



 MEG ENERGY	CHRISTINA LAKE REGIONAL PROJECT Phase 3A EPC for Central Plant Facilities SLI Project No. 511036	 SNC-LAVALIN

 SNC-LAVALIN	<input type="checkbox"/> A1 Not suitable to initiate fabrication. modify as noted, resubmit for review
	<input type="checkbox"/> B1 Suitable to initiate fabrication as noted. modify as noted, resubmit for review
Vendor's drawing review for conformity with specifications and design drawing.	<input checked="" type="checkbox"/> C1 Suitable to fabricate to completion as noted. submit final documents including as-builts as required
This review does not relieve the vendor of his responsibility for errors in design and detailing as detailed in his contract.	<input type="checkbox"/> D1 Suitable to fabricate to completion. submit final documents including as-built documents as required
	<input type="checkbox"/> E1 Not suitable as final documents as noted. modify as noted and resubmit.
	<input type="checkbox"/> F1 Suitable as final documents. no further resubmittal required (unless revised by vendor)
Vendor: Sewon Cellontech Co. Ltd. - P00007 No.: D0644-COM-P-56 Rev: 0 Date Rec'd 2013/12/19	
Doc. Title: D00.01 - COMPLETED BUYER'S EQUIPMENT DATA SHEET - Tag: 3A-V-145	
Client Code:	Project: MEG Phase 3A EPC
Reviewed by: <i>[Signature]</i>	Document No
Date: <i>Jan 03, 2014</i>	P-5120-01-0138
	Submittal 01

 SEWON CELLONTECH	DOCUMENT FOR EQUIPMENT	SWC JOB NO	D-0644
		ITEM NO.	3A-V-145
		SWC DOC. NO.	D0644 -COM-P-56

ASME--U

 MEG Energy Corp.		 SNC-LAVALIN	
P.O NO.	P-5120-01		
PROJECT NAME	CHRISTINA LAKE REGIONAL		
PROJECT NO.	508298		
DOCUMENT TITLE	Completed Buyer's Equipment Data Sheet		
CODE	D00.01		
ITEM NO.	ITEM DESCRIPTION		
3A-V-145	Diluent Recovery Separator		

APPROVAL



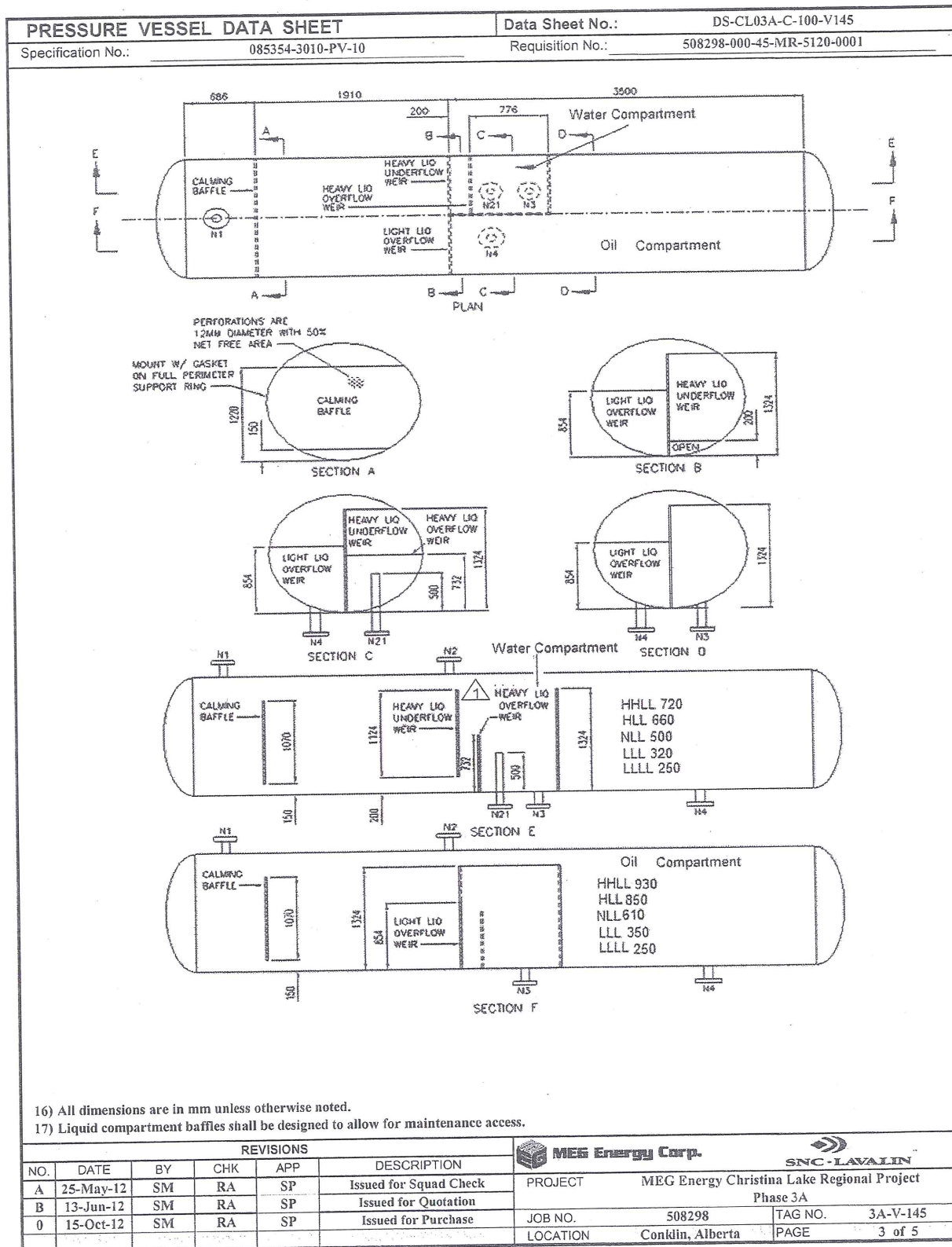
- Total Sheet : 6 Sheet (Including This Cover)

0	<i>C.S. GYM</i> 12/11/13	<i>B. J. KIM</i> 12/11/13	<i>J. H. LEE</i> 12/11/13	FIRST ISSUE
REV.	PREPARED BY	REVIEWED BY	APPROVED BY	DESCRIPTION

SEWON CELLONTECH CO.,LTD.

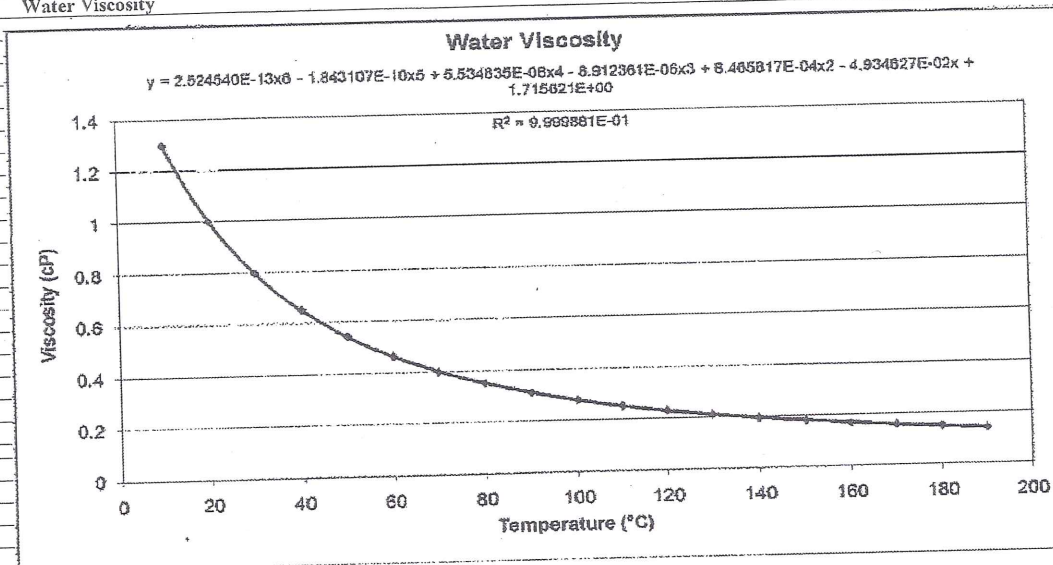
PRESSURE VESSEL DATA SHEET				Data Sheet No.: DS-CL03A-C-100-V145	
Specification No.: 085354-3010-PV-10		Requisition No.: 508298-000-45-MR-5120-0001			
DESIGN DATA				PAINTING & INSULATION	
Service Diluent Recovery Separator				External Surface Preparation Per Spec 085354-3010-PC-50 Table 3, System A1/D1(Notc23)	
Operating Temperature 50.0 °C		Pressure 365.0 kPag		Internal Surface Preparation N/A	
Design Temp. Min.: -29.0 °C Max.:		150.0 °C		Structural Surface Preparation Per Spec 085354-3010-PC-50 Table 3, System S1/S5/S6	
Design Pressure @ Minimum Temperature:		862/FV kPag		Vessel External Prime Per Spec 085354-3010-PC-50 Table 3, System A1/D1(Notc23)	
@ Maximum Temperature:		862/FV kPag		Vessel Internal Prime N/A	
Sour Service Yes	Lethal Service	No		Structural Prime Per Spec 085354-3010-PC-50 Table 3, System S1/S5/S6	
New Vessel MAWP Limited by Right head	@	1182.0 kPag		Vessel External Finish Per Spec 085354-3010-PC-50 Table 3, System A1/D1(Notc23)	
Corrosion Allowance - Shell / Heads 6.4	/	6.4 mm		Vessel Internal Finish N/A	
Wall Thickness - Shell / Heads 16.0	/	15.0 mm		Structural Finish Per Spec 085354-3010-PC-50 Table 3, System S1/S5/S6	
Joint Efficiency - Shell / Heads 1.0	/	1.0		External Insulation - Shell Per Spec 085354-3010-IN-00 (Note 9)	
Registration Alberta	Design Code ASME Sec VIII D1			External Insulation - Heads Per Spec 085354-3010-IN-00 (Note 9)	
Code Stamp Yes, U stamp	Orientation Horizontal			Internal Insulation N/A	
Post Weld Heat Treatment Required				External Cladding Per Spec 085354-3010-IN-00 (Note 9)	
Head Type 2:1 Semi-elliptical				Insulation - Bottom Head N/A	
Allowable Stress @ Design Temperature	Per Code	kPa		Insulation - Skirt N/A	
Ambient Temperature -39 to 39 °C	Max Wind Speed 31.4	m/s		Fireproofing - Skirt N/A	
Minimum Metal Design Temperature	-29	°C		Fireproofing - Saddles N/A	
Fluid Page#5 for details	Fluid Density	Page#5 for details	kg/m³		
MATERIALS				QUALITY CONTROL / INSPECTION / TESTING	
Shell SA516 Gr 70N	Repads SA516 Gr 70N			Hydrotest Pressure	Per Code kPag
Heads SA516 Gr 70N	Fittings SA234 WPB			Hydrotest Medium Water	
Trays N/A	Supports SA516 Gr 70N			Hydrotest Duration	Min 1 hrs
Bolts/Nuts SA193 B7M/SA194 2HM	Flanges SA105N			Radiographic Inspection	RT1 (100%)
Nozzle-Necks SA106 Gr B	Gaskets SPW SS 316			Ultrasonic Inspection	Per Spec 085354-3010-PV-10 (Note 14)
Internal Lining N/A	Pipe SA106 Gr B			Magnetic Particle Inspection	Per Spec 085354-3010-PV-10 (Note 15)
Internals N/A	Mist Eliminator N/A			Dye Penetrant Inspection	Per Spec 085354-3010-EW-20
Structural Attachments - External SA516 Gr 70N				Material Mill Test Reports	Per MR , Section III
Structural Attachments - Internal SA516 Gr 70N				Post Weld Heat Treatment Records	Per MR , Section III
Material Impact Test Required Per Code				Hydrotest Reports	Per MR , Section III
Certified Elevated Temp Tests Req'd No				Radiographic Inspection Reports	Per MR , Section III
DIMENSIONAL SHIPPING DATA				Ultrasonic Inspection Reports Per MR , Section III	
Vessel Size 1524 mm	ID x 6096 mm	S/S		Magnetic Particle Inspection Reports Per MR , Section III	
Boot/Gas Dome N/A mm	x N/A mm	S/S		Dye Penetrant Inspection Reports Per MR , Section III	
Capacity 12.23 m³				Fabricator Quality Control Manual Per MR , Section III	
Centerline/Bottom Seam Elevation R.L ± 0		m		Shop Inspection by Owner Yes	
Weight - Empty 15735 kg	Weight - Hydrotest 26150 kg			Welding Procedure Review/Approval Per MR , Section III	
Weight - Operat'g 23485 kg	Weight - Shipping 15735 kg			* Vendor to specify / Confirm	
O/A Shipping Dimensions (LxWxH) 7.5 x 2.3 x 2.5		m		NOTES	
Nozzle Covers/Connection Plugs Required				1) Design condition - vessel full of the liquid with SG = 1.	
Shipping Cradles N/A				2) Structural attachments are defined as any non-pressure part welded directly to the shell or head.	
Ocean Transport Protection Required (if applicable)				3) All manways shall be completed with internal grab rungs.	
ACCESSORIES BY FABRICATOR				4) All davits on inclined manways shall open horizontally.	
Manway Davits Y	Ladders Y			5) All internals except permanent supports shall be removable and shall be designed and supplied by seller.	
Ladder and Platform Clips Y	Platforms Y			6) Paired flanges to be used for instruments shall be set with a jig to avoid cumulative errors in alignment.	
Pipe Support and Guide Clips Y	Lifting Lugs Y			7) All process nozzles of pressure vessels shall be designed to withstand loading and moments as specified in project specification #085354-4060-PS-001	
Insulation Supports Y	Pipe Coil N			8) Internal baffles shall be designed to withstand the hydrostatic pressure from one side.	
Insulation Supports Bottom Head N	Anodes N				
Fireproofing Supports N	Nameplate Y				
Saddles Y	Mist Eliminator N				
Tray/Packing Supports N	Vortex Breaker Y				
Manway Internal Grab Rungs Y	Two Grounding Lugs Y				
Siphon Drains on Nozzles					
REVISIONS					
NO.	DATE	BY	CHK	APP	DESCRIPTION
A	25-May-12	SM	RA	SP	Issued for Squad Check
B	13-Jun-12	SM	RA	SP	Issued for Quotation
0	15-Oct-12	SM	RA	SP	Issued for Purchase
MEG Energy Christina Lake Regional Project Phase 3A PROJECT TAG NO. 508298 3A-V-145 LOCATION Conklin, Alberta PAGE 1 of 5					

PRESSURE VESSEL DATA SHEET						Data Sheet No.: DS-CL03A-C-100-V145	
Specification No.: 085354-3010-PV-10						Requisition No.: 508298-000-45-MR-5120-0001	
CONNECTION SCHEDULE							
Mark	Nominal Size NPS	Qty	Flange		Service	Projection (Note 22) (mm)	
			ASME Class	Type			
N1	6	1	150	RFWN	Recovered Diluent Inlet, c/w impingement baffle	307	▲
N2	4	1	150	RFWN	Gas outlet	307	▲
N3	3	1	150	RFWN	Water outlet c/w vortex breaker	321.6	▲
N4	4	1	150	RFWN	Diluent outlet c/w vortex breaker	333.1	▲
N5	2	1	150	RFWN	Temperature Gauge - TG	By Seller	
N6	2	1	150	RFWN	Vent c/w blind flange, gasket, bolts and nuts	307	▲
N7	4	1	150	RFWN	Maintenance Vent <i>c/w blind flange, gasket, bolt & nuts.</i>	307	▲
N8	2	1	150	RFWN	Pressure Gauge - PG	307	▲
N9	4	1	150	RFWN	Spare c/w blind flange, gasket, bolts and nuts	307	▲
N10A-D	2	4	150	RFWN	Water box level transmitter (DP) - LIT	▲307 for N10 A/C By Seller for N10 B/D	
N11	3	1	300	RFWN	Pump Min Flow Inlet	By Seller	
N12	4	1	150	RFWN	PSV (<i>Size under HOLD for PSV sizing</i>)	307	▲
N13A/B	2	2	150	RFWN	Steam Out	By Seller	
N14	2	1	150	RFWN	Utility c/w blind flange, gasket, bolts and nuts	307	▲
N15A-C	2	3	150	RFWN	Drain Connections	▲307 for N15 A/C 321.6 for N15 B	▲
N16A-D	2	4	150	RFWN	Oil box level transmitter (DP) - LIT	By Seller	
N17A-C	2	3	150	RFWN	Level Gauge (Water-Oil Interface) - LG (Jig Set)	By Seller	
N18A-C	2	3	150	RFWN	Level Gauge (Oil-Gas Interface) - LG (Jig Set)	By Seller	
N19	3	1	150	RFWN	Blanket Gas	307	▲
N20A-C	2	3	150	RFWN	Interface Draw-off (Nozzles located at 450 mm, 550 mm, and 650 mm)	By Seller	
N21	3	1	150	RFWN	Oil Skim Outlet c/w internal riser to 500 mm in water compartment	321.6	▲
M1/2	24	12	150	RFWN	Manway, c/w blind flange, gasket, bolts and nuts, davit	By Seller	
VESSEL SKETCH							
N10B/D, N16B/D, N17B, N18B shall be located as low as possible							
9) Seller shall provide 50mm thick mineral fiber insulation with 0.5mm thick stucco embossed aluminum cladding. 10) Vessel shall comply with all sour service requirements specified in specification # 085354-3010-PV-10. 11) All internal attachments shall be attached to the vessel with full penetration welds. 12) All non-destructive examinations shall be performed after completion of PWHT. 13) All internal/external attachment welds shall be MPI examined all around. 14) UT examination required on: 100% of Cat D Welds; all plates over 12 mm thick to be examined for laminations and defects (per spec 085354-3010-PV-10). 15) Magnetic particle examination required on: all edges of pressure retaining plate prepared for welding; all attachment welds (internal and external, lift lugs, skirt).							
REVISIONS							
NO.	DATE	BY	CHK	APP	DESCRIPTION		
A	25-May-12	SM	RA	SP	Issued for Squad Check	PROJECT MEG Energy Christina Lake Regional Project Phase 3A	
B	13-Jun-12	SM	RA	SP	Issued for Quotation		
0	15-Oct-12	SM	RA	SP	Issued for Purchase	JOB NO. 508298	TAG NO. 3A-V-145
						LOCATION Conklin, Alberta	PAGE 2 of 5

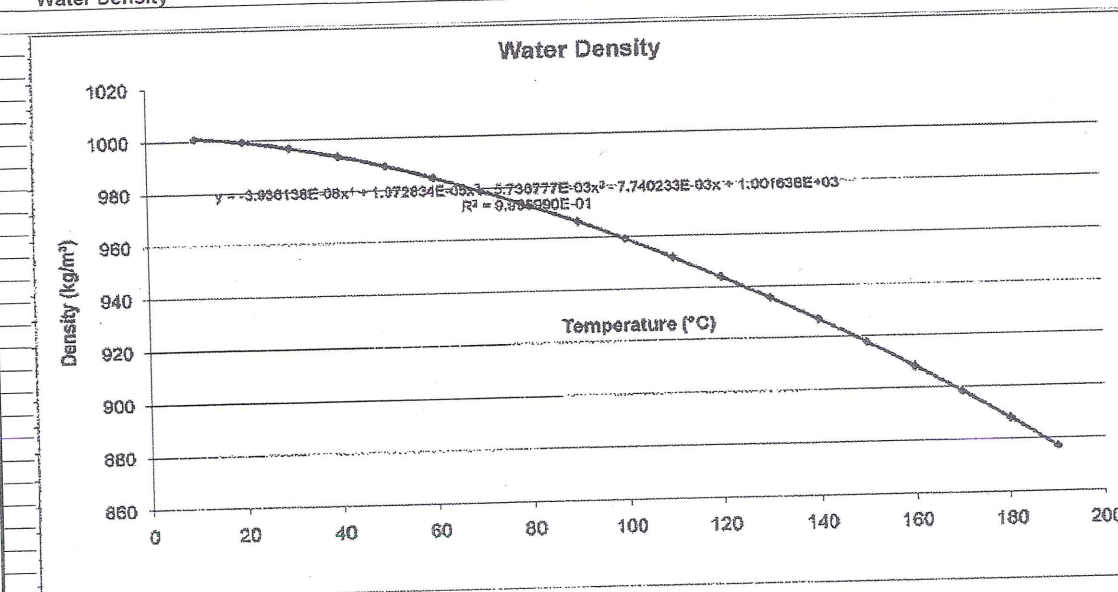



PRESSURE VESSEL DATA SHEET		Data Sheet No.:	DS-CL03A-C-100-V145
Specification No.:		Requisition No.:	508298-000-45-MR-5120-0001
085354-3010-PV-10			
18. Vessel sizing was based on 150 microns droplet removal criteria for gas and 50 microns for liquid/liquid separation.			
19. H2S and CO2 concentration in vapour phase is 0.26 mol% and 4.83 mol% respectively.			
20. Water compartment baffles to be designed to allow for maintenance access.			

Water Viscosity



Water Density



REVISIONS						MEG Energy Corp. 			
NO.	DATE	BY	CHK	APP	DESCRIPTION	PROJECT MEG Energy Christina Lake Regional Project			
A	25-May-12	SM	RA	SP	Issued for Squad Check	Phase 3A			
B	13-Jun-12	SM	RA	SP	Issued for Quotation				
0	15-Oct-12	SM	RA	SP	Issued for Purchase				
						JOB NO.	508298	TAG NO.	3A-V-145
						LOCATION	Conklin, Alberta	PAGE	4 of 5

