



MEG ENERGY

CHRISTINA LAKE REGIONAL PROJECT  
Phase 3A EPC for Central Plant Facilities

SLI Project No. 511036



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Vendor's drawing review for  
conformity with specifications  
and design drawing.This review does not relieve  
the vendor of his responsibility  
for errors in design and detailing  
as detailed in his contract.

- ☐ A1 Not suitable to initiate fabrication. modify as noted, resubmit for review
- ☐ B1 Suitable to initiate fabrication as noted. modify as noted, resubmit for review
- ☐ C1 Suitable to fabricate to completion as noted. submit final documents including as-builts as required
- ☒ D1 Suitable to fabricate to completion. submit final documents including as-built documents as required
- ☐ E1 Not suitable as final documents as noted. modify as noted and resubmit.
- ☐ F1 Suitable as final documents. no further resubmittal required (unless revised by vendor)
- ☐ VX Vendor document cancelled.

Vendor: Sewon Cellontech Co. Ltd. - P00007

No.: E0351-3AE111-D-02

Rev: 5

Doc. H00.01 - GENERAL ASSEMBLY (2/3) - Tag: 3A-E-111A-H

Title:

Client Code:

Project No: 511036

Date Rec'd: 2014/08/14

Reviewed by: SS

Document No:

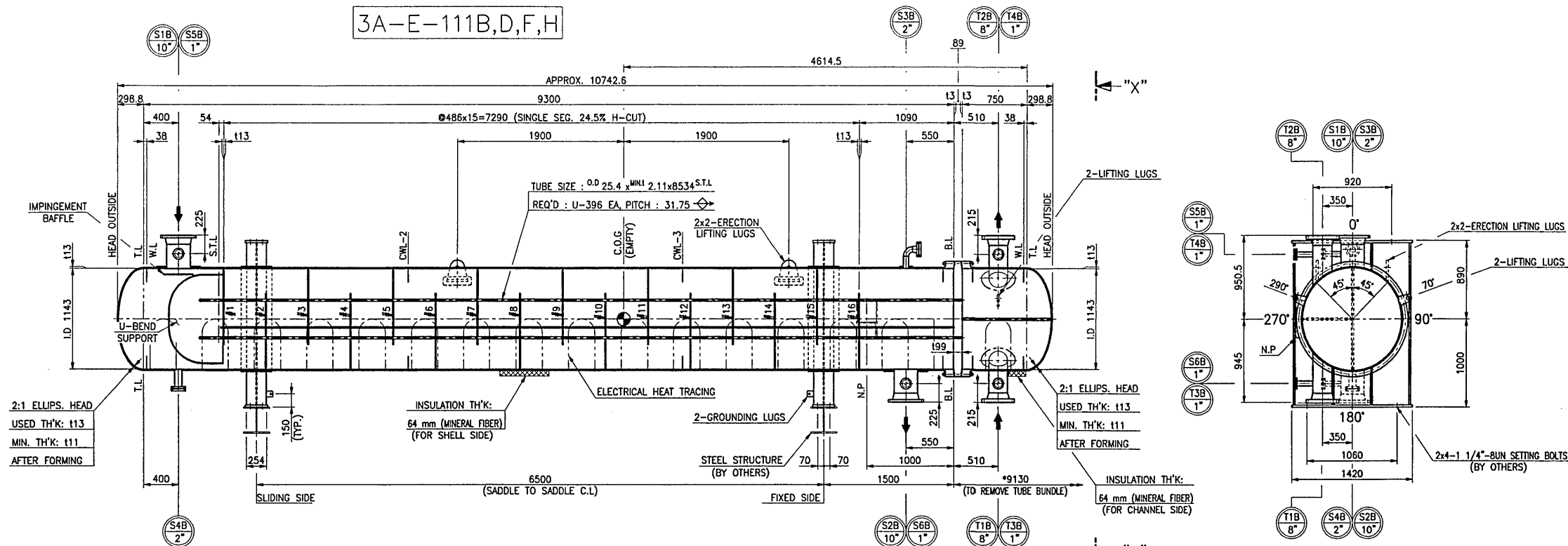
Submittal:

Date: 26-Aug-2014

P-5310-01-0012

06

3A-E-111B,D,F,H

SIDE ELEVATION  
(SCALE = 1 : 30)NOZZLE ORIENTATION  
(VIEW "X"-"X")  
(SCALE = 1 : 30)

FOR APPROVAL ASME-U

A S M E STAMP

## DESIGN &amp; TEST DATA

QTY TO BE MANUFACTURED	4 (FOUR)
CODE	ASME SEC. VIII DIV. 1 2010 ED.+2011 ADD. & TEMA CLASS "R" 9TH ED.-2007 + API 660 8TH ED.
ASME CODE STAMP	YES
CRN. NO.	TBD
NATIONAL BOARD REGISTRATION	YES
TYPE	H-BEU
EFFECTIVE SURFACE AREA (PER SHELL) (m <sup>2</sup> )	556.4
SPECIAL SERVICE	NO
FLUID CIRCULATED	BP FRAC DIBIT
DENSITY (LIQ./VAP.) kg/m <sup>3</sup> (LBS/FT <sup>3</sup> )	875/- / 921/- 1078/- / 1052/-
NO. OF PASS	1 (ONE) 4 (FOUR)
DESIGN (HP/FT)	1450/F.V. 1500/F.V.
OPERATING (Kpa/g)	890 900
TEMPERATURE (°C)	178 178
TEST PRESS. (Kpa/g)	1989 2072
M.A.W.P. (HOT/CORRODED) (Kpa/g)	1530 1594
M.A.W.P. LIMITING COMPONENT	SHELL GRTH FLANGE CHANNEL GRTH FLANGE
M.A.P. (NEW/COLD) (Kpa/g)	1757 1757
M.A.E.W.P. (Kpa/g)	F.V. F.V.
P.W.H.T.	NO NO
STRESS RELIEVE AFTER FORMING	NO NO
RADIOGRAPHY (S/H)	SPOT/FULL SPOT/FULL
IMPACT TEST	SEE NOTE 14. SEE NOTE 14.
INSULATION (MM)	64 64
FIRE PROOFING (MM)	NONE
PAINTING SPECIFICATION	SEE NOTE 26.
TOLERANCE	SEE NOTE 13.
TUBE TO TUBE SHEET JOINT	ROLLED (TWO GROOVES) AND EXPANDED
WIND CODE	NBC 2005, IMPORTANCE FACTOR = 1.15
SEISMIC CODE	NBC 2005, IMPORTANCE FACTOR = 1.3
FABRICATION	17440
ERECTOR	17990
EMPTY	17990
OPERATING	37950
TEST (SHOP/FLD)	28530/28530
BUNDLE	10950
WEIGHT (KG)	
MARK	
NOM. SIZE	
RATING	
TYPE	
FACING	
THICK.	
PROJ.	
TX/ORD	
NOZZLE	
REIN.PAD	
SERVICE & REMARKS	

## NOZZLE SCHEDULE

MARK	NOM. SIZE	RATING	TYPE	FACING	THICK.	PROJ.	TX/ORD	NOZZLE	REIN.PAD	SERVICE & REMARKS
T38,T48	1"	2	ASME 300F	L.W.N	R.F	-	315	-	-	FIELD HYDROTEST (W/B.F)
S58,S68	1"	2	ASME 300F	L.W.N	R.F	-	340	-	-	FIELD HYDROTEST (W/B.F)
T2B	8"	1	ASME 300F	W.N	R.F	SCH 80	SEE Dwg.	113x400	-	TUBE SIDE OUTLET
T1B	8"	1	ASME 300F	W.N	R.F	SCH 80	SEE Dwg.	113x400	-	TUBE SIDE INLET
S4B	2"	1	ASME 300F	L.W.N	R.F	-	790	-	-	DRAIN (W/B.F)
S3B	2"	1	ASME 300F	W.N	R.F	SCH 180	790	113x150	-	VENT (W/B.F)
S2B	10"	1	ASME 300F	W.N	R.F	SCH 80	945	113x510	-	SHELL SIDE OUTLET
S1B	10"	1	ASME 300F	W.N	R.F	SCH 80	950.5	113x510	-	SHELL SIDE INLET

## REFERENCE DRAWINGS

1. GENERAL ASSEMBLY (1/3) [FOR 3A-E-111A,C,E,G]	E0351-3AE111-D-01
= BLANK =	E0351-3AE111-D-03
= BLANK =	E0351-3AE111-D-04
4. GENERAL ASSEMBLY (3/3)	E0351-3AE111-D-05
5. DETAIL OF BODY (1/2)	E0351-3AE111-D-06
6. DETAIL OF BODY (2/2)	E0351-3AE111-D-07
7. DETAIL OF TUBE BUNDLE (1/2)	E0351-3AE111-D-08
8. DETAIL OF TUBE BUNDLE (2/2)	E0351-3AE111-D-09
9. DETAIL OF U-BEND SUP'T	E0351-3AE111-D-10
10. DETAIL OF SUP'T SADDLE (1/2) [FOR 3A-E-111A,C,E,G]	E0351-3AE111-D-11
= BLANK =	E0351-3AE111-D-12
12. DETAIL OF SUP'T SADDLE (2/2) [FOR 3A-E-111B,D,F,H]	E0351-3AE111-D-13
= BLANK =	E0351-3AE111-D-14
14. DETAIL OF INSUL. SUP'T (1/2)	E0351-3AE111-D-15
15. NOZZLE DETAIL "S1A,S2A,S2B"	E0351-3AE111-D-16
16. NOZZLE DETAIL "S1B"	E0351-3AE111-D-17
17. NOZZLE DETAIL "S3A,S4B"	E0351-3AE111-D-18
18. NOZZLE DETAIL "S4A,S3B"	E0351-3AE111-D-19
19. NOZZLE DETAIL "T1A,T2A,T1B"	E0351-3AE111-D-20
20. NOZZLE DETAIL "T2B"	E0351-3AE111-D-21
21. NOZZLE DETAIL "S5A,B,S6A,B & T3A,B,T4A,B"	E0351-3AE111-D-22
22. DETAIL OF EHT GENERAL ASSEMBLY (1/2)	E0351-3AE111-D-23
23. DETAIL OF NAME PLATE	E0351-3AE111-D-24
24. DETAIL OF EHT GENERAL ASSEMBLY (2/2)	E0351-3AE111-D-25
= BLANK =	E0351-3AE111-D-26
= BLANK =	E0351-3AE111-D-27
27. DETAIL OF EHT WIRING(1/8) ~ WIRING(8/8)	E0351-3AE111-D-28~35
28. DETAIL OF INSUL. SUP'T (2/2)	E0351-3AE111-D-36

## MATERIAL SPECIFICATION

SHELL HEAD	SA516-70N	STUD BOLTS AND NUTS	
CHANNEL HEAD	SA516-70N	-SHELL COVER	-
SHELL FLANGE	SA266-2H	-STATIONARY	SA193-B7/SA194-2H
CHANNEL FLANGE	SA266-2H	-CHANNEL COVER	-
TUBE SHEET	SA266-2H	-FLOATING	-
FLOATING HEAD COVER	-	-SHELL SIDE NOZZ.	SA193-B7/SA194-2H
FLOATING HEAD FLANGE	-	-TUBE SIDE NOZZ.	SA193-B7/SA194-2H
BACKING DEVICE	-	GASKETS	
TUBES	SA179 (SEAMLESS)	-SHELL COVER	-
BAFFLES or SUPPORT	SA516-70	-SHELL CHANNEL END	SEE *1)
IMPINGEMENT BAFFLE	SA516-70	-CHANNEL SHELL END	SEE *1)
TIE ROD / SPACER	SA36 / SA53-B	-CHANNEL COVER	-
PASS PARTITION PLATE	SA516-70N	-FLOATING	-
SHELL NOZZLE -NECK	SA106-B	-SHELL SIDE NOZZ.	SEE *2)
-FLANGE	SA105N	-TUBE SIDE NOZZ.	SEE *2)
CHANNEL NOZZLE -NECK	SA106-B	SUPPORT SADDLES / PAD	SA516-70N/SA516-70N
-FLANGE	SA105N	EARTH LUG & NAME PLATE	SA240-304
EXPANSION JOINT	-	SETTING BOLT/NUT	SA325 (BY OTHERS)

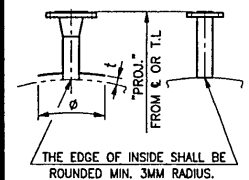
\*1) GASKET MATERIAL : DOUBLE METAL JACKET GASKET

- FILLER : GRAPHITE

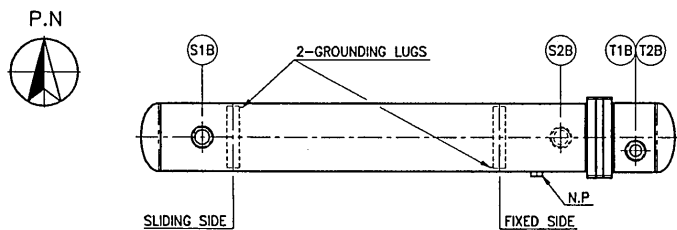
- JACKET : C.S

\*2) SPIRAL WOUND (14.5) : FILLER : GRAPHITE • INNER RING : 316 S.S • OUTER RING : C.S

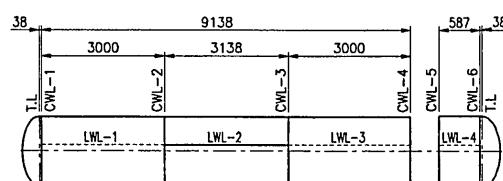
2014 07.30	REVISED AS MARKED	B.C.CHIN	J.W.KIM	H.U.KOO
2014 02.26	REVISED AS MARKED	B.C.CHIN	J.W.KIM	H.U.KOO
2013 11.08	REVISED AS MARKED	B.C.CHIN	J.W.KIM	H.U.KOO
2013 10.17	REVISED AS MARKED	B.C.CHIN	J.W.KIM	H.U.KOO
2013 08.21	REVISED AS MARKED	B.C.CHIN	J.W.KIM	H.U.KOO
2013 07.08	FOR APPROVAL	B.C.CHIN	J.W.KIM	H.U.KOO
REV. DATE	DESCRIPTIONS FOR REVISION	DRW'N	CHK'D	REV'D
PROJECT	CLRP PHASE 3A CENTRAL PLANT FACILITY: EPC			
CUSTOMER	MEG ENERGY CORP.			
CLIENT	SNC • LAVALIN			
TITLE	SALES OIL/GLYCOL EXCHANGER			
	3A-E-111A~H GENERAL ASSEMBLY (2/3) [FOR 3A-E-111B,D,F,H]			
	SEWON CELLONTECH CO., LTD.			
	CHANGWON, KOREA			
OWNER JOB NO.	511036	PROJECTION METHOD	THIRD ANGLE PROJECTION	SCALE
P/D NO.	P-5310-01	OWNER DWG. NO.		SEE DWG.
SEWON JOB NO.	E-0351	SEWON DWG. NO.	E0351-3AE111-D-02	WORKS
				C



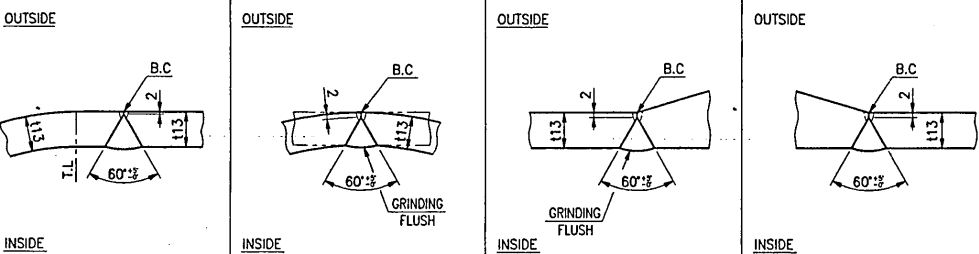
TYPICAL NOZZLE ASSEMBLY



KEY PLAN



SEAM PLAN



STACKING ARRANGEMENT

JOINT NO.	CWL-1	JOINT NO.	LWL-1~3 CWL-2,3	JOINT NO.	CWL-4	JOINT NO.	CWL-5
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