FORM U-1A MANUFACTURER'S DATA REPORT FOR PRESSURE VESSELS

(Alternative Form for Single Chamber, Completely Shop or Field Fabricated Vessels Only)
As Required by the Provisions of the ASME Boiler and Pressure Vessel Code Rules, Section VIII, Division 1

1. Manufactured and certified by Bromley Mechanical Services Inc., A Division of Argo Sales Ltd., 925 23 St. SW, Medicine Hat Alberta T1A 8R1
(Name and address of Manufacturer)

Manufactured for Husky Oil Operations Ltd., Box 4490, Station "D", Calgary, Alberta T2P 3G7 (A)X009919
(Name and address of Purchaser)

3. Location of installation LSD: 10-04-050-24 W3M ~~V-908~~ V-108 9/22/11
(Name and address)

4. Type | Vertical | 130495 | V 5361.2 3 9/22/11 | 34000-REG Rev.0 | n/a | 2011
(Horizontal or vertical, tank) | (Manufacturer's serial number) | (CRN) | (Drawing number) | (National Board number) | (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 2010 Edition
Year

to n/a | n/a | n/a
[Addenda (date)] | (Code Case numbers) | [Special service per UG-120(d)]

6. Shell | SA516-70N | 0.750" | 0.125" | 24" OD | 5'-0" s/s
(Material spec. number, grade) | (Nominal thickness) | (Corr. allow.) | (Inner diameter) | [Length (overall)]

7. Seams | Butt (Type 1) | Full | 100 | n/a | n/a | Butt (Type 1) | Full | 100 | 1
[Long. (welded, dbl., sngl., lap, butt)] | [R. T. (spot or full)] | (Eff., %) | (H. T. temp.) | (Time, hr) | [Girth (welded, dbl., sngl., lap, butt)] | [R. T. (spot or full)] | (Eff., %) | (No. of courses)

8. Heads: (a) Material SA516-70N (Spec. no., grade) (b) Material SA516-70N (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	TOP	0.6875"	0.125"			2:1				Concave
(b	BOTTOM	0.6875"	0.125"			2:1				Concave

If removable, bolts used (describe other fastenings) n/a
(Material spec. number, grade, size, number)

9. MAWP 900 psi (Internal) | 15 psi (External) at max. temp. 550°F (Internal) | 550°F (External)

Min. design metal temp. -49°F at 900 psi Hydro., ~~PNEU. OR COMB.~~ test pressure 1170 psi

Proof test n/a

10. Nozzles, inspection, and safety valve openings:

Purpose (Inlet, Outlet, Drain)	No.	Diameter or Size	Type	Material: Nozzle	Material: Flange	Nozzle Thickness: Nom.	Nozzle Thickness: Corr.	Reinforcement Material	Attachment Details: Nozzle	Attachment Details: Flange	Location (Insp. Open.)
Inlet, Outlet/Insp	2	4"	CL600	SA333GR6	SA350LF2CL1	0.674"	0.125"		UW-16.1(c)	Type 1	Top Head, S
Drain, Dump	2	2"	CL600	SA333GR6	SA350LF2CL1	0.343"	0.125"		UW-16.1(c)	Type 1	Datum Head,
LC(2), PSV	3	2"	CL600	SA333GR6	SA350LF2CL1	0.343"	0.125"		UW-16.1(c)	Type 1	Shell
LG(2), TI, PI	4	1"	CL600	SA333GR6	SA350LF2CL1	0.358"	0.125"		UW-16.1(c)	Type 1	Shell
Inspection	1	4"	CL600	SA333GR6	SA350LF2CL1	0.674"	0.125"		UW-16.1(c)	Type 1	Shell

11. Supports: Skirt Yes (Yes or no) Lugs 0 (Number) Legs 0 (Number) Other n/a (Describe) Attached Datum Head Weld (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 CA: 0.125", (Seperator) PSV Supplied By Other Per UG125
(Name of part, item number, Manufacturer's name and identifying stamp)

Volume: 17.0 cu ft or 0.48 cu m, No-Impact Testing Exempt Per UCS 66(a)(b)(g), Construction Drawing Cad. No. 34000 Rev.0

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 BOILER AND PRESSURE VESSEL CODE, Section VIII, Division 1. "U" Certificate of Authorization Number 30634

expires 10/26/2013

Date Sept 6/11 Co. name Bromley Mechanical Services Inc., A Division of Argo Sales Ltd., (Manufacturer) Signed (Representative)

CERTIFICATE OF SHOP / FIELD INSPECTION

Vessel constructed by Bromley Mechanical Services Inc., A Division of Argo Sales Ltd., at 925 23 St. SW, Medicine Hat, Alberta T1A 8R1

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and/or the State or Province of Alberta and employed by ABSA

have inspected the component described in this Manufacturer's Data Report on Sept. 6, 2011, and state that, to the best of my knowledge and belief, the Manufacturer has constructed this pressure vessel in accordance with ASME BOILER AND PRESSURE VESSEL CODE, Section VIII, Division 1. By Signing this certificate neither the Inspector nor his/her employer makes any warranty, expressed or implied, concerning the pressure vessel described in this Manufacturer's Data Report. Furthermore, neither the Inspector nor his/her 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 Sept 6/11 Signed (Authorized Inspector) Commissions AB 12 NB 10304 A, B
[National Board (incl. endorsements), State, Province, and number]

ABSA
the pressure equipment safety authority

9410 - 20 Ave N.W.
Edmonton, Alberta, Canada T6N 0A4
Tel: (780) 437-9100 / Fax: (780) 437-7787

August 18, 2011

Attention: Susan Wall
BROMLEY MECHANICAL SERVICES INC
A DIVISION OF ARGO SALES LTD
925-23 STREET SW
MEDICINE HAT, AB T1A 8R1

The design submission, tracking number 2011-05074, originally received on August 11, 2011 was surveyed and accepted for registration as follows:

CRN : V5361.2 **Accepted on:** August 18, 2011

Reg Type: New Design

Drawing No. : 34000-REG Rev 0 As Noted

Description	MAWP	Design Temperature	MDMT
Internal Pressure	6205 kPa	288 °C	-45 °C
External Pressure	103 kPa	288 °C	-45 °C

The registration is conditional on your compliance with the following notes:

Piping attached to nozzles N2 and N10 shall be removable for inspection purposes.
A note is required on the drawing indicating that requirements for production impact tests and for impact-tested weld procedures are exempt per UCS-67(a)(2), subject to the use of welding consumables that have been qualified for use at or below the MDMT
Joint efficiency for circumferential seams ("heads") is 0.70 since RT-2 radiographs on circumferential seams cannot be used to qualify those seams as spot-radiographed.
Registered design temperature corrected from 260°C to 288°C.

An invoice covering survey and registration fees will be forwarded from our Revenue Accounts.

If you have any question don't hesitate to contact me by phone at (780) 433-0281 or fax (780) 437-7787 or e-mail brandon@absa.ca.

Sincerely,

BRANDON, GREG

Technical
Safety Authority
of Saskatchewan

330 - 1855 Victoria Avenue
Regina, SK S4P 3T2
Canada
306-787-1443
info@tsask.ca
www.tsask.ca

REGISTRATION APPROVAL

22-Sep-11

Bromley Mechanical Services Inc.,
925-23rd Street SW
Medicine Hat
AB T1A 8R1

Our File 44928 [0V]

ATTENTION : George Vandermolen

With reference to your submission respecting the registration of the item below, for legal use in the province, please note we have surveyed, approved and registered this design as noted.

MANUFACTURER :	Bromley Mechanical Services Inc.	
ITEM :	DRAWING NUMBER :	CRN :
Separator	34000-REG Rev. 0	V5361.23

We wish to point out that every vessel must be constructed strictly in accordance with the registered design.

In addition to stamping every vessel with the registration number given above and as required in CSA Code B51, a Manufacturer's Data Report must be forwarded to this office immediately at the time a vessel is shipped. Such forms may be obtained upon request.

Sincerely,

Matthew Korneychuk
Codes and Standards Compliance

REMARKS: **CRN registered under reciprocal agreement and conditional upon compliance with the notes on the original registration.**

Travel Sheet

DO NOT START CONSTRUCTION WITHOUT AI REVIEW TRAVEL SHEET REVISION NO.:

AI REVIEW: Husky OIL Operations REVIEW DATE: Aug 10, 2011

SERIAL NO.: 130495 JOB/WO NO.: 34000 VESSEL TYPE: 24" x 5' x 900 psi Vert Sep

DRAWING/CAD NO.: 34000 DWG/CAD REVISION NO: 0 TRAVEL SHEET INITIATION BY:

Seq.	Item	Comments	Q.C.I.	Date	A.I. Hold Points	A.I.	Date	Owner	Date
1.	Calculations in File	Apply N3 Stamp		9/6/11	*		SEP 06	2011	
2.	Release of App'd Dwg.			8/9/11					
3.	Heat Numbers Recorded		SEP 02 2011		*		SEP 06	2011	
4.	Material Examination		SEP 02 2011						
5.	MTRs Checked		SEP 02 2011		*		SEP 06	2011	
6.	WPS(s) Checked			8/9/11	*		SEP 06	2011	
7.	Welder(s) Qualified		SEP 02 2011		*		SEP 06	2011	
8.	Thicknesses Verified & Recorded		SEP 02 2011						
9	Shell(s) & Head(s) Fit-up Inspection		SEP 02 2011						
10.	Nozzles & Fittings Fit-up Inspection		SEP 02 2011						
11.	Nozzle Orientation		SEP 02 2011						
12.	Nozzle & Flange Rating Checked		SEP 02 2011						
13.	Impact Tests		Exempt						
14.	Internals Checked		30 Aug 2011				Aug 30/11		
15.	Final Internal Inspection	Shell Side Tube Side	01 Sept 2011		**		Sept 1/11		
16.	Weld Size Checked		SEP 02 2011						
17.	Welder I.D. Checked		SEP 02 2011		*		SEP 06	2011	
18.	Final External Inspection		SEP 02 2011		*		SEP 06	2011	
19.	Radiography Chris North Butt	RT-1	SEP 02 2011		*		SEP 06	2011	
20.	Other N.D.E.		SEP 02 2011						
21.	Final Ext. Prior to P.W.H.T.	NLL	—		**				
22.	PWHT Chart Checked		—		*				
23.	Hydrostatic Test 1170 PSIG	Shell Side Gauge # Tube Side Gauge #		9/6/11	**		SEP 06	2011	
24.	CRN Drawing Apply	CRN# V-5361.2		9/6/11	*		SEP 06	2011	
25.	N.C.R. #								
26.	Nameplate Stamping			9/6/11	*		SEP 06	2011	
27.	Manuf. Data Report Completed & Verified			9/6/11	**		SEP 06	2011	
28.	Nameplate Installation			9/6/11					

The Authorized Inspector shall be presented with the Travel Sheet prior to construction so that he can designate addition inspection points and/or Hold Points. Any revisions shall be marked with a delta symbol with revision number and described at th bottom of this page.

** Denotes an A.I. Inspection Point ** Denotes an A.I. Hold Point*

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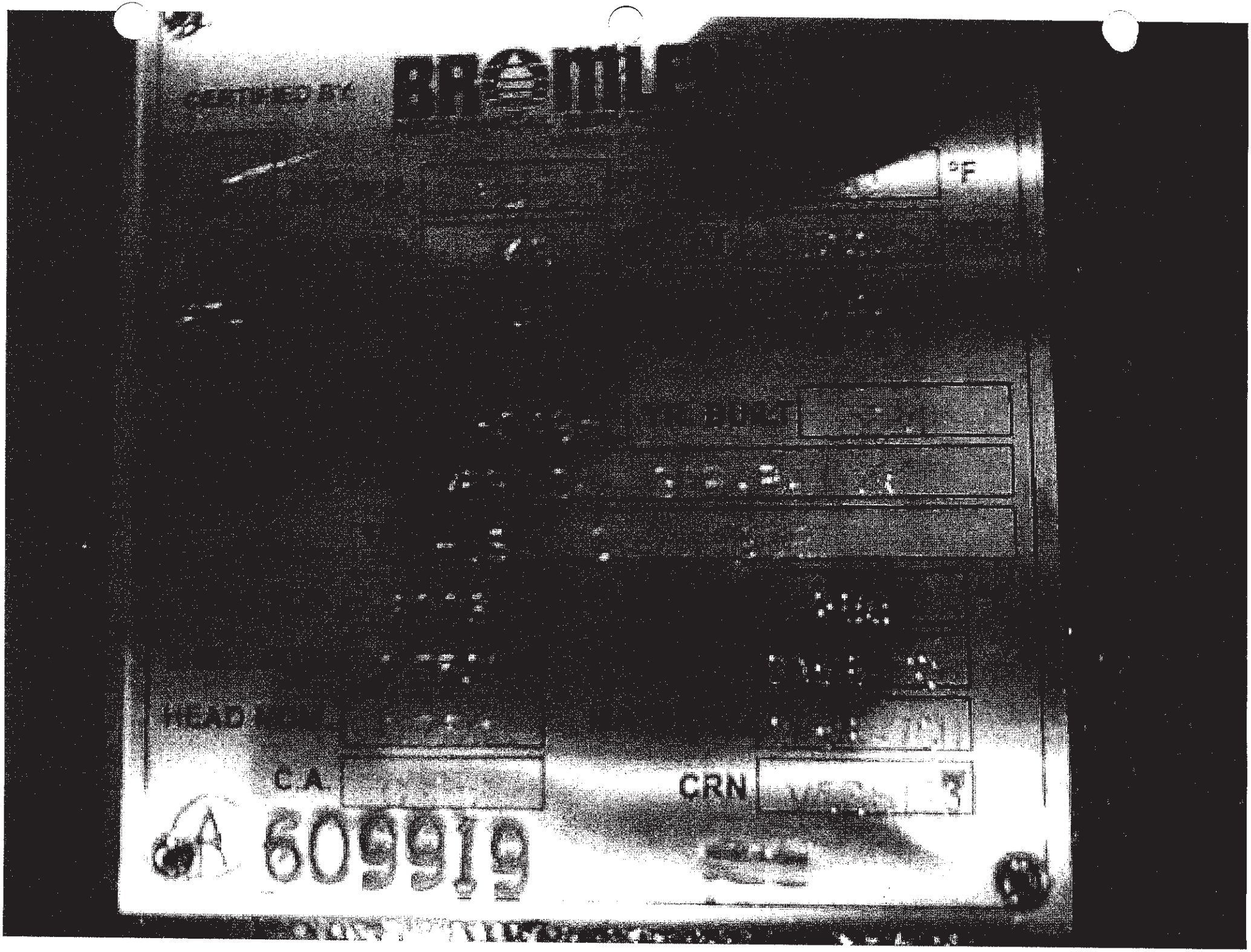
MATERIAL THICKNESS VERIFICATION AND IDENTIFICATION				WPS / WELD I.D. / WELDER SYMBOLS / FIT-UP					
Description	Thickness	Material Spec. & Grade	Heat & Slab Number or I.D. Number	WPS	Weld I.D.	Welder Symbol	Fit-Up Exam.	Verify Type 1 Joint	ABSA COMMENT/INSPECTION
Shell #1	0.7500"	SA516-70N	0909L 78306	Bms 710M B880	L-1	MLMb	✓	25 AUG 2011	Acc 30/11
Shell #2					L-				
Shell #3					L-				
Head #1	0.6875"	SA516-70N	G4224 27524068	Bmo 710M B880	C-1		✓	02 SEPT 2011	
Head #2	0.6875"	SA516-70N	328250 62306		C-2		✓	—	
					C-				
					C-				

ATTACHMENT AND / OR NOZZLE MATERIAL THICKNESS VERIFICATION AND IDENTIFICATION						WELDER ID / WPS & ABSA INSPECTIONS			
Mark	Mat. I.D.	Neck	Fitting	Flange	Repad or Attachment	Cat. B	Cat. D	WPS	ABSA COMMENT/ INSPECTION
N1N2 4" INLET OUTLET RFWN	Spec.-Grd.	SA333GR6		SA350LF2CL1		KH	V2/ RK	Bmo710M(F) Bm11(Root) Bms2on	N1: X13 N2: X14
	Thk./Rating	PIPE 4" XXH		4" 600 XXH					
	Heat# or ID	VS29717		241V1-LT1311-	511				
N3N4 2" DRAIN DUMP RFWN	Spec.-Grd.	SA333GR6	SA420 WPL6	SA350LF2CL1		KH	V2/ RK	—	N3: X9, X10, X11 N4: X6
	Thk./Rating	PIPE 2" Sch 160	ELL 2" Sch160 LR	2" 600 Sch 160					
	Heat# or ID	VS26724	BL337	H8615-10					
N5A&BN7 2" RFWN LC PSV	Spec.-Grd.	SA333GR6		SA350LF2CL1		KH	V2/ RK	—	N7: X5 N5A: X7 N5B: X8
	Thk./Rating	PIPE 2" Sch 160		2" 600 Sch 160					
	Heat# or ID	VS26724		H8615-10					
N10 4" INSPECTION RFWN	Spec.-Grd.	SA333GR6		SA350LF2CL1		KH	V2/ RK	—	X12
	Thk./Rating	PIPE 4" XXH		4" 600 XXH					
	Heat# or ID	VS29717		241V1-LT1311-	511				
N6A+B 1" LG RFWN	Spec.-Grd.	SA333GR6		SA350LF2CL1		KH	V2/ RK	—	6A: X1 6B: X4
	Thk./Rating	PIPE 1" XXH		1" 600 XXH					
	Heat# or ID	VS29232	1S2V8-	T2528-1008					
N8N9 1" TI/PI RFWN	Spec.-Grd.	SA333GR6		SA350LF2CL1		KH	V2/ RK	—	N8: X2 N9: X3
	Thk./Rating	PIPE 1" XXH		1" 600 XXH					
	Heat# or ID	V29232	V100561 /	1S2V8-2528-	1008				
	Spec.-Grd.								
	Thk./Rating								
	Heat# or ID								
	Spec.-Grd.								
	Thk./Rating								
	Heat# or ID								

Used for recording miscellaneous information (Skirt/ Lift Lug Heat numbers, Another shell etc...)

Designation	Material	Heat Number	WPS	Remarks
LIFT LUG	SA516-70N	VS29255 (Bm11) SL		1/2" PLATE
BASE	SA53B	VS29302 (RK)		PIPE 24" STD.

Shells & Heads			Final		
Task	Name/Welder symbol	Date	Task	Name/Welder symbol	Date
Layout / Checked by	V2-FMC	AUG 25 2011	Weld ID/ Material code/ Vessel Serial number stamped	V2-KH-RK	SEP 02 2011
Shell cut by	V2	AUG 25 26 2011	Vessel completed by	RK	SEP 02 2011
Internals by	V2	AUG 26 26 2011	Final Quality Control check	FMC	SEP 02 2011


CERTIFIED BY
°F
HEAD
C.A.
CRN
609919

CERTIFIED BY: **BROMLEY** MECHANICAL SERVICES INC.
A DIVISION OF ARGO SALES LTD.

Medicine Hat, Alberta
(800) 215 - 9806
(403) 526 - 3142

W
RT - 1

M.A.W.P.	900	PSI	AT	550	°F
M.D.M.T.	-49	°F	AT	900	PSI
M.A.E.W.P.	15	PSI	AT	550	°F

MFR'S SER. NO. 130495 YR. BUILT 2011

VESSEL TYPE VERTICAL SEPARATOR

TAG HUSKY OIL V-908 9/2/11

M.A.W.P.	6206	KPA	AT	288	°C
SHELL NOM.	0.750"	MATERIAL		SA516-70N	
HEAD NOM.	0.750"	MATERIAL		SA516-70N	
C.A.	0.125"	CRN		V53612	

A 609919

CERTIFIED BY: **BROMLEY MECHANICAL SERVICES INC.**
A DIVISION OF ARGO SALES LTD.

Medicine Hat, Alberta
(800) 215 - 9806
(403) 526 - 3142

W
RT-1

M.A.W.P.	900	PSI AT	550	°F
M.D.M.T.	-49	°F AT	900.	PSI
M.A.E.W.P.	15	PSI AT	550.	°F

MFR'S SER. NO.	130495	YR. BUILT	2001
VESSEL TYPE	VERTICAL SEPARATOR		
TAG	HUSKY GL V-108		
M.A.W.P.	6206 KPA	AT	288 °C
SHELL NOM.	0.750"	MATERIAL	SA516-70N
HEAD NOM.	0.750"	MATERIAL	SA516-70N
C.A.	0.125"	CRN	V5361.2

WT 34000