

LINE HEATER BUILDING EDGE

REV	DESCRIPTION	BY	DATE	SCALE	APPR
3	ISSUED FOR P-ENG STAMP	MEW	17/03/11		
2	REVISED AS PER CUSTOMER MARK-UPS	MEW	15/03/11		
1	REVISED AS PER CUSTOMER MARK-UPS	MEW	14/03/11		
0	ISSUED FOR CONSTRUCTION	MEW	17/01/11		
A	ISSUED FOR APPROVAL	TY	11/01/11		
REV	REVISION	BY	APPR	d/m/y	



ARC PETROLEUM INC. c/o
XXL ENGINEERING LTD.
DAWSON LSD: 16-13-79-15 W6M
MECHANICAL FLOW DIAGRAM
2MM BTU/HR
SOUR SERVICE LINEHEATER PACKAGE

DATE: 04/01/11
CLIENT: ARC PETROLEUM INC. c/o
DESIGNED BY: M.E.W.
DRAWN BY: TY
CHECKED BY:
APPROVED BY:
SCALE: N.T.S.
JOB #: EV-11001
SHEET NO.: 1 OF 2
DRAWING NO.: EV-11001-F-001
REV. NO.: 3

info@evolutionequipment.com
www.evolutionequipment.com

THIS DESIGN IS THE PROPERTY OF EVOLUTION PRODUCTION EQUIPMENT LTD. AND IS SUBJECT TO AUTHORIZED USE.

LH-100

2MM BTU/HR LINEHEATER
SIZE: 66" O.D. x 20'-0" S/S
c/w 10 PASSES OF 4" 1500# SCH.160 RTJWN PREHEAT COIL
10 PASSES OF 4" 1500# SCH.160 RTJWN REHEAT COIL
DESIGN PRESSURE: 3212 psig
DESIGN TEMPERATURE: 200°F
MDMT: -20°F
PWHT: 1150°F ± 50°F FOR 1 HOUR MINIMUM
CORROSION ALLOWANCE: 1/8"
RADIOGRAPHY: 100%
c/w 405gal EXPANSION TANK (32" O.D. x 120"lg)

BL-100
FLAME ARRESTOR
2-PIECE BURNER HOUSING
MODEL: FAH32/18-20A2
TWO PIECE ALUMINUM CONSTRUCTION
RATED FOR 2.0MM BTU/HR TO FIT A 20" FIRE TUBE
c/w (1) 1/2" ELECTRICAL CONNECTION
(1) ACL-M200 MIXER
(1) ACL-B20016 VENTURI BARREL
(1) ACL-ON20018 HIGH EFFICIENCY BURNER NOZZLE

ENARDO 330-AL THIEF HATCH (ZIRCO)
TH-100
SIZE: 8" THIEF HATCH
PRESSURE: 16.0 OZ (16 OZ GALVANIZED WIRE PRESSURE SPRING)
VACUUM: 0.4 OZ
SPRING LOADED-SWEET SERVICE
BUNA PRESSURE AND VACUUM GASKETS
GALVANIZED STEEL PRESSURE AND VACUUM SPRINGS
c/w BASE GASKET

Table with 5 columns: TAG, QTY, MAKE, DESCRIPTION. Includes items like PSV-200, LSSL-100, PCV-200, PRV-200, TC-100, TSHE-100, TI-100, PI-100, PI-110, PI-200, LG-100, CSC-100.

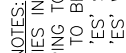
VALVE TRAIN BOM (by OTHERS)

Table with 5 columns: TAG, QTY, DESCRIPTION. Includes items like CSC-1, PSHH-1, PSLL-1, V-1/2, V-3/4, NV-1/2, YS-1, PI-1/2/3, PRV-1, PRV-2, SSV-1/2, SSV-3, BA-1, BA-2, LSSL-1, IA-1, CV-1, SCV-1.

Revision table with columns: REV, BY, APPR, REVISION. Includes 3 revisions by MEW and 1 revision by TY.



info@evolutionequipment.com
www.evolutionequipment.com
ARC PETROLEUM INC. c/o
XXL ENGINEERING LTD.
DAWSON LSD: 16-13-79-15 W6M
TITLE BILL OF MATERIALS - FLOW DIAGRAM
2MM BTU/HR
SOUR SERVICE LINEHEATER PACKAGE
JOB # EV-11001
SHEET NO. 2 OF 2
DRAWING NO. EV-11001-F-001
REV. NO. 3



VALVE LEGEND
VALVE SIZE
2" BA 1 D 1S
VALVE TYPE
BALL(RP)=BA
NEEDLE=NE
GLOBE=GB
Y STRAINER=Y

VALVE LEGEND
SWEET PROCESS=1
NORMAL TEMP, SOUR PROCESS=1S
LOW TEMP, SWEET PROCESS = 2
LOW TEMP, SOUR PROCESS = 2S

VALVE LEGEND
THREADED/SOCKET WELDED CLASS:
1000 WOG=L
2000 WOG=M
3600 WOG=N
6000 WOG=P
10000 WOG=Q
TUBING RATING=R
250 WOG=S

GENERAL NOTES:
1. QUANTITIES IN B.O.M. ARE FOR (1) UNIT.
2. ALL PIPING TO BE IN ACCORDANCE WITH THE LATEST EDITION OF ASME B31.3 PRESSURE PIPING CODE.
3. VESSEL TO BE FABRICATED TO THE LATEST EDITION OF ASME SECTION VIII, DIVISION 1 PRESSURE VESSELS.
4. SPEC 'ES' SOCKETWELD PIPING: 1/2"-1 1/2" = SCH XXS
2", 3" = SCH 160
4" = SCH 160min (CALC WT & MDMT)
6" = SCH XXSmin (CALC WT & MDMT)
SCRD/SW (ASTM A333 Gr.6 SMLS)
BW/RTJ (ASTM A333 Gr.6 SMLS)
4" = SCH 160min BW/RTJ (ASTM A333 Gr.6 SMLS)
6" = SCH XXSmin BW/RTJ (ASTM A333 Gr.6 SMLS)
5. ALL FORGED STEEL FITTINGS TO BE: SA-105N, 3000# (min) RATING.
FUEL GAS COIL TO BE: SA-105N, 3000# (min) RATING.
ALL WELDED FITTINGS TO BE: SA-234-WPB NORMALIZED
6. SPEC 'ESL' TUBING: 1/2"-3/4" = 0.035" (min) ASTM A269
1/2" = 0.049" (min) ASTM A269
ALL TUBING FITTINGS: ASTM A182 F316/316L SWAGELOK
SPEC 'A' THREADED PIPING: 1/2"-2" = SCH 60
2"-10" = SCH 40
12" = STD
8. ALL FORGED STEEL FITTINGS TO BE: SA-105N, 3000# (min) RATING (SPEC 'A').
9. PAINTING SPEC:
EXTERNAL SURFACE PREPARATION: SSPO-SP-6 (COMMERCIAL SAND BLAST) - (PIPING, HEATER SKID, BODY & STACK)
EXTERNAL PRIMER: ONE (1) SHOP COAT OF COVERDALE FAST DRY PRIMER 5 mils
VESSEL EXTERNAL FINISH PAINT: TWO (2) SHOP COATS OF COVERDALE GREY ENAMEL (HIGH HEAT STACK & L.H. BODY
SKID FLOOR/STRUCTURAL STEEL: TWO (2) SHOP COATS OF COVERDALE BLACK ENAMEL
PIPING EXTERNAL FINISH: TWO (2) SHOP COATS OF COVERDALE GREY ENAMEL
INTERNAL SURFACE PREPARATION: NA
INTERNAL COATING OF VESSEL: NA
PROTECT ALL OPENINGS FOR SHIPMENT:
11. BOLTING TO BE SA-193-B7M STUDS w/ SA-194-2HM NUTS c/w 316SS FLEXITALLIC GASKET.
12. BUILDING SIZE: 5'-4" LG x 2'-0" WIDE.
BUILDING TYPE: FOAM PANEL, BOX STYLE/SIDE MOUNTED ENCLOSURE
ROOF TYPE: SHED
WALL HEIGHTS: 5'-6" EAVE
EXTERIOR: 22 GAUGE GALVALUME PRE-PAINTED SURF WHITE (QC 8316)
INTERIOR: 22 GAUGE GALVALUME PRE-PAINTED WHITE
DOORS & TRIM PRE-PAINTED ROYAL BLUE (QC 8790)
DOORS: ONE (1) 2'-6"x5'-4" DOUBLE DOOR WITH PANIC HARDWARE, CHECK CHAIN, WHITECOMB DOOR LATCH
WEATHER STRIP, SPRING LOADED BARREL BOLT.
VENTILATION: ONE (1) 4" ROUND VENT.
13. PACKAGE IS HYDRO TESTED @ 1.5 TIMES MAWP FOR ONE (1) HOUR AT ROOM TEMPERATURE.
14. VESSEL SHELL COVERED WITH 1 1/2" MINERAL WOOL HOT INSULATION, 0.20 STUCCO EMBOSSED ALUMINUM COVERING
WITH STEEL BANDING (HEADS NOT INCLUDED)
15. ALL INSTRUMENTS TO BE VENTED TO ATMOSPHERE.
16. ALL PIPE, VALVES AND FITTINGS IN SOUR PROCESS LINES, EXCEPT INSTRUMENT AIR, TO BE NACE/ISO, LATEST EDITION ACCEPTABLE.
17. ALL PIPING TO MEET ARC RESOURCES SPEC 'ES' AND 'A' PIPING SPECIFICATIONS.
18. RUN INSTRUMENT TUBING UNDER LINE HEATER INSULATION WHERE POSSIBLE.
19. ELECTRICAL INSTALLED BY 3RD PARTY CONTRACTOR.
20. 5-PIECE MITRE FIRE TUBE TO BE STRESS RELIEVED
21. ACL BURNER TO BE PRE-WIRED
22. ENGINEER STAMPED DRAWINGS ON FUEL TRAIN

VALVE LIST table with 4 columns: VALVE NUMBER, QTY, MANUFACTURER, DESCRIPTION. Includes items like 1"BA4M1, 1/2"BA4M1, 1/4"BA4M1, 1/4"NE4P1, 1/4"NE4P1, 2"GL4H1.