



Location Name:	ANSELL	LSD:	07-27-051-19W5
Jur #:	A0563379	Equipment/Tag No.	66149346
Equipment Description:	FLARE KNOWCKOUT DRUM		
Manufacturer:	PYRAMID CORPORATION		
Serial Number:	07-2987-0002	CRN:	U2298.2
Shell MAWP:	345	KPA Shell Design Temp:	148 °C
Tube MAWP:		KPA Tube Design Temp:	°C
Shell Material:	SA-516-70N	Head Material:	SA-516-70N
Shell Thickness:	9.53	mm Head Thickness:	7.94 mm
Corrosion Allowance:	1.5875	mm Date Built:	2007
Size:	762	mm Pipe / Rolled Plate:	
RT:	2	Streamline Report #:	STL-19-0246-DMS 101

NOTES:





Ultrasonic Corrosion Survey

*All values are in millimeters unless otherwise stated.

Survey Name: Husky Energy

Date: JUNE 16 2019

Streamline Report #: STL-19-0246-DMS 101

Inspector: DYLAN SUNDQUIST

LSD: 07-27-051-19W5	Area: ANSELL	Location: GAS PLANT
Jur #: A563379	Tag Number: 66149346	Vessel Name: DEBUTINIZER CONDENSER
CRN: U2298.2	Year Built: 2007	Serial Number: 07-2987-0002
RT: 2	Vessel CA: 1.588 in	Manufacturer: PYRAMID CORPORATION
	Shell MAWP: 345 KPA	Tube MAWP: KPA
	MAWT: 148 °C	MAWT: °C
		Pipe/Plate

CML Description	Baseline	Flange ANSI:	Material: SA-516-70N
05 SHELL	2014 2019	CA Nominal	T Min
Shape: Cylindrical	Min 9.50 9.70	1.588 9.525	STCR mm/yr 0.000
OD: 1524	Avg 9.78 9.88		LTCR mm/yr 0.000
Spec: ASME VIII Div.1	Comments:		Remaining Life:
			Retirement Date:

CML Description	Baseline	Flange ANSI:	Material: SA-516-70N
10 SHELL	2014 2019	CA Nominal	T Min
Shape: Cylindrical	Min 9.55 9.70	1.588 9.525	STCR mm/yr 0.000
OD: 1524	Avg 9.70 9.75		LTCR mm/yr 0.000
Spec: ASME VIII Div.1	Comments:		Remaining Life:
			Retirement Date:

CML Description	Baseline	Flange ANSI:	Material: SA-516-70N
15 SHELL	2014 2019	CA Nominal	T Min
Shape: Cylindrical	Min 9.65 9.78	1.588 9.525	STCR mm/yr 0.000
OD: 1524	Avg 9.86 9.80		LTCR mm/yr 0.000
Spec: ASME VIII Div.1	Comments:		Remaining Life:
			Retirement Date:

CML Description	Baseline	Flange ANSI:	Material: SA-516-70N
20 SHELL	2014 2019	CA Nominal	T Min
Shape: Cylindrical	Min 9.53 9.80	1.588 9.525	STCR mm/yr 0.000
OD: 1524	Avg 9.70 9.91		LTCR mm/yr 0.000
Spec: ASME VIII Div.1	Comments:		Remaining Life:
			Retirement Date:



Ultrasonic Corrosion Survey

*All values are in millimeters unless otherwise stated.

Survey Name: Husky Energy

Date: JUNE 16 2019

Streamline Report #: STL-19-0246-DMS 101

Inspector: DYLAN SUNDQUIST

LSD: 07-27-051-19W5	Area: ANSELL	Location: GAS PLANT
Jur #: A563379	Tag Number: 66149346	Vessel Name: DEBUTINIZER CONDENSER
CRN: U2298.2	Year Built: 2007	Serial Number: 07-2987-0002
RT: 2	Vessel CA: 1.588 in	Manufacturer: PYRAMID CORPORATION
	Shell MAWP: 345 KPA	Tube MAWP: KPA
	MAWT: 148 °C	MAWT: °C
		Pipe/Plate 0

CML Description		Baseline		Flag	Flange ANSI:		Material: SA-234-WPB		
25	PIPING	2014	2019		CA	Nominal	T Min	STCR mm/yr	LTCR mm/yr
Shape: 90° Elbow	Min	5.66	5.69	4.801	0.686	5.486		0.000	0.000
OD: 88.9	Avg	5.89	5.82					Remaining Life:	
Spec: ASME B31.3	Comments:							Retirement Date:	

CML Description		Baseline		Flag	Flange ANSI:		Material: SA-234-WPB		
30	PIPING	2014	2019		CA	Nominal	T Min	STCR mm/yr	LTCR mm/yr
Shape: 90° Elbow	Min	5.59	5.61	4.801	0.686	5.486		0.000	0.000
OD: 88.9	Avg	5.79	5.84					Remaining Life:	
Spec: ASME B31.3	Comments:							Retirement Date:	

CML Description		Baseline		Flag	Flange ANSI:		Material: SA-234-WPB		
35	NOZZLE	2014	2019		CA	Nominal	T Min	STCR mm/yr	LTCR mm/yr
Shape: 90° Elbow	Min	5.84	5.94	4.432	1.588	6.020		0.000	0.006
OD: 114.3	Avg	6.30	6.12					Remaining Life:	
Spec: ASME VIII Div.1	Comments:							Retirement Date:	

CML Description		Baseline		Flag	Flange ANSI:		Material: SA-234-WPB		
40	PIPING	2014	2019		CA	Nominal	T Min	STCR mm/yr	LTCR mm/yr
Shape: 90° Elbow	Min	8.43	8.31	6.223	0.889	7.112		0.025	0.000
OD: 168.275	Avg	8.66	9.04					Remaining Life:	
Spec: ASME B31.3	Comments:							Retirement Date:	



Ultrasonic Corrosion Survey

*All values are in millimeters unless otherwise stated.

Survey Name: Husky Energy

Date: JUNE 16 2019

Streamline Report #: STL-19-0246-DMS 101

Inspector: DYLAN SUNDQUIST

LSD: 07-27-051-19W5	Area: ANSELL	Location: GAS PLANT
Jur #: A563379	Tag Number: 66149346	Vessel Name: DEBUTINIZER CONDENSER
CRN: U2298.2	Year Built: 2007	Serial Number: 07-2987-0002
RT: 2	Vessel CA: 1.588 in	Manufacturer: PYRAMID CORPORATION
	Shell MAWP: 345 KPA	Tube MAWP: KPA
	MAWT: 148 °C	MAWT: °C
		Pipe/Plate 0

CML Description		Baseline			Flange ANSI:		Material: SA-234-WPB		
45 PIPING		2014	2019	Flag	CA	Nominal	T Min	STCR mm/yr	LTCR mm/yr
Shape: 90° Elbow	Min	8.64	8.71	6.223	0.889	7.112		0.000	0.000
OD: 168.275	Avg	9.19	8.94						
Spec: ASME B31.3	Comments:							Remaining Life:	Retirement Date:

CML Description		Baseline			Flange ANSI:		Material: SA-234-WPB		
50 PIPING		2014	2019	Flag	CA	Nominal	T Min	STCR mm/yr	LTCR mm/yr
Shape: 90° Elbow	Min	3.40	5.56	3.423	0.489	3.912		0.000	0.000
OD: 60.325	Avg	3.71	6.07						
Spec: ASME B31.3	Comments:							Remaining Life:	Retirement Date:

CML Description		Baseline			Flange ANSI:		Material: SA-106-B		
55 PIPING		2014	2019	Flag	CA	Nominal	T Min	STCR mm/yr	LTCR mm/yr
Shape: 360° Circ	Min	10.77	11.53	9.601	1.372	10.973		0.000	0.000
OD: 168.275	Avg	12.27	11.86						
Spec: ASME B31.3	Comments:							Remaining Life:	Retirement Date:

CML Description		Baseline			Flange ANSI:		Material: SA-234-WPB		
60 PIPING		2014	2019	Flag	CA	Nominal	T Min	STCR mm/yr	LTCR mm/yr
Shape: 90° Elbow	Min	10.36	10.29	9.023	1.289	10.312		0.015	0.002
OD: 323.85	Avg	11.07	10.59						
Spec: ASME B31.3	Comments:							Remaining Life:	Retirement Date:

(A) 563 379

AB-25 (Side 1) 2006/04

ALBERTA MUNICIPAL AFFAIRS

ABSA, the pressure equipment safety authority
 410 – 20th Avenue
 Edmonton, AB T6N 0A4
 Partial/ Partiel ☐

MANUFACTURER'S DATA REPORT
 FOR PRESSURE VESSEL
 DÉCLARATION DE CONFORMITÉ DU CONSTRUCTEUR
 D'APPAREILS SOUS PRESSION

Upon shipment of a pressure vessel, this form fully and correctly filled in must be mailed to the office of the Chief Inspector in the province of installation in accordance with the regulations under the Act, governing the construction and installation of pressure vessels.

au moment de l'expédition d'un appareil sous pression, ce formulaire complété correctement, doit être envoyé au bureau de l'inspecteur en chef de la province d'installation tel que prévu dans les règlements de la loi sur les appareils sous pression.

Manufactured by Construit par	Name and address of Manufacturer/ Nom et adresse du constructeur Pyramid Corporation; 2308-8th Street, Nisku, Alberta, T9E 7Z2
Manufactured for Construit pour	Name and address of Purchaser or Consignee/ Nom et adresse du client ou de son représentant Husky Oil, 707-8 Ave. S.W. Calgary, AB T2P 3G7
Ultimate owner Utilisateur	Name and address/ Nom et adresse same as above
Location of installation Lieu d'installation	Address/ Adresse Ansell Compression Expansion Site LSD: 07- 27- 51- 19- W5M

Pressure vessel/ Appareil

Type/ Genre Flare Knock Out Drum	Overall Length/Longueur totale 20'-0"	Serial No./ N° de série 07-2987-0002	Year built/Année de fabrication 2007
Provincial Registration No. – C.R.N./N° d'enregistrement provincial - N.E.C. J2298.2		National Board No./ N° National Board	Drawing No./ N° de dessin D-07-2987-0002-001 Rev 4

The chemical and physical properties of all parts meet the requirements of material specifications of the A.S.M.E. Code.
 Les propriétés chimiques et physiques de toutes les composantes respectent les exigences des spécifications de matériaux de code ASME.

The design, construction and workmanship conform to CSA B51. La conception, la construction et la façon sont conformes à ACNOR B51.	ASME Section VIII	Division 1	Addenda/Supplément 2004 Edition, 2006 Addenda	Code case No. N° de cas
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Manufacturer's partial data reports properly identified and signed by authorized inspectors have been furnished for the following items of the report, and attached to this report:

Les rapports partiels du constructeur adéquatement identifiés et signés par les inspecteurs autorisés ont été produits pour les items suivants du rapport, et attachés à ce rapport:

Names of parts/ Nom de la composante	Item No./ NO d'item	Manufacturer's Name/ Nom du constructeur	Identifying Stamp/ Estampe d'identification

Shell/ Virole

Description	Material Matériau	Thickness Épaisseur	Corr. Allow. Surépais. de corr.	Diameter Diamètre	Longitudinal Joints Joints longitudinaux			P.W.H.T. Traitement therm		Girth Joints Joints de circonférence		Number of courses Nombre de sections
					Type	R.T. Radiog.	Efficiency Efficacité	Temp.	Time Durée	Type	R.T. Radiog.	
Shell	SA-516-70N	0.375"	0.0625"	60" OD	1	FULL	1.0	1150°F	23 min.	1	SPOT (70%)	2

Heads/ Têtes

Description	Material Matériau	Min. Thickn. Épais min.	Corr. Allow Surép. Corr.	Crown. Radius Rayon couron.	Knuckle Radius Petit rayon	Ellipse Ratio Rapp. ellipse	Conical Apex Angle Angle conique	Hemisph. Radius Ray. Hémisph	Flat Diameter Diam.plat	Side to pressure Côte sous pression
Fixed End: Head#1	SA-516-70N	0.3125"	0.0625"			2:1				Concave
Sliding End: Head#2	SA-516-70N	0.3125"	0.0625"			2:1				Concave

Removable bolts used (describe other fastenings)
 Boulons amovibles utilisés (décrire tout autre attache)

Mat'l Spec./ Spéc. du mat.

Grade

Size/ Dimension

Pressure - Temperature/ Pression - température

Pressure Vessel Part Partie de l'appareil	Constructed for max. allowable working pressure Construit pour une pression maximale de marche permise	At max. temp. A une temp. max.	Min. Temp. (when less than -29°C) Temp. min. (inférieure à -29°C)	Test pressure (hydro-pneumatic or combination) Pression d'épreuve (hydro-pneumatique ou combinaison)
Flare Knock Out Drum	50 PSIG	300° F	-50°F	HYDRO 65 PSIG

(A) 563 379

Tube Section/ Faisceau tubulaire

Tube/Plaque tubulaire	Material/ Matériau	Diameter/ Diamètre	Nominal Thickness Épaisseur nominale	Corr. Allow. Surépais. corrosion	Attachment Mode d'attachement
Tube material/ Matériau des tubes	Diameter/ Diamètre	Nominal Thickness (gauge) Épaisseur nominale (calibre)	Number/ Nbre	Type (Straight or U) Type (Droit ou U)	Heating Surface Surface de chauffe

Jacket/ Chemise

Type of jacket/ Genre de chemise	Jacket closure Fermeture de chemise	Proof Test Pression d'épreuve	Heating Surface Surface de chauffe	Sketch/ Schéma
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Safety Valve Outlets/ Soupapes de sûreté

Number/ Nombre	Dimension	Location/ Endroit
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Nozzles and Openings/ Tubulures et ouvertures

Purpose/ But	Number Nombre	Dimension	Type	Material Matériau	Nominal Thickness Épaisseur nominale	Reinforcement matériau de renfort	How attached Genre d'attaches	Location/ Endroit
VAPOUR INLET	1	12"NPS	RFWN CL150	SA-350-LF2 CL1*	SCH STD		UW16.1(c)	HEAD #2
VAPOUR OUTLET	1	12"NPS	RFWN CL150	SA-350-LF2 CL1*	SCH STD		UW16.1(c)	HEAD #1
VENTILATION	1	10"NPS	RFWN CL150	SA-350-LF2 CL1*	SCH STD		UW16.1(c)	SHELL
BRIDLE, LSHH	3	4"NPS	RFWN CL150	SA-350-LF2 CL1*	SCH STD		UW16.1(c)	SHELL
ANODE	2	4"NPS	RFWN CL150	SA-350-LF2 CL1*	SCH STD		UW16.1(c)	1 ea. HEAD
SPARE, TRUCK OUT	2	3"NPS	RFWN CL150	SA-350-LF2 CL1*	SCH STD		UW16.1(c)	SHELL
MANWAY	1	24"NPS	RFWN CL150	SA-350-LF2 CL1*	SCH STD		UW16.1(c)	SHELL
				*ALL NOZZLE MTL. IS SA-333 GR6				

Supports/ Supports

Skirt/ Jupe Yes/ Oui No/ Non ☐ ☒	Lugs/ Oreilles No./ Nbre	Legs/ Pieds No./ Nbre	Other/ Autres (Description) Saddles	Attached/ Attaches (Where and How/ Méthode et endroit) Shell By Welding
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Remarks/ Observations (Cubical capacity/ Volume)

Vessel Fabricated to Dwg # D-07-2987-0002-001 Rev.5
 Vessel Volume = 421 cu. ft
 Vessel Impact Test Exempt per UCS-66 (b)(2), (g) and UCS67(a)(2)
 PSV by others

Certificate of Compliance/ Certificat de conformité

We certify that the statements made in this data report are correct and that the said vessel has been constructed in accordance with the Provincial Registered design below and the requirements of standard CSA B51.

Nous certifions que les données de la déclaration de conformité sont correctes et que l'appareil a été construit en accord avec l'enregistrement provincial ci-dessous et les exigences de la norme ACNOR B51.

Provincial Registered Design
 Enregistrement provincial U2298.2

Manufacturer
 Constructeur Pyramid Corporation

Signature [Signature] Date Nov 1/07

Certificate of Compliance - Field Work/ Certificat de conformité - Installation au chantier

We certify that the field installation of all parts of the vessel conforms with the requirements of Provincial Regulations.

Nous certifions que l'installation au chantier de toutes les composantes de l'appareil est conforme aux règlements provinciaux.

Installer's Name
 Nom de l'installateur _____

Signature _____

Date _____

Certificate of Shop Inspection/ Certificat d'inspection en usine

I, the undersigned, a duly authorized Boiler and Pressure Vessel Inspector
 Je, soussigné, inspecteur autorisé de chaudières et appareil sous pression
 employed by ABSA

of/ de Alberta
 have inspected the above vessel and state that to the best of my knowledge and belief, the manufacturer has constructed the vessel in accordance with the Provincial registration CRN U2298.2 and the requirements of standard CSA B51.

ai inspecté l'appareil précité et autant que je sache, crois que le constructeur a construit l'appareil en accord avec l'enregistrement provincial NEC _____ et les exigences de la norme ACNOR B51.

Inspector's Name
 Nom de l'inspecteur Brian Gray AB# 256A

Signature [Signature] Date Nov 1/07

Certificate of Field Inspection/ Certificat d'inspection - Installation au chantier

I, the undersigned, a duly authorized Boiler and Pressure Vessel Inspector
 Je, soussigné, inspecteur autorisé de chaudières et appareil sous pression
 employed by _____

have inspected the items not covered by the Shop Inspection Certificate and the installation of the items and state that to the best of my knowledge and belief the construction and assembly of the items are in accordance with the Provincial Regulations.

ai inspecté les composantes non couvertes par le certificat d'inspection en usine et l'installation de l'appareil et, autant que je sache, la construction et l'assemblage de l'appareil sont en accord avec les règlements provinciaux.

Inspector's Name
 Nom de l'inspecteur _____

Signature _____ Date _____