

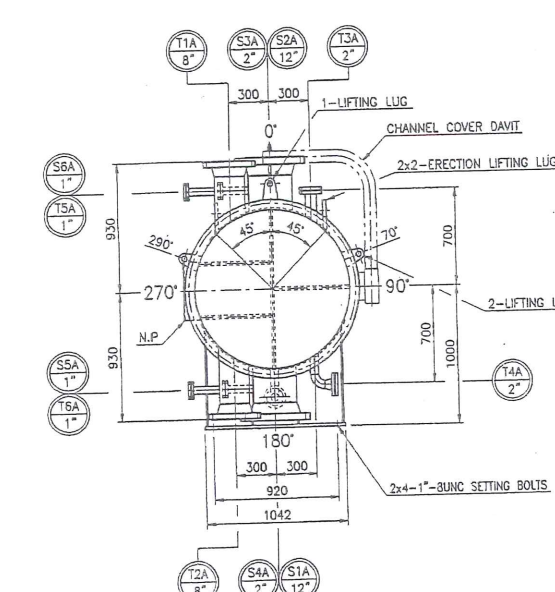
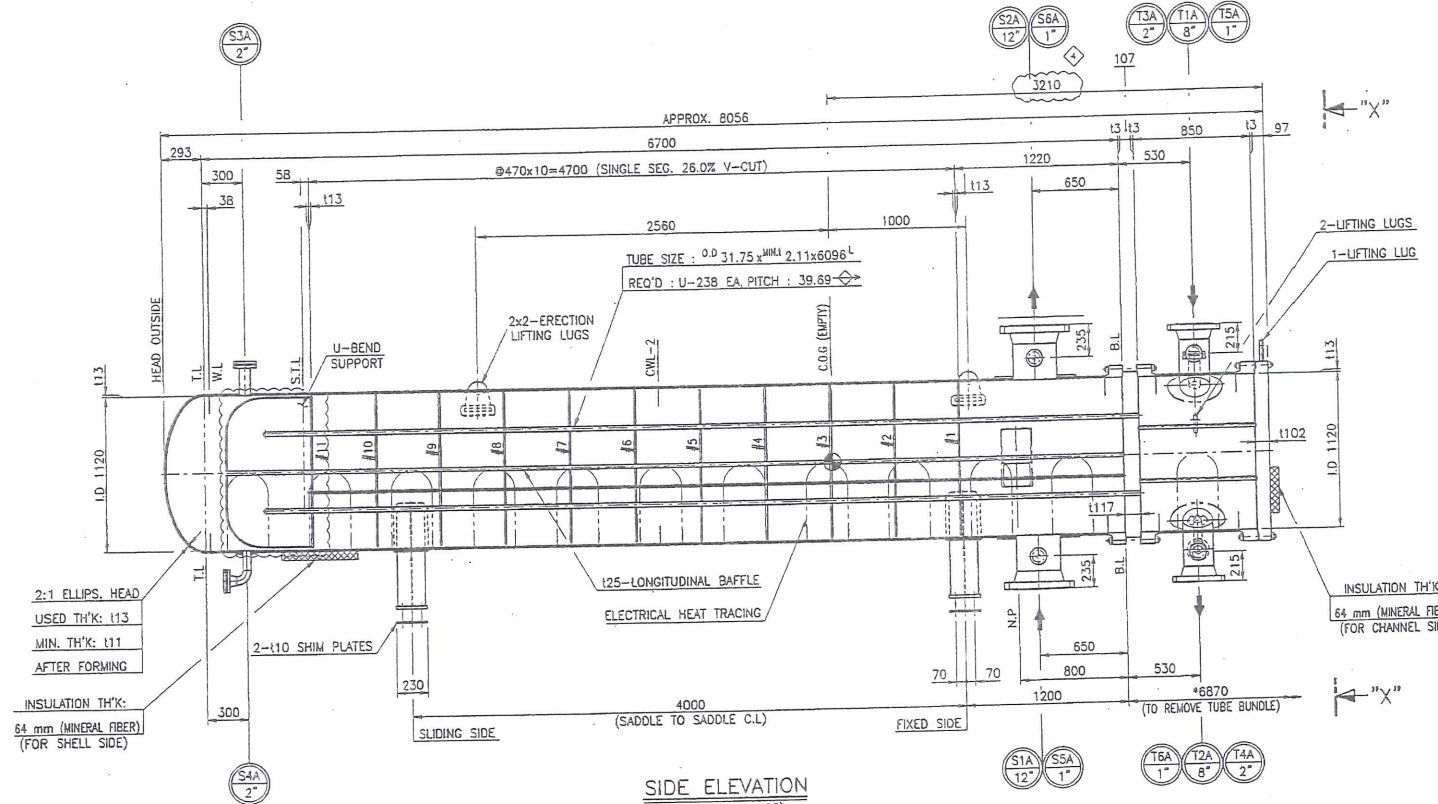
 MEG ENERGY	CHRISTINA LAKE REGIONAL PROJECT Phase 3A EPC for Central Plant Facilities SLI Project No. 511036		 SNC-LAVALIN
 SNC-LAVALIN	<div style="display: flex; flex-direction: column;"> <div> <input type="checkbox"/> A1 Not suitable to initiate fabrication. modify as noted, resubmit for review </div> <div> <input type="checkbox"/> B1 Suitable to initiate fabrication as noted. modify as noted, resubmit for review </div> <div> <input type="checkbox"/> C1 Suitable to fabricate to completion as noted. submit final documents including as-builts as required </div> <div> <input checked="" type="checkbox"/> D1 Suitable to fabricate to completion. submit final documents including as-built documents as required </div> <div> <input type="checkbox"/> E1 Not suitable as final documents as noted. modify as noted and resubmit. </div> <div> <input type="checkbox"/> F1 Suitable as final documents. no further resubmittal required (unless revised by vendor) </div> <div> <input type="checkbox"/> VX Vendor document cancelled. </div> </div>		
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.			
Vendor: Sewon Cellontech Co. Ltd. - P00007		No.: E0351-3AE325-D-01	Rev: 4
Doc. Title:	H00.01 - GENERAL ASSEMBLY (1/3) - Tag: 3A-E-325A/B		
Client Code:	Project No: 511036	Date Rec'd: 2014/05/30	
Reviewed by: <i>SS</i> Date: <i>11-June-2014</i>	Document No: P-5310-01-0023	Submittal: 05	

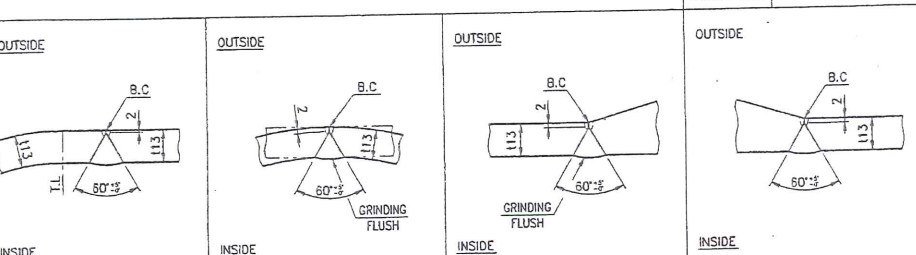
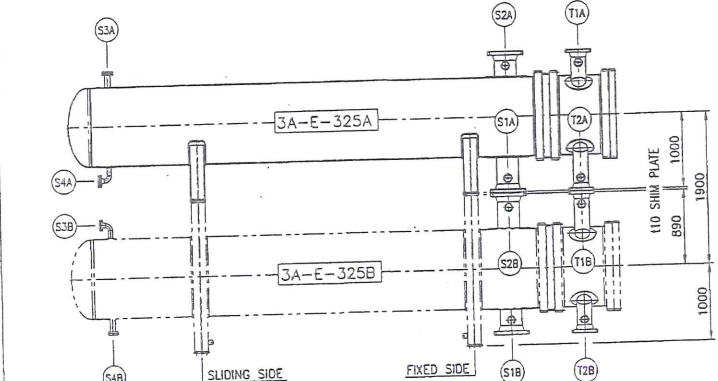
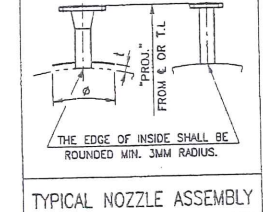
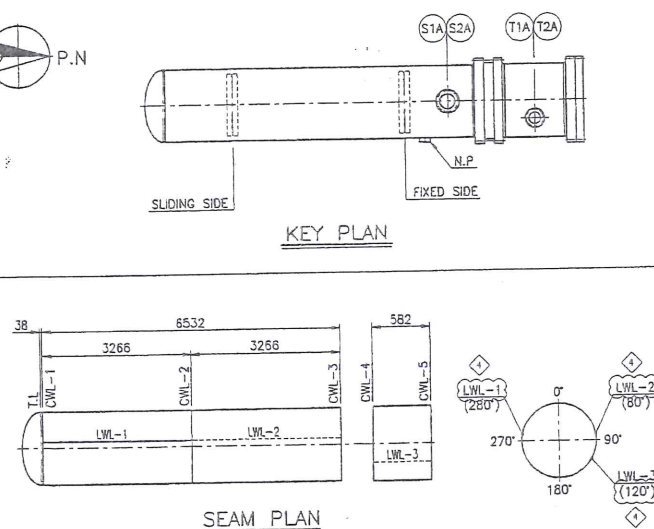


REFERENCE DRAWINGS		
1. GENERAL ASSEMBLY (2/3) (FOR 3A-E-325B)	E0351-3AE325-D-02	
2. GENERAL ASSEMBLY (3/3)	E0351-3AE325-D-03	
3. DETAIL OF BODY (1/2)	E0351-3AE325-D-04	
4. DETAIL OF BODY (2/2)	E0351-3AE325-D-05	
5. DETAIL OF TUBE BUNDLE (1/2)	E0351-3AE325-D-06	
6. DETAIL OF TUBE BUNDLE (2/2)	E0351-3AE325-D-07	
7. DETAIL OF LONGI. BAFFLE	E0351-3AE325-D-08	
8. DETAIL OF U-BEND SUPT	E0351-3AE325-D-09	
9. DETAIL OF SUPT SADDLE	E0351-3AE325-D-10	
10. DETAIL OF INSUL. SUPT	E0351-3AE325-D-11	
11. DETAIL OF CHANNEL COVER DAVIT	E0351-3AE325-D-12	
12. NOZZLE DETAIL "S1A,S1B,S2A"	E0351-3AE325-D-13	
13. NOZZLE DETAIL "S2B"	E0351-3AE325-D-14	
14. NOZZLE DETAIL "S3A,S4B"	E0351-3AE325-D-15	
15. NOZZLE DETAIL "S3B,S4A"	E0351-3AE325-D-16	
16. NOZZLE DETAIL "T1A,T2A,T2B"	E0351-3AE325-D-17	
17. NOZZLE DETAIL "T1B"	E0351-3AE325-D-18	
18. NOZZLE DETAIL "T3A,T4B"	E0351-3AE325-D-19	
19. DETAIL OF EHT GENERAL ASSEMBLY (1/2)	E0351-3AE325-D-20	
20. DETAIL OF NAME PLATE	E0351-3AE325-D-21	
21. NOZZLE DETAIL "T3B,T4A"	E0351-3AE325-D-22	
22. NOZZLE DETAIL "S5A,B,S6A/B & T5A/B,T6A/B"	E0351-3AE325-D-23	
23. DETAIL OF EHT GENERAL ASSEMBLY (2/2)	E0351-3AE325-D-24	
24. DETAIL OF EHT WIRING(1/2)	E0351-3AE325-D-25	
25. DETAIL OF EHT WIRING(2/2)	E0351-3AE325-D-26	

MATERIAL SPECIFICATION			
SHELL, HEAD	SA516-70N	STUD BOLTS AND NUTS	-
CHANNEL, HEAD	SA516-70N	-SHELL COVER	-
SHELL FLANGE	SA266-2N	-STATIONARY	SA193-B7/SA194-2H
CHANNEL FLANGE	SA266-2N	-CHANNEL COVER	SA193-B7/SA194-2H
TUBE SHEET	SA266-2N	-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	-	-CHANNEL SHELL END	SEE *1)
TIE ROD / SPACER	SA36 / SA53-B	-CHANNEL COVER	SEE *1)
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

APPROVAL ASME-U				
1) GASKET MATERIAL: DOUBLE METAL JACKET GASKET				
2) SPIRAL WOUND (H.S.) FILLER: GRAPHITE				
3) HOOR: 316 SS				
4) OUTER RING: CC				
REV.	DATE	DESCRIPTION FOR REVISION	DRWN	CHK'D
2014.04.12		REVISED AS MARKED	B.C.CHIN	
2013.11.09		REVISED AS MARKED	B.C.CHIN	
2013.10.17		REVISED AS MARKED	B.C.CHIN	
2013.08.21		REVISED AS MARKED	B.C.CHIN	
2013.07.08		FOR APPROVAL	B.C.CHIN	

CLRP PHASE 3A CENTRAL PLANT FACILITY: EPC			
CUSTOMER MEG ENERGY CORP.			
CLIENT SNC • LAVALIN INC.			
TITLE 3A-E-325A/B BLOWDOWN DISPOSAL/GLYCOL EXCHANGER GENERAL ASSEMBLY (1/3) (FOR 3A-E-325A)			
SEWON CELLONTECH CO., LTD. CHANGWON, KOREA			
OWNER JOB NO.	511036	PROJECTION METHOD	THIRD ANGLE PROJECTION
P/O NO.	P-5310-01	OWNER DWG. NO.	-
SEWON JOB NO.	E-0351	SEWON DWG. NO.	E0351-3AE325-D-01
WORKS	C		



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

DESIGN & TEST DATA			
QTY TO BE MANUFACTURED	1 (ONE)		
CODE	ASME SEC. VIII DIV.1 2010 ED.+2011 ADD. & TEMA CLASS 'M' 5TH ED.-2007 + API 660 8TH ED.		
ASME CODE STAMP	YES		
CRN. NO.	TBD		
NATIONAL BOARD REGISTRATION	YES		
TYPE	H-AFU		
EFFECTIVE SURFACE AREA (PER SHELL)	(m ²)	301.3	
SPECIAL SERVICE	NO		
FLUID CIRCULATED	TG/WATER (60%/40%)	MP BLOWDOWN	
DENSITY (LIQ./VAP.)	kg/m ³ (LIQ./VAP.)	1078/- / 104/-	952/- / 953/-
NO. OF PASS	2 (TWO)	8 (EIGHT)	
PRESSURE (KpaG)	DESIGN (INT.)	1500/F.V	1950/F.V
OPERATING	900	1361	
TEMPERATURE (°C)	DESIGN	214	214
OPERATING	40/85	95/60	
TEST PRESS. (KpaG)	HYDRO.	2020	2609
W.A.W.P. (HOT&COLD) (KpaG)	1554	2007	
W.A.W.P. LIMITING COMPONENT	SHELL ORTH FLANGE	CHANNEL SHELL	
W.A.P. (NEW&COLD) (KpaG)	2240	2131	
W.A.E.W.P. (KpaG)	F.V	F.V	
P.W.H.T	NO	YES	
STRESS RELIEVE AFTER FORMING	NO	NO	
RADIOGRAPHY (S/H)	SPOT/FULL	SPOT/-	
JOINT EFFICIENCY	SHELL	0.85	0.85
CORR. ALLOW. (MM)	HEAD	1.0	-
M.D.M.T (°C)		3.2	3.2
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	12710		
ERECTION	13110		
EMPTY	13110		
OPERATING	18470		
TEST (SHOP/FIELD)	19790/19510		
BUNDLE	6590		

MARK	NOM SIZE	NO.	RATING	TYPE	FACING	THICK	PROL.	TXORD	SERVICE & REMARKS
T4A	2"	1	ASME 300F	W.N	R.F	SCH 160	SEE DWG.	113x150	DRAIN (W/B.F)
T3A	2"	1	ASME 300F	W.N	R.F	SEE DWG.	-	-	VENT (W/B.F)
T5A/T6A	1"	2	ASME 300F	W.N	R.F	315	-	-	FIELD HYDROTEST (W/B.F)
SSA/S6A	1"	2	ASME 300F	W.N	R.F	365	-	-	FIELD HYDROTEST (W/B.F)
T2A	8"	1	ASME 300F	W.N	R.F	SCH 80	SEE DWG.	113x400	TUBE SIDE OUTLET
T1A	8"	1	ASME 300F	W.N	R.F	SCH 80	SEE DWG.	113x400	TUBE SIDE INLET
S4A	2"	1	ASME 300F	W.N	R.F	SCH 160	780	113x150	DRAIN (W/B.F)
S3A	2"	1	ASME 300F	W.N	R.F	780	-	-	VENT (W/B.F)
S2A	12"	1	ASME 300F	W.N	R.F	SCH 80	950	113x610	SHELL SIDE OUTLET
S1A	12"	1	ASME 300F	W.N	R.F	SCH 80	950	113x610	SHELL SIDE INLET