

2# 66069760

A 488072
208

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 Code Rules, Section VIII, Division 1

1. Manufactured and certified by NUSCO SUPPLY & MANUFACTURING INC. 1604 - 8TH STREET NISKU ALBERTA CANADA T9E 7S6
(Name and address of manufacturer)

2. Manufactured for Husky Oil Operations Ltd. 707-8th Avenue SW Calgary, Alberta T2P 1H5
(Name and address of purchaser)

3. Location of installation Husky Oil Operations Ltd. 12-27-49-19 W5M
(Name and address)

4. Type: Vertical Separator 005740-200 K-9276.23 D1227-200 Rev.0 2002
(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
2001
Year

6. Shell: SA-106-B 1.031" 0.0625" 16" OD 6' - 6"
(Mat'l. (Spec No., Grade)) (Nom. Thk. (in.)) (Corr. Allow. (in.)) (Diam. I.D. (ft. & in.)) (Length (overall) (ft. & in.))

7. Seams: Type-S Seamless 100% Type-1 * Spot 1
(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, Partial, or Full)) (No. of Courses)

8. Heads: (a) Mat'l. SA-516-70N (b) Mat'l. SA-516-70N
(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)	TOP	0.813"	0.0625"	-	-	2:1	-	-	-	Concave
(b)	BOTTOM	0.813"	0.0625"	-	-	2:1	-	-	-	Concave

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

9. MAWP 1440 psi at max. temp. 100° °F
Min. design metal temp. -20 °F at 1440 psi. Hydro. 2160 psi. test pressure 2160 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
N1 Inlet	1	3"	600# RFWN	SA-105N / SA-106-B	XXH	N/A	UW-16.1(c)	Shell
Gas Outlet	1	3"	600# RFWN	SA-105N / SA-106-B	XXH	N/A	UW-16.1(c)	Top Head
Outlet (HCL)	1	1"	TOL	SA-105N	3000#	N/A	UW-16.1(a)	Shell
C2 Water Outlet	1	1"	TOL	SA-105N	3000#	N/A	UW-16.1(a)	Shell
C3 Drain	1	2"	3000# CPLG	SA-106 B	SCH 160	N/A	UW-16.1(c)	Btm Head
C4 LC (HCL)	1	2"	TOL	SA-105N	3000#	N/A	UW-16.1(a)	Shell
C5 LC (Water)	1	2"	TOL	SA-105N	3000#	N/A	UW-16.1(a)	Shell
SEE U4 FORM	-	-	-	-	-	-	-	-

11. Supports: Skirt Yes Lugs - Legs - Other - Attached Welded to Bottom Head
(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: -

(Name of part, item number, Mfr's name and identifying stamp)
-Construction Drawing No. D1317-200 Rev.0 -Vessel is Impact Test Exempt per UG-20(f) & UCS-66(a)
-Radiography - as per UW-11(a)5(b) -Hydrotested Vertically
-Customers responsibility to install adequate pressure relief valve. -Capacity 7.5 Cu. Ft.

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. 24,778 expires March 27, 2005
Date Jul 29 2002 Co. Name NUSCO SUPPLY & MANUFACTURING INC. Signed [Signature]
(Manufacturer) (Representative)

CERTIFICATE OF SHOP / FIELD INSPECTION

Vessel constructed by NUSCO SUPPLY & MANUFACTURING INC. at 1604 - 8TH STREET NISKU, ALBERTA CANADA T9E 7S6
I, the undersigned, holding a valid commission issued by The National Board of Boiler and Pressure Vessel Inspectors and the State or Province of Alberta and employed by Alberta Boilers Safety Association have inspected the component described in this Manufacturer's Data Report on Jul 29 2002 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 Jul 29 2002 Signed [Signature] Commissions AB #132
(Authorized Inspector) (Nat'l Board (incl. endorsements) State Prov. and No.)

FORM U-4 MANUFACTURER'S DATA SHEET
As Required by the Provisions of the

Manufactured and certified by NUSCO SUPPLY & MANUFACTURING INC. 1604

2. Manufactured for Husky Oil Operations Ltd. 707-8th Avenue SW Calgary, Alberta T2C 1A1

3. Location of installation Husky Oil Operations Ltd. 12-27-49-19 W5M

4. Type: Vertical (horiz., vert., or sphere) Separate (tank, separator, or storage tank)
K-9276.23 D1227-200 Rev. 0
(CRN) (drawing no.)

Nozzles, inspection, and safety valve openings:

Purpose (Inlet, Outlet, Drain, etc.)	No.	Diameter or Size	Flange Type	Material	
				Nozzle	Flange
C6 A/B LG (HCL)	2	3/4"	TOL	SA-105N	-
C7 A/B LG (Water)	2	3/4"	TOL	SA-105N	-
C8 PI	1	1/2"	TOL	SA-105N	-
C9 TI	1	3/4"	TOL	SA-105N	-
C10 PSHL	1	1"	TOL	SA-105N	-
C11 HLSD	1	2"	TOL	SA-105N	-
C12 PSV	1	1"	TOL	SA-105N	-
C13 A Inspection	1	2"	TOL	SA-105N	-
C13 B Inspection	1	1 1/2"	TOL	SA-105N	-
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-

Data Report
Item Number

Construction Drawing No: D1317-200 Rev.0

Certificate of Authorization: Type U No.
Date Mar 29 2002 Name NUSCO SUPPLY & MANUFACTURING INC.
(manufacturer)
Date Mar 29 2002 Name M. Loney
(Authorized Inspector)

MENTARY SHEET
Section VIII, Division 1

RTA CANADA T9E 7S6
(manufacturer)

005740-200

(mfg's serial no.)

2002

(Nat'l. Bd. no.)

(year built)

Reinforcement Material	How Attached		Location (Insp. Open.)
	Nozzle	Flange	
-	UW-16.1a	-	Shell
-	UW-16.1a	-	Shell
-	UW-16.1a	-	Shell
-	UW-16.1a	-	Shell
-	UW-16.1a	-	Shell
-	UW-16.1a	-	Shell
-	UW-16.1a	-	Shell
-	UW-16.1a	-	Shell
-	UW-16.1a	-	Top Head
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

CERTIFIED BY



NUSSCO ALBERTA CANADA

W
RT

MAX. ALLOW
WORK PRESS

24.6

PSI AT

306

MIN. DESIGN
METAL TEMP

-20

F AT

-28.9

SERIAL
NO.

100-230

YEAR BUILT

2002

DESIGN
PRESS.

PSI AT

100

F

WORK
PRESS

306

306

KPA AT

38

°C

1.33

1.33

HEAD
MTRL.

THK

0.813

IN

20.65

20.65

SHELL
MTRL.

THK

0.031

IN

26.13

26.13

CRN.

100-230

(A) 488072

NUSSCO ALBERTA

W
RT-2



MAX. ALLOW
WORK. PRESS.

1440

PSI

AT

100

°F

MIN. DESIGN
METAL TEMP.

-20

°F

AT

1440

PSI

SERIAL
NO.

005740-200

YEAR BUILT

2002

DESIGN
PRESS.

1440

PSI

AT

100

°F

CORR
ALLOW

0.0625

IN.

9929

KPA

AT

38

°C

CORR
ALLOW

1.59

MM.

HEAD
MTRL.

SA-516-70N

THK.

0.813

IN.

20.65

MM.

SHELL
MTRL.

SA-106-B

THK.

1.031

IN.

26.19

MM.

CRN.

K-9276.23

Husky Energy

PRESSURE VESSEL INSPECTION REPORT

PAGE : 1 of 2

FACILITY Ansel Field DATE Sept. 27, 2005 REPORT # IR050927MAWd

VESSEL STATIC DATA

Prov. Insp. #	488072	CRN	K9276.23	Equip Tag #	
Equipment Location (LSD)	03-21-049-19 W5M			Serial #	005740-200
Equipment Description	Inlet Separator			Vessel Class	
Manufacturer	Nusco			Year Built	2002
MAWP	9929	KPag	@ 38	MDMT	-29 °C
CODE : UM	<input type="checkbox"/>	U	<input checked="" type="checkbox"/>	U2	<input type="checkbox"/>
RT : 1	<input type="checkbox"/>	2	<input checked="" type="checkbox"/>	3	<input type="checkbox"/>
4	<input type="checkbox"/>				
PWHT :	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>				
Diameter	mm	Length	(T/T) mm	OAL	mm
Vertical	<input checked="" type="checkbox"/>	Horizontal	<input type="checkbox"/>		
Shell	Mat'l	SA 106B	Thickness	26.2	mm
Head	Mat'l	SA 516-70N	Thickness	20.65	mm
Nozzle	Mat'l		Thickness		mm
Internal Coating :	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>		Internal Clad :	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	
Capacity	m ³				
Manway :	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>		Inspection Port :	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	
Skirt	<input checked="" type="checkbox"/>	Legs	<input type="checkbox"/>	Saddle	<input type="checkbox"/>
Nozzle Rating	600	lb ANSI	Painted :	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	
Insulated	: YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>				

PROCESS DATA

Product Description	Gas / Condensate / H2O	Sweet	<input checked="" type="checkbox"/>	Sour	<input type="checkbox"/>	PPM:
Operating Pressure	4500	KPag	Operating Temperature	°C		

PSV STATIC DATA

Serial No.	Location	Inlet	Outlet	Set Pressure	Capacity SCFM / Lbs/Hr / GPM	Manufacturer	Model / Type	Service Date
1036-11	Side of Shell	1"	1"	9929 KPa	5181 SCFM	Taylor		06/2002

INSPECTION HISTORY

RBI Category	A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D <input type="checkbox"/>	Last Inspection Date	W.O. #	6039163
Inspection Task List #		Inspection Type	VE	Inspection Reason
Inspection Techniques Required		Next Inspection Type	VE / UT	Due Date
VE	VI	RT	UT	MT
PT	PT	TT	Outstanding Repairs	

INSPECTION SUMMARY

- Visual external completed as per Husky procedures and API 510.
- No significant findings to reports at time of inspection.
- Vessel is fit for service.

RECOMMENDATIONS

- Replace / repack top valves on both level gauges.
- Install TI gauge where there is already a location present.

REPAIRS COMPLETED

Object Name	Cause	Damage	Repair Activity
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- No repairs were required at time of inspection.

VESSEL STATUS

Integrity Status	<input checked="" type="checkbox"/> Suitable for Continued Service	<input type="checkbox"/> Immediate Repairs Required	<input type="checkbox"/> Replace
		<input type="checkbox"/> Future Repairs Required	
Inventory Status	<input checked="" type="checkbox"/> In service Fully Utilized	<input type="checkbox"/> Idle	<input type="checkbox"/> Surplus
			<input type="checkbox"/> Scrap
This IR completes a thorough inspection. Reschedule as indicated		<input checked="" type="checkbox"/>	Partial IR only. Do not reschedule
			<input type="checkbox"/>

FACILITY	Ansel Field	DATE	Sept. 27, 2005	REPORT #	IR050927MAWd
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INSPECTION OBSERVATIONS**NONCOMPLIANCES OR INSPECTION DEFICIENCIES ISSUED**

- No NCR / IDR issued.

EXTERNAL VISUAL INSPECTION

- Vessel is supported by a skirt which is securely welded to the skid.
- Vessel is painted with no evidence of rust or other paint damage.
- Vessel, piping and PSV show no evidence of leakage or mechanical damage, except for the top valves on both level gauges which are leaking through the valve stem.
- PI gauge indicate vessel is operating within design limits.
- Level / indicator gauges, control valves and instrumentation all appear in good working condition.
- The PSV has nameplate attached displaying all required information with seal / service tag intact.

EXTERNAL NDE EXAMINATION

- UT is scheduled to be performed later this year.

INTERNAL VISUAL INSPECTION

- No visual internal inspection performed at this time.

INTERNAL NDE EXAMINATION

- No internal NDE performed at this time.

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 Mike Williams C.E.T.

Inspector's Signature

Inspection Company Titan Quality Assurance Ltd.

Date

Sept. 27, 2005

LEAD INSPECTOR'S ACCEPTANCE & SCHEDULE CONFIRMATION

Lead Inspector Jim Rice

Signature

Date OCT 11, 05

Vessel Inspection Interval 5 years

Leave "as-is" ☐

Change to

PSV Inspection Interval

Leave "as-is" ☐

Change to

Office Use Only

Report Entered to SEQA Database by
Static Data Verified by

Date
Date

Pressure Vessel External Visual Inspection Report



Organization: Husky

Inspection Date: 08/05/2010 12:00:00AM

Plant: Foothills

Equipment ID: 66069760

Asset No: 66069760

System: 0070 100/03-21-049-19W5/00

Operating Unit: FH-FW-013-00001 Ansell Gas Plant #1

#0488072

Background

Description:	Separator, Gas, 1440 Psi
Asset Type:	

Inspection

Inspector:	Bob Marchak	Company:	Husky Energy	Insulated:	N
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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
V3	General Leaks	Fair			There were high LEL's (11%) in the building upon arrival. Operations to locate leaks and tighten or replace any loose or damaged fittings.

Inspection Summary

An external visual and ultrasonic thickness survey was carried out to determine the integrity of the separator. The nameplate is attached and legible with A# 488072 stamped on it. The vessel is painted and the paint is in good condition with no chips noted. The piping, bolting and external attachments are in good condition. The roof seal is in good condition with no open seams noted. The vessel is protected by a PSV located on the piping. PSV data: Serial#: 1039-11, Service Date: 06/2009, Size: 25.4 mm by 25.4 mm, Set Pressure: 9928 kpa, Capacity: 146.71 m3/min, Manufacturer: Farris. The gauges and sight glass are clear and in good condition. The skirt is welded to the bottom head and securely welded to the skid. The skid is grounded. The vessel appears to be secure and level.

There were high LEL's (11%) in the building upon arrival. The window and door were left open prior to inspection. Operations to locate leaks and tighten or replace any loose or damaged fittings.

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


The external inspection interval is to be set at 5 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: 05/2015

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: 05/2015

Approved by:

Signature:  Date: May 27, 2010

Signature: _____ Date: _____

NDE Report Pressure Vessel



Organization: Husky

Plant: Foothills

EquipmentID: 66069760

System ID: 0070 100/03-21-049-19W5/00

Unit Name: FH-FW-013-00001 Ansell Gas Plant #1 07-27-051-

Background

Description:	Separator, Gas, 1440 Psi
Asset Type:	Pressure Vessel

Summary

Component Type	Short Term Avg. Corrosion Rate	Long Term Avg. Corrosion Rate	Remaining Life

NDE

Inspection Location	Location Description	Component Type	Status	Nominal Thickness	Minimum Thickness	Initial Reading	Initial Date	Previous Rdg	Previous Date	Current Reading	Current Date	ST CR	LT CR	Remain Life
005	Head Top	Vessel	Active	20.65	13.23	20.65	01/01/2002	20.65	01/01/2002	21.51	08/05/2010	-0.1030	-0.1030	
010	Head Btm	Vessel	Active	20.65	13.23	20.65	01/01/2002	20.65	01/01/2002	21.18	08/05/2010	-0.0634	-0.0634	
015	Shell Top	Vessel	Active	26.19	15.70	26.19	01/01/2002	26.19	01/01/2002	27.36	08/05/2010	-0.1401	-0.1401	
020	Shell Mid	Vessel	Active	26.19	15.70	26.19	01/01/2002	26.19	01/01/2002	27.66	08/05/2010	-0.1760	-0.1760	
025	Shell Btm	Vessel	Active	26.19	15.70	26.19	01/01/2002	26.19	01/01/2002	27.64	08/05/2010	-0.1736	-0.1736	
030	3" Nozzle Inlet	Vessel	Active	15.24	3.30	15.24	01/01/2002	15.24	01/01/2002	15.37	08/05/2010	-0.0156	-0.0156	

***NDE Report
Pressure Vessel***

**NDE Report
Pressure Vessel**

Inspection Planning

Date of Inspection: May 8, 2010 Date of last Inspection: _____ Date of Next Inspection: 05/2015


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

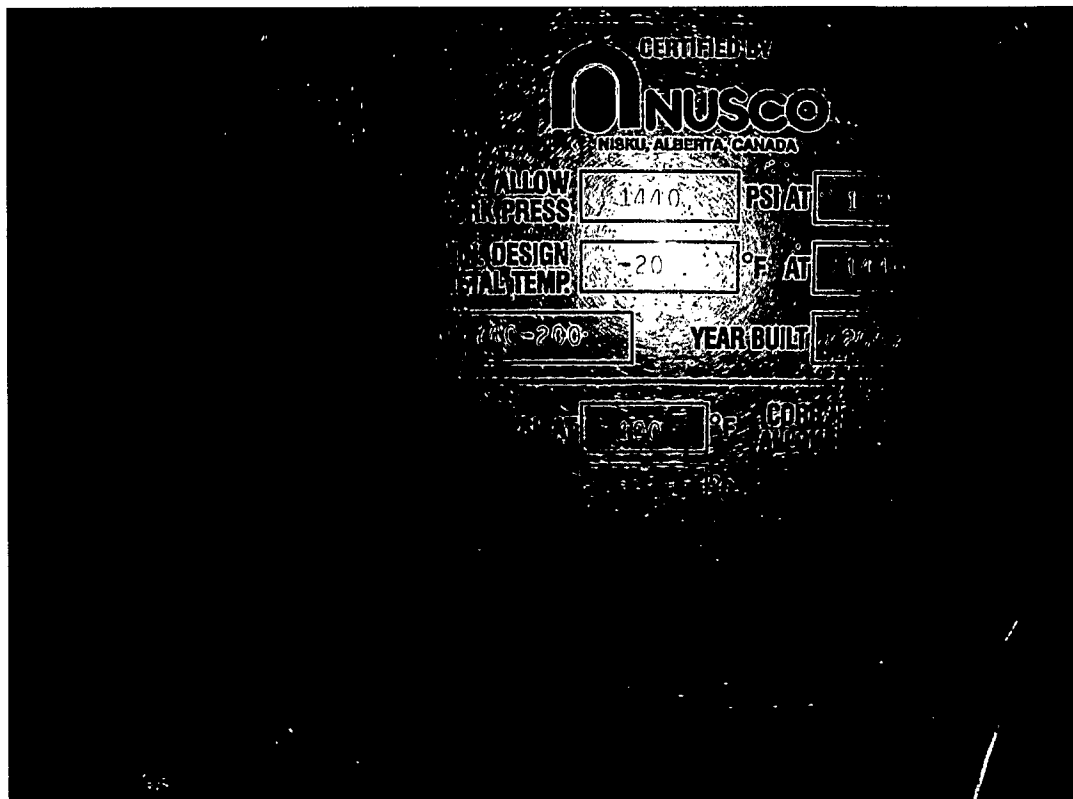
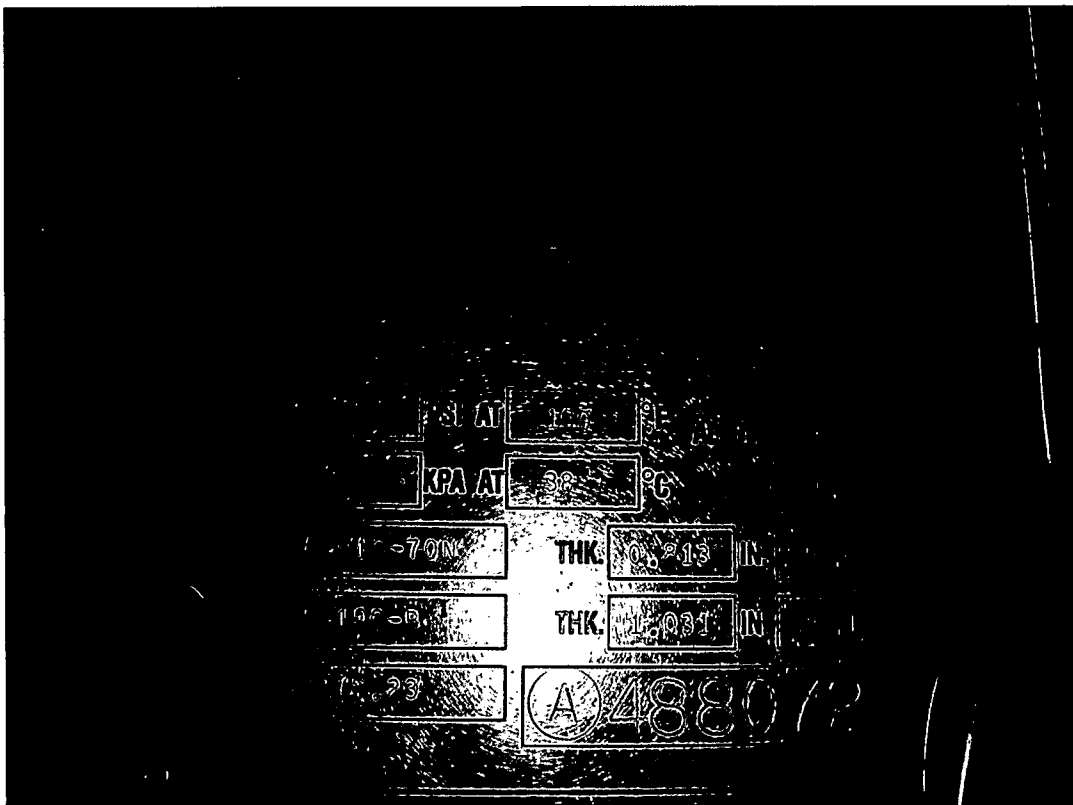
Reviewed and Accepted by:

Next Inspection Date: 05/2015

Approved by:

Signature:  Date: May 27, 2010
Signature: _____ Date: _____

**A# 488072, SAP# 66069760, Separator
03-21-049-19W5M Minehead Field**



**A# 488072, SAP# 66069760, Separator
03-21-049-19W5M Minehead Field**

