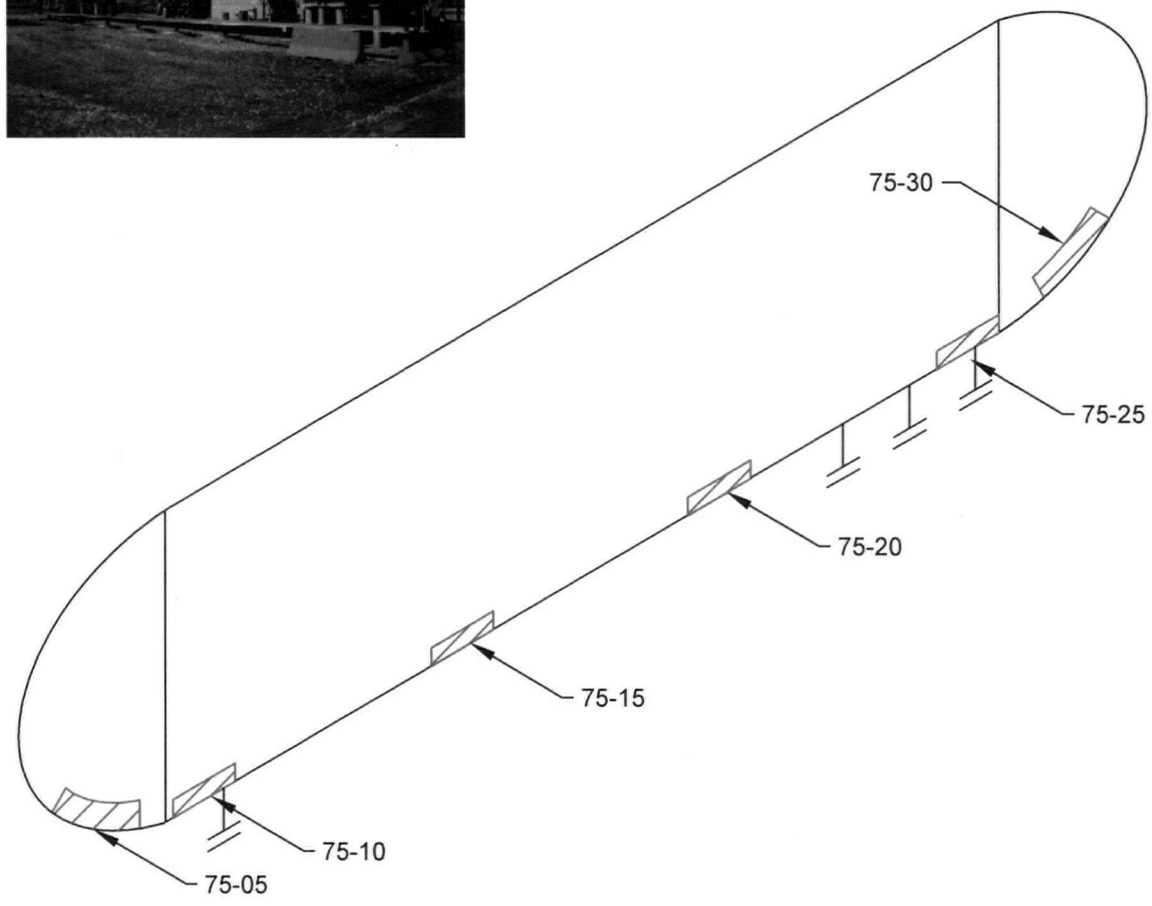
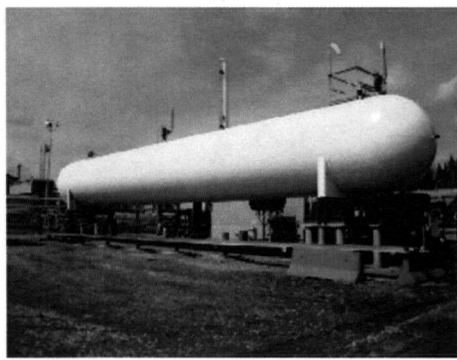


66130683

ITEM:

**PROPANE STORAGE BULLET**

A 0571634



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

**TECHNICIAN:**  
 ROY HATCHER  
 SNT LEVEL II  
 CGSB 48.9712  
 LEVEL II # 10430

<b>DATE:</b>	<b>05/10/08</b>	<b>DWG #</b>	<b>75</b>
<b>CLIENT:</b>	<b>HUSKY ENERGY</b>		
<b>LSD:</b>	<b>07-27-051-19-W5M</b>		
<b>INSPECTOR :</b>	BOB MARCHAK		
<b>LOCATION :</b>	ANSELL GAS PLANT		
<b>DISTRICT UNIT :</b>	FH-FW		
<b>BLDG/SKID:</b>	-		
<b>PROCESS:</b>	SWEET		
<b>CODE:</b>	ASME SEC VIII DIV 1		
<b>SPECIFICATION:</b>	AS PER ASME SE 797		
<b>TECHNIQUE:</b>	UT-1-1, REV. 1		
<b>METHOD:</b>	UT CONTINUOUS / A SCAN		
<b>SURFACE COND:</b>	PAINTED		
<b>SURFACE TEMP:</b>	AMBIENT		

<b>VESSEL INFORMATION</b>	
<b>VESSEL # :</b>	<b>A 0571634</b>
<b>CRN # :</b>	V0833.2
<b>SERIAL # :</b>	H 0700289
<b>MANUFACTURER:</b>	TRINITY INDUSTRIES
<b>DATE BUILT:</b>	2007
<b>CLIENT ID / TAG:</b>	-
<b>M.A.W.P. :</b>	250 PSI
<b>M.A.W.T. :</b>	125 °F
<b>JOINT EFFICIENCY/RT:</b>	RT 4
<b>STRESS RELIEVED:</b>	NO
<b>INSULATED :</b>	NO
<b>MANWAY :</b>	YES

<b>VESSEL SPECIFICATIONS</b>				
	<b>OD</b>	<b>NOMINAL</b>	<b>MATERIAL</b>	<b>CA</b>
<b>VESSEL HEAD</b>	131.875"	.487"	SA-516-70	-
<b>VESSEL SHELL</b>	131.875"	.828"	SA-516-70	-
<b>BOOT HEAD</b>	-	-	-	-
<b>BOOT SHELL</b>	-	-	-	-

COMMENTS:

PROJECT:  
**C30138**



# ULTRASONIC CORROSION SURVEY

Survey Name: HUSKY ENERGY

LSD: 07-27-051-19W5	Dwg: 75	Vessel Number: A0571634	Manufacturer: TRINITY INDUSTRIES	Survey Date: 5/10/08
District Unit: FH-FW		Vessel Name: PROPANE STORAGE BULLET	Serial Number: H0700289	Inspector: BOB MARCHAK
Location: ANSELL GAS PLANT		Year Built: 2007	Shell MAWP PSI: 250 MAWT F: 125	Process: SWEET
Skid: -		Tag Number: -	Tube MAWP PSI: 0 MAWT F: 0	Project #: C30138
		CRN: V0833.2	Vessel CA: 0.0000	

Band	Description		Readings						Year	Avg Inches	Min Inches	Nominal	CA	TMIN	Recommended Next Inspection	Recommended Retirement Date
			1	2	3	4	5	6								
75-05	Head	Baseline	0.519	0.519	0.519	0.521	0.518	0.517	2008	0.519	0.517	0.4870	0.0000	0.4096	2009	2028
Shape	Hemispherical	Shell Side	Previous	Comments-->												
OD	131.875	Current	0.519	0.519	0.519	0.521	0.518	0.517	2008	0.519	0.517					
Spec.	VIII Div 1			ST Loss MPY						OK						
Material	SA 516 - 70			LT Loss MPY						0.000						
75-10	Shell	Baseline	0.839	0.839	0.839	0.837	0.836	0.835	2008	0.838	0.835	0.8280	0.0000	0.8200	2009	2028
Shape	Cylindrical	Shell Side	Previous	Comments-->												
OD	131.875	Current	0.839	0.839	0.839	0.837	0.836	0.835	2008	0.838	0.835					
Spec.	VIII Div 1			ST Loss MPY						OK						
Material	SA 516 - 70			LT Loss MPY						0.000						
75-15	Shell	Baseline	0.837	0.836	0.836	0.835	0.835	0.835	2008	0.836	0.835	0.8280	0.0000	0.8200	2009	2028
Shape	Cylindrical	Shell Side	Previous	Comments-->												
OD	131.875	Current	0.837	0.836	0.836	0.835	0.835	0.835	2008	0.836	0.835					
Spec.	VIII Div 1			ST Loss MPY						OK						
Material	SA 516 - 70			LT Loss MPY						0.000						
75-20	Shell	Baseline	0.866	0.863	0.861	0.860	0.859	0.861	2008	0.862	0.859	0.8280	0.0000	0.8200	2009	2028
Shape	Cylindrical	Shell Side	Previous	Comments-->												
OD	131.875	Current	0.866	0.863	0.861	0.860	0.859	0.861	2008	0.862	0.859					
Spec.	VIII Div 1			ST Loss MPY						OK						
Material	SA 516 - 70			LT Loss MPY						0.000						



# ULTRASONIC CORROSION SURVEY

Survey Name: HUSKY ENERGY

LSD: 07-27-051-19W5	Dwg: 75	Vessel Number: A0571634	Manufacturer: TRINITY INDUSTRIES	Survey Date: 5/10/08
District Unit: FH-FW		Vessel Name: PROPANE STORAGE BULLET	Serial Number: H0700289	Inspector: BOB MARCHAK
Location: ANSELL GAS PLANT		Year Built: 2007	Shell MAWP PSI: 250 MAWT F: 125	Process: SWEET
Skid: -		Tag Number: -	Tube MAWP PSI: 0 MAWT F: 0	Project #: C30138
		CRN: V0833.2	Vessel CA: 0.0000	

Band	Description			Readings						Year	Avg Inches	Min Inches	Nominal	CA	TMIN	Recommended Next Inspection	Recommended Retirement Date
				1	2	3	4	5	6								
75-25	Shell	Baseline	0.852	0.852	0.852	0.853	0.854	0.849	2008	0.852	0.849	0.8280	0.0000	0.8200	2009	2028	
Shape	Cylindrical	Shell Side	Previous	Comments-->													
OD	131.875	Current	0.852	0.852	0.852	0.853	0.854	0.849	2008	0.852	0.849						
Spec.	VIII Div 1			ST Loss MPY						OK							
Material	SA 516 - 70			LT Loss MPY						0.000							
75-30	Head	Baseline	0.532	0.534	0.538	0.549	0.549	0.549	2008	0.542	0.532	0.4870	0.0000	0.4096	2009	2028	
Shape	Hemispherical	Shell Side	Previous	Comments-->													
OD	131.875	Current	0.532	0.534	0.538	0.549	0.549	0.549	2008	0.542	0.532						
Spec.	VIII Div 1			ST Loss MPY						OK							
Material	SA 516 - 70			LT Loss MPY						0.000							
75-35	Piping	Baseline	0.231	0.221	0.218	0.221	0.221	0.220	2008	0.222	0.218	0.2160	0.0270	0.0217	2009	2028	
Shape	90° Elbow	Shell Side	Previous	Comments-->													
OD	3.5	Current	0.231	0.221	0.218	0.221	0.221	0.220	2008	0.222	0.218						
Spec.	B31.3			ST Loss MPY						OK							
Material	A 234 - WPB			LT Loss MPY						0.000							
75-40	Piping	Baseline	0.135	0.135	0.135	0.136	0.138	0.144	2008	0.137	0.135	0.1540	0.0192	0.0148	2009	2028	
Shape	90° Elbow	Shell Side	Previous	Comments-->													
OD	2.375	Current	0.135	0.135	0.135	0.136	0.138	0.144	2008	0.137	0.135						
Spec.	B31.3			ST Loss MPY						OK							
Material	A 234 - WPB			LT Loss MPY						0.000							



# ULTRASONIC CORROSION SURVEY

Survey Name: HUSKY ENERGY

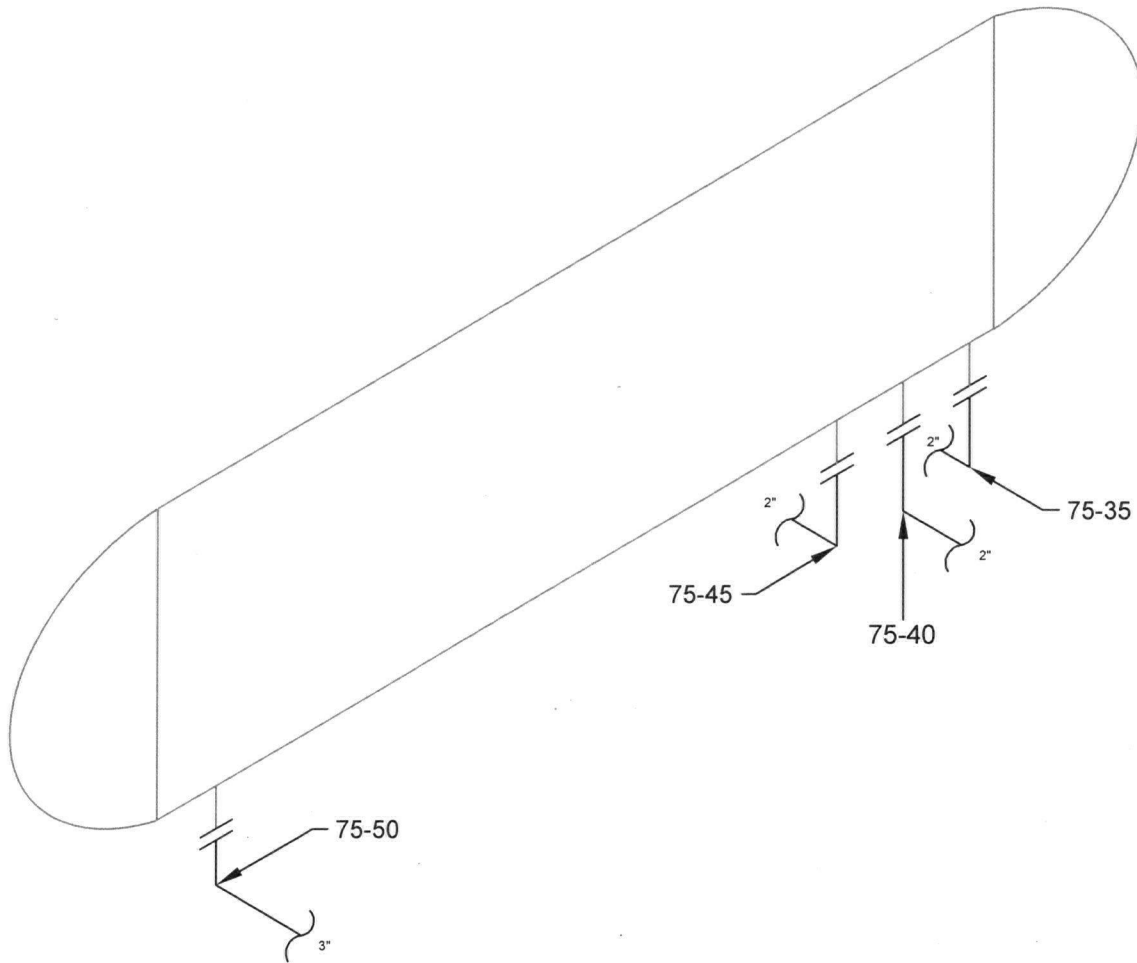
LSD: 07-27-051-19W5	Dwg: 75	Vessel Number: A0571634	Manufacturer: TRINITY INDUSTRIES	Survey Date: 5/10/08
District Unit: FH-FW		Vessel Name: PROPANE STORAGE BULLET	Serial Number: H0700289	Inspector: BOB MARCHAK
Location: ANSELL GAS PLANT		Year Built: 2007	Shell MAWP PSI: 250 MAWT F: 125	Process: SWEET
Skid: -		Tag Number: -	Tube MAWP PSI: 0 MAWT F: 0	Project #: C30138
		CRN: V0833.2	Vessel CA: 0.0000	

Band	Description		Readings						Year	Avg Inches	Min Inches	Nominal	CA	TMIN	Recommended Next Inspection	Recommended Retirement Date
			1	2	3	4	5	6								
75-45	Piping	Baseline	0.219	0.220	0.220	0.221	0.223	0.223	2008	0.221	0.219	0.2180	0.0272	0.0148	2009	2028
Shape	90° Elbow	Shell Side	Previous	Comments-->												
OD	2.375	Current	0.219	0.220	0.220	0.221	0.223	0.223	2008	0.221	0.219					
Spec.	B31.3		ST Loss MPY								OK					
Material	A 234 - WPB		LT Loss MPY						0.000							
75-50	Piping	Baseline	0.213	0.214	0.206	0.206	0.206	0.211	2008	0.209	0.206	0.2160	0.0270	0.0217	2009	2028
Shape	90° Elbow	Shell Side	Previous	Comments-->												
OD	3.5	Current	0.213	0.214	0.206	0.206	0.206	0.211	2008	0.209	0.206					
Spec.	B31.3		ST Loss MPY								OK					
Material	A 234 - WPB		LT Loss MPY						0.000							



ITEM:

**PROPANE STORAGE BULLET - PIPING** A 0571634



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

**TECHNICIAN:**  
 ROY HATCHER  
 SNT LEVEL II  
 CGSB 48.9712  
 LEVEL II # 10430

<b>DATE:</b>	<b>05/10/08</b>	<b>DWG #</b>	<b>75A</b>
<b>CLIENT:</b>	<b>HUSKY ENERGY</b>		
<b>LSID:</b>	<b>07-27-051-19-W5M</b>		
<b>INSPECTOR :</b>	BOB MARCHAK		
<b>LOCATION :</b>	ANSELL GAS PLANT		
<b>DISTRICT UNIT :</b>	FH-FW		
<b>BLDG/SKID:</b>	-		
<b>PROCESS:</b>	SWEET		
<b>CODE:</b>	ASME B31.3		
<b>SPECIFICATION:</b>	AS PER ASME SE 797		
<b>TECHNIQUE:</b>	UT-1-1, REV. 1		
<b>METHOD:</b>	UT CONTINUOUS / A SCAN		
<b>SURFACE COND:</b>	PAINTED		
<b>SURFACE TEMP:</b>	AMBIENT		

**PIPING INFORMATION**

PIPING ID	SIZE	SCH	NOM	M.A.W.P. (VESSEL)	M.A.W.T. (VESSEL)	FLANGE RATING
75-35	3.50"	40	.216"	250 PSI	125 °F	150
75-40	2.375"	40	.154"	"	"	"
75-45	2.375"	XS	.218"	"	"	"
75-50	3.50"	40	.216"	"	"	"

**COMMENTS:**

**PROJECT:**  
**C30138**

# Pressure Vessel External Visual Inspection Report



Organization: Husky	Inspection Date: 08/05/2010 12:00:00AM
Plant: Foothills	Equipment ID: 66130683
	Asset No: 66130683
	System: 00006 Ansell Plant #2 07-27-051-19W5
	Operating Unit: FH-FW-013 Ansell

#0571634

## Background

Description:	Ngl Bullet
Asset Type:	

## Inspection

Inspector:	Bob Marchak	Company:	Husky Energy	Insulated:	N
------------	-------------	----------	--------------	------------	---

## External Location Categories

Barrier Penetrations:	0	Damaged Insulation:	0	Vessel Supports:	0	Insulation Rings:	0
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## Inspection Comments

ID	Description	Condition	Location	NCR	Comments

## Inspection Summary

The nameplate is attached and legible. The A# 571634, is stamped on the shell above the nameplate. The bullet is painted and is in good condition with no corrosion noted. The piping, bolting and external attachments are in good condition. No leaks noted. The bullet is protected by PSV's located on the vessel. They were new in 2007. PSV data:  
 Size: 101.6 mm by 152.4 mm, 1567 kpa Set Pressure, 1270.4 cubic meters per minute Capacity, Manufacturer: Tyco  
 The gauges and sight glass are clear and in good condition. The shell is welded to saddles that are securely bolted to the supports. The vessel is grounded. The bullet appears to be secure and level.

The overall condition of this bullet is good and is suitable for continued service.

Plan to isolate, drain, open and clean the bullet for a complete internal inspection including wet fluorescent magnetic particle at the next inspection interval in 2018.

The external inspection interval is to be set at 2 years to monitor the potential wall loss on TML040 (2" bottom elbow, 2nd from the west).

The internal inspection interval is to be set at 10 years as per ABSA AB-506 grade 2.

The PSV service interval is to be set at 5 years as per ABSA AB-506 grade 2.

## Pressure Vessel External Visual Inspection Report

### Inspection Planning

Date of Inspection: May 8, 2010 Date of last Inspection: \_\_\_\_\_ Date of Next Inspection: 05/2012

The signature below certify that the above is a true report of the inspection / test of the equipment specified and consider fit for service until the date of next inspection.

Competent Inspector:  Report Generation Date: May 21, 2010

### Reviewed and Accepted by:

Next Inspection Date: 05/2012

### Approved by:

Signature:  Date: May 27, 2010

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

## NDE Report Pressure Vessel



Organization: Husky

Plant: Foothills

EquipmentID: 66130683

System ID: 00006 Ansell Plant #2 07-27-051-19W5

Unit Name: FH-FW-013 Ansell

### Background

Description:	Ngl Bullet
Asset Type:	Pressure Vessel

### Summary

Component Type	Short Term Avg. Corrosion Rate	Long Term Avg. Corrosion Rate	Remaining Life
Vessel	.0761	.0761	8.45896

### NDE

Inspection Location	Location Description	Component Type	Status	Nominal Thickness	Minimum Thicknes	Initial Reading	Initial Date	Previous Rdg	Previous Date	Current Reading	Current Date	ST CR	LT CR	Remain Life
005	Head Btm East	Vessel	Active	12.37	12.37	12.37	01/01/2007	12.37	01/01/2007	13.44	08/05/2010	-0.3193	-0.3193	
010	Shell Btm 1st Course East	Vessel	Active	21.03	20.80	21.03	01/01/2007	21.03	01/01/2007	21.67	08/05/2010	-0.1910	-0.1910	
015	Shell Btm 3rd Course from East	Vessel	Active	21.03	20.80	21.03	01/01/2007	21.03	01/01/2007	21.56	08/05/2010	-0.1582	-0.1582	
020	Shell Btm 6th Course from East	Vessel	Active	21.03	20.80	21.03	01/01/2007	21.03	01/01/2007	22.23	08/05/2010	-0.3581	-0.3581	
025	Shell Btm 8th Course from East	Vessel	Active	21.03	20.80	21.03	01/01/2007	21.03	01/01/2007	21.95	08/05/2010	-0.2746	-0.2746	
030	Head Btm West	Vessel	Active	12.37	12.37	12.37	01/01/2007	12.37	01/01/2007	13.82	08/05/2010	-0.4327	-0.4327	

**NDE Report  
Pressure Vessel**

035	3" Elbow Btm West	Vessel	Active	5.49	3.20	5.49	01/01/2007	5.49	01/01/2007	5.61	08/05/2010	-0.0358	-0.0358	
040	2" Elbow Btm 2nd From West	Vessel	Active	3.91	2.50	3.91	01/01/2007	3.91	01/01/2007	3.51	08/05/2010	0.1194	0.1194	8.46
045	2" Elbow Btm 3rd From West	Vessel	Active	5.54	2.50	5.54	01/01/2007	5.54	01/01/2007	5.74	08/05/2010	-0.0597	-0.0597	
050	3" Elbow Btm East	Vessel	Active	5.49	3.20	5.49	01/01/2007	5.49	01/01/2007	5.38	08/05/2010	0.0328	0.0328	66.46

## NDE Report Pressure Vessel

### Inspection Planning

Date of Inspection: May 8, 2010      Date of last Inspection: \_\_\_\_\_      Date of Next Inspection: 05/2012

The signature below certify that the above is a true report of the inspection / test of the equipment specified and consider fit for service until the date of next inspection.

Competent Inspector:       Report Generation Date: May 21, 2010

### **Reviewed and Accepted by:**

Next Inspection Date: 05/2012

### **Approved by:**

Signature:       Date: May 27, 2010

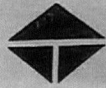
Signature: \_\_\_\_\_      Date: \_\_\_\_\_

**A# 571634, SAP# 66130683 NGL Bullet  
07-27-051-19W5M Ansel Gas Plant #2**

S.N. / NAT'L BD.



H 0 7 0 0 2 8 9



**CERTIFIED BY**

**TRINITY INDUSTRIES DE MEXICO, S. DE R.L. DE C.V.  
Huehuetoca, Estado de México**



MAWP 250 PSIG AT 125 °F 2007

MAEWP - - PSIG AT - - °F YEAR MFG

MDMT -20 °F AT 250 PSIG

RT 4 HEAD: DR HEMI THK 0.487" MAT'L SA-516-70N

AG SHELL: OD 131.875" THK 0.828" MAT'L SA-516-70

- - TANK: WG 60,000 OAL 1080.875" OSSA 3,112 S.F.

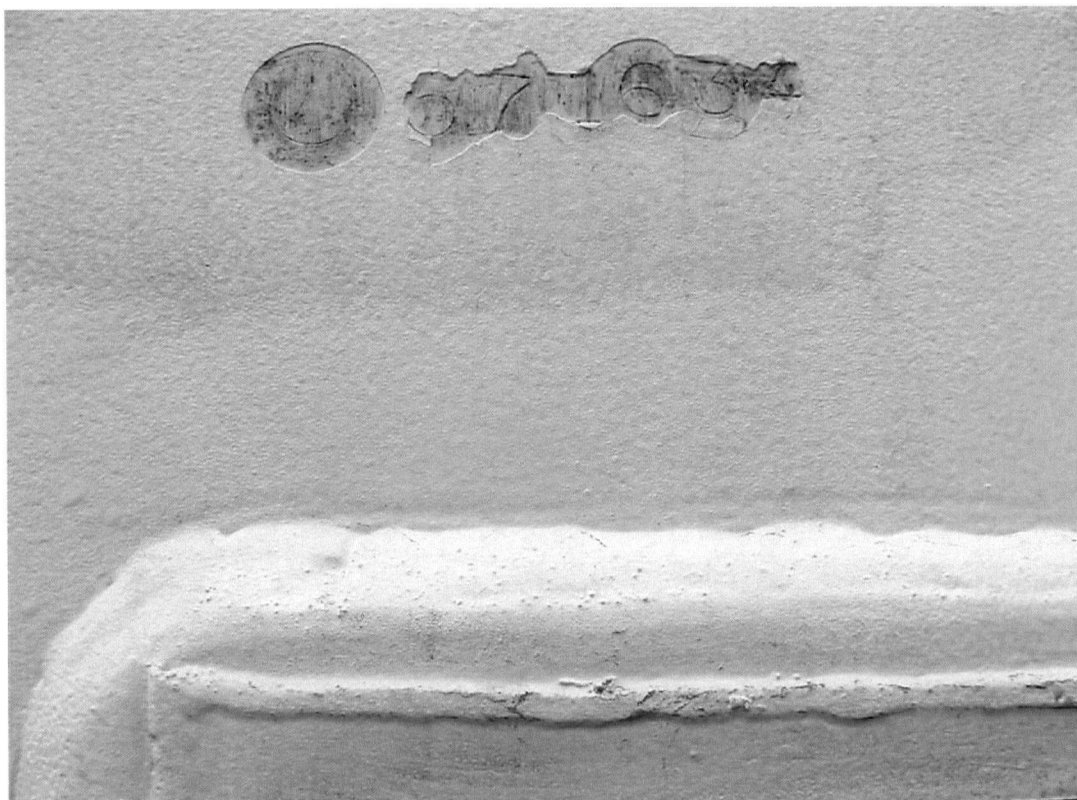
THIS CONTAINER SHALL NOT CONTAIN A PRODUCT HAVING A  
VAPOR PRESSURE IN EXCESS OF 215 PSIG AT 100 °F.

CRN #

U0833-2

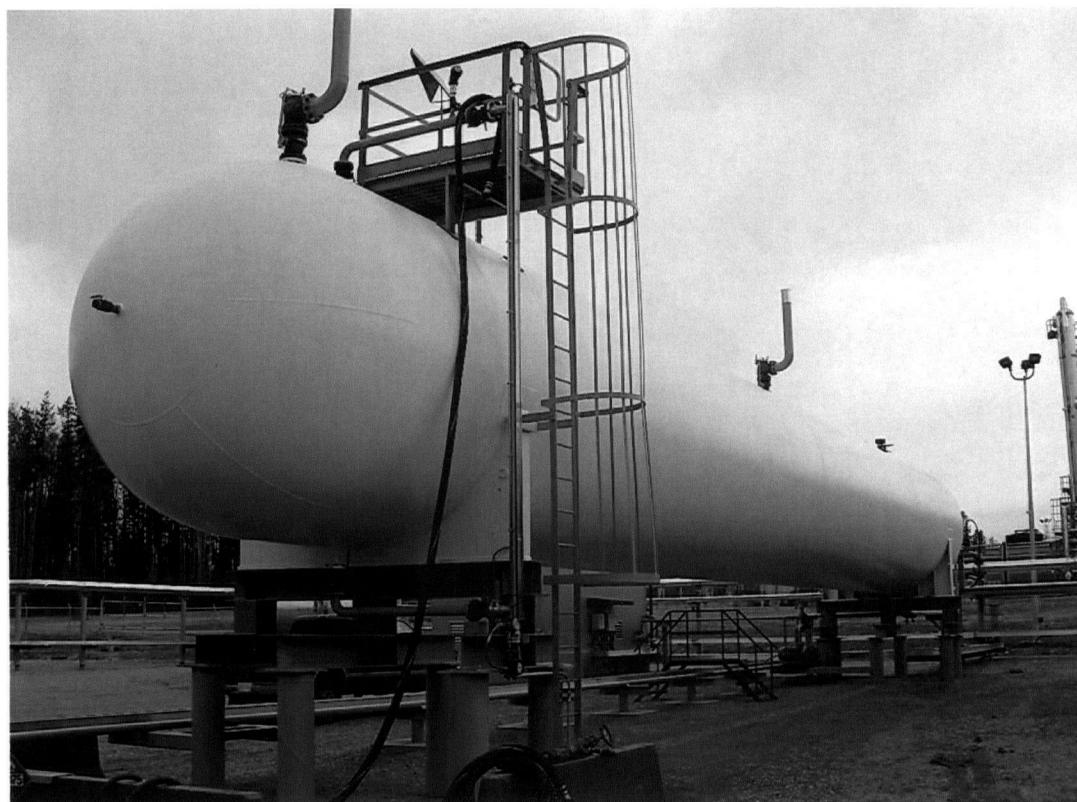
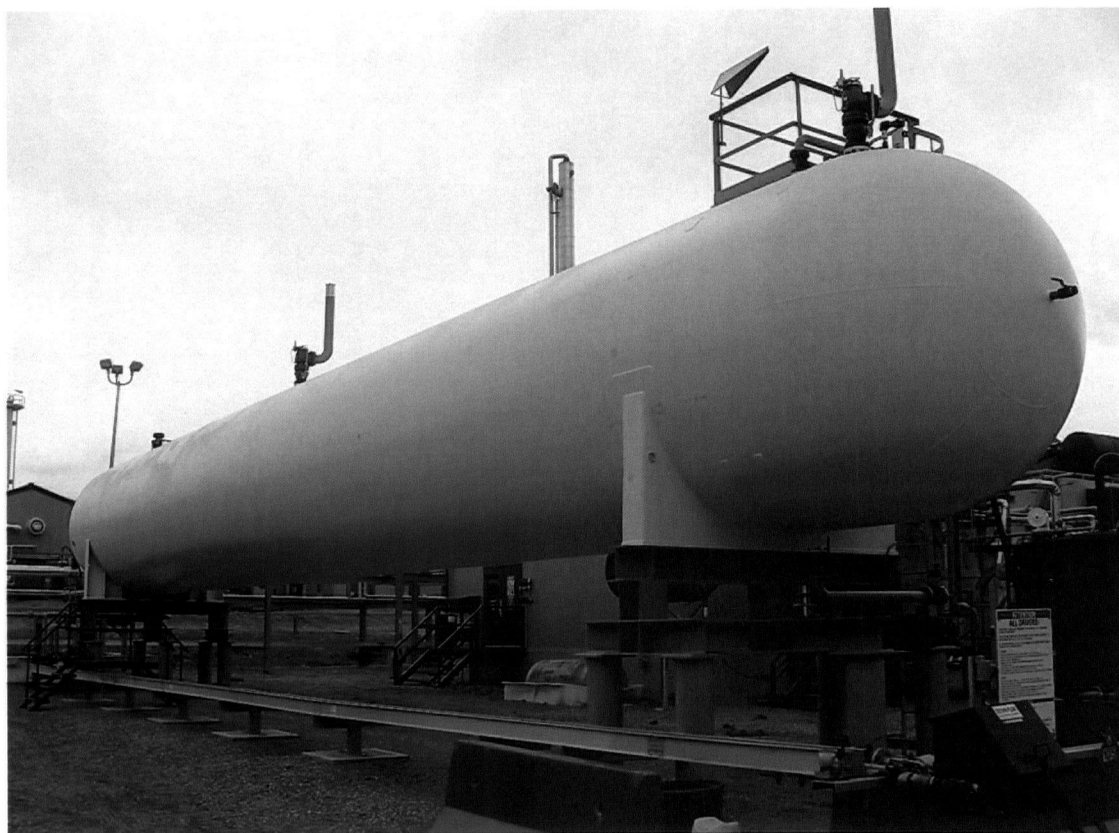
MADE IN MEXICO

SW-1281-A



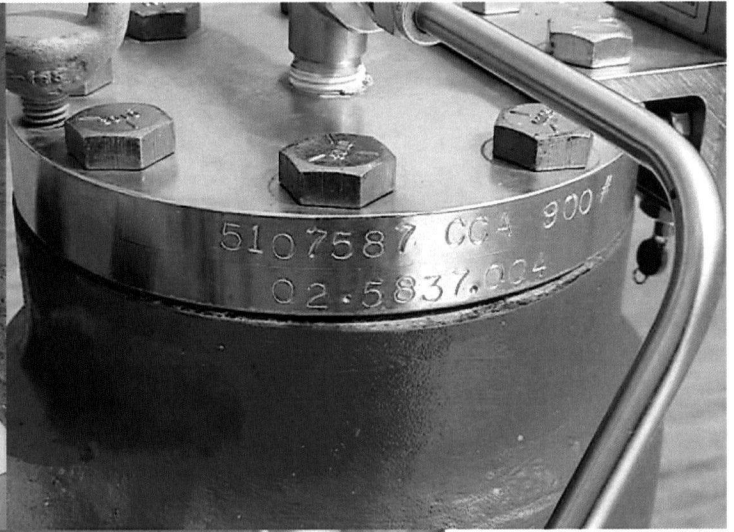


**A# 571634, SAP# 66130683 NGL Bullet  
07-27-051-19W5M Ansel Gas Plant #2**





**A# 571634, SAP# 66130683 NGL Bullet  
07-27-051-19W5M Ansel Gas Plant #2**



H.L

**BULLET INSPECTION REPORT**

Print Back Cancel

**Inspection Report**

Notification Number 6069237 Work Order 6072027  
 Notification Desc NGL BULLET Maintenance Plan QPBULLET0246  
 Tasklist Operation ( 5Y Inspection Interval ) 5Y Code Inspection Bullet

**Equipment Static Data**

Equipment Number 66130683 Equipment Description NGL BULLET  
 Class BULLET Tag Number  
 Serial Number H0700289 Year Built  
 Manufacturer TRINITY IND.  
 Location FH-FW-013-00006 Location Description ANSELL PLANT #2 07-27-051-19W5  
 Provincial Number ~~0671334~~ 571634 PM Activity Code  
 Status Codes NOPR ORAS Equipment Status In Service - Fully Utilized

CRN Number U0833.2 Code Stamp U Fluid Description NGL  
 Fluid Service SWEET Internal Coating Exists Length 1080.88 IN  
 MDMT - Min. Design Metal Temp -20 DEGF Shell MAWP 250 PSI Stress Relief  
 Vessel Diameter 131.9 IN Volume X-Ray RT4

**PRD Static Data**

Equip ID	Location	Size		Set Pressure	Capacity	Manufacturer	Serial Number	Model Number	Next Service Date
		Inlet	Outlet						

**Process Data**

Product Description Fluid Service  Sweet  Sour PPM  
 Operating Pressure 200 KPA Operating Temperature 12 °C

**Pressure Test**

Test Completed  Yes  No Test Acceptable  Yes  No Test Report #

**PSV Data**

Tag/Serial No.	Location	Size		Set Pressure	Capacity	Model / Type	Service Date
		Inlet	Outlet				
C06-38617	VESSEL (EAST END)	4	6	227 PSI	44863 SCFM	CROSBY	2007
	VESSEL (MIDDLE)	4	6				

**Inspection History**

Inspected By MARCHAK, BOB Inspection Date 2008.05.13

**Inspection Summary**

An external visual and UT inspection was carried out to verify the integrity of the Bullet.  
 No concerns were noted and the vessel is considered acceptable for continued service.

**Recommendations**

- 1) Plan for an internal inspection or an external Phased Array UT inspection at the next inspection interval in 2013.
- 2) Carry out an external UT in 2010 to determine corrosion rate.

**Repairs Completed**

**Equipment Status**

Integrity Status  Suitable for Continued Service  Immediate Repairs Required  Replace  
 Future Repairs Required  
 Inventory Status  In Service - Fully Utilized  Idle  Surplus  Scrap

**QA Activities**

- Leave As-Is  Weld Overlayed  Part / Component Replaced
- Equipment Replaced  Grind Dressed  Patch Installed
- MAWP Derated  Coating - Cleaned & Patched  Coating - Removed & Replaced
- Defect Removed & Rewelded  Part Cleaned  Lapped & Dressed
- Epoxy Patched

**Noncompliances or Inspection Deficiencies Issued**

**External Visual Inspection**

The nameplate is attached and legible.  
 The A# is stamped on the shell adjacent to the nameplate.

The vessel is painted and is in good condition with no significant corrosion noted.  
 The piping, bolting and external attachments are in good condition.  
 The vessel is protected by 2 PSV's that are located off the top of the bullet. One on the east end and one in the middle.  
 The PSV's were last serviced in 2007.  
 The pressure, temperature and level gauges are all clear and in good working condition.  
 The level of the bullet at time of inspection was 7'-1 1/4".  
 The bullet is securely bolted to the structural supports.  
 The ground wire is securely attached.  
 The overall condition of this vessel is good.

**External NDE Examination**

UT inspection was carried out by Hunt Inspection.  
 The lowest thickness readings are as follows:  
 Bottom Shell East(nominal 0.828") - 0.835"  
 Bottom Shell East(nominal 0.828") - 0.835"  
 Bottom Shell West(nominal 0.828") - 0.859"  
 Bottom Shell West(nominal 0.828") - 0.849"  
 East Head(nominal 0.487") - 0.517"  
 West Head(nominal 0.487") - 0.532"  
 2" Elbow on Bottom second from east(nominal 0.154") - 0.135"  
 Calculated minimum thickness on 2" elbow is 0.015"  
 Remaining Life = 6 years  
 Carry out external UT in 2 years to determine corrosion rate.

**Internal Visual Inspection**

**Internal NDE Examination**

**Data Integrity**

The following changes are required in SEIM:  
 Add Construction Year: 2007  
 AB Registration Number: 571634 not 671334  
 Add Nozzle Rating: 150#  
 Manufacturer: Trinity Industries De Mexico

**Inspection Interval**

The inspection interval is to be set at 2 years for an external UT.  
 The PSV service interval is to be set at 5 years.


**Damages**

**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.

Inspector Name	MARCHAK, BOB	Inspector Signature	
Inspection Company	HUSKY ENERGY	Date	01.08.2009

**Lead Inspector's Acceptance & Schedule Confirmation**

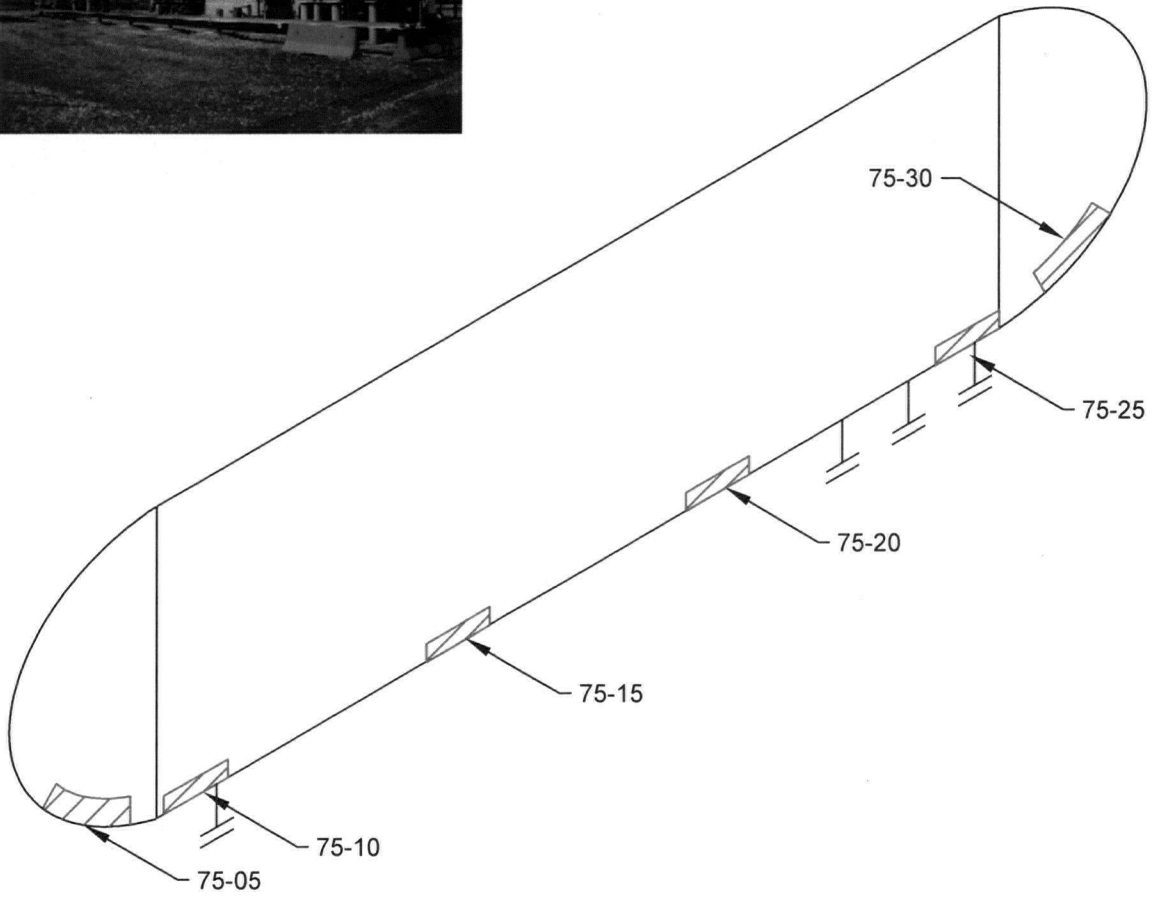
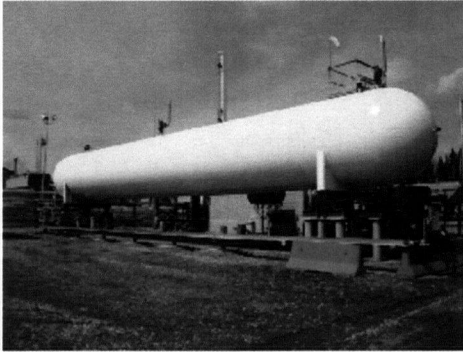
Lead Inspector	<u>Bob Marchak</u>	Signature		Date	01.08.09
Vessel Inspection Interval	<u>2</u>	<input type="checkbox"/> Leave as-is / Change to: _____			
PSV Inspection Interval	<u>5</u>	<input type="checkbox"/> Leave as-is / Change to: _____			

Top

ITEM:

**PROPANE STORAGE BULLET**

A 0571634



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

**TECHNICIAN:**  
 ROY HATCHER  
 SNT LEVEL II  
 CGSB 48.9712  
 LEVEL II # 10430

<b>DATE:</b>	<b>05/10/08</b>	<b>DWG #</b>	<b>75</b>
<b>CLIENT:</b>	<b>HUSKY ENERGY</b>		
<b>LSD:</b>	<b>07-27-051-19-W5M</b>		
<b>INSPECTOR :</b>	BOB MARCHAK		
<b>LOCATION :</b>	ANSELL GAS PLANT		
<b>DISTRICT UNIT :</b>	FH-FW		
<b>BLDG/SKID:</b>	-		
<b>PROCESS:</b>	SWEET		
<b>CODE:</b>	ASME SEC VIII DIV 1		
<b>SPECIFICATION:</b>	AS PER ASME SE 797		
<b>TECHNIQUE:</b>	UT-1-1, REV. 1		
<b>METHOD:</b>	UT CONTINUOUS / A SCAN		
<b>SURFACE COND:</b>	PAINTED		
<b>SURFACE TEMP:</b>	AMBIENT		

<b>VESSEL INFORMATION</b>	
<b>VESSEL # :</b>	<b>A 0571634</b>
<b>CRN # :</b>	V0833.2
<b>SERIAL # :</b>	H 0700289
<b>MANUFACTURER:</b>	TRINITY INDUSTRIES
<b>DATE BUILT:</b>	2007
<b>CLIENT ID / TAG:</b>	-
<b>M.A.W.P. :</b>	250 PSI
<b>M.A.W.T. :</b>	125 °F
<b>JOINT EFFICIENCY/RT:</b>	RT 4
<b>STRESS RELIEVED:</b>	NO
<b>INSULATED :</b>	NO
<b>MANWAY :</b>	YES

<b>VESSEL SPECIFICATIONS</b>				
	<b>OD</b>	<b>NOMINAL</b>	<b>MATERIAL</b>	<b>CA</b>
<b>VESSEL HEAD</b>	131.875"	.487"	SA-516-70	-
<b>VESSEL SHELL</b>	131.875"	.828"	SA-516-70	-
<b>BOOT HEAD</b>	-	-	-	-
<b>BOOT SHELL</b>	-	-	-	-

COMMENTS:

PROJECT:  
**C30138**



# ULTRASONIC CORROSION SURVEY

Survey Name: HUSKY ENERGY

LSD: 07-27-051-19W5	Dwg: 75	Vessel Number: A0571634	Manufacturer: TRINITY INDUSTRIES	Survey Date: 5/10/08
District Unit: FH-FW		Vessel Name: PROPANE STORAGE BULLET	Serial Number: H0700289	Inspector: BOB MARCHAK
Location: ANSELL GAS PLANT		Year Built: 2007	Shell MAWP PSI: 250 MAWT F: 125	Process: SWEET
Skid: -		Tag Number: -	Tube MAWP PSI: 0 MAWT F: 0	Project #: C30138
		CRN: V0833.2	Vessel CA: 0.0000	

Band	Description		Readings						Year	Avg Inches	Min Inches	Nominal	CA	TMIN	Recommended Next Inspection	Recommended Retirement Date
			1	2	3	4	5	6								
75-05	Head	Baseline	0.519	0.519	0.519	0.521	0.518	0.517	2008	0.519	0.517	0.4870	0.0000	0.4096	2009	2028
Shape	Hemispherical	Shell Side	Previous	Comments-->												
OD	131.875	Current	0.519	0.519	0.519	0.521	0.518	0.517	2008	0.519	0.517					
Spec.	VIII Div 1			ST Loss MPY							OK					
Material	SA 516 - 70			LT Loss MPY						0.000						
75-10	Shell	Baseline	0.839	0.839	0.839	0.837	0.836	0.835	2008	0.838	0.835	0.8280	0.0000	0.8200	2009	2028
Shape	Cylindrical	Shell Side	Previous	Comments-->												
OD	131.875	Current	0.839	0.839	0.839	0.837	0.836	0.835	2008	0.838	0.835					
Spec.	VIII Div 1			ST Loss MPY							OK					
Material	SA 516 - 70			LT Loss MPY						0.000						
75-15	Shell	Baseline	0.837	0.836	0.836	0.835	0.835	0.835	2008	0.836	0.835	0.8280	0.0000	0.8200	2009	2028
Shape	Cylindrical	Shell Side	Previous	Comments-->												
OD	131.875	Current	0.837	0.836	0.836	0.835	0.835	0.835	2008	0.836	0.835					
Spec.	VIII Div 1			ST Loss MPY							OK					
Material	SA 516 - 70			LT Loss MPY						0.000						
75-20	Shell	Baseline	0.866	0.863	0.861	0.860	0.859	0.861	2008	0.862	0.859	0.8280	0.0000	0.8200	2009	2028
Shape	Cylindrical	Shell Side	Previous	Comments-->												
OD	131.875	Current	0.866	0.863	0.861	0.860	0.859	0.861	2008	0.862	0.859					
Spec.	VIII Div 1			ST Loss MPY							OK					
Material	SA 516 - 70			LT Loss MPY						0.000						



# ULTRASONIC CORROSION SURVEY

Survey Name: HUSKY ENERGY

LSD: 07-27-051-19W5	Dwg: 75	Vessel Number: A0571634	Manufacturer: TRINITY INDUSTRIES	Survey Date: 5/10/08
District Unit: FH-FW		Vessel Name: PROPANE STORAGE BULLET	Serial Number: H0700289	Inspector: BOB MARCHAK
Location: ANSELL GAS PLANT		Year Built: 2007	Shell MAWP PSI: 250 MAWT F: 125	Process: SWEET
Skid: -		Tag Number: -	Tube MAWP PSI: 0 MAWT F: 0	Project #: C30138
		CRN: V0833.2	Vessel CA: 0.0000	

Band	Description		Readings						Year	Avg Inches	Min Inches	Nominal	CA	TMIN	Recommended Next Inspection	Recommended Retirement Date
			1	2	3	4	5	6								
75-25	Shell	Baseline	0.852	0.852	0.852	0.853	0.854	0.849	2008	0.852	0.849	0.8280	0.0000	0.8200	2009	2028
Shape	Cylindrical	Shell Side	Previous													Comments-->
OD	131.875	Current	0.852	0.852	0.852	0.853	0.854	0.849	2008	0.852	0.849					
Spec.	VIII Div 1			ST Loss MPY							OK					
Material	SA 516 - 70			LT Loss MPY						0.000						
75-30	Head	Baseline	0.532	0.534	0.538	0.549	0.549	0.549	2008	0.542	0.532	0.4870	0.0000	0.4096	2009	2028
Shape	Hemispherical	Shell Side	Previous													Comments-->
OD	131.875	Current	0.532	0.534	0.538	0.549	0.549	0.549	2008	0.542	0.532					
Spec.	VIII Div 1			ST Loss MPY							OK					
Material	SA 516 - 70			LT Loss MPY						0.000						
75-35	Piping	Baseline	0.231	0.221	0.218	0.221	0.221	0.220	2008	0.222	0.218	0.2160	0.0270	0.0217	2009	2028
Shape	90° Elbow	Shell Side	Previous													Comments-->
OD	3.5	Current	0.231	0.221	0.218	0.221	0.221	0.220	2008	0.222	0.218					
Spec.	B31.3			ST Loss MPY							OK					
Material	A 234 - WPB			LT Loss MPY						0.000						
75-40	Piping	Baseline	0.135	0.135	0.135	0.136	0.138	0.144	2008	0.137	0.135	0.1540	0.0192	0.0148	2009	2028
Shape	90° Elbow	Shell Side	Previous													Comments-->
OD	2.375	Current	0.135	0.135	0.135	0.136	0.138	0.144	2008	0.137	0.135					
Spec.	B31.3			ST Loss MPY							OK					
Material	A 234 - WPB			LT Loss MPY						0.000						



# ULTRASONIC CORROSION SURVEY

Survey Name: HUSKY ENERGY

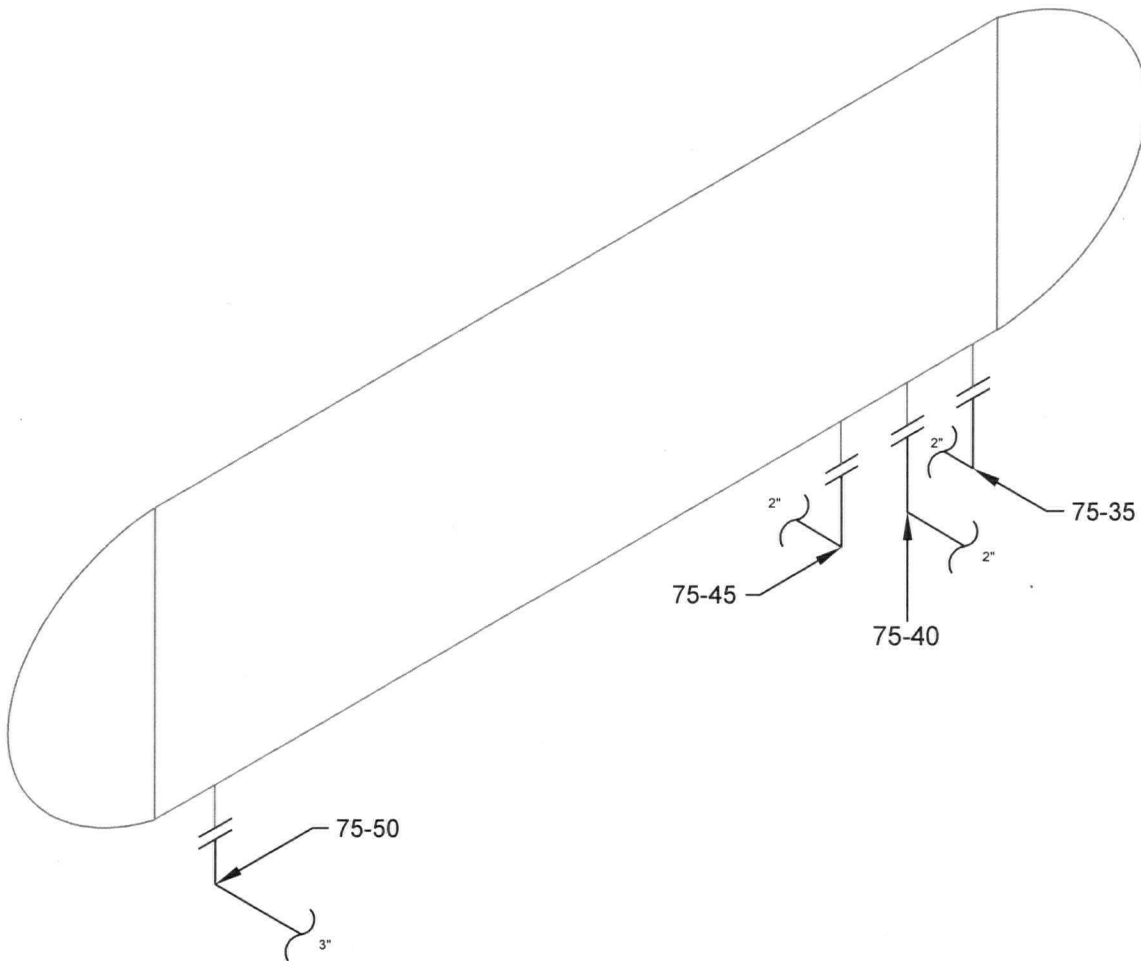
LSD: 07-27-051-19W5	Dwg: 75	Vessel Number: A0571634	Manufacturer: TRINITY INDUSTRIES	Survey Date: 5/10/08
District Unit: FH-FW		Vessel Name: PROPANE STORAGE BULLET	Serial Number: H0700289	Inspector: BOB MARCHAK
Location: ANSELL GAS PLANT		Year Built: 2007	Shell MAWP PSI: 250 MAWT F: 125	Process: SWEET
Skid: -		Tag Number: -	Tube MAWP PSI: 0 MAWT F: 0	Project #: C30138
		CRN: V0833.2	Vessel CA: 0.0000	

Band	Description		Readings						Year	Avg Inches	Min Inches	Nominal	CA	TMIN	Recommended Next Inspection	Recommended Retirement Date
			1	2	3	4	5	6								
75-45	Piping	Baseline	0.219	0.220	0.220	0.221	0.223	0.223	2008	0.221	0.219	0.2180	0.0272	0.0148	2009	2028
Shape	90° Elbow	Shell Side	Previous		Comments-->											
OD	2.375	Current	0.219	0.220	0.220	0.221	0.223	0.223	2008	0.221	0.219					
Spec.	B31.3			ST Loss MPY												
Material	A 234 - WPB			LT Loss MPY		0.000		OK								
75-50	Piping	Baseline	0.213	0.214	0.206	0.206	0.206	0.211	2008	0.209	0.206	0.2160	0.0270	0.0217	2009	2028
Shape	90° Elbow	Shell Side	Previous		Comments-->											
OD	3.5	Current	0.213	0.214	0.206	0.206	0.206	0.211	2008	0.209	0.206					
Spec.	B31.3			ST Loss MPY												
Material	A 234 - WPB			LT Loss MPY		0.000		OK								



ITEM:

**PROPANE STORAGE BULLET - PIPING** A 0571634



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

**TECHNICIAN:**

ROY HATCHER  
 SNT LEVEL II  
 CGSB 48.9712  
 LEVEL II # 10430

**DATE:** 05/10/08

**DWG #** 75A

**CLIENT:** HUSKY ENERGY

**LSD:** 07-27-051-19-W5M

**INSPECTOR:** BOB MARCHAK

**LOCATION:** ANSELL GAS PLANT

**DISTRICT UNIT:** FH-FW

**BLDG/SKID:** -

**PROCESS:** SWEET

**CODE:** ASME B31.3

**SPECIFICATION:** AS PER ASME SE 797

**TECHNIQUE:** UT-1-1, REV. 1

**METHOD:** UT CONTINUOUS / A SCAN

**SURFACE COND:** PAINTED

**SURFACE TEMP:** AMBIENT

**PIPING INFORMATION**

PIPING ID	SIZE	SCH	NOM	M.A.W.P. (VESSEL)	M.A.W.T. (VESSEL)	FLANGE RATING
75-35	3.50"	40	.216"	250 PSI	125 °F	150
75-40	2.375"	40	.154"	"	"	"
75-45	2.375"	XS	.218"	"	"	"
75-50	3.50"	40	.216"	"	"	"

COMMENTS:

PROJECT:  
**C30138**



# PRESSURE CALCULATIONS

Vessel Description:	Propane Bullet	Entered by:	Bob Marchak
Manufacturer:	Trinity Industries De Mexico	Date:	Jan. 8, 2008
Service:	Sweet		
Vessel PRN	<b>A571634</b>	Diameter	<b>132</b> inches
CRN	<b>U0833.2</b>	Length	inches Tan/Tan
Serial number	<b>H0700289</b>	MAWP	<b>250</b> psi
Location :	07-27-051-19W5M	MDMT	<b>-20</b> °F
	Ansell Gas Plant		

SHELL	Thickness:	<b>0.828</b>	nomimal	HEAD	Thickness:	<b>0.487</b>	nomimal
	Material:	<b>SA-516-70</b>	plate		Material:	<b>SA-516-70N</b>	

## Cylindrical Shell

$$t_{MIN} = PR / SE - 0.6 P$$

$$P = SE t / R + 0.6 t$$

0.135 t = actual wall thickness, inches

250 P = design pressure (MAWP), psi

17114 S = stress value of material, psi

Bottom 2" Elbow 2nd from  
East. SA-234-WPB  
assumed

1 E = joint efficiency, Table UW-12

Full

1.0335 R = inside radius, inches

0.125 CA = corrosion allowance, inches

$t_{MIN} = 0.015$ inches
--------------------------

(MINIMUM ALLOWABLE W.T.)

$P = 2073.03$ psi
-------------------

(PRESSURE RATING AT CURRENT W.T.)

## 2:1 Ellipsoidal Heads

$$t_{MIN} = PD / 2 SE - 0.2 P$$

$$P = 2 SE t / D + 0.2 t$$

t = actual wall thickness, inches

P = design pressure (MAWP), psi

17114 S = stress value of material, psi

~~SA234WPB, Boot~~  
Head assumed

1 E = joint efficiency, Table UW-12

Full

D = inside diameter, inches

625 CA = corrosion allowance, inches

$t_{MIN} = 0.000$ inches
--------------------------

(MINIMUM ALLOWABLE W.T.)

$P = \#DIV/0!$ psi
--------------------

(PRESSURE RATING AT CURRENT W.T.)

# PRESSURE CALCULATIONS

Vessel Description:	Propane Bullet	Entered by:	Bob Marchak
Manufacturer:	Trinity Industries De Mexico	Date:	Jan. 8, 2008
Service:	Sweet		
Vessel PRN	<b>A571634</b>	Diameter	<b>132</b> inches
CRN	<b>U0833.2</b>	Length	inches
Serial number	<b>H0700289</b>	MAWP	<b>250</b> psi
Location :	07-27-051-19W5M	MDMT	<b>-20</b> °F
	Ansell Gas Plant		

SHELL	Thickness:	<b>0.828</b>	nomimal	HEAD	Thickness:	<b>0.487</b>	nomimal
	Material:	<b>SA-516-70</b>	plate		Material:	<b>SA-516-70N</b>	

## Corrosion Rate

$$\text{LTCR} = \frac{t(\text{initial}) - t(\text{actual})}{\text{time (yrs) between } t(\text{initial}) \text{ and } t(\text{actual})}$$

0.154       $t(\text{initial})$  = last noted wall thickness, inches

0.135       $t(\text{actual})$  = actual measured wall thickness, inches

1          T = years between  $t(i)$  and  $t(c)$

<b>LTCR = 0.0190 inches/yr</b>
--------------------------------

Long Term Corrosion Rate

## Remaining Life

$$\text{R.L.} = \frac{t(\text{actual}) - t(\text{required})}{\text{Corrosion Rate}}$$

0.135       $t(\text{actual})$  = actual measured thickness, inches

0.015       $t(\text{required})$  = required thickness before corrosion allowance, inches

0.0190      C.R. = worst case between LTCR and STCR, inches/year

<b>R.L. = 6.3 years</b>
-------------------------

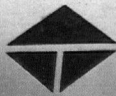
Remaining Life

# Ansell Plant #2 NGL Bullet Photos, A571634

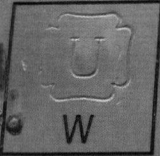
S.N. / NAT'L BD.



H 0 7 0 0 2 8 9



**CERTIFIED BY**  
**TRINITY INDUSTRIES DE MEXICO, S. DE R.L. DE C.V.**  
**Huehuetoca, Estado de México**

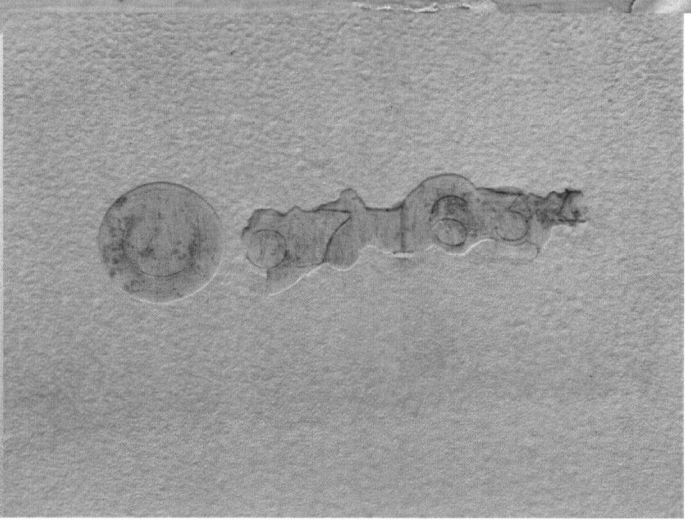
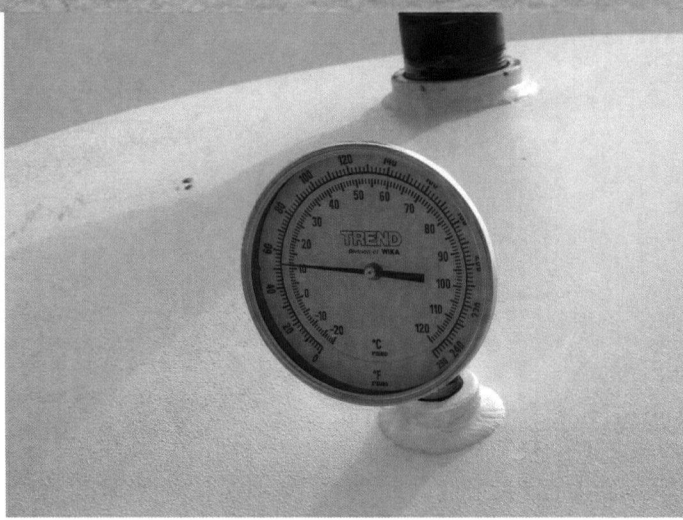


MAWP  PSIG AT  °F   
 MAEWP   PSIG AT   °F YEAR MFG  
 MDMT  °F AT  PSIG

HEAD: DR  THK  MAT'L   
 SHELL: OD  THK  MAT'L   
  TANK: WG  OAL  OSSA

THIS CONTAINER SHALL NOT CONTAIN A PRODUCT HAVING A VAPOR PRESSURE IN EXCESS OF 215 PSIG AT 100 °F.

CRN #  MADE IN MEXICO

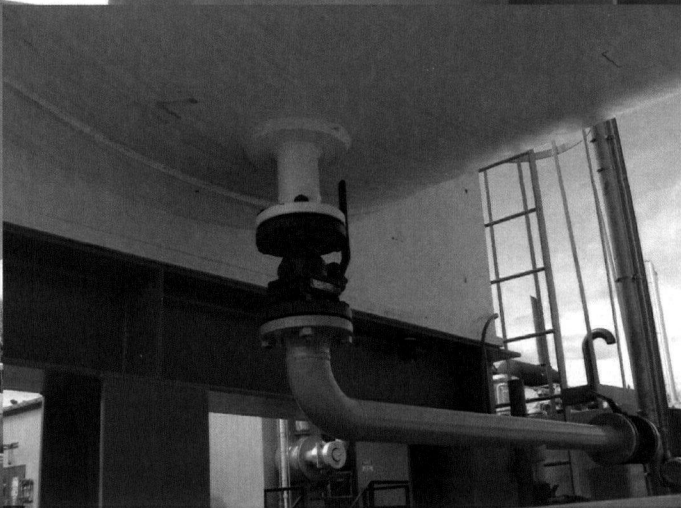
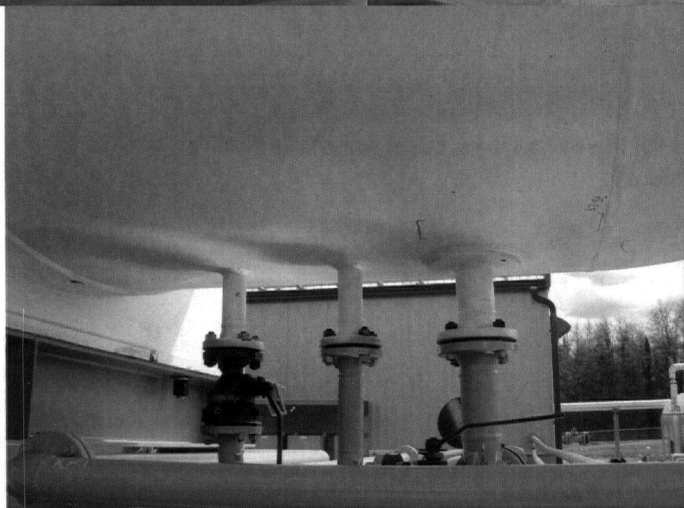
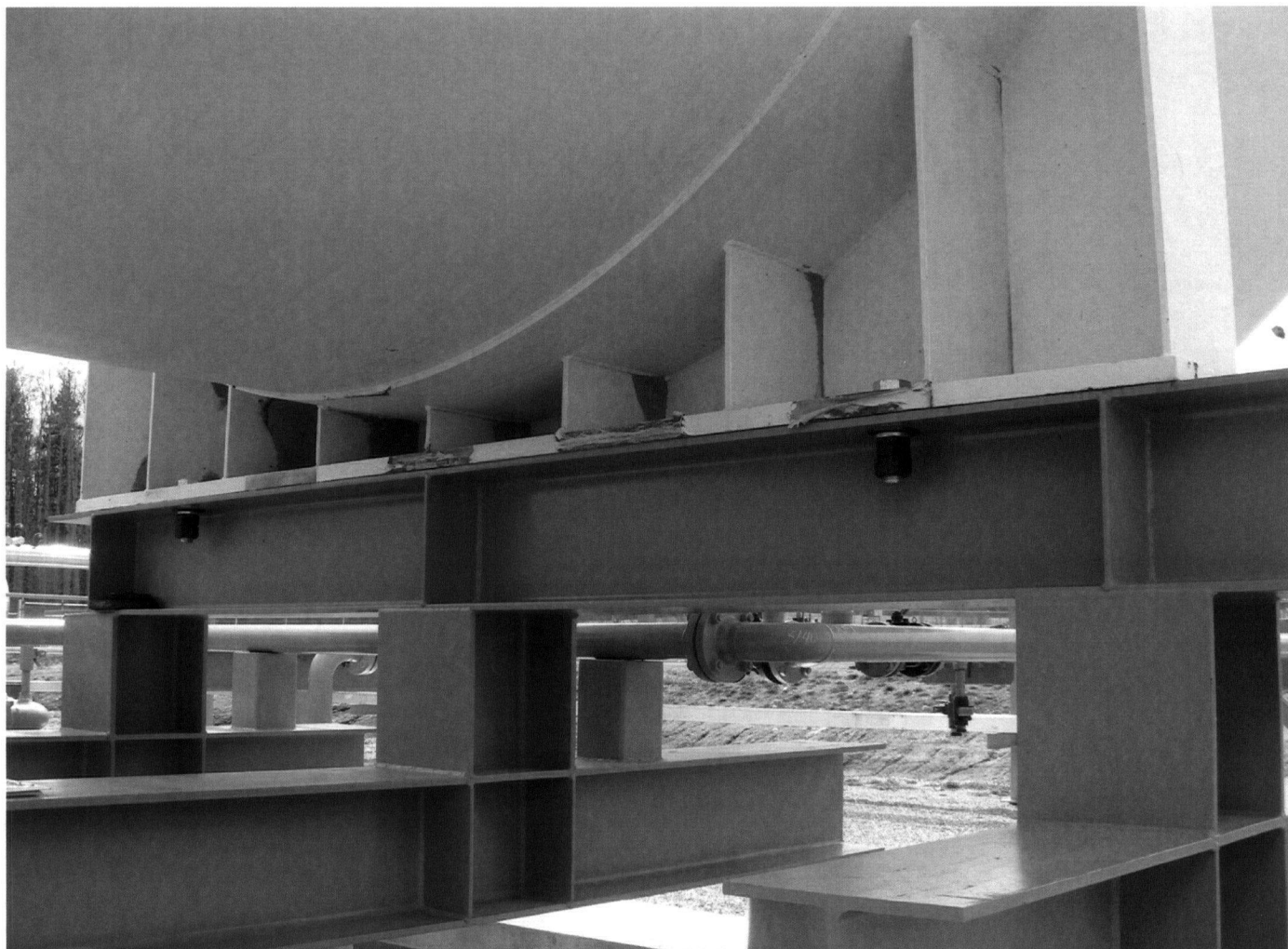


**Ansell Plant #2 NGL Bullet Photos, A571634**

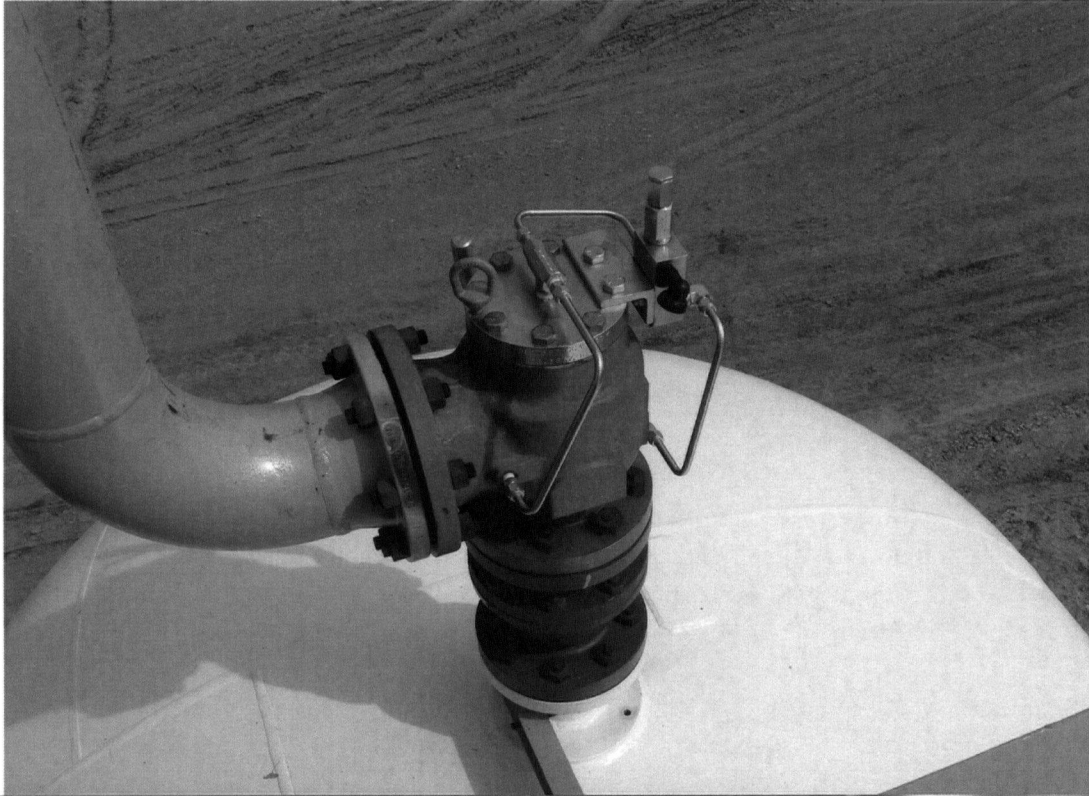




Ansell Plant #2 NGL Bullet Photos, A571634



**Ansell Plant #2 NGL Bullet Photos, A571634**



571634

As Required by the Provisions of the ASME Code Rules, Section VIII, Division 1

1. Manufactured and certified by Trinity Industries de Mexico S de R L de CV, Planta Huehuetoca, Calzada de las Marisoles Lote-1, Ex-Hacienda de Xalpa, Huehuetoca, Edo de Mexico, 54680, MEXICO

(Name and address of manufacturer)

2. Manufactured for Platinum Energy Services Corporation, 750-333, Eleventh Ave., Southwest, Calgary, Alberta, T2R 1L9, CANADA

(Name and address of purchaser)

3. Location of Installation: Not Known

(Name and address)

4. Type Horizontal H0700289 U0833.23451 854851 rC H0700289 2007  
 (Horiz. or Vert. tank) (Mfr's serial No.) (CRN) (Drawing No.) (Nat'l. Bd. No.) (Year built)

5. The chemical and physical properties of all parts meet the requirements of material specifications of the ASME BOILER AND PRESSURE VESSEL CODE. The design, construction, and workmanship conform to ASME Rules, Section VIII, Division 1

2004 to 2005  
 (year) Addenda (Date)

N/A N/A  
 Code Case Nos. Special Service per UG-120(d)

6. Shell: SA516-70 0.828" 0" 10' 10.219" (ID) 79' 4"  
 Mat'l. (Spec. No., Grade) Nom. Thk. (in.) Corr. Allow. (in.) Diam. I.D. (ft. & in.) Length (overall) (ft. & in.)

7. Seams: TYPE 1 Full 100% N/A N/A TYPE 1 Spot 85 8  
 Long. (Welded Dbl. Sngl. Lap Butt) R.T. (Spot or Full) Eff (%) H.T. Temp. (°F) Time (hr) Girth (Welded Dbl. Sngl. Lap Butt) R.T. (Spot or Full) Eff (%) No. of Courses

8. Heads: (a) Mat'l: SA516-70 (b) Mat'l:  
 (Spec. No., Grade) (Spec. No., Grade)

Location (Top, Bottom, Ends)	Minimum Thickness	Corrosion Allowance	Crown Radius	Knuckle Radius	Elliptical Ratio	Conical Apex Angle	Hemispherical Radius	Flat Diameter	Side to Pressure (Convex or Concave)
(a) Ends	0.487	0"	N/A	N/A	N/A	N/A	65.45"	N/A	Concave

If removable, bolts used (describe other fastenings) N/A  
 (Mat'l. Spec. No., Gr., Size No.)

9. MAWP 250 N/A psi at max. temp. 125 N/A °F  
 (internal) (external)

Min. design metal temp. -20 °F at 250 psi Hydro. pneu. or comb. test pressure HYDRO. at 325 psi

10. Nozzles, inspection and safety valve openings:

Purpose (Inlet, Outlet, Drain)	No.	Diam. or Size	Type	Mat'l	Nom Thk.	Reinforcement Mat'l.	How Attached	Location
MANWAY	1	16"	PTFLG	SA516-70N	3.688"	INTEGRAL	(ii)UW16.1	Head
FLOAT GAUGE	1	2.5"	CPLG	SA105	3000#	N/A	(y-2)UW16.1	N/A
LL-PG	1	0.75"	CPLG	SA105	6000#	N/A	(y-2)UW16.1	N/A
THERMOWELL	1	0.75"	CLPG	SA105	6000#	N/A	(y-2)UW16.1	N/A
ROTARY GAUGE	1	2"	CPLG	SA105	3000#	N/A	(y-2)UW16.1	N/A
LIQUID OUT	1	3"-150#	RFWN	SA106-B	0.300"	SA516-70	(h)UW16.1	N/A

Additional Nozzles - See Attached U-4

11. Supports: Skirt NO Lugs 0 Legs 0 Other Saddles Attached Welded to shell  
 (Yes or no) (No.) (No.) (Describe) (Where and how)

12. Remarks: Manufacturer's Partial Data Reports properly identified and signed by Commissioned Inspectors, have been furnished for the following items of the report

N/A (Name of part, item number, Mfr's name and identifying stamp)

TANK, HORIZONTAL STORAGE: 131.875"OD x 60,000WG. 854851 SHT 1 rC, SHT 2 rC & SHT 3 rB. TO BE USED IN A NON-CORROSIVE SERVICE. LINE 9: MDMT/PSI BASED ON UCS-66 (a) & (b) AND UG-20 (f). Pressure relief devices per UG-125

CERTIFICATE OF SHOP/FIELD COMPLIANCE

We certify that the statements made in this report are correct and that all details of design, material, construction, and workmanship of this vessel conform to the ASME Code for Pressure Vessels, Section VIII, Division 1, "U" Certificate of Authorization No. 21957 expires 09/13/2007

Date 03/30/2007 Co. name Trinity Industries de Mexico S de R L de CV, Planta Huehuetoca Signed [Signature]  
 (Manufacturer) (Representative)

CERTIFICATE OF SHOP/FIELD INSPECTION

Vessel constructed by Trinity Industries de Mexico S de R L de CV, Planta Huehuetoca at Mexico, 54680, MEXICO

and employed by OneBeacon America Insurance Co., of Boston, MA have inspected the component described in this Manufacturer's Data Report on March 29, 2007 and state that, to the best of my knowledge and belief, the Manufacturer has constructed this pressure vessel in accordance with ASME Code, Section VIII, Division 1. By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the pressure vessel described in this Manufacturer's Data Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Date 04/04/2007 Signed [Signature] Commissions 12334A, CH1983  
 (Authorized Inspector) (Nat'l Board (incl. endorsements), State, Prov. and No.)

57.634

Manufactured and certified by Trinity Industrias de Mexico S de R L de CV, Planta Huehuetoca, Calzada de las Marisotes Lote-1, Ex-Hacienda de Xalpa, Huehuetoca, Edo de Mexico, 54680, MEXICO  
(Name and address of Manufacturer)

Manufactured for Platinum Energy Services Corporation, 750-333, Eleventh Ave., Southwest, Calgary, Alberta, T2R 1L9, CANADA  
(Name and address of Purchaser)

Location of Installation Not Known  
(Name and address)

Type Horizontal N/A H0700289  
(Horiz. vert., or sphere) (Tank, separator, heat exh., etc.) Mfg's serial No.

U0833.23451 854851 rC H0700289 2007  
(CRN) (drawing no.) (Nat'l Bd. No.) (Year built)

Additional nozzles, inspection and safety valve openings:

Additional nozzles, inspection and safety valve openings:

Purpose (Inlet, Outlet, Drain)	No.	Diam. or Size	Type	Mat'l.	Nom. Thk.	Reinforcement Mat'l.	How Attached	Location
L	1	2"-150#	RFWN	SA106-B	0.344"	N/A	(d)UW16.1	N/A
POR	1	2"-150#	RFWN	SA106-B	0.344"	N/A	(d)UW16.1	N/A
POR	1	2"-150#	RFWN	SA106-B	0.344"	N/A	(d)UW16.1	N/A
LIEF	3	4"-300#	RFWN	SA106-B	0.337"	SA516-70	(h)UW16.1	N/A
IDLE	1	3"-150#	RFWN	SA106-B	0.300"	SA516-70	(h)UW16.1	N/A
IDLE	1	3"-150#	RFWN	SA106-B	0.300"	SA516-70	(h)UW16.1	N/A

Certificate of Authorization: Type "U" No. 21957 Expires 09/13/2007

Date 03/30/2007 Name Trinity Industrias de Mexico S de R L de CV, Planta Huehuetoca Signed [Signature]  
(Manufacturer) (Representative)

Date 04/04/2007 Name [Stamp] Commissions 12334A, OH1983  
(Authorized Signatory) (Nat'l Board (incl. endorsements), State, Province and No.)



**PRESSURE VESSEL & COLUMN INSPECTION REPORT**

Date: July 25<sup>th</sup> 2011

Equipment ID: N/S

*dmv 22*

Plant	<u>Ansel Plant 2</u>	Op Unit		System	
Asset #		Equipment ID	<u>N/S 66130683</u>	Asset Type	<u>3M Pressvess</u>
Description	<u>NGL Bullet</u>	Prov. Insp. #	<u>A571635</u>	Serial #	<u>571634 NB H0700289</u>
Manufacturer	<u>Trinity Industries</u>	CRN	<u>U0833.2</u>	Year Built	<u>2007</u>
MAWP	<u>1724</u>	KPag	<u>@ 51.6 °C</u>	MDMT	<u>-29 °C</u>
Code	<u>ASME VIII Div I</u>	Fluid Service	<u>Sweet</u>	Sweet/Sour	<u>PWHT HT</u>
Internal Access	<u>Yes</u>	Insulated	<u>No</u>	Internal Coating	
Operating Pressure	<u>n/s</u>	KPag		Operating Temp	<u>19 °C</u>

**PSV DATA**

PSV ID #	Location	Size		Set Pressure	Capacity SCFM / Lbs/Hr / GPM	Manufacturer	Model	Last Service
		Inlet	Outlet					
2-PSV-8000	Top Shell West	4"	6"	1724	49156 SCFM	Anderson Greenwood Crosby	26310-46/S1	2007
2-PSV-8001	Top Shell East	4"	6"	1567	44863 SCFM	Anderson Greenwood Crosby	26310-46/S1	2007

**INSPECTION SUMMARY**

- Bullet is in good condition
- Both saddles are well supported and securely bolted in place to supports
- Ground connections are present on both saddles
- Minor paint scratch present on exterior surface, metal is exposed with light surface corrosion present
- Ladder and platform is in good condition
- External piping is well supported and in good condition
- 2 PSV's present both with block valves on the inlet side seal locked open. (west PSV)seal# UP176068, (East PSV)seal# UP176044
- Rain caps present on both PSV's
- No leaks detected
- Level gauge is clear, no fouling

**RECOMMENDATIONS**

- Paint scratched areas where metal is exposed
- Ensure PSV service and calibration as per ABSA AB-506

**NONCONFORMANCES / INSPECTION DEFICIENCIES**

- None present

**INSPECTION PLANNING**

Inspection Strategy	Availability	Inspection Interval
Inspection Date <u>July 25<sup>th</sup> 2011</u>	Date of Last Inspect	Date of Next Inspect

**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	_____	Date	_____
Reviewed and Approved by	_____	Date	_____
Criticality Assessment Rerun	_____	Inspection Planning Rerun	_____
Assessed Next Inspection Date	_____		_____

*✓, 22*

**PRESSURE VESSEL & COLUMN INSPECTION REPORT**

 Date: July 25<sup>th</sup> 2011

Equipment ID: N/S

**DETAILED INSPECTION  
VISUAL EXTERNAL**

ID	Description	Condition	Location	NCR	Comments
V1	General Other (Please Explain)				
V2	General Corrosion				
V3	General Leaks				
V4	Vibration				
V5	Dissimilar Flange Rating				
V6	Ladder/Stairway				
V7	Heads				
V8	Guy Wires				
V9	Electrical Ground				
V10	Painted Inactive Corrosion				
V11	Coating/Painting				
V12	Expansion Joint or Bellows				
V13	Gauge/Site Glass				
V14	Shell				
V15	Jacket				
V21	Support Other (Please explain)				
V22	Foundation				
V23	Anchor Bolts				
V24	Saddle/Skirt				
V25	Davit				
V26	Fireproofing				
V31	Connections Other (Please explain)				
V32	Small Branches				
V33	Nozzles				
V34	Manways				
V35	Reinforcing Pads				
V36	Inadequate Thread Engagement				
V37	Bolting				
V38	Flanges				
V39	Leak Clamps				
V41	Insulation Other (Please explain)				
V42	Damage				
V43	Penetrations				
V44	Insulation Jacket				
V45	Banding				
V46	Seals/Joints				
V51	Relief Devices Other (Please explain)				
V52	Corrosion				
V53	Leaks				
V54	Restricted Inlet/Outlet				
V55	Manual Operation Lever				

**PRESSURE VESSEL & COLUMN INSPECTION REPORT**

Date: July 25<sup>th</sup> 2011

Equipment ID: N/S

**DETAILED INSPECTION  
VISUAL INTERNAL**

ID	Description	Condition	Location	NCR	Comments
V1	General Other (Please Explain)				
V2	Corrosion (depth, length, width)				
V3	Erosion				
V4	Distortion				
V5	Blisters				
V6	Deposits				
V7	Heads				
V8	Welds				
V9	Nozzles				
V10	Shell				
V11	Gasket Surfaces				
V21	Internals Other (Please explain)				
V22	Demister				
V23	Baffle/Wier				
V24	Sparger				
V25	Thermowells				
V26	Metallic Linings				
V27	Nonmetallic Linings				
V28	Trays				
V29	Tray Rings				
V30	Other Welded Attachments				

**DETAILED INSPECTION  
OTHER TECHNIQUES**

ID	Location	Observation/Measurement	Acceptance Criteria	NCR	Comments
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					

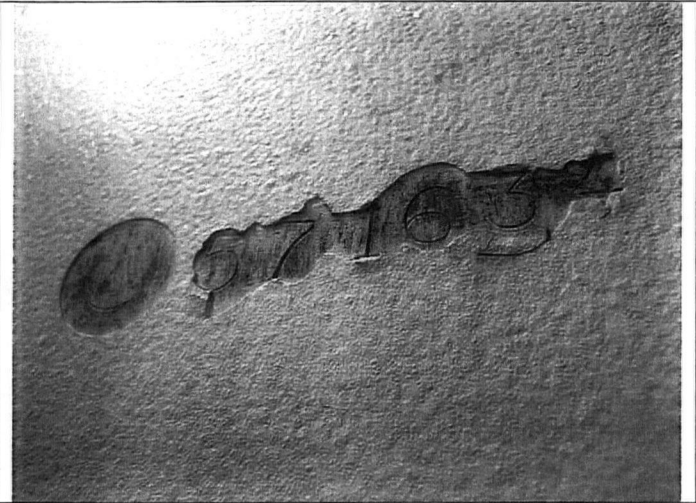
**DETAILED INSPECTION  
UT THICKNESS**

CML	Nom. Thk	Current Reading	Short Term Corr Rate	Long Term Corr Rate	Remaining Life	Comments
See Team UT Reports						

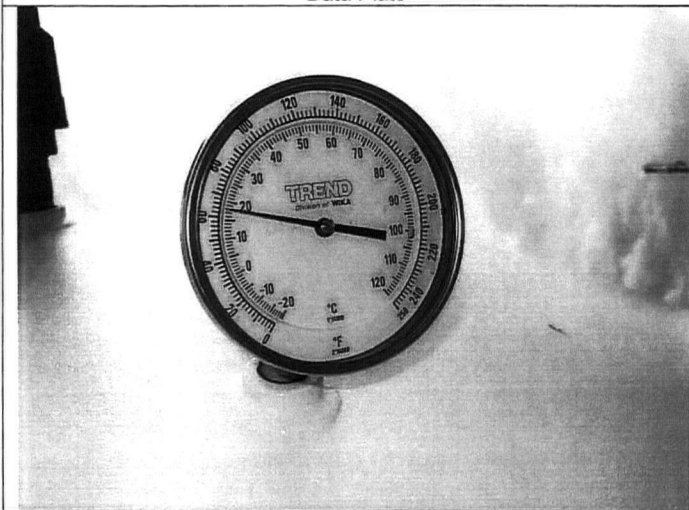
**PHOTOS**



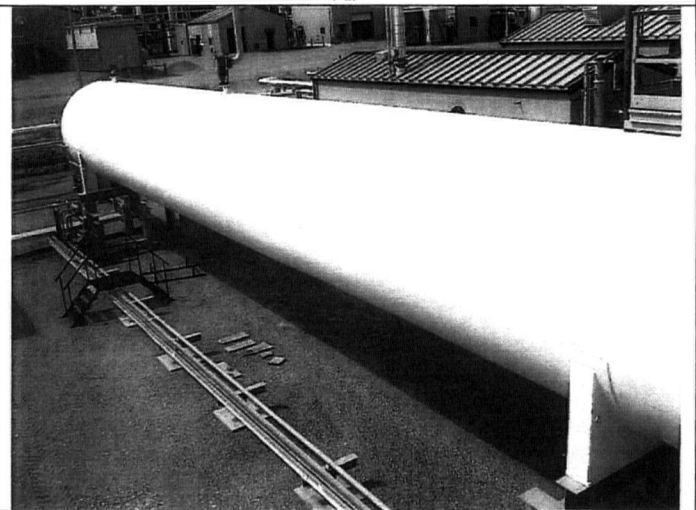
Data Plate



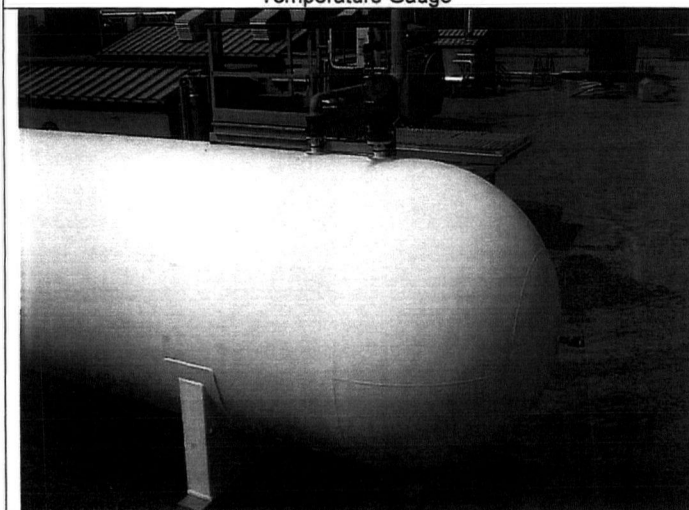
A#



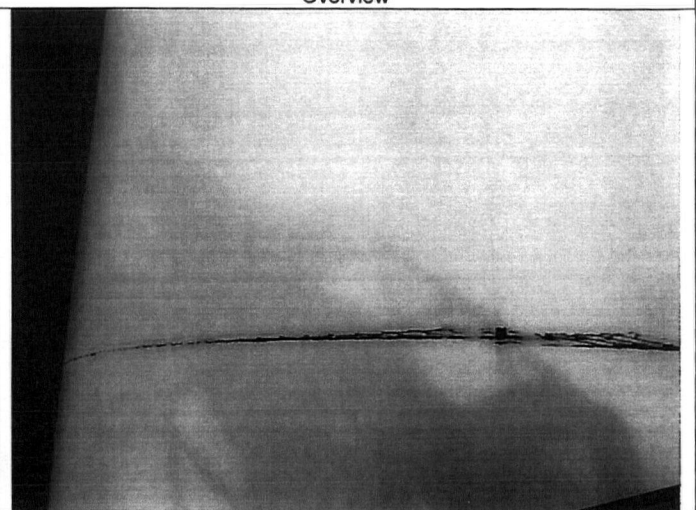
Temperature Gauge



Overview



Overview



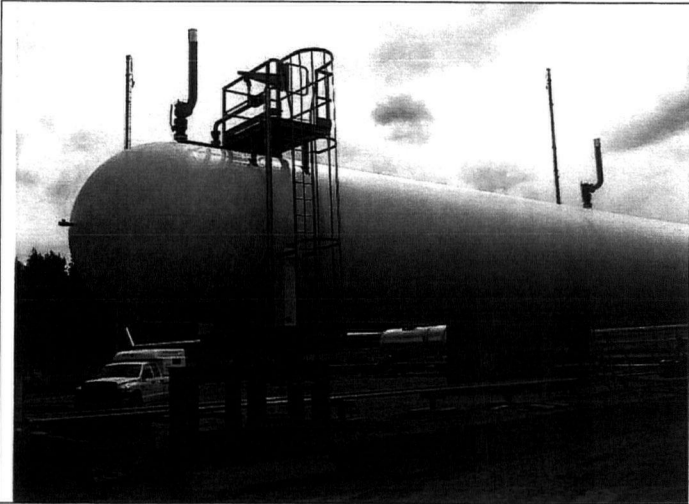
Scratches at center of bullet



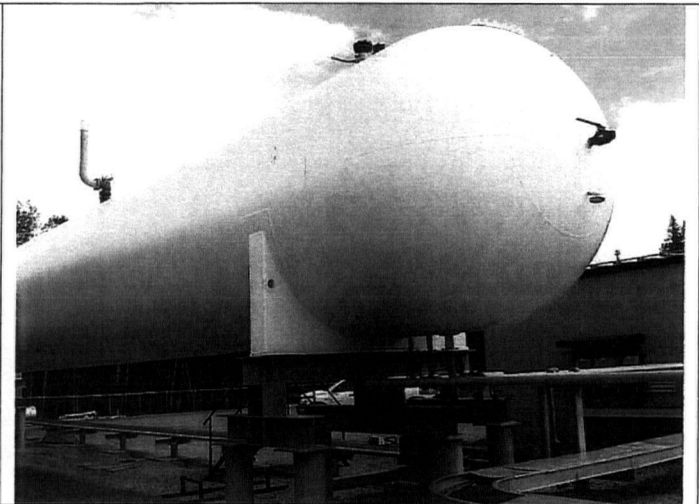
**PRESSURE VESSEL & COLUMN INSPECTION REPORT**

Date: July 25<sup>th</sup> 2011

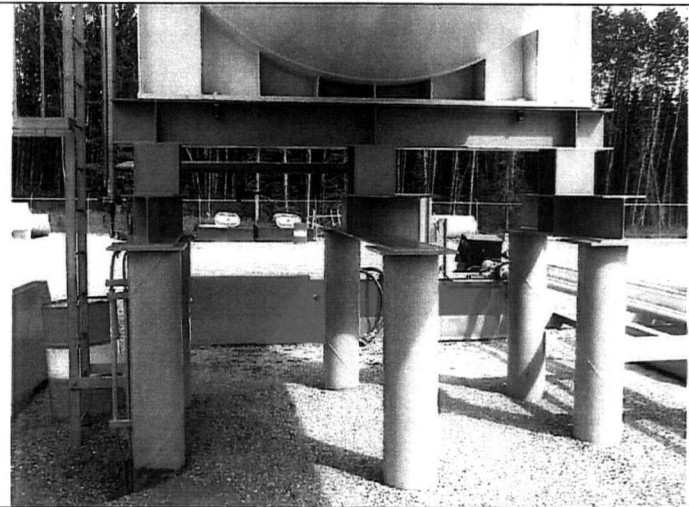
Equipment ID: N/S



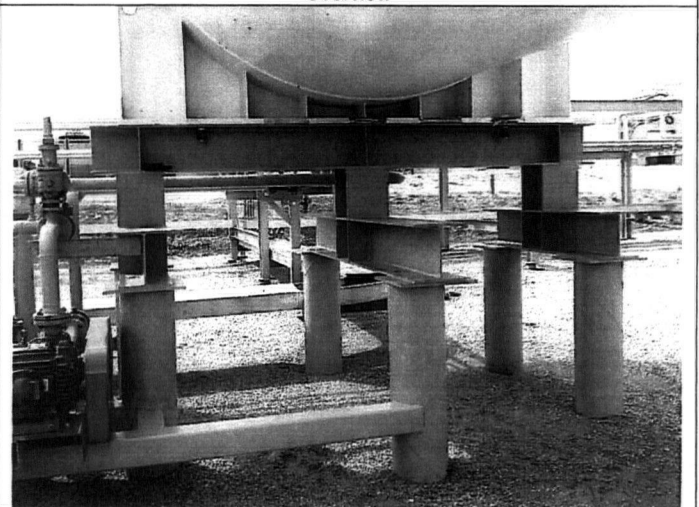
Overview



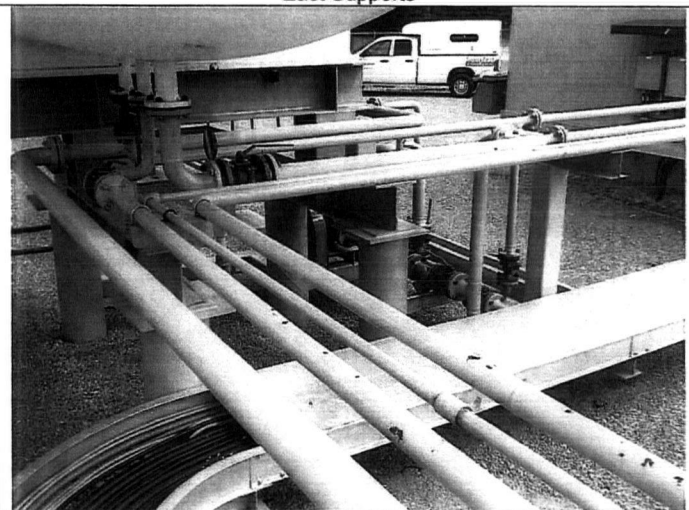
Overview



East Supports



West Supports



External piping

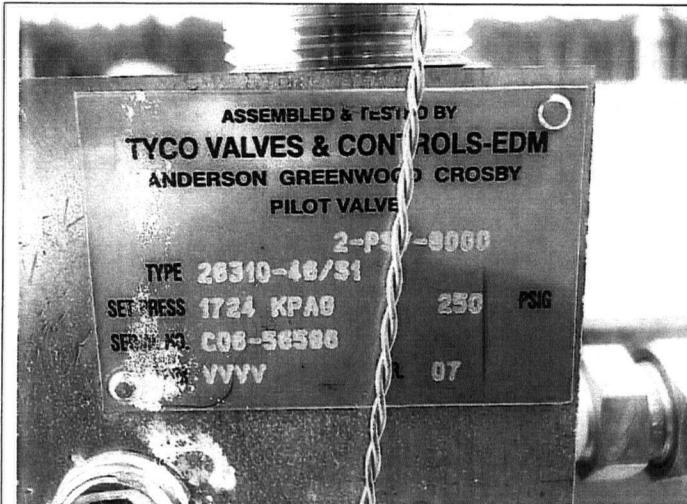


West PSV data plate

**PRESSURE VESSEL & COLUMN INSPECTION REPORT**

Date: July 25<sup>th</sup> 2011

Equipment ID: N/S



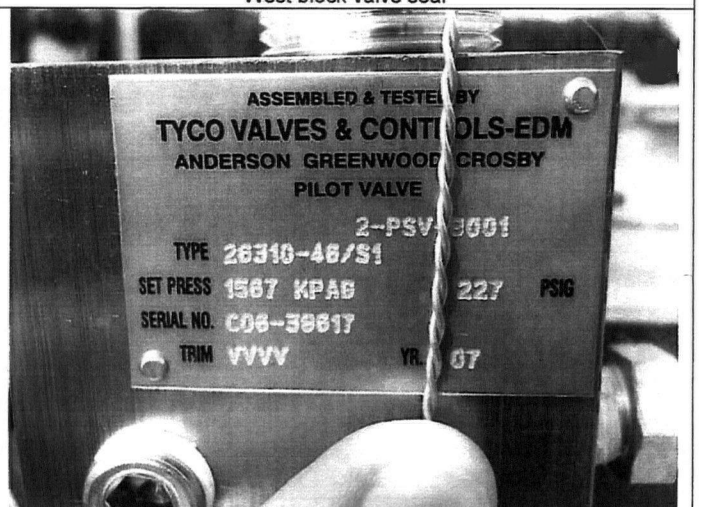
West PSV pilot data



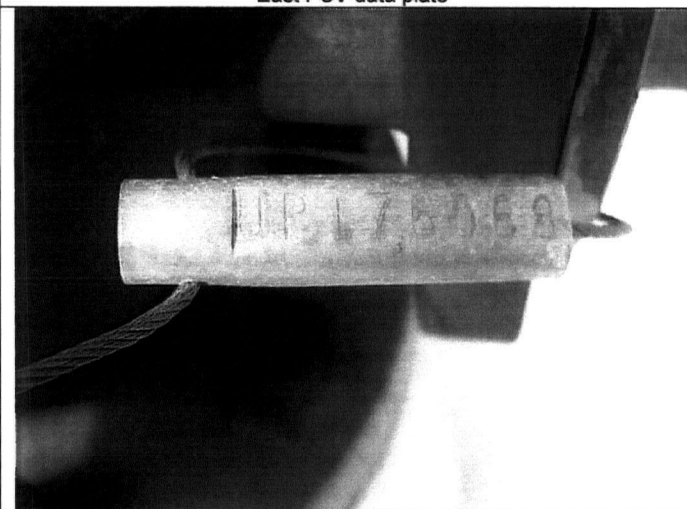
West block valve seal



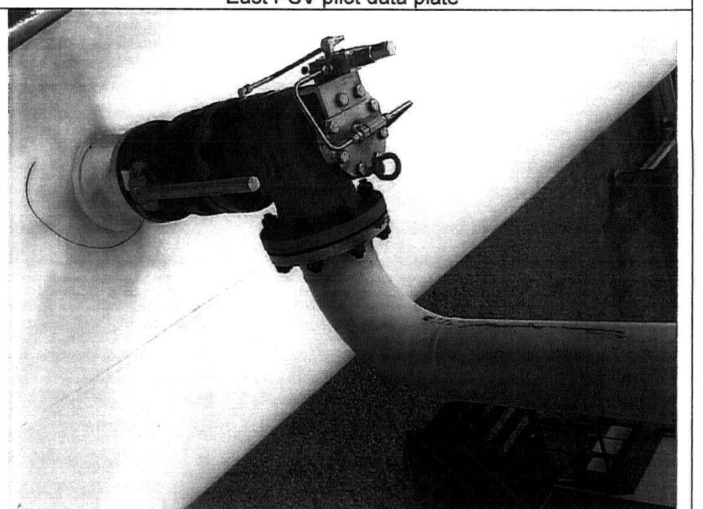
East PSV data plate



East PSV pilot data plate



East block valve seal



Top valve overview

**PRESSURE VESSEL & COLUMN INSPECTION REPORT**

Date: July 25<sup>th</sup> 2011

Equipment ID: N/S



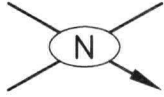
Top overview



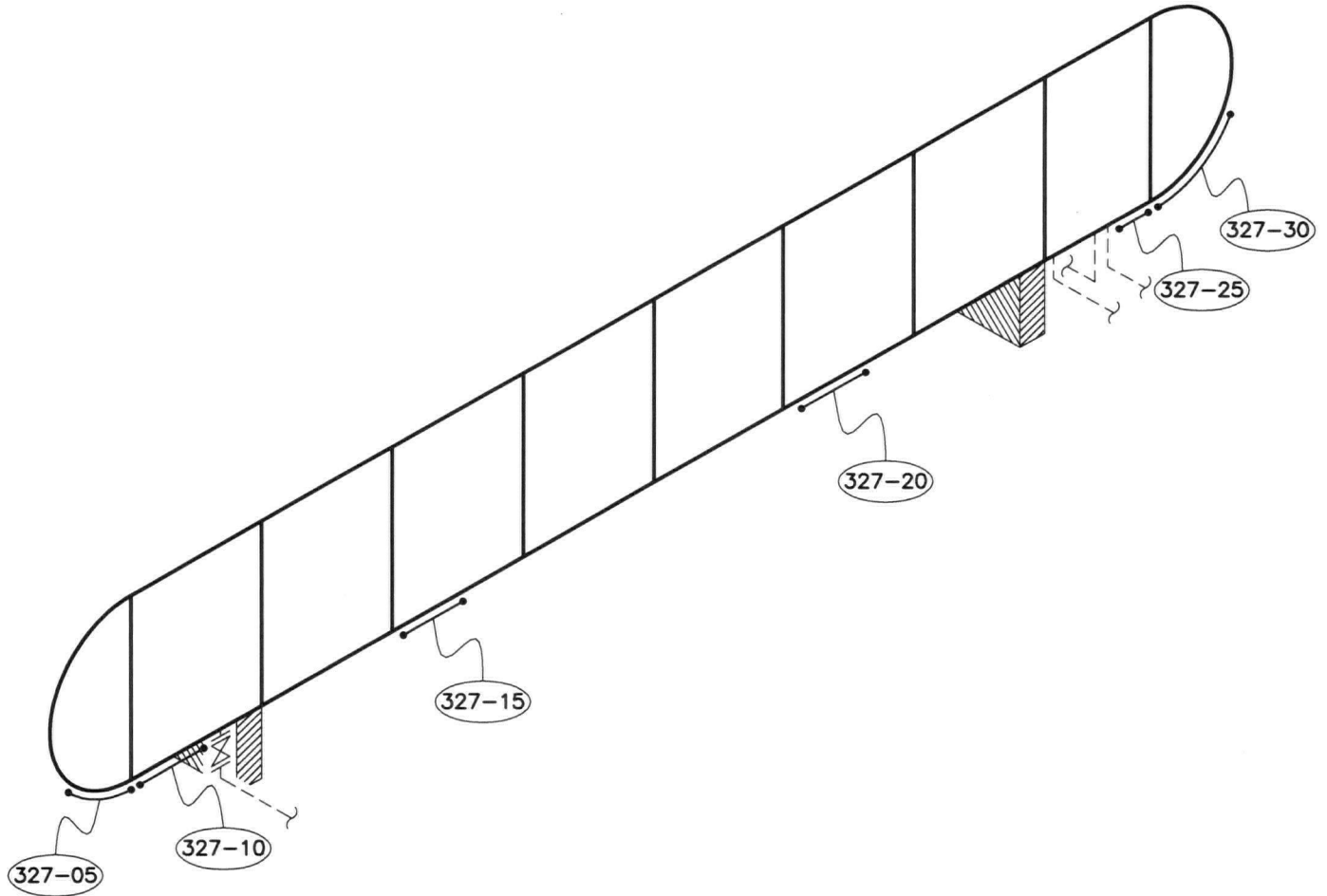
Top valve

# TEAM

## Industrial Services Inspection Services Canada



P&ID. # \_\_\_\_\_  
REF. # \_\_\_\_\_



### VESSEL DATA

P.E. No. N/S Serial No. NBH0700289 Prov. Reg. No. A0571634 C.R.N. U0873.2  
 MFR. TRINITY INDUSTRIES Code/Div. ASME VIII DIV.1 Para N/S Code Stamp U  
 Yr. Blt. 2007 Manway YES Vessel Size 120" X 1200" Service SWEET PWHT YES  
 PSV# N/S SAP# N/S RT 4 Insulated NO

### Nominal Thickness & Material

Head: 12.4mm Mat'l: SA-516-70 C.A.: N/S Natnl. Board# N/S  
 Head: \_\_\_\_\_ Reason \_\_\_\_\_  
 Shell: 21.0mm SA-516-70 N/S

Chan Hd: \_\_\_\_\_  
 Chan Sh: \_\_\_\_\_  
 Boot Hd: \_\_\_\_\_  
 Boot Sh: \_\_\_\_\_  
 MAWP Shell Side 250PSI @ Temp. 125°F  
 MAWP Tube Side \_\_\_\_\_ @ Temp. \_\_\_\_\_

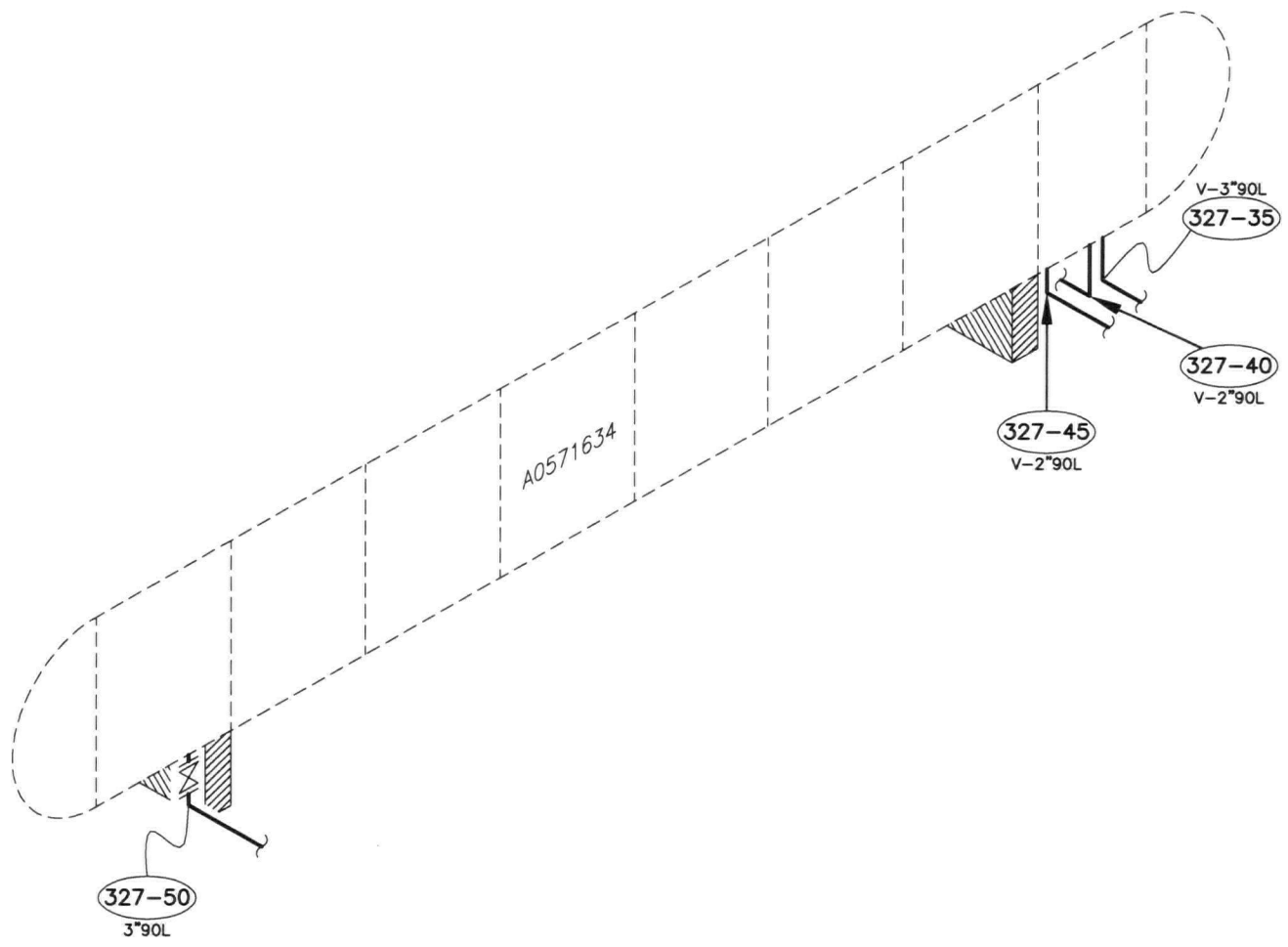
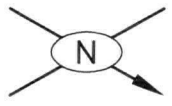
HUSKY ENERGY  
 ANSEL GAS PLANT #2  
 LSD 07-27-051-19W5M

### NGL BULLET

COMMENTS: \_\_\_\_\_  
 TECH.: D.S. REV. DATE: \_\_\_\_\_ DWG DATE: 2011/07  
 CAD: L.Z. REVISION: \_\_\_\_\_ DRAWING: 327



P&ID # \_\_\_\_\_  
 REF. # \_\_\_\_\_



### PIPING DATA

THICKNESS MEASUREMENT LOCATION:	SIZE	PROC.	LINE #	SPEC.	SCH.	NOM.THK.	CORR. ALLW.	MIN.THK.	CAL.THK.	FLG. RATING
327-35	3"				40	5.5mm	N/S	5.5mm		
327-40	2"				40	3.9mm	N/S	3.9mm		
327-45	2"				80	5.5mm	N/S	5.5mm		
327-50	3"				40	5.5mm	ASTM	4.8mm		

COMMENTS: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

HUSKY ENERGY  
 ANSEL GAS PLANT #2  
 LSD 07-27-051-19W5M

NGL BULLET PIPING

TECH.: D.S.	REV. DATE:	DWG. DATE: 2011/07
CAD: L.Z.	REVISION:	DRAWING: 327A

HUSKY ENERGY  
 ANSEL GAS PLANT #2 - (006)  
 07-27-051-19W5M - (01)

**TEAM Industrial Services**

Item Desc.: NGL BULLET	Lsd: 07-27-051-19W5M
Prov. Reg.: A5071634	Equip. No.: ----- Ser. No.: NB H0700289
SKID No.	PSV No.: 2-PSV-8000 / 2-PSV-8001 Last VE Date 2011-07-25

Description: EAST HEAD E-W **TML: 327-05**

	C.A. as per		
Nominal: 12.400		C.A. L.F.L.: 0.000	Con't Service: YES
t Min.: --	Not Stated	L.F.L.: 12.400	Insp. Intv. 12
C.A. Calc.: --		Mths.To L.F.L.:	Add'l Assm't: YES

Survey Dates: 11-07-01

Reading 01:	13.200	_____
Reading 02:	13.200	_____
Reading 03:	13.200	_____
Reading 04:	13.200	_____
Reading 05:	13.200	_____
Reading 06:	13.300	_____
Reading 07:	13.300	_____
Reading 08:	13.200	_____
Reading 09:	13.200	_____
Reading 10:	13.200	_____
Reading 11:	13.200	_____
Reading 12:	13.200	_____

Data Evaluation

Lowest Reading :	13.200
Average - Low 3 :	13.200
Thk.Rem. Above LFL :	0.800
Indv. Short Term Rate (mm/yr) :	
Short Term Rate (mm/yr) :	
LongTerm Rate (mm/yr) :	

HUSKY ENERGY  
 ANSEL GAS PLANT #2 - (006)  
 07-27-051-19W5M - (01)

**TEAM Industrial Services**

Item Desc.:	NGL BULLET	Lsd:	07-27-051-19W5M
Prov. Reg.:	A5071634	Equip. No.:	-----
SKID No.:		PSV No.:	2-PSV-8000 / 2-PSV-8001
		Ser. No.:	NB H0700289
		Last VE Date	2011-07-25

Description: EAST SHELL E-W

**TML: 327-10**

Nominal:	21.000	<u>C.A. as per</u>		C.A. L.F.L.:	0.000	Con't Service:	YES
t Min.:	--	Not Stated		L.F.L.:	21.000	Insp. Intv.:	12
C.A. Calc.:	--			Mths.To L.F.L.:		Add'l Assm't:	YES

Survey Dates: 11-07-01

Reading 01:	21.300	_____
Reading 02:	21.400	_____
Reading 03:	21.400	_____
Reading 04:	21.400	_____
Reading 05:	21.300	_____
Reading 06:	21.300	_____
Reading 07:	21.300	_____
Reading 08:	21.300	_____
Reading 09:	21.300	_____
Reading 10:	21.300	_____
Reading 11:	21.300	_____
Reading 12:	21.300	_____

Data Evaluation

Lowest Reading	:	21.300
Average - Low 3	:	21.300
Thk.Rem. Above LFL	:	0.300
Indv. Short Term Rate (mm/yr)	:	
Short Term Rate (mm/yr)	:	
LongTerm Rate (mm/yr)	:	

HUSKY ENERGY  
 ANSEL GAS PLANT #2 - (006)  
 07-27-051-19W5M - (01)

**TEAM Industrial Services**

Item Desc.:	NGL BULLET	Lsd:	07-27-051-19W5M
Prov. Reg.:	A5071634	Equip. No.:	-----
SKID No.:		PSV No.:	2-PSV-8000 / 2-PSV-8001
		Ser. No.:	NB H0700289
		Last VE Date:	2011-07-25

Description: EAST MID SHELL W-E

**TML: 327-15**

Nominal:	21.000	<u>C.A. as per</u>	C.A. L.F.L.:	0.000	Con't Service:	YES
t Min.:	--	Not Stated	L.F.L.:	21.000	Insp. Intv.:	12
C.A. Calc.:	--		Mths.To L.F.L.:		Add'l Assm't:	YES

Survey Dates: 11-07-01

Reading 01:	21.300	____.____
Reading 02:	21.300	____.____
Reading 03:	21.300	____.____
Reading 04:	21.300	____.____
Reading 05:	21.300	____.____
Reading 06:	21.300	____.____
Reading 07:	21.300	____.____
Reading 08:	21.300	____.____
Reading 09:	21.300	____.____
Reading 10:	21.300	____.____
Reading 11:	21.300	____.____
Reading 12:	21.300	____.____

Data Evaluation

Lowest Reading	:	21.300
Average - Low 3	:	21.300
Thk.Rem. Above LFL	:	0.300
Indv. Short Term Rate (mm/yr)	:	
Short Term Rate (mm/yr)	:	
LongTerm Rate (mm/yr)	:	

HUSKY ENERGY  
 ANSEL GAS PLANT #2 - (006)  
 07-27-051-19W5M - (01)

**TEAM Industrial Services**

Item Desc.:	NGL BULLET	Lsd:	07-27-051-19W5M
Prov. Reg.:	A5071634	Equip. No.:	-----
SKID No.:		Ser. No.:	NB H0700289
		PSV No.:	2-PSV-8000 / 2-PSV-8001
		Last VE Date	2011-07-25

Description: WEST MID SHELL W-E

**TML: 327-20**

Nominal:	21.000	C.A. as per		C.A. L.F.L.:	0.000	Con't Service:	YES
t Min.:	--	Not Stated		L.F.L.:	21.000	Insp. Intv.:	12
C.A. Calc.:	--			Mths.To L.F.L.:		Add'l Assm't:	YES

Survey Dates: 11-07-01

Reading 01:	22.000	_____
Reading 02:	22.000	_____
Reading 03:	22.000	_____
Reading 04:	22.000	_____
Reading 05:	22.000	_____
Reading 06:	21.900	_____
Reading 07:	22.000	_____
Reading 08:	22.100	_____
Reading 09:	22.100	_____
Reading 10:	22.100	_____
Reading 11:	22.100	_____
Reading 12:	22.100	_____

Data Evaluation

Lowest Reading	:	21.900
Average - Low 3	:	21.967
Thk.Rem. Above LFL	:	0.900
Indv. Short Term Rate (mm/yr)	:	
Short Term Rate (mm/yr)	:	
LongTerm Rate (mm/yr)	:	

HUSKY ENERGY  
 ANSEL GAS PLANT #2 - (006)  
 07-27-051-19W5M - (01)

**TEAM Industrial Services**

Item Desc.:	NGL BULLET	Lsd:	07-27-051-19W5M
Prov. Reg.:	A5071634	Equip. No.:	-----
SKID No.:		PSV No.:	2-PSV-8000 / 2-PSV-8001
		Ser. No.:	NB H0700289
		Last VE Date	2011-07-25

Description: WEST SHELL W-E

**TML: 327-25**

Nominal:	21.000	<u>C.A. as per</u>	C.A. L.F.L.:	0.000	Con't Service:	YES
t Min.:	--	Not Stated	L.F.L.:	21.000	Insp. Intv.:	12
C.A. Calc.:	--		Mths.To L.F.L.:		Add'l Assm't:	YES

Survey Dates: 11-07-01

Reading 01:	21.600	____.____
Reading 02:	21.700	____.____
Reading 03:	21.700	____.____
Reading 04:	21.700	____.____
Reading 05:	21.700	____.____
Reading 06:	21.700	____.____
Reading 07:	21.800	____.____
Reading 08:	21.700	____.____
Reading 09:	21.800	____.____
Reading 10:	21.700	____.____
Reading 11:	21.800	____.____
Reading 12:	21.900	____.____

Data Evaluation

Lowest Reading	:	21.600
Average - Low 3	:	21.667
Thk.Rem. Above LFL	:	0.600
Indv. Short Term Rate (mm/yr)	:	
Short Term Rate (mm/yr)	:	
LongTerm Rate (mm/yr)	:	

HUSKY ENERGY  
 ANSEL GAS PLANT #2 - (006)  
 07-27-051-19W5M - (01)

**TEAM Industrial Services**

Item Desc.: NGL BULLET	Lsd: 07-27-051-19W5M
Prov. Reg.: A5071634	Equip. No.: -----
SKID No.	PSV No.: 2-PSV-8000 / 2-PSV-8001
	Ser. No.: NB H0700289
	Last VE Date 2011-07-25

Description: WEST HEAD W-E **TML: 327-30**

Nominal:	12.400	<u>C.A. as per</u>	C.A. L.F.L.:	0.000	Con't Service:	YES
t Min.:	--	Not Stated	L.F.L.:	12.400	Insp. Intv.	12
C.A. Calc.:	--		Mths.To L.F.L.:		Add'l Assm't:	YES

Survey Dates: 11-07-01

Reading 01:	13.500	___.
Reading 02:	13.600	___.
Reading 03:	13.500	___.
Reading 04:	13.600	___.
Reading 05:	13.700	___.
Reading 06:	13.600	___.
Reading 07:	13.600	___.
Reading 08:	14.000	___.
Reading 09:	14.000	___.
Reading 10:	14.000	___.
Reading 11:	14.000	___.
Reading 12:	13.900	___.

Data Evaluation

Lowest Reading	:	13.500
Average - Low 3	:	13.533
Thk.Rem. Above LFL	:	1.100
Indv. Short Term Rate (mm/yr)	:	
Short Term Rate (mm/yr)	:	
LongTerm Rate (mm/yr)	:	

Description: VESSEL 3"90L T-B **TML: 327-35**

PID #:

Nominal:	5.500	<u>C.A. as per</u>	C.A. L.F.L.:	0.000	Con't Service:	YES
t Min.:	--	Not Stated	L.F.L.:	5.500	Insp. Intv.	12
C.A. Calc.:	--		Mths.To L.F.L.:		Add'l Assm't:	YES

Survey Dates: 11-07-01

Reading 01:	5.800	___.
Reading 02:	5.600	___.
Reading 03:	5.600	___.
Reading 04:	5.700	___.
Reading 05:	5.700	___.

Data Evaluation

Lowest Reading	:	5.600
Average - Low 3	:	5.633
Thk.Rem. Above LFL	:	0.100
Indv. Short Term Rate (mm/yr)	:	
Short Term Rate (mm/yr)	:	
LongTerm Rate (mm/yr)	:	

HUSKY ENERGY  
 ANSEL GAS PLANT #2 - (006)  
 07-27-051-19W5M - (01)

TEAM Industrial Services

Item Desc.: NGL BULLET	Lsd: 07-27-051-19W5M
Prov. Reg.: A5071634	Equip. No.: -----
SKID No.	Ser. No.: NB H0700289
	PSV No.: 2-PSV-8000 / 2-PSV-8001 Last VE Date 2011-07-25

Description: VESSEL 2"90L T-B TML: 327-40\*\*\*

PID #:

	C.A. as per		
Nominal:	3.900	C.A. L.F.L.:	0.000
t Min.:	--	L.F.L.:	3.900
C.A. Calc.:	--	Mths.To L.F.L.:	
	Not Stated	Con't Service:	NO
		Insp. Intv.:	0
		Add'l Assm't:	YES

Survey Dates: 11-07-01

Reading 01:	3.500	_____
Reading 02:	3.500	_____
Reading 03:	3.500	_____
Reading 04:	3.600	_____
Reading 05:	3.700	_____

Data Evaluation

Lowest Reading	:	3.500
Average - Low 3	:	3.500
Thk.Rem. Above LFL	:	***-0.400
Indv. Short Term Rate (mm/yr)	:	
Short Term Rate (mm/yr)	:	
LongTerm Rate (mm/yr)	:	

Description: VESSEL 2"90L T-B TML: 327-45

PID #:

	C.A. as per		
Nominal:	5.500	C.A. L.F.L.:	0.000
t Min.:	--	L.F.L.:	5.500
C.A. Calc.:	--	Mths.To L.F.L.:	
	Not Stated	Con't Service:	YES
		Insp. Intv.:	12
		Add'l Assm't:	YES

Survey Dates: 11-07-01

Reading 01:	5.600	_____
Reading 02:	5.600	_____
Reading 03:	5.600	_____
Reading 04:	5.700	_____
Reading 05:	5.900	_____

Data Evaluation

Lowest Reading	:	5.600
Average - Low 3	:	5.600
Thk.Rem. Above LFL	:	0.100
Indv. Short Term Rate (mm/yr)	:	
Short Term Rate (mm/yr)	:	
LongTerm Rate (mm/yr)	:	



HUSKY ENERGY  
 ANSEL GAS PLANT #2 - (006)  
 07-27-051-19W5M - (01)

**TEAM Industrial Services**

Item Desc.: NGL BULLET	Lsd: 07-27-051-19W5M
Prov. Reg.: A5071634	Equip. No.: -----
SKID No.	PSV No.: 2-PSV-8000 / 2-PSV-8001
	Ser. No.: NB H0700289
	Last VE Date 2011-07-25

Description: 3"90L T-B

**TML: 327-50**

PID #:

	Nominal:	C.A. as per	C.A. L.F.L.:	Con't Service:
	5.500		0.688	YES
t Min.:	--	ASTM	L.F.L.:	Insp. Intv. 12
C.A. Calc.:	--		Mths.To L.F.L.:	Add'l Assm't: YES

Survey Dates: 11-07-01

Reading 01:	5.700	_____
Reading 02:	5.700	_____
Reading 03:	5.700	_____
Reading 04:	5.800	_____
Reading 05:	5.800	_____

Data Evaluation

Lowest Reading	:	5.700
Average - Low 3	:	5.700
Thk.Rem. Above LFL	:	0.888
Indv. Short Term Rate (mm/yr)	:	
Short Term Rate (mm/yr)	:	
LongTerm Rate (mm/yr)	:	