ISSUED BY

R10046394

MECHANICAL DATA SHEET: VESSEL

PLANT ITEM No.
24590-LAW-MV-RLD-VSL-00004

Project:	RPP-WTP	P&ID:	24590-LAW-M6-RLD-P0002
Project No:	24590	Process Data Sheet:	24590-LAW-MVD-RLD-00002
Site:	Hanford	Vessel Drawing	24590-LAW-MV-RLD-P0001
Description:	C3/C5 Drains/Sump Collection Vessel		

Reference Data

Charge Vessels (Tag Numbers)	Not Applicable
Pulsejet Mixers (Tag Numbers)	Not Applicable
RFDs/Pumps (Tag Numbers)	Not Applicable

Design Data

Quality Level		CM 1		Fabrication Specs	24590-WTP-3PS-MV00-TP001 (PVDF)		
Seismic Category		SC-3		Design Code	ASME VIII Div 1		
Service/Contents		Radioactive Liquid		Code Stamp	Yes		
				NB Registration	Yes		
Design Specific Gravity		1.47 1		Weights (lbs)	Empty	Operating	Test
Operating Volume	gal	6510 1		Estimated	17000	86500 1	82300
Total Volume	gal	7696 1		Actual *	20650 1	102000 1	86150 1

Inside Diameter	inch	120			Wind Design	Not Required	
Length/Height (TL-TL)	inch	132			Snow Design	Not Required	
		Vessel Operating	Vessel Design		Seismic Design	24590-WTP-3PS-MV00-TP002 24590-WTP-3PS-FB01-T0001 1	
Internal Pressure	psig	Atm	15	None	Seismic Base Moment *	ft*lb	
External Pressure	psig	0.6	FV	None	Postweld Heat Treat	Not Required	
Temperature	°F	158	183	None	Corrosion Allowance	inch	0.04
Min. Design Metal Temp.	°F	-20 1			Hydrostatic Test Pressure *	psig	20 1

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This Bound Document Contains a total of 3 pages

REV	DATE	REASON FOR REVISION	PREPARER	CHECKER	REVIEWER	APPROVER
1	4/3/03	Issued for Permitting Use				
0	08/09/02	Issued for Permitting Use	Josh Velasquez	Cliff Slater		Suzanne Kirk

DATA SHEET #: 24590-LAW-MVD-RLD-P0001, Rev. 1

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4/7/03

MECHANICAL DATA SHEET: VESSEL

PLANT ITEM No.
24590-LAW-MV-RLD-VSL-00004

Materials of Construction

Component	Material	Minimum Thickness	Containment
Top Head	***SA-240 316 (Note 5)***	***See Drawing***	***Auxiliary***
Shell	***SA-240 316 (Note 5)***	***See Drawing***	***Primary***
Bottom Head	***SA-240 316 (Note 5) (Note 6)***	***See Drawing***	***Primary***
Support	***SA-240 304 (Note 5)*** 1	***See Drawing***	***Not Applicable***
Jacket/Coils/Half-Pipe Jacket	***None***	***Not Applicable***	***Not Applicable***
Internals	***SA-240 316 (Note 5)***	***See Drawing***	***Thermowells Primary*** 1
Pipe	***SA-312 316 (Note 5) Seamless*** 1	***See Drawing***	***Note 1***
Forgings/ Bar stock	***SA-182 F316 (Note 5)***	***See Drawing***	***Not Applicable***
Gaskets 1	***Note 7***	***Not Applicable***	***Not Applicable***
Bolting	***SA-194 B8 / SA-193 8***	***See Drawing***	***Not Applicable***

Miscellaneous Data

Orientation	***Vertical***	Support Type	***Skirt***
Insulation Function	***None***	Insulation Material	***Not Applicable***
Insulation Thickness (inch)	***Not Applicable***	Internal Finish	***Note 3***
		External Finish	***Note 4***

Notes

* To be determined by the vendor.

Note 1: Nozzle necks below normal operating level are Primary, others Auxiliary. See PVDF and vessel drawing for NDT.

Note 3: Descale all internal welds as laid, grind smooth and blend all starts/stops, high spots, and crevices, finish welds as required for NDE purposes. 1

Note 4: Welds descaled as laid. 1

Note 5: Maximum carbon content of 0.030%.

Note 6: 0.125 inch thick SB443 625 explosion bonded cladding on concave surface. 1

1 ***Note 7: Spiral wound, 316SS, flexible graphite fill, 1/8" thick.***

Equipment Cyclic Data Sheet

Component Plant Item Number:	***RLD-VSL-00004***
Component Description	***Parent Vessel***

The information below is provisional and envelopes operational duty for fatigue assessment. It is not to be used as operational data.

Materials of Construction	***SA-240 316***
Design Life	***40 Years***
Component Function and Life Cycle Description	***This tank collects drains liquid from the plant. Approximately twice a week the contents are pumped out. The pressure over the liquid is the Vessel Vent extraction depression.***

Load Type		Min	Max	Number of Cycles	Comment
Design Pressure	psig	***FV***	***15***	***10***	***Nominal Assumption***
Operating Pressure	psig	***-0.1*** 1	***0.07***	***4160***	***2 cycles per week for forty years***
Operating Temperature	°F	***59***	***158***	***4160***	***Coincident with pressure cycles. Adjacent locations <50° F range.***
Contents Specific Gravity		***1.47*** 1			
Contents Level	inch	***Empty***	***Op Vol***	***4160***	
Localized Features					
Nozzles					
Supports					

Notes

- ***Cycle increase: The Seller must increase the numbers of operational cycles given above by 10% to account for commissioning duty unless otherwise noted.***

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