

PRESSURE VESSEL & COLUMN INSPECTION REPORT

No MDR

Plant	Ansell Field		Op Unit	System	
Asset #	Equipment ID		66113422	Asset Type	
Description	Inlet Separator		Prov. Insp. #	A0568928	Serial # 10777
Manufacturer	RLV		CRN	P-7217.2	Year Built 2006
MAWP	10204	KPag	@ 38	°C	MDMT -29 °C
Code	RT-2	Fluid Service	Natural Gas	Sweet	PWHT NIL
Internal Access	No	Insulated	No	Internal Coating	
Operating Pressure	N/A	KPag	Operating Temp		N/A °C

PSV DATA

PSV ID #	Location	Size		Set Pressure	Capacity SCFM / Lbs/Hr / GPM	Manufacturer	Model	Last Service
		Inlet	Outlet					
	Vessel	25.4 mm	25.4 mm	9929 kPa	5180 SCFM	Taylor	82E8351311	April 2, 2012

INSPECTION SUMMARY

The well was shut-in at the time of inspection.

There were areas of paint deterioration and minor external corrosion on the inlet and outlet piping. Maximum depth estimated to be approximately 0.005"-0.010".

RECOMMENDATIONS

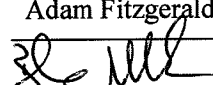
NONCONFORMANCES / INSPECTION DEFICIENCIES

INSPECTION PLANNING

Inspection Strategy	Availability	Inspection Interval	5 yrs
Inspection Date	Sept. 12, 2012	Date of Last Inspect	Date of Next Inspect 9/2017

REPORT CERTIFICATION

The signatures below certify that inspections/tests have been completed in accordance with the identified inspection strategy and that the specified equipment is considered fit for service until the date of next inspection.

Inspected by	Adam Fitzgerald	Date	Oct. 30, 2012
Reviewed and Approved by		Date	11/28/2012
Criticality Assessment Rerun	Inspection Planning Rerun		
Assessed Next Inspection Date			

PRESSURE VESSEL & COLUMN INSPECTION REPORT

ID	General	Condition
V1	Other (please explain)	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Fair <input type="checkbox"/> Poor <input type="checkbox"/> N/A
The well was shut-in at the time of inspection.		
V2	General Corrosion	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Minor external corrosion on the inlet and outlet piping. Maximum depth estimated to be approximately 0.005"-0.010".		
V3	General Leaks	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
V4	Vibration	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
V5	Dissimilar Flange Rating	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
V6	Ladder/Stairway	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
V7	Heads	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Fair <input type="checkbox"/> Poor <input type="checkbox"/> N/A
V8	Guy Wires	<input type="checkbox"/> Good <input type="checkbox"/> Fair <input type="checkbox"/> Poor <input checked="" type="checkbox"/> N/A
V9	Electrical Ground	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Fair <input type="checkbox"/> Poor <input type="checkbox"/> N/A
V10	Painted Inactive Corrosion	<input type="checkbox"/> Good <input type="checkbox"/> Fair <input type="checkbox"/> Poor <input checked="" type="checkbox"/> N/A
V11	Coating/Painting	<input type="checkbox"/> Good <input checked="" type="checkbox"/> Fair <input type="checkbox"/> Poor <input type="checkbox"/> N/A
Paint deterioration on the inlet and outlet piping and isolated minor deterioration on the shell.		
V12	Expansion Joint or Bellows	<input type="checkbox"/> Good <input type="checkbox"/> Fair <input type="checkbox"/> Poor <input checked="" type="checkbox"/> N/A
V13	Gauge/Site Glass	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Fair <input type="checkbox"/> Poor <input type="checkbox"/> N/A
V14	Shell	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Fair <input type="checkbox"/> Poor <input type="checkbox"/> N/A
V15	Jacket	<input type="checkbox"/> Good <input type="checkbox"/> Fair <input type="checkbox"/> Poor <input checked="" type="checkbox"/> N/A
Supports		Condition
V21	Other (please explain)	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Fair <input type="checkbox"/> Poor <input type="checkbox"/> N/A
The skirt is welded		
V22	Foundation	<input type="checkbox"/> Good <input type="checkbox"/> Fair <input type="checkbox"/> Poor <input checked="" type="checkbox"/> N/A
V23	Anchor Bolts	<input type="checkbox"/> Good <input type="checkbox"/> Fair <input type="checkbox"/> Poor <input checked="" type="checkbox"/> N/A
V24	Saddle Skirt	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Fair <input type="checkbox"/> Poor <input type="checkbox"/> N/A
V25	Davit	<input type="checkbox"/> Good <input type="checkbox"/> Fair <input type="checkbox"/> Poor <input checked="" type="checkbox"/> N/A
V26	Fireproofing	<input type="checkbox"/> Good <input type="checkbox"/> Fair <input type="checkbox"/> Poor <input checked="" type="checkbox"/> N/A
Connections		Condition
V31	Other (please explain)	<input type="checkbox"/> Good <input type="checkbox"/> Fair <input type="checkbox"/> Poor <input checked="" type="checkbox"/> N/A
V32	Small Branches	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Fair <input type="checkbox"/> Poor <input type="checkbox"/> N/A

PRESSURE VESSEL & COLUMN INSPECTION REPORT

V33	Nozzles	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Fair <input type="checkbox"/> Poor <input type="checkbox"/> N/A
V34	Manways	<input type="checkbox"/> Good <input type="checkbox"/> Fair <input type="checkbox"/> Poor <input checked="" type="checkbox"/> N/A
V35	Reinforcing Pads	<input type="checkbox"/> Good <input type="checkbox"/> Fair <input type="checkbox"/> Poor <input checked="" type="checkbox"/> N/A
V36	Inadequate Thread Engagement	<input type="checkbox"/> Good <input type="checkbox"/> Poor <input checked="" type="checkbox"/> N/A
V37	Bolting	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Poor <input type="checkbox"/> N/A
V38	Flanges	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Fair <input type="checkbox"/> Poor <input type="checkbox"/> N/A
V39	Leak Clamps	<input type="checkbox"/> Good <input type="checkbox"/> Poor <input checked="" type="checkbox"/> N/A
Insulation		
V41	Other (please explain)	<input type="checkbox"/> Good <input type="checkbox"/> Fair <input type="checkbox"/> Poor <input checked="" type="checkbox"/> N/A
V42	Damage	<input type="checkbox"/> Good <input type="checkbox"/> Fair <input type="checkbox"/> Poor <input checked="" type="checkbox"/> N/A
V43	Penetrations	<input type="checkbox"/> Good <input type="checkbox"/> Fair <input type="checkbox"/> Poor <input checked="" type="checkbox"/> N/A
V44	Jacket	<input type="checkbox"/> Good <input type="checkbox"/> Fair <input type="checkbox"/> Poor <input checked="" type="checkbox"/> N/A
V45	Banding	<input type="checkbox"/> Good <input type="checkbox"/> Fair <input type="checkbox"/> Poor <input checked="" type="checkbox"/> N/A
V46	Seals/Joints	<input type="checkbox"/> Good <input type="checkbox"/> Fair <input type="checkbox"/> Poor <input checked="" type="checkbox"/> N/A
Relief Device		
V51	Other (please explain)	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Fair <input type="checkbox"/> Poor <input type="checkbox"/> N/A
V52	Corrosion	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
V53	Leaks	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
V54	Restricted Inlet/Outlet	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
V55	Manual Operation Lever	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

PRESSURE VESSEL & COLUMN INSPECTION REPORT**DETAILED INSPECTION
UT THICKNESS**

CML	Nom. Thk	Current Reading	Short Term Corr Rate	Long Term Corr Rate	Remaining Life	Comments
17500	20.62	21.18	0.00	0.00	100+	
17505	21.44	22.25	0.00	0.00	100+	
17510	21.44	21.87	0.00	0.00	100+	
17515	21.44	21.59	0.00	0.00	100+	
17520	21.44	22.20	0.00	0.00	100+	
17525	20.62	21.38	0.00	0.00	100+	
17530	15.24	14.67	0.09	0.09	34.2	
17535	15.24	14.52	0.11	0.11	25.6	
17540	8.71	7.98	0.00	0.00	17.8	
17550	5.49	4.91	0.09	0.09	19.5	
17560	7.62	7.65	0.00	0.00	100+	

The internal condition of the vessel was assessed via an ultrasonic corrosion survey on a representative sample of the vessel and the associated piping. Results of the corrosion survey found no indications of internal corrosion and all areas appear to be in good condition.

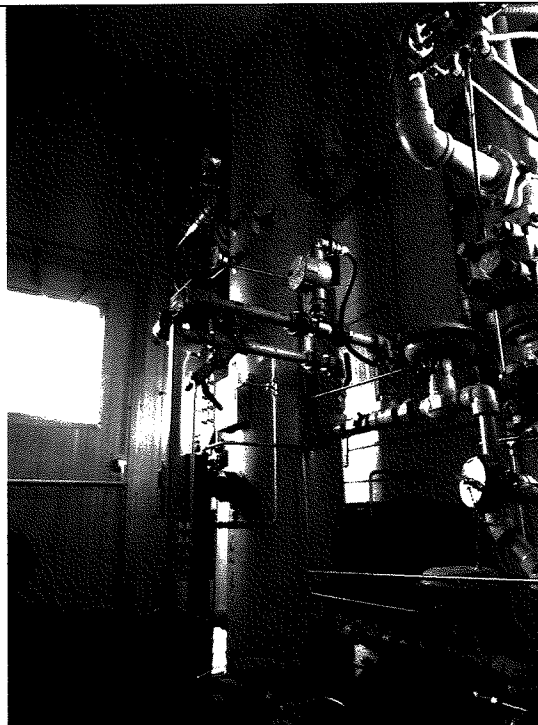
Please refer to the attached corrosion survey report for further details of the inspection results.

Chief Inspector Certification # _____**Assigned Interval** _____**Chief Inspector Signature** _____**Date** _____

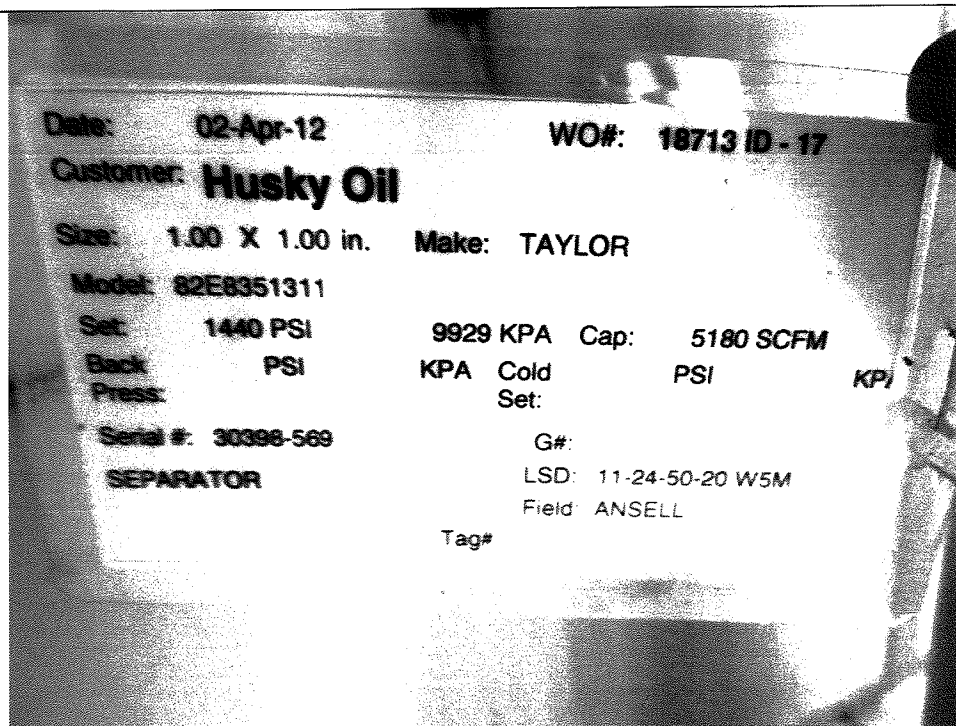
Pictures



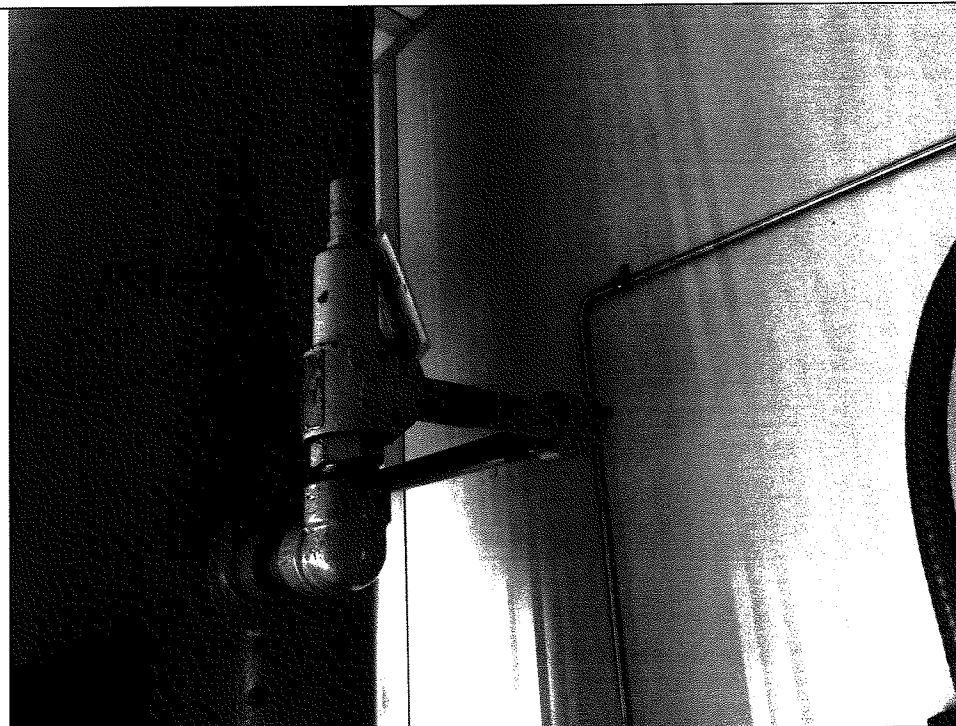
Nameplate



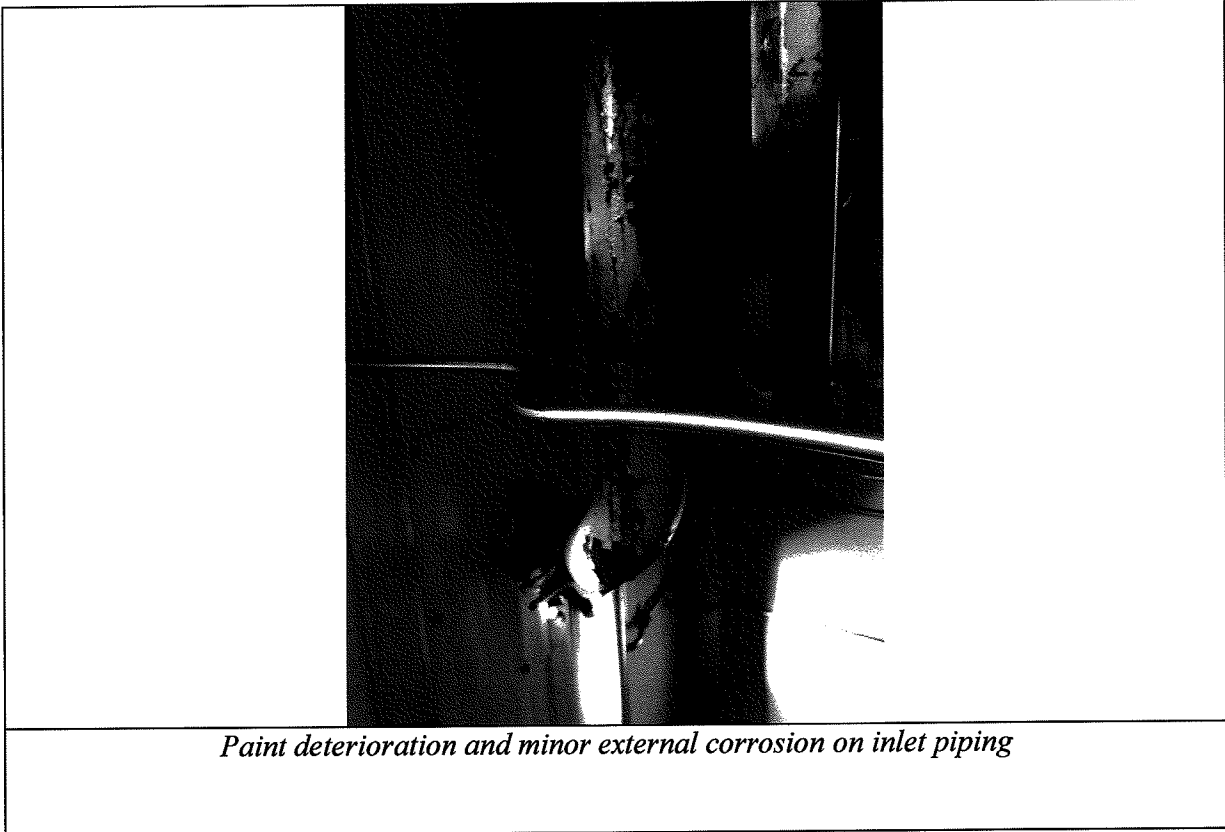
General View of the Vessel



PSV Tag



General View of the PSV



Cover Page			
Client:	Husky Energy	Inspection Date:	September 12, 2012
Facility:	Ansall Field	LSD:	11-24-050-20W5M
Requested By:	Bob Marchak	Equipment #:	66113422
Equipment:	Inlet Separator		

Status			
<input type="checkbox"/> In Service	<input type="checkbox"/> Not In Service	<input checked="" type="checkbox"/> Standby	<input type="checkbox"/> Not At location

Type of Inspection			SISL Technique
<input checked="" type="checkbox"/> Visual External	<input type="checkbox"/> Visual Internal	<input type="checkbox"/> Shearwave	SISL-20
<input type="checkbox"/> Firetubes	<input type="checkbox"/> Installation Inspection	<input checked="" type="checkbox"/> PSV	SISL-24
<input type="checkbox"/> Miscellaneous	<input checked="" type="checkbox"/> Corrosion Survey	<input type="checkbox"/> Compressor Cracking Survey	

Technicians/Inspectors		Certifications	
Adam Fitzgerald		API-510 # 39616	IPVI # 000583
		CGSB UT-II # 13474	

Technique												
<input type="checkbox"/> BR	<input type="checkbox"/> CN	<input type="checkbox"/> CP	<input type="checkbox"/> ET	<input type="checkbox"/> MT	<input type="checkbox"/> PR	<input type="checkbox"/> PT	<input type="checkbox"/> RT	<input type="checkbox"/> TM	<input checked="" type="checkbox"/> UT	<input checked="" type="checkbox"/> VE	<input type="checkbox"/> VI	<input type="checkbox"/> Other
<input checked="" type="checkbox"/> UT (thickness)	<input type="checkbox"/> Holiday Detection	<input type="checkbox"/> LPI (visible post emulsifiable)	<input checked="" type="checkbox"/> Visual (external)									
<input type="checkbox"/> UT (shearwave)	<input type="checkbox"/> MPI (dry powder)	<input type="checkbox"/> LPI (visible solvent removable)	<input type="checkbox"/> Visual (internal)									
<input type="checkbox"/> UT (c-scan)	<input type="checkbox"/> MPI (wet fluorescent)	<input type="checkbox"/> LPI (fluorescent water washable)	<input type="checkbox"/> RVT									
<input type="checkbox"/> UT (TOFD)	<input type="checkbox"/> MPI (wet visible)	<input type="checkbox"/> LPI (fluorescent post emulsifiable)	<input type="checkbox"/> Hardness (microdur)									
<input type="checkbox"/> UT (phased array)	<input type="checkbox"/> LPI (visible aqueous)	<input type="checkbox"/> LPI (fluorescent solvent removable)	<input type="checkbox"/> Chemical Etching									

Equipment		Consumables	
Ultrasonic	Magnetic Particle	Magnetic Particle	Liquid Penetrant
<input checked="" type="checkbox"/> DMS-2	<input type="checkbox"/> AC Yoke	<input type="checkbox"/> Magnaflux 7HF (black)	<input type="checkbox"/> SKL-WP Penetrant
<input type="checkbox"/> USN-52L	<input type="checkbox"/> DC Yoke	<input type="checkbox"/> Magnaflux WCP-2 Contrast Paint	<input type="checkbox"/> SKD-S2 Developer
<input type="checkbox"/> USN-58L	<input type="checkbox"/> Permanent Yoke	<input type="checkbox"/> Magnaflux 14AM Fluorescent Bath	<input type="checkbox"/> SKC-S Cleaner
<input type="checkbox"/> USN-Phaser	<input type="checkbox"/> Blacklight	<input type="checkbox"/> Red Oxide Powder	<input type="checkbox"/> DP-51 Penetrant
<input type="checkbox"/> Westdyne Intraspec 4	<input type="checkbox"/> Tinker & Razor M1	<input type="checkbox"/> Grey Oxide Powder	<input type="checkbox"/> DR-62 Developer
<input type="checkbox"/> MFE 4020 MKII	Other	<input type="checkbox"/> Nital Chemical Solution	

Ultrasonic Transducers				
Description	Type	Frequency	Diameter	Angle
FH2E	Dual	7.5 MHz	.380"	0 degrees

Code	
Code:	ASME VIII
Acc. Criteria:	API-510
Calibration:	.250" - 1.000" Stepwedge
Sensitivity:	BWR @ 80% FSH

Magnetic Particle	
Material:	
Surface:	
Technique:	
Lighting:	

Code	
Code:	
Acc. Criteria:	
AC Yoke:	
Calibration:	

Comments:
An external visual inspection and UT corrosion survey were performed on the vessel. Please see report for further detail.

Signature: Adam Fitzgerald
Adam Fitzgerald

Date: October 30, 2012