED ONLY
 - PIPING TO BE ANCHORED TO STRUCTURAL MEMBER WITH BIDELEQUIPMENT STANDARD STRAP TYPE HEAVY DUTY CLAMPS (4 BOLT CLAMPS)
 - PROCESS SCREWED CONNECTIONS SHALL BE 3000# F.S. THREADOLETS
 - NO CLOSE NIPPLES. THRD NIPPLES TO HAVE 1" LAND
 - ALL PROCESS NIPPLES INCLUDING FUEL/START GAS TO BE SCH 160
 - LOW TEMP MATERIAL OUTSIDE BLDG
 - 100% MPI ON ALL FILLET WELDS (POST PWHT).
 - MICRODUR TOTAL OF (2) BUTTWELDS PER FURNACE HEAT.
- PROCESS PRESSURE VESSELS**
 - CONSTRUCTED IN ACCORDANCE WITH ASME SECTION VIII, DIV. 1
 - HYDROSTATIC TESTED TO 1.3 x DESIGN PRESS. @ AMBIENT
 - CORROSION ALLOWANCE = 0.125 INCHES
 - RADIOGRAPHIC EXAMINATION = FULL PER UW 11a, RT-1
 - STRESS RELIEVED - 1150 Deg.F / ONE HOUR
 - EXTERNALLY PICKLED
 - INTERNALLY PICKLED AND RUST PROTECTED
 - SCREWED CONNECTIONS ON VESSELS SHALL BE 3000# F.S. THREADOLETS
 - CRN'S REQ'D FOR AB, BC, SK
 - MICRODUR CIRC SEAM, LONG SEAM, ONE CAT. "B" WELD
 - 100% UT OF ALL CAT. "D" WELDS (SHEAR WAVE)
 - 100% MPI OF ALL FILLET WELDS (POST PWHT)
- STRUCTURAL STEEL**
 - STEP DECK TRAILER "ASPEN" 50 TON, 16 WHEEL, AIR RIDE SUSPENSION, 6 DOLLEY LEGS
- CUSTOMER NOTES**
 - COLOUR OF PACKAGE = WARM GREY
 - COLOUR OF TRAILER = WARM GREY
 - COLOUR OF BLDG = BONE WHITE c/w ROYAL BLUE TRIM
 - LS-D: PORTABLE
 - REMOVE COUPLING SHIM PACK PRIOR TO SHIPPING
 - LOOSEN ALL RIGID PIPES
 - REMOVE ALL DRIVE BELTS
 - FULL LOAD NITROGEN TEST RUN REQ'D

AS BUILT
 SIGNED: [Signature]
 DATE: JUN 19 2008

SOUR GAS SERVICE (< 2% H2S)

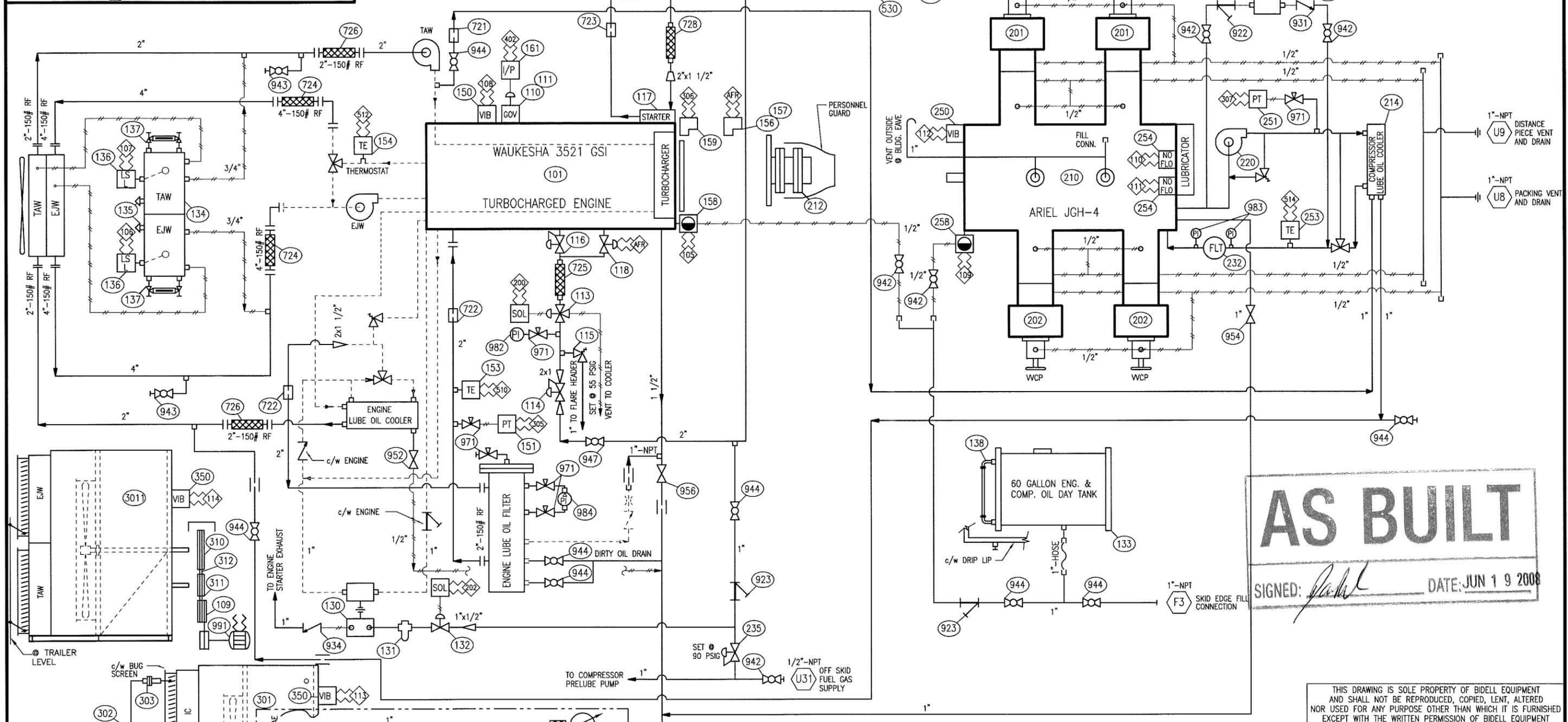
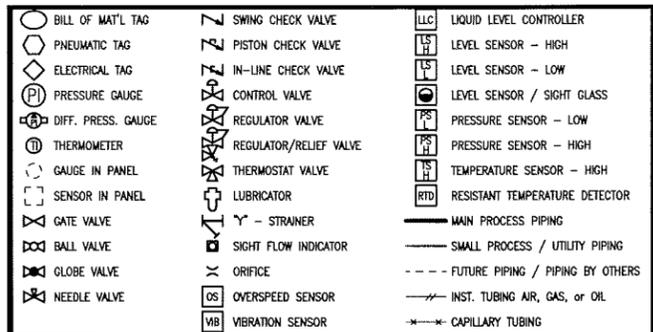


REV	DATE	BY	APPR	DESCRIPTION
F	08-06-18	CP	DR	AS BUILT#2
E	08-04-21	CP	DR	REBUILD
D	04-04-28	BK	LT	AS BUILT
C	04-04-05	TW	LT	REVISED PROCESS PIPING NOTES
B	04-03-12	TW	LT	REVISED PIPE SCH FOR SCRUBBER DRAIN
A	04-03-10	LS	LT	ISSUED FOR CONSTRUCTION
O	04-01-19	TW	LT	ISSUED FOR APPROVAL

PROCESS & INSTRUMENTATION FLOW DIAGRAM
 FOR:
WAUKESHA F3521GSI / ARIEL JGH/4 / ACE J4A

BIDELEQUIPMENT
 GAS COMPRESSION
 6900 - 112th AVENUE S.E. CALGARY, AB T2C 4Z1
 PHONE: (403) 235-5877 FAX: (403) 272-7749

CUSTOMER:	CANADIAN NATURAL RESOURCES LTD
PROJECT:	TRAILER MOUNT COMPRESSOR
SHOP ORDER:	03-257
DWG NO:	03-257-1A
REVISION:	F



AS BUILT

SIGNED: *[Signature]* DATE: JUN 19 2008

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REV	DATE	BY	APPR	DESCRIPTION
E	08-06-18	CP	DR	AS BUILT #2
D	08-04-21	CP	DR	REBUILD
C	04-04-28	BK	LT	AS BUILT
B	04-04-05	TW	LT	REVISED PIPING SCH
A	04-03-10	LS	LT	ISSUED FOR CONSTRUCTION
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UTILITY & INSTRUMENTATION FLOW DIAGRAM

FOR:
WAUKESHA F3521GSI / ARIEL JGH/4 / ACE J4A

BIDEILL EQUIPMENT

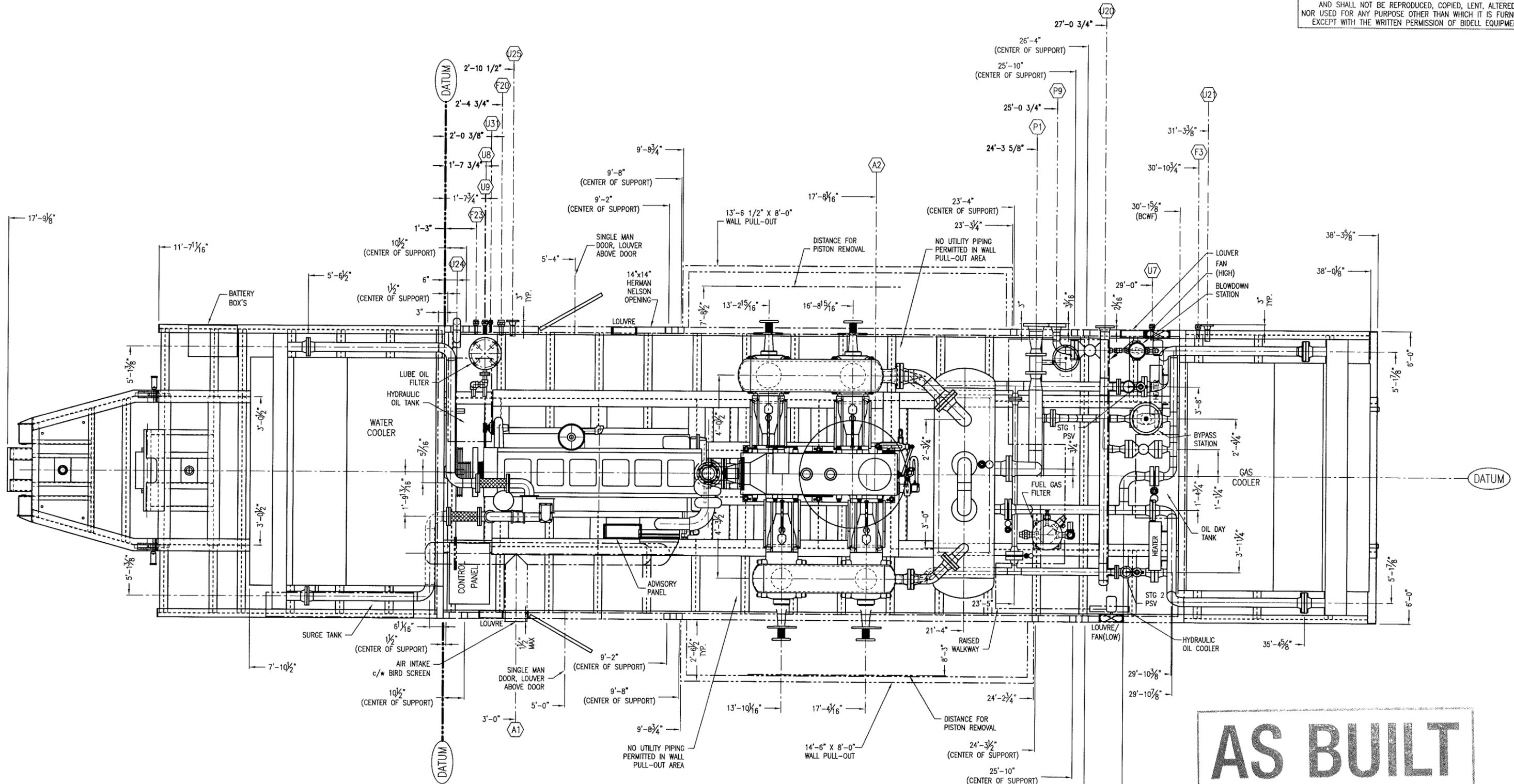
GAS COMPRESSION

6900 - 112th AVENUE S.E.
CALGARY, AB T2C 4Z1

PHONE: (403) 235-5877
FAX: (403) 272-7749

CUSTOMER:	CANADIAN NATURAL RESOURCES LTD
PROJECT:	TRAILER MOUNT COMPRESSOR
SHOP ORDER:	03-257
DWG NO:	03-257-1B
REVISION:	E

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AS BUILT
 SIGNED: *[Signature]* DATE: JUN 19 2008

U31	1/2"-NPT	OFF SKID FUEL GAS SUPPLY
U25	2"-150#RF	START GAS SUPPLY
U24	3" PIPE	STARTER EXHAUST
U21	2"-150#RF	FUEL GAS SUPPLY
U20	4"-150#RF	FLARE HEADER
U9	1"-NPT	DISTANCE PIECE VENT & DRAIN
U8	1"-NPT	PACKING VENT & DRAIN
U7	1"-NPT	SCRUBBER DRAIN HEADER
F23	1"-NPT	WASTE OIL LOW POINT DRAIN
F20	2"-NPT	WASTE OIL DRAIN
F3	1"-NPT	ENGINE/ COMPRESSOR OIL DAY TANK FILL
P9	3"-900#RF	DISCHARGE OUTLET
P1	6"-300#RF	SUCTION INLET
A2	10"-TUBE	ENGINE EXHAUST
A1	12"-TUBE	ENGINE AIR INTAKE
TAG	SIZE & RATING	SERVICE / DESCRIPTION

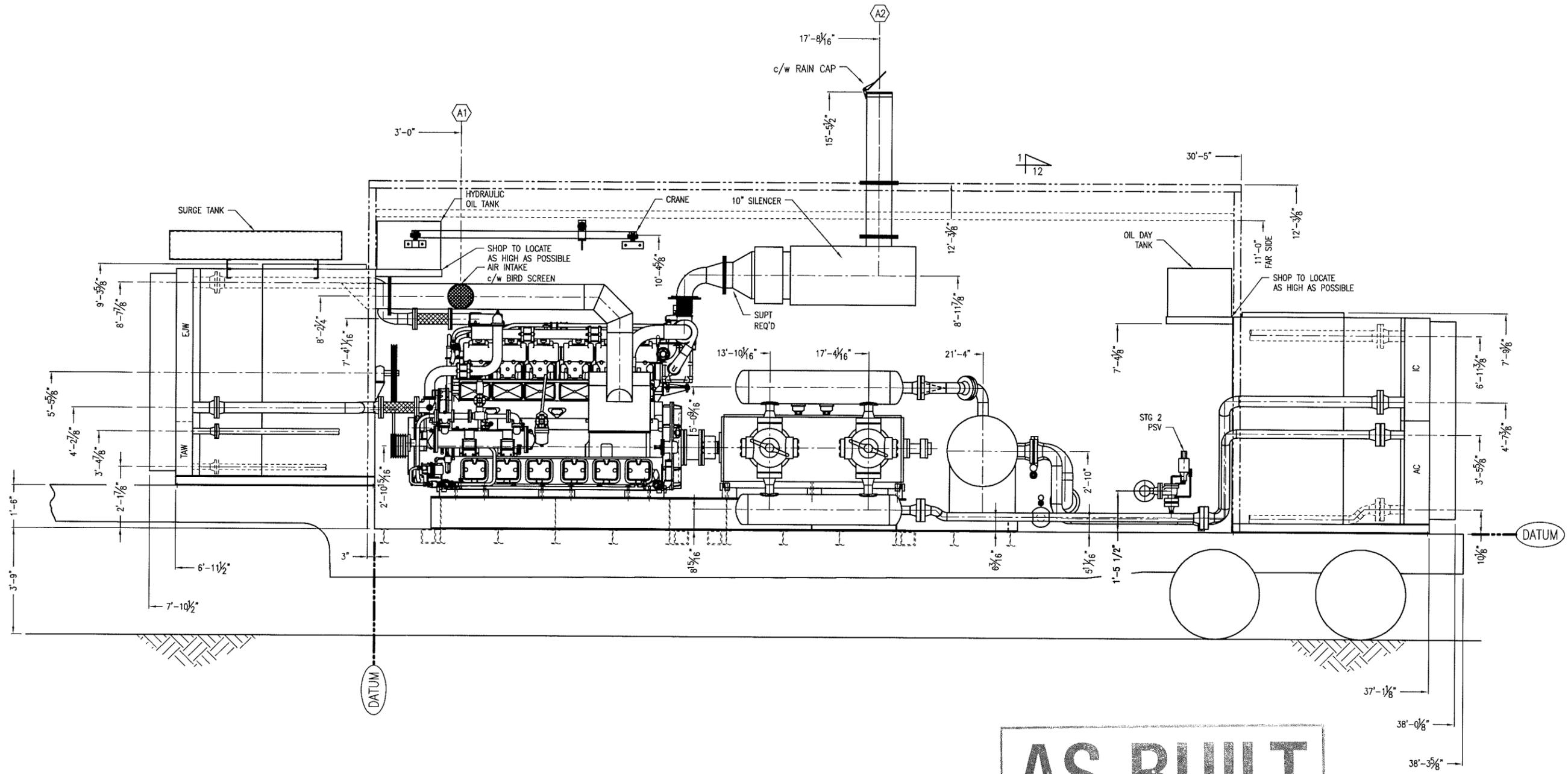
TRAILOR WEIGHT = APPROX 23,230 lbs
 BOOSTER WEIGHT = APPROX 8,740 lbs
 PACKAGE WEIGHT = APPROX 80,000 lbs
 TOTAL PACKAGE LENGTH = APPROX 56'-1" (76'-9" INCLUDING BOOSTER)
 TOTAL PACKAGE WIDTH (Incl. Eaves) = 12'-5 1/2" MAX
 TOTAL PACKAGE HEIGHT = APPROX 15'-9"

REV	DATE	BY	APPR	DESCRIPTION
D	08-06-18	CP	DR	AS BUILT
C	08-04-21	CP	DR	REBUILD
B	04-04-28	BK	LT	AS BUILT
A	04-03-10	LS	LT	ISSUED FOR CONSTRUCTION
O	04-01-27	LS	LT	ISSUED FOR APPROVAL

BIDELL EQUIPMENT
 GAS COMPRESSION

6900 - 112th AVENUE S.E.
 CALGARY, AB T2C 4Z1
 PHONE: (403) 235-5877
 FAX: (403) 272-7749

PLAN VIEW
 WAUKESHA F3521GSI / ARIEL JGH/4 / ACE J4A
 CUSTOMER: CANADIAN NATURAL RESOURCES LTD
 LOCATION: TRAILER MOUNTED COMPRESSOR - MOBILE
 LSD: PORTABLE
 JOB#: 03-257
 DWN/LS DATE 04-01-27 SCALE 3/8" = 1'-0" DWG# 03-257-2A REV D



AS BUILT
 SIGNED: *[Signature]* DATE: JUN 19 2008

TAG	SIZE & RATING	SERVICE / DESCRIPTION
U31	1/2"-NPT	OFF SKID FUEL GAS SUPPLY
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TAG	SIZE & RATING	SERVICE / DESCRIPTION

SCHEDULE OF OPENINGS

REV	DATE	BY	APPR	DESCRIPTION
D	08-06-18	CP	DR	AS BUILT
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REVISIONS

BIDELL EQUIPMENT
 6900 - 112th AVENUE S.E.
 CALGARY, AB T2C 4Z1
 PHONE: (403) 235-5877
 FAX: (403) 272-7749

GAS COMPRESSION

ELEVATION VIEW #1
 WAUKESHA F3521GSI / ARIEL JGH/4 / ACE J4A

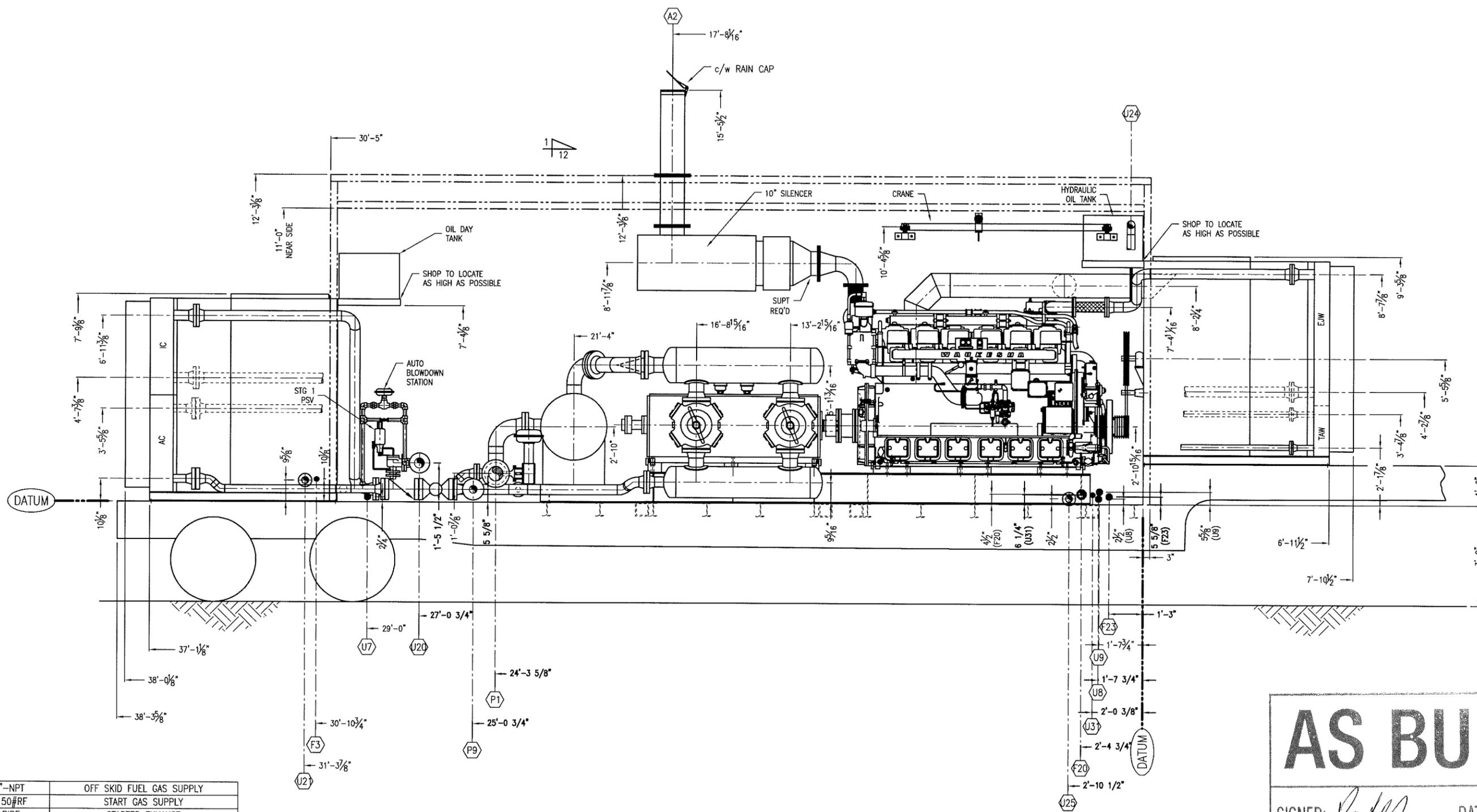
CUSTOMER: CANADIAN NATURAL RESOURCES LTD
 LOCATION: TRAILER MOUNTED COMPRESSOR - MOBILE
 LSD: PORTABLE

JOB#: 03-257

DWN DATE SCALE DWG#
 LS 04-01-27 3/8" = 1'-0" 03-257-2B

REV D

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AS BUILT
 SIGNED: *[Signature]* DATE: JUN 19 2008

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F3	1"-NPT	ENGINE/ COMPRESSOR OIL DAY TANK FILL
P9	3"-900#RF	DISCHARGE OUTLET
P1	6"-300#RF	SUCTION INLET
A2	10"-TUBE	ENGINE EXHAUST
A1	12"-TUBE	ENGINE AIR INTAKE
IC		INTEGRATED COMPRESSOR
AC		AIR COMPRESSOR
STG		STARTER GAS TANK
PSV		PRESSURE SAFETY VALVE
U7		UNION
U20		UNION
F3		FITTING
P9		PIPE
P1		PIPE
A2		ANGULAR
A1		ANGULAR

SCHEDULE OF OPENINGS

REV	DATE	BY	APPR	DESCRIPTION
D	08-06-18	CP	DR	AS BUILT
C	08-02-21	CP	DR	REBUILD
B	04-04-28	BK	LT	AS BUILT
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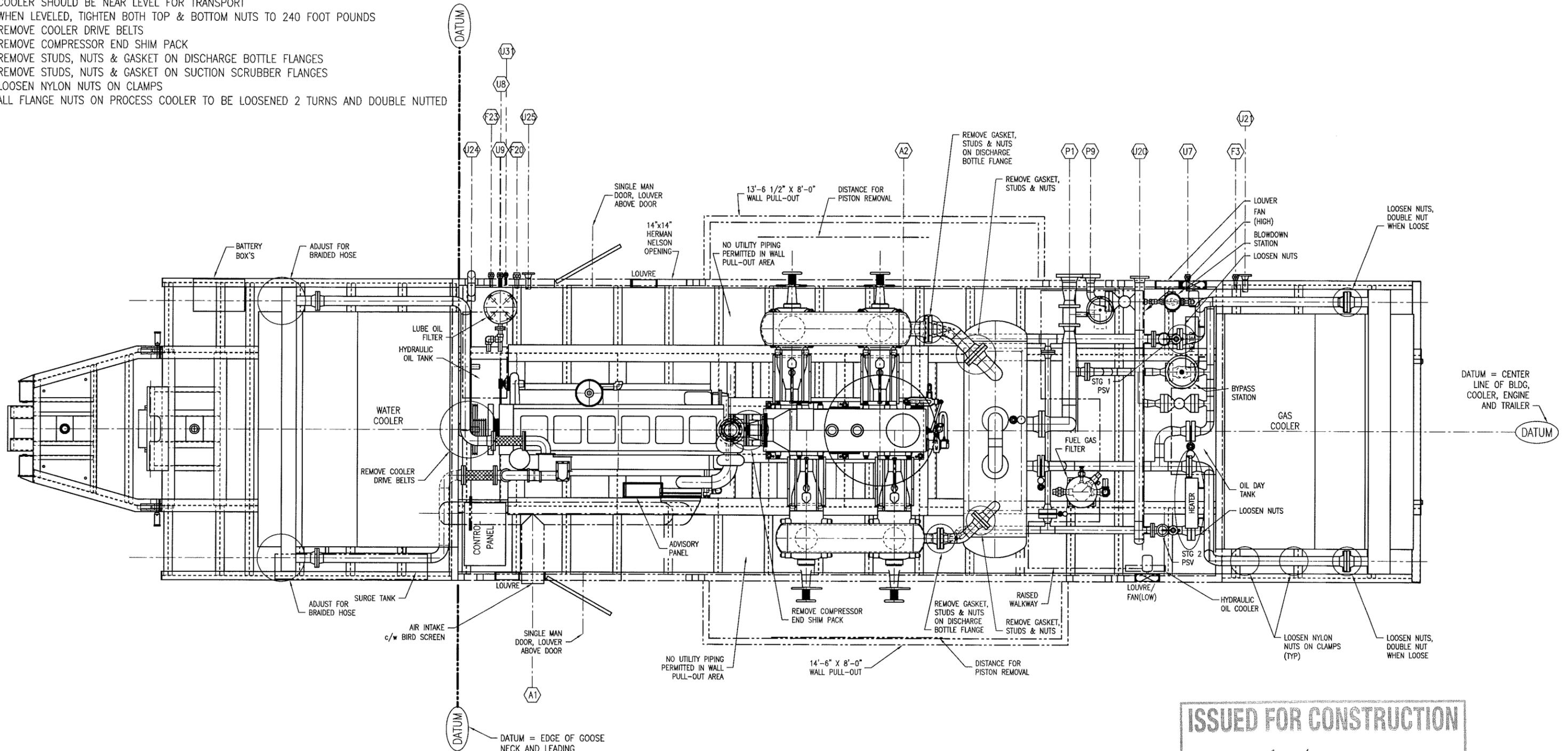
BIDELL EQUIPMENT
 6900 - 112th AVENUE S.E.
 CALGARY, AB T2C 4Z1
 PHONE: (403) 235-5877
 FAX: (403) 272-7749

ELEVATION VIEW #2
 WAUKESHA F3521GSI / ARIEL JGH/4 / ACE J4A
 CUSTOMER: CANADIAN NATURAL RESOURCES LTD
 LOCATION: TRAILER MOUNTED COMPRESSOR - MOBILE
 LSD: PORTABLE JOB#: 03-257

DWN DATE SCALE DWG# REV
 LS 04-01-27 3/8" = 1'-0" 03-257-20 D

TRANSPORTATION PREPARATION:

- ADJUST COOLER TO KEEP BRAIDED HOSES FROM BEING STRETCHED
- COOLER SHOULD BE NEAR LEVEL FOR TRANSPORT
- WHEN LEVELLED, TIGHTEN BOTH TOP & BOTTOM NUTS TO 240 FOOT POUNDS
- REMOVE COOLER DRIVE BELTS
- REMOVE COMPRESSOR END SHIM PACK
- REMOVE STUDS, NUTS & GASKET ON DISCHARGE BOTTLE FLANGES
- REMOVE STUDS, NUTS & GASKET ON SUCTION SCRUBBER FLANGES
- LOOSEN NYLON NUTS ON CLAMPS
- ALL FLANGE NUTS ON PROCESS COOLER TO BE LOOSENED 2 TURNS AND DOUBLE NUTTED



DATUM = CENTER LINE OF BLDG, COOLER, ENGINE AND TRAILER

DATUM = EDGE OF GOOSE NECK AND LEADING EDGE OF COOLER

ISSUED FOR CONSTRUCTION
 SIGNED: *[Signature]* DATE: JUN 19 2008

TAG	SIZE & RATING	SERVICE / DESCRIPTION
U31	1/2"-NPT	OFF SKID FUEL GAS SUPPLY
U25	2"-150#RF	START GAS SUPPLY
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U20	4"-150#RF	FLARE HEADER
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U8	1"-NPT	PACKING VENT & DRAIN
U7	1"-NPT	SCRUBBER DRAIN HEADER
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A2	10"-TUBE	ENGINE EXHAUST
A1	12"-TUBE	ENGINE AIR INTAKE

TRAILOR WEIGHT = APPROX 23,230 lbs
 BOOSTER WEIGHT = APPROX 8,740 lbs
 PACKAGE WEIGHT = APPROX 80,000 lbs
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 TOTAL PACKAGE WIDTH (Incl. Eaves) = 12'-5 1/2" MAX
 TOTAL PACKAGE HEIGHT = APPROX 15'-9"

REV	DATE	BY	APPR	DESCRIPTION
A	08-06-19	DR	CP	ISSUED FOR CONSTRUCTION
0	-	-	-	-

BIDELL EQUIPMENT 6900 - 112th AVENUE S.E. CALGARY, AB T2C 4Z1
 PHONE: (403) 235-5877 FAX: (403) 272-7749

GAS COMPRESSION

TRANSPORTATION PREPARATION
 WAUKESHA F3521GSI / ARIEL JGH/4 / ACE J4A
 CUSTOMER: CANADIAN NATURAL RESOURCES LTD
 LOCATION: TRAILER MOUNTED COMPRESSOR - MOBILE
 LSD: PORTABLE JOB#: 03-257

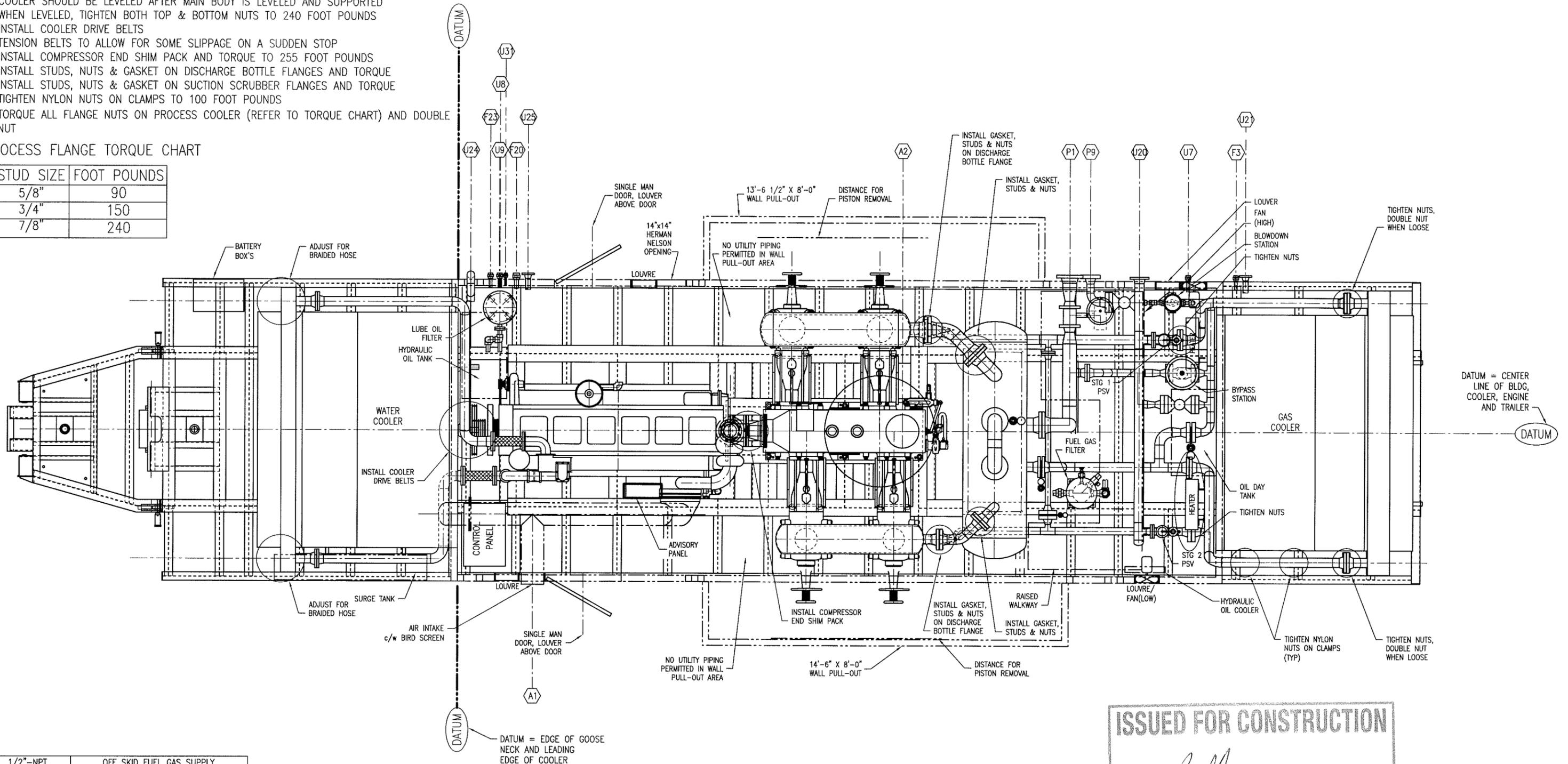
DWN DATE SCALE DWG#
 LS 03-11-18 3/8" = 1'-0" 03-257-2D REV A

SITE PREPARATION:

- ADJUST COOLER TO KEEP BRAIDED HOSES FROM BEING STRETCHED
- COOLER SHOULD BE LEVELED AFTER MAIN BODY IS LEVELED AND SUPPORTED
- WHEN LEVELED, TIGHTEN BOTH TOP & BOTTOM NUTS TO 240 FOOT POUNDS
- INSTALL COOLER DRIVE BELTS
- TENSION BELTS TO ALLOW FOR SOME SLIPPAGE ON A SUDDEN STOP
- INSTALL COMPRESSOR END SHIM PACK AND TORQUE TO 255 FOOT POUNDS
- INSTALL STUDS, NUTS & GASKET ON DISCHARGE BOTTLE FLANGES AND TORQUE
- INSTALL STUDS, NUTS & GASKET ON SUCTION SCRUBBER FLANGES AND TORQUE
- TIGHTEN NYLON NUTS ON CLAMPS TO 100 FOOT POUNDS
- TORQUE ALL FLANGE NUTS ON PROCESS COOLER (REFER TO TORQUE CHART) AND DOUBLE NUT

PROCESS FLANGE TORQUE CHART

STUD SIZE	FOOT POUNDS
5/8"	90
3/4"	150
7/8"	240



DATUM = CENTER LINE OF BLDG, COOLER, ENGINE AND TRAILER

DATUM = EDGE OF GOOSE NECK AND LEADING EDGE OF COOLER

ISSUED FOR CONSTRUCTION
 SIGNED: *[Signature]* DATE: JUN 19 2008

TAG	SIZE & RATING	SERVICE / DESCRIPTION
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REV	DATE	BY	APPR	DESCRIPTION
A	08-06-19	DR	CP	ISSUED FOR CONSTRUCTION
0	-	-	-	-

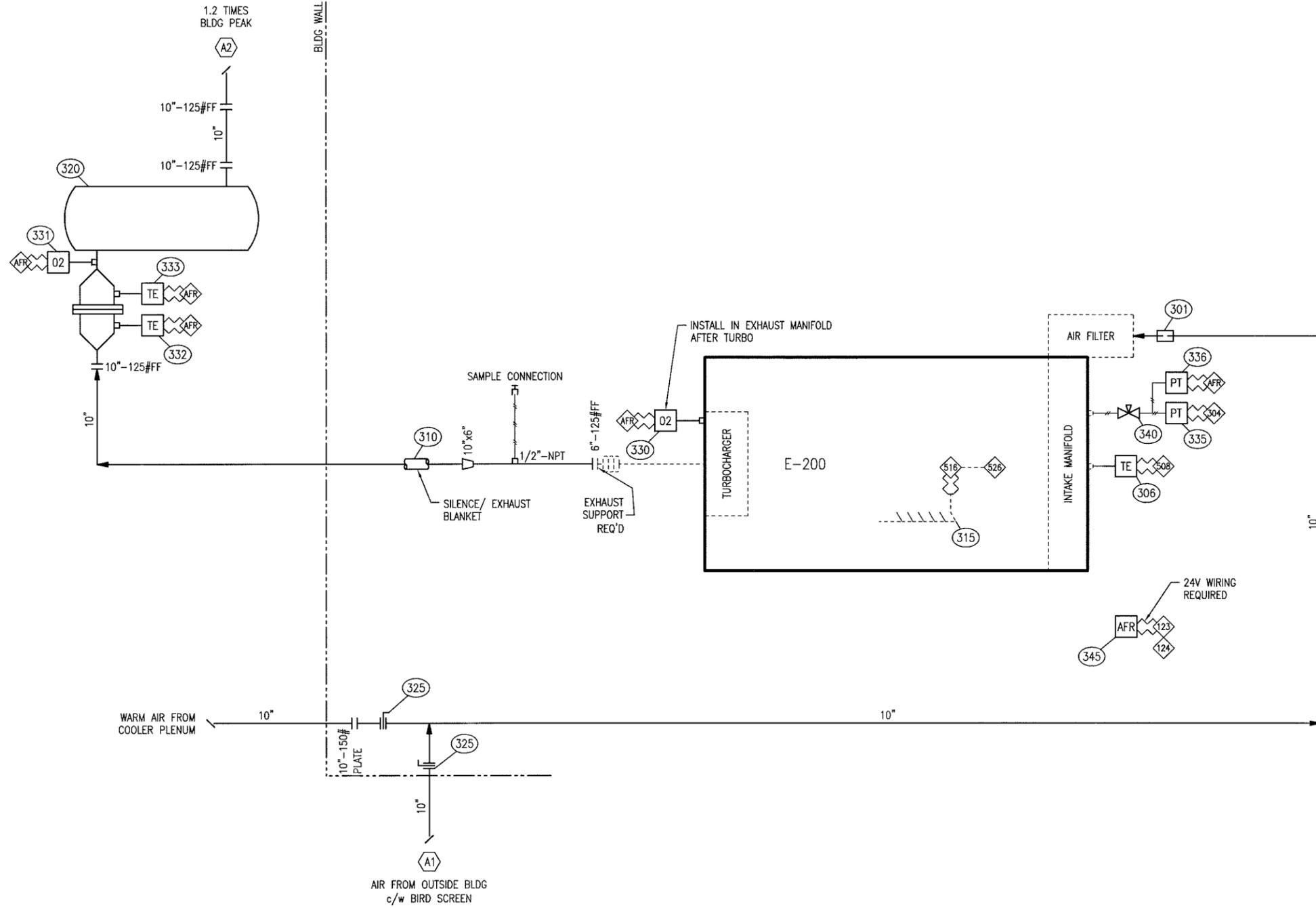
BIDELL EQUIPMENT 6900 - 112th AVENUE S.E.
 CALGARY, AB T2C 4Z1
 PHONE: (403) 235-5877
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GAS COMPRESSION

SITE PREPARATION
 WAUKESHA F3521GSI / ARIEL JGH/4 / ACE J4A
 CUSTOMER: CANADIAN NATURAL RESOURCES LTD
 LOCATION: TRAILER MOUNTED COMPRESSOR - MOBILE
 LSD: PORTABLE JOB#: 03-257
 DWN DATE SCALE DWG# 03-257-2E REV A
 LS 03-11-18 3/8" = 1'-0"

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E-200 ENGINE
WAUKESHA F3521GSI



BILL OF MATERIALS			
MK	QTY	PART NUMBER	DESCRIPTION
301	1	HOS-8000	CONNECTOR, HOSE, NEOPRENE, 1/8" THK, C/W HOSE CLAMPS
306	1	TCP-K753	THERMOCOUPLE, TYPE 'K', UNGROUNDED, 1/2"-NPT, 1/4" OD x 7 1/2" 316SS SHEATH, 10 FT SS ARMoured LEAD
310	1	INS-110	INSULATION, EXHAUST, 2" THK MINERAL WOOL, SS INNER LINER ALUMINUM OUTER LINER, 2" AIR GAP
315	1	ENG-202	PYROMETER, HARNESS, EXHAUST TEMP., TYPE 'K' THERMOCOUPLES, VHP, 9 POINTS
320	1	EXH-DHK-10X-A195	SILENCER, DISK TYPE, "EM" MODEL DHK-10X-A195-001, 10ANSI, 53"DIA.X 25", C/W CATALYST, MOUNTING LUGS AND DRAIN
325	2	AIR-002	SLIDER, MIXING, FITS 8"-12" INTAKE LINES, BY SHOP
330	1	NPN	SENSOR, OXYGEN INLET, c/w 25 FT CABLE AND REMOTE MOUNTING BLOCKS (c/w AFR PANEL)
331	1	NPN	SENSOR, OXYGEN OUTLET, c/w 25 FT CABLE AND REMOTE MOUNTING BLOCKS (c/w AFR PANEL)
332	1	NPN	CATALYTIC CONVERTER INLET TEMP, 'K' TYPE THERMOCOUPLE, (c/w AFR PANEL)
333	1	NPN	CATALYTIC CONVERTER OUTLET TEMP, 'K' TYPE THERMOCOUPLE, (c/w AFR PANEL)
335	1	PT-IS20-S-30(-30)	TRANSMITTER, PRESSURE, 30Hg-30PSI PSIG, 4-20 mA OUTPUT, "WIKA" MODEL IS-20, CSA APPROVED, CLASS 1, DIV 2, GROUPS C & D (c/w PANEL)
336	1	NPN	TRANSMITTER, PRESSURE, MANIFOLD AIR, c/w CABLE, (c/w AFR PANEL)
340	1	NVS-026F	VALVE, NEEDLE, 1/4"x1/4"-FNPT, "CENTURY" MODEL CM23F22TBV, 6000 PSIG MAWP, A10B CS BODY, HARD SEAT, VITON O-RING
345	1	AFR-MERC-11-TK6	AIR FUEL RATIO KIT - SINGLE BANK - W/POST CAT CONTROL 5-35PSI

AS BUILT
SIGNED: *[Signature]* DATE: JUN 1 9 2008

GENERAL NOTES:
1. ALL END DEVICES ARE LOCALLY MOUNTED UNLESS OTHERWISE NOTED

REV	DATE	BY	APPR	DESCRIPTION
A	08-06-18	CP	DR	AS BUILT
O	08-04-21	CP	DR	ISSUED FOR CONSTRUCTION

BIDELL EQUIPMENT
GAS COMPRESSION
6900 - 112th AVENUE S.E.
CALGARY, AB T2C 4Z1
PHONE: (403) 235-5877
FAX: (403) 272-7749

ENGINE AIR & EXHAUST UTILITY FLOW DIAGRAM
WAUKESHA F3521GSI
CUSTOMER: CANADIAN NATURAL RESOURCES LTD.
LOCATION: TRAILER MOUNT COMPRESSOR
LSD: PORTABLE
JOB#: 03-257
DWN CP 08-04-04 SCALE NTS DWG# 03-257-730 REV A

ELECTRICAL TERMINATIONS

123	AFR ALARM
124	AFR SHUTDOWN
304	ENGINE MANIFOLD AIR PRESSURE
508	ENGINE MANIFOLD AIR TEMP
516 TO 526	ENGINE CYLINDER TEMP
AFR	AFR PANEL

ALL PRESSURE TRANSMITTERS TO HAVE ISOLATION VALVE AND PLUGGED CALIBRATION CONNECTION, REFER TO PANEL DRAWINGS

BUILDING SPECIFICATIONS

DESIGN NOTES

- DESIGN LOADS (BASED UPON CALGARY, AB):
 RAIN LOAD = 0.1 kPa
 Z_a = 0, Z_v = 1, v = 0.05
 GROUND SNOW LOAD = 40#/ft
 WIND LOAD = 100 MPH
- DESIGN STRUCTURE AS PER THE LATEST EDITION OF THE AB & NATIONAL BUILDING CODE
- ALL BOLTS, SCREWS, ETC. USED FOR FASTENING ALUMINUM TO ALUMINUM AND ALUMINUM TO STEEL SHALL BE AUSTINIC STAINLESS STEEL OR CADMIUM PLATED

GENERAL NOTES

- 1 NOTES WHICH ARE APPLICABLE TO THIS JOB WHEN SHADED
- 2 SUBNOTES WHICH ARE APPLICABLE WHEN SHADED

1 TYPE OF BUILDING (EAVELESS)

SELF FRAMING-SHED SELF FRAMING-CABLE RIGID FRAMING-CABLE

2 MATERIAL - EXTERIOR WALL & ROOF PANELS (22 ga MIN)

GALVANIZED GALVALUME

COLOUR

WALLS BONE WHITE SPEC # _____ ROOF BONE WHITE SPEC # _____
 DOORS ROYAL BLUE SPEC # _____ TRIM ROYAL BLUE SPEC # _____

TRANSLUCENT ROOF PANELS

SIZE _____ COLOUR _____ QTY _____

3 ROOF SLOPE

1:12 2:12 3:12 4:12 OTHER _____

4 INSULATION - ROCKWOOL

WALLS R-12 3 LB/CU FT DENSITY SOUND R-20
 ROOF R-12 3 LB/CU FT DENSITY SOUND R-20

5 DOORS - 20 ga METAL, INSULATED (NORMAL SIZES)

3'x7' SINGLE WS WGW PH LS DC SF CC CP IN
 QTY 2

6'x7' DOUBLE WS WGW PH LS DC SF CC CP IN WGWBD
 QTY _____

WS - WEATHER STRIPPING LS - LOCKSET CC - CHECKCHAIN
 WG - WIRE GLAZED WINDOW DC - DOOR CLOSURE CP - CANOPY
 PH - PANIC HARDWARE SF - STEEL FRAME IN - INSULATED
 WGWBD - WIRE GLAZED WINDOW BOTH DOORS

6 WINDOWS - HORIZONTAL SLIDING c/w SCREEN (SINGLE GLAZED)

QTY _____ 40x40 QTY _____ 40x50 QTY _____ WIRE GLAZED

7 LINER

24 ga FLUTED ALUMINUM 20 ga PERFORATED ALUMINUM - WHITE
 24 ga FLUTED STEEL - WHITE 20 ga 33% PERFORATED ALUMINUM
 20 ga PERFORATED ALUMINUM 20 ga 33% PERFORATED STEEL - WHITE

8 ERECTION

ON SITE BY BLDG MANUFACTURER AT BIDELL BY BLDG MANUFACTURER

9 WALL/ROOF LOUVRES (NOMINAL SIZES)

ADJUSTABLE LOUVRE c/w MANUAL CONTROL AND SCREEN

SIZE 12"x18" QTY 2
 SIZE 14"x14" (HERMAN NELSON) QTY 1
 SIZE 18"x18" QTY 2
 SIZE 18"x32" QTY 1
 SIZE 24"x24" QTY 1

10 RIDGE VENTILATOR

RIDGE VENTILATOR c/w MANUAL CONTROLS, RAIN CAP & BIRDSCREEN (CHAIN OPERATED @ HAND LEVEL)
 ACOUSTIC TYPE RIDGE VENTILATOR c/w MANUAL CONTROLS & BIRDSCREEN
 6" THROAT 9" THROAT OTHER _____
 LENGTH _____

11 PULL-OUTS

1 @ 14'-6" x 8'-0" C/W TRANSLUCENT PANELS c/w REMOVABLE SCREEN PANELS
 1 @ 13'-6 1/2" x 8'-0" C/W TRANSLUCENT PANELS c/w REMOVABLE SCREEN PANELS

12 FANS - ROOF/WALL

ROOF ELECTRIC DRIVEN FAN CAPABLE OF PROVIDING A MIN OF 12 AIR CHANGES/HOUR AT 1/8" SP c/w BACK DRAFT DAMPERS. ALUM HOUSING & BIRDSCREEN. MOTOR TO BE CSA APPROVED, XP (CLASS 1, GROUP D, DIV 1)
 WALL 1 HIGH 1 LOW
 120/240 V - 1 PHASE DIAMETER 12" 24V DC
 240/480 V - 3 PHASE HP 1/3

13 POLYETHYLENE VAPOUR BARRIER (1" MAX. SKID EDGE PROJECTION)

2 MIL 4 MIL 6 MIL

14 EAVESTROUGH, DOWNSPOUT & ICE RAKES

EAVESTROUGHS DOWNSPOUTS ICE RAKES OVER THE DOOR ON LOW SIDE OF ROOF

15 BUILDING SIZE

LENGTH 30'-8" WIDTH 12'-0" EAVE HGT 11'-0"

16 COOLER

ATTACHED TO BLDG OPENING SIZE _____ BY VENDOR
 DETACHED FROM BLDG

REMOVABLE ROOF SECTION
 REQUIRED FOR ENGINE AND
 COMPRESSOR REMOVAL

HERMAN NELSON DUCT TO BE
 LOCATED BY ENGINE ON THE
 NOZZLE SIDE

12"x18" LOUVRES TO BE LOCATED
 BY ENGINE, LOCATE UP HIGH
 ACROSS FROM EACH OTHER

24"x24" LOUVER TO BE LOCATED
 IN FRONT OF HYDRAULIC OIL
 COOLER

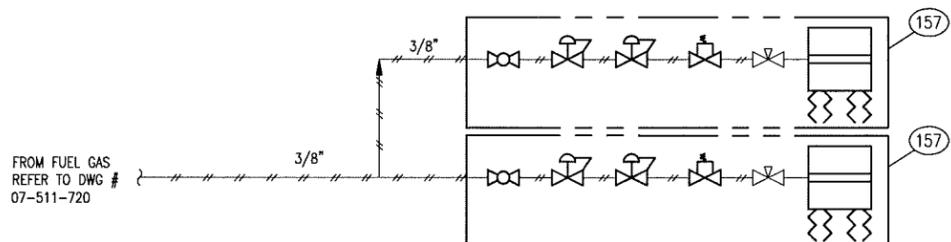
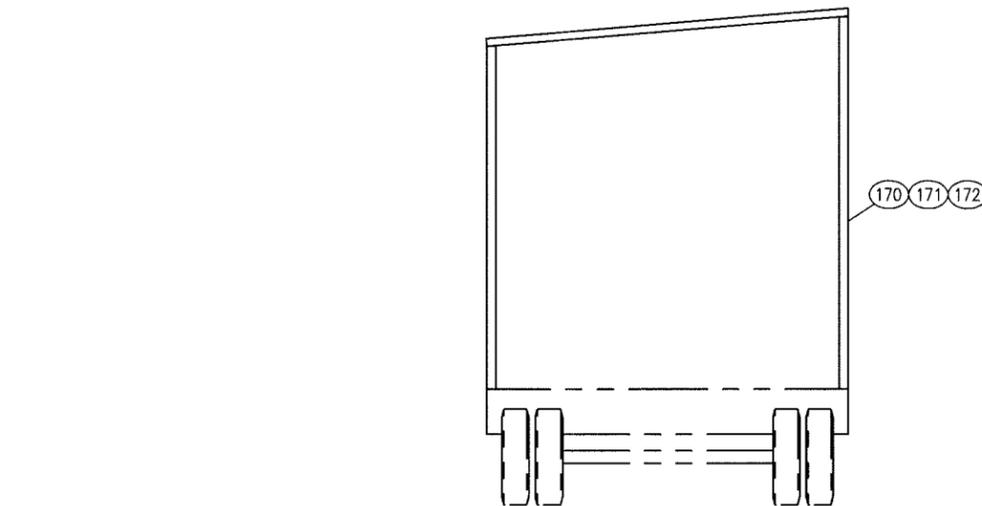
2 RIDGE VENTS REQ'D
 ALONG THE WIDTH OF
 THE BUILDING

AIR INTAKE HOOD REQ'D

(NO VAPOUR BARRIER)

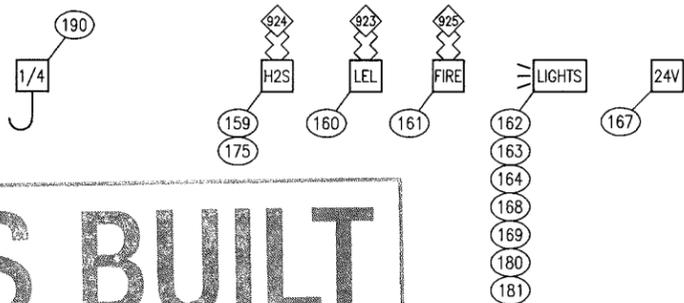
ELECTRICAL TERMINATIONS

- 923 GAS LEL DETECTION
- 924 GAS H₂S DETECTION
- 925 UV FLAME DETECTION



AS BUILT

SIGNED: *[Signature]* DATE: JUN 19 2008



- NOTES:
- TRAVEL TARPS TO THE TOP, FRONT AND 3' DOWN ON BOTH SIDES OF BOTH COOLERS c/w TIE DOWNS
 - TWO FOLDABLE STAIRS c/w LANDING (HAND RAIL AND ABRASIVE TAPE BY BIDELL)
 - STORM HOOD FOR AIR INTAKE
 - P. ENG STAMP REQUIRED

BILL OF MATERIALS

MK	QTY	PART NUMBER	DESCRIPTION
157	2	HEG-035	HEATER, CATALYTIC, 24"x48", "CATADYNE" MODEL P2448A-04A, 32,000 BTU, 12VDC, c/w 25 FT STARTER CABLES, REGULATOR, THERMOSTAT, SAFETY VALVE, BLOCK VALVE AND PROTECTIVE GRILL
158	1	PNL-GE FANUC	DRIVER: 3521GSI AFRC, COMPRESSOR: JGH/4 COMPRESSOR CONTROL SYSTEM, INCLUDING COMPONENTS DETAILED BELOW, BUT NOT LIMITED TO: (SEE QUOTE FOR DETAILED LIST) - 36"H x 30"W x 20"D (c/w SIDEPANS) - NEMA ENCLOSURE - SINGLE FRONT ACCESS DOOR c/w 10.5" COLOUR ETHERNET QUICK PANEL DISPLAY - CSA APPROVED FOR CL.1, DIV.II IGNITION RELAY - 24VDC POWER SUPPLY - ESD PUSHBUTTON - 316SS FITTINGS (SWAGelok): - ASCO SOLENOIDS - WIKA PRESSURE TRANSMITTERS - FISHER I2P-100 I/P - INSTRUMENT RACK, WIRING, & TUBING S/N:
159	1	FGD-071	DETECTOR, H ₂ S, "NET SAFETY" MILLENNIUM, MODEL MLP-A-ST1200-SEP, 4-20mA, 12-24VDC, CSA CLASS 1, DIV 1, GROUPS C,D, LED DISPLAY, C/W SENSOR SEPARATION JUNCTION BOX
160	1	FGD-103	DETECTOR, GAS, "SEC" MILLENNIUM, 4-20Ma, 24V DC, CSA APPROVED, C/W KILLARK CONTROLLER
161	1	FGD-045	DETECTOR, FIRE EYE UV, "SPECTREX SHARPE" MODEL 20/20LB, 4-20Ma, 24VDC, CSA APPROVED
162	3	ELE-LIGHT02	FIXTURE, LIGHT, INCANDESCENT, CLASS 1, DIV.2, c/w GUARDS, 100 WATT, 24 VDC
163	3	ELE-LIGHTMOUNT	MOUNTING MODULE, FOR ELE-LIGHT01, MOUNTS ON 3/4" CONDUIT (MOUNTED IN PEAK OF BUILDING)
164	3	ELE-BULB03	BULB, INCANDESCENT, "WESTINGHOUSE MODEL 100A19IF/24, 100 WATT, 24V DC (52025)
165	1	ELE-ENCBX6	BOX, JUNCTION, 8"x6"x4", CSA APPROVED, 24V, CONTAINS: RUN STATUS, REMOTE STOP, 1 SPARE SET OF DISCRETE INPUT 2 SPARE SETS OF ANALOG INPUT (1-ESD CONTACT TO CONNECT TO PLANT ESD SYSTEM) (LOCATE BY GAS COOLER)
166	1	ELE-ENCBP01	BACKPAN, FOR P/N: ELE-ENCBX6
167	1	ELE-RAB	BOX, ROUND, DI CAST ALUMINUM, WHEATHER PROOF, "WESTCO" MODEL 6118408430, USED AS A CONNECTOR (FOR 24V PLANT SUPPLIED)
168	3	ELE-BULB01ADA	ADAPTOR, SOCKET, "CROUSE HINDS" MODEL 2005
169	3	ELE-34EAHC	HANGER TEE, BOX COVER, 3/4", "CROUSE-HINDS" MODEL EAHC2702, WESCO P/N 78227424920
170	1	BDC-000	BUILDING, SELF FRAMING, SEE BUILDING SPECIFICATIONS (THIS DWG.)
171	4	BEA-VTRY-3.5	BEARING, TRACK ROLLER (USED FOR PULLOUT ON "WINKLE" TRACK)
172	8	BEA-TRACK	TRACK, ROLLER, BEARING, "WINKLE" MODEL 4.053 AP/S
175	2	FGD-025	GAS DETECTION CALIBRATION CUP, "NET SAFETY" MODEL CCS1, C/W SPLASHGUARD
180	1	ELE-DSDSE123	TIMER, 0-60 MIN, "CROUSE-HINDS" MODEL DSDSE1234460MNSA, 125V, 10 AMP, XP
181	1	ELE-EDS271	DEVICE BOX, SINGLE, "CROUSE-HINDS" MODEL EDCS271-SA, ALUMINUM
190	1	CRA-500	HOIST, CHAIN, 1/4 TON CAPACITY, "NOVA" MODEL 51NB1/2T, 10' LIFT HEIGHT

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REV	DATE	BY	APPR	DESCRIPTION
A	08-06-18	CP	DR	AS BUILT
0	08-04-21	CP	DR	ISSUED FOR CONSTRUCTION

REVISIONS

BIDELL EQUIPMENT 6900 - 112th AVENUE S.E.
 CALGARY, AB T2C 4Z1
 PHONE: (403) 235-5877
 FAX: (403) 272-7749

BUILDING DIAGRAM
 WAUKESHA F3521GSI

CUSTOMER: CANADIAN NATURAL RESOURCES LTD.
 LOCATION: TRAILER MOUNT COMPRESSOR

LSD: PORTABLE JOB#: 03-257

DWN	DATE	SCALE	DWG#	REV
CP	08-04-04	NTS	03-257-770	A