



ISO 9001:2008

MAGNETIC PARTICLE EXAMINATION FORM

M - MB120515

 CLIENT
 ATTENTION
 ADDRESS

 Husky Oil
 Timothy Britton
 Sylvan Lake, AB
 Gas Plant Facility
 May, 2012 Shut-Down
 Buttan Storage Tank (Alberta Registration # A84683)
 all head welds, nozzels and long seam to circ.weld tee's.

 DATE May 15, 2012
 ACUREN JOB No. 231-00-66687-84
 POWO No. not available at time of report
 WORK LOCATION Sylvan Lake AB, Gas Plant
 ACCEPTANCE STANDARD ASME Section VIII - 2010
 PROCEDURE No. AGI - MT - 01
 TECHNIQUE No. N/A

 PAGE 1 OF 1
 TIME 2:00 PM

 PROJECT
 ITEM(S) EXAMINED

 REV./DATE July 2011
 REV./DATE Rev. 2 / Feb. 2012
 REV./DATE N/A

JOB DESCRIPTION

 PART No. Alb. Reg. # A84683 MATERIAL carbon steel
 SCOPE To inspect all internal head welds, nozzels and long seam to circ. weld tee areas, to ensure no linear indications are present and conformance to the "Acceptance Standard" criteria have been met.

TEST DETAILS

 METHOD ☐ DRY ☒ WET ☒ FLUORESCENT ☐ NON FLUORESCENT
 PARTICLE BRAND Magnaflux PRODUCT No. 14AM
 PARTICLE COLOUR ☐ GREY ☐ RED ☐ BLACK ☒ GREEN
 SUSPENSION ☒ WATER ☐ OIL ☐ NOT APPLICABLE
 CONTRAST PAINT n/a PRODUCT No. n/a
 MAG. TIME 4 SECONDS DEMAG REQUIRED? ☐ YES ☒ NO
☒ AC ☐ DC ☒ YOKE ☐ COIL ☐ HEAD ☐ CONDUCTOR BAR
 MT INSTRUMENT contour probe S/N 21022 CAL DUE DATE January 25, 2013
 BLACK LIGHT S/N 1752757 ☒ OUTPUT > 1000µW/cm² ☒ AMBIENT < 2 fc
 LIGHTING EQUIP. ☐ FLASHLIGHT ☐ TROUBLELIGHT ☐ OUTPUT > 100 fc @ SURFACE
 LIGHT METER S/N 1752757 CAL DUE DATE October 7, 2012
 OTHER

TEST SURFACE

 THE TECHNIQUE HAS BEEN DEMONSTRATED OVER A PAINTED SURFACE: ☐ YES ☒ NOT APPLICABLE
 SURFACE CONDITION ☒ AS GROUND ☒ AS WELDED ☐ MACHINED ☐ SHOT BLASTED ☒ CLEAN BARE METAL
 SURFACE TEMPERATURE ☒ < 57°C(135°F) ☐ 57°C(135°F) TO 316°C(600°F) ☐ > 316°C(600°F)

RESULTS

- All welds requiring inspection were examined. There were five (5) areas observed with relevant linear indications.

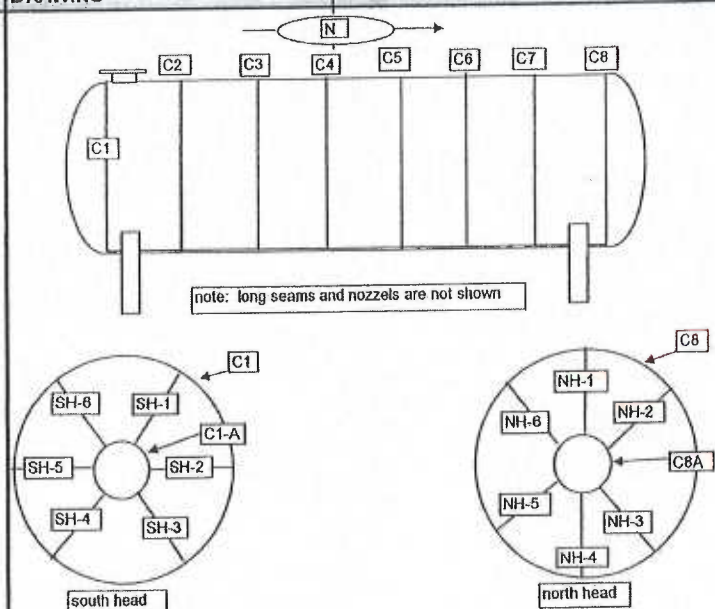
Indication Areas

- (1) Four linears on the set through nozzle fitting(longest is 3/4"). This nozzle is just south of C8 near the vessel bottom.
- (2) Two 1/8" long linears on the shell at the east side C7 tee termination area.
- (3) A 1/4" long transverse linear on HN-6 (8" from ring)
- (4) A 1/4" linear on SH-2 weld cap,(between ring and C1A)
- (5) A 1/4" transverse linear on C1 H.A.Z. (head side), just below SH-2

- These linear indications are not acceptable to the "Acceptance Standard".

- No further testing was carried out at this time.

DRAWING



SIGNATURES

CLIENT REPRESENTATIVE

TECHNICIAN (SIGN)

PRINT NAME

 Marcel Bertrand
 1ST TECHNICIAN
 CGSB Level 2 SNT Level 2
 CGSB Reg No. 1665

SIGNATURE

 2ND TECHNICIAN / ASSISTANT
 CGSB Level SNT Level
 CGSB Reg No.

DTR No. A368061

REPORT REVIEW

INITIAL

Form Rev. April 20, 2012

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SAP# 66000700



ISO 9001:2008

NDE CONTINUATION REPORT

REPORT: U MB120509

ACUREN

CLIENT: Husky Oil May 2012 Plant Shut Down

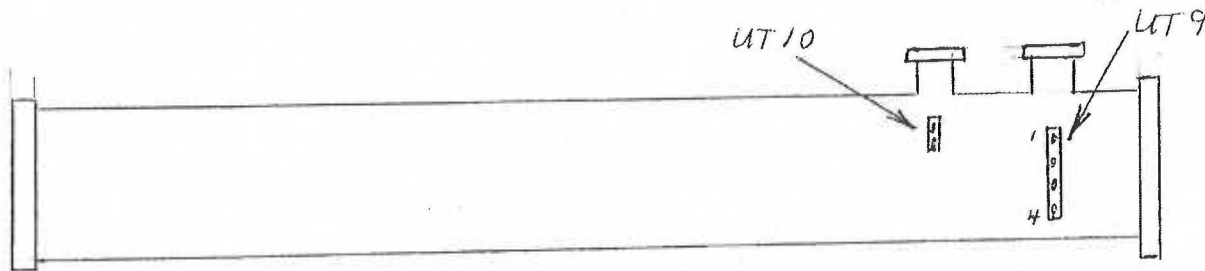
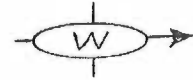
DATE: 9-May-12

PAGE: 2 OF 14

RESULTS:

A# 71710

GAS TO GAS HEAT EXCHANGER



UT 9-1 1.285"
-2 1.315"
-3 1.325"
-4 Too Much EXTERNAL CORROSION --- NO READING TAKEN

UT 10-1 1.252"
-2 1.236"

SIGNATURES:

TECHNICIAN (SIGN):

PRINT NAME

Marcel Bertrand

1ST TECHNICIAN

2ND TECHNICIAN / ASSISTANT

Form Rev.: April 3, 2012

SAP # 166000426



ISO 9001:2008

NDE CONTINUATION REPORT

REPORT: U MB120509

ACUREN

CLIENT: Husky Oil May 2012 Plant Shut Down

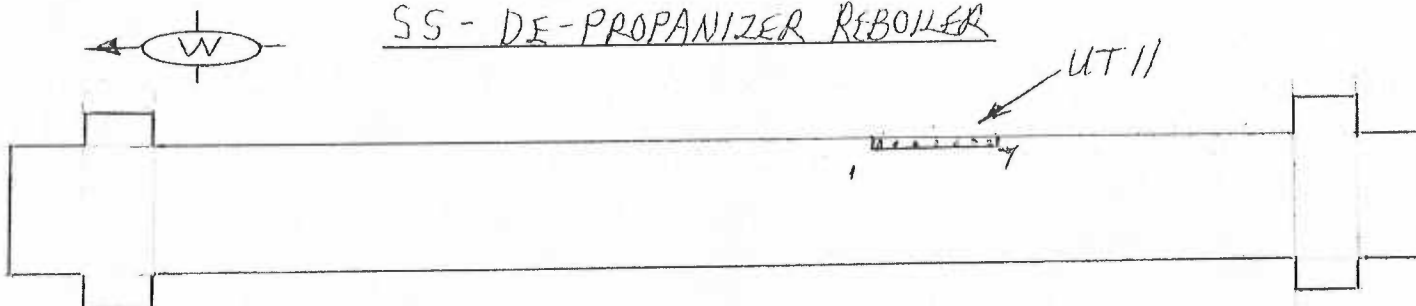
DATE: 9-May-12

PAGE: 3 OF 14

RESULTS:

A# 87461

SS-DE-PROPANIZER REBOILER



UT II - 1	0.380"
- 2	0.376"
- 4	0.364"
- 5	0.369"
- 6	0.380"
- 7	0.374"

SIGNATURES:

TECHNICIAN (SIGN):

PRINT NAME

Marcel Bertrand

1ST TECHNICIAN

2ND TECHNICIAN / ASSISTANT

SPP # 66000684



ISO 9001:2008

NDE CONTINUATION REPORT

REPORT: U MB120509

ACUREN

CLIENT: Husky Oil May 2012 Plant Shut Down

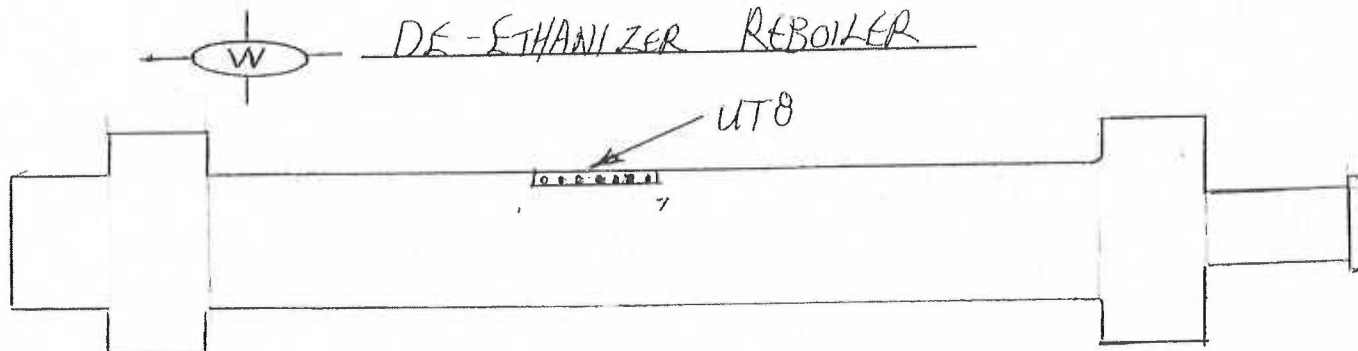
DATE: 9-May-12

PAGE: 4 OF 14

RESULTS:

A# 87442

DE-ETHANIZER REBOILER



UT8 - 1	0.377"
- 2	0.378"
- 3	0.377"
- 4	0.374"
- 5	0.373"
- 6	0.369"
- 7	0.370"

SIGNATURES:

TECHNICIAN (SIGN):

PRINT NAME

Marcel Bertrand
1ST TECHNICIAN

2ND TECHNICIAN / ASSISTANT

Form Rev.: April 3, 2012

SAP # 66000713



ISO 9001:2008

NDE CONTINUATION REPORT

REPORT: U MB120509

ACUREN

CLIENT: Husky Oil May 2012 Plant Shut Down

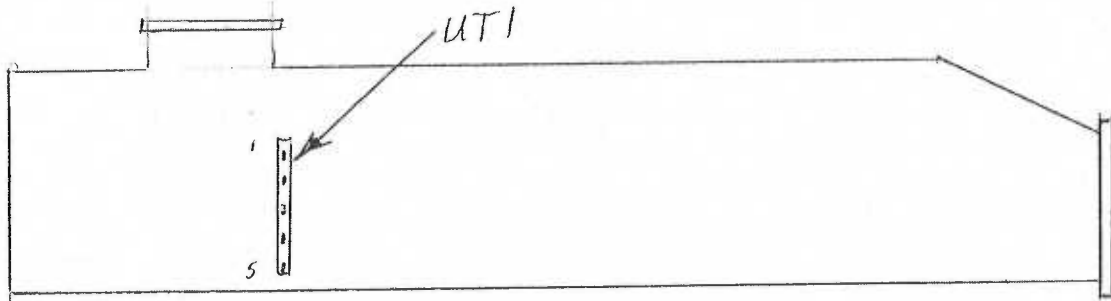
DATE: 9-May-12

PAGE: 5 OF 14

RESULTS:

A# 87454

PRE-SATURATOR CHILLER



UT-1	0.513"
-2	0.514"
-3	0.507"
-4	0.507"
-5	0.506"

SIGNATURES:

TECHNICIAN (SIGN):

PRINT NAME

Marcel Bertrand

1ST TECHNICIAN

2ND TECHNICIAN / ASSISTANT

Form Rev.: April 3, 2012

SAP# 66004986



ISO 9001:2008

NDE CONTINUATION REPORT

REPORT: U MB120509

CLIENT: Husky Oil May 2012 Plant Shut Down

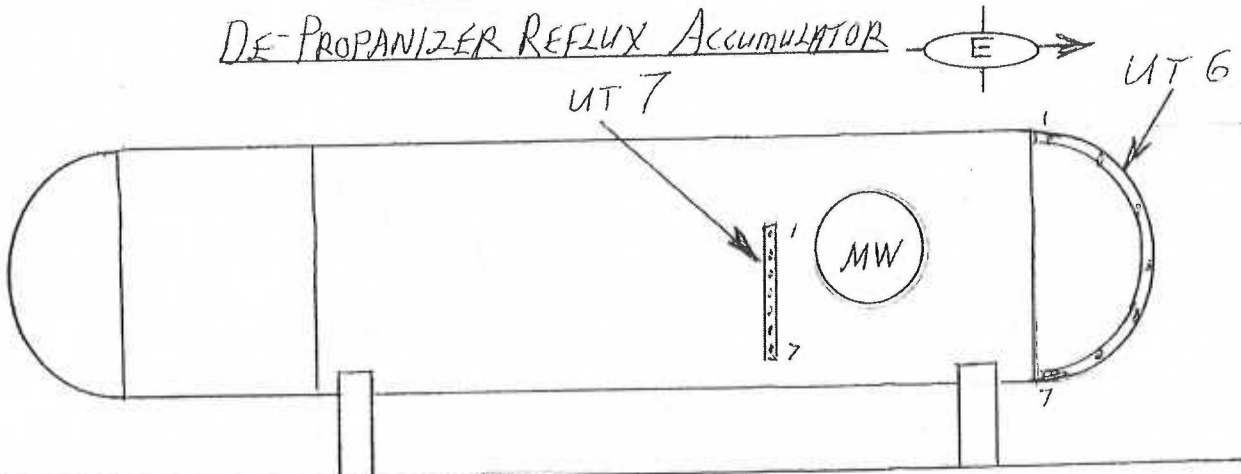
DATE: 9-May-12

PAGE: 6 OF 14

RESULTS:

A# 39849

DE-PROPANIZER REFLUX Accumulator



STILL REFLUX Accumulator A# 84636

UT 6-1	0.428"	UT 7-1	0.396"
-2	0.358"	-2	0.393"
-3	0.369"	-3	0.394"
-4	0.366"	-4	0.392"
-5	0.361"	-5	0.398"
-6	0.375"	-6	0.394"
-7	0.438"	-7	0.395"

SIGNATURES:

TECHNICIAN (SIGN):

PRINT NAME

Marcel Bertrand
1ST TECHNICIAN

2ND TECHNICIAN / ASSISTANT

PM

SAP # 66004999



ISO 9001:2008

NDE CONTINUATION REPORT

REPORT: U MB120509

ACUREN

CLIENT: Husky Oil May 2012 Plant Shut Down

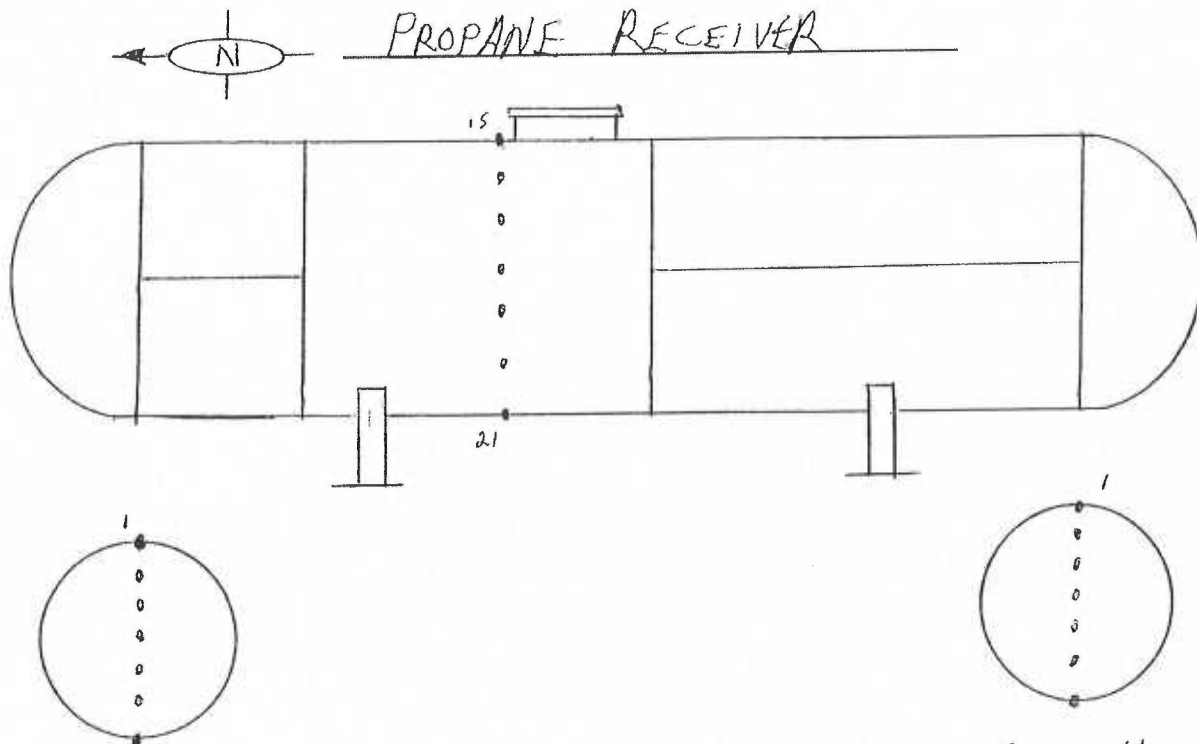
DATE: 9-May-12

PAGE: 7 OF 14

RESULTS:

A# 71664

PROPANE RECEIVER



NORTH HEAD

SHELL

SOUTH HEAD

1	0.619"
2	0.577"
3	0.575"
4	0.581"
5	0.586"
6	0.585"
7	0.603"

15	0.577"
16	0.591"
17	0.585"
18	0.586"
19	0.576"
20	0.590"
21	0.579"

8	0.542"
9	0.561"
10	0.554"
11	0.558"
12	0.557"
13	0.552"
14	0.550"

SIGNATURES:

TECHNICIAN (SIGN):

PRINT NAME

Marcel Bertrand
Marcel Bertrand
 1ST TECHNICIAN

[Signature]
 2ND TECHNICIAN / ASSISTANT

mw

SAP # 66005016



ISO 9001:2008

NDE CONTINUATION REPORT

REPORT: U MB120509

ACUREN

CLIENT: Husky Oil May 2012 Plant Shut Down

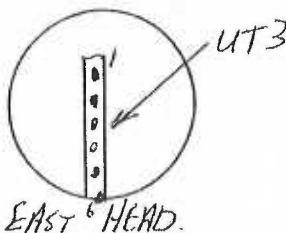
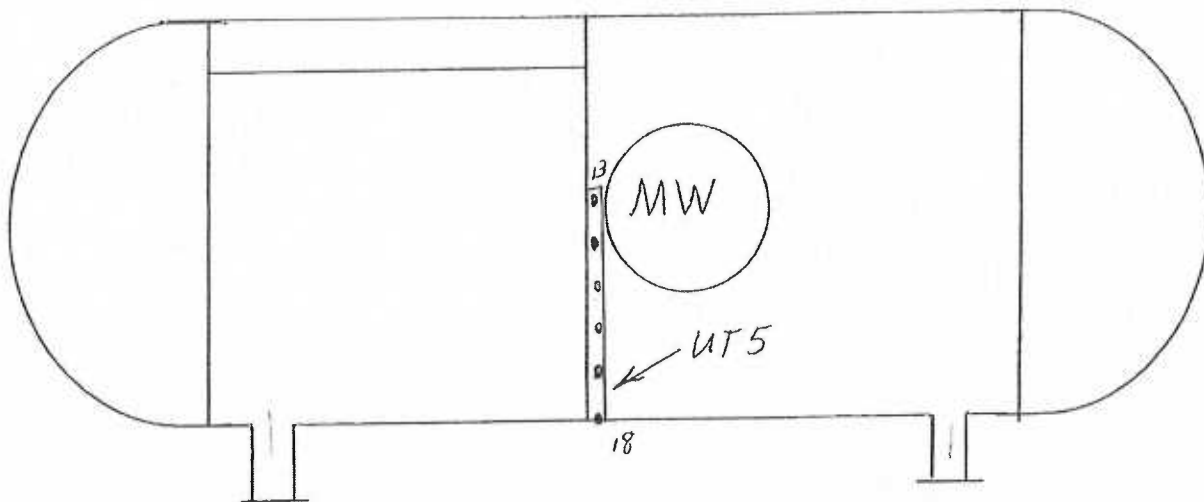
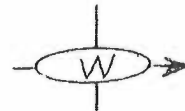
DATE: 9-May-12

PAGE: 8 OF 14

RESULTS:

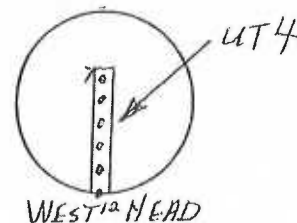
A# 84636

STILL REFLUX ACCUMULATOR



EAST⁶ HEAD

SHELL



WEST¹² HEAD

UT3 - 1 0.550"
 - 2 0.554"
 - 3 0.545"
 - 4 0.532"
 - 5 0.545"
 - 6 0.586"

UT5 - 13 0.515"
 - 14 0.508"
 - 15 0.504"
 - 16 0.500"
 - 17 0.508"
 - 18 0.482"

UT4 - 7 0.549"
 - 8 0.552"
 - 9 0.552"
 - 10 0.547"
 - 11 0.585"
 - 12 0.649"

SIGNATURES:

TECHNICIAN (SIGN):

PRINT NAME

Marcel Bertrand
 1ST TECHNICIAN

2ND TECHNICIAN / ASSISTANT

ilw

SAP # 66005063



ISO 9001:2008

NDE CONTINUATION REPORT

REPORT: U MB120509

ACUREN

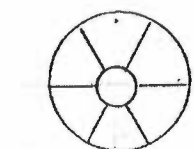
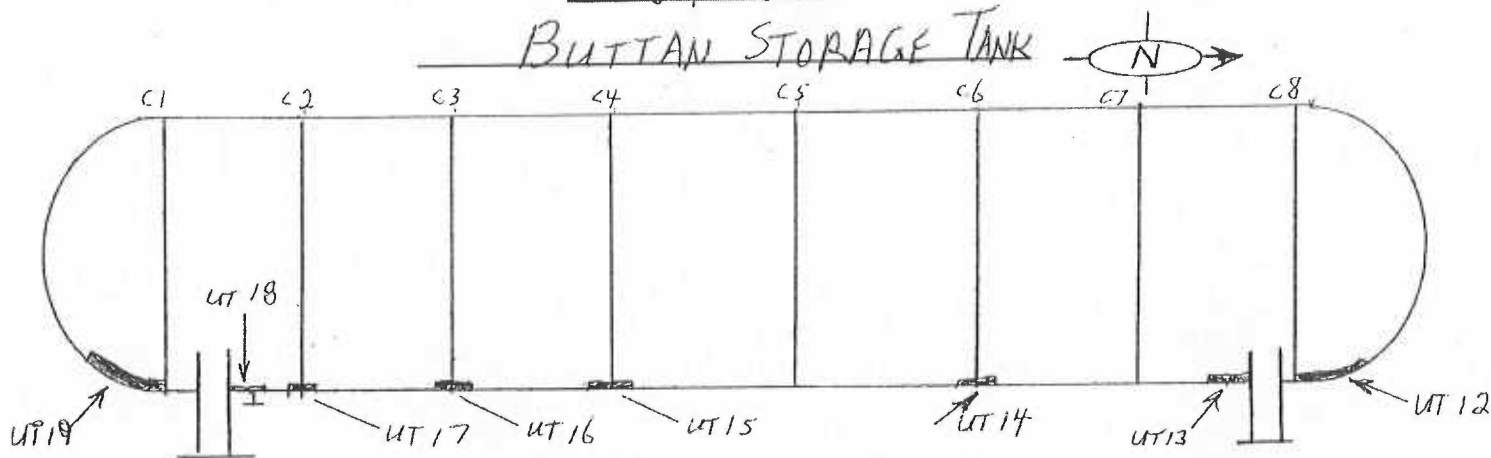
CLIENT: Husky Oil May 2012 Plant Shut Down

DATE: 9-May-12 PAGE: 9 OF 14

RESULTS:

A# 84682

BUTAN STORAGE TANK



SOUTH HEAD

UT 19-1 .377"
-2 .380"
-3 .379"
-4 .376"
-5 .381"
-6 .382"
-7 .380"
-8 .374"
-9 .377"
-10 .376"
-11 .375"
-12 .377"

UT 16

-1 .384"	-7 .416 .393"
-2 .384"	-8 .416 .393"
-3 .383"	-9 .427 .392"
-4 .382"	-10 .393"
-5 .382"	-11 .393"
-6 .393"	-12 .393"

UT 17

-1 .419"	-7 .426"
-2 .411"	-8 .426"
-3 .420"	-9 .427"
-4 .419"	-10 .429"
-5 .427"	-11 .428"
-6 .428"	-12 .428"

UT 18

-1 .427"	-7 .424"
-2 .424"	-8 .431"
-3 .424"	-9 .426"
-4 .422"	-10 .424"
-5 .422"	-11 .427"
-6 .423"	-12 .426"

UT 13

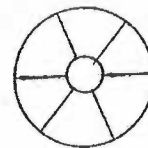
-1 .394"	-7 .396"
-2 .396"	-8 .399"
-3 .399"	-9 .401"
-4 .397"	-10 .400"
-5 .393"	-11 .397"
-6 .395"	-12 .397"

UT 14

-1 .389"	-7 .397"
-2 .387"	-8 .381"
-3 .387"	-9 .382"
-4 .389"	-10 .400"
-5 .387"	-11 .400"
-6 .392"	-12 .383"

UT 15

-1 .394"	-7 .385"
-2 .399"	-8 .386"
-3 .396"	-9 .389"
-4 .395"	-10 .389"
-5 .394"	-11 .387"
-6 .396"	-12 .387"



NORTH HEAD

UT 12-1 .346"
-2 .347"
-3 .343"
-4 .345"
-5 .342"
-6 .339"
-7 .337"
-8 .336"
-9 .334"
-10 .334"
-11 .334"
-12 .333"

SIGNATURES:

TECHNICIAN (SIGN):

PRINT NAME

Marcel Bertrand
1ST TECHNICIAN

2ND TECHNICIAN / ASSISTANT

JW

SAP # 66005067



ISO 9001:2008

NDE CONTINUATION REPORT

REPORT: U MB120509

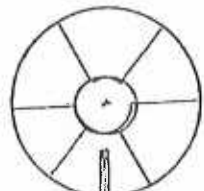
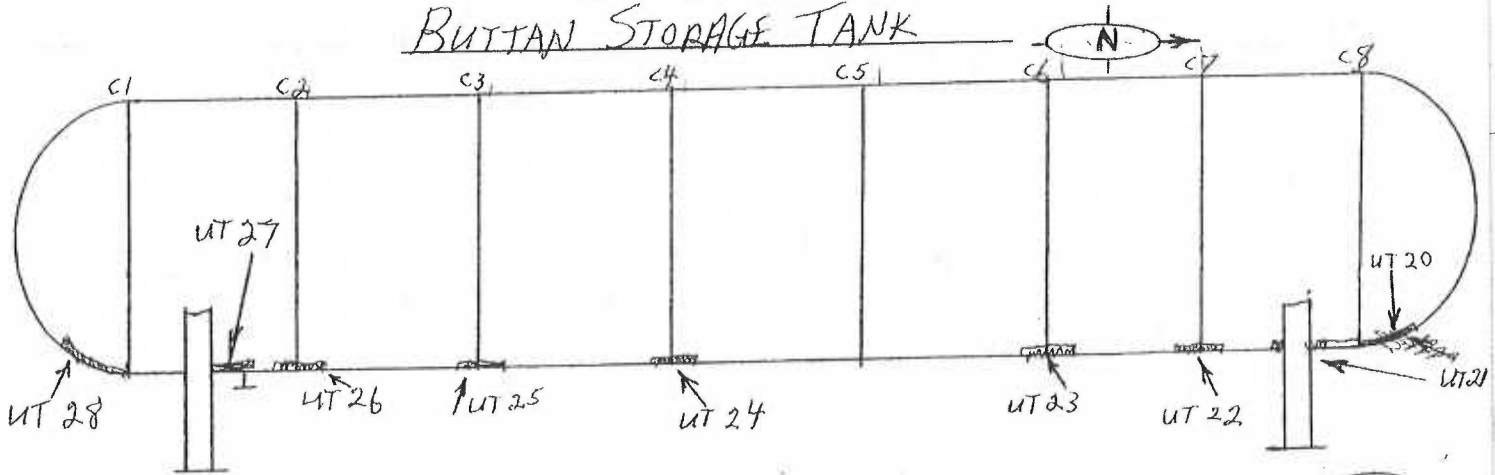
CLIENT: Husky Oil May 2012 Plant Shut Down

DATE: 9-May-12 PAGE: 10 OF 14

RESULTS:

A# 84683

BUTAN STORAGE TANK



SOUTH HEAD

UT-28		
-1	.349"	
-2	.353"	
-3	.351"	
-4	.354"	
-5	.350"	
-6	.357"	
-7	.357"	
-8	.347"	
-9	.347"	
-10	.348"	
-11	.351"	
-12	.350"	

UT 27		
-1	.420"	-7 .444"
-2	.413"	-8 .416"
-3	.418"	-9 .444"
-4	.417"	-10 .444"
-5	.414"	-11 .417"
-6	.414"	-12 .419"

UT 24		
-1	.419"	-7 .418"
-2	.418"	-8 .412"
-3	.418"	-9 .416"
-4	.419"	-10 .427"
-5	.417"	-11 .417"
-6	.419"	-12 .410"

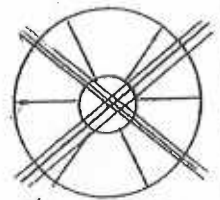
UT 25		
-1	.404"	-7 .410"
-2	.404"	-8 .414"
-3	.407"	-9 .414"
-4	.403"	-10 .417"
-5	.403"	-11 .418"
-6	.405"	-12 .416"

UT 26		
-1	.419"	-7 .419"
-2	.422"	-8 .420"
-3	.419"	-9 .418"
-4	.419"	-10 .417"
-5	.423"	-11 .414"
-6	.423"	-12 .419"

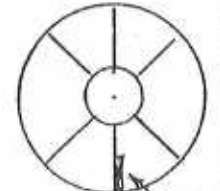
UT 21		
-1	.407"	-7 .411"
-2	.412"	-8 .410"
-3	.413"	-9 .410"
-4	.409"	-10 .409"
-5	.410"	-11 .409"
-6	.409"	-12 .408"

UT 22		
-1	.404"	-7 .407"
-2	.403"	-8 .412"
-3	.404"	-9 .415"
-4	.406"	-10 .414"
-5	.399"	-11 .413"
-6	.403"	-12 .412"

UT 23		
-1	.420"	-7 .421"
-2	.424"	-8 .419"
-3	.417"	-9 .417"
-4	.416"	-10 .420"
-5	.414"	-11 .424"
-6	.414"	-12 .423"



NORTH HEAD



UT 20		
-1	.349"	
-2	.352"	
-3	.357"	
-4	.353"	
-5	.357"	
-6	.352"	
-7	.356"	
-8	.350"	
-9	.351"	
-10	.356"	
-11	.347"	
-12	.350"	

SIGNATURES:

TECHNICIAN (SIGN):

PRINT NAME

Marcel Bertrand

1ST TECHNICIAN

2ND TECHNICIAN / ASSISTANT

SAP# 66005636



ISO 9001:2008

NDE CONTINUATION REPORT

REPORT: U MB120509

ACUREN

CLIENT: Husky Oil May 2012 Plant Shut Down

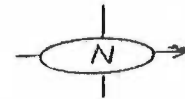
DATE: 9-May-12

PAGE: 11 OF 14

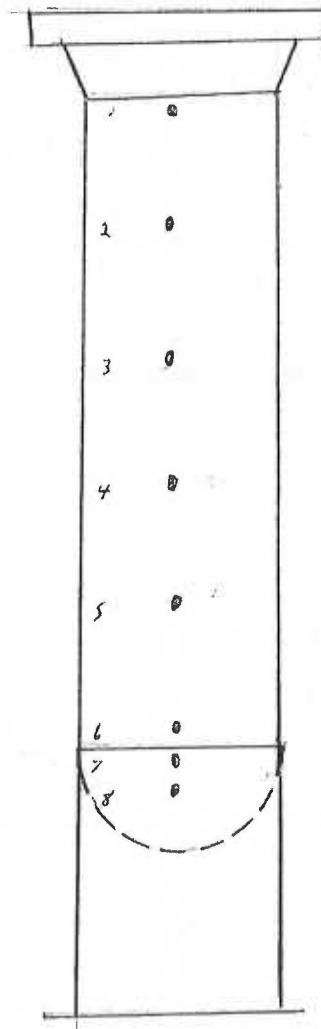
RESULTS:

A# 91447

VERTICAL FILTER (GLYCOL)



READING	1	0.831"
	2	0.822"
	3	0.825"
	4	0.846
	5	0.854"
	6	0.858"
	7	0.806"
	8	0.865"



SIGNATURES:

TECHNICIAN (SIGN):

PRINT NAME

Marcel Bertrand
1ST TECHNICIAN

2ND TECHNICIAN / ASSISTANT

Form Rev.: April 3, 2012

SAP# 66005632



ISO 9001:2008

NDE CONTINUATION REPORT

REPORT: U MB120509

ACUREN

CLIENT: Husky Oil May 2012 Plant Shut Down

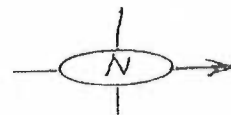
DATE: 9-May-12

PAGE: 12 OF 14

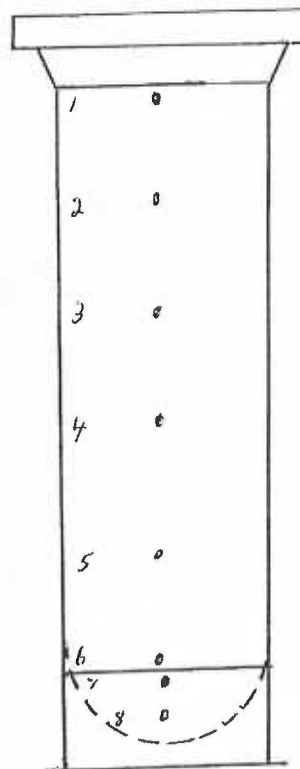
RESULTS:

A# 91448

GLYCOL FILTER



READING	1	0.805"
	2	0.814"
	3	0.830"
	4	0.850"
	5	0.867"
	6	0.875"
	7	0.799
	8	0.682"



SIGNATURES:

TECHNICIAN (SIGN):

PRINT NAME

Marcel Bertrand

1ST TECHNICIAN

2ND TECHNICIAN / ASSISTANT

SAP# 66005351



ISO 9001:2008

NDE CONTINUATION REPORT

REPORT: U MB120509

ACUREN

CLIENT: Husky Oil May 2012 Plant Shut Down

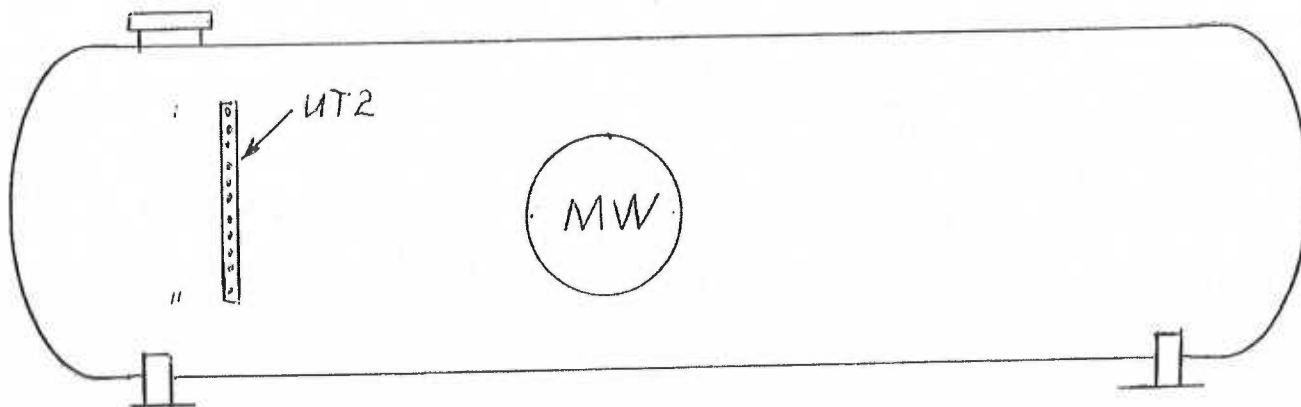
DATE: 9-May-12

PAGE: 13 OF 14

RESULTS:

A# 91102

DE-ETHANIZER HOT OIL TANK



UT2-1	0.785"
-2	0.783"
-3	0.783"
-4	0.784"
-5	0.784"
-6	0.782"
-7	0.782"
-8	0.784"
-9	0.784"
-10	0.787"
-11	0.787"

SIGNATURES:

TECHNICIAN (SIGN):

PRINT NAME

Marcel Bertrand
1ST TECHNICIAN

2ND TECHNICIAN / ASSISTANT

SAP# 66005116



ISO 9001:2008

NDE CONTINUATION REPORT

REPORT: U MB120509

ACUREN

CLIENT: Husky Oil May 2012 Plant Shut Down

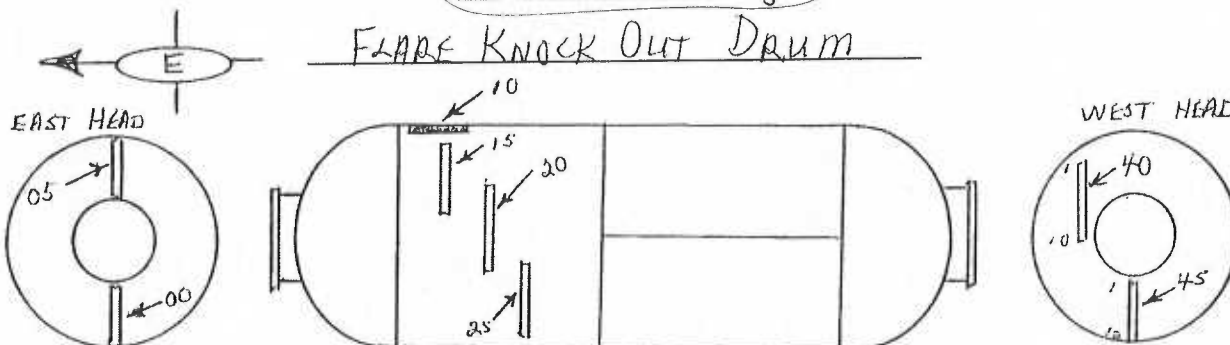
DATE: 9-May-12

PAGE: 14 OF 14

RESULTS:

A# 17726 - ?

FLARE KNOCK OUT DRUM



00-1	0.687"	10-1	0.785"	20-1	0.772"	40-1	0.644"
-2	0.687"	-2	0.787"	-2	0.768"	-2	0.647"
-3	0.685"	-3	0.788"	-3	0.768"	-3	0.642"
-4	0.696"	-4	0.792"	-4	0.778"	-4	0.640"
-5	0.700"	-5	0.791"	-5	0.773"	-5	0.642"
-6	0.638"	-6	0.788"	-6	0.770"	-6	0.643"
-7	0.693"	-7	0.790"	-7	0.790"	-7	0.645"
-8	0.729"	-8	0.793"	-8	0.769"	-8	0.648"
-9	0.764"	-9	0.786"	-9	0.763"	-9	0.647"
-10	0.869"	-10	0.779"	-10	0.774"	-10	0.663"
05-1	0.765"	15-1	0.786"	25-1	0.758"	45-1	0.662"
-2	0.763"	-2	0.790"	-2	0.762"	-2	0.673"
-3	0.714"	-3	0.788"	-3	0.754"	-3	0.663"
-4	0.723"	-4	0.791"	-4	0.755"	-4	0.662"
-5	0.718"	-5	0.795"	-5	0.762"	-5	0.664"
-6	0.725"	-6	0.796"	-6	0.751"	-6	0.670"
-7	0.721"	-7	0.790"	-7	0.755"	-7	0.665"
-8	0.707"	-8	0.787"	-8	0.752"	-8	0.687"
-9	0.705"	-9	0.792"	-9	0.760"	-9	0.662"
-10	0.701"	-10	0.792"	-10	0.748"	-10	0.663"

SIGNATURES:

TECHNICIAN (SIGN):

PRINT NAME

Marcel Bertrand

1ST TECHNICIAN2ND TECHNICIAN / ASSISTANT