HIGHLAND PROJECTS

Turn Over Package

For

Husky

Husky Energy — Non Pressure Storage

Husky Purchase Order No.

Data Collected By: CT Entry Date:

Equipment Class: ☐ Bin ☐ Silo ☐ Sump ☐ Gas Boot ☑ Tank

Parent Asset No.:

Equipment Description: 400BBL, LINED, INSULATED Exist. Equip. ID : Tag No.:

Unit Yard Acquis Value $ 37,165.74 Acquis Date

Equipment Status: ☐ In-Service Fully Utilized ☐ In Service Under-utilized ☐ Idle ☐ Scrap

Ownership Status: ☐ Leased ☐ Rented ☑ Owned

Manufacturer: HIGHLAND PROJECTS Year Built: 2013

Equipment Condition: Model No.: Serial No.: SEE ATTACHED

Construction: ☑ Skidded ☐ Packaged ☐ Housed ☐ Packaged Portable ☐ Packaged Stationary

Skid Weight: Kg / Lbs Skid Size: W x L x H m / ft

Common Characteristics

Fluid Description: WATER Service: ☑ Sweet ☐ Sour Volume: 64 (m3) ft3

MAWP: 1602 x .04 VAC kPag / psig @ Max. Temp: 30 °C °F MDMT: °C / °F

Diameter: 144 mm (in) Length/Height (S/S): m / ft Depth: m / ft

Shell Mat'l: A36 Shell Thickness: 3/16" mm (in) Shell C.A.: mm / in

Floor Mat'l: A36 Floor Thickness: 1/4" mm (in) Floor C.A.: mm / in

Roof Mat'l: A36 Roof Thickness: 3/16" mm (in) Roof C.A.: mm / in

Nozzle Mat'l: A106 Nozzle Thickness: .237 mm (in) Nozzle Rating: 150 Ansi

Insulated: ☑ Yes ☐ No Insulation Type Urethane Insulation Thick.: mm / in

Manways: 1 # of Inspection Ports: 1 Painted / Primed: ☐ Yes ☑ No

Secondary Containment Type: N/A ☐ Earthen Clay ☐ Imperious Synthetic Material ☐ Double Wall ☐ Other

Internals:

Component Types: 5'x5' VAULT Component Man. A36 Component Model:

Component Romovable: ☐ Yes ☐ No Component C.A.: mm / in

Internal Coating: ☑ Yes ☐ No Int. Coating / Cladding Type: DEVOE 253, ELASTOMERIC SEALER

Additional Characteristics for Tank

Tank Type: ☐ Underground ☑ Surface # Of Walls: ☐ single ☐ Double

Design Standard: ☐ API 650 ☐ API 620 ☑ API 12F ☐ Other

Fabrication Type: ☑ Shop ☐ Field

Pressure Protection: ☐ Vent ☐ Thief Hatch ☐ Vacuum Breaker

Vacuum Breaker Manufacturer:

Vacuum Breaker Model:

Vacuum Breaker Service Date:

Fire Tubes: ☐ Yes ☐ No

# of Firetube: Firetube S/N: Firetube Rating: Btu/hr

Desand Type: Desand Connection: mm / in Truck Connection: 3 mm (in)

Additional Characteristics for Gas Boot

Prov.Reg. No. (A#) CRN#

Head Mat'l: Head Thickness: mm / in Head C.A.: mm / in

Comments

Material Transfer Information

Transfer Recorded by: Date

From LSD Sec Twp Rge W/

Transfer Yard

To LSD Sec Twp Rge W/

Facility Receiving AFE:

HIGHLAND PROJECTS	SERIAL NUMBER LIST	Effective Date	Procedure ID
		April 2012	
	400BBL Tanks	Page 1 of 1	Revision 0

Job #		Customer
WO-820		Husky

HUSKY PO#	TANK SERIAL NUMBER
8400724430	4982, 4983, 4984, 41-6164, 41-6165, 4991
8400724426	4985, 4986, 4990, 4992, 4994, 4996
8400724423	41-6172, 41-6173, 41-6174, 41-6175, 41-6176, 41-6177
8400724420	41-6171, 41-6166, 41-6167, 41-6168, 41-6169, 41-6170
8400724416	41-6179, 41-6180, 41-6181, 41-6182, 41-6184, 41-6185
8400724414	41-6178, 41-6183, 41-6187, 41-6188, 41-6189
8400724410	41-6190, 41-6194, 41-6191, 41-6193, 41-6196, 41-6197
8400724407	41-6192, 41-6198, 41-6200, 41-6195, 41-6199, 41-6201
8400724403	4987, 4988, 4989, 4993, 4995, 4997

Inspector Name	Date

400BBL TANK

QC Documentation

Manufactured By:

HIGHLAND PROJECTS

For

Husky

HIGHLAND PROJECTS	400 BBL Travel Sheet - Assembly	Effective Date	Procedure ID
	With rental skid	April 2013	QF-28B
		Page 1 of 1	Revision 0 Controlled

Job #	Serial #	Customer
WO-820		Husky

Task	Fit Up. QC	Welded By	Final QC
Build Shells	JW	Buddy	JW
Floor circ	JW	CW	JW
Shell to shell inner circ	JW	Buddy/CW	JW
1st	JW	* Buddy	JW
2nd	JW	* Buddy	JW
3rd	JW	11	JW
Roof welds	JW	Paul	JW
Shell to shell outer circ	JW	TM	JW
1st	JW	TM	JW
2nd	JW	TM	JW
3rd	JW	TM	JW
Shell outer cross welds	JW	TM	JW
1st	JW	TM	JW
2nd	JW	TM	JW
3rd	JW	TM	JW
4th	JW	TM	JW
Fitting orientation/weld	JW	TM	JW
N1	JW	SB	JW
N2	JW	SB	JW
N2A	JW	SB	JW
N2B	JW	SB	JW
N3	JW	TM	JW
N4	JW	~~SB~~ JL	JW
N5	JW	TM	JW
N6	JW	TM	JW
N7	JW	TM	JW
N8	JW	TM	JW

Task	Fit Up QC	Welded By	Final QC
M1	JW	TM	JW
T1	JW	SB	JW
NP1	JW	SB	JW
Manway	JW	TM	JW
Serial # Bracket	JW	SB	JW
Back skid to floor	JW	SB	JW
Tank centered on skid	JW	TM/SB	JW
Saddles weld includes legs	JW	SB/JL/DC	JW
Thief hatch	JW	SB	JW
Ladder	JW	JL	JW
Center nozzle	JW	SB	JW
Back weld all fittings	JW	TM	JW
4" pipe pups	JW	TM	JW
3" pipe pups	JW	TM	JW
Envirovault	JW	TM	JW
Vault doors	JW	TM	JW
Chain link floor	JW	DC	JW

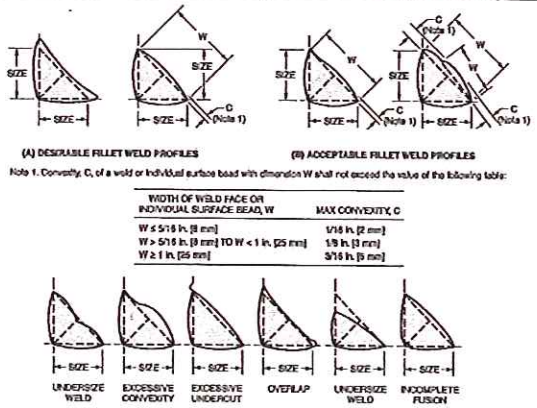
Started: Rolls	Completed: Rolls	Started Saddle	Completed Saddle
Nov. 4th / 6:30 am	Nov. 4th / 6:30 pm	Nov. 7th / 1:00	Nov. 8th / 12:45
Started Subarc	**Completed Subarc**	**Started QC**	**Completed QC**
Nov. 5th / 8:30 am	Nov. 6th / 12:00 pm	12:45 pm	Nov. 8, 2013 / 2:15 pm

HIGHLAND PROJECTS	400 BBL Inspection Sheet		Effective Date	Procedure ID
	Job # WO-820	Serial #	April 2012	QF-19B
	Customer: Husky		Page 1 of 2	Revision 0 Controlled

Inspection Criteria	P	F	R	Inspection Criteria	P	F	R
Long skid	✓			Legs fit & welded	✓		
Back skid	✓			Back skid to bottom shell	✓		
Saddles	✓			Fitting orientation	✓		
Pull pipes	✓			Manway	✓		
				Flanges two holed	✓		
Shells Inner Cross Welds	✓			Couplings	✓		
				Serial # bracket	✓		
Shell to Shell Inner Circumference Welds	✓						
1st Course	✓			Thief hatch	✓		
2nd Course	✓			Envirovault install & weld	✓		
3rd Course	✓			Level indicator couplings, tabs, & half chain links	✓		
Roof butt welds	✓						
Roof Circ weld	✓			Lanyard tabs	✓		
Shell to shell outer circ weld	✓			Back weld all fittings & pups	✓		
1st Course	✓			Internal piping rounded	✓		
2nd Course	✓			HP serial number welded on skid	✓		
3rd Course	✓			Company number welded on skid n/a	n/a		
Outer cross welds 1st, 2nd, 3rd, 4th	✓			Ladder	✓		
Floor cross	✓			Ladder cage	✓		
Floor circ inner	✓			Pivot tongue	✓		
Floor circ outer	✓						
Tank centered on skid	✓						
Saddles stitch welded	✓						

Notes

Crack Prohibition	Weld/Base-Metal Fusion	Crater Cross Section	Weld Profiles
None	Thorough fusion	Filled to Size	See Below
Time of Inspection	**Undersized Welds**	**Undercut**	**Porosity**
Within 48 Hours	Undersize portion of the weld shall not exceed 10% of the weld length.	For material less than 1 inch thick, undercut shall not exceed 1/32 inch. For material equal to or greater than 1 in. thick, undercut shall not exceed 1/16 inch for any length of weld.	None allowed



Inspector Name	Date	Invoice #	Date
Mark Fankhauser	Nov. 9, 2013		

HIGHLAND PROJECTS	400 BBL Floor to Shell Inner Weld Dye Pen Inspection		Effective Date	Procedure ID
	Job # W-820	Ser. #	January 2013	QF-29B
	Customer: Husky		Page 1 of 1	Revision 0 Controlled

Procedure

Prior to welding outer weld at the floor joint clean all welds with SKL-5 NDE Testing Material. Apply SKL-SP2 Penetrant on inner weld joint, allow penetrant to set for 15 minutes. Apply SKD-S2, a developer, to gap between the shell and the bottom to outer allow minimum dwell time of one hour, detect all leaks.

Floor to Shell Dye Pen Test Times and Results	# of leaks 0
Start Time: Nov 4th 4:30	
Stop Time: Nov 4th 5:30	
Total time: 1hr	

Repair Procedure

Leaks to be repaired per:

1. Grind out the weld at the leak location, 1 inch on each side of the leak.
2. Weld the gouge to complete the weld seam.
3. Clean up the weld.
4. Repeat procedure for all leaks.
5. Attach any and all Dye Pen inspection forms for this floor to shell together and include in tank packet

Date	Inspector Name
Nov 4 2013	Justin Wales

HIGHLAND PROJECTS	400 BBL Pressure Test Report		Effective Date	Procedure ID	
	Job # WO-820	Serial # through	April 2012	QF-20B	
	Customer: Husky		Page 1 of 1	Revision 0	Controlled

Pressure Gauge # used for testing	2

Pressure Test

1. Plug all fittings using mechanical pipe plugs
2. Bolt man-way using gaskets and all nuts and bolts
3. Install pressure gauge on bottom drain coupling
4. Hook air-line through the 4" bottom fitting
5. Fill tank with 2 to 2.5 psi.
6. Soap all fittings, weld seams, man-ways and corners
7. Inspect for leaks and mark the same the soap stone
8. De-Pressure tank.

Initial	QC		Weld Location	No. of Leaks	Repair
BM		1	4" RFSO #1	0	
BM		2	4" RFSO #2	0	
BM		3	4" RFSO #3	0	
BM		4	4" RFSO #4	0	
BM		5	4" RFSO #5	0	
BM		6	3" RFSO #1	0	
BM		8	3" RFSO #2	0	
BM		9	4" Downcomer	N/A	
BM		10	Manway	1	Weld
BM		11	Envirovault	7	Weld
BM		12	Thief Hatch	0	
BM		13	Level Indicator	1	Weld
BM		14	Couplings	0	
BM		15	Roof circumference	0	
BM		16	Roof seam	0	
BM		17	Tank body	0	
BM		18	Floor circumference	0	
BM		19	Repads	0	

Leak Repair Procedure

1. Grind out the weld at the leak location, 1 inch on each side of the leak.
2. Weld the gouge to complete the weld seam.
3. Clean up the weld.
4. Repeat procedure for all leaks.
5. Repeat the Pressure Test.

Inspector Name – Initial Inspection	Date	Inspector Name – Re-Inspection
Justin Wales	Nov , 203	Buddy Mameli

	400BBL Sand Blast Profile	Effective Date	Procedure ID
		Page	Revision

Job #	Serial #	Customer
820		Husky

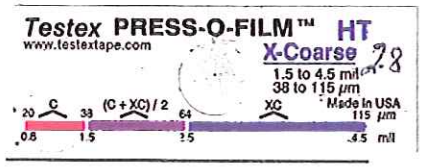
Blast Profile

Internal

Required: White 3PS 2-3mil

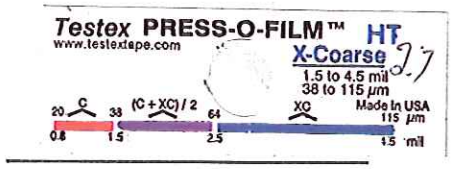
Root

1



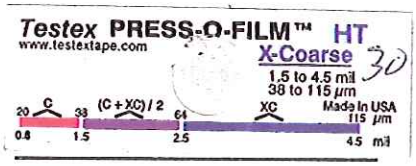
Side

2



Skeem.

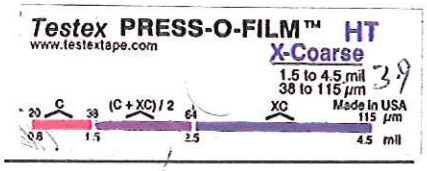
3



External

Required: Brush SP7

1



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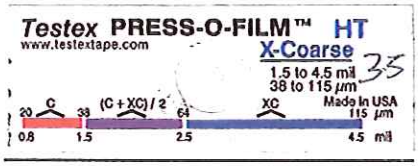

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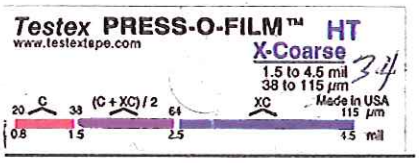

Q.C. Inspector Signature: _____

Date: 15 Nov. 2013

	400BBL Sand Blast QC Checklist	Effective Date	Procedure ID
		Page	Revision

Job #	Serial #	Customer
820		Husky

This checklist must be filled out prior to moving tank from 'Blast bay' to 'Paint Bay'

Exterior: Brush blast SP7

- [x] Roof blast
- [x] Floor blast
- [x] Back skid, tank apron and tapers blast
- [x] Bottom skid, saddles, legs, and tank belly blast
- [x] Left side blast
- [x] Right side blast
- [x] Flanges
- [x] Manway
- [x] Ladder
- [x] Textile strips used to check blast profile

Interior: White blast SP5

- [x] Roof blast
- [x] Floor blast
- [x] Left side blast
- [x] Right side blast
- [x] Necks
- [x] Manway flange

Q.C. Inspector Signature: _____

Date: 15 Nov. 2013

Update: March 6, 2013 RH

HIGHLAND PROJECTS	Highland Coating Procedures	Effective Date	Procedure ID
	Forced Heat Curing Procedure	November 1, 2013	HCP.6
	CONTROLLED	Page 1 of 1	Revision 0

Job #	Serial #	Customer
WO-820		Husky

1. **Upon completion of gas-off time, prepare for forced heating.**
2. **Move tank outside if required.**
3. **Install heat ducts to thief hatch opening.**
4. **Turn on *frost fighter*.**

NOTE: Manway door is to have ¼" gap during forced cure time. Flange protectors to be installed with ¼" gap.

Must refer to coating specifications for required heating time based on temperature attained.

Tank Cure Times	
Start:	4:00 pm
Stop:	9:00 am
Total:	17

Temperature Attained:	135°

Date	Inspector
Nov 14/13	Steven Brown

	400BBL Paint QC	Effective Date	Procedure ID
		Page	Revision

Job #	Serial #	Customer
820		Husky

Description: Internally lined and externally insulated and sealed.

Who/where was it painted: Company: Highland / Sandre
Painter: Doug Cassidy

Type of paint, primer: Internal - Devchem 253
External - Elastospray Sealer - Towerthon

Final DFT: Internal: defelco failed
External: defelco failed
Insulation: 1.5 inch average.

Any runs, sags, sand in paint, light spots, or any other problems: If Yes describe where, and how severe.

Comments: Acepted & Repaired

Q.C. Inspector Signature:

Date: 15 Nov 2013

HIGHLAND PROJECTS	Rigging QC Checklist	Effective Date	Procedure ID	
		April 2012	QF-22B	
	400BBL Tanks	Page 1 of 1	Revision 0	Controlled

Job #	Serial #	Customer
WO-820		Husky

S/N	Task	Inspected By
1	Manway – gasket installed and all bolts tight.	
2	Thief Hatch – sweet service (proper orientation)	
3	Guided Float – SS cable and clamps	
4	Gauge board and decal – (orientation)	
6	Pointer – cable tight and tied off, double clamp tight, proper orientation	
7	Name Plate – check serial # to tank	
8	Cata-dyne Heater – electrical cord installed	
9	N8 truck out pipe installed	
10	Ladder and cage (shipped separately)	
11	4" pipe plug installed and secure	
12	3" pipe plug installed and secure	
13	Complete final walk around	

Comments: _____

Inspector Name	Date
DALE BEAT	15 NOV 2013