

PRESSURE VESSEL & COLUMN INSPECTION REPORT

			LSD: 02-	20-050-	-18W5		Date: 20)14-05-15	SAP Equip	pment ID	66146479		
					VE	SSEL ST	ATIC DATA						
Plant:	ANS	SELL			OP Unit:	:				System:			
Prov. Insp . #:	051	6664		- 1	CRN:		R9125.213			Equip Tag#:	(614647	9
quipment De	scription:	INLET	SEPARATOR							Serial #:	:	138-02-04	ļ
lanufacturer:	Ma	r Quinn Indu	stries							Vessel Class:	,	/essel	
nternal Acces	ss: Yes				Descript	tion:				Year Built:		2004	
IAWP:	510	02	kpa		At Temp)	38	С		MDMT:		-29	С
ode:	U			F	RT:	RT1				PWHT:	,	⁄es	
iameter: 1	524 mr	n Lengtl	h: 6096	mm ((T/T):	mm	OAL:	mm		Orientation:		lorizonta	
SHE	LL	Mat'l: SA-	516 70	1	Thickne	ss:	34.80	mm		Corr Allowan	ce:	3.18	mm
HEA	\D	Mat'l: SA-	516 70	1	Thickne	ss:	33.27	mm		Corr Allowan	ce:	3.18	mm
воот 9	SHELL	Mat'l: Unk	nown	1	Thickne	ss:	0.00	mm		Corr Allowan	ce:	3.18	mm
воот			nown	-	Thickne		0.00	mm		Corr Allowan		3.18	mm
	Nozzle N			_	Thickne					Corr Allowan		0.20	
		iut Ii			Internal					Capacity:			m3
nternal Coati	ng: Ye	<u> </u>		-		ion Port:	No			Skirt	Legs 2	(Sar	idle
anway: ozzle Rating			lb ANSI		Painted:		Yes			Insulated:	No No	· Jac	
Ruting			.5 / 11101	<u> </u>		PROCES		•					
roduction De	scription			Т	Sweet	PROCES:	Sour:						
perating Pre			kpa			ng Temp:	30ui.		C				
peracing r re	55u. C		три			V STATI	CDATA						
					PS	V SIAII	Capacity			T			
Tag #	Serial No.	Location	Size	(mm)		Set Press	Imperial	Manufacture	r	Model	Last	- 1	Service
ray #	Serial No.	Location	Inlet	Ou	tlet	(kPa)	(SCFM)				Service	C	ompany
			0.00	0.	.00	0							
						PSV DET	TATIS					_	
		Tyne(T	hread/Flange	2)	T				T	Size	e(In/mm)		
		Турс(Т	incaa, riange	-,	ANSI Rating								
PRD Inle	t									0.00			
PRD Outl	et									0.00			
				N	IDE Eq	uipment	Records						
Proced	ure #	Descri	ption	Ma	anufactı	urer	Mo	del#		Serial#		Due	Date
**** See As	sociated ND	E Report	<u>'</u>										
					т.	NCDECTI	ON SUMM	ADV					
					11	13F LC11	OIT SUMM	ni) i					
JT/VE PERFO	DRMED.												
						RECOM	MENDATI	ONS					
FIT FOR SER	VICE.		· · ·										
				NON	CONF	ORMANC	ES/INSPE	CTION DEFI	CIENCES				



Assessed Next Inspection Date

PRESSURE VESSEL & COLUMN INSPECTION REPORT

LSD: 02-20-050-18W5 Date: 2014-05-15 SAP Equipment ID 66146479

		INSPECTION	N PLANNING					
Inspection Strategy		Availability		In	spection Interva	al		
Inspection Date 2014/05/14		Date of Last Inspect		Date of Next Insp			2018/05/14	
		REPORT CER	TIFICATION					
	ertify that inspections/tests have onsidered fit for service until the		with the identified inspe	ection strate	gy and that the			
Inspected by	Jamey Tanas	ichuk 5		Cert #	000411	Date	2014/05/14	
Reviewed and Approved	by			_		Date		
Criticality Assessment Re	erun	Inspection Plan	ıning Rerun					



PRESSURE VESSEL & COLUMN INSPECTION REPORT

DETAILED INSPECTION VISUAL EXTERNAL

V14 Shell						
V2 General Corrosion	ID	Description	Condition	Location	NCR	Comments
V3 General Leaks	V1	General Other (Please Explain)	Accept		No	GOOD OVERALL EXTERNAL CONDITION.
144 Wination	V2	General Corrosion	Accept		No	NO VISIBLE EXTERNAL CORROSION.
V5 Dissimilar Flange Rating N/A NO	V3	General Leaks	Accept		No	NO VISIBLE LEAKAGES AT TIME OF INSPECTION.
V6 Lodder/Stainway Accept No V7 Heads Accept No V8 Guy Wires N/A No V9 Electrical Ground Accept No V10 Painted Inactive Corrosion N/A No V11 Coating/Painting Accept No V12 Expansion Joint or Bellows N/A No V13 Gauge/Site Glass Accept No V14 Shell Accept No V15 Jacket N/A No V15 Jacket N/A No V21 Support Other (Please explain) Accept No V22 Foundation N/A No V23 Anchor Bolts Accept No V24 Saddle/Shirt N/A No V24 Saddle/Shirt N/A No V32 Friending N/A No V32 Small Branches Accept No	V4	Vibration	N/A		No	
VP Heads	V5	Dissimilar Flange Rating	N/A		No	
V8 Guy Wires	V6	Ladder/Stairway	Accept		No	
V9	V7	Heads	Accept		No	
VII	V8	Guy Wires	N/A		No	
V11 Coating/Painting	V9	Electrical Ground	Accept		No	
V12 Expansion Joint or Bellows N/A No	V10	Painted Inactive Corrosion	N/A		No	
No	V11	Coating/Painting	Accept		No	PAINT IN GOOD CONDITION.
V14 Shell	V12	Expansion Joint or Bellows	N/A		No	
No	V13	Gauge/Site Glass	Accept		No	GAUGES ARE VISIBLE AND APPEAR TO BE IN GOOD WORKING CONDITION.
V21 Support Other (Please explain) Accept No VESSEL IS SUPPORTED BY LEGS AND BOLTED TO FLOOR, VESEURE. V22 Foundation N/A No V23 Anchor Bolts Accept No V24 Saddle/Skirt N/A No V25 Davit Accept No V26 Fireproofing N/A No V31 Connections Other (Please explain) N/A No V32 Small Branches Accept No V33 Nozzles Accept No V33 Nozzles Accept No V34 Manways N/A No V34 Manways N/A No V35 Reinforcing Pads Accept No V36 Inadequate Thread Engagement N/A No V37 Bolting Accept No V38 Flanges Accept No V39 Leak Clamps N/A No V41	V14	Shell	Accept		No	
V22 Foundation N/A No	V15	Jacket	N/A		No	
V23 Anchor Bolts Accept No V24 Saddle/Skirt N/A No V25 Davit Accept No V26 Fireproofing N/A No V31 Connections Other (Please explain) N/A No V32 Small Branches Accept No ALL THREADED CONNECTIONS FULLY ENGAGED. V33 Nozzles Accept No No ALL THREADED CONNECTIONS FULLY ENGAGED. V33 Nozzles Accept No No ALL THREADED CONNECTIONS FULLY ENGAGED. V34 Manways N/A No No No ALL THREADED CONNECTIONS FULLY ENGAGED. V34 Manways N/A No No No No V34 Manways N/A No No No No V35 Reinforcing Pads Accept No FLANGES PROPERLY ALIGNED. No V33 Flanges Accept No FLANGES PROPERLY ALIGNED. No V34	V21	Support Other (Please explain)	Accept		No	VESSEL IS SUPPORTED BY LEGS AND BOLTED TO FLOOR, VESSEL IS SECURE.
V24 Saddle/Skirt N/A NO V25 Davit Accept No V26 Fireproofing N/A No V31 Connections Other (Please explain) N/A No V32 Small Branches Accept No ALL THREADED CONNECTIONS FULLY ENGAGED. V33 Nozzles Accept No No V34 Manways N/A No V35 Reinforcing Pads Accept No V36 Inadequate Thread Engagement N/A No V37 Bolting Accept No V38 Flanges Accept No V38 Flanges Accept No V39 Leak Clamps N/A No V41 Insulation Other (Please explain) N/A No V42 Damage N/A No V43 Penetrations N/A No V44 Insulation Jacket N/A No V45 <td>V22</td> <td>Foundation</td> <td>N/A</td> <td></td> <td>No</td> <td></td>	V22	Foundation	N/A		No	
V25 Davit Accept No V26 Fireproofing N/A No V31 Connections Other (Please explain) N/A No V32 Small Branches Accept No ALL THREADED CONNECTIONS FULLY ENGAGED. V33 Nozzles Accept No No ALL THREADED CONNECTIONS FULLY ENGAGED. V33 Nozzles Accept No No No No V34 Manways N/A No No No No V35 Reinforcing Pads Accept No No No No V35 Reinforcing Pads Accept No No No No V36 Inadequate Thread Engagement N/A No No FLANGES PROPERLY ALIGNED. V37 Bolting Accept No FLANGES PROPERLY ALIGNED. V39 Leak Clamps N/A No V41 Insulation Other (Please explain) N/A No V42 Damage	V23	Anchor Bolts	Accept		No	
V26 Fireproofing N/A No V31 Connections Other (Please explain) N/A No V32 Small Branches Accept No ALL THREADED CONNECTIONS FULLY ENGAGED. V33 Nozzles Accept No No V34 Manways N/A No No V35 Reinforcing Pads Accept No No V36 Inadequate Thread Engagement N/A No V37 Bolting Accept No FLANGES PROPERLY ALIGNED. V38 Flanges Accept No FLANGES PROPERLY ALIGNED. V39 Leak Clamps N/A No No V41 Insulation Other (Please explain) N/A No V42 Damage N/A No V43 Penetrations N/A No V44 Insulation Jacket N/A No V45 Banding N/A No V51 Relief Devices Other (Please explain) Accept	V24	Saddle/Skirt	N/A		No	
V31 Connections Other (Please explain) N/A No V32 Small Branches Accept No ALL THREADED CONNECTIONS FULLY ENGAGED. V33 Nozzles Accept No V34 Manways N/A No V35 Reinforcing Pads Accept No V36 Inadequate Thread Engagement N/A No V37 Bolting Accept No V38 Flanges Accept No V39 Leak Clamps N/A No V41 Insulation Other (Please explain) N/A No V42 Damage N/A No V43 Penetrations N/A No V44 Insulation Jacket N/A No V45 Banding N/A No V46 Seals/Joints N/A No V51 Relief Devices Other (Please explain) Accept No PSV BEING SERVICED AT TIME OF INSPECTION.	V25	Davit	Accept		No	
V32 Small Branches Accept No ALL THREADED CONNECTIONS FULLY ENGAGED. V33 Nozzles Accept No V34 Manways N/A No V35 Reinforcing Pads Accept No V36 Inadequate Thread Engagement N/A No V37 Bolting Accept No V38 Flanges Accept No FLANGES PROPERLY ALIGNED. V39 Leak Clamps N/A No V41 Insulation Other (Please explain) N/A No V42 Damage N/A No V43 Penetrations N/A No V44 Insulation Jacket N/A No V45 Banding N/A No V46 Seals/Joints N/A No V51 Relief Devices Other (Please explain) Accept No PSV BEING SERVICED AT TIME OF INSPECTION.	V26	Fireproofing	N/A		No	
V33 Nozzles Accept No V34 Manways N/A No V35 Reinforcing Pads Accept No V36 Inadequate Thread Engagement N/A No V37 Bolting Accept No V38 Flanges Accept No V39 Leak Clamps N/A No V41 Insulation Other (Please explain) N/A No V41 Insulation Other (Please explain) N/A No V43 Penetrations N/A No V44 Insulation Jacket N/A No V45 Banding N/A No V46 Seals/Joints N/A No V51 Relief Devices Other (Please explain) Accept No PSV BEING SERVICED AT TIME OF INSPECTION.	V31	Connections Other (Please explain)	N/A		No	
V34 Manways N/A No V35 Reinforcing Pads Accept No V36 Inadequate Thread Engagement N/A No V37 Bolting Accept No V38 Flanges Accept No V39 Leak Clamps N/A No V41 Insulation Other (Please explain) N/A No V42 Damage N/A No V43 Penetrations N/A No V44 Insulation Jacket N/A No V45 Banding N/A No V46 Seals/Joints N/A No V51 Relief Devices Other (Please explain) Accept No PSV BEING SERVICED AT TIME OF INSPECTION.	V32	Small Branches	Accept		No	ALL THREADED CONNECTIONS FULLY ENGAGED.
V35 Reinforcing Pads Accept No V36 Inadequate Thread Engagement N/A No V37 Bolting Accept No V38 Flanges Accept No FLANGES PROPERLY ALIGNED. V39 Leak Clamps N/A No V41 Insulation Other (Please explain) N/A No V42 Damage N/A No V43 Penetrations N/A No V44 Insulation Jacket N/A No V45 Banding N/A No V46 Seals/Joints N/A No V51 Relief Devices Other (Please explain) Accept No No PSV BEING SERVICED AT TIME OF INSPECTION.	V33	Nozzles	Accept		No	
V36 Inadequate Thread Engagement N/A No V37 Bolting Accept No V38 Flanges Accept No FLANGES PROPERLY ALIGNED. V39 Leak Clamps N/A No V41 Insulation Other (Please explain) N/A No V42 Damage N/A No V43 Penetrations N/A No V44 Insulation Jacket N/A No V45 Banding N/A NO V46 Seals/Joints N/A NO V51 Relief Devices Other (Please explain) Accept No PSV BEING SERVICED AT TIME OF INSPECTION.	V34	Manways	N/A		No	
V37 Bolting Accept No FLANGES PROPERLY ALIGNED. V38 Flanges Accept No FLANGES PROPERLY ALIGNED. V39 Leak Clamps N/A No V41 Insulation Other (Please explain) N/A No V42 Damage N/A No V43 Penetrations N/A No V44 Insulation Jacket N/A No V45 Banding N/A No V46 Seals/Joints N/A No V51 Relief Devices Other (Please explain) Accept No PSV BEING SERVICED AT TIME OF INSPECTION.	V35	Reinforcing Pads	Accept		No	
V38 Flanges Accept No FLANGES PROPERLY ALIGNED. V39 Leak Clamps N/A No V41 Insulation Other (Please explain) N/A No V42 Damage N/A No V43 Penetrations N/A No V44 Insulation Jacket N/A No V45 Banding N/A No V46 Seals/Joints N/A No V51 Relief Devices Other (Please explain) Accept No PSV BEING SERVICED AT TIME OF INSPECTION.	V36	Inadequate Thread Engagement	N/A		No	
V39 Leak Clamps N/A No V41 Insulation Other (Please explain) N/A No V42 Damage N/A No V43 Penetrations N/A No V44 Insulation Jacket N/A No V45 Banding N/A No V46 Seals/Joints N/A No V51 Relief Devices Other (Please explain) Accept No PSV BEING SERVICED AT TIME OF INSPECTION.	V37	Bolting	Accept		No	
V41 Insulation Other (Please explain) N/A No V42 Damage N/A No V43 Penetrations N/A No V44 Insulation Jacket N/A No V45 Banding N/A No V46 Seals/Joints N/A No V51 Relief Devices Other (Please explain) Accept No PSV BEING SERVICED AT TIME OF INSPECTION.	V38	Flanges	Accept		No	FLANGES PROPERLY ALIGNED.
V42 Damage N/A No V43 Penetrations N/A No V44 Insulation Jacket N/A No V45 Banding N/A No V46 Seals/Joints N/A No V51 Relief Devices Other (Please explain) Accept No PSV BEING SERVICED AT TIME OF INSPECTION.	V39	Leak Clamps	N/A		No	
V43 Penetrations N/A No V44 Insulation Jacket N/A No V45 Banding N/A No V46 Seals/Joints N/A No V51 Relief Devices Other (Please explain) Accept No PSV BEING SERVICED AT TIME OF INSPECTION.	V41	Insulation Other (Please explain)	N/A		No	
V44 Insulation Jacket N/A No V45 Banding N/A No V46 Seals/Joints N/A No V51 Relief Devices Other (Please explain) Accept No PSV BEING SERVICED AT TIME OF INSPECTION.	V42	Damage	N/A		No	
V45 Banding N/A No V46 Seals/Joints N/A No V51 Relief Devices Other (Please explain) Accept No PSV BEING SERVICED AT TIME OF INSPECTION.	V43	Penetrations	N/A		No	
V46 Seals/Joints N/A No V51 Relief Devices Other (Please explain) Accept No PSV BEING SERVICED AT TIME OF INSPECTION.	V44	Insulation Jacket	N/A		No	
V51 Relief Devices Other (Please explain) Accept No PSV BEING SERVICED AT TIME OF INSPECTION.	V45	Banding	N/A		No	
	V46	Seals/Joints	N/A		No	
V52 Corrosion N/A No	V51	Relief Devices Other (Please explain)	Accept		No	PSV BEING SERVICED AT TIME OF INSPECTION.
197	V52	Corrosion	N/A		No	
V53 Leaks N/A No	V53	Leaks	N/A		No	
V54 Restricted Inlet/Outlet N/A No	V54	Restricted Inlet/Outlet	N/A		No	



PRESSURE VESSEL & COLUMN INSPECTION REPORT

		L:	SD: 02-20-	050-18W5	Date: 20	14-05-1	5 SAP Equipment ID	66146479	
Γ	V55	Manual Operation Lever	N/A			No			

DETAILED INSPECTION OTHER TECHNIQUES

ID	Location Observation/Measurement		Acceptance Criteria	NCR	Comments

DETAILED INSPECTION UT THICKNESS

	CML	Nom. Thickness (mm)	CURRENT READINGS (mm)	short term corr rate (mm/y)	long term corr rate (mm/y)	remaining life (year)	Survey Date	Comments
20	(HEAD)	33.27	35.51	0.0000	0.0000	198.0	2014/05/15	
25	(SHELL)	34.80	36.35	0.0000	0.0000	198.0	2014/05/15	
30	(SHELL)	34.80	36.07	0.0000	0.0000	198.0	2014/05/15	
35	(SHELL)	34.80	36.12	0.0000	0.0000	198.0	2014/05/15	
40	(SHELL)	34.80	36.14	0.0000	0.0000	198.0	2014/05/15	
45	(HEAD)	33.27	35.33	0.0000	0.0000	198.0	2014/05/15	
50	(BOOT HEAD)	0.00	20.62	0.0000	0.0000	198.0	2014/05/15	
55	(BOOT SHELL)	0.00	22.71	0.0000	0.0000	198.0	2014/05/15	
05	(BAND 8 XS)	12.70	12.14	0.0000	0.0000	198.0	2014/05/15	
	(BAND 8 XS)	12.70	11.99	0.0000	0.0000		2014/04/05	
10	(90L 8 XS)	12.70	11.05	0.0000	0.0000	198.0	2014/05/15	
	(90L 8 XS)	12.70	10.49	0.0000	0.0000		2014/04/05	
15	(BAND 8 XS)	12.70	11.96	0.0000	0.0000	198.0	2014/05/15	
	(BAND 8 XS)	12.70	11.68	0.0000	0.0000		2014/04/05	
60	(90L 6 XS)	10.97	8.66	0.2184	0.2184	25.4	2014/05/15	
65	(90L 2 XS)	5.54	4.85	0.0648	0.0648	57.6	2014/05/15	
70	(90L 4 XS)	8.56	8.08	0.0456	0.0456	130.8	2014/05/15	
75	(90L 2 XS)	5.54	5.38	0.0144	0.0144	296.4	2014/05/15	

Inspected By	Signature	CGSB Level	CGSB No.	Survey Date	UT Equip	Due Date OF Calibration	NDE Procedure No.
Jamey Tanasichuk	4. M.	1	11444	05/15/2014	109_81583903_EPOCH 4	06/17/2014	WQS UT-001

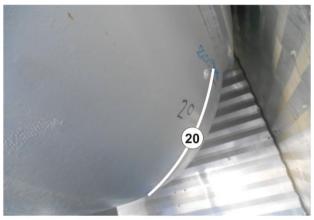


Client:

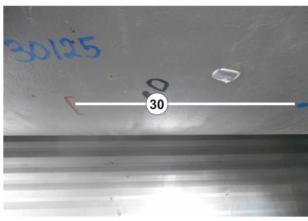
HUSKY ENERGY

EXAMINATION ILLUSTRATION

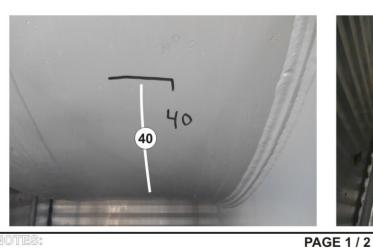
DISTRICT:	FOOTHILLS ANSELL	FACILITY:	ANSELL	LOCATION/LSD:	02-20-050-18W5
EQUIP NAME:	SEPARATOR		PROV REG No.:	A#0516664	
SERIAL No.:	138-02-04	Equip No.:		National Board No.:	

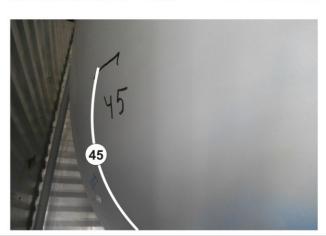












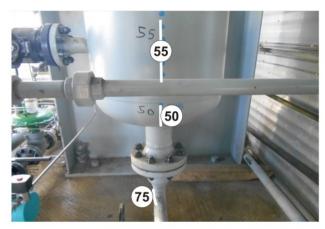


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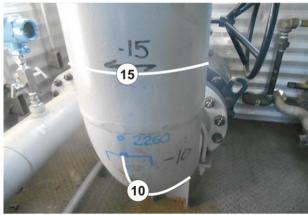
HUSKY ENERGY

EXAMINATION ILLUSTRATION

DISTRICT:	FOOTHILLS ANSELL	FACILITY:	ANSELL	LOCATION/LSD:	02-20-050-18W5
EQUIP NAME:	SEPARATOR		PROV REG No.:	A#0516664	
SERIAL No.:	138-02-04	Equip No.:		National Board No.:	













NOTES: PAGE 2/2



Client:

HUSKY ENERGY

PHOTOGRAPHS

EQUIP NAME: SEPARATOR			PROV REG No.:	A#0516664	
SERIAL No.:	138-02-04	Equip No.:		National Board No.:	













NOTES: