

ENCANA PO# P046892	
NWP JOB#	LSD
08982-001	05-07-078-11 W6M

REV	DATE	BY	CHK	APP	DESCRIPTION
0	MAY 23/14	CT			ISSUED FOR CONSTRUCTION
A	APR 22/14	CT			ISSUED FOR APPROVAL

DRAWING REVISIONS

**ISSUED FOR CONSTRUCTION**

SIGNED: \_\_\_\_\_

DATE: \_\_\_\_\_

W.O.: \_\_\_\_\_

S/N: \_\_\_\_\_

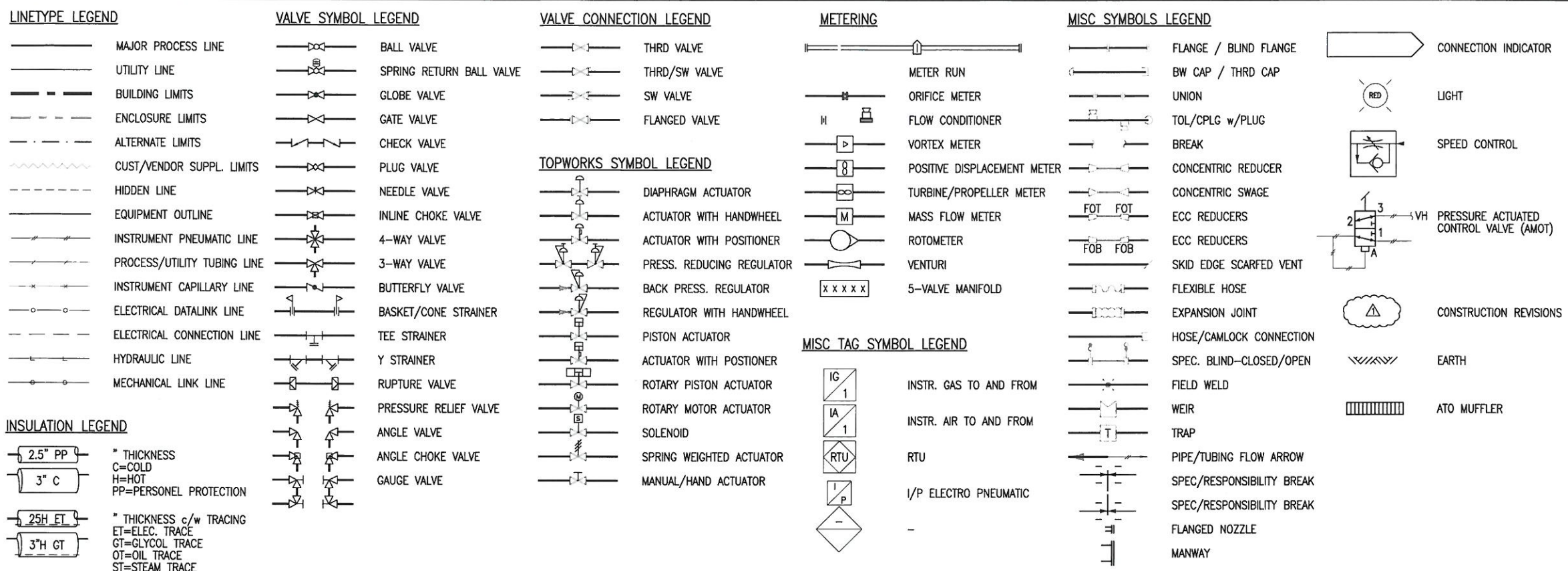
ALL DIMENSIONS IN INCHES

**NWP INDUSTRIES INC.**  
Total oilfield supply.

P.O. BOX 6280, INNISFAIL, AB T4G 1S9  
PH: (403) 227-4100 FAX: (403) 227-4102

SCALE: N.T.S.  
WEIGHT: (APPROX. LBS)

ENCANA CORPORATION LINEHEATER PACKAGE 1.25 MM BTU/HR 54"O.D. x 240" S/S PIPING AND INSTRUMENTATION DIAGRAM			
DWN: CT	CHK: [Signature]	APP: [Signature]	
DATE: APR 22/14	DATE: JUL 02 2014	DATE: JUL 02 2014	
SHEET: 1 OF 2	DWG: 08982-001-P-001	REV: 0	



### NOTES

- SHOP INSTALL ADDITIONAL PIPE SUPPORTS WHERE REQ'D.
- SHIP LOOSE ITEMS TO BE BOXED AND SEALED PRIOR TO SHIPMENT.
- PLUG AND PROTECT ALL OUTLETS PRIOR TO SHIPMENT.
- ROUTE PIPING TO ENSURE NO LIQUID TRAPS.
- ALL PIPING MATERIAL TO BE STANDARD TEMP U.N.O.
- HYDROTEST WELDED PIPING TO 1.5 x M.A.W.P.
- WELDED PIPING BUTT WELDS TO BE 100% X-RAYED. U.N.O.
- ALL PIPING AND PROCESS TUBING LINES TO BE TESTED PER B31.3.
- INSTRUMENT SUPPLY LINES TO BE TESTED PER ABSA AB-522.
- VESSELS TO BE FABRICATED TO THE LATEST EDITION OF THE ASME SECTION VIII DIVISION 1.
- SURFACE PREP: SSPC-SP6
- PAINT: 2 COATS CLOVERDALE SERIES 835 DTM, SELF PRIMING, POLYURETHANE ENAMEL, WARM GREY.
- VENT TERMINATION MUST HAVE SCREENS AND POINT DOWNWARDS.
- ELECTRICAL BY NWP.

## ORIGINAL

### INSULATION LEGEND

2.5" PP      \* THICKNESS  
C=COLD  
H=HOT  
PP=PERSONEL PROTECTION

25H ET      \* THICKNESS c/w TRACING  
ET=ELEC. TRACE  
GT=GLYCOL TRACE  
OT=OIL TRACE  
ST=STEAM TRACE

### INSTRUMENTATION SYMBOLS AND IDENTIFICATION

LETTER	FIRST LETTER	PRIMARY ELEMENT	INDICATOR	RECORDER	CONTROLLER	TRANS-MITTER	CONTROL
A	ANALYSIS	AE	AI	AR	AC	AIC	ARC
B	BURNER COMBUSTION	BE	BI	BR	BC		
BP	BACK PRESSURE						
C	CONDUCTIVITY	CE	CI	CR	CC	CIC	CRC
D	DENSITY OR MASS	DE	DI	DR	DC	DIC	DRC
E	VOLTAGE	EE	EI	ER	EC	EIC	ERC
F	FLOW, FLOW RATE	FE	FI	FR	FC	FIC	FRC
G	GAUGING	GE	GI	GR	GC	GIC	GRC
H	HAND				HC	HIC	HRC
I	CURRENT	IE	II	IR	IC	IIC	IRC
J	POWER	JE	JI	JR	JC	JIC	JRC
K	TIME, SCHEDULE		KI	KR	KC	KIC	KRC
L	LEVEL	LE	LI	LR	LC	LIC	LRC
M	MOISTURE, HUMIDITY	ME	MI	MR	MC	MIC	MRC
N	USER'S CHOICE						
O	USER'S CHOICE						
P	PRESSURE	PE	PI	PR	PC	PIC	PRC
Q	QUANTITY		QI	QR	QC	QIC	QRC
R	RADIATION	RE	RI	RR	RC	RIC	RRC
S	SPEED, FREQUENCY		SI	SR	SC	SIC	SRC
T	TEMPERATURE	TE	TI	TR	TC	TIC	TRC
U	MULTI-VARIABLE		UI	UR	UC	UIC	URC
V	VIBRATION, MECH. ANAL.	VE	VI	VR	VC	VIC	VRC
W	WEIGHT, FORCE	WE	WI	WR	WC	WIC	WRC
X	UNCLASSIFIED	XE	XI	XR	XC	XIC	XRC
Y	EVENT, STATE, PRESENCE						
Z	POSITION, DIMENSION	ZE	ZI	ZR	ZC	ZIC	ZRC

### ABBREVIATIONS

A/G - ABOVE GROUND	GO - GEAR OPERATED	PC - PURGE CONNECTION
APP - APPROVED	GS - GAS SUPPLY	PD - POSITIVE DISPLACEMENT
AS - AIR SUPPLY	GT - GLYCOL TRACE	PFS - PROCESS FLOW SHEET
ASSY - ASSEMBLY	HC - HOSE CONNECTION	P/I - PNEUMATIC TO CURRENT
ATM - ATMOSPHERE	HLL - HIGH LIQUID LEVEL	P/L - PIPELINE
BBE - BEVEL BOTH ENDS	HP - HIGH POINT	PLC - PROGRAMMABLE LOGIC CONTR.
BBL - BARREL	HPV - HIGH POINT VENT	PP - PLOT PLAN
BCD - BOLT CIRCLE DIAMETER	HS - HYDRAULIC SUPPLY	PO - PUMP OUT
BD - BLOWDOWN	HT - HEAT TRACE	RF - RAISED FACE
BLD - BLIND	IA - INSTRUMENT AIR	RO - RESTRICTION ORIFICE
BTU - BRITISH THERMAL UNITS	IC - INTERNAL COMBUSTION	RP - REDUCED PORT
CC - CORROSION COUPON	ID - INSIDE DIAMETER	RTU - REMOTE TRANSMITTING UNIT
CP - CORROSION PROBE	IG - INSTRUMENT GAS	SC - SAMPLE CONNECTION
CS - CARBON STEEL	INJ. PT. - INJECTION POINT	S/c - SHOP COAT
CSC - CAR SEAL CLOSED	I/P - CURRENT TO PNEUMATIC	S/D - SHUTDOWN
CSO - CAR SEAL OPEN	I/S - INSIDE	SG - SPECIFIC GRAVITY
c/w - COMPLETE WITH	LLL - LOW LIQUID LEVEL	SMLS - SEAMLESS
DBB - DOUBLE BLOCK & BLEED	LP - LOW POINT	SO - STEAM OUT
DP - DESIGN PRESSURE	LPD - LOW POINT DRAIN	SP - SET POINT
DT - DESIGN TEMPERATURE	LSD - LEGAL SUBDIVISION	SS - STEAM SUPPLY
ES - ELECTRIC SUPPLY	MAMP - MAX. ALLOW. WORK PRES.	SS - STAINLESS STEEL
ESD - EMERGENCY SHUTDOWN	MDMT - MIN. DESIGN METAL TEMP.	S/S - SEAM TO SEAM
ET - ELECTRICAL TRACE	MCC - MOTOR CONTROL CENTER	ST - SOUR TRIM
FC - FAIL CLOSE	MHP - MECH. HORSE POWER	TK - TANK
FFSD - FLAME FAILURE SHUTDOWN	MFS - MECHANICAL FLOW SHEET	TSO - TIGHT SHUT-OFF
FI - FAIL INTERMEDIATE	NC - NORMALLY CLOSED	T/T - TANGENT TO TANGENT
FL - FAIL LOCKED	NLL - NORMAL LIQUID LEVEL	TW - THERMO WELL
FLG - FLANGE	NO - NORMALLY OPEN	UA - UNIT ALARM
FO - FAIL OPEN	NS - NITROGEN SUPPLY	U/G - UNDER GROUND
FRD - FLOAT RELEASE DEVICE	NSPC - NON-SLAM PISTON CHECK	UNO - UNLESS NOTED OTHERWISE
FP - FLOAT PORT	NTS - NOT TO SCALE	VH - VENT HEADER
FS - FORGED STEEL	OD - OUTSIDE DIAMETER	WS - WATER SUPPLY
FW - FIELD WELD	O/S - OUTSIDE	

### VALVE TAGGING

VALVE SYMBOL	TAGGING	REFERENCE
BALL VALVE (FULL PORT)	BFBF	G - GAS SERVICE
BALL VALVE (REG. PORT)	BRBR	H - HIGH PRESSURE
BUTTERFLY VALVE	BU	L - LOW TEMP.
CHECK VALVE (BALL)	CB	N - NACE
CHECK VALVE (PISTON)	CP	P - 0-799#
CHECK VALVE (SWING)	CS	Q - 800#
CHECK VALVE (WAFFER)	CW	R - 900#
GATE VALVE	GA	S - 901# - 1500#
GLOBE VALVE	GL	T - 2000#
STRAINER (BASKET)	SB	U - 2001# - 2499#
STRAINER (T)	ST	V - 2500#
STRAINER (Y)	SY	W - 3000#
SWAGelok	SW	X - 6000#
NEEDLE VALVE (FEMALE x FEMALE)	NF	Y - 6001# - 10000#
NEEDLE VALVE (MALE x FEMALE)	NM	Z - UNCLASSIFIED
MANIFOLD	MF	1 - BOM CLARIFIER

### LINE TAGGING

NOMINAL PIPE SIZE	PIPE SCHEDULE	REFERENCE
150 ANSI FLANGED - A		0100-0199 PROCESS FLUID
300 ANSI FLANGED - B		0200-0299 PROCESS GAS
600 ANSI FLANGED - C		0300-0399 EMULSION
900 ANSI FLANGED - D		0400-0499 HYDROCARBONS
1500 ANSI FLANGED - E		0500-0599 GLYCOL
2500 ANSI FLANGED - F		0600-0699 WATER
CLASS 2000 THRD/SW - T		0700-0799 DRAIN
CLASS 3000 THRD/SW - W		0800-0899 FUEL GAS
CLASS 6000 THRD/SW - X		0900-0999 PRESSURE RELIEF
		1000-1099 INSTR. AIR
		1100-1199 VENT (NO TESTING)
		A - GALVANIZED TUBING w/ CS FITTINGS
		B - 304W SS TUBING w/ CS FITTINGS
		C - 304W SS TUBING w/ 316 SS FITTINGS
		D - 316 SS TUBING w/ 316 SS FITTINGS
		E - 316 SS TUBING w/ CS FITTINGS
		F - NOT APPLICABLE

### TAG LEGEND

LOCALLY MOUNTED	PRIMARY LOC. OR PANEL NORMALLY ACCESS. TO OPER.	AUXILIARY LOC. OR PANEL NORMALLY ACCESS. TO OPER.	PRIMARY LOC. OR PANEL MOUNTED ON BACK OF PANEL	AUXILIARY LOC. OR PANEL MOUNTED ON BACK OF PANEL
DISCRETE				
SHARED DISPLAY, SHARED CONTROL DISTRIBUTION, CONTROL VIDEO DISPLAY				
COMPUTER FUNCTION, SOFTWARE FUNCTION				
PROGRAMMABLE LOGIC CONTROL				

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