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Tank Inspection Report

Location: Morgan Battery 10-34-51-4w4 Tank Type: T-106B Sales tank Date: June.17.2016
 Mfg: Universal Year blt: 1993 S/N: 97 06 0310384 CAP: 3000 bbl
 Floor Thk: 1/4" Shell Thk: 3/16" Roof Thk: 3/16"
 Requisitioned by: RAY TRACHUK Approver: MARC CASE Approver Code: 2Z-02018989
 WO #: 60263746 PO#: 8401063456 CC: _____ SAP #: GL#6160051

62066548

EXTERNAL INSPECTION:

ID	Item	Yes	Good	N/A	See Notes
GENERAL					
T1	Other (Please Explain)				
T2	Corrosion				
T3	Leaks	/			
T4	Vibration				
T5	Dissimilar Flange Rating				
T6	Ladder/Stairway	/	/		
T7	Platform				
T8	Electrical Ground				
T9	Cathodic Protection				
T10	Painted Inactive Corrosion				
T11	Coating/Painting	/	/		2
T12	Level Gauge	/	/		
T13	Bottom	/	/		3
T14	Secondary Containment				
T15	Shell	/	/		2
T16	Roof	/	/		2
T17	Agitator/ Mixer				
SUPPORTS					
T31	Other (Please Explain)				
T32	Foundation	/			3
T33	Anchor Bolts				
T34	Windgirders				
CONNECTIONS					
T41	Other (Please explain)				
T42	Small Branches	/	/		
T43	Nozzles	/	/		
T44	Pipe Manifolds	/	/		
T45	Swing Lines	/	/		
T46	Manways/Hatches	/	/		
T47	Reinforcing Pads	/	/		
T48	Inadequate Thread Engagement				
T49	Bolting	/	/		
T50	Flanges	/	/		
T51	Leak Clamps				
INSULATION					
T61	Other (Please explain)	/			4
T62	Damage				
T63	Penetrations				
T64	Jacket				
T65	Banding				
T66	Seals/Joints				
RELIEF DEVICE					
T7t	Other (Please explain)				
T72	Corrosion				
T73	Leaks				
T74	Restricted InleUOutlet				
T75	Manual Operation Lever				

INTERNAL INSPECTION:

ID	Item	Yes	Good	N/A	See Notes
GENERAL					
T1	Other (Please Explain)				
T2	Corrosion				
T3	Erosion				
T4	Distortion				
T5	Blisters				
T6	Deposits				
T7	Welds	/	/		
T8	Nozzles	/	/		5
T9	Shell	/	/		
T10	Roof	/	/		
T11	Floor	/	/		
GENERAL					
T21	Other - Firetube				
T21	Other - Anodes				
T22	Annular Ring				
T23	Sump				
T24	Roof Supports	/	/		
T25	Thermowells	/	/		
T26	Metallic Linings				
T27	Non Metallic Linings	/	/		5
T28	Internal Steam Coil / other Piping	/	/		5
T29	Level Gauge	/	/		
T30	Other Welded Attachements	/	/		
Backwelding Req'd					

ID	Notes
1	*Temp gauge in NE utility door seeping - *Re-tape & re install
2	Slight minor stc rust (external)
3	- On ring * Base starting to erode recommend "shoring up" Base to prevent further erosion
4	Not insulated
5	*Coating Flaking inside 8" nozzle on North wall * Coating Flaking/Chipping - (coil) 4' int of top 1/4' section on NE side on coil

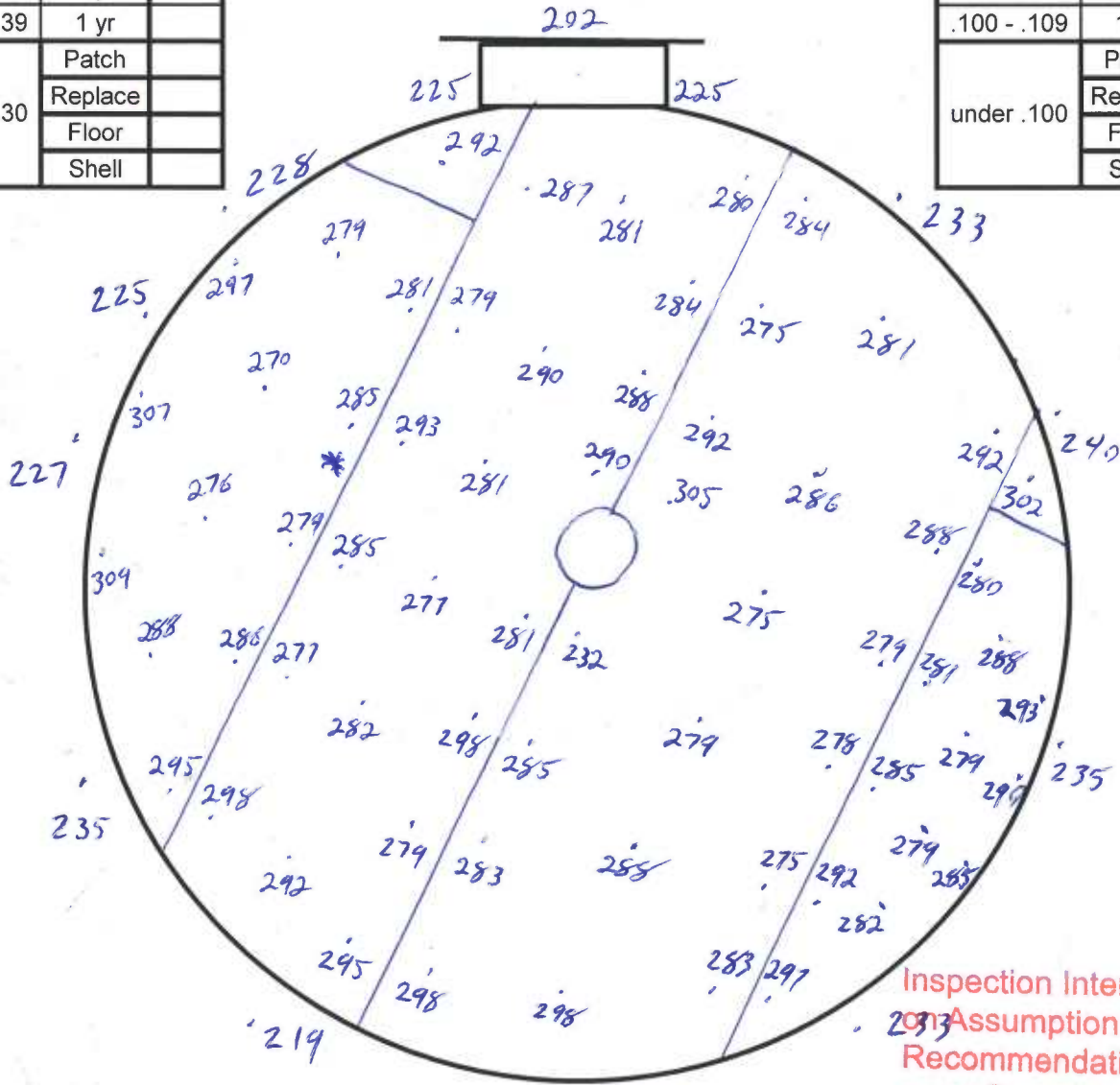
R.

Without MFE	
.170 - up	5 yr
.160 - .169	4 yr
.150 - .159	3 yr
.140 - .149	2 yr
.130 - .139	1 yr
under .130	Patch
	Replace
	Floor
	Shell

S/N: 97 06 0310384

Location: Morgan Battery 10-34-51-4w4

With MFE	
.140 - .150	5 yr
.130 - .139	4 yr
.120 - .129	3 yr
.110 - .119	2 yr
.100 - .109	1 yr
under .100	Patch
	Replace
	Floor
	Shell



Inspection Interval Based on Assumption that Recommendations were Completed

Comments:

* - Gorge in floor - Non issue - Coating still bonded

Inspected by:

Sheldon Trachuk

Date:

Jun. 17. 16

Husky Inspector:

Ray Trachuk

Date:

2016-06-22

RBMI + tracker entry

Jun 21/16 (RN)



MFL FLOOR SCAN REPORT

Report #: LYD1600687-ST-001rev1
Date: June. 17. 2016

ADDITIONAL INFORMATION

TANK DATA : Manufacturer GLM Tanks and Equipment

FLOOR THICKNESS: (0.250")
 TANK DIAMETER: n/a

ANNULAR RING THICKNESS: N/A
 FLOOR PLATE MATERIAL: N/A

FLOOR PLATES SURFACE CONDITION: Good Dirty Other: Wet Bulged Coated

MAGNETIC FIELD LEAKAGE SYSTEM

MANUFACTURER: MFE ENTERPRISE INC.
 MODEL(S): MFE MK2 2412
 TBP#(S): N/A
 IRISNDT#: 72600

ULTRASONIC TESTING SYSTEM

MANUFACTURER: KRAUTKRAMER
 MODEL(S): DMS 2
 IRISNDT#: 31092
 Cal Date Due Jul. 20. 2016

GAIN: 60dB
 RANGE: 1.00"
 COUPLANT: Echogel Batch No: 1143

PROBE: MODEL FH2E
 CRYSTAL SINGLE DUAL
 SERIAL #: 1580273U
 FREQUENCY: 8 MHz
 SIZE: 0.375"

CALIBRATION BLOCK: Step Wedge
 BLOCK MATERIAL: Carbon Steel
 IRISNDT #: 32725
 CALIBRATION RANGE: 0.100"-0.500"

COMMENTS:

Scope: To perform a Magnetic Flux Leakage (MFL) scan with follow up Ultrasonic Thickness measurements on the floor of the Tank SN # 97 06 0310384, T106B Sales Tank at LSD: 10-34-51-4w4 Morgan Battery for Husky Oil Operations LTD

Results: A MFL floor scan was performed on TK-106B sn# 97 06 0310384 to determine the condition and integrity of the tank bottom. No significant soil side indications of corrosion/pittings were found with remaining wall thickness ranged from 0.270" to 0.298" for 0.250" nominal thick floor plates (Plus coating thickness) MFL floor scan not representative of overall condition of tank, for additional inspection results see report# CA0325-NDT-12

1700-1830 = 1.5hrs. 0 km charged

MFL TECHNICIAN: Sheldon Trachuk CGSB #11405
 Assistant: Jordan Ross Level 1UT ASNT-TC-1A 1
 CUSTOMER REPRESENTATIVE:

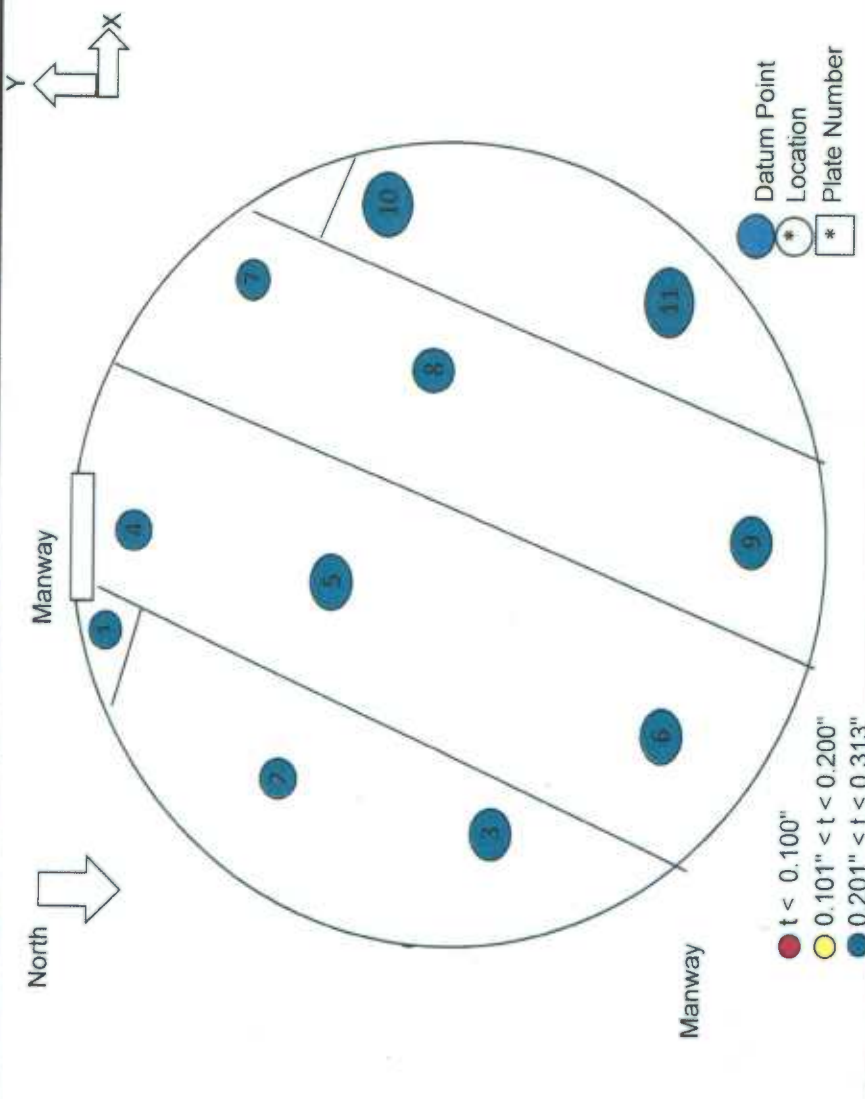


MFL FLOOR SCAN REPORT

Report #: LYD1600687-ST-001rev1
Date: June. 17. 2016

CUSTOMER Husky Oil Operations LTD	DISTRICT Morgan	FACILITY Morgan Battery	LSD 10-34-51-4w4
EQUIPMENT NUMBER TK-106B Sales Tank	SERIAL NUMBER sn#97 06 03 10384	TANK DESCRIPTION 3000BBL Sales tank	DISPATCH NUMBER LYD1600687

Random UT	thickness
	1 0.292"
	2 0.270"
	3 0.288"
	4 0.287"
	5 0.281"
	6 0.292"
	7 0.281"
	8 0.275"
	9 0.298"
	10 0.280"
	11 0.282"



FLOOR PLATE LAYOUT AND BACK-UP UT LOCATIONS

Type of Inspection: VT / UT

Test Technique: Visual / UT thickness inspection

Equipment: DMS 2 , Generator , Grinder

Code: CLIENT SPEC.,

Client: Husky Operations

IRISNDT #: LYD1600687

Location: Morgan Battery 10-34-51-4w4

Item Inspected: 3000BBL Tank 106B sales tank

Date: 17-Jun-16

WO #: 60263746

PO #: 8401063456

A Visual / UT / MFL Inspection was carried out on 1 – 3000BBL Tank @ Morgan Battery 10-34-51-4w4

Tank#106B Sales Tank SN# 97 06 0310384

Recommendations / Notes of inspection:

- Temp. Gauge / Thermowell in North East Utilidoor is seeping – Re-Tape and re-install
- On ring Base is starting to erode – Recommend “shoring up” base to prevent further erosion of base
- Coating is cracked / Flaking inside 8” Nozzle on North side of tank as well as 2 areas on coil inside tank.

NOTE: All coating repairs are marked in BLUE inside tank

For additional inspection results / remarks see attached pages – Combined with MFL report#LYD1600687-ST-001



Unit#: 667 Kilometers: 50
In: 1500 Out: 1700 Hrs: 2.0
In: Out: Hrs:

Personnel:
Sheldon Trachuk
Jordan Ross

Consumables:
---MIN---

Interpretation by:

Sheldon Trachuk
(Print)

SNT-TC-1A: 1

C.G.S.B.: UT-1
(Level)

C.G.S.B. #: 11405

(Signature)
Client Representative:
(Print)

I am in full
agreement with
report contents

(Sign)

Sheldon Trachuk
Ray Trachuk