Pressure Vessel - Mechanical Data Sheet

Data Sheet No.
9265

Rev.	NATCO Information				Client Information	
1	NATCO PAF No.	4M979210	Rev.	0	Client	Koch Exploration Canada c/o Spec Engineering
2	Contract No.	9265	Prepared by	GW	Client Project No.	09501
3	Item / Tag No.		App'd by		Plant	Gemini Oilsands Project
4	Spec No.		Date	6-Aug-09	LSD	SE 1/4 14-60-03 W4M
5	Quantity	One (1)			Service	Sweet
6					Job Description	Horizontal Mechanical Treater

	Process Design Data			
	Parameter		Value	Units
	Pressure	Int. Design	517	kPa g
		Ext. Design		
	Operating	Maximum		kPa g
		Normal	350	kPa g
		Minimum		kPa g
	Temperature	Design	135	°C
		MDMT	-29	°C
	Operating Temp	Maximum		°C
		Normal	120	°C
		Minimum		°C
	Dilbit Flow	Design	208	m3/day
		Maximum		m3/day
		Minimum		m3/day
	Water Flow	Design	510	m3/day
		Normal		m3/day
		Minimum		m3/day
	Gas Flow	Design	15.63	Sm3/hr
		Maximum		Sm3/hr
		Minimum		Sm3/hr
	Oil API	14		
	Water Density	1.02		
	Gas SG	0.91		

	Dimensions and Weights			
	Diameter	8'-0" (2 438mm)	OD	
	Length	40'-0" (12 192mm) S/S		
	Maximum Volume			m3
	Empty Weight			kg
	Operating Weight			kg
	Hydro Weight			kg

	Examination	
	Radiography	RT-3 SPOT
	UT	
	MPI	
	BHN	
	PMI	
	Impact Tests	

	Chemistry	
	HIC	NO
	C.E.	NO
	Select Chemistry	NO
	Nace MR0175	NO
	Vac. Degas	NO

	Miscellaneous Information	
	Painting	As per spec.
	Internal Coating	None
	Insulation	As per spec.
	Other	

Rev.	Vessel Design Data					
	Design Code	ASME SECT. VIII DIV.1 2007 ED 2008a Addenda				
	Design Factor	3.5				
	CRN (Provinces)	Alberta				
	National Board No.					
	Orientation	HORIZONTAL				
	Head Type #1	ASME 2:1 SE				
	Head Type #2	ASME 2:1 SE				
	Shell Type	Rolled Plate				
	Joint Efficiency	Long	0.7	Circ.	0.7	
	Corr. Allow	1.6		mm		
	PWHT	No	for		hrs.	
	Cyclic Service	No				
	FEA	No				
	Hydro Test at					

	Internal Components		External Components	Materials
	☑ Inlet Deflector	Half Shroud	☑ Shell	SA-516-70N
	☑ Vortex Breaker	Natco Standard	☑ Head#1	SA-516-70N
	☐ Manway Davit		☑ Head#2	SA-516-70N
	☑ Manway Hinge		☑ Flanges	SA-105N
	☑ Manwy Grab Bar		☑ Forgings	SA-105N
	☐ Manway Ladder		☑ Pipe	SA-106-B
	☐ Float Hood		☑ Fittings	SA-234-WPB
	☑ Weir Plate	SA-516-70N	☐ Body Fig	
	☑ Baffles	SA-516-70N	☐ Repads	
	☐		☑ Stiffening Rings	
	☐ Performax		☑ Insulation Rings	
	☐ Mesh Pad		☑ Saddles	SA-40.21-44W
	☐ Vane Pack		☐ Saddles Wear Pl.	
	☐ Heating Coil		☐ Skirt	
	☐ Chimney Tray		☑ Base Plate	SA-40.21-44W
	☐ Trays		☐ Legs	
	☐ Packing		☑ Lift Lugs	SA-516-70N
	☑ Fire tube	0.94 MMBTU/hr	☐ Trunnions	
	☑ DeGassing Section	Front End	☑ Ground Lug	SA-516-70N
	☐ Grids		☑ Gaskets	SPIRAL WOUND 316SS
	☐ Transformer		☑ Studs/Nuts	SA-193-B7/SA-194-2H
	☐ Entrance Bushings		☑ Ext. Bolt	
	☑ Anodes		☑ Int. Bolt	316LSS
	☐ LRC		☑ Pipe Spt/Clip	
	☑ Sludge Removal	Mushroom Caps	☐ Ladder	
	☑ DeSand System		☐ Platform	
	☑ Spreaders	High Flow Trough	☑ Building Ring	
	☐ Dog House		☐ Cable Tray Sprt Clips	
	☑ Collector		☐	
	☐ Revolution		☐	
	☑ Low Level Protection		☐	
	☑ Sample Type	Externally Tubed	☐	
	☑ Sample Box		☐	

General Notes

1. Firetube duty is based on a flux of 10,000 BTU/ft2
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