

Husky Energy *06135818*
PRESSURE VESSEL INSPECTION REPORT *66135818*

N^o 6075145
04 6078195 PAGE : 1 of 4

CV

FACILITY	Ansell Field	DATE	February 20, 2009	REPORT #	IR090220JNc
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VESSEL STATIC DATA															
Prov. Insp. #		A#584719		CRN		P7217.2		Equip Tag #		-					
Equipment Location (LSD)		03-10-051-19 w5m		Serial #		11373									
Equipment Description		Vertical Separator		Vessel Class		-									
Manufacturer		RJV Gas Field Services		Year Built		2008									
MAWP		1480 PSI		KPag / psig		@ 100°F		°C / °F		MDMT	-20°F	°C / °F			
CODE : UM		☐ U ☒ U2 ☐		RT : 1		☐ 2 ☒ 3 ☐ 4 ☐		PWHT : YES		☐ NO ☒					
Diameter		406mm (NPS)		Length		2285mm (S/S)		OAL		mm/in		Vertical	☒	Horizontal	☐
Shell		Mat'l SA 106 B		Thickness		21.44mm		mm		Corr Allowance		1.6mm		mm/in	
Head		Mat'l SA 516-70		Thickness		20.63mm		mm		Corr Allowance		1.6mm		mm/in	
Nozzle		Mat'l		Thickness				mm/in		Corr Allowance				mm/in	
Internal Coating :		YES ☐ NO ☒		Internal Clad :		YES ☐ NO ☒		Capacity		N/A			m ³		
Manway :		YES ☐ NO ☒		Inspection Port :		YES ☐ NO ☒		Skirt ☒		Legs ☐		Saddle ☐			
Nozzle Rating		600		lb ANSI		Painted :		YES ☒ NO ☐		Insulated		YES ☐ NO ☒			

PROCESS DATA										
Product Description		Sweet Gas		Sweet ☒		Sour ☐		PPM:		
Operating Pressure		400 PSI		KPag / psig		Operating Temperature		50 °F		°C / °F

PSV STATIC DATA									
Tag / Serial No.	Location	Size		Set Pressure	Capacity SCFM / Lbs/Hr / GPM	Manufacturer	Model / Type	Service Date	
37395-306	Vessel	Inlet 1"	Outlet 1"	1440 PSI	5180 SCFM	Taylor	82E8351 311	10/07	

INSPECTION HISTORY									
RBI Category		A ☐ B ☐ C ☐ D ☐		Last Inspection Date		W.O. #			
Inspection Task List #				Inspection Type		Inspection Reason			
Inspection Techniques Required				Next Inspection Type		Due Date			
VE	VI	RT	UT	MT	PT	PT	TT	Outstanding Repairs	

INSPECTION SUMMARY

An external inspection was performed to verify the vessels integrity.
The vessel is in-service and fully utilized.
No immediate concerns were found and the vessel is considered acceptable for continued service.
A level 3 IDR090304JNa was issued for mica-graphite gaskets found in piping connections.

RECOMMENDATIONS

Replace the mica-graphite gaskets in piping connections with approved flexible graphite-gaskets at the next available service interval.

REPAIRS COMPLETED			
Object Name	Cause	Damage	Repair Activity
None			

VESSEL STATUS			
Integrity Status	☒ Suitable for Continued Service	☐ Immediate Repairs Required	☐ Replace
		☐ Future Repairs Required	
Inventory Status	☒ In service Fully Utilized	☐ Idle	☐ Surplus
			☐ Scrap
This IR completes a thorough inspection. Reschedule as indicated		☒	Partial IR only. Do not reschedule ☐



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INSPECTION OBSERVATIONS

NONCOMPLIANCES OR INSPECTION DEFICIENCIES ISSUED

A level 3 IDR090304JNa was issued for mica-graphite gaskets found in piping connections.

EXTERNAL VISUAL INSPECTION

The overall condition of this vessel is good.

The vessel dataplate is legible and has the required information. / Data Plate Condition - Good

The vessel is protected with a PSV. The PSV is attached to the vessel, has a set pressure at or under MAWP and a current service date. / PSV Condition - Good

The gauges are clearly legible and appear to be functioning properly. / Gauges Condition - Good

The vessel appears to be properly secured and level. / Vessel Secure - Yes

The vessel is indirectly grounded. / Vessel Grounded - Yes

The piping, bolting, tubing and external attachments are secure with no active leaks. / Piping & Bolting Condition - Good

Mica-graphite gaskets were found in piping connections.

The vessel and piping are painted with some minor chips but no notable corrosion found. / Vessel Paint Condition - Fair

The floor is painted with no notable corrosion found. / Floor Condition - Good

The exterior piping is insulated and clad. / Insulation Condition - Good

EXTERNAL NDE EXAMINATION

An external ultrasonic corrosion survey was completed as requested.

No relevant indications were noted at the time of inspection.

For more details see formal UT report by Hunt Inspection - Project C2946

INTERNAL VISUAL INSPECTION

There was no internal Visual at time of inspection.

INTERNAL NDE EXAMINATION

There was no internal NDE at time of inspection.

PRESSURE TEST

Test Completed ☐ Yes ☒ No Test Acceptable ☐ Yes ☐ No Test Report #

INSPECTOR CERTIFICATION

I, the undersigned certify that the above equipment has been inspected in accordance with the assigned task list and that statements within this report are correct and represent inspection findings

Inspectors Name Joel Norman

Inspector's Signature

Inspection Company Hunt Inspection Ltd.

Date February 20, 2009

LEAD INSPECTOR'S ACCEPTANCE & SCHEDULE CONFIRMATION

Lead Inspector Bob Marchak

Signature

Date Apr. 23, 2009

Vessel Inspection Interval 5 Years

Leave "as-is" ☐

Change to

PSV Inspection Interval 5 Years

Leave "as-is" ☐

Change to

Office Use Only

Report Entered to SEQA Database by

Date

Static Data Verified by

Date

SEIM Changes

Equip Text & Tech Desc - 1480 psi ✓

X-Ray - RT2 ✓

Stress Relief - No ✓

MAWP - 1480 psi ✓

Orientation - Vertical ✓

Manway - No ✓

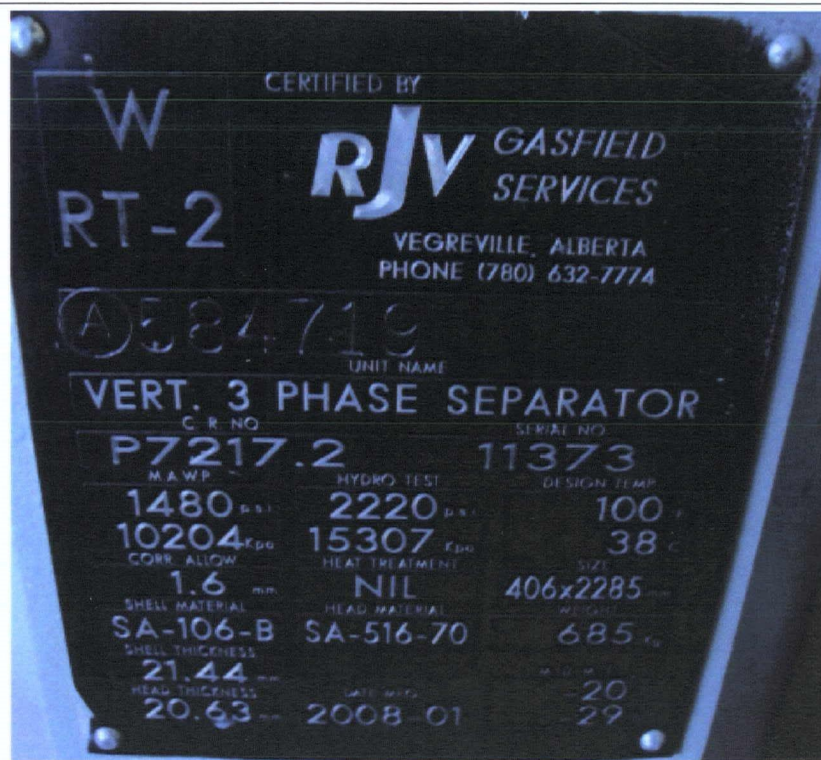
Husky Energy
PRESSURE VESSEL INSPECTION REPORT

PAGE : 3 of 4

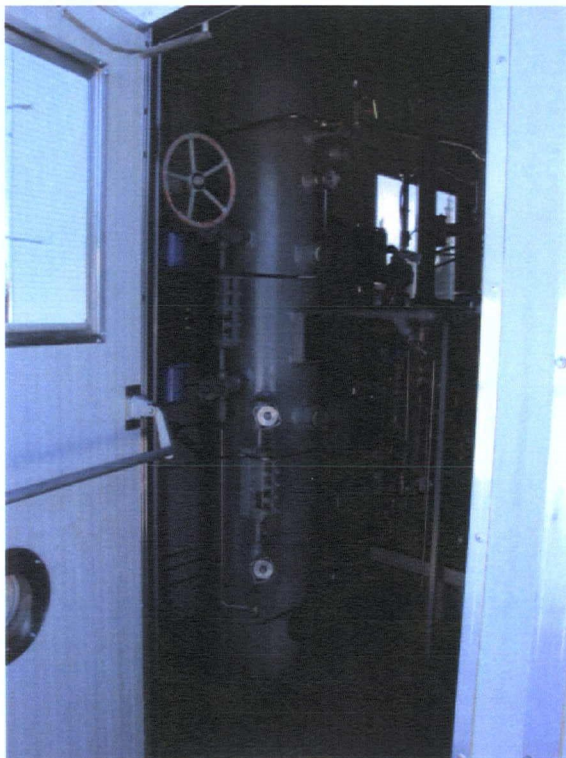
FACILITY	Ansell Field	DATE	February 20, 2009	REPORT #	IR090220JNc
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Photos

Data Plate



Vessel



PSV

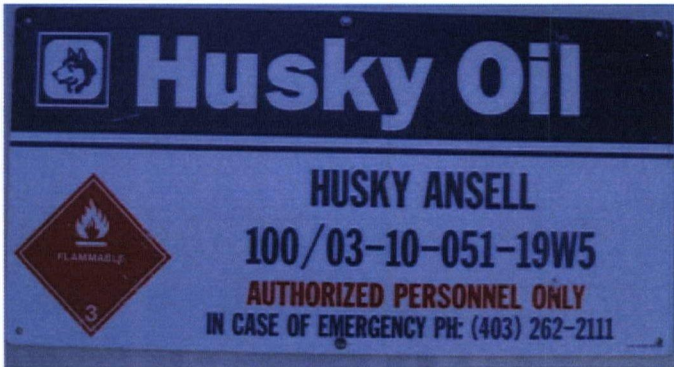


Husky Energy
PRESSURE VESSEL INSPECTION REPORT

PAGE : 4 of 4

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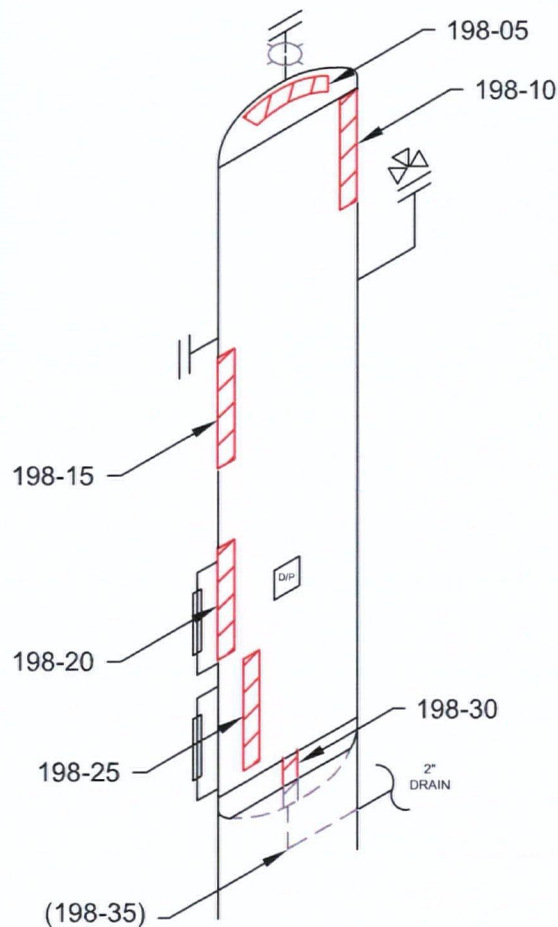
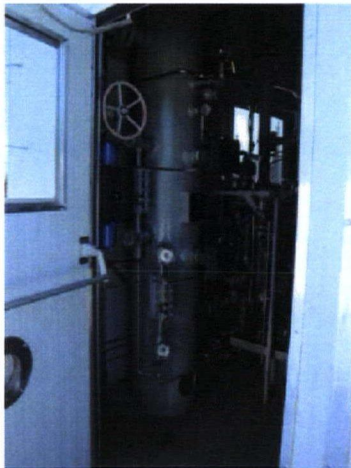
Photos

Building	LSD Sign
	

ITEM:

SEPARATOR

A 0584719



STETTLER, AB (403) 742-4868
 LACOMBE, AB (403) 782-7855
 BROOKS, AB (403) 501-8029
 GRANDE PRAIRIE, AB (866) 422-9732

TECHNICIAN:

JOEL NORMAN
 SNT LEVEL III
 CGSB 48.9712
 LEVEL III # 6951

DATE: 02/20/09

DWG # 198

CLIENT: HUSKY ENERGY

LSD: 100/03-10-051-19-W5M

INSPECTOR: BOB MARCHAK

LOCATION: ANSELL FIELD

DISTRICT UNIT: FH-FW

BLDG/SKID: -

PROCESS: SWEET

CODE: ASME SEC VIII DIV 1

SPECIFICATION: AS PER ASME SE 797

TECHNIQUE: UT 1-1, REV .1

METHOD: UT CONTINUOUS / A SCAN

SURFACE COND: PAINTED

SURFACE TEMP: AMBIENT

VESSEL INFORMATION

VESSEL #: A 0584719

CRN #: P7217.2

SERIAL #: 11373

MANUFACTURER: RJV

DATE BUILT: 2008-01

CLIENT ID / TAG: -

M.A.W.P.: 1480 PSI

M.A.W.T.: 100 °F

JOINT EFFICIENCY/RT: RT 2

STRESS RELIEVED: NO

INSULATED: NO

MANWAY: NO

VESSEL SPECIFICATIONS

	OD	NOMINAL	MATERIAL	CA
VESSEL HEAD	16"	.812"	SA-516-70	.063"
VESSEL SHELL	16"	.844"	SA-106-B	.063"
BOOT HEAD	-	-	-	-
BOOT SHELL	-	-	-	-

COMMENTS:

PROJECT:

C2946



ULTRASONIC CORROSION SURVEY

Survey Name: HUSKY ENERGY

LSD: 03-10-051-19W5 Dwg: 198 Vessel Number: A0584719
District Unit: FH-FW Vessel Name: SEPARATOR
Location: ANSELL FIELD Year Built: 2008
Skid: - Tag Number: -
CRN: P7217.2

Survey Date: 2/20/09
Inspector: BOB MARCHAK
Process: SWEET
Project #: C2946
Manufacturer: RJV
Serial Number: 11373
Shell MAWP PSI: 1480 MAWT F: 100
Tube MAWP PSI: 0 MAWT F: 0
Vessel CA: 0.0630

Band	Description			Readings						Year	Avg Inches	Min Inches	Nominal	CA	TMIN	Recommended Next Inspection	Recommended Retirement Date
				1	2	3	4	5	6								
198-05	Top	Head	Baseline	0.838	0.854	0.854	0.853	0.850	0.836	2009	0.848	0.836	0.8120	0.0630	0.5359	2010	2029
Shape	Ellipsoidal	Shell Side	Previous										Comments-->				
OD	16		Current	0.838	0.854	0.854	0.853	0.850	0.836	2009	0.848	0.836					
Spec.	VIII Div 1								ST Loss MPY				OK				
Material	SA 516 - 70								LT Loss MPY		0.000						
198-10	Upper	Shell	Baseline	0.822	0.828	0.830	0.836	0.831	0.852	2009	0.833	0.822	0.8440	0.0630	0.6533	2010	2029
Shape	Cylindrical	Shell Side	Previous										Comments-->				
OD	16		Current	0.822	0.828	0.830	0.836	0.831	0.852	2009	0.833	0.822					
Spec.	VIII Div 1								ST Loss MPY				OK				
Material	SA 106 - B								LT Loss MPY		0.000						
198-15	Mid	Shell	Baseline	0.833	0.830	0.824	0.822	0.839	0.848	2009	0.833	0.822	0.8440	0.0630	0.6533	2010	2029
Shape	Cylindrical	Shell Side	Previous										Comments-->				
OD	16		Current	0.833	0.830	0.824	0.822	0.839	0.848	2009	0.833	0.822					
Spec.	VIII Div 1								ST Loss MPY				OK				
Material	SA 106 - B								LT Loss MPY		0.000						
198-20	Mid	Shell	Baseline	0.855	0.858	0.859	0.859	0.864	0.866	2009	0.860	0.855	0.8440	0.0630	0.6533	2010	2029
Shape	Cylindrical	Shell Side	Previous										Comments-->				
OD	16		Current	0.855	0.858	0.859	0.859	0.864	0.866	2009	0.860	0.855					
Spec.	VIII Div 1								ST Loss MPY				OK				
Material	SA 106 - B								LT Loss MPY		0.000						



ULTRASONIC CORROSION SURVEY

Survey Name: HUSKY ENERGY

LSD: 03-10-051-19W5 Dwg: 198 Vessel Number: A0584719
District Unit: FH-FW Vessel Name: SEPARATOR
Location: ANSELL FIELD Year Built: 2008
Skid: - Tag Number: -
CRN: P7217.2

Survey Date: 2/20/09
Inspector: BOB MARCHAK
Process: SWEET
Project #: C2946
Manufacturer: RJV
Serial Number: 11373
Shell MAWP PSI: 1480 MAWT F: 100
Tube MAWP PSI: 0 MAWT F: 0
Vessel CA: 0.0630

Band	Description			Readings						Year	Avg Inches	Min Inches	Nominal	CA	TMIN	Recommended Next Inspection	Recommended Retirement Date
				1	2	3	4	5	6								
198-25	Lower	Shell	Baseline	0.883	0.875	0.879	0.859	0.851	0.852	2009	0.867	0.851	0.8440	0.0630	0.6533	2010	2029
Shape	Cylindrical	Shell Side	Previous	Comments-->													
OD	16		Current	0.883	0.875	0.879	0.859	0.851	0.852	2009	0.867	0.851					
Spec.	VIII Div 1			ST Loss MPY									OK				
Material	SA 106 - B			LT Loss MPY							0.000						
198-30	Bottom	Head	Baseline	0.858	0.848	0.853	0.852	0.855	0.851	2009	0.853	0.848	0.8120	0.0630	0.5359	2010	2029
Shape	Ellipsoidal	Shell Side	Previous	Comments-->													
OD	16		Current	0.858	0.848	0.853	0.852	0.855	0.851	2009	0.853	0.848					
Spec.	VIII Div 1			ST Loss MPY									OK				
Material	SA 516 - 70			LT Loss MPY							0.000						
198-35	Drain	Nozzle	Baseline	0.312	0.287	0.297	0.292	0.298	0.327	2009	0.302	0.287	0.3430	0.0630	0.0771	2010	2029
Shape	90° Elbow	Shell Side	Previous	Comments-->													
OD	2.375		Current	0.312	0.287	0.297	0.292	0.298	0.327	2009	0.302	0.287					
Spec.	VIII Div 1			ST Loss MPY									OK				
Material	SA 234 - WPB			LT Loss MPY							0.000						
198-40		Piping	Baseline	0.311	0.301	0.303	0.328	0.315	0.317	2009	0.313	0.301	0.3430	0.0429	0.0847	2010	2029
Shape	90° Elbow	Shell Side	Previous	Comments-->													
OD	2.375		Current	0.311	0.301	0.303	0.328	0.315	0.317	2009	0.313	0.301					
Spec.	B31.3			ST Loss MPY									OK				
Material	A 234 - WPB			LT Loss MPY							0.000						

ULTRASONIC CORROSION SURVEY

Survey Name: HUSKY ENERGY

Survey Date: 2/20/09

LSD: 03-10-051-19W5 Dwg: 198

Vessel Number: A0584719

Manufacturer: RJV

Inspector: BOB MARCHAK

District Unit: FH-FW

Vessel Name: SEPARATOR

Serial Number: 11373

Process: SWEET

Location: ANSELL FIELD

Year Built: 2008

Shell MAWP PSI: 1480 MAWT F: 100

Project #: C2946

Skid: -

Tag Number: -

Tube MAWP PSI: 0 MAWT F: 0

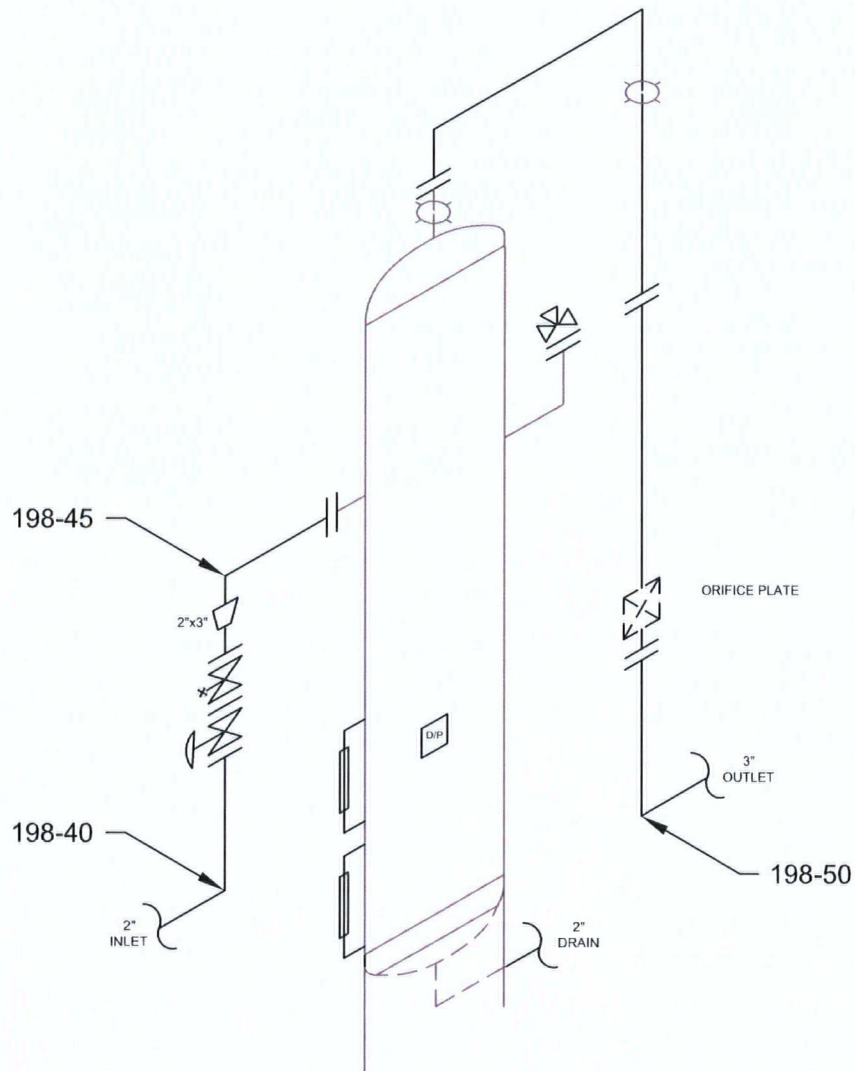
CRN: P7217.2

Vessel CA: 0.0630

Band	Description			Readings						Year	Avg Inches	Min Inches	Nominal	CA	TMIN	Recommended Next Inspection	Recommended Retirement Date
				1	2	3	4	5	6								
198-45		Piping	Baseline	0.227	0.215	0.211	0.208	0.220	0.221	2009	0.217	0.208	0.2160	0.0270	0.1249	2010	2029
Shape	90° Elbow	Shell Side	Previous										Comments-->				
OD	3.5		Current	0.227	0.215	0.211	0.208	0.220	0.221	2009	0.217	0.208					
Spec.	B31.3									ST Loss MPY			OK				
Material	A 234 - WPB									LT Loss MPY		0.000					
198-50		Piping	Baseline	0.316	0.317	0.321	0.323	0.327	0.325	2009	0.322	0.316	0.3000	0.0375	0.1249	2010	2029
Shape	90° Elbow	Shell Side	Previous										Comments-->				
OD	3.5		Current	0.316	0.317	0.321	0.323	0.327	0.325	2009	0.322	0.316					
Spec.	B31.3									ST Loss MPY			OK				
Material	A 234 - WPB									LT Loss MPY		0.000					

SEPARATOR - PIPING

A 0584719



STETTLER, AB (403) 742-4868
LACOMBE, AB (403) 782-7855
BROOKS, AB (403) 501-8029
GRANDE PRAIRIE, AB (866) 422-9732

TECHNICIAN:

JOEL NORMAN
SNT LEVEL III
CGSB 48.9712
LEVEL III # 6951

DATE: 02/20/09

DWG # 198A

CLIENT: **HUSKY ENERGY**

LSD: 100/03-10-051-19-W5M

INSPECTOR : BOB MARCHAK

LOCATION :	ANSELL FIELD
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DISTRICT UNIT : FH-FW

BLDG/SKID :

PROCESS :	SWEET
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CODE : ASME B31.3

SPECIFICATION : AS PER ASME SE 797

TECHNIQUE : UT 1-1, REV .1

METHOD :	UT CONTINUOUS / A SCAN
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SURFACE COND : PAINTED

SURFACE TEMP : AMBIENT

PIPING INFORMATION

[illegible]

COMMENTS:

PROJECT:
C2946