Tank Calibration Package

Oct 24/2016	CRC	Regina, SK
Job # 16120	TK # 125	

Table increments: Inches ☐ Centimetres ☐

Table volume units: Barrels ☐ Cubic Meters ☐ Litres ☐

TANK DATA

Diameter: 55'-6" Height: 35' Safe Fill Height: 32'-7"

1) Product Information

Product Service to be: Diesel Product Density: 0.8549

Product Level @ Strapping: Empty Temperature @ Strapping: 10 Celsius ☒ Fahrenheit ☐

2) Tank Shell

Mild Steel ☒ Stainless ☐ Insulated: YES / (NO)

Reference Product Temperature: (15 °C) / other __

3) Tank Bottom

Cone up: _____ Cone down: _____ Flat ☐ Physical Survey ☒

4) Type of Roof

Cone ☒ Dome ☐ Flat ☐ Internal Floating ☐ External Floating ☐

5) *Under Side of Floating Roof:*

Flat Pan ☐ Round pontoon ☐ Angle pontoon ☐ Square pontoon ☐ Other _____

6) Weight of Floating Roof: _____ Kilograms / _____ pounds

7) Distance Between Floating Roof Pin Settings: _____

8) Roof Information

Height Tank Floor to Bottom of Deck or Pontoon Nearest Shell: _____

Height from Strike Point to Bottom of Floating Roof: _____

Height from deck to Tank Floor at Inner Edge of Pontoon _____

Pontoon Diameter or Height: _____ Pontoon Length: _____

Pontoon Rim Space: _____

9) Roof Position at Time of Measurements: HIGH / LOW position

Tank Calibration Package

NEXTGEN

DATE: Oct 24/16 TANK #: 125

FIELD DATA

1) Total Tank Height: 10.683 m

2) Gauge Height: 12.104 m 3) Distance Gauge Point to Shell: 51"

4) Overflow / Foam line Height: 10.31 m

5) Shell Construction:
(Butt Welded) / Lap Welded Other: _____

6) Number of Vertical Welds Per Course and Tape Rise (if Applicable):
Number: 11 Width: 3/4" Depth: 1mm

7) Tape Number: 11

8) Strapped Circumference: 53.085 m

FIELD TABLE

Ring #	Strapped %	Plate Thickness (in)	Ring Height (m)
Bottom		5/16	2.131
1	70%		
2	20%	1/2	2.144
	80%		
3	20	1/2	2.135
	80		
4	20	1/2	2.136
	80		
5	20	1/2	2.137
	80		
6			
7			
8			
9			
10			

Tank Calibration Package

NEXTGEN

DATE: Oct 24/16 TANK #: 125

DEADWOOD

INTERNAL

Quantity	Description	Diameter	Length	Open (O) Close (C)	Height From bottom	Height If not horizontal
6	C-channel column 2.5" x 9"	—	T.H	C	—	
6	C-channel column 2" x 7"	—	T H	C	—	
6	Column repad 18" x 18" x 0.5"	—		C		
2	H-Beam 181.5" long vertical 5"x5"x 1/4	—	181.5	C	10"	191.5"
2	Plate width 5.5" x 69.5" lenght	—	69.5	C	47.75	
2	Plate width 5.5" x 36" lenght	—	36	C		10"
1	Plate 42 x 28 x 1/4		42	C	0	1/4
1	Plate 36 x 38 x 1/4		36	C	0	1/4
1	Plate 33 x 34 x 1/4		33	C	0	1/4
1	Plate 60 x 60 x 1/4		60	C	0	1/4

EXTERNAL

Quantity	Description		Diameter	Length	Height
1	Manway	24" Ø	24	9.5	18
1	Nozzle	12"	12	13	12
2	Nozzle	2	2	6	23
1	Nozzle	12	12	9	11.5
1	Nozzle	8	8	8	13.5
1	Nozzle	8	8	7.5	13.75
1	Manway (mixer)	30"	30	8.5	14
1	D-Door	24" x 24"	—	6.5	0

Tank Calibration Package

NEXTGEN

DATE Oct 24/16 TANK # 125

PHYSICAL BOTTOM SURVEY

	SHELL	1	5	10	15	20	~~30~~ center	40	50	60	70	80	90	100	110	120	130	140	CTR.
1	533	545	532	542	579	661	655												
(X) 2	551	569	614	629	618	653	657												
3	559	593	647	610	654	663	655												
4	553	577	620	615	637	671	656												
5	552	556	551	592	662	653	655												
6	553	583	585	620	627	670	655												
7	549	583	669	622	640	660	657												
8	568	579	609	643	609	634	662												
9																			
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28																			

FLOATING ROOF SURVEY

	~~RIM~~	5	10	15	20	30	40	50	60	70	80	90	100	110	120	130	140	CTR.
1																		

1) Reading of Floor @ Strike Point: 562 (mark with "X" on table)
2) Reading of Roof @ Strike Point: —
3) Reading of Shell Nearest Strike Point: 543
4) Readings Recorded in: Inches / Feet / (Millimetres)
5) Direction of Stations: Clockwise / (Counter - Clockwise)

FF 4.13 Rev 1

Tank Calibration Package

NEXTGEN

DATE: Oct 24/16 TANK #: 125

OPTICAL READINGS

STATIONS	TANK COURSES															
	1		2		3		4		5		6		7		8	
	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%
1		647	638	636	639	619	605	573	562	560						
2		933	958	956	939	972	991	973	962	965						
3		461	463	462	470	496	524	529	512	479						
4		927	916	899	893	896	895	888	879	885						
5		802	817	806	801	791	785	786	781	763						
6		845	839	832	839	844	855	840	840	827						
7		635	623	641	658	662	626	609	618	614						
8		176	221	213	224	179	191	197	251	232						
9																
10																
11																
12																
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26																

1) OVERFLOW HEIGHT: —

2) FOAMLINE HEIGHT: 10.31 m BTM 1.137 TOP 1.447

3) Internal / External

4) Direction of Stations: Clockwise / Counter-Clockwise

Course Heights

0:	1.789	2.131
1:	3.920	2.144
2:	6.064	2.135
3:	8.199	2.136
4:	10.335	2.062
5:	12.397	0.075
6:	12.472	

10.683 m

Tank Calibration Package

Date Created	Company	Site Location
Nov 4/16	CRC	Regina, SK
Next Gen Job #	Tank Number	Personnel
16122	54-10-63	EM/SM/TH

Table increments: Inches ☑ Centimetres ☐

Table volume units: Barrels ☐ Cubic Meters ☐ Litres ☑

TANK DATA

Diameter: 60' Height: ~~40'~~ 26' Safe Fill Height: 26'

1) Product Information

Product Service to be: Slurry Product Density: S.G: 1.0580

Product Level @ Strapping: Empty Temperature @ Strapping: 13° Celsius ☑ Fahrenheit ☐

2) Tank Shell

Mild Steel ☑ Stainless ☐ Insulated: YES / NO

Reference Product Temperature: 15 °C / other _____

3) Tank Bottom

Cone up: _____ Cone down: _____ Flat ☐ Physical Survey ☑

4) Type of Roof

Cone ☑ Dome ☐ Flat ☐ Internal Floating ☐ External Floating ☐

5) Under Side of Floating Roof:

Flat Pan ☐ Round pontoon ☐ Angle pontoon ☐ Square pontoon ☐ Other _____

6) Weight of Floating Roof: _____ Kilograms / _____ pounds

7) Distance Between Floating Roof Pin Settings: _____

8) Roof Information

Height Tank Floor to Bottom of Deck or Pontoon Nearest Shell: _____

Height from Strike Point to Bottom of Floating Roof: _____

Height from deck to Tank Floor at Inner Edge of Pontoon _____

Pontoon Diameter or Height: _____ Pontoon Length: _____

Pontoon Rim Space: _____

9) Roof Position at Time of Measurements: HIGH / LOW position

Tank Calibration Package

NEXTGEN

DATE: Nov 8/16 TANK #: 54-10-63

FIELD DATA

1) Total Tank Height: 26'

2) Gauge Height: 9.294 M 3) Distance Gauge Point to Shell: 49"

4) ~~Overflow~~ / ~~Foam line~~ Height: —

5) Shell Construction:
Butt Welded / Lap Welded Other: _____

6) Number of Vertical Welds Per Course and Tape Rise (if Applicable):
Number: 12 Width: 3/4 Depth: 1MM

7) Tape Number: _____

8) Strapped Circumference: 57.515'

FIELD TABLE

Ring #	Strapped %	Plate Thickness (in)	Ring Height	
Bottom				
1	(67"up) 70%	0.4327	8'	2.438M
2	20 / 80	0.2934	4' 1/2	1.219M
3	20 / 80	0.3008	4'	1.219M
4	20 / 80	0.2587	6'	1.829M
5	20 / 80	0.2615	4'	1.219M
6				
7				
8				
9				
10				

Tank Calibration Package

DATE: Nov 8/16 TANK #: 54-10-63

DEADWOOD

INTERNAL

Quantity	Description	Diameter	Length	Open (O) Close (C)	Height From bottom	Height If not horizontal
2	Pipe (coil heater)	3"	159'-3"	C	17"	36"
2	Pipe support (x 3.5" x 3.5" x 5/16")	—	16"	—	0"	16"
6	" " "	—	18.5"	—	0"	18.5"
8	" " "	—	22.5"	—	0"	22.5"
6	" " "	—	26.5"	—	0"	26.5"
22	Repad 8" x 8" x 1/4"	—	—	—	0"	1/4"
1	Centre column I-Beam 10" x 4"	—	—	—	1.5"	TH
1	centre column I-Beam 12" x 3"	—	—	—	1.5"	TH
1	Repad 60" x 60" x 1.5"	—	—	—	0"	1.5"
1	Repad 6.5" x 20" x 1/4"	—	—	—	0"	1/4"
2	Nozzle	2"	14"	O	7.5"	1"

EXTERNAL

Quantity	Description	Diameter	Length	Height
1	Manway	20"	6.5"	20"
1	Nozzle	8"	14"	9"
1	Manway (mixer)	30"	9"	21"
1	Manway	24"	8.5"	18"
1	~~Nozzle~~ D-Door	24" x 24"	7"	0"
1	Nozzle	6"	10.5"	27"
1	Nozzle	4"	13"	28"
1	Nozzle	3"	10.5"	28"
1	Nozzle	4"	9"	27"
1	Manway (mixer)	30"	8"	20"
1	Nozzle	10"	14"	22"
2	Nozzle	4"	7.5"	7"

Tank Calibration Package

NEXTGEN

DATE Nov 8/16 TANK # 63

PHYSICAL BOTTOM SURVEY

	SHELL	1	5	10	15	20	30	40	50	60	70	80	90	100	110	120	130	140	CTR.
1	395	393	410	434	452	482													493
2	407	400	405	419	448	459													493
3	410	396	420	441	457	486													493
4	403	398	423	419	443	460													488
5	390	397	409	415	438	496													496
6	405	426	450	437	449	475													493
7	403	402	423	429	446	466													490
8	398	400	428	446	462	480													495
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FLOATING ROOF SURVEY

		RIM	5	10	15	20	30	40	50	60	70	80	90	100	110	120	130	140	CTR.
1																			

1) Reading of Floor @ Strike Point: 404 (mark with "X" on table)
2) Reading of Roof @ Strike Point: _____
3) Reading of Shell Nearest Strike Point: 395
4) Readings Recorded in: **Inches** / **Feet** / **Millimetres**
5) Direction of Stations: **Clockwise** / **Counter - Clockwise**

Tank Calibration Package

NEXTGEN

DATE: Nov 8/16 TANK #: 63

OPTICAL READINGS

S.H 70%

STATIONS	TANK COURSES															
	1		2		3		4		5		6		7		8	
	20%	~~80%~~ S.H	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%
1		695	683	678	696	704	721	724	730	734						
2		772	775	775	781	787	779	775	777	789						
3		320	331	322	317	321	328	334	331	341						
4		933	938	942	944	941	946	952	954	957						
5		882	880	880	892	892	898	909	906	906						
6		349	389	384	358	355	355	344	349	364						
7		215	226	221	215	215	222	229	238	252						
8		223	266	225	216	222	232	256	270	281						
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22																
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25																
26																

Course Height

0
1
2
3
4
5

7.812

① 2.409
② 1.204
③ 1.212
④ 1.804
⑤ 1.213

I used Nominals for course heights Because the welds were very scabby

Nominals on Pg 2.

1) OVERFLOW HEIGHT: _____

2) FOAMLINE HEIGHT: _____

3) Internal / (External)

4) Direction of Stations: Clockwise / (Counter-Clockwise)

5) Strapping Height: 67" up

Tank Calibration Package

NEXTGEN

Nov 25/16	Matrix / Keyera	Keyera Edmonton Terminal
16130	102	56/6M

Table increments: Inches ☐ Centimetres ☐

Table volume units: Barrels ☐ Cubic Meters ☑ Litres ☐

TANK DATA

Diameter: 81'6" Height: 85'2" Safe Fill Height: _____ Data to be Inverted?: Yes ☐ No ☐

1) Product Information

Product Service to be: condensate Product Density: 600 - 775

Product Level @ Strapping: 0 Temperature @ Strapping: -3 Celsius ☑ Fahrenheit ☐

2) Tank Shell

Mild Steel ☒ Stainless ☐ Insulated: YES / (NO)

Reference Product Temperature: (15 °C) / other _____

3) Tank Bottom

Cone up: ✓ Cone down: _____ Flat ☐ Physical Survey ☐

4) Type of Roof

Cone ☐ Dome ☐ Flat ☐ Internal Floating ☒ External Floating ☐ not installed yet

5) Under Side of Floating Roof: Floating Roof not installed at time of strapping

Flat Pan ☐ Round pontoon ☐ Angle pontoon ☐ Square pontoon ☐ Other Sandborn

6) Weight of Floating Roof: _____ Kilograms / 12,425 pounds

7) Distance Between Floating Roof Pin Settings: _____

8) Roof Information Floating Roof not installed at time of strapping

Height Tank Floor to Bottom of Deck or Pontoon Nearest Shell: _____

Height from Strike Point to Bottom of Floating Roof: _____

Height from deck to Tank Floor at Inner Edge of Pontoon _____

Pontoon Diameter or Height: _____ Pontoon Length: _____

Pontoon Rim Space: _____

9) Roof Position at Time of Measurements: HIGH / LOW position

Tank Calibration Package

NEXTGEN

DATE: Nov 25/16 TANK #: 102

FIELD DATA

1) Total Tank Height: _____

2) Gauge Height: 26.267m 3) Distance Gauge Point to Shell: 1110mm
*gauge height measured to top of flange

4) Overflow / Foam line Height: _____

5) Shell Construction:
Butt Welded / Lap Welded Other: _____

6) Number of Vertical Welds Per Course and Tape Rise (if Applicable):
Number: 7 Width: _____ Depth: _____

7) Tape Number: N/A

8) Strapped Circumference: 12.4107m radius found from internal measurement

9) Benchmark Description: Measured to the edge of the flange no thief Hatch installed.

FIELD TABLE

Ring #	Strapped %	Plate Thickness	Ring Height
Bottom			
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			

Strapping Height: 75"

Course Heights

0	99.917
1	102.944
2	105.349
3	107.768
4	110.785
5	113.804
6	116.829
7	119.851
8	122.877
9	125.868

bottom surface of angle

1.75
0.375
2.125

Tank Calibration Package

NEXTGEN

DATE: Nov 25/16 TANK #: 102

DEADWOOD

INTERNAL

Quantity	Description	Diameter	Length	Open (O) Close (C)	Height From bottom	Height If not horizontal	
1	Reinforcing Pad (12"x19"x1/4")						
2 "	Pipe Support ∠2.5"x14"				0	14"	Vertical
1	Pipe Support ∠2.5"x10"		10"		3"		Horizontal
1	Pipe	4"	140"	O	6.5"	10.5"	
1	Pipe	8"	130"	O	11"	19"	
1	Repad (12"x24"x1/4")						
2 "	Pipe Support ∠2.5"x21"				0	21"	Vertical
1	Pipe Support ∠2.5"x16"		16"		8"		Horizontal
1	Pipe (elbow up)	24"	44"	O	14"	46"	
2 "	Vertical Plate (27.5"x10"x1/4")				45"	55"	
3 "	Clips ∠2"x2"				0"	6"	Vertical
3 "	Pipe Support ∠3"x2"		20"		0"	17.5"	Angle
1	Gauge Pole	8"		O	6"	TH	
1	Repad (disc)	32"			0"	1"	
2 "	Pipe Support ∠2.5"x26"				0"	26"	Vertical
1	Pipe Support ∠2.5"x22"				3.5"		Horizontal
1	Repad (12"x30"x1/4")						
1	Pipe	16"	166"	O	6"	22"	
~~1~~	~~Pipe~~	~~8~~	~~15~~	~~O~~	~~30.5~~	~~38.5~~	
~~1~~	~~Pipe~~	~~8~~	~~105~~	~~O~~	~~31~~	~~39~~	
1	Pipe	10"	10'	O	35.5"	45.5"	
1	Centre Column	24"		O	1.75"	TH	
1	Plate	30"			1.75"	2.125"	
1	Repad (disc)	60"			0"	1.75"	
3 "	Clips ∠2.5x2.5"				1.75"	8"	Vertical

Tank Calibration Package

NEXTGEN

EXTERNAL

Quantity	Description	Diameter	Length	Height
~~3~~ 4	Manway	34.5"	8"	19"
2	Manway	22.5"	8"	13.5"
1	Sump (36" Ø x 12" Depth)	36"		
1	Nozzle	24"	24"	14"
1	Nozzle	8"	14"	11"
2	Nozzle	4"	13"	6.5"
1	Nozzle	10"	16"	35.5"
1	Nozzle	16"	15"	6"

Tank Calibration Package

NEXTGEN

DATE Nov 29/16 TANK # T 102

PHYSICAL BOTTOM SURVEY

	SHELL	1	5	10	15	20	30	40	50	60	70	80	90	100	110	120	130	140	CTR
1	667	645	604	619	600	609	588												566
2	671	649	592	627	620	615	571												568
3	670	652	594	618	609	604	584												570
4	668	650	607	604	610	600	578												570
5	670	651	620	627	616	610	578												567
6	668	643	583	605	620	615	584												566
7	668	650	606	625	625	612	568												566
8	670	656	597	615	618	604	584												567
9	670	652	601	631	607	602	586												568
10	669	653	595	613	610	606	585												568
11																			
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28																			

FLOATING ROOF SURVEY

		RIM	5	10	15	20	30	40	50	60	70	80	90	100	110	120	130	140	CTR.
1																			

1) Reading of Floor @ Strike Point: 606 (mark with "X" on table)
2) Reading of Roof @ Strike Point: _____
3) Reading of Shell Nearest Strike Point: 667
4) Readings Recorded in: Inches / Feet / (Millimetres)
5) Direction of Stations: Clockwise / (Counter - Clockwise)

643

Tank Calibration Package

NEXTGEN

DATE: Nov 25/16 TANK #: 102

OPTICAL READINGS

STATIONS	TANK COURSES																	
	1 75"		2		3		4		5		6		7		8		9	
	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%
1		632	644	644	644	640	640	652	654	650	647	637	634	642	648	644	642	639
2		492	489	485	479	482	485	493	494	497	498	508	513	516	532	528	523	524
3		283	288	300	301	301	301	300	294	305	317	311	310	312	310	313	316	323
4		767	772	776	775	775	775	771	762	753	750	742	719	722	728	719	711	699
5		758	756	757	757	757	757	772	778	788	793	805	820	823	821	821	817	831
6		290	289	278	276	279	282	286	283	294	295	284	281	272	280	280	284	281
7		478	478	482	482	482	480	469	469	465	464	462	463	466	470	471	473	465
8		643	648	658	659	653	653	665	669	670	663	669	665	656	660	651	656	667
9		069	064	061	060	065	068	073	075	082	084	086	088	085	091	084	082	087
10		069	057	059	061	066	068	063	061	061	061	055	054	045	052	054	053	055
11																		
12																		
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23																		
24																		
25																		
26																		

1) OVERFLOW HEIGHT: _____

2) FOAMLINE HEIGHT: _____

3) (Internal) / External

4) Direction of Stations: Clockwise / (Counter-Clockwise)

Tank Calibration Package

November 30/2016	Matrix/Keyera	KET
16130	101	56/BM

Table increments: Inches ☐ Centimetres ☑

Table volume units: Barrels ☐ Cubic Meters ☑ Litres ☐

TANK DATA

Diameter: 81'6" Height: 85'2" Safe Fill Height: _____ Data to be inverted?: Yes ☐ No ☐

1) Product Information

Product Service to be: Condensate Product Density: 775

Product Level @ Strapping: 0 Temperature @ Strapping: -7 Celsius ☑ Fahrenheit ☐

2) Tank Shell

Mild Steel ☑ Stainless ☐ Insulated: YES / (NO)

Reference Product Temperature: (15 °C) / *other* _____

3) Tank Bottom

Cone up: ✓ Cone down: _____ Flat ☐ Physical Survey ☑

4) Type of Roof Floating Roof Not Installed at time of strap

Cone ☐ Dome ☐ Flat ☐ Internal Floating ☑ External Floating ☐

5) Under Side of Floating Roof:

Flat Pan ☐ Round pontoon ☐ Angle pontoon ☐ Square pontoon ☐ Other Sandborn

6) Weight of Floating Roof: _____ Kilograms / 12,425 pounds

7) Distance Between Floating Roof Pin Settings: _____

8) Roof Information

Height Tank Floor to Bottom of Deck or Pontoon Nearest Shell: _____

Height from Strike Point to Bottom of Floating Roof: _____

Height from deck to Tank Floor at Inner Edge of Pontoon _____

Pontoon Diameter or Height: _____ Pontoon Length: _____

Pontoon Rim Space: _____

9) Roof Position at Time of Measurements: HIGH / LOW position

Tank Calibration Package

DATE: Nov 30/16 TANK #: 101

FIELD DATA

1) Total Tank Height: 85'2"

2) Gauge Height: 26.273m 3) Distance Gauge Point to Shell: 1060mm
*gauge height measured to top of flange on south side of gauge pole

4) Overflow / Foam line Height: _____

5) Shell Construction:
(Butt Welded) / Lap Welded Other: _____

6) Number of Vertical Welds Per Course and Tape Rise (if Applicable):
Number: 7 Width: _____ Depth: _____

7) Tape Number: N/A

8) Strapped Circumference: 12.4063 m radius

9) Benchmark Description: Measured to edge of flange
No thief hatch installed

FIELD TABLE

Ring #	Strapped %	Plate Thickness	Ring Height
Bottom			
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			

Course Heights

0	99.918
1	102.955
2	105.364
3	107.777
4	110.798
5	113.821
6	116.844
7	119.861
8	122.887
9	125.875 bottom of angle

Tank Calibration Package

NG GEN

DATE: Nov 30/16 TANK #: 101

DEADWOOD

INTERNAL

Quantity	Description	Diameter	Length	Open (O) Close (C)	Height From bottom	Height If not horizontal	
1	Pipe	16"	166"	O	6"	22"	
1	Repad 12"x19"x1/4"						
2	Pipe Support ∠2.5"x14"				0"	14"	Vertical
1	Pipe Support ∠2.5"x10"		10"		3"		Horizontal
1	Pipe	4"	140"	O	6.5"	10.5"	
1	Pipe	8"	130"	O	11"	19"	
1	Repad 12"x24"x1/4"						
2	Pipe Support ∠2.5"x21"				0"	21"	Vertical
1	Pipe Support ∠2.5"x16"		16"		8"		Horizontal
1	Pipe (elbow up)	24"	44"	O	14"	46"	
2	Vertical Plate 27.5"x10"x1/4"				45"	55"	
3	Clips ∠2"x2"				0"	6"	Vertical
3	Pipe Support ∠3"x2"		20"		0"	17.5"	Angle
1	Gauge Pole	8"		O	6"	TH	
1	Repad (disc)	32"			0"	1"	
2	Pipe Support ∠2.5"x26"				0"	26"	Vertical
1	Pipe Support ∠2.5"x22"		22"		3.5"		Horizontal
1	Repad 12"x30"x1/4"						
1	Pipe	10"	10"	O	35.5"	45.5"	
1	Centre Column	24"		O	1.75"	TH	
1	Plate	30"			1.75"	2.125"	
1	Repad (disc)	60"			0"	1.75"	
3	Clips ∠2.5"x2.5"				1.75"	8"	Vertical

NG GEN

EXTERNAL

Quantity	Description	Diameter	Length	Height
1	Manway	345"	8"	19"
2	Manway	22.5"	8"	13.5"
1	Nozzle	10"	10"	35"
1	Sump 36" ø 12" deep	36"		
1	Nozzle	24"	24"	14"
2	Nozzle	8"	14"	11"
1	Nozzle	4"	13"	6.5"
	Nozzle	16"	18"	6"

Tank Calibration Package

DATE Nov 30/16 TANK # 101

PHYSICAL BOTTOM SURVEY

	SHELL	1	5	10	15	20	30	40	50	60	70	80	90	100	110	120	130	140	CTR.
1	705	678	609	637	653	644	609												614
2	703	687	637	643	645	632	605												613
3	692	672	622	619	642	635	600												613
4	700	685	640	660	647	623	623												614
X 5	702	680	647	628	630	640	597												613
6	703	676	614	647	640	642	598												612
7	701	681	631	653	642	640	615												613
8	693	674	635	660	638	630	605												613
9	695	677	644	653	642	644	596												610
10	702	685	620	627	641	645	622												608
11																			
12																			
13																			
14																			
15																			
16																			
17																			
18																			
19																			
20																			
21																			
22																			
23																			
24																			
25																			
26																			
27																			
28																			

FLOATING ROOF SURVEY

		RIM	5	10	15	20	30	40	50	60	70	80	90	100	110	120	130	140	CTR.
1																			

1) Reading of Floor @ Strike Point: 637 (mark with "X" on table)
2) Reading of Roof @ Strike Point: _____
3) Reading of Shell Nearest Strike Point: 702
4) Readings Recorded in: Inches / Feet / (Millimetres)
5) Direction of Stations: Clockwise / (Counter - Clockwise)

Tank Calibration Package

DATE: Nov 30/16 TANK #: 101

OPTICAL READINGS

STATIONS	TANK COURSES																	
	1 (71" 1800mm)		2		3		4		5		6		7		8		9	
	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%
1		276	279	280	284	293	294	298	298	294	296	306	312	306	306	303	304	296
2		808	807	816	819	823	827	837	842	856	865	859	869	882	888	892	893	898
3		828	817	810	808	791	785	781	777	774	771	765	761	755	749	733	726	729
4		371	371	368	371	377	376	373	377	385	391	393	396	391	389	384	383	386
5		557	552	550	545	540	542	550	550	548	536	544	#549	577	584	583	583	575
6		642	647	643	644	656	662	679	677	684	676	701	706	709	711	712	706	715
7		042	042	051	061	068	068	062	062	071	084	079	078	076	066	071	072	079
8		971	972	966	964	950	949	955	958	946	942	927	923	926	930	916	904	894
9		544	537	533	534	538	542	551	555	566	564	540	529	544	556	561	555	551
10		433	436	453	456	448	447	451	450	464	468	463	460	455	454	452	470	474
11																		
12																		
13																		
14																		
15																		
16																		
17																		
18																		
19																		
20																		
21																		
22																		
23																		
24																		
25																		
26																		

1) OVERFLOW HEIGHT: _____

2) FOAMLINE HEIGHT: _____

3) (Internal) / External

4) Direction of Stations: Clockwise / (Counter-Clockwise)

Tank Calibration Package

November 29/2016	Matrix/Keyera	KET
16130	103	56/EM

Table increments: Inches ☐ Centimetres ☑

Table volume units: Barrels ☐ Cubic Meters ☑ Litres ☐

TANK DATA

Diameter: 81'6" Height: 85'2" Safe Fill Height: _____ Data to be Inverted?: Yes ☐ No ☐

1) Product Information

Product Service to be: Condensate Product Density: 775

Product Level @ Strapping: 0 Temperature @ Strapping: -4 Celsius ☑ Fahrenheit ☐

2) Tank Shell

Mild Steel ☑ Stainless ☐ Insulated: YES / (NO)

Reference Product Temperature: (15 °C) / *other* _____

3) Tank Bottom

Cone up: ✓ Cone down: _____ Flat ☐ Physical Survey ☑

4) Type of Roof Floating Roof not installed at time of strap

Cone ☐ Dome ☐ Flat ☐ Internal Floating ☑ External Floating ☐

5) Under Side of Floating Roof:

Flat Pan ☐ Round pontoon ☐ Angle pontoon ☐ Square pontoon ☐ Other Sandborn

6) Weight of Floating Roof: _____ Kilograms / 12,425 pounds

7) Distance Between Floating Roof Pin Settings: _____

8) Roof Information

Height Tank Floor to Bottom of Deck or Pontoon Nearest Shell: _____

Height from Strike Point to Bottom of Floating Roof: _____

Height from deck to Tank Floor at Inner Edge of Pontoon _____

Pontoon Diameter or Height: _____ Pontoon Length: _____

Pontoon Rim Space: _____

9) Roof Position at Time of Measurements: HIGH / LOW position

Tank Calibration Package

DATE: Nov 29/16 TANK #: 103

FIELD DATA

1) Total Tank Height: 85'2"

2) Gauge Height: 26.285m 3) Distance Gauge Point to Shell: 1080mm
*gauge height measured to top of flange on south side of gauge pole

4) Overflow / Foam line Height: _____

5) Shell Construction:
(Butt Welded) / Lap Welded Other: _____

6) Number of Vertical Welds Per Course and Tape Rise (if Applicable):
Number: 7 Width: _____ Depth: _____

7) Tape Number: N/A

8) Strapped Circumference: 12.4028m (Radius)

9) Benchmark Description: Measured to edge of flange
No thief hatch installed

FIELD TABLE

Ring #	Strapped %	Plate Thickness	Ring Height
Bottom			
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			

Course Heights

0	99.990
1	103.010
2	105.422
3	107.839
4	110.853
5	113.878
6	116.901
7	119.919
8	122.940
9	125.928 bottom of angle

Tank Calibration Package

DATE: Nov 29/16 TANK #: 103

DEADWOOD

INTERNAL

Quantity	Description	Diameter	Length	Open (O) Close (C)	Height From bottom	Height If not horizontal	
1	Pipe	16"	166"	O	6"	22"	
1	Repad (12"x19"x¼")						
2	Pipe Support c/2.5"x14"				0"	14"	Vertical
1	Pipe Support c/2.5"x10"		10"		3"		Horizontal
1	Pipe	4"	140"	O	6.5"	10.5"	
1	Pipe	8"	130"	O	11"	19"	
1	Repad (12"x24"x¼")						
2	Pipe Support c/2.5"x21"				0"	21"	Vertical
1	Pipe Support c/2.5"x16"		16"		8"		Horizontal
1	Pipe (elbow up)	24"	44"	O	14"	46"	
2	Vertical Plate (27.5"x10"x¼")				45"	55"	
3	Clips c/2"x2"				0"	6"	Vertical
3	Pipe Support c/3"x2"		20"		0"	17.5"	Angle
1	Gauge Pole	8"		O	6"	TH	
1	Repad (disc)	32"			0"	1"	
2	Pipe Support c/2.5"x26"				0"	26"	Vertical
1	Pipe Support c/2.5"x22"		22"		3.5"		Horizontal
1	Repad (12"x30"x¼")						
1	Pipe	10"	10"	O	36.5"	45.5"	
1	Cable Column	24"		O	1.75"	TH	
1	Plate	30"			1.75"	2.125"	
1	Repad (disc)	60"			0"	1.75"	
3	Clips c/2.5"x2.5"				1.75"	8"	Vertical

Tank Calibration Package

NG GEN

EXTERNAL

Quantity	Description	Diameter	Length	Height
4	Manway	34.5"	8"	19"
2	Manway	22.5"	8"	13.5"
1	Nozzle	10"	10"	35"
1	Sump (36" Ø x 12' deep)	36"		
1	Nozzle	24"	24"	14"
2	Nozzle	8"	14"	11"
1	Nozzle	4"	13"	6.5"
		16"	18"	6"

Tank Calibration Package

DATE Nov 29/16 TANK # 103

PHYSICAL BOTTOM SURVEY

	SHELL	1	5	10	15	20	30	40	50	60	70	80	90	100	110	120	130	140	CTR.
1	740	718	660	700	719	690	668												653
2	743	721	663	693	683	678	647												648
3	738	722	664	678	707	690	670												650
4	744	728	681	677	706	686	648												650
5	738	716	684	709	704	699	649												648
6	740	717	672	698	684	691	640												653
X 7	742	715	704	716	697	703	665												656
8	742	720	672	703	720	693	663												660
9	751	727	682	725	705	695	668												655
10	745	720	670	705	700	681	643												657
11																			
12																			
13																			
14																			
15																			
16																			
17																			
18																			
19																			
20																			
21																			
22																			
23																			
24																			
25																			
26																			
27																			
28																			

FLOATING ROOF SURVEY

		RIM	5	10	15	20	30	40	50	60	70	80	90	100	110	120	130	140	CTR.
1																			

1) Reading of Floor @ Strike Point: 690 (mark with "X" on table)
2) Reading of Roof @ Strike Point: _____
3) Reading of Shell Nearest Strike Point: 742
4) Readings Recorded in: Inches / Feet / **Millimetres**
5) Direction of Stations: Clockwise / **Counter - Clockwise**

Tank Calibration Package

DATE: Nov 29/16 TANK #: 103

OPTICAL READINGS

STATIONS	TANK COURSES																	
	1 1800mm		2		3		4		5		6		7		8		9	
	20%		20%	80%	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%
1		175	185	187	184	181	181	163	157	155	150	155	156	147	144	134	120	097
2		452	455	459	459	458	455	459	463	468	477	486	493	500	502	503	500	513
3		656	655	647	651	654	651	638	637	638	640	636	633	626	617	627	619	616
4		162	168	179	177	173	166	184	194	193	194	196	192	203	206	199	194	196
5		193	187	186	179	171	175	184	187	190	196	205	204	194	201	204	192	205
6		717	712	712	714	716	715	714	714	719	723	718	719	715	710	725	718	721
7		498	497	500	503	507	513	524	530	528	529	532	529	525	526	525	522	527
8		202	200	199	198	203	205	206	215	225	224	218	216	212	211	205	197	197
9		653	666	682	689	690	695	707	713	726	732	739	746	753	764	758	764	776
10		633	637	636	642	659	659	653	650	636	630	645	642	630	629	630	633	641
11																		
12																		
13																		
14																		
15																		
16																		
17																		
18																		
19																		
20																		
21																		
22																		
23																		
24																		
25																		
26																		

1) OVERFLOW HEIGHT: _____

2) FOAMLINE HEIGHT: _____

3) (Internal) / External

4) Direction of Stations: Clockwise / (Counter-Clockwise)

Tank Calibration Package

November 28/2016	Matrix / Keyera	KET
16130	104	JG/EM

Table increments: Inches ☐ Centimetres ☑

Table volume units: Barrels ☐ Cubic Meters ☑ Litres ☐

TANK DATA

Diameter: 81'6" Height: 85'2" Safe Fill Height: _____ Data to be Inverted?: Yes ☐ No ☐

1) Product Information

Product Service to be: Condensate Product Density: 600-775

Product Level @ Strapping: 0 Temperature @ Strapping: -4 Celsius ☑ Fahrenheit ☐

2) Tank Shell

Mild Steel ☑ Stainless ☐ Insulated: YES / (NO)

Reference Product Temperature: (15 °C) / *other* _____

3) Tank Bottom

Cone up: ✓ Cone down: _____ Flat ☐ Physical Survey ☐

4) Type of Roof Floating Roof Not Installed at time of ~~strap~~ strap

Cone ☐ Dome ☐ Flat ☐ Internal Floating ☐ External Floating ☐

5) *Under Side of Floating Roof:*

Flat Pan ☐ Round pontoon ☐ Angle pontoon ☐ Square pontoon ☐ Other Sandborn

6) Weight of Floating Roof: _____ Kilograms / 12,425 pounds

7) Distance Between Floating Roof Pin Settings: _____

8) Roof Information

Height Tank Floor to Bottom of Deck or Pontoon Nearest Shell: _____

Height from Strike Point to Bottom of Floating Roof: _____

Height from deck to Tank Floor at Inner Edge of Pontoon _____

Pontoon Diameter or Height: _____ Pontoon Length: _____

Pontoon Rim Space: _____

9) Roof Position at Time of Measurements: HIGH / LOW position

Tank Calibration Package

DATE: Nov 25/16 TANK #: 104

FIELD DATA

1) Total Tank Height: 85'2"

2) Gauge Height: 26.272m 3) Distance Gauge Point to Shell: 1080mm
*gauge height measured to top of flange on south side of gauge pole

4) Overflow / Foam line Height: _____

5) Shell Construction:
(Butt Welded) / Lap Welded Other: _____

6) Number of Vertical Welds Per Course and Tape Rise (if Applicable):
Number: 7 Width: _____ Depth: _____

7) Tape Number: N/A

8) Strapped Circumference: 12.4038 mm (Radius)

9) Benchmark Description: Measured to edge of flange
No Hmef hatch installed

FIELD TABLE

Ring #	Strapped %	Plate Thickness	Ring Height
Bottom			
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			

Course Heights

0	99.938
1	102.964
2	105.380
3	107.792
4	110.816
5	113.838
6	116.864
7	119.881
8	122.903
9	125.898 +64mm bottom surface of angle

Tank Calibration Package

DATE: Nov 28/16 TANK #: 104

DEADWOOD

INTERNAL

Quantity	Description	Diameter	Length	Open (O) Close (C)	Height From bottom	Height If not horizontal	
1	Pipe	16"	166"	O	6"	22"	
1	Reinforcing Pad (12"x19"x1/4")						
2	Pipe Support @2.5"x14"				0"	14"	Vertical
1	Pipe Support @2.5"x10"		10"		3"		Horizontal
1	Pipe	4"	140"	O	6.5"	10.5"	
1	Pipe	8"	130"	O	11"	19"	
1	Reinforcing Pad (12"x24"x1/4")						
2	Pipe Support @2.5"x21"				0"	21"	Vertical
1	Pipe Support @2.5"x16"		16"		8"		Horizontal
1	Pipe (elbow up)	24"	44"	O	14"	46"	
2	Vertical Plate (27.5"x10"x1/4")				45"	55"	
3	Clips @2"x2"				0"	6"	Vertical
3	Pipe Support @3"x2"		20"		0"	17.5"	Angle
1	Gauge Pole	8"		O	6"	TH	
1	Repad (disc)	32"			0"	1"	
2	Pipe Support @2.5"x26"				0"	26"	Vertical
1	Pipe Support @2.5"x22"		22"		3.5"		Horizontal
1	Reinforcing Pad (12"x30"x1/4")						
1	Pipe	10"	10"	O	35.5"	45.5"	
1	Centre Column	24"		O	1.75"	TH	
1	Plate	30"			1.75"	2.125"	
1	Repad (disc)	60"			0"	1.75"	
3	Clips @2.5"x2.5"				1.75"	8"	Vertical

Tank Calibration Package

NG GEN

EXTERNAL

Quantity	Description	Diameter	Length	Height
4	Manway	34.5"	8"	19"
2	Manway	22.5"	8"	13.5"
1	Nozzle	10"	10"	35"
1	Sump (36"Ø x 12" Depth)	36"		
1	Nozzle	24"	24"	14"
1	Nozzle	8"	14"	11"
2	Nozzle	4"	13"	6.5"
1	Nozzle	16"	18"	6"

DATE Nov 25 TANK # 104

PHYSICAL BOTTOM SURVEY

	SHELL	1	5	10	15	20	30	40	50	60	70	80	90	100	110	120	130	140	CTR.
1	691	662	607	633	619	630	623												583
2	690	673	628	655	637	634	612												582
3	693	673	613	652	630	627	608												587
4	697	680	622	644	648	625	585												587
5	700	679	634	653	620	625	605												588
6	695	669	613	643	628	627	603												587
7	690	668	628	650	629	617	607												587
8	690	673	630	622	625	621	613												587
9	685	667	630	640	640	623	597												587
10	680	664	620	626	620	627	608												585
11																			
12																			
13																			
14																			
15																			
16																			
17																			
18																			
19																			
20																			
21																			
22																			
23																			
24																			
25																			
26																			
27																			
28																			

FLOATING ROOF SURVEY

		RIM	5	10	15	20	30	40	50	60	70	80	90	100	110	120	130	140	CTR.
1																			

1) Reading of Floor @ Strike Point: 643 (mark with "X" on table)
2) Reading of Roof @ Strike Point: _____
3) Reading of Shell Nearest Strike Point: 700
4) Readings Recorded in: Inches / Feet / Millimetres
5) Direction of Stations: Clockwise / Counter - Clockwise

Tank Calibration Package

DATE: Nov 26 TANK #: 104

OPTICAL READINGS

STATIONS	TANK COURSES																	
	1		2		3		4		5		6		7		8		4	
	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%
1		901	903	905	903	894	893	887	888	889	887	884	875	875	875	873	870	873
2		882	883	886	884	883	881	881	888	897	903	907	909	901	906	904	904	916
3		489	488	488	489	485	487	500	503	499	500	500	500	504	514	515	515	511
4		461	462	467	468	474	478	481	484	483	484	485	486	477	479	481	484	487
5		388	396	406	409	410	411	400	397	406	408	403	410	416	419	415	412	413
6		917	921	920	914	908	908	931	936	932	940	952	959	956	962	958	943	971
7		954	949	961	966	967	966	967	971	976	969	960	958	945	947	945	946	953
8		442	454	459	459	452	449	459	465	463	464	467	464	470	474	479	481	481
9		560	557	554	556	565	569	564	566	567	561	568	576	569	573	574	568	576
10		566	559	557	556	560	562	561	562	561	559	551	552	542	532	543	543	541
11																		
12																		
13																		
14																		
15																		
16																		
17																		
18																		
19																		
20																		
21																		
22																		
23																		
24																		
25																		
26																		

1) OVERFLOW HEIGHT: _____

2) FOAMLINE HEIGHT: _____

3) (Internal) / External

4) Direction of Stations: Clockwise / (Counter-Clockwise)

Tank Calibration Package

November 18, 2016	Matrix	Fort Saskatchewan
1629	GRHLT-BO-TK-01	JG/EM

Table increments: Inches ☐ Centimetres ☐

Table volume units: Barrels ☐ Cubic Meters ☐ Litres ☐

TANK DATA

Diameter: 151'6" Height: 51'11" Safe Fill Height: _____

1) Product Information

Product Service to be: symbit / diluent Product Density: 1.0 SG

Product Level @ Strapping: 0 Temperature @ Strapping: -6 Celsius☒ Fahrenheit☐

2) Tank Shell

Mild Steel ☒ Stainless ☐ Insulated: YES / (NO)

Reference Product Temperature: (15 °C) / other _____

3) Tank Bottom

Cone up: ✓ Cone down: _____ Flat ☐ Physical Survey ☐

4) Type of Roof

Cone ☐ Dome ☐ Flat ☐ Internal Floating ☑ External Floating ☐

5) *Under Side of Floating Roof:*

Flat Pan ☐ Round pontoon ☐ Angle pontoon ☐ Square pontoon ☐ Other Reverse slope floating roof

6) Weight of Floating Roof: _____ Kilograms / 239700 pounds

7) Distance Between Floating Roof Pin Settings: 3 feet

8) Roof Information

Height Tank Floor to Bottom of Deck or Pontoon Nearest Shell: _____

Height from Strike Point to Bottom of Floating Roof: _____

Height from deck to Tank Floor at Inner Edge of Pontoon _____

Pontoon Diameter or Height: 20.75" Pontoon Length: 11' 3"

Pontoon Rim Space: 8"

9) Roof Position at Time of Measurements: (HIGH) / LOW position

Tank Calibration Package

DATE: _____ TANK #: _____

FIELD DATA

1) Total Tank Height: 51'11"

2) Gauge Height: 16.954m 3) Distance Gauge Point to Shell: 32" Benchmark in Hatch

4) (Overflow) / Foam line Height: 14.511

5) Shell Construction:
(Butt Welded) / Lap Welded Other: _____

6) Number of Vertical Welds Per Course and Tape Rise (if Applicable):
Number: 16 Width: _____ Depth: _____

7) Tape Number: _____

8) Strapped Circumference: _____ Radius: 23.0657 m

FIELD TABLE

Ring #	Strapped %	Plate Thickness	Ring Height
Bottom			
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			

Tank Calibration Package

DATE: _____ TANK #: _____

DEADWOOD

INTERNAL

Quantity	Description	Diameter	Length	Open (O) Close (C)	Height From bottom	Height If not horizontal	
69	Reinforcing Pad	18"	–		0		
56	Reinforcing Pad	15"	–				
6	Pipe Support ∠3"x3"		21"		0	21"	Vertical
3	Pipe Support ∠3"x3"		15"		7.5"	10.5"	H
3	Reinforcing Pad 12"x24"x0.25"						
3	Sump Pipe	6"	146"	O	11"	17"	
7	Reinforcing Pad	56"			0"	1.5"	
3	Reinforcing Pad	24"			1.5"	1.812"	
1	Reinforcing Pad	66"			0"	1.75"	
24	Clips ∠ 2.75"x2.75"				1.5"	8"	
1	Centre Columnn	18"		O	0	TH	
7	Columnn	12"		O	0	TH	
3	Pipe	20"	234"	O	13"	33"	
10	Pipe Support ∠2.5"x2.5"		34"		0"	34"	Vertical
2	Pipe Support ∠2.5"x2.5"		32"		11"	13.5"	H
1	Pipe Support ∠2.5"x2.5"		32"		12.5"	15"	H
1	Pipe Support ∠2.5"x2.5"		32"		11.5"	14"	H
1	Pipe Support ∠2.5"x2.5"		32"		9.5"	12"	H
4	Pipe Support ∠2.5"x2.5"		21"		0"	21"	V
2	Pipe Support ∠2.5"x2.5"		18"		11"	13.5"	H
	Pipe	10"	374"		13.5"	23.5"	

EXTERNAL

Quantity	Description	Diameter	Length	Height	
3	Sump	60"		36"	
1	D-Door (48"x36")	48"	8"	0-36	
4	Mixer	24"	7.5"	18"	
2	Manway	30"	8"	21"	
4	NOZZLE	20	20	16	
3	NOZZLE	6	20	12	
1	NOZZLE	20	42	16	

Continued on back →

Internal Deadwood

Quantity	Description	Diameter	Length	Open Close	Height from Bottom	Height	
1	Pipe	20"	238"	O	13"	33"	
1	Pipe	3"	284"	O	8"	11"	
2	Pipe Support ∠2.5"x2.5"		14"		0"	14"	Vertical
1	Pipe Support ∠2.5"x2.5"		10"		5.5"	8"	Horizontal
1	Pipe	20"	242"	O	12.5	32.5"	
4	Gauge Pole	8"		O	12"	TH	
3	∠3"x3"		28"		24"	27"	Horizontal
3	∠3"x3"		27"		21"	24"	Horizontal
3	∠3"x3"		30"		3"	23.5"	
2	∠3"x3"		17"		0"	17"	Vertical
1	Pipe	2"			13"	TH	
1	∠2.25"x2.25"		24"		0"	24"	Vertical
	~~Gauge Pole~~						

Tank Calibration Package

[redacted]

DATE Nov. 19/16 TANK #.....

PHYSICAL BOTTOM SURVEY

	SHELL	1	5	10	15	20	30	40	50	60	70	80	90	100	110	120	130	140	CTR.
1	441	440	450	459	463	475	500	520	545	563	598								600
2	447	460	440	455	480	470	493	520	550	590	603								600
3	458	465	458	454	462	468	490	523	545	572	610								602
4	450	458	460	465	468	475	510	511	537	585	585								600
5	448	455	448	470	460	464	498	532	550	570	600								600
6	450	458	452	452	460	487	485	509	540	570	602								600
7	452	458	452	470	465	480	492	535	560	565	610								602
8	455	460	446	466	474	485	500	520	542	578	610								602
9	454	455	447	458	475	505	485	515	555	570	604								602
10	448	452	447	490	485	497	500	524	548	565	588								598
11	451	459	457	450	462	492	495	524	565	565	607								600
12	455	468	457	456	464	486	496	535	560	568	598								600
13	456	464	454	460	500	500	492	534	565	570	592								600
14	452	460	448	470	490	477	498	518	552	578	593								600
15	452	460	465	465	468	480	506	524	535	570	598								600
16	450	458	450	460	462	476	493	520	548	576	610								600
17																			
18																			
19																			
20																			
21																			
22																			
23																			
24																			
25																			
26																			
27																			
28																			

FLOATING ROOF SURVEY

		RIM	5	10	15	20	30	40	50	60	70	80	90	100	110	120	130	140	CTR.
1		384	355	398	398	382	403	422	460	460	499								445

inverted measuring tape

1) Reading of ~~Floor~~ @ Strike Point: 662 (1371) (mark with "X" on table) 667
2) Reading of Roof @ Strike Point: 365 (measuring tape)
3) Reading of Shell Nearest Strike Point: 457 (1591)
4) Readings Recorded in: **Inches / Feet / Millimetres**
5) Direction of Stations: **Clockwise / Counter - Clockwise**

6) Distance from shell to strike point: 32"

Measurements taken with inverted stick to equal total station

Tank Calibration Package

NEXTGEN

M

10 56 = 805
11 2 = 869
13 = 935
959
965

DATE: Nov 18/16 TANK #: __________

OPTICAL READINGS

STATIONS	TANK COURSES															
	70% 1		2		3		4		5		6		7		8	
	~~20%~~	80%	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%
1	354	[illegible]	360	366	368	357	350	334	326	326	316	303				
2	199		219	213	212	207	212	213	211	209	206	197				
3	037		095	103	112	114	129	125	128	135	139	140				
4	913		917	917	923	924	931	931	935	939	947	961				
5	353		351	342	348	346	338	325	326	333	332	332				
6	480		478	472	479	484	484	477	480	491	478	506				
7	193		198	197	206	216	225	222	224	231	244	232				
8	566		571	561	570	569	570	568	570	566	561	556				
9	936		940	934	939	930	943	948	957	967	968	967				
10	839		845	849	846	839	847	853	864	805	869	860				
11	453		460	460	460	456	461	463	466	463	457	449				
12	806		817	844	849	824	821	822	819	803	809	802				
13	916		924	932	931	924	928	935	959	965	949	944				
14	118		121	120	120	116	122	125	126	125	124	123				
15	630		636	631	632	631	631	636	642	643	640	640				
16	169		181	167	165	158	157	155	161	173	181	180				
17																
18																
19																
20																
21																
22																
23																
24																
25																
26																

1) OVERFLOW HEIGHT: 114.511

2) FOAMLINE HEIGHT: __________

3) Internal / (External)

4) Direction of Stations: Clockwise / (Counter-Clockwise)

Course Heights

0	100.273
1	103.300
2	106.319
3	108.735
4	111.141
5	113.554
6	115.969
Rim Angle	116.074

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Tank Calibration Survey – Report Details

Client Inspection Agency

Company – Nextgen Industrial Services	Address –
File Number – 16138	City –
Customer Email – scott@nextgenis.net ivan@nextgenis.net	State/Prov –
Phone/Fax -	Zip/Postal Code -

Inspector Information

Name/Contact - Scott MacWhirter.	Email – scott@nextgenis.net
	Phone – 3065968330

Tank Details

Tank Number – 54-10-213	Tank Serial –
Date Strapped – Nov 29/16	Owner – CRC
Year Built - 2016	Facility Name & Location – CRC Regina, SK

Report Data:

Main Table Volume – Second Table Volume (if requested) –	Volumes – Barrel (bbl), Mbbl, US Gallon Imperial Gallon, Cubic Inch, Litre, (Cubic Metre) Other : Please specify
Main Table Increment – Second Table Increment – Out of Round Increment –	Increments – (1 Inch), 1/2", 1/4", 1/8", 1/16" 1 Foot, 1/10', 1/100' 1 mm, 1 cm, 5 cm Other : Please specify
Table Layout – (Portrait)/Landscape (Innage)/Ullage/Both –	Table Sizes – 8 1/2 X 11" (Letter / A4), 8 1/2 X 14" (Legal), 11 X 17" (Ledger / A3) Other: Please specify

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Tank Calibration – Data Survey

Tank Dimensions from Nameplate/Terminal

Shell Material - (Carbon Steel) / Stainless Steel, Aluminum, Copper, Fibreglass, Other : Please Specify		
Is Tank (Insulated) / Not Insulated)		
	value	unit
(Overflow or Foam-line) distance to top		
If Foam-line : (Stop Table/Calculate Full Height)		
Product Calibration Description eg. Water -		
Product Service Description eg. Gasoline -		

	value	unit
Nominal Tank Diameter	88	ft
Nominal Tank Height	48	ft
Safe Fill Height	46	ft
Calibration Product Height	N/A	
Calibration Product Density	N/A	
Service Product Density	1.020	G
Product Temperature	N/A	°F/°C
Ambient Air Temperature	-5	°F/(C)
Reference Temperature (60°F/(5°C))		°F/°C
Operating Temperature	110	°F/(C)

Tape Certificate & Measured Tank Dimensions

Master Tape Serial # -		
Certified Tape Factor -		
	value	unit
Master Tape Tension		
Master Tape Span		
Master Tape Calibrated Length		
Reference Circumference		
Circumference Method - (tape/optical) see Optical Survey form		

	value	unit
Horizontal Distance To Gauge	.46	in
Height of Gauge above roof		
Reference Gauge Height	16.235	m
Measured Tank Height	47.9	m

Gauge Point Description -

Benchmark in hatch

INTERNAL STRAPPING

-5°C

Strap HT : 80" up 1st course

DISTANCE	ANGLE
13.888	0.0000
14.320	10.6243
14.681	20.6402
14.981	30.1154
15.262	40.7844
15.469	50.3045
15.555	60.6485
15.624	77.2438
15.592	80.6270
15.517	90.5474
15.344	100.0713
15.102	110.1260
14.792	120.3483
14.449	130.3320
14.079	140.1304
13.692	150.2238
13.259	160.2995
12.893	170.2858
12.893	180.4191
12.893	190.2950
12.893	200.7730
11.618	210.7025
11.409	220.4645
11.265	230.5602
11.164	240.8911

DISTANCE	ANGLE
11.122	250.4793
11.145	260.4776
11.219	270.4272
11.356	280.2749
11.544	290.6350
11.772	300.2187
12.051	310.0267
12.396	320.8286
12.741	330.2318
13.134	340.7266
13.538	350.7325

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Tank Calibration – Dimension Survey

Course Number	Measure[1] Height %	Circumference[2] Unit	Course Height[3]	Unit	Plate Thickness	Unit	Method of Construction[1]	Plates Per Course	Number of Strap Rises	Strap Rise Width[2] Unit	Strap Rise Depth[2] Unit
1	68		3.023	m	0.590	in	Butt welded	11	N/A		
2	see shell optical		3.025		0.480						
3			2.732		0.375						
4			2.801		0.313						
5					0.313						

[1] – Estimated height of measurement point (0% - bottom of ring, 100% - top of ring) 2 – Measured strap circumference (optical methods may only reference one course strap)
[3] – Measured height of course ring 4 – Fitment & Joint : eg.Butt-weld, Lap-Rivet 5 – Width of shell protrusion under strap 6 – Height of protrusion outward from shell

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Tank Calibration - Deadwood Survey

Quantity	Interior / Exterior	Category	Description	Diameter	Length	Width	Depth	Thickness	Open / Closed	Start Height	End Height
2	INT	Nozzle		2	2.2				0	4.5	0.5
1	|	Nozzle		8	3.5				0	10.25	—
4	|	Nozzle		2	4.25				0	46	—
1	|	Nozzle		8	3				0	16	—
2	|	Nozzle		6	2.5				0	13	—
1	|	Nozzle		10	3				0	13	—
2	|	Nozzle		12	2.5				0	13	—
2	|	Nozzle		8	2.5				0	14	—
1	|	Nozzle		4	2.5				0	45	—
1	|	Nozzle		8	2.5				0	16	—
1	|	Nozzle		4	42				0	5.5	1
100	|	Repad		6						0	0.5
100	|	Pipe Support + Center Column	43 x 3 x 1/4		20					0.5	20.5
1	|			14	TH-2				0	2	TH
1	|	Repad	76 x 76 x 2							0	2
2	|	Clips	43 x 3 x 1/4		6					0	6
2	|	Nozzle	Coil	3	549'-4"				C	13	32
2	EXT	Manway		36	10.5					24	
2	EXT	Nozzle		2	11.75					4.5	
2	V	D-Door	24 x 24	—	7					0	
1	V	Nozzle		8	11					10	
4	V	Nozzle		2	11.75					46	
1	V	Nozzle		8	12					16	
2	V	Nozzle		6	12					13	

Categories: Round Sump, Pan Sump, Box Sump,
Exterior Horizontal Pipe, Interior Horizontal Pipe, Interior Vertical Pipe,
Interior Steel, Square Blinds, Square Closed Shape, Round Plate

For Unconventional deadwood, please submit drawing with dimensions

(1)

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Tank Calibration - Deadwood Survey

Quantity	Interior / Exterior	Category	Description	Diameter	Length	Width	Depth	Thickness	Open / Closed	Start Height	End Height
1	EXT	NOZZLE		4	12					13	
1		NOZZLE		4	12					32	
1		NOZZLE		10	11.75					14	
2		NOZZLE		12	11.75					15	
2		NOZZLE		8	11.75					14	
1		NOZZLE		4	12					45	
1		NOZZLE		4	11.75					32	
1		NOZZLE		4	11.75					13	
1	V	NOZZLE		8	11.75					16	
1		NOZZLE		4	11.75					5.5	

Categories: Round Sump, Pan Sump, Box Sump,
Exterior Horizontal Pipe, Interior Horizontal Pipe, Interior Vertical Pipe,
Inter or Steel, Square Blinds, Square Closed Shape, Round Plate

For Unconventional deadwood, please submit drawing with dimensions

(2)

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Tank Calibration – Shell Optical Survey

Measurements in : ☐ Inches ☒ Millimetres ☐ Feet
☐ Gradians ☐ Degrees ☐ Other ____________

Optical Readings : ☒ Internal ☐ External
Direction : Clockwise / (Counter-Clockwise)

Course #		1		2		3		4		5										Distance	
Horizontal Stations	Ref	68[illegible]	20[illegible]	80	20	80	20	80	20	80										To	value
	1	887	907	906	911	907	911	914	912	902											
	2	620	626	629	635	637	639	637	637	648											
	3	420	422	419	415	412	414	414	412	421											
	4	164	163	161	163	164	160	163	161	160											
	5	933	939	933	922	922	927	924	925	932											
	6	227	245	248	255	256	262	270	268	274											
	7	506	506	503	507	508	513	515	510	517											
	8	457	457	445	446	447	453	440	448	459											
	9	589	598	604	610	612	620	621	625	627											
	10	183	183	182	170	169	175	171	174	178											
	11																				
	12																				
	13																				
	14																				
	15																				
	16																				
	17																				
	18																				
	19																				
	20																				

For Station readings above 20 continue on page 7. For Tanks with more than 10 Course measurements, record on reverse.

Tank Diameter (Feet)	Tank Diameter (Metres)	Minimum Stations
50	15	8
100	30	12
150	50	16
200	70	20
250	85	24
300	100	30
350	120	36
If Feet : Circumference / 30	If Metres : Circumference / 9	Round up to an even number of Stations

Example: Recording Optical data for MPMS 2.2B, 2.2C-C, 2.2C-A, 2.2C-D

Course #	1	
ref		strap
1	0.706 m	0.709 m
2	0.711 m	0.718 m
3		
4		

Course #	1	
ref	θ_{Lo}	θ_{Hi}
1	34 .2325	60 .9253
2	44 .4094	84 .5100
3		
4		

Course #	1		Distance	
ref	α	β	to	value
1	34 .2325	60 .9250	α-β	1532 m
2	44 .4094	84 .5100		
3				
4				

Course #	1			Distance	
ref	θ	α	β	to	value
1	60 .9253	34 .2325	60 .9253	2	12.5 m
2				3	13.2 m
3				4	10.9 m
4				5	12.7 m

External Strap + Optical Offset, External Strap + Optical Angle, Internal Optical Circumference, External Optical Angle
* Values are for example only and are not accurate data representations

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Tank Calibration – Bottom Plate Survey

Measurements In : ☐ Inches ☒ Millimetres ☐ Feet ☐ Other _____ Direction : Clockwise / (Counter-Clockwise)

Other ->																	
	Shell	1'	5'	10'	15'	20'	30'	40'	50'	60'	70'	80'	90'	100'	110'	120'	Center
1	550	540	549	558	548	549	573										597
2	549	548	546	551	554	560	566										590
3	550	548	540	539	543	570	554										582
4	553	547	534	518	532	550	560										584
5	552	558	562	556	556	560	572										588
6	552	562	587	560	561	580	598										586
7	547	545	554	554	555	568	580										582
8	547	545	568	548	564	547	566										580
9	548	550	540	532	540	550	565										596
10	552	554	570	562	570	574	596										598
11																	
12																	
13																	
14																	
15																	
16																	
17																	
18																	
19																	
20																	
21																	
22																	
23																	
24																	
25																	
26																	

Bottom Description – Liquid Calibrated, (Physical Survey,) (Cone Up,) Cone Down, Sloping, Flat, Other : Please Specify

	value	units
Bottom Cone Height		
Liquid Calibration Volume		

Strike Point Description - Bottom Plate

	value	units
Strike Point Height	560	mm
Shell Height closest to Strike point	547	mm
Datum Height		

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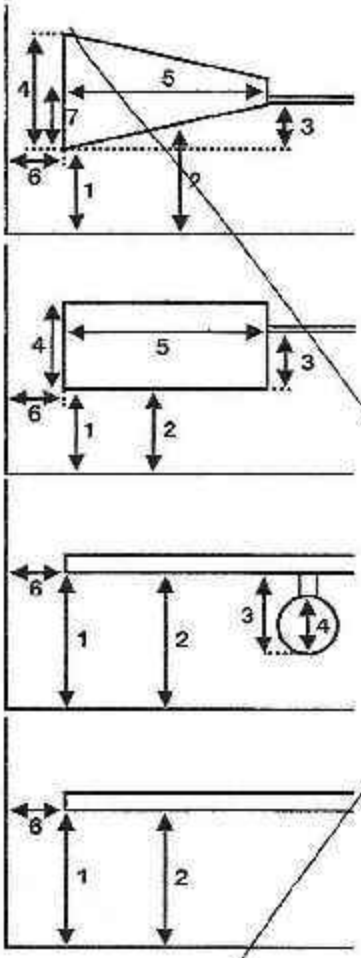
Tank Calibration – Floating Roof Survey

Roof Type: (Cone), Dome, Flat, Floating (Internal/External), Other	
Floating Roof Shape: Flat, Pontoon (Angled, Round, Square), Other	N/A
Floating Roof Data Source: Terminal / Measurement / Previous Table	N/A
Floating Roof Position during Measure: High / Low	N/A
Table Issue Position: High / Low	N/A
Table Deduction Method: Density / API / Not Deducted	N/A
No Deduction Option: Formula / Table	N/A



	value	unit
Floating Roof Weight		
1 – Height to bottom of deck or pontoon		
2 – Height from StrikePoint to Roof		
3 – Height from Roof to Pontoon		
4 – Pontoon Diameter or Height		
5 – Pontoon length along radius		
6 – Shell horizontal to Roof edge		
7 – Roof edge vertical to seal / product line		
Pin Distance setting for Hi/Lo		

For other non-conforming roof designs please complete a sketch below

Measurements in : ☐ Inches ☐ Millimetres ☐ Feet ☐ Other _____

Other Distance ->																	
Lowest point	Rim	Strike	5'	10'	15'	20'	30'	40'	50'	60'	70'	80'	90'	100'	110'	120'	Center

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Tank Calibration Survey – Report Details

Client Inspection Agency

Company – Nextgen Industrial Services	Address –
File Number – 16125	City –
Customer Email – scott@nextgenis.net ivan@nextgenis.net	State/Prov –
Phone/Fax –	Zip/Postal Code –

Inspector Information

Name/Contact – Scott MacWhirter	Email – scott@nextgenis-net
	Phone – 306 596 8330

Tank Details

Tank Number – 54-10-210	Tank Serial –
Date Strapped – Nov 24/2016	Owner – CRC
Year Built –	Facility Name & Location – CRC Regina, SK

Report Data:

Main Table Volume – Second Table Volume (if requested) –	Volumes – Barrel (bbl), Mbbl, US Gallon Imperial Gallon, Cubic Inch, Litre, (Cubic Metre) Other: Please specify
Main Table Increment – Second Table Increment – Out of Round Increment –	Increments – (Inch) 1/2", 1/4", 1/8", 1/16" 1 Foot, 1/10', 1/100' 1 mm, 1 cm, 5 cm Other: Please specify
Table Layout – (Portrait)/Landscape (Innage)/Ullage/Both –	Table Sizes – 8½ X 11" (Letter / A4), 8½ X 14" (Legal), 11 X 17" (Ledger / A3) Other: Please specify

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Calibration Reports

Tank ID:

Email: info@avccr.com
Toll Free: 1-855-561-4632
Local Phone: (587) 794-4632
Fax Submission: 1-855-707-5082

Tank Calibration – Data Survey

Tank Dimensions from Nameplate/Terminal

Shell Material - (Carbon Steel) / Stainless Steel, Aluminum, Copper, Fibreglass, Other : Please Specify

Is Tank (Insulated) / Not Insulated)

	value	unit
(Overflow or Foam-line) distance to top		
If Foam-line : (Stop Table/Calculate Full Height)		
Product Calibration Description eg. Water -		
Product Service Description eg. Gasoline -		

	value	unit
Nominal Tank Diameter	88	ft
Nominal Tank Height	48	ft
Safe Fill Height	46	ft
Calibration Product Height	N/A	
Calibration Product Density	N/A	
Service Product Density	1.020	G
Product Temperature	N/A	°F/°C
Ambient Air Temperature	-3	°F/(°C)
Reference Temperature (60°F/15°C)		°F/°C
Operating Temperature	110	°F/(°C)

Tape Certificate & Measured Tank Dimensions

MasterTape Serial # -

Certified Tape Factor -

	value	unit
MasterTape Tension		
MasterTape Span		
MasterTape Calibrated Length		
Reference Circumference		
Circumference Method - (tape/optical) see Optical Survey form		

	value	unit
Horizontal Distance To Gauge	67	in
Height of Gauge above roof		
Reference Gauge Height	15,370	m
Measured Tank Height	48	ft

Gauge Point Description -

Benchmark in hatch

Part (1)

INTERNAL STRAP TK 54-10-210

Nov 24/16 -3°C

Strapping Ht = 71"

ANGLE	DISTANCE (m)
0.7856	11.337
5.4808	11.384
10.5954	11.449
15.9976	11.541
20.4218	11.633
25.1815	11.740
30.3704	11.870
35.6627	12.011
40.1629	12.138
45.7986	12.305
50.2134	12.433
55.2333	12.589
60.3182	12.757
65.2773	12.942
70.1931	13.149
75.6499	13.350
80.6431	13.531
87.5690	13.784
90.5070	13.896
95.1428	14.078
100.7348	14.277
105.6994	14.447
110.4494	14.609
115.5410	14.774
120.3841	14.927
125.3699	15.073
130.3208	15.162

ANGLE	DISTANCE (m)
135.2459	15.225
140.5772	15.321
145.0739	15.415
150.4567	15.494
155.2765	15.549
170.4375	15.534
175.6900	15.494
180.4723	15.436
185.1138	15.361
190.5072	15.254
195.9725	15.130
200.2394	15.026
205.3515	14.896
210.0400	14.755
215.5938	14.579
220.3392	14.417
225.2521	14.244
230.1822	14.066
235.1725	13.873
240.5129	13.665
245.4559	13.483
250.2616	13.303
255.6085	13.101
260.0944	12.937
265.5735	12.749
271.8068	12.547
275.3971	12.434
280.2840	12.282
285.2643	12.124
290.2836	11.965
295.4965	11.843
300.2471	11.736
305.2031	11.627
310.0764	11.534
315.4440	11.456

Part (2)

INTERNAL STRAP

TK 54-10-210

NOV 24/16 −3°C

Strapping Ht = 71"

ANGLE	DISTANCE (m)
320.0967	11.388
325.9509	11.320
330.5729	11.286
335.1682	11.260
340.4115	11.248
345.8250	11.248
350.3997	11.262
355.1349	11.292

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Tank Calibration – Dimension Survey

Course Number	Measure[1] Height %	Circumference[2] Unit	Course Height[2] in / Unit	Plate Thickness in / Unit	Method of Construction[3]	Plates Per Course	Number of Strap Rises	Strap Rise Width[4] Unit	Strap Rise Depth[4] Unit
1	60%		118.5	0.576	Both Welded	11	N/A		
2	See shell optical		113.375	0.467					
3			113.375	0.375					
4			113.375	0.360		4	4		
5			113.375	0.313					

1 – Estimated height of measurement point (0% - bottom of ring, 100% - top of ring) 2 – Measured strap circumference (optical methods may only reference one course strap)
3 – Measured height of course ring 4 – Fitment & Joint : eg.Butt-weld, Lap-fitwel 5 – Width of shell protrusion under strap 6 – Height of protrusion outward from shell

Part (2)

TANK CALIBRATION -- DEADWOOD SURVEY

Quantity	Interior exterior	Category	Description	Diameter	Length			Open closed	Start Height	End Height
1	EXT	Manway		36	12				24	
2		D-Door		24x24	7.5				0	
3		NOZZLE		2	14				4	
2		NOZZLE		8	16				11	
3		NOZZLE		2	10				29	
2		NOZZLE		3	16				31	
2		NOZZLE		3	16				10	
2		NOZZLE		12	19				12	
1		NOZZLE		6	16				11	
1		NOZZLE		10	18				12	
1	*	NOZZLE		4	14				46	

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Tank Calibration – Shell Optical Survey

Measurements in : ☐ Inches ☒ Millimetres ☐ Feet
☐ Gradians ☐ Degrees ☐ Other _____

Optical Readings : ☒ Internal ☐ External
Direction : Clockwise / (Counter-Clockwise)

Course #	1		2		3		4		5			Distance	
Horizontal Stations Ref	5H	20	80	20	80	20	80	20	80			To	value
1	944	962	958	961	954	952	955	955	958				
2	211	208	208	211	209	206	205	201	195				
3	444	447	458	461	458	456	456	455	453				
4	342	332	333	328	325	323	327	321	321				
5	547	550	537	533	528	521	522	519	511				
6	48	58	48	46	49	49	45	49	56				
7	918	913	909	909	909	907	896	898	901				
8	592	596	606	608	619	627	641	645	652				
9	531	523	522	516	513	517	516	514	521				
10	269	269	267	264	263	271	280	280	287				
11													
12													
13													
14													
15													
16													
17													
18													
19													
20													

For Station readings above 20 continue on page 7. For Tanks with more than 10 Course measurements, record on reverse.

Tank Diameter (Feet)	Tank Diameter (Metres)	Minimum Stations
50	15	8
100	30	12
150	50	16
200	70	20
250	85	24
300	100	30
350	120	36

If Feet : Circumference / 30
If Metres : Circumference / 9
Round up to the next number of Stations

Example: Recording Optical data for MPMS 2.2B, 2.2C-C, 2.2C-A, 2.2C-D

Course # 1			
Horizontal Stations	ref		strap
	1	[illegible]	[illegible]
	2	[illegible]	[illegible]
	3		
	4		

Course # 1		
ref	θ_{Uo}	θ_{Ui}
1	[illegible]	[illegible]
2	[illegible]	[illegible]
3		
4		

Course # 1			Distance	
ref	α	β	to	value
1	[illegible]	[illegible]	α-β	1532 m
2	[illegible]	[illegible]		
3				
4				

Course # 1				Distance	
ref	θ	α	β	to	value
1	[illegible]	[illegible]	[illegible]	2	12.5 m
2				3	13.3 m
3				4	10.8 m
4				5	12.7 m

External Strap + Optical Offset, External Strap + Optical Angle, Internal Optical Circumference, External Optical Angle
*Values are for example only and are not accurate data representations

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Calibration Reports

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Tank Calibration – Bottom Plate Survey

Measurements in : ☐ Inches ☒ Millimetres ☐ Feet ☐ Other _____ Direction : Clockwise (Counter-Clockwise)

Other ->																	
	Shell	1'	5'	10'	15'	20'	30'	40'	50'	60'	70'	80'	90'	100'	110'	120'	Center
1	702	705	717	731	747	770	792	823									827
2	706	708	740	749	765	776	811	831									819
3	705	722	743	747	741	760	787	830									819
4	708	708	740	744	742	751	767	820									817
5	710	718	732	730	739	750	764	830									821
6	708	720	747	726	742	763	758	816									823
7	710	719	728	743	737	779	771	810									818
8	702	709	727	727	737	769	763	818									818
9	702	710	710	716	704	779	750	820									816
10	702	710	717	714	735	746	778	812									816
11																	
12																	
13																	
14																	
15																	
16																	
17																	
18																	
19																	
20																	
21																	
22																	
23																	
24																	
25																	
26																	

Bottom Description – Liquid Calibrated (Physical Survey) Cone Up Cone Down, Sloping, Flat, Other : Please Specify

	value	units
Bottom Cone Height		
Liquid Calibration Volume		

Strike Point Description - Bottom Plate

	value	units
Strike Point Height	743	mm
Shell Height closest to Strike point	704	mm
Datum Height		

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Calibration Reports

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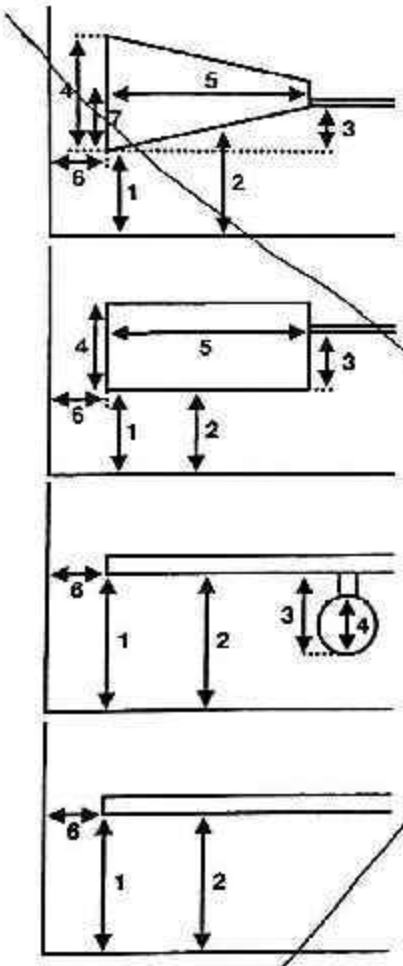
Tank Calibration – Floating Roof Survey

Roof Type: Cone, Dome, Flat, Floating (Internal/External), Other	
Floating Roof Shape: Flat, Pontoon (Angled, Round, Square), Other	N/A
Floating Roof Data Source: Terminal / Measurement / Previous Table	N/A
Floating Roof Position during Measure: High / Low	N/A
Table Issue Position: High / Low	N/A
Table Deduction Method: Density / API / Not Deducted	N/A
No Deduction Option: Formula / Table	N/A



	value	unit
Floating Roof Weight		
1 – Height to bottom of deck or pontoon		
2 – Height from StrikePoint to Roof		
3 – Height from Roof to Pontoon		
4 – Pontoon Diameter or Height		
5 – Pontoon length along radius		
6 – Shell horizontal to Roof edge		
7 – Roof edge vertical to seal / product line		
Pin Distance setting for Hi/Lo		

For other non-conforming roof designs please complete a sketch below

Measurements in : ☐ Inches ☐ Millimetres ☐ Feet ☐ Other _____

Other Distance ->																
Lowest point	Rim	Strike	5'	10'	15'	20'	30'	40'	50'	60'	70'	80'	90'	100'	110'	120'	Center

Part (1)

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Tank ID:

Tank Calibration - Deadwood Survey

Quantity	Interior / Exterior	Category	Description	Diameter	Length	Width	Depth	Thickness	Open / Closed	Start Height	End Height
3	INT	NOZZLE		2	1				O	28.5	—
1		NOZZLE	Steam coil	3	109'-6"				C	10	31
2		NOZZLE		12	2				O	11.5	—
1		NOZZLE		6	1				O	11.5	—
1		NOZZLE		10	1.5				O	11.5	—
1		NOZZLE		4	1				O	45.5	—
3		NOZZLE		2	7.5				O	2	4
2		NOZZLE		8	1				O	10.5	—
108		REPAD	□	6"x6"	—				O	O	0.5
24		SUPPORT	2.5 x 2.5 x 5/16	—	38				—	0.5	38.5
12		SUPPORT	2 x 2 x 1/4	—	14.5				—	30	32
12		SUPPORT	2 x 2 x 1/4	—	14.5				—	35	37
30		SUPPORT	2.5 x 2.5 x 5/16	—	33				—	0.5	33.5
30		SUPPORT	2.5 x 2.5 x 5/16	—	26				—	0.5	26.5
6		SUPPORT	2 x 2 x 1/4	—	14.5				—	15	17
6		SUPPORT	2 x 2 x 1/4	—	14.5				—	20	22
6		REPAD	20"x6"	—	—				—	O	0.5
30		SUPPORTS	2.5 x 2.5 x 5/16	—	19				—	0.5	19.5
6		COLUMNS		10	TH-1"				O	1	TH
1		REPAD	30 x 30 □	—	—				—	O	1
5		REPADS	34 x 34 □	—	—				—	O	1
12	↓	SUPPORTS	3 x 3 x 5/16	—	6				—	O	6

Categories : Round Sump, Pan Sump, Box Sump,
Exterior Horizontal Pipe, Interior Horizontal Pipe, Interior Vertical Pipe,
Interior Steel, Square Blinds, Square Closed Shape, Round Plate

For Unconventional deadwood, please submit drawing with dimensions

Part (1)

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Tank ID:

Tank Calibration - Deadwood Survey

Quantity	Interior / Exterior	Category	Description	Diameter	Length	Width	Depth	Thickness	Open / Closed	Start Height	End Height
3	INT	NOZZLE		2	1				O	28.5	—
1		NOZZLE	Steam coil	3	109'-6"				C	10	31
2		NOZZLE		12	2				O	11.5	—
1		NOZZLE		6	1				O	11.5	—
1		NOZZLE		10	1.5				O	11.5	—
1		NOZZLE		4	1				O	45.5	—
3		NOZZLE		2	7.5				O	2	4
2		NOZZLE		8	1				O	10.5	—
108		REPAD	□	6"x6"	—				O	O	0.5
24		SUPPORT	2.5 x 2.5 x 5/16	—	38				—	0.5	38.5
12		SUPPORT	2 x 2 x 1/4	—	14.5				—	30	32
12		SUPPORT	2 x 2 x 1/4	—	14.5				—	35	37
30		SUPPORT	2.5 x 2.5 x 5/16	—	33				—	0.5	33.5
30		SUPPORT	2.5 x 2.5 x 5/16	—	26				—	0.5	26.5
6		SUPPORT	2 x 2 x 1/4	—	14.5				—	15	17
6		SUPPORT	2 x 2 x 1/4	—	14.5				—	20	22
6		REPAD	20"x6"	—	—				—	O	0.5
30		SUPPORTS	2.5 x 2.5 x 5/16	—	19				—	0.5	19.5
6		COLUMNS		10	TH-1"				O	1	TH
1		REPAD	30 x 30 □	—	—				—	O	1
5		REPADS	34 x 34 □	—	—				—	O	1
12	↓	SUPPORTS	3 x 3 x 5/16	—	6				—	O	6

Categories : Round Sump, Pan Sump, Box Sump,
Exterior Horizontal Pipe, Interior Horizontal Pipe, Interior Vertical Pipe,
Interior Steel, Square Blinds, Square Closed Shape, Round Plate

For Unconventional deadwood, please submit drawing with dimensions

Tank Calibration Package

April 24/2017	CRC	Regina, SK
16164	701	TH, 15, SM

Table increments: Inches ☒ Centimetres ☐

Table volume units: Barrels ☐ Cubic Meters ☒ Litres ☐

TANK DATA

Diameter: 95' Dia Height: 49' - 6" Safe Fill Height: 46'

1) Product Information

Product Service to be: Seasonal Diesel Product Density: 0.8563

Product Level @ Strapping: Empty Temperature @ Strapping: 0 Celsius ☒ Fahrenheit ☐

2) Tank Shell

Mild Steel ☒ Stainless ☐ Insulated: YES / (NO)

Reference Product Temperature: (15 °C) / *other* _____

3) Tank Bottom

Cone up: _____ Cone down: _____ Flat ☐ Physical Survey ☒

4) Type of Roof

Cone ☐ Dome ☐ Flat ☐ Internal Floating ☒ External Floating ☐

5) *Under Side of Floating Roof:*

Flat Pan ☒ Round pontoon ☐ Angle pontoon ☐ Square pontoon ☐ Other _____

6) Weight of Floating Roof: _____ Kilograms / 61,000 (pounds)

7) Distance Between Floating Roof Pin Settings: 24"

8) Roof Information

Height Tank Floor to Bottom of Deck or Pontoon Nearest Shell: 77 1/2"

Height from Strike Point to Bottom of Floating Roof: 76 1/4"

Height from deck to Tank Floor at Inner Edge of Pontoon —

Pontoon Diameter or (Height): 12" Pontoon Length: —

Pontoon Rim Space: 5"

9) Roof Position at Time of Measurements: (HIGH) / LOW position

Tank Calibration Package

DATE: April 24/17 TANK #: 88-10-701

FIELD DATA

1) Total Tank Height: 15.256 m

2) Gauge Height: 54'-9" 3) Distance Gauge Point to Shell: 24"

4) (Overflow) / Foam line Height: 14.602 m

5) Shell Construction:
(Butt Welded) / Lap Welded Other: _____

6) Number of Vertical Welds Per Course and Tape Rise (if Applicable):
Number: 9 Width: 3/4 Depth: 1mm

7) Tape Number: —

8) Strapped Circumference: 91.025 m

FIELD TABLE

Ring #	Strapped %	Plate Thickness	Ring Height (m)
Bottom	60%	1/2	2.349
1			
2	20	3/4	2.437
	80		
3	20	5/16	2.436
	80		
4	20	1/4	2.438
	80		
5	20	3/16	2.664
	80		
6	20	3/16	2.932
	80		
7			
8			
9			
10			

(m)

0	492.242	2.349
1	494.591	2.437
2	497.028	2.436
3	499.464	2.438
4	501.902	2.664
5	504.566	2.278
overflow	506.844	0.463
Top rim &	507.307	0.191
Roof top	507.498	

15.256

601.75

Tank Calibration Package

DATE: April 24/17 TANK #: 701

OPTICAL READINGS

STATIONS	TANK COURSES (mm)															
	1		2		3		4		5		6		7		8	
	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%
1	539	542	550	549	553	560	563	550	559	603	587	574				
2	27.500	500	504	515	518	515	513	516	508	521	504	520				
3	932	932	933	933	935	928	926	931	935	939	931	925				
4	161	163	161	169	171	145	139	138	142	156	145	132				
5	779	781	778	777	786	788	788	781	773	757	751	749				
6	507	500	497	489	492	501	512	500	494	472	466	459				
7	974	974	970	966	963	968	975	977	970	957	956	954				
8	957	960	961	960	980	978	990	989	984	988	989	982				
9	630	633	642	658	676	686	693	691	681	677	679	680				
10	674	681	681	686	693	696	691	696	701	722	738	737				
11																
12																
13																
14																
15																
16																
17																
18																
19																
20																
21																
22																
23																
24																
25																
26																

1) OVERFLOW HEIGHT: 14.602 m

2) FOAMLINE HEIGHT: ———

3) Internal / (External)

4) Direction of Stations: Clockwise / (Counter-Clockwise)

Tank Calibration Package

16164

DATE Apr.1.24 TANK # 701

CRC

(MM) DO NOT Invert

PHYSICAL BOTTOM SURVEY

	SHELL	1	2	3	4	5	6	7	8	9	10	15	20	30	40	120	130	140	CTR.
X 1	485	520	532	542	547	548	545	540	532	540	545	471	480	500	496				475
2	457	477	492	500	503	497	499	498	490	484	481	502	481	542	470				470
3	415	428	449	475	500	515	522	521	518	512	504	492	512	548	510				470
4	398	418	449	468	499	512	518	510	496	496	498	499	479	531	490				470
5	394	422	447	462	478	488	491	487	485	487	490	450	482	517	482				480
6	397	405	422	450	455	472	487	497	490	489	481	491	502	518	504				480
7	430	458	488	502	509	519	521	525	525	520	515	520	530	520	501				485
8	461	485	500	508	515	520	519	511	504	498	490	500	517	530	514				482
9	490	489	482	478	485	482	472	460	450	442	440	460	481	510	485				472
10	502	518	520	520	508	500	494	488	482	484	485	472	501	531	520				480
11																			
12																			
13																			
14																			
15																			
16																			
17																			
18																			
19																			
20																			
21																			
22																			
23																			
24																			
25																			
26																			
27																			
28																			

FLOATING ROOF SURVEY (Inches)

		RIM	5	10	15	20	30	40	50	60	70	80	90	100	110	120	130	140	CTR.
1		21"	18 3/4	16 1/4	17 3/4	19 1/2	17 1/4	21"											20 1/2

1) Reading of Floor @ Strike Point: 55 1/4" (mark with "X" on table)
2) Reading of Roof @ Strike Point: 20 3/4"
3) Reading of Shell Nearest Strike Point: 56 3/4"
4) Readings Recorded in: inches / Feet / Millimetres
5) Direction of Stations: Clockwise / Counter - Clockwise

Tank Calibration Package

DATE: Apr 12/17 TANK #: 88-10-701

DEADWOOD

INTERNAL

Quantity	Description	Diameter	Length	Open (O) Close (C)	Height From bottom	Height If not horizontal
2	NOZZLE	2	14.5	O	6.5	1
1	NOZZLE (Pipe)	4	46.5	O	20	1/2
1	Pipe	12	38	O	32	12
2	Pipe (support)	6	12	O	O	12
2	Ladder (angle 3x3x1/4)	—	TH	—	O	TH
1	Pipe (diffuser)	16	252	O	16	—
1	Support (Pipe)	4	16	O	O	16
1	Repad (12 x 12 x 1/2)	—	—	—	O	1/2
1	NOZZLE	6	7	O	17	—
30	Repad (Knee legs) (18x18x1/4)	—	—	—	O	1/4
7	Repad (Column) (30 x 30 x 1)	—	—	—	O	1
7	Columns	10	TH	O	O	TH

EXTERNAL

Quantity	Description	Diameter	Length	Height
2	Manway	24	9.5	26.5
2	D Door 24 x 24	—	9	O
1	Nozzle	12	15.5	20
1	Manway	24	7.5	26
1	Nozzle	12	15.5	20
1	Nozzle	4	12.5	15.5

Tank Calibration Package

May 8, 2017	Matrix/Shell	Shell Sherwood Terminal
16166	9230	SM/EM

Table increments: Inches ☐ Centimetres ☒

Table volume units: Barrels ☐ Cubic Meters ☒ Litres ☐

TANK DATA

Diameter: 130' Height: 48' High Level Safe Fill Height: 14.386M Data to be Inverted?: Yes ☐ No ☑

1) Product Information

Product Service to be: Diesel Product Density: 0.850 S.G

Product Level @ Strapping: EMPTY Temperature @ Strapping: 18 Celsius ☒ Fahrenheit ☐

2) Tank Shell

Mild Steel ☑ Stainless ☐ Insulated: YES / (NO)

Reference Product Temperature: (15 °C) / other _____

3) Tank Bottom

Cone up: _____ Cone down: _____ Flat ☐ Physical Survey ☒

4) Type of Roof

Cone ☒ Dome ☐ Flat ☐ Internal Floating ☐ External Floating ☐

5) Under Side of Floating Roof:

Flat Pan ☐ Round pontoon ☐ Angle pontoon ☐ Square pontoon ☐ Other _____

6) Weight of Floating Roof: _____ Kilograms / _____ pounds

7) Distance Between Floating Roof Pin Settings: _____

8) Roof Information

Height Tank Floor to Bottom of Deck or Pontoon Nearest Shell: _____

Height from Strike Point to Bottom of Floating Roof: _____

Height from deck to Tank Floor at Inner Edge of Pontoon _____

Pontoon Diameter or Height: _____ Pontoon Length: _____

Pontoon Rim Space: _____

9) Roof Position at Time of Measurements: HIGH / LOW position

Tank Calibration Package

DATE: May 8/17 TANK #: 9230

FIELD DATA

1) Total Tank Height: 48'

2) Gauge Height: ~~15.023m~~ 15.109 M

3) Distance Gauge Point to Shell: ~~172"~~ 172"

4) Overflow / Foam line Height: _____

Note Gauge hatch Not installed Just Resting on TOP. Measured to Rim of gauge Hatch

5) Shell Construction: Butt Welded / Lap Welded Other: _____

6) Number of Vertical Welds Per Course and Tape Rise (if Applicable):
Number: 13 Width: 34" Depth: 1MM

7) Tape Number: _____

8) Strapped Circumference: 124.574M

9) Benchmark Description: Rim of gauge hatch closest to shell

60.5" UP STRAP HEIGHT

FIELD TABLE

Ring #	Strapped %	Plate Thickness(in)	Ring Height
Bottom			
1	5 10/0	0.725	9'-11"
2	20 80	0.585	9'-11"
3	20 80	0.446	9'-11"
4	20 80	0.313	9'-11"
5	20 80	0.313	7'-11"
6		0.313	
7			
8			
9			
10			

+ Rim Angle 5"

Tank Calibration Package

NEXTGEN

shell

90+61 = 151' length

DATE: May 8/17 TANK #: 9230

DEADWOOD

INTERNAL

Quantity	Description	Diameter	Length	Open (O) Close (C)	Height From bottom	Height If not horizontal
1	Nozzle (see sketch)	12"	15 1/2"	O	13"	25"
9	Repads (30x12"x 1/4")	—	—	—	0"	1/4"
18	Supports (2.5x2.5x 3/8")	—	26"	—	1/4"	26 1/4"
9	Supports (2.5x2.5x 3/8")	—	22 1/2"	—	9"	—
3	Sump Water Draw	4"	72"	O	5 1/2"	0"
3	Sump	24"	8"	—	0"	-8"
1	Nozzle	24"	71"	O	16"	11"
1	Nozzle	14"	9"	O	13"	—
1	Nozzle	6"	7"	O	5"	—
1	Nozzle	12"	8"	O	12"	—
2	Nozzle	2"	2"	O	35"	—
8	Repad Ø	36"	—	—	0"	1 1/4"
8	Repad Ø	24"	—	—	1 1/4"	1 3/4"
24	Supports (2.5x2.5x 3/8)	—	8"	—	1 1/4"	9 1/4"
8	Columns	12"	TH-1 3/4	O	1 3/4"	TH

FF 4.19

Rev 1

EXTERNAL

Quantity	Description	Diameter	Length	Height
3	Manway	27"	6.5"	18"
1	Nozzle	1"	5"	35.5"
3	Nozzle	4"	18.5"	5"
3	Nozzle	1"	5"	19"
2	Nozzle	2"	6"	95"
2	Nozzle	12"	8.5"	12"
1	Nozzle	6"	7.5"	5"
2	Nozzle	1"	6"	13"
1	Nozzle	14"	10"	13"
1	Nozzle	22"	12"	13"

Tank Calibration Package

DATE May 8/17 TANK # 9230

PHYSICAL BOTTOM SURVEY

	Shell		2	3	4	5	6	7	8	9	10	15	20	30	40	50	60		CTR.
1	693	703	706	716	710	707	704	705	713	716	717	748	751	780	786	824	850		866
2	703	722	741	766	775	772	761	746	733	736	734	744	758	767	794	829	849		866
3	717	739	756	788	802	807	802	794	785	778	773	766	780	793	808	847	853		865
4	734	749	758	774	776	782	783	787	791	796	803	794	789	810	838	844	862		870
5	745	756	766	788	795	794	792	786	782	787	782	780	796	830	838	850	880		876
6	740	760	776	800	806	800	802	790	780	776	775	795	810	828	850	862	875		877
7	740	756	775	810	818	818	804	790	788	790	790	792	810	820	844	863	866		878
8	730	758	777	810	820	824	818	810	802	792	786	800	796	806	823	838	860		880
9	716	742	760	784	790	794	790	776	760	756	750	764	772	794	812	840	881		878
10	686	700	710	730	750	756	756	756	750	746	736	730	740	762	776	822	881		876
11	670	690	712	740	756	760	758	746	720	710	705	710	710	740	770	813	876		876
12	670	694	708	726	725	720	708	698	691	690	690	690	704	730	766	798	854		870
13	675	690	700	730	740	752	755	753	716	706	701	698	710	720	758	816	856		865
14	663	700	715	748	762	770	768	744	732	727	722	718	720	740	771	808	848		866
15																			
16																			
17																			
18																			
19																			
20																			
21																			
22																			
23																			
24																			
25																			
26																			
27																			
28																			

X

FLOATING ROOF SURVEY

		RIM	5	10	15	20	30	40	50	60	70	80	90	100	110	120	130	140	CTR.
1																			

1) Reading of Floor @ Strike Point: 772 (mark with "X" on table)
2) Reading of Roof @ Strike Point: _____
3) Reading of Shell Nearest Strike Point: 720
4) Readings Recorded in: Inches / Feet / (Millimetres)
5) Direction of Stations: (Clockwise) / Counter - Clockwise

DATE: May 8/17 TANK #: 9230

OPTICAL READINGS

5%

STATIONS		TANK COURSES															
SH	60.5	1		2		3		4		5		6		7		8	
	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%
1	488		486	489	487	485	483	489	491	490						
2	087		091	090	094	092	091	091	105	086						
3	150		154	157	163	162	165	162	174	166						
4	877		875	878	883	884	882	884	892	894						
5	198		211	218	229	228	230	234	241	236						
6	325		320	319	325	330	331	327	333	342						
7	660		655	653	649	647	650	659	661	653						
8	755		749	756	767	768	774	772	775	775						
9	332		351	360	365	364	370	373	392	407						
10	344		341	343	333	323	308	306	299	289						
11	096		085	081	075	067	055	053	051	039						
12	558		554	556	565	559	554	563	581	593						
13	732		711	708	712	719	738	724	717	704						
14	663		661	659	664	668	661	657	664	667						
15																
16																
17																
18																
19																
20																
21																
22																
23																
24																
25																
26																

1) OVERFLOW HEIGHT: N/A

2) FOAMLINE HEIGHT: N/A

3) Internal / (External)

4) Direction of Stations: (Clockwise) / Counter-Clockwise

Readings in mA

DATE: July 24/17 TANK #: A1-TK01

OPTICAL READINGS

STRAP Height 54" UP

STATIONS	TANK COURSES															
	~~20%~~ 1		2		3		4		5		6		7		8	
	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%
1	133	136	147	138	135	133	140	141	141	141	140	142				
2	122	122	121	118	121	123	132	137	142	147	157	150				
3	139	129	148	146	148	152	162	172	190	196	191	186				
4	977	983	994	1003	1019	1024	1027	1022	1022	1021	1017	1015				
5	449	448	443	443	443	437	429	422	422	425	424	425				
6	438	459	443	432	428	42.2	426	429	423	427	430	438				
7	160	169	181	169	167	174	179	185	199	185	185	184				
8	717	721	739	743	739	739	740	745	761	761	760	758				
9	839	839	846	849	856	864	871	866	868	873	874	876				
10	401	406	412	410	417	409	410	402	401	407	406	405				
11	487	489	495	493	493	485	490	496	511	515	517	516				
12	419	416	427	441	446	432	433	434	440	441	443	441				
13	861	865	868	865	871	867	870	871	870	867	870	~~875~~	← 875			
14	806	810	816	810	812	806	823	808	805	803	804	805				
15	817	818	827	830	835	828	836	853	867	859	849	842				
16	193	196	206	212	220	224	231	228	231	233	226	224				
17																
18																
19																
20																
21																
22																
23																
24																
25																
26																

1) OVERFLOW HEIGHT: 14.318 m

2) ~~FOAMLINE HEIGHT:~~ _____

3) Internal / (External)

4) Direction of Stations: (Clockwise) / Counter-Clockwise

Course Height: (M)

0 - 5.383
1 8.420
2 11.442
3 14.464
4 16.874
5 19.298
Weld 20.014
Bottom Rim Angle: 21.029
Top of Rim Angle 21.078

July 24/17	TCPL	Transcanada Mackay Terminal
16208	A1-TK-01	SM/IS

Table increments: Inches ☐ Centimetres ☐

Table volume units: Barrels ☐ Cubic Meters ☐ Litres ☐

TANK DATA

Year Built: 2017

Diameter: 151'-6" / 46.180M Height: 51'-6" / 15.690M Safe Fill Height: 47'-0" / 14.330 M ~~Data to be Inverted?: Yes ☐ No ☐~~

1) Product Information

Product Service to be: Bitumen/synthetic crude Product Density: _____

Product Level @ Strapping: EMPTY Temperature @ Strapping: 13 Celsius ☒ Fahrenheit ☐

2) Tank Shell

Mild Steel ☑ Stainless ☐ Insulated: YES / (NO)

Reference Product Temperature: (15 °C) / other _____

3) Tank Bottom

Cone up: ✓ Cone down: _____ Flat ☐ Physical Survey ☑

4) Type of Roof

Cone ☐ Dome ☐ Flat ☐ Internal Floating ☐ External Floating ☒

5) Under Side of Floating Roof:

Flat Pan ☐ Round pontoon ☐ Angle pontoon ☒ Square pontoon ☐ Other _____

6) Weight of Floating Roof: _____ Kilograms / 249,900 pounds

7) Distance Between Floating Roof Pin Settings: 36"

8) Roof Information

Height Tank Floor to Bottom of Deck or Pontoon Nearest Shell: 76½"

Height from Strike Point to Bottom of Floating Roof: 71" (79" @ Floor)

Height from deck to Tank Floor at Inner Edge of Pontoon 87"

Pontoon Diameter or Height: 37" Pontoon Length: 116"

Pontoon Rim Space: 8½"

9) Roof Position at Time of Measurements: (HIGH) / LOW position

DATE: [illegible] TANK #: [illegible]

FIELD DATA

1) Total Tank Height:

2) Gauge Height: 17.530 M (see Note) 3) Distance Gauge Point to Shell: 29"

4) (Overflow) / Foam line Height: _____

5) Shell Construction:
(Butt Welded) / Lap Welded Other: _____

6) Number of Vertical Welds Per Course and Tape Rise (If Applicable): N/A Internal Strap
Number: 13 Width: — Depth: —

7) Tape Number: —

8) Strapped Circumference: 144.998 m

9) Benchmark Description: Rim of Hatch Nearest Shell opposite Hinge

FIELD TABLE

Ring #	Strapped %	Plate Thickness (t)	Ring Height
Bottom		0.7550	
1	80		
2	20	0.5930	
	80		
3	20	0.4300	
	80		
4	20	0.3125	
	80		
5	20	0.3125	
	80		
6	20	0.3125	
	80		
7			
8			
9			
10			

DATE: July 24/17 TANK #: A1-TK-01

DEADWOOD

INTERNAL

Quantity	Description	Diameter	Length	Open (O) Close (C)	Height From bottom	Height If not horizontal
3	Sumpwater Drain	6"	12'-8"	O	11"	0"
16	Supports (∠ 2.5"x2.5"x1/4")	—	21"	—	1/4"	21 1/4"
8	" "	—	17"	—	7 1/4"	—
8	RePad (26"x17"x 1/4") ⬭	—	26"x17"	—	0"	1/4"
1	Floating Roof Drain 6" Reduces To 4" (24" Flanges on 6", 4" & 12" ...)	6" 4"	195'-6"	C	12"	71"
4	Anti Rotation Pipe/Gauge Poles	8"	TH-12	O	12"	TH
4	Supports (∠ 2.5x2.5"x1/4")	—	29 1/2"	—	4"	26"
4	Supports " "	—	26"	—	24"	—
4	" "	—	26"	—	26"	—
1	Nozzle	3"	202"	O	24"	0"
2	Supports (∠ 2.5x2.5x1/4")	—	14"	—	1/4"	14 1/4"
1	" "	—	10"	—	5 1/4"	—
1	RePad (19"x12"x1/4") ⬭	—	19x12"	—	0"	1/4"
1	Nozzle	10"	396"	O	14"	20"
2	Nozzle	24"	162"	O	15"	36"
8	Supports (∠ 2.5"x2.5"x1/4")	—	34"	—	1/4"	34 1/4"
4	" "	—	31"	—	11"	—
4	RePad (38"x12"x1/4")	—	38x12"	—	0"	1/4"
2	Nozzle	24"	162"	O	15	36"
1	Nozzle	24"	12"	O	14"	—
1	Nozzle	10"	8"	O	24"	—
64	RePads Ø	18"	—	—	0"	1/2"
3	RePads Ø	30"	—	—	0"	1/2"

60'-6"

EXTERNAL

Quantity	Description	Diameter	Length	Height
1	Nozzle	1"	6"	24"
1	Nozzle	1"	6"	35"
3	Nozzle	6"	19"	11"
3	Nozzle	1½"	8¼"	47"
1	Nozzle	10"	54"	14"
1	Nozzle	3"	44"	24"
2	Nozzle	24"	35"	18"
2	Nozzle	24"	24"	14"
1	Nozzle	24"	58"	14"
1	D-Door A 48" Ø36"	48"	8"	0-36"
3	Nozzle	2"	6¼"	39"
7	Nozzle	10"	9¼"	24"
1	Nozzle	3"	7½"	38"
4	Manway	24"	6½"	18"
1	Nozzle	36"	8½"	12"
2	Manway	36"	7¾"	19"
3	SUMPS	60"	—	36"

159 | 360

DATE Jan/24/17 TANK # AI-TK-01

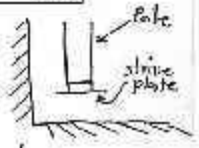
PHYSICAL BOTTOM SURVEY

	SHELL	1	5	10	15	20	30	40	50	60	70	80	90	100	110	120	130	140	CTR.
1	408	411	452	424	458	447	452	486	484	510	568								590
2	421	418	416	426	435	454	464	486	472	541	567								
3	422	414	415	432	428	404	470	498	500	536	567								
4	420	417	413	415	438	418	430	468	512	500	554								
5	412	417	410	416	428	412	455	454	482	525	549								
6	410	406	449	416	416	411	445	459	490	515	541								
7	415	411	430	425	424	476	462	526	545	537	543								
8	418	416	426	443	420	424	465	477	492	593	544								
9	415	413	431	434	424	424	452	461	508	535	549								
10	411	413	414	461	444	428	455	460	511	551	540								
11	410	407	409	430	457	447	428	473	491	516	571								
12	407	406	425	409	424	416	454	464	510	514	542								
13	402	398	420	402	420	452	436	454	480	517	530								
14	400	382	408	441	407	410	450	470	500	537	670								
15	404	402	407	423	412	433	431	452	542	509	556								
16	410	400	410	422	418	432	464	448	480	538	555								↓
17																			
18																			
19																			
20																			
21																			
22																			
23																			
24																			
25																			
26																			
27																			
28																			

FLOATING ROOF SURVEY (reading for IFE in inches)

		RIM	5	10	15	20	30	40	50	60	70	80	90	100	110	120	130	140	CTR.
1		12.5	11.5	12.0	21.7	21.0	21.0	18.7	19.4	18.5	18.0								18.5

1) Reading of Floor @ Strike Point: 415 (on floor) 613 (on shoe plate) (mark with "X" on table)
2) Reading of Roof @ Strike Point: 15.0 (in)
3) Reading of Shell Nearest Strike Point: 410
4) Readings Recorded In: (Inches) / Feet / (Millimetres)
5) Direction of Stations: (Clockwise) / Counter - Clockwise



Roof reading in inches
Bottom plate in mm

Action Number P2190102940 - Exhibit F

Internal Settlement:

Highest number Highest elevation

Oct 25/ 2017	CRC	Regina, SK
16279	54-10-906	JG, IS, EM

1'	2'	3'	4'	5'	6'	7'	8'	9'	10'	15'	20'	30'	40'	50'	60'	70'	80'	CTR
540	540	555	545	550	552	550	542	534	545	540	550	578	604	602	648			620
522	520	532	538	540	534	538	526	526	530	570	530	558	613	600	651			620
533	553	547	530	527	530	524	520	532	522	587	562	597	587	607	633			620
513	520	515	518	515	505	502	508	518	530	512	536	590	600	640	655			620
516	514	540	550	555	554	546	538	525	520	526	544	592	620	630	678			624
530	538	546	548	542	530	532	522	525	523	522	540	565	623	618	660			626
540	525	525	538	538	536	538	542	542	530	528	546	574	576	580	664	643		626
506	506	508	538	540	542	535	526	520	518	528	558	558	548	600	622	660		623
514	535	542	560	547	534	535	548	548	542	528	515	520	545	592	612	662		622
513	512	507	517	505	506	512	515	511	509	508	506	517	585	585	636	640		625
515	516	513	541	555	559	561	553	534	511	502	500	535	538	570	605	642		625
515	512	503	530	543	546	540	530	516	507	500	508	506	562	564	607	683		625
522	525	518	528	520	513	507	515	504	512	514	512	515	548	573	658	680		625
528	528	536	535	530	528	525	520	520	525	525	511	520	553	630	660	660		621

meter: _____ Tank Circumference: _____ Distance Between Stations: _____

Oct 25/2017 16249	CRC 54-10-906	Regina SK EM, JG, IS

Table increments: Inches ☒ Centimetres ☐

Table volume units: Barrels ☐ Cubic Meters ☒ Litres ☐

TANK DATA

Diameter: 136' Height: 48' Safe Fill Height: 46' Data to be Inverted?: Yes ☐ No ☐

1) **Product Information**

Product Service to be: Diesel / Distillate Product Density: 0.876

Product Level @ Strapping: EMPTY Temperature @ Strapping: 13 Celsius ☑ Fahrenheit ☐

2) **Tank Shell**

Mild Steel ☒ Stainless ☐ Insulated: YES / (NO)

Reference Product Temperature: (15 °C) / other _____

3) **Tank Bottom**

Cone up: _____ Cone down: _____ Flat ☐ Physical Survey ☒

4) **Type of Roof**

Cone ☒ Dome ☐ Flat ☐ Internal Floating ☐ External Floating ☐

5) **Under Side of Floating Roof:**

Flat Pan ☐ Round pontoon ☐ Angle pontoon ☐ Square pontoon ☐ Other _____

6) **Weight of Floating Roof:** _____ Kilograms / _____ pounds

7) **Distance Between Floating Roof Pin Settings:** _____

8) **Roof Information**

Height Tank Floor to Bottom of Deck or Pontoon Nearest Shell: _____

Height from Strike Point to Bottom of Floating Roof: _____

Height from deck to Tank Floor at Inner Edge of Pontoon _____

Pontoon Diameter or Height: _____ Pontoon Length: _____

Pontoon Rim Space: _____

9) **Roof Position at Time of Measurements:** HIGH / LOW position

545

DATE: [illegible] TANK #: [illegible]

FIELD DATA

1) Total Tank Height: 14688 m

2) Gauge Height: 53' - 5/8" 3) Distance Gauge Point to Shell: 40"

4) Overflow / Foam line Height: ——

5) Shell Construction:
(Butt Welded) Lap Welded Other: _____

6) Number of Vertical Welds Per Course and Tape Rise (if Applicable):
Number: 15 Width: 3/4 Depth: 1 mm

7) Tape Number: _____

8) Strapped Circumference: 130.210 m

9) Benchmark Description: Benchmark on hatch

FIELD TABLE

Ring #	Strapped %	Plate Thickness (in)	Ring Height (m)
Bottom	20	5/8	2414
1	70%		
2	——	9/16	0412
3	20	9/16	2872
	80		
4	20	3/8	2875
	80		
5	20	3/8	2975
	80		
6	20	3/8	3040
	80		
7			
8			
9			
10			

DATE: 04 25/17 TANK #: 54-10-906

DEADWOOD

INTERNAL

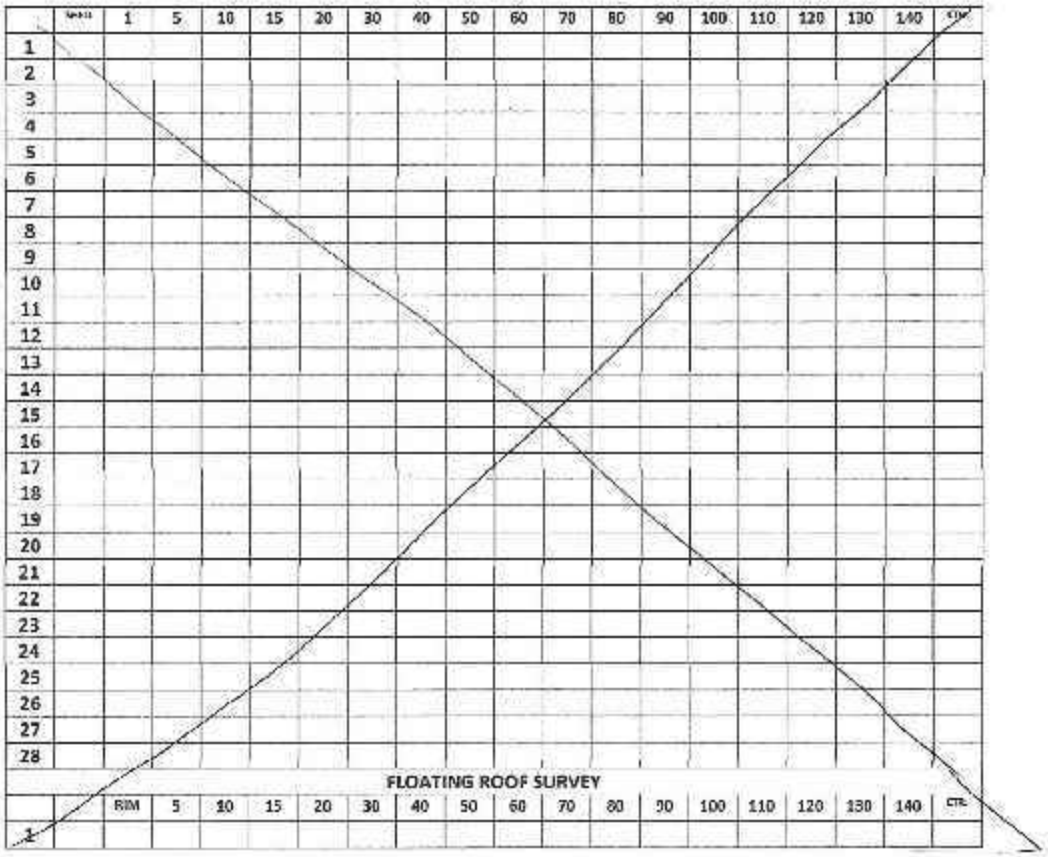
Quantity	Description	Diameter	Length	Open (O) Close (C)	Height From bottom	Height From horizontal
8	Column repad	38	—	—	0	1/4
3	Columns	10	—	0	1/4	TH
1	Center column	12	--	0	1 1/2	TH
1	Column repad	54	—	—	0	1 1/2
88	Support (3x3 x 1/4)	—	7 1/2	—	0	7 1/2
88	Repad support	8	—	C	0	1/4
2	Pipe (Heath coil)	2	92 3/4	C	4	6
1	Nozzle	12	11.5	0	—	10.5
2	Nozzle	10	5	0	—	30.5
3	Patch plate	62	—	—	0	1/4

EXTERNAL

Quantity	Description	Diameter	Length	Height
3	Manway	24	8	17.5
2	Nozzle	10	12.5	30.5
2	Manway (mixer)	30	8.5	21
1	Nozzle	12	13	10.5
1	Nozzle	6	12.75	10.25
2	D-Door 24 x 24	24 x 24	11.5	0

DATE: [illegible] TANK #: [illegible]

PHYSICAL BOTTOM SURVEY



FLOATING ROOF SURVEY

	RIM	5	10	15	20	30	40	50	60	70	80	90	100	110	120	130	140	CTR
1																		

1] Reading of Floor @ Strike Point: 545 (mark with "X" on table)
2] Reading of Roof @ Strike Point: —
3] Reading of Shell Nearest Strike Point: 525
4] Readings Recorded in: Inches / Feet / (Millimetres)
5] Direction of Stations: Clockwise / (Counter - Clockwise)

(T4.1) Rev 1

taken on 2nd course because is only 0.412 m.

DATE: 06-24-19 TANK #: 54-10-906

OPTICAL READINGS

STATIONS	TANK COURSES															
	1		3		4		5		6							
	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%
1	587	573	564	581	595	604	626	634	642	648						
(X) 2	511	501	497	494	500	501	506	499	494	492						
3	224	243	252	245	254	252	252	253	248	240						
4	85	85	78	70	72	64	65	57	51	56						
5	360	361	365	364	369	366	372	369	363	367						
6	524	534	540	538	532	554	546	545	550	551						
7	355	366	365	363	369	371	372	373	376	369						
8	451	431	472	458	458	453	456	455	452	466						
9	353	341	328	329	336	341	342	337	338	341						
10	565	559	568	564	565	565	565	559	554	550						
11	856	852	866	850	846	858	851	853	895	844						
12	227	226	228	221	224	226	226	224	235	225						
13	951	755	950	928	916	905	909	911	910	884						
14	143	169	162	165	170	169	177	178	184	191						
15																
16																
17																
18																
19																
20																
21																
22																
23																
24																
25																
26																

1) OVERFLOW HEIGHT: ———

2) FOAMLINE HEIGHT: ———

3) Internal / (External)

4) Direction of Stations: Clockwise / (Counter-Clockwise)

Course Height:

2.200 → 2414
4.614 → 0412
5.026 → 2872
7.898 → 2875
10.773 → 2975
13.748 → 3040
16.788

14.588 m

Tank Calibration Package

NEXTGEN INDUSTRIAL SERVICES

Date Stranded: Feb 14/18	Company: CRC	Site Location: Regina, Sk
Nextgen Job#: 16292	Tank Number: 54-10-907	Personnel: JG/TH/SM/IS/EM

Table increments: Inches ☑ Centimetres ☐

Table volume units: Barrels ☐ Cubic Meters ☑ Litres ☐

TANK DATA

Diameter: 136'-3" Height: 48' Safe Fill Height: 44' Data to be Inverted?: Yes ☐ No ☑

1) Product Information

Product Service to be: Diesel & ~~Gasoline~~ synthetic crude ~~Diesel~~ → 0.8587 S.G Product Density: Diesel: 0.8809 S.G

Product Level @ Strapping: EMPty Temperature @ Strapping: -7 Celsius ☑ Fahrenheit ☐

2) Tank Shell

Mild Steel ☑ Stainless ☐ Insulated: YES / (NO)

Reference Product Temperature: (15 °C) / other _____

3) Tank Bottom

Cone up: ✓ Cone down: _____ Flat ☐ Physical Survey ☑

4) Type of Roof

Cone ☐ Dome ☐ Flat ☐ Internal Floating ☑ External Floating ☐

5) Under Side of Floating Roof:

Flat Pan ☐ Round pontoon ☐ Angle pontoon ☐ Square pontoon ☐ Other ~~Sandborn~~ Cable Hung Sandborn

6) Weight of Floating Roof: ~~_____~~ Kilograms / 31,365 (pounds)

7) Distance Between Floating Roof ~~Rim~~ Cable Settings: 2'-6"

8) Roof Information

Height Tank Floor to Bottom of Deck or Pontoon Nearest Shell: 83 7/8"

Height from Strike Point to Bottom of Floating Roof: 84 7/8

Height from deck to Tank Floor at Inner Edge of Pontoon N/A

Pontoon Diameter or Height: N/A Pontoon Length: N/A

~~Pontoon~~ Rim Space: 5.5"

9) Roof Position at Time of Measurements: (HIGH) / LOW position

Tank Calibration Package

NEXTGEN

DATE: _____ TANK #: 54-10-907

FIELD DATA

1) Total Tank Height: 48'-9"

2) Gauge Height: 15.865M 3) Distance Gauge Point to Shell: 32"

4) ~~Overflow / Foam line~~ Height: N/A

5) Shell Construction: (Butt Welded) / Lap Welded Other: _____

6) Number of Vertical Welds Per Course and Tape Rise (if Applicable):
Number: 12 Width: 1/4" Depth: 1mm

7) Tape Number: 1

8) Strapped Circumference: 130.522M

9) Benchmark Description: ~~Marker Tab~~ Benchmark tab in Hatch

FIELD TABLE

SH = 65%

Ring #	Strapped %	Plate Thickness (in)	Ring Height
Bottom	74" WP	0.625	~~9'~~ 9'-5"
1	80		
2	20	0.500	9'-6"
	80		
3	20	0.375	9'-6"
	80		
4	20	0.375	9'-8"
	80		
5	20	0.3125	~~9'-8"~~ 9'-10"
	80		
6			
7			
8			
9			
10			

Tank Calibration Package

NEXTGEN

DATE: Jan 23/18 TANK #: 54-10-907

DEADWOOD

INTERNAL

Quantity	Description	Diameter	Length	Open (O) Close (C)	Height From bottom	Height If not horizontal
3	Support L 2.5" x 2.5" x 1/4"	—	39"	—	30.5"	—
1	Support L 2.5" x 2.5" x 1/4"	—	26.75"	—	30.5"	—
2	Support L 2.5" x 2.5" x 1/4"	—	35"		6"	27"
1	Gauge Pole	8"	TH-12"	O	12"	TH
1	Gauge Pole	8"	TH-5.5"	O	5.5"	TH
1	Repad Ø	18"	—	—	5/16"	[illegible] 1/16"
1	Repad 72" x 36" x	—	—	—	O	5/16"
3	Nozzle	2"	14"	O	4"	1/4"
1	Nozzle	4"	9"	O	O	4"
1	Nozzle	10"	65.5"	O	12"	23"
1	Nozzle	16"	11.5"	O	14"	—
2	Nozzle (Probes)	1"	27.5"	C	35"	—
45	Repad Ø	22"	—	—	O	5/16"
41	Repad Ø	8"	—	—	O	3/8"
9	Repad	6"x6"	—	—	O	[illegible] 5/16"
2	Repad Ø	63"	—	—	O	5/16"
2	Repad Ø	6"	—	—	O	1/4"
7	Column	10"		O	1.5"	TH
7	Repad 75x75x1/4"	75"x75"	—	—	O	1/4"
7	Repad 63x63x1.25"	63"x63"	—	—	1/4"	
14	Support 3x3x1/4"	—	[illegible]6	—	1/4"	6"
1	Repad Ø	16"	—	—	O	5/16"
2	Repad Ø	14"	—	—	O	5/16"
1	Repad 46x57x5/16"	46x57"	—	—	O	5/16"
3	Repad 4x16x1/4"	4x16"	—	—	O	1/4"
1	Repad Ø	12"	—	—	O	5/16"
1	Repad 103x56x5/16"	103x56	—	—	O	5/16"

22. 𝍸 𝍸 𝍸 (49)

8. 𝍸 𝍸 | (41)

Tank Calibration Package

NEXTGEN

EXTERNAL

Quantity	Description	Diameter	Length	Height
1	Manway	24"	~~8~~	18"
2 "	Element Door 24x24"	24x24"	6.75"	0
2 "	Manway	30"	9"	21"
1	Nozzle	24"	24"	13"
1	Nozzle	6"	9"	~~45~~
3 "	Nozzle	2"	7.75"	5"
1	Nozzle	4"	11"	4"
1	Nozzle	10"	18"	12"
1	Nozzle	16"	18"	14"
2	Nozzle	2"	6"	33"
	~~[illegible]~~	~~[illegible]~~	~~[illegible]~~	

	RIM	5	10	15	20	30	40	50	60	70	80	90	100	110	120	130	140	CTR.
1	575	575	580	593	593	595	590	580	568	565	575	590	578	575	620	612	620	623
2	580	582	595	620	634	634	625	608	585	570	510	604	568	600	610	650	626	625
3	582	591	603	620	618	605	590	573	560	553	555	584	605	620	642	632	630	625
4	583	585	594	612	616	613	600	584	570	562	558	560	581	575	600	608	630	627
5	582	584	588	602	603	602	597	592	582	574	575	553	560	619	578	606	610	618
6	582	582	585	600	597	589	585	580	592	590	597	588	615	600	590	592	628	618
7	582	582	580	590	588	581	585	598	607	610	604	573	601	640	575	600	628	618
8	569	572	573	585	586	583	594	603	610	590	583	583	600	573	574	607	632	620
9	571	581	589	601	595	588	587	584	580	576	572	567	575	573	592	600	615	613
10	565	566	568	582	585	587	582	573	561	555	564	550	534	530	578	625	612	617
11	569	579	587	612	622	621	610	595	577	563	554	540	535	560	570	590	635	617
12	564	562	563	560	540	520	506	493	487	487	496	540	518	570	600	618	622	622
13	563	562	560	571	570	555	540	530	523	528	545	545	570	572	625	603	623	623
14	565	571	575	581	569	560	550	550	541	535	534	547	528	568	646	600	630	626
15	568	573	580	596	597	595	592	586	578	568	562	546	550	572	586	605	645	623
16	574	576	583	592	585	580	585	594	591	583	575	555	566	573	577	618	647	623
17																		
18																		
19																		
20																		
21																		
22																		
23																		
24																		
25																		
26																		
27																		
28																		

FLOATING ROOF SURVEY

	RIM	5	10	15	20	30	40	50	60	70	80	90	100	110	120	130	140	CTR.
1	23 3/4"	23"	22 3/8"	23 5/8"	22 5/8"	22 3/8"	22 1/2"	22 3/8"	24"									23

1) Reading of Floor @ Strike Point: 604 MM (mark with "X" on table)
2) Reading of Roof @ Strike Point: 23"
3) Reading of Shell Nearest Strike Point: 568 MM
4) Readings Recorded in: (Inches) / Feet / (Millimetres)
5) Direction of Stations: Clockwise / (Counter - Clockwise)

FF 4.19 Rev 1

floor settlement taken with upside down Rod (Higher number Higher elevation)
Roof measurements taken with measuring tape

Tank Calibration Package

NEXTGEN

DATE: Feb 14/18 TANK #: 907

OPTICAL READINGS

STATIONS	TANK COURSES															
	1 SH		2		3		4		5		6		7		8	
	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%
1		027	029	032	034	033	025	028	037	032						
2		895	899	900	887	883	885	892	890	888						
3		422	427	424	423	420	421	425	422	416						
4		682	688	691	702	697	695	697	698	695						
5		728	725	720	719	721	727	732	732	744						
6		384	383	391	391	381	388	399	404	399						
7		218	227	229	227	227	227	226	229	237						
8		80	84	86	85	92	99	104	108	106						
9		281	346	380	409	393	337	320	316	280						
10		673	672	664	666	672	676	682	697	709						
11		915	925	928	933	929	929	942	941	952						
12		648	648	642	642	650	651	658	671	659						
13		314	315	320	319	316	302	292	298	297						
14		847	850	853	851	849	849	848	860	866						
15		22	24	27	30	30	22	25	29	17						
16		101	103	96	75	85	86	85	99	107						
17																
18																
19																
20																
21																
22																
23																
24																
25																
26																

1) OVERFLOW HEIGHT: _____

2) FOAMLINE HEIGHT: _____

3) Internal / External

4) Direction of Stations: Clockwise / Counter-Clockwise

Course heights m)

0 — 491.908 > 2.873

1 — 494.781 > 2.911

2 — 497.692 > 2.902

3 — 500.594 > 2.940

4 — 503.534 > 2.940

Wind Girder 505.900

Top — 506.773

3.239

14.865

FF 4.19 Rev 1

Tank Calibration Package

NG NEXTGEN

May 5/2018	CRC	Regina, SK
16333	54-10-802	JG, TH, Eldon, IS

Table increments: Inches ☐ Centimetres ☐

Table volume units: Barrels ☐ Cubic Meters ☐ Litres ☐

TANK DATA

Diameter: 117 ft Height: 42 ft Safe Fill Height: 35'-8" Data to be Inverted?: Yes ☐ No ☐

1) Product Information

Product Service to be: Crude Oil Product Density: 0.8510

Product Level @ Strapping: Empty Temperature @ Strapping: 20 Celsius ☑ Fahrenheit ☐

2) Tank Shell

Mild Steel ☐ Stainless ☐ Insulated: YES / (NO)

Reference Product Temperature: (15 °C) other _____

3) Tank Bottom

Cone up: _____ Cone down: _____ Flat ☐ Physical Survey ☑

4) Type of Roof

Cone ☐ Dome ☐ Flat ☐ Internal Floating ☑ External Floating ☐

5) Under Side of Floating Roof:

Flat Pan ☑ Round pontoon ☐ Angle pontoon ☐ Square pontoon ☐ Other _____

6) Weight of Floating Roof: 10872 Kilograms / 23919 pounds

7) Distance Between Floating Roof Pin Settings: 3 ft

8) Roof Information

Height Tank Floor to Bottom of Deck or Pontoon Nearest Shell: 93 1/2 "

Height from Strike Point to Bottom of Floating Roof: 93 1/2 "

Height from deck to Tank Floor at Inner Edge of Pontoon —

Pontoon Diameter or Height: — Pontoon Length: —

Pontoon Rim Space: _____

9) Roof Position at Time of Measurements: (HIGH) / LOW position

FF-4 19 Rev 1 © Nextgen Industrial Services Inc. 2018

Tank Calibration Package

DATE: May 3/18 TANK #: 54-10-802

FIELD DATA

1) Total Tank Height: 12.563(m)

2) Gauge Height: 13.774 m 3) Distance Gauge Point to Shell: 44"

4) Overflow / Foam line Height: ——

5) Shell Construction:
(Butt Welded) Lap Welded Other: _____

6) Number of Vertical Welds Per Course and Tape Rise (if Applicable):
Number: 12 Width: _____ Depth: _____

7) Tape Number: ——

8) Strapped Circumference: 112.153 m

9) Benchmark Description: Benchmark on rim

FIELD TABLE

Ring #	Strapped %	Plate Thickness (in)	Ring Height (m)
Bottom	60%	0.750	2.412
1			
2	20%	0.563	2.413
	80%		
3	20%	0.375	2.113
	80%		
4	20%	0.312	2.104
	80%		
5	20%	0.250	1.794
	80%		
6	20%	0.250	1.727
	80%		
7			
8			
9			
10			

Tank Calibration Package

NEXTGEN

DATE: May 5/18 TANK #: 54-10-862

DEADWOOD

INTERNAL

Quantity	Description	Diameter	Length	Open (O) Close (C)	Height From bottom	Height If not horizontal
32	Pipe support (L 4x4x1/4) angle	—	25.9	—	0	15.8
32	Pipe support	—	12	—	21.9	25.9
2	Pipe (Coil)	2	360	C	11	34
64	Pipe support	—	4	—	25.9	29.9
16	Pipe support	—	4		29.9	30
32	Repads 7x7x1/4	—	—	—	0	1/4
1	Diffuser Pipe	28	768	O	17	—
8	Diffuser supports (L 3x3x1/4)	—	34.5	—	31	38
4	Diffuser supports (L 3x3x1/4)	—	36	—	31.5	34.5
4	Diffuser supports (L 3x3x1/4)	—	36	—	8	11
8	Colum repad 40x40	—	—	—	0	1
8	Colums	10	TH-1	O	—	—
1	Center column (Repad) 52x52	—	—	—	0	1
1	Center column	12	TH-1	O	—	—
27	Column repad supports (L 3x3x1/8)	—	5.5	—	0	5.5
1	Pipe (Diffuser)	10	604	O	12	—
6	Pipe support (L 2.5x2.5x1/4)	—	21.5	—	20	23
3	Pipe support (L 2.5x2.5x1/4)	—	16	—	7.5	10
2	Pipe (Gauge Pole)	8	TH-10	O	10	TH
4	Suppor (L 2.5x2.5x1/4)	—	43	—	33	35.5
2	Repad (Gauge Pole)	18	—	—	0	1/2
32	Support (Coil)	—	16	—	7	25

Tank Calibration Package

NEXTGEN

EXTERNAL

Quantity	Description	Diameter	Length	Height
1	Manway	30	26.5	16
1	Nozzle	10	13.25	18.5
1	Manway	22	7	25
1	Nozzle	6	11	14.5
1	Nozzle	12	18.75	11.25
1	Nozzle	12	15.25	18
1	Nozzle	12	18.5	11.5
1	Manway (Mixer)	30	4.5	22
1	Manway	30	7.75	14.5
1	Nozzle	10	14	18.5
1	Manway	20	6.5	23.5
2	D-Door 12" x 17"	12 x 17	6	12

DATE May 5/18 TANK # 54-10-802

PHYSICAL BOTTOM SURVEY

	SHELL	1	5	10	15	20	30	40	50	60	70	80	90	100	110	120	130	140	CTR.
1																			
2																			
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			
11																			
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23																			
24																			
25																			
26																			
27																			
28																			

(x)

SEE INTERNAL SETTLEMENT TABLE

FLOATING ROOF SURVEY

		RIM	5	10	15	20	30	40	50	60	70	80	90	100	110	120	130	140	CTR.
1		34	36	36.5	36 5/8	35 1/2	34 5/8	31 1/4	34 3/4										

(in)

1) Reading of Floor @ Strike Point: 58.5" (mark with "X" on table)
2) Reading of Roof @ Strike Point: 35"
3) Reading of Shell Nearest Strike Point: 60 3/8"
4) Readings Recorded in: (Inches) / Feet / Millimetres
5) Direction of Stations: Clockwise / (Counter - Clockwise)

Readings were taken with "0" ero on the underside of floating roof measure to laser level.

Rev 1

Tank Calibration Package

NEXTGEN

DATE: May 5/18 TANK #: 54-10-0802

OPTICAL READINGS

STATIONS	TANK COURSES (mm)															
	1		2		3		4		5		6		7		8	
	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%
1		632	633	626	644	643	624	604	597	588	588	584				
2		767	770	772	773	766	775	773	770	771	783	789				
3		336	318	323	336	355	382	309	346	328	331	348				
4		517	509	510	494	507	547	539	501	480	480	477				
5		116	121	113	121	135	141	133	147	138	109	120				
6		271	291	299	295	312	348	376	400	446	486	498				
7		616	606	588	587	577	564	545	554	559	556	562				
8		175	186	193	209	215	215	212	240	259	242	229				
9		287	293	268	260	258	263	252	262	268	255	262				
10		156	161	160	163	164	168	152	153	150	171	179				
11		166	166	184	169	155	162	157	147	160	204	190				
12		498	527	549	546	528	543	559	553	534	541	551				
13		684	694	704	718	742	763	762	788	788	796	829				
14		875	879	888	909	925	936	941	947	929	955	995				
15																
16																
17																
18																
19																
20																
21																
22																
23																
24																
25																
26																

Course Heights (m)

Bff) 490.431
1) 492.843 > 2.412
2) 495.256 > 2.413
3) 497.369 > 2.113
4) 499.473 > 2.104
5) 501.267 > 1.794
6) 502.994 > 1.727

12.563 (m)

1) OVERFLOW HEIGHT: —

2) FOAMLINE HEIGHT: —

3) Internal / External

4) Direction of Stations: Clockwise / Counter-Clockwise

FT 4.10 Rev 1

The higher the number the higher the actual elevation of the floor

Internal Settlement

NG NEXTGEN

May 5/18	CRC	Regina, SK
16333	54-10-802	T#, Eldon, IS, JG

Measurements (mm)

Station	Shell	1'	2'	3'	4'	5'	6'	7'	8'	9'	10'	15'	20'	30'	40'	50'	60'	70'	80'	CTR
1	599	610	620	640	641	641	635	640	641	642	642	650	687	710	732	755				760
2	605	615	620	640	649	649	645	638	630	638	638	651	652	685	731	759				760
3	612	612	611	627	635	638	639	639	638	639	640	656	665	701	742	769				760
4	611	615	617	635	642	650	652	653	651	652	652	669	675	700	740	775				760
5	599	612	620	640	648	649	651	655	660	660	670	688	697	722	760	761				752
6	601	605	610	621	640	648	655	657	655	657	660	681	712	728	770	775				761
7	602	615	625	638	641	657	668	675	681	685	690	701	718	722	738	761				761
8	595	606	614	633	639	641	639	644	645	647	648	660	707	715	735	764				758
9	600	610	618	638	642	648	648	643	638	643	643	647	682	722	738	762				754
10	584	602	616	639	647	655	658	661	663	663	663	690	709	733	738	760				756
11	592	601	611	627	632	634	638	642	646	653	660	678	696	732	761	757				759
12	606	616	623	643	655	661	664	665	667	667	673	685	704	718	752	746				754
13	601	614	630	629	641	645	649	652	652	654	670	668	693	728	762	762				757
14	601	604	614	630	629	644	645	649	652	652	654	670	683	693	728	762				759
15																				
16																				
17																				
18																				
19																				
20																				
21																				
22																				
23																				
24																				

Tank Diameter: _____ Tank Circumference: _____ Distance Between Stations: _____

28'9.5"

Cond 28'5.5"

☆ Before Hydro ☆

Tank Calibration Package

NEXTGEN

Date Strapped: June/18	Secure Energy	Kerrobert, SK
Strapped by: 16353	Tank Number: T-500	Product Contained: SM/EM

Table Increments: Inches ☐ Centimetres ☑

Table volume units: Barrels ☐ Cubic Meters ☑ Litres ☐

TANK DATA

Diameter: 110' Height: 48' Design Liquid level Safe Fill Height: 44'-5" Data to be Inverted?: Yes ☐ No ☒

1) Product Information

Product Service to be: Crude Product Density: 0.856

Product Level @ Strapping: Empty Temperature @ Strapping: 20 Celsius ☒ Fahrenheit ☐

2) Tank Shell

Mild Steel ☑ Stainless ☐ Insulated: YES / (NO)

Reference Product Temperature: (15 °C) / other _____

3) Tank Bottom

Cone up: ✓ Cone down: _____ Flat ☐ Physical Survey ☑

4) Type of Roof

Cone ☐ Dome ☐ Flat ☐ Internal Floating ☒ External Floating ☐

5) Under Side of Floating Roof:

Flat Pan ☐ Round pontoon ☐ Angle pontoon ☐ Square pontoon ☐ Other Sandborn Panelstyle

6) Weight of Floating Roof: _____ Kilograms / 22,167 pounds

7) Distance Between Floating ~~Roof Rim~~ Cable Settings: 31'4"

8) Roof Information

Height Tank Floor to Bottom of Deck or Pontoon Nearest Shell: 79.5

Height from Strike Point to Bottom of Floating Roof: 81"

Height from deck to Tank Floor at Inner Edge of Pontoon N/A

Pontoon Diameter or Height: ~~N/A~~ Pontoon Length: N/A

~~Pontoon~~ Rim Space: 8" 2½" or 5" check Drawing

9) Roof Position at Time of Measurements: (HIGH) / LOW position

6eKA
503 -
705

Tank Calibration Package

NEXTGEN

DATE: June 13/19 TANK #: T-580

FIELD DATA

1) Total Tank Height: 48'11

2) Gauge Height: 52'-11 3/8" 3) Distance Gauge Point to Shell: 42'11

4) (Overflow) / Foam line Height: TOBe confirmed.

5) Shell Construction:
(Butt Welded) / Lap Welded Other: 1

6) Number of Vertical Welds Per Course and Tape Rise (if Applicable):
Number: 10 Width: V4" Depth: 1MM

7) Tape Number: 1

8) Strapped Circumference: ~~105.330M~~ 105.330M

9) Benchmark Description: Top of Benchmark Tab in Hatch

74" up

FIELD TABLE

Ring #	Strapped %	Plate Thickness	Ring Height
~~Bottom~~		0.506	
~~1~~	62%	~~12.85MM~~	10'
2	20 80	0.399	10'
3	20 80	0.305	10'
4	20 80	0.305	10'
5	20 80	0.305	8'
6			
7			
8			
9			
10			

PLATE THK MM
12.85
10.13
7.75
7.75
7.75

FF 4.19 Rev 1

Tank Calibration Package

NEXTGEN

DATE: June13 TANK #: T-500

DEADWOOD

INTERNAL

Quantity	Description	Diameter	Length	Open (O) Close (C)	Height From bottom	Height If not horizontal
4	RePad ⊘	6"	—	—	0"	1/4"
1	Nozzle	12"	9"	O	17"	—
1	Nozzle	6"	7.5	O	13"	—
1	Nozzle	12"	84"	O	15.5"	25.5"
1	RePad □ 30"x12"x1/4"	—	—	—	0"	1/4"
2	SUPPORTS (∠ 3x3x1/4")	—	26"	—	0"	26"
1	SUPPORTS (∠ 3x3x1/4")	—	22.5"	—	12"	—
1	Nozzle	30"	11"	O	16"	—
1	Nozzle	16"	10"	O	18"	—
1	Nozzle	4"	29"	O	8"	3"
10	SQuare ANode (8x8x4)	—	—	—	0"	4"
1	Nozzle	4"	6.5"	O	21.5"	—
	Gauge Pole	8"	TH-5"	O	5"	TH
1	RePad ⊘	18"	—	—	0"	1/4"
1	SUPPORTS (∠ 3x3x1/4")	—	35"	—	24"	—
1	" "	—	36"	—	21"	—
1	" "	—	37.5"	—	4.5"	23"
1	Nozzle	2"	4.5	O	24"	—
1	Center column	20"	TH-2¼	O	2¼"	TH
1	RePad	60"	1¼"	—	1"	2¼"
1	RePad	108"	1	—	0"	1"
3	SUPPORTS (∠ 2.5x2.5x1/4")	—	8"	—	2¼"	10¼"
1	Steel Plate (55x30x3/8")	—	—	—	10"	—
1	" (54x30x3/8")	—	—	—	10"	—
1	" (38x30x3/8")	—	—	—	10"	—
1	" (60x30x3/8")	—	—	—	20"	—

← steel FINS

TF 4.19

Rev 1

Tank Calibration Package

NEXTGEN

EXTERNAL

Quantity	Description	Diameter	Length	Height
3	~~[illegible]~~ Manway	24"	8"	13"
1	Nozzle	4"	7"	21.5"
1	Nozzle	2"	7"	24"
1	Nozzle	~~[illegible]~~12	30"	17"
1	Nozzle	6"	22"	15
1	Nozzle	12"	24"	15
1	Nozzle	30"	40"	16"
1	Nozzle	16"	16"	18"
1	Nozzle	4"	11.5"	8"
1	D-Door	48x48	7"	—

DATE June 13/18 TANK # T-500

PHYSICAL BOTTOM SURVEY

	SHELL	1	2	3	4	5	6	7	8	9	10	15	20	30	40	50	120	130	140	CTR
1	593	592	601	623	630	648	657	660	656	648	641	667	672	698	746	767				768
2	590	605	621	641	646	641	637	640	632	632	635	653	665	723	753	760				757
3	591	604	620	648	660	666	670	669	662	657	653	666	681	706	736	762				764
4	594	605	612	625	640	644	661	660	655	645	643	673	675	701	729	772				764
5	594	602	607	624	630	638	646	647	643	645	645	676	663	710	742	771				766
6	595	609	617	632	630	629	627	629	630	633	636	668	668	701	752	765				767
7	595	612	626	646	657	664	678	679	671	657	645	649	663	708	742	770				768
8	603	620	629	638	632	628	627	638	643	651	654	654	673	728	740	769				760
9	598	600	602	631	648	660	670	675	676	671	663	662	673	716	749	770				767
10	591	593	597	606	615	616	631	641	648	654	656	672	678	712	737	760				769
11	590	609	617	640	651	652	647	649	660	651	649	663	685	705	727	769				769
X 12	591	605	613	633	642	646	635	640	633	633	635	654	661	725	739	776				771
13																				
14																				
15																				
16																				
17																				
18																				
19																				
20																				
21																				
22																				
23																				
24																				
25																				
26																				
27																				
28																				

50' & Edge of column Read?

FLOATING ROOF SURVEY Inches from Floor to underside of Roof

		RIM	5	10	15	20	30	40	50	60	70	80	90	100	110	120	130	140	CTR
1		78.5	82	81	83	82.5	82	82	78										78

CTR Edge of Column Read

1) Reading of Floor @ Strike Point: 645 (mark with "X" on table)
2) Reading of Roof @ Strike Point: 81" → From strike plate to underside of Roof
3) Reading of Shell Nearest Strike Point: 591
4) Readings Recorded In: Inches / Feet / Millimetres
5) Direction of Stations: Clockwise / Counter - Clockwise

FF 4.19 Rev 1

Tank Calibration Package

NEXTGEN

DATE: June 13/18 TANK #: T-500

OPTICAL READINGS

STATIONS	TANK COURSES															
	1 62%		2		3		4		5		6		7		8	
	20%	[illegible]	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%
1		975	967	973	988	1001	998	995	994	998						
2		136	133	137	144	122	106	108	105	102						
3		131	131	131	132	141	141	137	139	132						
4		478	482	485	490	501	503	504	502	504						
5		598	593	590	589	591	590	593	587	582						
6		807	805	807	816	812	810	807	806	810						
7		185	175	174	178	183	190	195	190	176						
8		393	385	376	370	366	365	358	357	359						
9		916	921	928	944	956	976	988	999	1001						
10		074	067	063	059	053	048	041	033	034						
11		344	339	329	327	336	349	351	380	352						
12		226	231	232	226	223	219	214	213	222						
13																
14																
15																
16																
17																
18																
19																
20																
21																
22																
23																
24																
25																
26																

1) OVERFLOW HEIGHT: [redacted]

2) FOAMLINE HEIGHT: [redacted]

3) Internal / External

4) Direction of Stations: Clockwise / Counter-Clockwise

0	3.768
1	6.817
2	9.868
3	12.893
4	15.918
5	18.391
Overflow	17.209

FF 4.19 Rev 1

52' - 11 3/8" GH Benchmark Tab in Hatch

28' 9.5''

☆Before Hydro☆

Tank Calibration Package

NEXTGEN

Date Strapped	Company	Site Location
June 14/2018	Matrix/Secure Energy	Kerrobert, Sk
Nextgen Job#	Tank Number	Personnel
16356	T-501	SM/EM

Table increments: Inches ☐ Centimetres ☑

Table volume units: Barrels ☐ Cubic Meters ☑ Litres ☐

TANK DATA

Diameter: 110' Height: 48' ~~Safe Fill Height~~ Design liquid height: 44'5'' Data to be Inverted?: Yes ☐ No ☑

1) **Product Information**

Product Service to be: Blended Crude oil Product Density: 0.856 SG

Product Level @ Strapping: EMPTY Temperature @ Strapping: 19 Celsius ☒ Fahrenheit ☐

2) **Tank Shell**

Mild Steel ☑ Stainless ☐ Insulated: YES / (NO)

Reference Product Temperature: (15 °C) / other ______

3) **Tank Bottom**

Cone up: ✓ Cone down: ______ Flat ☐ Physical Survey ☑

4) **Type of Roof**

Cone ☐ Dome ☐ Flat ☐ Internal Floating ☒ External Floating ☐

5) **Under Side of Floating Roof:**

Flat Pan ☐ Round pontoon ☐ Angle pontoon ☐ Square pontoon ☐ Other Sandborn Panel style

6) **Weight of Floating Roof:** ______ Kilograms / 22,167 pounds

7) **Distance Between Floating Roof ~~Pin~~ Cable Settings:** 31 1/4''

8) **Roof Information**

Height Tank Floor to Bottom of Deck or Pontoon Nearest Shell: 82.5

Height from Strike Point to Bottom of Floating Roof: 82

Height from deck to Tank Floor at Inner Edge of Pontoon NA

~~Pontoon~~ Panel Diameter or Height: ~~Drawing~~ 4'' Pontoon Length: NA

~~Pontoon~~ Rim Space: 10''

2½'' - 5'' (check Emailed Drawings)

9) **Roof Position at Time of Measurements:** (HIGH) / LOW position

Rev 1

155x30x3/8
7x30x3/8
9x30x3/8
30x30x3/8

Tank Calibration Package

NEXTGEN

DATE: June 11/18 TANK #: 501

FIELD DATA

1) Total Tank Height: 48'

2) Gauge Height: 16.125M 3) Distance Gauge Point to Shell: 42"

4) (Overflow) / Foam line Level Height: To Be confirmed

5) Shell Construction:

(Butt Welded) / Lap Welded Other: _____

6) Number of Vertical Welds Per Course and Tape Rise (if Applicable):

Number: 10 Width: 3/4" Depth: 1MM

7) Tape Number: _____

8) Strapped Circumference: 105.367

9) Benchmark Description: Top of Benchmark in Hatch

FIELD TABLE

Ring #	Strapped %	Plate Thickness	Ring Height	PlateTHK
Bottom				
1	62 %	0.506	10'	12.85
2	20/80	0.399	10'	10.13
3	20/80	0.305	10'	7.75
4	20/80	0.305	10'	7.75
5	20/80	0.305	8'	7.75
6				
7				
8				
9				
10				

Tank Calibration Package

NEXTGEN

DATE: June 14/18 TANK #: T-501

DEADWOOD

INTERNAL

Quantity	Description	Diameter	Length	Open (O) Close (C)	Height From bottom	Height If not horizontal
	Same As T-500					

NEXTGEN

EXTERNAL

Quantity	Description	Diameter	Length	Height
	SAME AS T-500			

Tank Calibration Package

NEXTGEN

DATE June 14 TANK # T-501

PHYSICAL BOTTOM SURVEY

2 3 4 5 6 7 8 9 10 15 20 30 40 50'

50'-8 Edge of Rebar

	SHELL	1	2	3	4	5	6	7	8	9	10	15	20	30	40	50	120	130	140	SPC
1	465	468	486	513	519	542	552	559	560	551	537	531	538	582	600	634				635
2	464	478	486	507	509	499	498	497	500	506	512	529	548	579	626	628				633
3	463	475	489	510	519	524	519	515	516	514	510	529	573	573	601	635				637
4	457	471	476	490	494	507	504	502	504	495	496	540	541	584	619	641				642
5	451	453	448	477	492	505	525	519	519	517	506	507	540	587	613	631				633
6	464	482	500	517	520	503	502	495	503	519	497	509	544	567	619	649				640
7	466	477	478	486	488	502	501	502	495	500	505	525	526	555	606	644				648
8	462	480	491	511	519	515	510	518	514	505	496	524	535	547	627	650				649
9	462	479	497	522	531	533	524	523	520	516	510	538	527	561	593	652				649
10	463	479	482	488	499	499	514	521	528	536	538	551	576	599	610	638				643
11	459	469	479	523	547	561	568	564	554	540	524	521	536	579	590	630				630
12	460	478	490	515	519	507	496	511	521	531	534	522	536	563	597	631				626
13																				
14																				
15																				
16																				
17																				
18																				
19																				
20																				
21																				
22																				
23																				
24																				
25																				
26																				
27																				
28																				

FLOATING ROOF SURVEY Inches From Floor To Floating Roof

		RIM	5	10	15	20	30	40	50	60	70	80	90	100	110	120	130	140	SPC
1		825	825	815	825	82	81	78	765										76

50'-8" Edge of Rebar

1) Reading of Floor @ Strike Point: 512MM (mark with "X" on table)
2) Reading of Roof @ Strike Point: 82" Inches From Floor to Floating Roof
3) Reading of Shell Nearest Strike Point: 464MM
4) Readings Recorded In: Inches / Feet / **Millimetres**
5) Direction of Stations: Clockwise / **Counter - Clockwise**

13,427M Tank Calibration Package

NEXTGEN

DATE: June14/18 TANK #: 501

OPTICAL READINGS

STATIONS	TANK COURSES															
	1 62%		2		3		4		5		6		7		8	
	20%	[illegible]	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%
1		095	099	103	121	095	079	066	059	060						
2		228	233	230	226	224	224	230	235	236						
3		686	692	699	720	714	707	709	705	704						
4		477	460	444	443	450	451	454	453	457						
5		462	460	466	474	472	482	492	497	498						
6		830	835	835	829	829	817	818	817	816						
7		740	751	753	760	758	745	736	734	735						
8		059	059	057	066	075	080	087	100	104						
9		019	019	027	024	012	006	008	014	014						
10		448	458	460	478	485	477	477	473	461						
11		532	533	523	530	538	539	535	535	537						
12		076	076	065	064	073	080	087	095	089						
13																
14																
15																
16																
17																
18																
19																
20																
21																
22																
23																
24																
25																
26																

1) OVERFLOW HEIGHT: 13.427m To Be confirmed

2) FOAMLINE HEIGHT: N/A

3) Internal / (External)

4) Direction of Stations: Clockwise / (Counter-Clockwise)

0	3.795	3.044
1	6.839	3.052
2	9.891	3.022
3	12.913	3.024
4	15.937	2.48
Overflow	17.222	
5	18.417	

FF 4.19 Rev 1

Tank Calibration Package

NEXTGEN

Aug 17/2018	CRC	Regina, SK
16380	54-10-503	JG, JS, KS

Table increments: Inches ☒ Centimetres ☐

Table volume units: Barrels ☐ Cubic Meters ☒ Litres ☐

TANK DATA

Diameter: 100 ft Height: 40 ft Safe Fill Height: 35 ft

Year Built: — Data to be Inverted?: Yes ☐ No ☐

1) Product Information

Product Service to be: Slop Product Density: API between 15 and 80

Product Level @ Strapping: Empty Temperature @ Strapping: 18 Celsius ☒ Fahrenheit ☐

2) Tank Shell

Mild Steel ☒ Stainless ☐ Insulated: YES / (NO)

Reference Product Temperature: (15 °C) / other _____

3) Tank Bottom

Cone up: _____ Cone down: _____ Flat ☐ Physical Survey ☒

4) Type of Roof

Cone ☐ Dome ☐ Flat ☒ Internal Floating ☒ External Floating ☐

5) Under Side of Floating Roof:

Flat Pan ☒ Round pontoon ☐ Angle pontoon ☐ Square pontoon ☐ Other _____

6) Weight of Floating Roof: _____ Kilograms / 21466 pounds

7) Distance Between Floating Roof Pin Settings: — No pin settings (set at 4'-11")

8) Roof Information

Height Tank Floor to Bottom of Deck or Pontoon Nearest Shell: 57 in

Height from Strike Point to Bottom of Floating Roof: 57 in

Height from deck to Tank Floor at Inner Edge of Pontoon — Pontoon Length: —

Pontoon Diameter or Height: — Pontoon Rim Space: 6.5 in

9) Roof Position at Time of Measurements: ~~HIGH~~ / (LOW position)

no high

Tank Calibration Package

NEXT GEN

DATE: Aug 17/18 TANK #: 503

FIELD DATA

1) Total Tank Height: 12.340 m

2) Gauge Height: 42-10 13/16 3) Distance Gauge Point to Shell: 55

4) Overflow / Foam line Height: 11.562 m 492.121 - 503.683

5) Shell Construction:
(Butt Welded) / Lap Welded Other: _____

6) Number of Vertical Welds Per Course and Tape Rise (if Applicable):
Number: 14 Width: 3/4 Depth: 1mm

7) Tape Number: —

8) Strapped Circumference: 95898 m

9) Benchmark Description: Benchmark on rim inside pipe

FIELD TABLE

Ring #	Strapped %	Plate Thickness	Ring Height (m)
Bottom	70% total of all cm	1/2	2.414
1			
2	20	7/16	2.422
	80		
3	20	5/16	2.420
	80		
4	20	3/16	2.422
	80		
5	20	3/16	2.662
	80		
6			
7			
8			
9			
10			

Tank Calibration Package

NEXTGEN

DATE: Aug 17/18 TANK #: 503

DEADWOOD

INTERNAL

Quantity	Description	Diameter	Length	Open (O) Close (C)	Height From bottom	Height If not horizontal
2	Pipe (Coil)	3	297'-8"	C	8	28
1	Pipe (Diffuser)	21	63'-8"	O	13	—
2	Pipe Support (∠ 4x6x1/4)	—	14	—	0	14
1	Pipe (Diffuser)	12	40'-8"	O	17	—
1	Support (∠ 4x6x1/4)	—	15	—	0	15
3	Repad 12x12x3/8	—	—	—	0	3/8
1	Pipe (Diffuser)	6	44'-8"	O	8	—
1	Support (∠ 4x6x1/4)	—	7	—	0	7
1	Pipe (Diffuser)	6	126"	O	13	—
2	Repad 5"Ø	5"	—	—	0	1/4
4	Support (∠ 2.75x2.75x1/4)	—	13	—	0	13
2	Support (Horizontal ∠ 2.75x2.75x1/4)	—	16	—	11	13.75
7	Columns	10	TH-1	—	1	TH
1	Repad (33x33x1)	—	—	—	0	1
1	Repad (35x35x1)	—	—	—	0	1

80
16 898

Tank Calibration Package

NEXTGEN

EXTERNAL

Quantity	Description	Diameter	Length	Height
1	Nozzle	10	15.5	19
1	Nozzle	2	9.5	4.5
1	Nozzle	10	26	31
1	Nozzle	6	12.5	14
1	Nozzle	3	20.5	28
1	Nozzle	3	15	8
1	Nozzle	12	16.5	11
1	Nozzle	12	15.5	12
1	Nozzle	3	14	8.5
1	Nozzle	3	19.5	27.5
1	Nozzle	6	13.5	15
1	Nozzle	2	9	4
1	Manway	24	5.5	13
1	D-Door	24x24	6.5	0
1	Manway	30	6.5	15
1	Nozzle	10	15.5	19
1	Manway	24	10	29
1	Manway	30	23	19
1	D-Door	24x24	6.5	0

Tank Calibration Package

NEXTGEN

DATE Aug 17/18 TANK # 503

PHYSICAL BOTTOM SURVEY

	SHELL	1	5	10	15	20	30	40	50	60	70	80	90	100	110	120	130	140	CTR.
1																			
2																			
3																			
4																			
5				SEE INTERNAL SETTLEMENT															
6																			
7																			
8																			
9																			
10				TABLE															
11																			
12																			
13																			
14																			
15																			
16																			
17																			
18																			
19																			
20																			
21																			
22																			
23																			
24																			
25																			
26																			
27																			
28																			

FLOATING ROOF SURVEY

		RIM	5	10	15	20	30	40	50	60	70	80	90	100	110	120	130	140	CTR.
1		23.5	23.6	23.5	22.8	22.9	22.9	22											24.0

1) Reading of Floor @ Strike Point: 15.4 (mark with "X" on table)
2) Reading of Roof @ Strike Point: 22.4
3) Reading of Shell Nearest Strike Point: 14.1
4) Readings Recorded in: (Inches) / Feet / Millimetres
5) Direction of Stations: Clockwise / (Counter - Clockwise)

Tank Calibration Package

NEXTGEN

DATE: Aug 17/18 TANK #: 503

OPTICAL READINGS

STATIONS	TANK COURSES															
	1		2		3		4		5		6		7		8	
	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%
1		935	941	943	952	964	983	979	972	965						
2		498	480	479	489	505	509	491	487	473						
3		175	175	175	173	155	147	143	141	137						
4		414	421	432	432	425	418	423	424	423						
5		878	887	877	870	857	865	854	858	868						
6		185	180	174	171	168	170	182	181	185						
7		896	886	882	883	884	888	883	879	883						
8		526	523	512	517	522	520	527	522	522						
9		526	497	491	493	485	480	480	487	495						
10		477	483	492	493	492	494	509	509	489						
11		644	657	654	654	652	653	651	653	667						
12		132	134	128	128	128	120	113	107	103						
~~13~~																
14																
15																
16																
17																
18																
19																
20																
21																
22																
23																
24																
25																
26																

1) OVERFLOW HEIGHT: 11.562 m

2) FOAMLINE HEIGHT: —

3) Internal / (External)

4) Direction of Stations: Clockwise / (Counter-Clockwise)

Course	Height (m)	
0	491.531	→ 2.414
1	493.945	→ 2.422
2	496.367	→ 2.420
3	498.787	→ 2.422
4	501.209	→ 2.662
Overflow	503.871	12.340

FF 4.19 Rev 2

Internal Settlement

NEXTGEN

August 17/2018	CRC	Regina
16380	54-10-503	KS/ES/JG/TH

Station	Shell	1'	2'	3'	4'	5'	6'	7'	8'	9'	10'	15'	20'	30'	40'	50'	60'	70'	80'	CTR
1	13.6	13.8	14.0	14.4	12.8	14.6	14.6	13.7	15.2	15.1	15.6	15.5	16.0	17.0	18.7					18.7
2	13.6	13.4	13.5	13.1	14.3	14.5	14.5	14.5	14.5	14.7	14.6	15.7	16.1	16.9	19.2					18.7
3	12.6	12.5	12.3	13.1	13.5	13.8	14.1	14.1	14.0	13.9	14.1	14.1	15.7	17.9	19.5					19.0
4	12.8	12.9	13	13.4	13.5	13.4	13.7	13.7	13.7	13.8	13.5	13.9	15.0	17.8	19.1					19.1
5	12.5	13	13.4	14	14.5	14.2	14.6	14.5	14.7	14.5	14.8	16.2	15.7	16.6	18					18.7
6	12.75	13	13.5	14.2	14.4	14.6	14.75	15	15	15.2	15.4	16.5	16.8	18.25	18.75					19.0
7	12.8	13.5	14.2	15	15	14.8	14.4	14.2	14	13.8	13.8	16	15	17.4	18.5					19.0
8	13.2	13	13	13.6	14	14	14.2	14.2	14.2	14.8	14.8	15.4	16	16.9	17.8					18.7
9	13.2	13	13	13.4	13.4	13.8	14.2	14.2	14	14.2	14	14	15	17	17.8					18.9
10	13.5	13.2	13	13.4	13.6	14	14	14.9	15.2	15	15.2	16	17.1	16.5	18.1					18.7
11	13.9	14.7	14.8	15.8	15.5	15.6	15.9	16.0	15.8	15.5	15.8	16.0	16.4	17.0	19.2					18.6
12	13.9	14.3	14.4	15.2	15.5	15.5	15.4	15.5	15.5	15.5	15.5	15.9	16.1	17.6	18.7					18.9
13																				
14																				
15																				
16																				
17																				
18																				
19																				
20																				
21																				
22																				
23																				
24																				

Tank Diameter: _____ **Tank Circumference:** _____ **Distance Between Stations:** _____

Tank Calibration Package

Dec /2018	CRC	Regina, SK
16458	T-811	J

Table increments: Inches ☐ Centimetres ☐

Table volume units: Barrels ☐ Cubic Meters ☐ Litres ☐

TANK DATA

Diameter: _____ Height: _____ Safe Fill Height: _____ Data to be Inverted?: Yes ☐ No ☐

1) Product Information

Product Service to be: _____ Product Density: _____

Product Level @ Strapping: _____ Temperature @ Strapping: ____Celsius☐ Fahrenheit☐

2) Tank Shell

Mild Steel ☐ Stainless ☐ Insulated: YES / NO

Reference Product Temperature: 15 °C / other _____

3) Tank Bottom

Cone up: _____ Cone down: _____ Flat ☐ Physical Survey ☐

4) Type of Roof

Cone ☒ Dome ☐ Flat ☐ Internal Floating ☐ External Floating ☐

5) Under Side of Floating Roof:

Flat Pan ☐ Round pontoon ☐ Angle pontoon ☐ Square pontoon ☐ Other _____

6) Weight of Floating Roof: _____ Kilograms / _____ pounds

7) Distance Between Floating Roof Pin Settings: _____

8) Roof Information

Height Tank Floor to Bottom of Deck or Pontoon Nearest Shell: _____

Height from Strike Point to Bottom of Floating Roof: _____

Height from deck to Tank Floor at Inner Edge of Pontoon_____

Pontoon Diameter or Height: _____ Pontoon Length: _____

Pontoon Rim Space: _____

9) Roof Position at Time of Measurements: HIGH / LOW position

Tank Calibration Package

DATE: Dec 10 TANK #: 811

FIELD DATA

1) Total Tank Height: _____

2) Gauge Height: 13.635in 3) Distance Gauge Point to Shell: 40

4) Overflow / (Foam line) Height: _____

5) Shell Construction:
(Butt Welded) / Lap Welded Other: _____

6) Number of Vertical Welds Per Course and Tape Rise (if Applicable):
Number: _____ Width: _____ Depth: _____

7) Tape Number: _____

8) Strapped Circumference: 415.115

9) Benchmark Description: _____

FIELD TABLE

Ring #	Strapped %	Plate Thickness	Ring Height
Bottom			584.785
1			
2			587.204
3			589.625
4			592.046
5			594.461
6			596.879
7			
8			
9			
10			

Foam Line = 596.455
Top = 596.949

Tank Calibration Package

DATE: Dec 10 TANK #: 811

DEADWOOD

INTERNAL

Quantity	Description	Diameter	Length	Open (O) Close (C)	Height From bottom	Height If not horizontal
6	Repad 55.5 x 55.5 x 1.25 (Column repad)	—	—	—	0	1.25
7	Repad 36 x 36 x 1/4 (Column repad)	—	—	—	0	1.5
21	L 3 x 3 x 1/4	—	-	—	0	6
1	Repad 60 x 60 x 1 1/4	—	—	—	0	1 1/4
1	Column Center	12	TH-1.5	0	1.5	TH
6	"	10	TH-1.5	0	1.5	TH
45	Support ∠ 4 x 4 x 1/4	—	15.5	—	0	15.5
45	Support ∠ 4 x 4 x 1/4 (from 1 to 5) (from 29-36)	—	12	—	1	36
1	Pipe (heating pipe) 310 ft + 622.5 ft	2	932.5 ft	C	5	39.5
1	Pipe (gauge pole) [redacted]	8	TH-12	0	12	TH
1	Support 3 x 3 x 1/4 49in + 34	—	83in	—	62	65
1	Support 3 x 3 x 1/4 45 + 45	—	90	—	17	46
1	Support 3 x 3 x 1/4 31	—	31	—	13	26
2	H Beam support 6 x 6 x 1/4	—	179	—	14	193
1	Plate 3/4 x 5 x 72	—	72	—	15.5	—
1	" " " "	—	72	—	56.5	—
2	" " "	—	40	—	15.5	56.5
1	NOZZLE	6	7	C	14.5	—
1	NOZZLE	12	4	0	12	—
1	NOZZLE	12	7.5	0	12	
1	NOZZLE	6	5	0	14	—

Tank Calibration Package

NEXTGEN

EXTERNAL

Quantity	Description	Diameter	Length	Height
1	Manway	20	7.5	26
1	Manway	27	7.5	21
1	Nozzle	10	15	19
2	D-Door 24 x 24	–	7.75	24
1	Manway	20	7.5	26
1	Nozzle	10	15.5	18
1	Nozzle	6	9	14.5
1	Nozzle	12	11	12
1	Nozzle	12	11	12
1	Nozzle	6	9	14

Tank Calibration Package

DATE..... TANK #.....

PHYSICAL BOTTOM SURVEY

	SHELL	1	5	10	15	20	30	40	50	60	70	80	90	100	110	120	130	140	CTR.
1																			
2																			
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			
11																			
12																			
13																			
14																			
15																			
16																			
17																			
18																			
19																			
20																			
21																			
22																			
23																			
24																			
25																			
26																			
27																			
28																			

FLOATING ROOF SURVEY

		RIM	5	10	15	20	30	40	50	60	70	80	90	100	110	120	130	140	CTR.
1																			

1) Reading of Floor @ Strike Point: _____ (mark with "X" on table)
2) Reading of Roof @ Strike Point: _____
3) Reading of Shell Nearest Strike Point: _____
4) Readings Recorded in: **Inches / Feet / Millimetres**
5) Direction of Stations: **Clockwise / Counter - Clockwise**

Tank Calibration Package

DATE: Dec 17/18 TANK #: 811

OPTICAL READINGS

STATIONS	TANK COURSES															
	66' 1		2		3		4		5		6		7		8	
	~~20%~~	80%	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%
1	610	606	612	610	599	588	580	573	578	592						
2	326	328	326	306	299	295	299	294	297	294						
3	736	737	742	740	739	738	749	762	759	752						
4	443	445	446	447	451	459	477	476	474	473						
5	993	990	988	986	987	988	997	005	010	016						
6	762	762	765	768	779	772	769	777	774	774						
7	871	873	885	899	901	906	905	896	893	894						
8	279	281	295	294	291	285	283	284	285	282						
9	~~661~~	662	662	662	677	683	684	688	690	685						
10	773	774	775	769	774	779	821	823	793	760						
11	577	580	581	573	579	578	795	593	584	575						
12	844	843	857	860	870	884	884	873	862	855						
13	480	481	487	494	510	506	505	504	495	488						
14	336	364	371	379	398	387	379	371	375	380						
15																
16																
17																
18																
19																
20																
21																
22																
23																
24																
25																
26																

1) OVERFLOW HEIGHT: N/A

2) FOAMLINE HEIGHT: _____

3) Internal / (External)

4) Direction of Stations: Clockwise / (Counter-Clockwise)

Tank Calibration Package

NG GEN

Jan 29/2019	CRC	Regina, SK
16472	54-10-909	SM/TH/DH

Table increments: Inches ☒ Centimetres ☐

Table volume units: Barrels ☐ Cubic Meters ☒ Litres ☐

TANK DATA

Diameter: 136'-3" Height: 48'6" Safe Fill Height: 44' Data to be Inverted?: Yes ☐ No ☒

1) Product Information

Product Service to be: Vacuum Gas oil Product Density: 0.8934

Product Level @ Strapping: Empty Temperature @ Strapping: -35 Celsius ☒ Fahrenheit ☐

2) Tank Shell

Mild Steel ☒ Stainless ☐ Insulated: (YES) / NO → Partially Bottom 2 courses Uninsulated

Reference Product Temperature: (15 °C) / other _____

3) Tank Bottom

Cone up: X Cone down: _____ Flat ☐ Physical Survey ☒

4) Type of Roof

Cone ☐ Dome ☐ Flat ☐ Internal Floating ☐ External Floating ☒

5) Under Side of Floating Roof:

Flat Pan ☐ Round pontoon ☐ Angle pontoon ☒ Square pontoon ☐ Other _____

6) Weight of Floating Roof: _____ Kilograms / 238,000 pounds

7) Distance Between Floating Roof Pin Settings: 36"

8) Roof Information

Height Tank Floor to Bottom of Deck or Pontoon Nearest Shell: 71"

Height from Strike Point to Bottom of Floating Roof: 77"

Height from deck to Tank Floor at Inner Edge of Pontoon 87"

Pontoon Diameter or Height: 42" Pontoon Length: 91"

Pontoon Rim Space: 8"

9) Roof Position at Time of Measurements: (HIGH) / LOW position

14,623

Tank Calibration Package

NG GEN

DATE: Jan 29/19 TANK #: S4-10-909

128,416

FIELD DATA

1) Total Tank Height: 48'

2) Gauge Height: 55'-9" 3) Distance Gauge Point to Shell: 39,5"

4) Overflow / Foam line Height: N/A

5) Shell Construction: (Butt Welded) / Lap Welded Other: _____

6) Number of Vertical Welds Per Course and Tape Rise (if Applicable): Internal Strap
Number: _____ Width: N/A Depth: N/A

7) Tape Number: _____

Internal Straps →

8) Strapped Circumference: 1st course: 130.337m 2nd course: 130,347m

9) Benchmark Description: Rim of flange (Hatch Not installed at Time of Strapping)

FIELD TABLE

Ring #	Strapped %	Plate Thickness	Ring Height
Bottom		11/16"	9'-10"
1	46%		
2	52%	unknown	9'-10"
3	20 / 80		9'-4"
4	20 / 80		9'-4"
5	20 / 80		9'-4"
6			
7			
8			
9			
10			

Tank Calibration Package

NG GEN

Internal

Quantity	Description	Diameter	Length	Open (O) Close (C)	Height From bottom	Height If not horizontal
62	Striker Plates (6" x 2" x 1/4")	22"	—	—	0"	1/4"
8	Supports (4 2x2x1/4")	—	21"	—	9"	21"
8	Supports (4 2x2x1/4")	—	9.5"	—	21"	23"
3	Repads (5" x 16" x 1/4")	—	—	—	0"	1/4"
2	Supports (4 2x2x1/4")	—	17"	—	0"	10"
1	Floating Roof drain Pipe	6"	48'-10"	C	0"	3.5"
2	Heating Coil	2"	1109"	C	2.5"	21"
38	Supports (4 3x3x1/4")	—	20"	—	0"	20"
12	Steam Elements (Ems)	2"	247"	C	4"	16"
7	Repads (24 x 9.5" x 1/4")	—	—	—	0"	1/4"
5	Repads (24" x 30")	—	—	—	0"	1/4"
3	Sump Suction Pipe	4"	109"	O	5.5"	0"
1	Nozzle	10"	14"	O	11"	—
1	Nozzle	4"	12.5"	O	10.5"	—
2	Temp Probes	1"	22.5"	C	21.5"	—
1	Patch Plates (18" x 40" x 1/4")	—	—	—	0"	1/4"
1	Gauge Pole	8"	TH-8"	O	8"	TH
1	Repads (38 x 48 x 1/4")	—	—	—	0"	1/4"
3	Supports (4 3x3x1/16")	—	18	—	0"	8.5"

Tank Calibration Package

NG GEN

EXTERNAL

Quantity	Description	Diameter	Length	Height
3	SUMP	48"	—	24"
1	Manway	24"	10"	15"
1	mixer Manway	30"	11"	22"
1	D-Door	24x24"	7"	0"
3	Nozzle	2"	11"	23"
2	Nozzle	2"	13"	4"
1	Nozzle	2"	11	23"
1	Nozzle	4"	9	12
1	Nozzle	10	16	12
~~3~~ 2	Nozzle	4"	13	7
1	Nozzle	4"	13	6

Tank Calibration Package

NG GEN

DATE Jan 29/19 TANK # 909

PHYSICAL BOTTOM SURVEY

	SHELL	1	5	10	15	20	30	40	50	60	70	80	90	100	110	120	130	140	CTR.
1	542	550	562	542	536	560	570	602	644	666									708
2	542	554	560	554	542	542	568	618	650	678									
3	532	546	554	548	572	550	570	624	632	654									
4	534	552	560	548	548	560	590	600	646	664									
5	536	552	563	560	560	554	574	608	648	674									
6	532	550	560	552	546	546	576	596	654	686									
7	526	520	556	548	548	548	578	624	648	680									
8	528	542	562	560	538	546	590	610	644	680									
9	528	548	562	548	554	560	568	602	647	680									
10	538	560	562	566	540	550	578	604	646	684									
11	552	566	575	570	561	569	579	609	643	693									
12	554	567	563	568	574	568	586	614	654	703									
13	553	571	571	565	544	560	585	612	642	684									
14	554	564	574	564	568	570	584	624	644	668									
15	552	564	578	578	574	566	580	612	650	666									
16	550	560	562	554	556	550	586	616	646	662									
17																			
18																			
19																			
20																			
21																			
22																			
23																			
24																			
25																			
26																			
27																			
28																			

FLOATING ROOF SURVEY (INCHES)

		RIM	5	10	15	20	30	40	50	60	70	80	90	100	110	120	130	140	CTR.
1		10.5	19.5	26.5	25.5	24.5	23	23	22.5	23.5									23.5

1) Reading of Floor @ Strike Point: 557MM (mark with "X" on table)
2) Reading of Roof @ Strike Point: 17.5"
3) Reading of Shell Nearest Strike Point: 542MM
4) Readings Recorded in: (Inches) / Feet / (Millimetres) — Floor
5) Direction of Stations: (Clockwise) / (Counter - Clockwise)

Floating Roof
w Tape Measure

FF 4.19 Rev 1

Tank Calibration Package

NGI GEN

Strap Height 52% Of 2nd Course

DATE: Jan 29/19 TANK #: 54-10-909

OPTICAL READINGS

STATIONS	1		2 52% SH		TANK COURSES 3		4		5		6		7		8	
	~~20%~~	80%	~~20%~~	~~80%~~	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%
1				764	760	760	771	776	784	779						
2				388	385	384	380	381	390	392						
3				256	252	256	251	258	260	277						
4				538	544	550	550	550	548	544						
5				652	645	641	633	636	651	654						
6				343	347	353	356	362	361	360						
7				747	752	770	780	793	798	795						
8				169	177	180	179	186	193	199						
9				192	206	217	217	230	247	232						
10				40	51	51	45	46	46	51						
11				537	554	560	566	572	574	555						
12				412	426	429	429	410	446	429						
13				974	982	994	1004	1015	1010	1010						
14				163	169	171	183	195	198	195						
15				976	984	986	981	985	974	1002						
16				245	248	249	253	250	235	224						
17																
18																
19																
20																
21																
22																
23																
24																
25																
26																

1) OVERFLOW HEIGHT: N/A

2) FOAMLINE HEIGHT: N/A

3) (Internal) / External

4) Direction of Stations: Clockwise / (Counter-Clockwise)

Tank Calibration Package

Jan 23/19	CRC	Regina, SK
16466	88-10-718	EM/SM/TH/DH

Table increments: Inches ☒ Centimetres ☐

Table volume units: Barrels ☐ Cubic Meters ☒ Litres ☐

TANK DATA

Diameter: 85' Height: 47'-9" Safe Fill Height: 44' Data to be Inverted?: Yes ☐ No ☒

1) **Product Information**

Product Service to be: Ethanol blended Gasoline Product Density: 0.7197 S.G

Product Level @ Strapping: EMPty Temperature @ Strapping: -17 Celsius ☒ Fahrenheit ☐

2) **Tank Shell**

Mild Steel ☒ Stainless ☐ Insulated: YES / (NO)

Reference Product Temperature: (15 °C) other _____

3) **Tank Bottom**

Cone up: X Cone down: _____ Flat ☐ Physical Survey ☒

4) **Type of Roof**

Cone ☒ Dome ☐ Flat ☐ Internal Floating ☒ External Floating ☐

5) **Under Side of Floating Roof:**

Flat Pan ☐ Round pontoon ☐ Angle pontoon ☐ Square pontoon ☐ Other sandborn

6) **Weight of Floating Roof:** _____ Kilograms / _____ pounds

7) **Distance Between Floating Roof ~~Ba~~ Settings:** cable 36"

8) **Roof Information**

Height Tank Floor to Bottom of Deck or Pontoon Nearest Shell: 90"

Height from Strike Point to Bottom of Floating Roof: 84,5"

Height from deck to Tank Floor at Inner Edge of Pontoon _____

Pontoon Diameter or Height: 2 3/4" Pontoon Length: _____

Pontoon Rim Space: 6,5"

9) **Roof Position at Time of Measurements:** (HIGH) LOW position

Tank Calibration Package

NG GEN

DATE Jan 23/19 TANK #: 88-10-718

FIELD DATA

1) Total Tank Height: _____

2) Gauge Height: 53' 9 7/8" 3) Distance Gauge Point to Shell: 39"

4) (Overflow) / Foam line Height: 46'-10"

5) Shell Construction:
(Butt Welded) / Lap Welded Other: _____

6) Number of Vertical Welds Per Course and Tape Rise (if Applicable):
Number: 12 Width: 1/4" Depth: 1.mm

7) Tape Number: _____

8) Strapped Circumference: 81.338M

9) Benchmark Description: Benchmark in Hatch opposite Hinge

FIELD TABLE

Ring #	Strapped %	Plate Thickness	Ring Height
Bottom			
1	75%	0.500	7'-11½"
2	20 / 80	0.4375	8'
3	20 / 80	0.375	8'
4	20 / 80	0.250	8'
5	20 / 80	0.250	8' 10"
6	20 / 80	0.250	8' 10"
7			
8			
9			
10			

Tank Calibration Package

NG NEXTGEN

DATE: Jan 16/19 TANK #: 718

DEADWOOD

INTERNAL

Quantity	Description	Diameter	Length	Open (O) Close (C)	Height From bottom	Height if not horizontal
1	Nozzle	2"	10¼"	O	10.5"	—
2	Probes	1"	27.5"	C	41"	39.5"
1	Nozzle	6"	7¼"	O	16.5"	—
1	Nozzle	2"	3½"	O	10.5"	—
1	Nozzle	3"	12"	O	40"	—
1	Nozzle	6"	3"	O	14"	—
1	Nozzle	2"	6"	O	19"	—
1	Nozzle	4"	5¼"	O	23½"	—
1	Nozzle	12"	8"	O	19"	—
1	Nozzle	12	1"	O	19½"	—
3	Supports (2½x2½x¼")	—	44"	—	32"	—
1	Supports (2½x2½x¼")	—	44"	—	8"	25"
1	Gauge Pole	6"	TH-9"	O	79"	TH
1	ladder	2"	TH-9"	O	9"	TH
6	Columns	10"	TH-1¼	O	1¼"	TH
6	Repads (60x60x1")	—	—	—	0"	1"
6	Repads @ 24°	24"	—	—	0"	1¼"
18	Supports (3x3x3/8")	—	6"	—	1¼"	7¼"
4	Repads	6"	—	—	0"	¼"

Tank Calibration Package

NEXTGEN

EXTERNAL

Quantity	Description	Diameter	Length	Height
2	Manway	24"	7	26
1	Nozzle	2"	9"	11"
2	Nozzle	2"	6"	41"
1	Nozzle	6"	3"	16½"
1	Nozzle	3"	6¾	10½"
1	Nozzle	4"	7"	24"
1	Nozzle	3"	11"	4"
1	Nozzle	6"	7.5"	16½"
1	Nozzle	12"	20½"	19½"
1	Nozzle	4"	11"	24"
1	Nozzle	12"	17½"	19½"
		12"	17"	20"

DATE: Jan23 TANK #: 718

OPTICAL READINGS

STATIONS	TANK COURSES															
	1 72'		2		3		4		5		6		7		8	
	~~20%~~	~~80%~~	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%
1		583	582	578	574	577	584	588	546	588	589	601				
2		794	767	754	757	755	747	752	731	722	738	741				
3		339	342	341	333	325	332	350	361	367	373	359				
4		154	158	157	151	149	156	178	189	195	170	175				
5		704	709	706	711	722	727	717	721	723	718	720				
6		681	667	653	651	648	643	645	654	675	714	677				
7		960	954	966	977	971	959	967	971	972	984	992				
8		992	998	994	1012	1020	1012	1016	1024	1019	1019	1022				
9		222	225	218	209	197	193	197	216	220	226	230				
10		~~123~~	119	116	111	109	113	110	103	101	096	103				
11		125														
12																
13																
14																
15																
16																
17																
18																
19																
20																
21																
22																
23																
24																
25																
26																

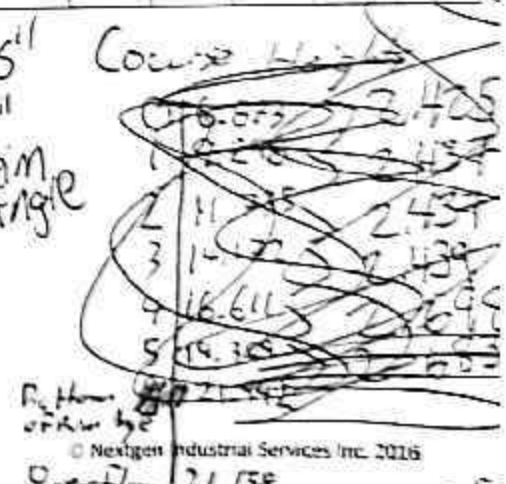
1) OVERFLOW HEIGHT: 46'-10"

2) FOAMLINE HEIGHT: _____

3) Internal / External

4) Direction of Stations: Clockwise / Counter-Clockwise

49'7.5"
49'11"
WRM triple



FF 4.19 Rev 1

15119

14,285

Overflow 46'-10"

Jan 23/19	CRC	Regina, SK
16466	98-10-718	

Post Hydro

Station	Shell	1'	2'	3'	4'	5'	6'	7'	8'	9'	10'	15'	20'	30'	40'	50'	60'	70'	80'	CTR
1	670	680	702	72	710	707	706	709	711	717	772	719	731	752						758
2	681	702	72	753	754	748	747	746	749	738	743	752	739	763						761
3	66	701	717	732	733	736	738	751	747	754	758	749	747	773						769
4	680	700	718	725	718	717	714	720	723	728	729	732	735	737						763
5	683	691	704	724	727	724	725	726	728	727	218	716	765	768						761
6	689	695	707	727	724	725	728	717	721	727	730	728	763	769						768
7	697	706	718	731	734	732	730	720	718	716	709	718	719	737						760
8	710	707	719	730	730	727	719	718	719	715	709	711	723	764						759
9	689	709	712	726	731	730	741	734	738	727	729	718	717	733						755
10	678	691	700	733	731	78	729	718	717	716	707	705	731	753						758
11						734														
12																				
13					Readings		in	MM												
14					Readings		in	INCHES												
15																				
16																				
17	RIM	5	10	15	20	30	CTR					~~Readings in~~ INCHES								
18	24 3/4	21	22 3/4	23 1/8	23 1/4	24 1/2	25 1/2													
19																				
20																				
21												Direction of Stations		CCW						
22																				
23																				
24																				

Tank Diameter: 85' Tank Circumference: _____ Distance Between Stations: _____

Reading of Floor @ Strike Point 60 1/8"

Reading of shell Nearest Strike 61 7/8"

Reading Floating Roof @ Strike Point 24 3/4"

Tank Calibration Package

NG GEN

March 12/2019	CRC	Regina, SK
16489	88-10-706	

Table increments: Inches ☐ Centimetres ☐

Table volume units: Barrels ☐ Cubic Meters ☐ Litres ☐

TANK DATA

Diameter: 85 ft Height: 49'-6" Safe Fill Height: 45 ft

Year Built: 1970 Data to be Inverted?: Yes ☐ No ☐

1) Product Information

Product Service to be: Premium Gasoline Product Density: 61.06

Product Level @ Strapping: Empty Temperature @ Strapping: -1 Celsius ☒ Fahrenheit ☐

2) Tank Shell

Mild Steel ☒ Stainless ☐ Insulated: YES / (NO)

Reference Product Temperature: (15 °C) / other _____

3) Tank Bottom

Cone up: _____ Cone down: _____ Flat ☐ Physical Survey ☒

4) Type of Roof

Cone ☐ Dome ☐ Flat ☐ Internal Floating ☒ External Floating ☐

5) Under Side of Floating Roof:

Flat Pan ☒ Round pontoon ☐ Angle pontoon ☐ Square pontoon ☐ Other _____

6) Weight of Floating Roof: 6117.15 (Kilograms) / 13486 (pounds)

7) Distance Between Floating Roof Pin Settings: N/A

8) Roof Information

Height Tank Floor to Bottom of Deck or Pontoon Nearest Shell: 78

Height from Strike Point to Bottom of Floating Roof: 77

Height from deck to Tank Floor at Inner Edge of Pontoon — Pontoon Length: —

Pontoon Diameter or Height: — Pontoon Rim Space: 5.5 in

9) Roof Position at Time of Measurements: (HIGH) / LOW position

Tank Calibration Package

NG GEN

DATE: 03/12/19 TANK #: 88-10-706

FIELD DATA

1) Total Tank Height: 15.076 m

2) Gauge Height: 55'-5 15/16" 3) Distance Gauge Point to Shell: 16.5"

4) (Overflow) / Foam line Height: 14.521 m

5) Shell Construction:
(Butt Welded) / Lap Welded Other: _____

6) Number of Vertical Welds Per Course and Tape Rise (if Applicable):
Number: 8 Width: 1/2 Depth: 1 mm

7) Tape Number: —

8) Strapped Circumference: 80.552 m

9) Benchmark Description: On rim opposite side hinge.

FIELD TABLE

Ring #	Strapped %	Plate Thickness (in)	Ring Height (m)
Bottom			
1	~~70~~	1/2	2.361
2	20	7/16	2.44
	80		
3	20	3/8	2.44
	80		
4	20	1/4	2.435
	80		
5	20	1/4	2.663
	80		
6	20	1/4	2.737
	80		
7			
8			
9			
10			

Tank Calibration Package

NG GEN

DATE: March 5 TANK #: 88-10-706

DEADWOOD

INTERNAL

Quantity	Description	Diameter	Length	Open (O) Close (C)	Height From bottom	Height If not horizontal
1	Diffuser	16	252	O	17.5	
1	Pipe (Radar)	8	TH-12	O	12	TH
1	Repad	18	—	—	O	1/4
1	Pipe (Gauge Pole)	6	TH-1	O	1	TH
1	Repad	12	—	—	O	1/4
1	Support ∠ (3 x 3 x 3/8)	—	75	—	39	
1	Support ∠ (3 x 3 x 3/8)	—	65	—	39	
1	Pipe	12	36	O	20	13
1	Pipe	4	43	O	17	1
1	Repad	12	—	—	O	1/4
24	Leg support Repad (18 x 18 x 1/4) Square	—	—	—	—	—
6	Columns	10	TH-1	O	1	TH
6	Repads (30 x 30 x 1) Square	—	—	—	—	—
18	Suppoor ∠ (3 x 3 x 3/8)	—	6	—	1	7
1	Pipe	2	15	O	5	0.5
3	Patch plate	8	—	—	0.5	—
11	Patch plate	6	—	—	0.5	—
6	Patch plate	12	—	—	0.5	—
1	Patch plate (15 x 24 x 0.5) Rectangle					
1	Patch plate (24 x 24 x 0.5) Square					
1	Patch plate (15 x 16 x 0.5)					

EXTERNAL

Quantity	Description	Diameter	Length	Height
1	Nozzle	6	9	18
1	Nozzle	6	13	39
2	Manway	24	7	27
1	Nozzle	6	17	17

Internal Settlement

NG GEN

After Hydro test

March 12/2019	CRC	Regina
16489	88 - 10 - 706	IS / DH / KS / TH

(X)

Station	Shell	1'	2'	3'	4'	5'	6'	7'	8'	9'	10'	15'	20'	30'	40'	50'	60'	70'	80'	CTR
1	35 1/16	34 7/8	34 7/8	34 5/8	33 7/8	33 3/8	32 7/8	32 15/16	32 7/8	32 15/16	33 -	34 5/16	32 7/8	32 1/4						32 7/8
2	35 1/4	35 -	34 7/8	34 5/8	34 7/16	34 1/8	34 1/8	34	34 1/16	34 1/16	33 15/16	33 7/8	33 3/8	32 1/2						32 15/16
3	35 3/8	35 1/4	34 3/8	33 15/16	33 5/8	33 3/8	33 1/8	33 5/8	33 1/2	33 7/8	34 -	34 3/4	34 1/8	33 1/16						32 15/16
4	36 -	35 3/8	34 3/8	34 3/8	33 15/16	33 7/8	33 5/8	33 13/16	34 1/16	34 3/8	34 1/2	34 1/4	34 3/16	33						32 7/8
5	36 -	35 1/2	35 -	34 3/4	34 1/2	34 1/4	34 1/2	34 1/8	33 3/4	33 3/8	33 1/8	32 15/16	34 1/8	34 7/16						33 1/8
6	36 1/4	36 3/8	36 1/8	35 3/8	34 7/16	33 5/8	33 7/8	33 13/16	33 5/8	33 3/8	33 3/8	33 1/8	34	34 1/4						33 1/8
7	35 7/8	35 3/4	35 1/8	34 7/16	34 1/16	33 3/4	33 5/8	33 5/8	33 1/2	33 7/16	33 -	32 1/8	32 7/8	34 1/16						33 1/8
8	35 3/8	34 3/4	34 7/16	33 1/2	33 -	32 5/8	32 5/16	32 1/4	32 7/16	32 7/16	32 7/16	32 -	32 5/8	32 7/8						32 7/8
9	34 3/4	34 1/16	33 7/16	32 7/8	32 5/16	32 3/8	32 3/8	32 9/16	33 -	33 1/4	33 1/2	33 1/8	33 1/4	32 1/16						33 -
10	34 1/2	33 7/8	33 1/4	33 -	33 1/16	33 1/8	33 1/8	32 7/8	33 1/16	33 1/4	33 1/2	33 5/16	34 1/4	32 1/2						32 15/16
11																				
12																				
13																				
14																				
15																				
16																				
17																				
18																				
19																				
20																				
21																				
22																				
23																				
24																				

Tank Diameter: 85' Ø **Tank Circumference:** _____ **Distance Between Stations:** _____ horizontal Roof to shell = 5.5 in

Gauge Pole Roof = 32 1/2
" " Shell = 35 1/8
Gauge Pole Floor = 34 5/8

Roof

Shell	1	5	10	15	20	30	Center
42 1/4	42 3/8	42 1/4	42 1/4	42 1/2	44 1/4	45 -	42 3/4

FF 4.12

Tank Calibration Package

NG GEN

DATE..... TANK #.....

PHYSICAL BOTTOM SURVEY

(X)

	SHELL	1	5	10	15	20	30	40	50	60	70	80	90	100	110	120	130	140	CTR.
1																			
2																			
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			
11																			
12																			
13																			
14																			
15																			
16																			
17																			
18																			
19																			
20																			
21																			
22																			
23																			
24																			
25																			
26																			
27																			
28																			

FLOATING ROOF SURVEY

		RIM	5	10	15	20	30	40	50	60	70	80	90	100	110	120	130	140	CTR.
1		42¼	41¼	42¼	42½	44¼	45-												42¾

1) Reading of Floor @ Strike Point: 34 5/8 (mark with "X" on table)
2) Reading of Roof @ Strike Point: 32 ½
3) Reading of Shell Nearest Strike Point: 35 ⅛
4) Readings Recorded in: (Inches) / Feet / Millimetres
5) Direction of Stations: Clockwise / (Counter - Clockwise)

Tank Calibration Package

NG GEN

DATE: March 12/14 TANK #: 706

OPTICAL READINGS

STATIONS	TANK COURSES															
	1		2		3		4		5		6		7		8	
	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%
1		398	393	389	389	375	381	392	398	413	426	429				
2		912	911	910	909	903	910	930	954	934	928	928				
3		607	607	604	610	622	627	619	618	616	619	615				
4		471	473	463	457	448	441	437	436	431	436	425				
5		880	887	893	906	924	931	943	945	932	932	921				
6		843	846	839	843	842	852	821	813	804	808	805				
7		835	838	832	818	800	801	804	806	806	799	796				
8		160	164	165	172	182	180	170	185	191	170	167				
9		365	364	360	364	379	389	399	400	401	406	412				
10	7	718	723	722	723	740	757	768	757	756	761	772				
11																
12																
13																
14																
15																
16																
17																
18																
19																
20																
21																
22																
23																
24																
25																
26																

1) OVERFLOW HEIGHT: 14.521 m

2) FOAMLINE HEIGHT: 13.948 m

3) Internal / (External)

4) Direction of Stations: Clockwise / (Counter-Clockwise)

Course Heights		
0	585.692	> 2.361
1	588 053	> 2.44
2	590 493	> 2.44
3	592 933	> 2.435
4	595 368	> 2.663
5	598 031	> 2.737
6	600 768	

Rev 2

FF 4.19

Total H = 15.076 m

49 46 Pt

Tank Calibration Package

April 15, 2019	CRC	Regina, SK
16521	54-10-901	~~SM~~ SL/TH/KC

Table increments: Inches ☒ Centimetres ☐

Table volume units: Barrels ☐ Cubic Meters ☒ Litres ☐

TANK DATA

Diameter: 134' Height: 48' Safe Fill Height: 45'

Year Built: 1981 Data to be Inverted?: Yes ☐ No ☒

1) Product Information

Product Service to be: Crude oil Product Density: 0.9175

Product Level @ Strapping: Empty Temperature @ Strapping: 8 Celsius ☑ Fahrenheit ☐

2) Tank Shell

Mild Steel ☑ Stainless ☐ Insulated: YES / (NO)

Reference Product Temperature: (15 °C) / other _____

3) Tank Bottom

Cone up: _____ Cone down: _____ Flat ☐ Physical Survey ☑

4) Type of Roof

Cone ☐ Dome ☐ Flat ☐ Internal Floating ☑ External Floating ☐

5) Under Side of Floating Roof: (Sandborn)

Flat Pan ☑ Round pontoon ☐ Angle pontoon ☐ Square pontoon ☐ Other _____

6) Weight of Floating Roof: _____ Kilograms / _____ pounds

7) Distance Between Floating Roof Pin Settings: 36"

8) Roof Information

Height Tank Floor to Bottom of Deck or Pontoon Nearest Shell: 86.5"

Height from Strike Point to Bottom of Floating Roof: 85"

Height from deck to Tank Floor at Inner Edge of Pontoon N/A Pontoon Length: N/A

Pontoon Diameter or Height: N/A Pontoon Rim Space: 5 3/4"

9) Roof Position at Time of Measurements: (HIGH) / LOW position

Tank Calibration Package

DATE: Apr. 15/19 TANK #: 54-10-901

FIELD DATA

1) Total Tank Height: ~~14.634m~~ 14.631m (48')
2) Gauge Height: 52' 7½" 3) Distance Gauge Point to Shell: 38"
4) Overflow / (Foam line) Height: 46' 6"
5) Shell Construction: (Butt Welded) / Lap Welded Other: _____
6) Number of Vertical Welds Per Course and Tape Rise (if Applicable): Number: 14 Width: 7/8" Depth: ~~3/8~~ 1/8"
7) Tape Number: WLWT8100
8) Strapped Circumference: 128.550 m
9) Benchmark Description: Benchmark in Hatch

FIELD TABLE

Ring #	Strapped %	Plate Thickness	Ring Height
Bottom			
1	66%	0.730"	8'
2	20 80	0.614"	8'
3	20 80	0.486"	8'
4	20 80	0.364"	8'
5	20 80	0.307"	8'
6	20 80	0.310"	8'
7			
8			
9			
10			

Tank Calibration Package

DATE: Apr 11 5/19 TANK #: 54-10-901

DEADWOOD

INTERNAL

Quantity	Description	Diameter	Length	Open (O) Close (C)	Height From bottom	Height If not horizontal
7	Columns	10"	TH-1.5"	O	1.5"	TH
1	Column	12"	TH-1.5"	O	1.5"	TH
7	RePads 57x57x1¼"	—	—	—	0	1¼"
7	RePads 36x36x¼"	—	—	—	1¼"	1.5"
24	Angle (∠3"x3"x¼")	—	6"	—	0"	6"
1	RePad 59"x59"x1¼"	—	—	—	0"	1¼"
74	Angle (∠4x4x¼")	—	15	—	0	15"
74	"	—		—	11"	15"
74	8x8x¼" RePad	—		—	0	¼"
148	Angle (∠4"x4"x¼")	—	3	—	15"	19"
2	2" Ø Pipe	2	414'	C	5	25
1	Diffusser	28"	643"	O	16"	44"
2	4"x4" Square Pipe		9"	C	0"	9"
2	12"x12"x0.375"	—	—	—	0"	.375"
2	12"x8"x½"	—	—	—	9"	—
1	Pipe	16"	72"	O	9"	—
4	Supports 3"x3"x¼"	—	35"	—	28"	31"
2	Gauge Poles	6	TH-10	O	10"	TH
2	14x9x¼" RePad	—	—	—	0	¼"
1	Pipe	8"	67"	O	7.5"	—

Tank Calibration Package

EXTERNAL

Quantity	Description	Diameter	Length	Height
3	manway	24	9	18
2	Nozzle	10	10	18.5
2	D-Door	24x24	8	0
1	Nozzle	30	8	15.5
1	" "	16	12	12
1	" "	10	10	12
1	" "	30	8	15
1	" "	10	10	18.5
36	12x8x0.375 (Holes in diffuser)			14-20"

~~Readings~~

Tank Calibration Package

NEXTGEN

DATE April 15/19 TANK # 901

PHYSICAL BOTTOM SURVEY (1, ####m)

	SHELL	1	5	10	15	20	30	40	50	60	70	80	90	100	110	120	130	140	CTR.
1	498	520	566	566	604	644	676	690	720	710									702
2	492	522	566	600	610	616	640	684	710	698									702
3	496	522	562	564	576	594	668	670	680	692									702
4	500	522	569	576	588	601	622	646	684	716									708
5	500	510	544	558	582	610	640	678	680	714									706
6	503	522	566	562	600	602	652	694	718	702									708
7	498	526	566	590	616	656	718	722	710	712									700
8	494	570	570	596	640	656	696	708	716	694									698
9	490	516	564	592	622	636	682	680	708	700									696
10	492	510	556	570	578	610	648	662	684	682									690
11	498	520	562	560	580	630	644	652	682	692									692
12	498	518	552	562	560	586	614	640	650	696									692
13	496	524	550	550	552	564	616	638	648	658									694
14	496	514	554	584	616	636	688	682	684	686									688
15																			
16																			
17																			
18																			
19																			
20																			
21																			
22																			
23																			
24																			
25																			
26																			
27																			
28																			

FLOATING ROOF SURVEY (0.###m)

		RIM	5	10	15	20	30	40	50	60	70	80	90	100	110	120	130	140	CTR.
1		559	470	502	476	451	464	457	483	483									514

1) Reading of Floor @ Strike Point: 544 (mark with "X" on table)
2) Reading of Roof @ Strike Point: 543
3) Reading of Shell Nearest Strike Point: 496
4) Readings Recorded in: **Inches** / **Feet** / **Millimetres**
5) Direction of Stations: **Clockwise** / **Counter - Clockwise**

Tank Calibration Package

DATE: April 15/19 TANK #: 901

OPTICAL READINGS

STATIONS	TANK COURSES															
	1 66%		2		3		4		5		6		7		8	
	~~20%~~	~~80%~~	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%
1		794	789	787	793	791	799	809	816	814	813	810				
2		128	126	117	125	121	126	125	134	128	127	126				
3		286	288	283	290	287	284	289	291	281	282	280				
4		651	655	650	657	656	649	648	654	656	661	651				
5		773	776	775	787	788	791	789	793	794	805	798				
6		070	76	73	86	87	83	74	80	77	87	83				
7		605	608	604	611	609	602	599	603	600	605	606				
8		733	729	724	727	722	721	717	721	721	729	727				
9		669	669	664	669	663	657	654	649	646	653	647				
10		560	567	568	573	565	563	561	560	564	550	554				
11		51	59	57	69	70	68	61	60	55	63	60				
12		491	492	486	492	492	501	501	503	495	498	494				
13		998	996	986	988	983	982	983	982	976	977	988				
14		502	503	500	501	502	507	503	505	505	512	507				
15																
16																
17																
18																
19																
20																
21																
22																
23																
24																
25																
26																

1) OVERFLOW HEIGHT: _____

2) FOAMLINE HEIGHT: 46'6"

3) Internal / (External)

4) Direction of Stations: Clockwise / (Counter-Clockwise)

Tank Calibration Package

June 24/2019	IOL / [redacted]	Strathcona
16589	332	36/EM

Table increments: Inches ☒ Centimetres ☐ 6 INCH & 16THS/INCH RUNSHEETS

Table volume units: Barrels ☒ Cubic Meters ☐ Litres ☐

TANK DATA

Diameter: 60ft Height: 48 ft Safe Fill Height: 48' Data to be Inverted?: Yes ☐ No ☐

1) Product Information

Product Service to be: Diesel Product Density: 0.86

Product Level @ Strapping: Empty Temperature @ Strapping: 15 Celsius ☑ Fahrenheit ☐

2) Tank Shell

Mild Steel ☑ Stainless ☐ Insulated: YES / (NO)

Reference Product Temperature: (15 °C) / other _____

3) Tank Bottom

Cone up: _____ Cone down: _____ Flat ☐ Physical Survey ☑

4) Type of Roof

Cone ☑ Dome ☐ Flat ☐ Internal Floating ☐ External Floating ☐

5) Under Side of Floating Roof:

Flat Pan ☐ Round pontoon ☐ Angle pontoon ☐ Square pontoon ☐ Other _____

6) Weight of Floating Roof: _____ Kilograms / _____ pounds

7) Distance Between Floating Roof Pin Settings: _____

8) Roof Information

Height Tank Floor to Bottom of Deck or Pontoon Nearest Shell: _____

Height from Strike Point to Bottom of Floating Roof: _____

Height from deck to Tank Floor at Inner Edge of Pontoon _____

Pontoon Diameter or Height: _____ Pontoon Length: _____

Pontoon Rim Space: _____

9) Roof Position at Time of Measurements: HIGH / LOW position

Tank Calibration Package

DATE: _____ TANK #: 332

FIELD DATA

1) Total Tank Height: 14.621 m

2) Gauge Height: 14.868m 3) Distance Gauge Point to Shell: 500mm

4) Overflow / Foam line Height: N/A

5) Shell Construction:
(Butt Welded) / Lap Welded Other: _____

6) Number of Vertical Welds Per Course and Tape Rise (if Applicable):
Number: 8 Width: _____ Depth: _____

7) Tape Number: _____

8) ~~Strapped Circumference~~: Internal Diameter 59,9698 Feet Completed w total station

9) Benchmark Description: ~~Rim of Flange~~ Plate opposite hinge

FIELD TABLE

Ring #	Strapped %	Plate Thickness	Ring Height (m)
Bottom			
1	69%	~~0.296~~ 0.375	2.433
2	20%	0.312	2.422
	80%	~~0.325~~	
3	20%	0.250	2.431
	80%		
4	20%	0.188	2.421
	80%		
5	20%	0.188	2.426
	80%		
6	20%	0.188	2.488
	80%		
7			
8			
9			
10			

FF 4.19 Rev 1

DATE: June 24 TANK #: 332

DEADWOOD

INTERNAL

Quantity	Description	Diameter	Length	Open (O) Close (C)	Height From bottom	Height If not horizontal
	Center Column	12"		C	0	TH
	Reinforcing Pad (42"Ø)	42"			0	1"
4	∠(2"x2"x [illegible])				0	6"
	Pipe	20"		O	0	TH
	Repad	30"			0	1"
	∠(3"x3")				0	54"
	Pipe (elbow up)	18"	76"	O	11"	70"
	Nozzle	10"	10"	O	13"	24"
	Nozzle	10"	9 3/4"		14"	25"
	[illegible] Pipe	10"	46"	O	3.5"	26"
	Diffuser	12"	128"	O	2"	16"
2	[illegible] Vertical Plate		19"		0	6"
	Repad 24"x10"x1/4"					
2	∠(2.5"x2.5"x1/4") Vertical				0	[illegible] 20 3/4"
	∠(2.5"x2.5"x1/4") Horizontal		17.5"		9.5"	12"
	Pipe	6"	100"	O	0	18.5"
	Repad (25"x12"x1/4"					
2	∠(3"x3") Horizontal		18"		17 [illegible]	20"

NG GEN

EXTERNAL

Quantity	Description	Diameter	Length	Height
1	Sump 38"Ø x 10" Deep (Pan Shape)	38"		
3	Manway	24"	7"	17"
2	Nozzle	10"	[illegible]	13"
	[illegible]	[illegible]		
1	Nozzle	6"	13"	10"
1	Nozzle	20"	22"	10"
1	Nozzle	10"	13"	13.5"

DATE..... TANK #.332

Use Empty Post Hydro

PHYSICAL BOTTOM SURVEY

	SHELL	1	5	10	15	20	30	40	50	60	70	80	90	100	110	120	130	140	CTR.
1																			
2																			
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			
11																			
12																			
13																			
14																			
15																			
16																			
17																			
18																			
19																			
20																			
21																			
22																			
23																			
24																			
25																			
26																			
27																			
28																			

FLOATING ROOF SURVEY

		RIM	5	10	15	20	30	40	50	60	70	80	90	100	110	120	130	140	CTR.
1																			

1) Reading of Floor @ Strike Point: 112 (mark with "X" on table)
2) Reading of Roof @ Strike Point: N/A
3) Reading of Shell Nearest Strike Point: 113
4) Readings Recorded in: Inches / Feet / (Millimetres)
5) Direction of Stations: Clockwise / (Counter - Clockwise)

From Shell to Strike Point: 500mm

GEN

Empty Post Hydro

June 24/2019	IOL/Matrix	Strathcona
16559	332	56/8M

Station	Shell	1'	2'	3'	4'	5'	6'	7'	8'	9'	10'	15'	20'	30'	40'	50'	60'	70'	80'	CTR
1	113	110	110	155	150	155	157	165	167	163	163	168	178							173
2	120	119	113	132	143	150	153	157	158	163	163	158	165							168
3	125	128	125	133	133	130	117	120	130	135	133	155	173							170
4	138	128	113	138	144	140	137	136	135	125	128	173	155							
5	145	124	103	119	132	143	155	160	170	168	170	153	148							
6	148	143	127	138	145	143	140	155	155	149	145	146	148							163
7	148	135	112	133	148	152	150	145	138	138	138	147	150							163
8	148	145	143	165	176	180	180	180	176	170	165	168	158							164
9	145	152	160	165	155	143	148	157	165	165	162	168	162							165
10	138	138	140	150	145	140	135	134	143	143	149	147	137							165
11	130	130	120	122	125	128	135	140	145	135	135	137	151							170
12	123	110	099	120	130	133	130	130	125	120	123	120	135							172
13	117	112	112	113	120	125	124	123	120	123	125	138	147							172
14	117	110	107	125	128	127	123	125	125	130	130	143	163							170
15	113	105	090	111	130	143	150	154	154	153	150	150	163							171
16	120	105	100	133	143	145	138	145	148	153	153	160	178							
17																				
18																				
19																				
20																				
21																				
22																				
23																				
24																				

Tank Diameter: _____ **Tank Circumference:** _____ **Distance Between Stations:** _____

GEN

DATE: June 24/19 TANK #: 332

OPTICAL READINGS

STATIONS	5'7"	TANK COURSES															
	1		2		3		4		5		6		7		8		
	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%	
1		723	740	754	756	751	752	760	762	768	774	774					
2		276	278	302	302	304	303	312	311	322	321	326					
3		801	812	820	825	829	823	839	841	838	830	821					
4		271	264	254	240	240	235	223	216	211	209	235					
5		518	522	526	521	516	512	497	489	442	492	492					
6		601	599	600	596	572	568	581	581	574	565	558					
7		498	504	508	511	514	513	515	509	486	483	492					
8		206	202	181	177	169	162	142	141	124	133	162					
9		747	744	740	740	738	733	726	727	719	719	723					
10		238	237	243	245	242	240	249	254	249	246	227					
11		677	673	672	670	660	666	681	678	671	671	677					
12		152	154	150	148	159	157	146	146	155	178	205					
13		800	805	825	834	849	856	872	887	882	878	857					
14		716	725	729	731	722	713	716	720	704	705	732					
15		845	843	843	844	843	845	849	851	854	857	859					
16		282	291	296	294	289	288	307	306	293	287	283					
17																	
18																	
19																	
20																	
21																	
22																	
23																	
24																	
25																	
26																	

1) OVERFLOW HEIGHT: _____

2) FOAMLINE HEIGHT: _____

3) (Internal) External

4) Direction of Stations: Clockwise / (Counter-Clockwise)

Course Heights

0	8.100	> 2.433
1	10.533	> 2.422
2	12.955	> 2.43
3	15.386	> 2.42
4	17.807	> 2.42
5	20.233	> 2.48
Top of Rimstyle 6	22.721	14.6

Bottom of Rim Angle: 22.662

June 24/2019	ICR [redacted]	Strathcona
16593	908	5 6/16

Table increments: Inches ☒ Centimetres ☐ 1 inch & 1/16th of inch Runsheets

Table volume units: Barrels ☒ Cubic Meters ☐ Litres ☐

TANK DATA [redacted]

Diameter: 175' Height: ~~48~~ 51' Safe Fill Height: 48 Data to be Inverted?: Yes ☐ No ☐

1) Product Information

Product Service to be: Heavy Reformate Product Density: 0.878

Product Level @ Strapping: Empty Temperature @ Strapping: 15 Celsius ☑ Fahrenheit ☐

2) Tank Shell

Mild Steel ☑ Stainless ☐ Insulated: YES / (NO)

Reference Product Temperature: (15 °C) other _____

3) Tank Bottom

Cone up: _____ Cone down: _____ Flat ☐ Physical Survey ☑

4) Type of Roof

Cone ☐ Dome ☐ Flat ☐ Internal Floating ☐ External Floating ☑

5) Under Side of Floating Roof:

Flat Pan ☐ Round pontoon ☐ Angle pontoon ☑ Square pontoon ☐ Other _____

6) Weight of Floating Roof: _____ Kilograms / 286,025 (pounds)

7) Distance Between Floating Roof Pin Settings: 2'-1"

8) Roof Information

Height Tank Floor to Bottom of Deck or Pontoon Nearest Shell: 69.25"

Height from Strike Point to Bottom of Floating Roof: 72"

Height from deck to Tank Floor at Inner Edge of Pontoon 83"

Pontoon Diameter or (Height) 36.75" Pontoon Length: 113"

Pontoon Rim Space: 6.75"

9) Roof Position at Time of Measurements: (HIGH) / LOW position

Tank Calibration Package

DATE: June 25/19 TANK #: 908

FIELD DATA

1) Total Tank Height: 15.402 m

2) Gauge Height: 17.885m 3) Distance Gauge Point to Shell: 35.5"

4) Overflow / Foam line Height: _____

5) Shell Construction:
Butt Welded / Lap Welded Other: _____

6) Number of Vertical Welds Per Course and Tape Rise (if Applicable):
Number: 18 Width: _____ Depth: _____

7) Tape Number: _____

8) ~~Strapped Circumference~~: Internal Diameter 174.8818 feet completed w total station

9) Benchmark Description: Benchmark in hatch opposite hinge

FIELD TABLE

Ring #	Strapped %	Plate Thickness	Ring Height
Bottom		1.125	2.447
1	72%		
2	20%	0.750	2.577
	80%		
3	20%	0.625	2.580
	80%		
4	20%	0.438	2.580
	80%		
5	20%	0.312	2.577
	80%		
6	20%	0.312	2.641
	80%		
7			
8			
9			
10			

4 19 Rev 1

Tank Calibration Package

DATE: June 25/19 TANK #: 908

DEADWOOD

INTERNAL

Quantity	Description	Diameter	Length	Open (O) Close (C)	Height From bottom	Height If not horizontal
1	Pipe	6"	67'	C	2"	—
10	∠ 2" x 17.5" (Vertical pipe support)	—	17.5	—	0"	17.5"
5	Repad 24" x 12" x 1/4"	—		—	0"	1/4"
5	13" x 5" x 3/4" ∠ [illegible] (Horizontal pipe support)		13"		8"	5"
1	Pipe	6"	87'	O	2"	—
4	Repad 24" x 12" x 1/4"			—	0	1/4
8	∠ 2.5" x 8" [illegible] (Vertical pipe support)		—	—	0"	8"
4	~~[illegible]~~ Horizontal pipe support		17"		1.5	4
83	Repad 24" Ø				0"	1/4"
1	Nozzle (elbow down)	14"	32"	O	7"	22"
1	Nozzle	12"	70"	O	6"	23"
6	Support (Vertical)	3"	20"	C	0"	20"
6	Repad 8" x 8" x 3/8"		—	—	0"	3/8"
2	Horizontal Plate 19" x 78.5" x 1/4"				21"	—
1	Diffuser	12"	178"	O	10"	22"
2	∠ 2.5" x 8.75" (Vertical)		—	—	0"	8 3/4"
1	Horizontal pipe support		18"		8"	11"
1	Gauge Pole	8"		O	3.25"	TH
1	Repad (12" x 12" x 1/4"				0"	1/4"
4	∠ 2" x 2" (Vertical)				0"	8"

Tank Calibration Package

GEN

EXTERNAL

Quantity	Description	Diameter	Length	Height
4	Manway	24"	8"	12.5"
1	Sump (40"Ø x 11" deep) Dish Shaped			
1				
2	Nozzle	6"	13"	4.5"
2	Nozzle	3"	6"	2.9"
1	Nozzle	14"	20"	8.5"
	Nozzle	14"	11"	8.5"

GEN

DATE June 24/19 TANK # 908

PHYSICAL BOTTOM SURVEY

	1/8"	1	5	10	15	20	30	40	50	60	70	80	90	100	110	120	130	140	CTR.
1	448	460	500	462	462	432	350	300	190	143	062	033							032
2	445	463	495	469	440	462	360	315	193	143	120	047							
3	450	467	504	488	477	418	352	275	235	150	108	058							
5	440	452	495	483	478	440	387	274	208	145	118	073	5	STN 5					
4	445	465	495	500	475	421	350	278	243	127	118	070	2	STN 4					
6	440	452	483	490	487	453	368	300	260	175	110	068							
7	443	453	468	483	478	450	369	312	233	175	110	060							
8	443	452	492	499	490	458	397	308	247	160	113	053							
9	441	450	470	450	400	423	372	290	245	160	113	075							
10	438	454	455	433	430	422	343	293	218	130	087	068							
11	442	460	452	473	463	409	342	278	226	153	100	075							
12	443	463	500	473	443	425	368	295	237	112	102	048							
13	450	470	508	500	468	448	363	312	200	138	110	057							
14	443	458	474	488	465	433	405	310	225	122	093	048							
15	438	455	480	490	460	427	360	320	220	139	092	054							
16	440	453	473	485	475	422	340	312	252	170	120	038							
17	435	448	470	465	477	445	370	289	253	177	093	039							032
18	436	450	482	483	477	470	380	300	235	167	067	047							
19	438	443	453	497	485	452	377	308	207	153	100	056							
20	443	463	510	513	488	433	370	273	223	130	093	050							
21	443	460	470	453	473	440	372	272	190	133	090	033							
22	443	453	453	457	440	410	338	267	208	122	055	025							
23	446	453	471	450	453	430	317	273	173	123	090	010							
24	445	463	503	477	488	453	338	270	192	115	080	010							
25																			
26																			
27																			
28																			

FLOATING ROOF SURVEY

		RIM	5	10	15	20	30	40	50	60	70	80	90	100	110	120	130	140	CTR.
1		1178	939	770	812	865	878	883	863	825	805	773							773

1) Reading of Floor @ Strike Point: 513 (mark with "X" on table)
2) Reading of Roof @ Strike Point: 1068
3) Reading of Shell Nearest Strike Point: _ , 445
4) Readings Recorded In: Inches / Feet / (Millimetres)
5) Direction of Stations: Clockwise / (Counter - Clockwise)

DATE: TANK #: 400

OPTICAL READINGS

Under wind girder (course 6)

STATIONS	TANK COURSES 1 70" 20%	1 [struck out]	2 20%	2 80%	3 20%	3 80%	4 20%	4 80%	5 20%	5 80%	6 20%	6 80%	7 20%	7 80%	8 20%	8 80%
1		215	218	216	220	215	218	216	223	232	242	234				
2		975	978	965	971	979	987	990	947	015	013	005				
3		395	397	404	411	408	410	406	409	419	422	425				
4		831	834	823	824	820	823	821	825	830	830	820				
5		130	134	132	136	128	130	140	141	120	113	106				
6		751	762	756	756	745	743	744	749	749	745	749				
7		799	804	797	803	807	806	808	810	826	827	822				
8		748	751	749	755	749	753	770	777	775	772	778				
9		788	799	801	806	809	814	812	813	796	789	796				
10		162	166	157	158	151	143	145	149	145	144	142				
11		516	518	510	517	514	515	514	521	520	522	520				
12		919	930	941	946	945	947	442	944	444	938	937				
13		609	590	578	580	576	578	581	587	585	584	585				
14		365	371	366	371	368	373	381	391	379	373	377				
15		555	557	551	551	543	545	542	546	565	574	567				
16		589	588	586	594	590	595	598	598	597	596	589				
17		584	583	582	587	582	584	589	586	589	591	589				
18		524	526	520	525	524	526	526	529	526	524	522				
19		720	721	714	728	727	723	716	720	733	735	724				
20		233	240	239	244	236	243	253	253	237	233	245				
21		527	528	526	532	536	542	536	532	528	525	529				
22		258	260	249	263	248	244	236	243	254	258	265				
23		718	721	722	727	728	735	748	760	750	741	755				
24		321	326	334	336	324	324	319	328	337	333	335				
25																
26																

1) OVERFLOW HEIGHT: ____________

2) FOAMLINE HEIGHT: ____________

3) Internal / (External)

4) Direction of Stations: Clockwise / (Counter-Clockwise)

Course Heights

		Difference
0	8.541	2.447
1	10.988	2.577
2	13.565	2.580
3	16.145	2.580
4	18.725	2.577
5	21.302	2.641
Top of Rim Angle 6	23.943	
		15.402

Tank Calibration Package

NEXTGEN

Date Stripped	Company	Site Location
June 11/2019	CRC	Regina, SK
Nextgen Job# 164	Tank Number 425	Personnel JG, KS, DH, IS

Table increments: Inches ☐ Centimetres ☐

Table volume units: Barrels ☐ Cubic Meters ☐ Litres ☐

TANK DATA

Diameter: 150' Height: 48' Safe Fill Height: 44' Data to be Inverted?: Yes ☐ No ☐

1) **Product Information**

Product Service to be: GDS Gasoline Product Density: 0.7459

Product Level @ Strapping: Empty Temperature @ Strapping: 25 Celsius ☒ Fahrenheit ☐

2) **Tank Shell**

Mild Steel ☒ Stainless ☐ Insulated: YES / (NO)

Reference Product Temperature: (15 °C) / other _____

3) **Tank Bottom**

Cone up: _____ Cone down: _____ Flat ☐ Physical Survey ☒

4) **Type of Roof**

Cone ☐ Dome ☐ Flat ☐ Internal Floating ☒ External Floating ☐

5) **Under Side of Floating Roof:**

Flat Pan ☒ Round pontoon ☐ Angle pontoon ☐ Square pontoon ☐ Other _____

6) **Weight of Floating Roof:** _____ Kilograms / _____ pounds

7) **Distance Between Floating Roof Pin Settings:** 3'

8) **Roof Information**

Height Tank Floor to Bottom of Deck or Pontoon Nearest Shell: 87

Height from Strike Point to Bottom of Floating Roof: 87

Height from deck to Tank Floor at Inner Edge of Pontoon: —

Pontoon Diameter or Height: — Pontoon Length: —

Pontoon Rim Space: 7

9) **Roof Position at Time of Measurements:** (HIGH) / LOW position

Tank Calibration Package

DATE: June 11/19 TANK #: 923

FIELD DATA

1) Total Tank Height: 14.610 m

2) Gauge Height: 15.849 3) Distance Gauge Point to Shell: 38

4) Overflow / (Foam line) Height: 13.823 m

5) Shell Construction:
(Butt Welded) / Lap Welded Other: _____

6) Number of Vertical Welds Per Course and Tape Rise (if Applicable):
Number: 17 Width: 1 in Depth: 1 mm

7) Tape Number: _____

8) Strapped Circumference: 143.799

9) Benchmark Description: _____

FIELD TABLE

Ring #	Strapped %	Plate Thickness	Ring Height
Bottom		3/4	2.560
1	80%		
2	20	5/8	3.026
	80		
3	20	7/16	2.982
	80		
4	20	7/16	3.021
	80		
5	20	7/16	3.021
	80		
6			
7			
8			
9			
10			

0 588.615 > 2.560
1 591.175 > 3.026
2 594.201 > 2.982
3 597.183 > 3.021
4 600.204 > 3.021
5 603.225

14.610

Tank Calibration Package

NEXTGEN

DATE: _____ TANK #: 923

DEADWOOD

INTERNAL

Quantity	Description	Diameter	Length	Open (O) Close (C)	Height From bottom	Height If not horizontal
6	Columns	18	TH-2	C	2	TH
5	Repads	66	—	—	0	2
1	Repad	60	—	—	0	1¾
18	Supports ⊓(8 x 5 x 3/8)	—	8	—	1¾	9¾
1	Pipe (Gauge Pole)	8	TH-9	O	9	TH
3	Supports (∠3 x 3 x ¼)	—	16	—	0	13
3	Repads	6	—	—	0	½
1	Pipe (Radar)	8	TH-13	O	13	TH
3	Bar support square (1 x 1)	—	18	—	½	18½
1	Plate (12 x 8½ x ¼)	—	12	—	0	8½
3	Pipe (Water draw)	4	100.5	O	8	O
1	Pipe	10	60	O	10	—

NEXTGEN INDUSTRIAL SERVICES

EXTERNAL

Quantity	Description	Diameter	Length	Height
3	Sump	48	—	24
2	D-Door (24x24)	—	8	24
2	Manway	36	17	23.5
2	Manway (Mixer)	30	9	20
1	Nozzle	12	36	8
1	Nozzle	8	22.5	6
1	Nozzle	18	12	10
1	Nozzle	2	15	25
1	Nozzle	10	12	10

Tank Calibration Package

NEXTGEN INDUSTRIAL SERVICES

DATE: June 11/19 TANK #: 923

OPTICAL READINGS

STATIONS	TANK COURSES															
	1		2		3		4		5		6		7		8	
	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%
1		218	226	232	244	246	249	259	259	250						
2		161	168	166	169	185	180	182	186	178						
3		593	599	594	609	605	597	690	589	586						
4		158	169	171	184	181	178	181	181	182						
5		143	144	140	151	163	168	173	179	179						
6		894	890	885	894	897	898	887	868	865						
7		402	411	417	431	427	420	410	402	393						
8		903	908	908	921	926	926	925	927	924						
9		499	496	489	499	499	502	505	506	493						
10		155	162	159	172	174	166	164	161	149						
11		749	763	758	749	792	743	742	746	743						
12		490	497	499	514	519	518	512	514	519						
13		608	607	599	612	628	621	617	620	615						
14		549	555	546	550	543	539	544	548	538						
15		412	425	440	451	454	444	432	426	418						
16		549	550	559	574	578	577	568	572	567						
17																
18																
19																
20																
21																
22																
23																
24																
25																
26																

1) OVERFLOW HEIGHT: ———

2) FOAMLINE HEIGHT: 13.823 m

3) Internal / (External)

4) Direction of Stations: Clockwise / (Counter-Clockwise)

TF 4.19

Rev 1

(724)

Tank Calibration Package

NEXTGEN INDUSTRIAL SERVICES

DATE 11 June 2021 TANK # T-923

PHYSICAL BOTTOM SURVEY (mm)

	SHELL	1	2	3	4	5	6	7	8	9	10	15	20	30	40	50	60	70	CTR.
1	576	573	569	571	570	577	575	574	578	580	584	579	605	626	642	694	734	751	750
2	574	565	554	565	574	576	581	585	590	595	596	608	623	655	648	683	737	751	752
3	576	579	582	596	602	601	596	594	588	595	597	621	625	663	677	687	748	752	750
4	580	586	589	596	596	605	606	614	615	614	618	610	626	652	683	700	737	749	748
5	574	589	588	596	600	600	596	594	591	608	611	610	620	667	671	679	744	748	750
6	578	580	581	587	589	590	600	601	602	604	605	626	631	667	691	695	742	761	749
7	573	571	571	584	590	592	593	598	597	600	605	632	637	651	683	707	752	760	749
8	571	570	565	569	566	566	569	573	574	582	581	598	616	661	671	704	755	758	750
9	1.579	1.571	1.564	1.567	1.560	1.561	1.566	1.565	1.573	1.579	1.584	1.590	1.605	1.647	1.686	1.713	1.721	1.753	752
10	579	579	575	582	584	585	587	589	590	591	593	599	608	646	682	707	714	744	749
11	581	600	603	608	604	600	599	596	591	598	596	606	618	618	666	703	728	751	749
12	585	596	601	611	610	622	623	625	624	623	619	616	635	653	674	692	725	739	748
13	578	573	568	584	594	597	595	593	587	595	596	623	634	663	687	710	740	732	748
14	573	575	574	579	578	577	573	595	594	595	597	612	630	665	698	703	760	737	748
15	570	565	560	558	559	562	562	567	568	570	575	620	612	634	677	683	730	748	748
16	575	570	564	564	565	574	580	578	568	570	576	585	606	630	655	686	721	752	750
25																			
26																			
27																			
28																			

mm 1. 1. 1 (64)

FLOATING ROOF SURVEY

		RIM	5	10	15	20	30	40	50	60	70	80	90	100	110	120	130	140	CTR.
in → 1		25 3/8	25 3/8	26	26 1/4	26	26 1/8	26 1/8	26	26 1/2	26 1/4	26 1/4	24 3/4	25	26 1/2	25 3/4	25 3/4	25 3/4	25 7/8

1) Reading of Floor @ Strike Point: 589 mm (mark with "X" on table)
2) Reading of Roof @ Strike Point: 26 1/8 in
3) Reading of Shell Nearest Strike Point: 576 mm
4) Readings Recorded in: Inches / Feet / (Millimetres)
5) Direction of Stations: Clockwise / (Counter - Clockwise)

FF 4.19

Page 1

Tank Calibration Package

NEXTGEN

May 22/2019	CRC	Regina, SK
16496	54-10-924	KS, IS

Table increments: Inches ☐ Centimetres ☐

Table volume units: Barrels ☐ Cubic Meters ☐ Litres ☐

TANK DATA

Diameter: 150' Height: 48' Safe Fill Height: 44' Data to be Inverted?: Yes ☐ No ☐

1) Product Information

Product Service to be: GDS Gasoline Product Density: 0.7459

Product Level @ Strapping: Empty Temperature @ Strapping: 25 Celsius ☒ Fahrenheit ☐

2) Tank Shell

Mild Steel ☒ Stainless ☐ Insulated: YES / (NO)

Reference Product Temperature: (15 °C) / other _____

3) Tank Bottom

Cone up: _____ Cone down: _____ Flat ☐ Physical Survey ☒

4) Type of Roof

Cone ☐ Dome ☐ Flat ☐ Internal Floating ☒ External Floating ☐

5) Under Side of Floating Roof:

Flat Pan ☒ Round pontoon ☐ Angle pontoon ☐ Square pontoon ☐ Other _____

6) Weight of Floating Roof: _____ Kilograms / _____ pounds

7) Distance Between Floating Roof Pin Settings: 3'

8) Roof Information

Height Tank Floor to Bottom of Deck or Pontoon Nearest Shell: 85 1/4"

Height from Strike Point to Bottom of Floating Roof: 86"

Height from deck to Tank Floor at Inner Edge of Pontoon ——

Pontoon Diameter or Height: —— Pontoon Length: ——

Pontoon Rim Space: 7

9) Roof Position at Time of Measurements: (HIGH) / LOW position

Tank Calibration Package

NEXTGEN

DATE: _____ TANK #: 924

FIELD DATA

1) Total Tank Height: 14.599 m

2) Gauge Height: 15.839 m 3) Distance Gauge Point to Shell: 38

4) Overflow / (Foam line) Height: 13.823

5) Shell Construction:

(Butt Welded) / (Lap Welded) Other: _____

6) Number of Vertical Welds Per Course and Tape Rise (if Applicable):

Number: 17 Width: 1" Depth: 1 mm

7) Tape Number: _____

8) Strapped Circumference: 143.811

9) Benchmark Description: _____

FIELD TABLE

Ring #	Strapped %	Plate Thickness	Ring Height
Bottom		3/4	2.559
1	80%		
2	20	5/8	3.026
	80		
3	20	7/16	2.977
	80		
4	20	7/16	3.023
	80		
5	20	7/16	3.014
	80		
6			
7			
8			
9			
10			

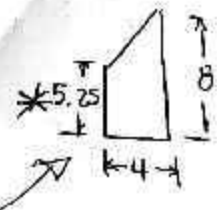
Course heights - (m)

0 588.614 > 2.559
1 591.173 > 3.026
2 594.199 > 2.977
3 597.176 > 3.023
4 600.199 > 3.014
5 603.213

14.599

Tank Calibration Package

NEXTGEN



DATE: _____ TANK #: _____

INTERNAL **DEADWOOD**

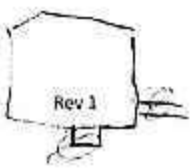
Quantity	Description	Diameter	Length	Open (O) Close (C)	Height From bottom	Height If not horizontal
6	Colum	18	TH-1¾	C	1¾	TH
1	Column repad	60	—	—	0	1¾
5	Column repad	66	—	—	0	1¾
18	Column supports (8x5.25x.4 x3/8)	—	8	—	1¾	9¾
1	Pipe (Gauge Pole)	8	TH-8.5	O	8.5	TH
1	Pipe (Radar)	8	TH-12	O	12	TH
1	Repad (Radar)	16	—	—	0	¼
1	Plate (Radar) (8¾ x 12 x ¼)	—	—	—	½	9
4	Bar (1x1x17.5) (support)	—	17.5	—	½	18
3	Repads	6	—	—	0	½
3	Supports (Gauge Pole) (3x3x¼)	—	13	—	½	10.5
1	Pipe	10	60	O	10	—
3	Pipe (Water draw)	4	110	O	8	O

Tank Calibration Package

NEXTGEN

EXTERNAL

Quantity	Description	Diameter	Length	Height
3	Sump	48	—	24
1	Manway	36	17¼	24
1	Manway	30	9	20
2	D-Door 24 x 24	—	8	24
1	Nozzle	18	12	10½
1	Nozzle	8	30	5½
1	Nozzle	12	44	7½



Tank Calibration Package

NEXTGEN

DATE..... TANK #.....

PHYSICAL BOTTOM SURVEY

	SHELL	1	5	10	15	20	30	40	50	60	70	80	90	100	110	120	130	140	CTR.
1																			
2																			
3																			
4	550																		
5																			
6																			
7																			
8																			
9																			
10																			
11																			
12																			
13																			
14																			
15																			
16																			
17																			
18																			
19																			
20																			
21																			
22																			
23																			
24																			
25																			
26																			
27																			
28																			

FLOATING ROOF SURVEY

		RIM	5	10	15	20	30	40	50	60	70	80	90	100	110	120	130	140	CTR.
4	1	23	23 3/4	24 1/8	24 3/4	24 3/4	25	25 3/8	25 3/4	24 3/8	23								22 3/8

1) Reading of Floor @ Strike Point: 61 (mark with "X" on table)
2) Reading of Roof @ Strike Point: 24.5
3) Reading of Shell Nearest Strike Point: 61.5
4) Readings Recorded in: (Inches) / Feet / (Millimetres)
5) Direction of Stations: Clockwise / (Counter - Clockwise)

555
22 7/8
551

Post hydro Readings

Empty Post Hydro

Internal Settlement

Date		Site Location
June 5/2014	CRC	Regina Sk
Nextgen Job #		Operator
16498	54-10-924	DH. KC

Station	Shell	1'	2'	3'	4'	5'	6'	7'	8'	9'	10'	15'	20'	30'	40'	50'	60'	70'	80'	CTR
1	556	556	550	558	562	572	576	582	586	590	590	612	632	618	642	682	722	720		720
2	594	546	544	550	554	564	572	574	580	582	584	604	622	620	642	660	706	710		718
3	554	564	566	576	584	588	594	594	590	604	604	598	612	636	654	694	714	722		722
4	550	540	546	548	552	550	552	556	558	564	568	590	608	626	660	694	714	702		726
5	552	542	542	552	552	550	552	554	558	568	560	564	602	624	672	680	620	704		724
6	556	558	558	574	564	566	564	566	566	568	568	592	624	618	646	656	702	716		728
7	554	550	548	558	562	562	560	562	566	566	568	590	618	636	654	680	716	738		722
8	552	552	554	566	576	594	598	592	576	586	588	622	628	648	640	696	706	734		728
9	554	562	558	560	560	568	570	570	572	574	578	592	598	636	664	666	706	728		728
10	558	558	554	560	558	558	558	558	560	562	566	598	610	620	646	660	690	718		726
11	560	566	566	572	580	582	580	594	594	600	600	624	628	632	644	668	690	712		724
12	556	582	548	556	562	564	568	572	582	590	598	606	602	628	658	676	700	720		720
13	556	560	568	586	596	600	600	590	588	598	594	610	618	623	662	688	694	718		720
14	558	566	566	580	584	584	586	584	590	592	622	604	650	656	654	680	706	716		718
15	556	568	570	576	580	580	576	578	576	578	580	612	616	630	648	686	700	718		716
16	554	562	562	566	558	550	546	546	564	566	570	602	606	624	656	666	712	722		716
17																				
18																				
19																				
20																				
21																				
22																				
23																				
24																				

Tank Diameter: _____ Tank Circumference: _____ Distance Between Stations: _____

Rev 1

Tank Calibration Package

NEXTGEN

DATE: June 11/19 TANK #: 929

OPTICAL READINGS

STATIONS	TANK COURSES															
	1		2		3		4		5		6		7		8	
	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%
1		573	580	581	591	593	581	575	572	575						
2		166	170	168	182	188	173	177	179	174						
3		149	165	164	175	184	184	184	182	180						
4		836	835	828	844	846	834	833	828	828						
5		142	153	152	163	165	159	152	149	150						
6		168	160	170	180	174	172	178	177	186						
7		207	221	222	235	232	219	222	228	231						
8		783	789	786	798	799	794	795	794	781						
9		569	575	565	565	568	580	590	599	593						
10		980	998	997	1000	994	983	931	970	968						
11		123	113	117	119	112	110	105	103	105						
12		877	886	885	895	884	886	889	894	889						
13		804	809	806	817	817	816	822	830	833						
14		191	194	184	184	179	190	187	190	190						
15		676	687	687	703	709	708	704	704	701						
16		188	197	202	216	221	221	218	217	216						
17																
18																
19																
20																
21																
22																
23																
24																
25																
26																

1) OVERFLOW HEIGHT: ———

2) FOAMLINE HEIGHT: 13.823

3) Internal / (External)

4) Direction of Stations: Clockwise / (Counter-Clockwise)

Rev 1

FF 4.19

Tank Calibration Package

Date Received	Company	Site Location
July 30/2019	Shell	Kingston, ON
Nextgen Job #	Tank Number	Personnel
16614	4	SM

Table increments: Inches ☐ Centimetres ☒

Table volume units: Barrels ☐ Cubic Meters ☐ Litres ☒

TANK DATA

Diameter: 10.688M Height: 9.144m Safe Fill Height: _____

Year Built: _____ Data to be Inverted?: Yes ☐ No ☐

1) Product Information

Product Service to be: Ultra low sulfur diesel Product Density: 0.8200

Product Level @ Strapping: Empty Temperature @ Strapping: 27 Celsius ☒ Fahrenheit ☐

2) Tank Shell

Mild Steel ☒ Stainless ☐ Insulated: YES / NO

Reference Product Temperature: (15 °C) / other _____

3) Tank Bottom

Cone up: _____ Cone down: _____ Flat ☐ Physical Survey ☐

4) Type of Roof

Cone ☐ Dome ☐ Flat ☐ Internal Floating ☐ External Floating ☐

5) Under Side of Floating Roof:

Flat Pan ☐ Round pontoon ☐ Angle pontoon ☐ Square pontoon ☐ Other _____

6) Weight of Floating Roof: _____ Kilograms / _____ pounds

7) Distance Between Floating Roof Pin Settings: _____

8) Roof Information

Height Tank Floor to Bottom of Deck or Pontoon Nearest Shell: _____

Height from Strike Point to Bottom of Floating Roof: _____

Height from deck to Tank Floor at Inner Edge of Pontoon _____ Pontoon Length: _____

Pontoon Diameter or Height: _____ Pontoon Rim Space: _____

9) Roof Position at Time of Measurements: HIGH / LOW position

Tank Calibration Package

DATE: _____ TANK #: 4

FIELD DATA

1) Total Tank Height: 30' or 9.144 m

2) Gauge Height: 9.425 3) Distance Gauge Point to Shell: 2.8"

4) Overflow / Foam line Height: _____

5) Shell Construction:
Butt Welded / Lap Welded Other: _____

6) Number of Vertical Welds Per Course and Tape Rise (if Applicable):
Number: _____ Width: _____ Depth: _____

7) Tape Number: _____

8) Strapped Circumference: _____

9) Benchmark Description: TOP Edge of Gauge Window in Radar Hatch

FIELD TABLE Scott M. from Customer

Ring #	Strapped %	Plate Thickness	Ring Height
Bottom			
1	75%	0.2 in	6'
2	50%	0.2 in	6'
3	50%	0.2 in	6'
4	50%	0.2 in	6'
5	50%	0.2 in	6'
6			
7			
8			
9			
10			

Tank Calibration Package

DATE: July 30/19 TANK #: 4

DEADWOOD

INTERNAL

Quantity	Description	Diameter	Length	Open (O) Close (C)	Height From bottom	Height If not horizontal
1	Sump Water draw	2"	23'-6"	O	14"	0"
1	Nozzle	1"	1"	O	32"	—
1	Nozzle	2"	1"	O	22"	—
1	Nozzle	6"	1"	O	15"	—
1	Nozzle	3"	1"	O	16"	—
1	Nozzle	4"	5½"	O	16"	—
1	Nozzle	6"	36"	O	15"	7½"
1	Nozzle	1"	1"	O	35"	—
1	Nozzle	1"	1"	O	34½"	—
1	Nozzle	4"	1"	O	16"	—
1	Diffuser	6"	15'-9"	O	15"	23"
1	Nozzle	2"	1"	O	22"	—
2	Supports (∠ 3x3x¼")	—	18"	—	0"	18"
1	"	—	18"	—	14"	17"
2	" " (∠ 2x2x¼")	—	16"	—	0"	16"
1	"	—	6"	—	14"	16"

Tank Calibration Package

NEXTGEN

EXTERNAL

Quantity	Description	Diameter	Length	Height
1	Sump	24"		8"
2	Manway	24"	8"	18"
1	Nozzle	6"	7"	15"
1	Nozzle	2"	12"	22"
1	Nozzle	2"	7½"	22"
2	Nozzles	6"	7½"	15"
1	Nozzle	4"	12"	16"
1	Nozzle	4"	7"	16"
1	Nozzle	1"	5"	25"
1	Nozzle	1"	5"	34½"
1	Nozzle	3"	6"	16"
1	Nozzle	2"	21"	14"

Tank Calibration Package

NEXTGEN

EXTERNAL

Quantity	Description	Diameter	Length	Height
2	Manway	20	5	25
2	Clean out door 24 x 24	—	7	0
3	Nozzle	12	8	12
2	Nozzle	10	8	18

DATE: 16 June 2019 TANK #: 807

DEADWOOD

INTERNAL

Quantity	Description	Diameter	Length	Open (O) Close (C)	Height From bottom	Height If not horizontal
8	Columns - 0.338" thick	10"	TH-1 3/8	Open	1 3/8	TH
1	Centre Column 0.373" thick	12"	TH-1 3/8	Open	1 3/8	TH
1	Centre Column Pad 1 3/8 thick (square)	58 1/2 x 58 1/2"	—	—	0	1 3/8
8	Column Pads 1 3/8 thick (square)	43 x 43"	—	—	0	1 3/8
1	Gauge Pole - 5/16 thick	8"	TH-11	Open	11"	TH
1	Radar Gauge Pole - 5/16" thick	8"	TH-10	Open	10"	TH
6	Angle bar 3"x3" x 7/8 thick		24		0	20
27	Angle bar 3"x3" x 3/8 thick 6" long	—	6	—	0	6

Tank Calibration Package

NEXTGEN

DATE June 24/19 TANK # 54-10-807

* measured in mm 1.—

PHYSICAL BOTTOM SURVEY

	SHELL	1	2 5	3 10	4 15	5 20	6 30	7 40	8 50	9 60	10 70	15 80	20 90	30 100	40 110	50 120	130	140	CTR.
1	596	606	614	636	640	636	632	624	626	622	618	634	636	696	720	740			742
2	582	586	606	616	626	622	620	616	614	622	624	638	638	692	712	748			742
3	590	596	606	622	628	630	628	626	626	624	628	622	648	654	708	754			744
4	592	602	612	622	636	642	640	636	632	628	626	636	666	684	706	732			742
5	574	580	582	612	628	638	642	644	642	630	632	648	670	682	708	732			736
6	568	588	606	624	628	628	622	628	628	626	622	628	646	674	716	742			742
7	558	580	604	626	634	632	636	636	634	632	628	644	648	664	720	740			748
8	575	590	604	626	628	628	626	620	632	636	644	664	680	690	704	742			746
9	586	602	628	638	640	638	632	626	628	632	638	662	666	692	726	740			746
10	596	610	624	648	662	664	662	656	648	640	642	654	674	696	742	750			748
11	590	604	618	646	656	662	662	660	654	646	642	652	672	690	728	764			742
12	570	592	596	628	646	652	656	650	646	648	638	678	666	700	726	752			744
13	594	606	616	626	636	634	630	626	622	634	636	652	676	726	746	746			746
14	584	602	614	636	642	634	640	642	642	640	636	636	646	684	738	746			746
15																			
16																			
17																			
18																			
19																			
20																			
21																			
22																			
23																			
24																			
25																			
26																			
27																			
28																			

FLOATING ROOF SURVEY

		RIM	2 5	3 10	4 15	5 20	6 30	7 40	8 50	9 60	10 70	15 80	20 90	30 100	40 110	50 120	130	140	CTR.
1		24 3/8	25 1/4	25 3/8	25 3/8	26 1/4 X	26 5/8	26 1/2	26 5/8	27 1/4	27 3/8	26 1/4	24 3/4	24 5/8	26	25 1/8			21 3/8

* measured in inches

1) Reading of Floor @ Strike Point: 1.638 (mark with "X" on table)
2) Reading of Roof @ Strike Point: 26 1/4
3) Reading of Shell Nearest Strike Point: 1.590
4) Readings Recorded in: Inches / Feet / Millimetres
5) Direction of Stations: Clockwise / Counter - Clockwise

FF 4.19 Rev 1

GP approx between stations 1 & 2
Reader to left

Tank Calibration Package

NEXTGEN

DATE: June 2019 TANK #: 807

OPTICAL READINGS

STATIONS	TANK COURSES															
	1		2		3		4		5		6		7		8	
	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%
1		159	157	167	172	180	185	178	190	228	227	218				
2		153	142	139	135	123	149	184	178	169	174	179				
3		794	803	808	821	825	821	818	809	801	774	795				
4		155	161	111	092	097	097	079	078	085	108	120				
5		301	310	289	274	249	239	264	273	279	286	327				
6		659	661	675	685	694	700	660	644	656	713	691				
7		375	367	354	350	353	359	351	339	352	364	349				
8		683	693	680	679	685	677	663	678	696	680	675				
9		623	628	586	577	569	571	588	617	606	589	576				
10		396	360	374	383	380	380	377	394	433	412	388				
11		464	465	450	443	450	455	475	483	484	481	462				
12		457	455	467	468	464	465	446	446	449	452	456				
13		212	194	213	221	217	213	244	232	234	269	252				
14		435	441	449	466	489	498	489	490	485	514	462				
15																
16																
17																
18																
19																
20																
21																
22																
23																
24																
25																
26																

C. Heights

(Base) 0. 581.824 > 2.124 m
1. 583.948 > 2.137
2. 586.085 > 2.124
3. 588.209 > 2.124
4. 590.333 > 2.117
5. 592.450 > 2.139
6. 594.584

12.765m

1) OVERFLOW HEIGHT: —

2) FOAMLINE HEIGHT: —

3) Internal / (External)

4) Direction of Stations: Clockwise / (Counter-Clockwise)

Tank Calibration Package

Date Strapped: June 24/19	Company: CRC	Site Location: Regina
Nextgen Job#: 16591	Tank Number: 54-16-807	Personnel:

Table increments: Inches ☒ Centimetres ☐

Table volume units: Barrels ☐ Cubic Meters ☒ Litres ☐

TANK DATA

Diameter: 117' Height: 42' Safe Fill Height: 38-4 Data to be Inverted?: Yes ☐ No ☒

1) **Product Information**

Product Service to be: Unifined Heavy Naphtha Product Density: 0.7675

Product Level @ Strapping: EMPty Temperature @ Strapping: 22 Celsius ☒ Fahrenheit ☐

2) **Tank Shell**

Mild Steel ☒ Stainless ☐ Insulated: YES / (NO)

Reference Product Temperature: (15 °C) other _____

3) **Tank Bottom**

Cone up: _____ Cone down: _____ Flat ☐ Physical Survey ☒

4) **Type of Roof**

Cone ☐ Dome ☐ Flat ☐ Internal Floating ☒ External Floating ☐

5) **Under Side of Floating Roof:**

Flat Pan ☒ Round pontoon ☐ Angle pontoon ☐ Square pontoon ☐ Other Sandtorm

6) **Weight of Floating Roof:** _____ Kilograms / 24,393 (pounds)

7) **Distance Between Floating Roof Pin Settings:** 3 ft

8) **Roof Information**

Height Tank Floor to Bottom of Deck or Pontoon Nearest Shell: 86

Height from Strike Point to Bottom of Floating Roof: 85.25

Height from deck to Tank Floor at Inner Edge of Pontoon: —

Pontoon Diameter or Height: — Pontoon Length: —

Pontoon Rim Space: 8

9) **Roof Position at Time of Measurements:** (HIGH) / LOW position

Tank Calibration Package

NEXTGEN

DATE: _____ TANK #: _____

FIELD DATA

1) Total Tank Height: 12.765 m

2) Gauge Height: 46' - 5 15/16" 3) Distance Gauge Point to Shell: 61 in

4) Overflow / Foam line Height: _____

5) Shell Construction:
Butt Welded / Lap Welded Other: _____

6) Number of Vertical Welds Per Course and Tape Rise (if Applicable):
Number: 15 Width: 3/4 Depth: 1mm

7) Tape Number: _____

8) Strapped Circumference: 111.847 m (internal method)

9) Benchmark Description: Benchmark Opposite side of the Hinge

FIELD TABLE

Ring #	Strapped %	Plate Thickness	Ring Height (m)
Bottom		3/4	2.124
1	85%		
2	20%	9/16	2.137
	80%		
3	20%	1/2	2.124
	80%		
4	20%	3/8	2.124
	80%		
5	20%	1/4	2.117
	80%		
6	20%	1/4	2.139
	80%		
7			
8			
9			
10			

365 960

(1)

Tank Calibration Package

NEXTGEN

Date Strapped	Company	Site Location
July 2/2019	CRC	Regina, SK
Nextgen Job #	Tank Number	Personnel
16590	16-10-082	KS, JS

Table increments: Inches ☒ Centimetres ☐

Table volume units: Barrels ☐ Cubic Meters ☒ Litres ☐

TANK DATA

Diameter: 60 ft Height: 42 ft Safe Fill Height: 42 Data to be Inverted?: Yes ☐ No ☒

1) **Product Information**

Product Service to be: Molten Sulphur Product Density: 1.8

Product Level @ Strapping: EMPTY Temperature @ Strapping: ___ Celsius ☑ Fahrenheit ☐

2) **Tank Shell**

Mild Steel ☑ Stainless ☐ Insulated: (YES) / NO

Reference Product Temperature: 15 °C / other _____

3) **Tank Bottom**

Cone up: _____ Cone down: _____ Flat ☐ Physical Survey ☑

4) **Type of Roof**

Cone ☐ Dome ☒ Flat ☐ Internal Floating ☐ External Floating ☐

5) **Under Side of Floating Roof:**

Flat Pan ☐ Round pontoon ☐ Angle pontoon ☐ Square pontoon ☐ Other _____

6) **Weight of Floating Roof:** _____ Kilograms / _____ pounds

7) **Distance Between Floating Roof Pin Settings:** _____

8) **Roof Information**

Height Tank Floor to Bottom of Deck or Pontoon Nearest Shell: _____

Height from Strike Point to Bottom of Floating Roof: _____

Height from deck to Tank Floor at Inner Edge of Pontoon _____

Pontoon Diameter or Height: _____ Pontoon Length: _____

Pontoon Rim Space: _____

9) **Roof Position at Time of Measurements:** HIGH / LOW position

(2)

Tank Calibration Package

NEXTGEN

DATE: July 2/19 TANK #: 82

FIELD DATA

1) Total Tank Height: 12.773 m

2) Gauge Height: 15.360 (m) 3) Distance Gauge Point to Shell: 48

4) Overflow / Foam line Height: ———

5) Shell Construction:

(Butt Welded) Lap Welded Other: ———

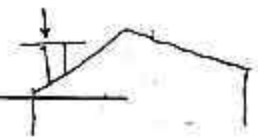
6) Number of Vertical Welds Per Course and Tape Rise (if Applicable):

Number: 9 Width: 1" Depth: 1 mm

7) Tape Number: ———

8) Strapped Circumference: 57.550 m

9) Benchmark Description: Outer side of flange



FIELD TABLE

Ring #	Strapped %	Plate Thickness	Ring Height(m)
Bottom		5/8	2.554
1	79 in		
2	20	1/2	2.559
	80		
3	20	3/8	2.560
	80		
4	20	1/2	2.560
	80		
5	20	1/2	2.544
	80		
6			
7			
8			
9			
10			

Gauge pole was measured from flange, radar to be installed.

(3)

Tank Calibration Package

NEXTGEN

DATE: July 2/19 TANK #: 16-10-082

DEADWOOD

INTERNAL

Quantity	Description	Diameter	Length	Open (O) Close (C)	Height From bottom	Height If not horizontal
1	Pipe (Gauge Pole)	4	TH-12	O	12	TH
1	Pipe	6	16	O	46	—
1	Pipe	4	45	O	35	4 → 2

Tank Calibration Package

NEXTGEN

EXTERNAL

Quantity	Description	Diameter	Length	Height
2	Manway	36	21	18
2	D-Doors 24 x 24	—	13	0
1	Nozzle	10	15	43
1	Nozzle	6	14	46

(#)

Tank Calibration Package

NEXTGEN

DATE July 2/19 TANK # 082

PHYSICAL BOTTOM SURVEY

	SHELL	1	5	10	15	20	30	40	50	60	70	80	90	100	110	120	130	140	CTR.
(X) 1																			
2																			
3																			
4																			
5																			
6																			
7																			
8			SEE INTERNAL																
9																			
10																			
11																			
12			SETTLEMENT																
13																			
14																			
15																			
16			TABLE																
17																			
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19																			
20																			
21																			
22																			
23																			
24																			
25																			
26																			
27																			
28																			

FLOATING ROOF SURVEY

		RIM	5	10	15	20	30	40	50	60	70	80	90	100	110	120	130	140	CTR.
1																			

1) Reading of Floor @ Strike Point: 120 mm (mark with "X" on table)
2) Reading of Roof @ Strike Point: ←
3) Reading of Shell Nearest Strike Point: 98 mm
4) Readings Recorded in: Inches / Feet / (Millimetres)
5) Direction of Stations: Clockwise / (Counter - Clockwise)

Post hydro

Internal Settlement

2 July 2019	ERC	Regina SK
16'590	16 - 16 = 82	ED, DH

Station	Shell	1'	2'	3'	4'	5'	6'	7'	8'	9'	10'	15'	20'	30'	40'	50'	60'	70'	80'	CTR
1	102	107	111	124	124	112	098	088	091	088	099	108	095	124						124
2	098	111	095	096	095	089	092	100	106	114	118	070	087							
3	094	093	097	114	120	118	110	098	092	085	083	100	095							
4	093	096	103	116	121	124	118	108	100	090	085	095	100							
5	084	082	078	087	097	094	108	112	112	121	118	084	087							
6	093	095	098	105	098	093	103	105	109	111	111	085	112							
7	096	102	103	105	111	103	097	090	087	086	084	114	084							
8	099	095	099	116	124	127	126	119	109	097	089	089	107							
9																				
10																				
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22																				
23																				
24																				

Tank Diameter: 60' **Tank Circumference:** _____ **Distance Between Stations:** _____

Tank Calibration Package

NEXTGEN

DATE: July 2/19 TANK #: 082

OPTICAL READINGS

STATIONS	TANK COURSES															
	1		2		3		4		5		6		7		8	
	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%
1		101	111	104	105	109	117	115	112	103						
2		128	121	122	128	134	133	138	134	137						
3		172	180	173	184	184	184	182	182	180						
4		206	208	209	213	205	207	210	210	200						
5		207	213	210	212	219	223	225	225	226						
6		177	176	177	185	194	190	193	177	186						
7		151	156	150	148	144	147	149	145	135						
8		76	83	86	86	86	86	77	74	71						
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20																
21																
22																
23																
24																
25																
26																

1) OVERFLOW HEIGHT: ———

2) FOAMLINE HEIGHT: ———

3) (Internal) / External

4) Direction of Stations: Clockwise / (Counter-Clockwise)

Tank Calibration Package

NEXTGEN

July 31/2019	CRC	Regina, SK
16613 Job#	54-10-112	Personnel

Table increments: Inches ☐ Centimetres ☐

Table volume units: Barrels ☐ Cubic Meters ☐ Litres ☐

TANK DATA

Diameter: 110' Height: 50' Safe Fill Height: 48' Data to be Inverted?: Yes ☐ No ☐

1) Product Information

Product Service to be: Diesel Product Density: 0.8553

Product Level @ Strapping: Empty Temperature @ Strapping: 25 Celsius ☒ Fahrenheit ☐

2) Tank Shell

Mild Steel ☒ Stainless ☐ Insulated: YES / (NO)

Reference Product Temperature: (15 °C) / other _____

3) Tank Bottom

Cone up: _____ Cone down: _____ Flat ☐ Physical Survey ☒

4) Type of Roof

Cone ☒ Dome ☐ Flat ☐ Internal Floating ☐ External Floating ☐

5) Under Side of Floating Roof:

Flat Pan ☐ Round pontoon ☐ Angle pontoon ☐ Square pontoon ☐ Other _____

6) Weight of Floating Roof: _____ Kilograms / _____ pounds

7) Distance Between Floating Roof Pin Settings: _____

8) Roof Information

Height Tank Floor to Bottom of Deck or Pontoon Nearest Shell: _____

Height from Strike Point to Bottom of Floating Roof: _____

Height from deck to Tank Floor at Inner Edge of Pontoon _____

Pontoon Diameter or Height: _____ Pontoon Length: _____

Pontoon Rim Space: _____

9) Roof Position at Time of Measurements: HIGH / LOW position

Tank Calibration Package

NEXTGEN

DATE: 07/31/19 TANK #: 112

DEADWOOD

INTERNAL

Quantity	Description	Diameter	Length	Open (O) Close (C)	Height From bottom	Height If not horizontal
7	Columns	10	TH-1"	O	1"	TH
1	Pipe (Gauge pole)	6	TH-6	O	6	TH
3	Supports (4 3x3x1/4)	—	25	—	0	18
7	Repad (columns) 37x37x1	—	—	—	0	1

Tank Calibration Package

NEXTGEN

EXTERNAL

Quantity	Description	Diameter	Length	Height
1	Manway	36	6	24
1	Manway (Mixer)	24	7	18
2	Nozzle	8	14	20
2	D-Door 24 x 24	—	7	0
1	Manway	24	17	13
1	Nozzle	16	17	9
1	Nozzle	12	12	11

Tank Calibration Package

NEXTGEN

DATE 07/31/19 TANK # 112

PHYSICAL BOTTOM SURVEY

	SHELL	1	5	10	15	20	30	40	50	60	70	80	90	100	110	120	130	140	CTR.
1																			
2																			
3																			
4																			
5																			
6																			
7																			
8																			
9																			
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22																			
23																			
24																			
25																			
26																			
27																			
28																			

SEE INTERNAL SETTLEMENT SURVEY

(X)

FLOATING ROOF SURVEY

		RIM	5	10	15	20	30	40	50	60	70	80	90	100	110	120	130	140	CTR.
1																			

1) Reading of Floor @ Strike Point: 930 (mark with "X" on table)
2) Reading of Roof @ Strike Point: —
3) Reading of Shell Nearest Strike Point: 800
4) Readings Recorded in: Inches / Feet / (Millimetres)
5) Direction of Stations: Clockwise / (Counter - Clockwise)

Corse heights / overflow

Tank Calibration Package

NEXTGEN

DATE: 07/31/19 TANK #: 112

FIELD DATA

1) Total Tank Height: 15.222 m

2) Gauge Height: 16.448 m 3) Distance Gauge Point to Shell: 44"

4) Overflow / (Foam line) Height: 14.806 m

5) Shell Construction:
(Butt Welded) / Lap Welded Other: _____

6) Number of Vertical Welds Per Course and Tape Rise (if Applicable):
Number: 13 Width: 1 in Depth: 1 mm

7) Tape Number: —

8) Strapped Circumference: 105.376 m

9) Benchmark Description: Benchmark on rim.

FIELD TABLE

Ring #	Strapped %	Plate Thickness	Ring Height
Bottom		9/16	2.505
1	80		
2	20	7/16	2.543
	80		
3	20	3/8	2.551
	80		
4	20	5/16	2.511
	80		
5	20	5/16	2.483
	80		
6	20	5/16	2.629
	80		
7			
8			
9			
10			

Tank Calibration Package

NEXTGEN

DATE: 07/31/19 TANK #: 117

OPTICAL READINGS

STATIONS	TANK COURSES															
	1		2		3		4		5		6		7		8	
	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%
1		923	925	918	914	920	925	912	900	893	891	876				
2		261	265	267	265	262	268	279	285	305	317	322				
3		991	995	995	992	991	1002	1020	1022	1032	1037	1036				
4		631	636	636	635	640	651	652	656	656	653	654				
5		831	834	831	826	821	824	837	837	844	845	853				
6		403	406	404	403	414	415	417	422	426	426	421				
7		548	549	546	540	530	530	552	552	539	534	532				
8		263	273	267	267	279	285	287	283	281	282	288				
9		578	582	590	593	600	611	613	618	621	613	604				
10		734	735	743	734	729	723	709	709	705	699	690				
11		812	823	829	830	845	848	837	831	829	830	847				
12		111	112	116	117	124	125	117	114	103	94	93				
13																
14																
15																
16																
17																
18																
19																
20																
21																
22																
23																
24																
25																
26																

1) OVERFLOW HEIGHT: ——

2) FOAMLINE HEIGHT: 14.806 m

3) (Internal) / External

4) Direction of Stations: Clockwise / Counter-Clockwise

Course Heights

0	-0.141	2.505
1	2.364	2.543
2	4.907	2.551
3	7.458	2.511
4	9.969	2.483
5	12.452	2.213
foamline	14.665	2.629
6		

Total Height
15.086
-0.136

15.222 m

Internal Settlement

NEXTGEN

Date: July 30/2019	Company: CRC	Site Location: Regina, SK
Nextgen Job #:	Tank #: TK - 112	Personnel: KS, WG, KC

Station	Shell	1'	2'	3'	4'	5'	6'	7'	8'	9'	10'	15'	20'	30'	40'	50'	60'	70'	80'	CTR
1	782	792	804	816	810	800	798	796	800	802	794	766	790	830	820	872				867
2	764	766	779	790	784	779	794	800	806	802	795	775	776	789	825	868				867
3	748	761	779	800	813	799	795	790	790	781	772	752	749	783	812	863				867
4	750	778	800	805	809	802	792	780	766	760	758	756	748	770	830	856				867
5	762	769	794	800	786	785	777	770	761	760	754	755	766	786	822	854				867
6	779	800	824	842	842	840	830	815	805	809	817	783	772	810	837	857				865
7	788	808	822	840	841	835	830	824	819	813	806	795	795	820	842	865				868
8	792	810	819	829	830	830	835	836	835	836	834	812	807	821	839	870				871
9	790	797	800	819	815	812	811	812	815	815	817	803	813	821	841	867				878
10	802	822	833	843	839	831	831	830	829	827	825	807	793	831	832	870				880
11	800	820	832	842	837	829	817	810	805	802	797	789	792	810	840	880				883
12	799	820	832	845	846	840	830	822	818	806	800	794	806	832	849	892				880
13																				
14																				
15																				
16																				
17																				
18																				
19																				
20																				
21																				
22																				
23																				
24																				

Tank Diameter: _____ **Tank Circumference:** _____ **Distance Between Stations:** _____

17560 57560

Tank Calibration Package

NEXTGEN

Date Surveyed	Company	Site Location
July 24/2019	CRC	Regina, SK
Nextgen Job#	Tank Number	Surveyed
16610	16-10-81	KS, IS, SL, KC, ED, JG

Table increments: Inches ☒ Centimetres ☐

Table volume units: Barrels ☐ Cubic Meters ☒ Litres ☐

TANK DATA

Diameter: 60 ft Height: 42 ft Safe Fill Height: 42 ft Data to be Inverted?: Yes ☐ No ☒

1) Product Information

Product Service to be: Molten Sulphur Product Density: 1.8

Product Level @ Strapping: Empty Temperature @ Strapping: 28 Celsius ☑ Fahrenheit ☐

2) Tank Shell

Mild Steel ☑ Stainless ☐ Insulated: YES / NO

Reference Product Temperature: 15 °C / other _____

3) Tank Bottom

Cone up: _____ Cone down: _____ Flat ☐ Physical Survey ☑

4) Type of Roof

Cone ☐ Dome ☑ Flat ☐ Internal Floating ☐ External Floating ☐

5) Under Side of Floating Roof:

Flat Pan ☐ Round pontoon ☐ Angle pontoon ☐ Square pontoon ☐ Other _____

6) Weight of Floating Roof: _____ Kilograms / _____ pounds

7) Distance Between Floating Roof Pin Settings: _____

8) Roof Information

Height Tank Floor to Bottom of Deck or Pontoon Nearest Shell: _____

Height from Strike Point to Bottom of Floating Roof: _____

Height from deck to Tank Floor at Inner Edge of Pontoon _____

Pontoon Diameter or Height: _____ Pontoon Length: _____

Pontoon Rim Space: _____

9) Roof Position at Time of Measurements: HIGH / LOW position

Tank Calibration Package

NEXTGEN

DATE: 07/24/19 TANK #: 81

FIELD DATA

1) Total Tank Height: 12.832 m

2) Gauge Height: 15.345 3) Distance Gauge Point to Shell: 48

4) Overflow / Foam line Height: ———

5) Shell Construction:
Butt Welded / Lap Welded Other: _____

6) Number of Vertical Welds Per Course and Tape Rise (if Applicable):
Number: 9 Width: 1" Depth: 1mm

7) Tape Number: ———

8) Strapped Circumference: 57560

9) Benchmark Description: Rim of flange inner side, towards center of tank.

FIELD TABLE

Ring #	Strapped %	Plate Thickness	Ring Height (in)
Bottom		5/8	2.569
1	79 in		
2	20	1/2	2.497
	80		
3	20	3/8	2.570
	80		
4	20	1/2	2.578
	80		
5	20	1/2	2.574
	80		
6			
7			
8			
9			
10			

Tank Calibration Package

NEXTGEN

DATE: _____ TANK #: 81

DEADWOOD

INTERNAL

Quantity	Description	Diameter	Length	Open (O) Close (C)	Height From bottom	Height If not horizontal
1	Nozzle (Pipe)	6	15	O	44.5	—
1	Pipe	4	45	O	34	3.75
1	Pipe	4	TH-13	O	13	TH

Tank Calibration Package

NEXTGEN

TK-81

EXTERNAL

Quantity	Description	Diameter	Length	Height
1	Nozzle	10	15 7/4	42 3/4
2	D-Door 24 x 24	24x24	12	0
2	Manway	36	20.5	18
1	Nozzle	6	14	46

Tank Calibration Package

NEXTGEN

DATE: July 24/19 TANK #: B1

OPTICAL READINGS

STATIONS	TANK COURSES															
	1		2		3		4		5		6		7		8	
	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%
1		141	151	154	161	159	166	177	170	172						
2		112	114	116	120	113	113	113	116	118						
3		844	846	847	840	847	850	850	846	854						
4		272	273	274	280	282	282	278	261	270						
5		165	160	147	149	156	161	162	168	174						
6		391	392	390	389	382	382	382	384	388						
7		440	443	436	434	439	449	456	460	463						
8		134	132	136	148	155	159	153	152	158						
9																
10																
11																
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22																
23																
24																
25																
26																

1) OVERFLOW HEIGHT: ———

2) FOAMLINE HEIGHT: ———

3) Internal / External

4) Direction of Stations: Clockwise / Counter-Clockwise

Course Ht
581.459 > 2.569
584.028 > 2.497
586.525 > 2.500
589.129 > 2.578
591.707 > 2.584
594.391
12.832

Internal Settlement

NG GEN

23 July 2019	CRC	Regina SK
16610	TK-16-10-081	SL, ED

(X)

Station	Shell	1'	2'	3'	4'	5'	6'	7'	8'	9'	10'	15'	20'	30'	40'	50'	60'	70'	80'	CTR
1	829	824	820	830	836	836	832	824	818	818	814	808	807							806
2	830	834	835	845	847	842	835	827	820	816	815	812	814							
3	828	829	830	846	848	840	838	829	814	810	810	824	852							
4	830	825	821	829	827	820	821	826	830	827	825	813	808							
5	830	819	812	814	810	811	818	814	810	813	810	811	812							
6	832	831	826	830	822	814	809	804	802	800	802	822	814							
7	830	831	830	839	841	840	840	834	826	820	814	800	805							
8	830	834	835	840	832	820	819	814	810	807	806	814	810							
9																				
10																				
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18																				
19																				
20																				
21																				
22																				
23																				
24																				

Tank Diameter: 60 Ø **Tank Circumference:** _____ **Distance Between Stations:** _____

Tank Calibration Package

NEXTGEN

DATE..... TANK #.....31.....

PHYSICAL BOTTOM SURVEY

	SHELL	1	5	10	15	20	30	40	50	60	70	80	90	100	110	120	130	140	CTR.
(X) 1																			
2																			
3																			
4																			
5																			
6					SEE INTERNAL														
7																			
8																			
9						SETTLEMENT													
10																			
11																			
12										TABLE									
13																			
14																			
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16																			
17																			
18																			
19																			
20																			
21																			
22																			
23																			
24																			
25																			
26																			
27																			
28																			

FLOATING ROOF SURVEY

		RIM	5	10	15	20	30	40	50	60	70	80	90	100	110	120	130	140	CTR.
1																			

1) Reading of Floor @ Strike Point: 835 (mark with "X" on table)
2) Reading of Roof @ Strike Point: ____
3) Reading of Shell Nearest Strike Point: 829
4) Readings Recorded In: Inches / Feet / (Millimetres)
5) Direction of Stations: Clockwise / (Counter - Clockwise)

Tank Calibration Package

NEXTGEN

October 25/19	CRC	Regina, SK
16673	54-10-905	KS, IS, ED,

Table increments: Inches ☒ Centimetres ☐

Table volume units: Barrels ☐ Cubic Meters ☒ Litres ☐

TANK DATA

Diameter: 136' Height: 48' Safe Fill Height: 44' Data to be Inverted?: Yes ☐ No ☒

1) **Product Information**

Product Service to be: DH4 Diesel Product Density: 30 API Gravity

Product Level @ Strapping: Empty Temperature @ Strapping: 10 Celsius ☒ Fahrenheit ☐

2) **Tank Shell**

Mild Steel ☒ Stainless ☐ Insulated: YES / (NO)

Reference Product Temperature: (15 °C) / other _____

3) **Tank Bottom**

Cone up: _____ Cone down: _____ Flat ☐ Physical Survey ☒

4) **Type of Roof**

Cone ☒ Dome ☐ Flat ☐ Internal Floating ☐ External Floating ☐

5) **Under Side of Floating Roof:**

Flat Pan ☐ Round pontoon ☐ Angle pontoon ☐ Square pontoon ☐ Other _____

6) **Weight of Floating Roof:** _____ Kilograms / _____ pounds

7) **Distance Between Floating Roof Pin Settings:** _____

8) **Roof Information**

Height Tank Floor to Bottom of Deck or Pontoon Nearest Shell: _____

Height from Strike Point to Bottom of Floating Roof: _____

Height from deck to Tank Floor at Inner Edge of Pontoon _____

Pontoon Diameter or Height: _____ Pontoon Length: _____

Pontoon Rim Space: _____

9) **Roof Position at Time of Measurements:** HIGH / LOW position

Tank Calibration Package

EXTERNAL

Quantity	Description	Diameter	Length	Height
3	Manway	24	11.5	17
1	Nozzle	2	13	35
1	Nozzle	2	12.75	5.5
1	Nozzle	2	17	9.5
1	Nozzle	12	19	10
1	Nozzle	1	12	23
1	Nozzle	6	17.5	11
1	Nozzle	2	18	9.5
1	Nozzle	2	14.5	5.5
1	Nozzle	2	16.5	34
1	Nozzle	2	16	34
1	Nozzle	2	12	35
1	Nozzle	4	17	7
3	Nozzle	2	12	34.5
1	Nozzle	10	18	30
1	Nozzle	4	16	6.5
1	Nozzle	10	18	30
1	Nozzle	4	16	7
2	Manway	30	6	20.5

Tank Calibration Package

NEXTGEN

DATE: _____ TANK #: 905

DEADWOOD

INTERNAL

Quantity	Description	Diameter	Length	Open (O) Close (C)	Height From bottom	Height If not horizontal
2	Steam coil	2	417-2"	C	5	12
2	Nozzle	10	5	O	30	—
3	Water draw	4	20	O	6	1
1	Gauge Pole	8	TH-8	O	8	TH
3	Supports (6.3 x 3 x 1/4)	—	15	—	0	13
1	Nozzle	12	11	O	9	—
2	Probes	1	34	C	35	—
76	Supports (4 3 x 3 x 1/4")	—	11	—	0	11
16	Supports (4 3 x 3 x 1/4")	—	6	—	2	5
8	Column	10	TH-1.5	C	1.5	TH
1	Column	14	TH-1.5	C	1.5	TH
1	Repad (Column)	56	—	—	0	1.5
8	Repad (Column)	40	—	—	0	1.5

Internal Settlement

NEXTGEN

Date	Company	Site Location
October 16/2019	CRC	Regina, SK
Nextgen Job #	Tank	Personnel
16673	TK-905	SL, IJ, ED

Station	Shell	1'	2'	3'	4'	5'	6'	7'	8'	9'	10'	15'	20'	30'	40'	50'	60'	70'	80'	CTR
1	217	232	243	261	263	264	261	257	253	244	242	243	248	270	298	320	322			321
2	214	239	253	279	282	283	282	277	271	263	257	283	256	285	321	332	349			327
3	220	237	252	276	282	281	279	280	278	274	268	290	271	308	313	358	343			332
4	228	237	248	268	279	283	288	285	283	278	274	266	272	291	343	352	340			327
5	227	259	273	298	307	303	300	296	291	287	282	265	271	297	316	349	358			332
6	226	248	262	293	300	305	307	307	300	292	284	283	273	284	312	332	348			330
7	227	243	248	269	272	270	268	268	267	267	263	273	285	306	321	333	326			327
8	217	241	256	280	286	287	287	285	282	275	267	254	253	265	317	317	338			323
9	220	230	244	264	265	267	264	263	257	254	250	245	238	260	303	320	345			321
10	222	227	229	205	263	268	246	243	241	239	240	252	245	262	278	317	332			319
11	225	226	240	258	260	259	257	250	246	241	237	241	235	249	293	312	332			317
12	226	252	253	268	270	269	264	255	248	243	237	237	252	269	277	294	327			318
13	227	234	240	260	263	264	261	259	254	246	243	247	245	262	302	337	337			322
14	223	239	248	273	280	284	282	277	272	263	255	262	256	280	300	307	318			321
15																				
16																				
17																				
18																				
19																				
20																				
21																				
22																				
23																				
24																				

Tank Diameter: _____ **Tank Circumference:** _____ **Distance Between Stations:** _____

Tank Calibration Package

NEXTGEN INDUSTRIAL SERVICES

DATE..... TANK #.....

PHYSICAL BOTTOM SURVEY

	SHELL	1	5	10	15	20	30	40	50	60	70	80	90	100	110	120	130	140	CTR.
1																			
2																			
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			
11																			
12																			
13																			
14																			
15																			
16																			
17																			
18																			
19																			
20																			
21																			
22																			
23																			
24																			
25																			
26																			
27																			
28																			

SET INTERNAL SETTLEMENT TABLE

FLOATING ROOF SURVEY

		RIM	5	10	15	20	30	40	50	60	70	80	90	100	110	120	130	140	CTR.
1																			

1) Reading of Floor @ Strike Point: 614 (mark with "X" on table)
2) Reading of Roof @ Strike Point: _____
3) Reading of Shell Nearest Strike Point: 560
4) Readings Recorded in: Inches / Feet / (Millimetres)
5) Direction of Stations: Clockwise / (Counter - Clockwise)

Tank Calibration Package

NEXTGEN

DATE: 24 oct/19 TANK #: 905

OPTICAL READINGS

STATIONS	STRAP. HT	TANK COURSES															
		1		2		3		4		5		6		7		8	
	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%
1		482	477	475	473	465	458	459	460	457						
2		712	724	730	730	723	727	735	726	719						
3		889	899	891	890	884	883	879	875	871						
4		676	684	669	667	667	674	669	669	667						
5		974	993	996	004	016	029	035	035	024						
6		171	176	172	193	163	167	174	179	177						
7		730	788	753	736	725	730	716	715	702						
8		594	589	573	566	577	572	565	568	571						
9		069	066	058	059	061	070	072	071	073						
10		518	522	518	526	535	527	508	502	501						
11		106	116	124	133	122	120	124	131	130						
12		682	688	691	689	690	696	691	695	693						
13		523	532	536	551	551	556	559	557	543						
14		547	565	565	573	569	567	561	563	561						
15																
16																
17																
18																
19																
20																
21																
22																
23																
24																
25																
26																

1) OVERFLOW HEIGHT: N/A

2) FOAMLINE HEIGHT: 14.212 m

3) Internal / (External)

4) Direction of Stations: Clockwise / (Counter-Clockwise)

STRAP HT 67"

Tank Calibration Package

DATE: 10/25/19 TANK #: 54-10-905

FIELD DATA

1) Total Tank Height: 14.628 m

2) Gauge Height: 52'-6" 3) Distance Gauge Point to Shell: 30"

4) Overflow / Foam line Height: 14.212 m

5) Shell Construction:
(Butt Welded) / Lap Welded Other: _____

6) Number of Vertical Welds Per Course and Tape Rise (if Applicable):
Number: 15 Width: 3/4 Depth: 1mm

7) Tape Number: —

8) Strapped Circumference: 130.370 m

9) Benchmark Description: Benchmark on rim hatch

FIELD TABLE

Ring #	Strapped %	Plate Thickness	Ring Height
Bottom			
1	80%	11/16	2.869
2	20 80	9/16	2.872
3	20 80	7/16	2.872
4	20 80	7/16	2.967
5	20 80	7/16	2.971
6			
7			
8			
9			
10			

Tank Calibration Package

Date	Company	Site Location
Nov 27/19	IOL	Stratcona
16675	Tank # 339	TH, IS

Table increments: Inches ☐ Centimetres ☐

Table volume units: Barrels ☐ Cubic Meters ☐ Litres ☐

TANK DATA

Diameter: 120' Height: 48' Safe Fill Height: 40'-11" Data to be Inverted?: Yes ☐ No ☒

1) **Product Information**

Product Service to be: Gasoline Product Density: 0.75

Product Level @ Strapping: Empty Temperature @ Strapping: -12 Celsius ☒ Fahrenheit ☐

2) **Tank Shell**

Mild Steel ☒ Stainless ☐ Insulated: YES / (NO)

Reference Product Temperature: (15 °C) / other _____

3) **Tank Bottom**

Cone up: _____ Cone down: _____ Flat ☐ Physical Survey ☒

4) **Type of Roof**

Cone ☐ Dome ☒ Flat ☐ Internal Floating ☒ External Floating ☐

5) **Under Side of Floating Roof:**

Flat Pan ☐ Round pontoon ☐ Angle pontoon ☒ Square pontoon ☐ Other _____

6) **Weight of Floating Roof:** _____ Kilograms / 165.600 (pounds)

7) **Distance Between Floating Roof Pin Settings:** 2.5'

8) **Roof Information**

Height Tank Floor to Bottom of Deck or Pontoon Nearest Shell: 37 1/2"

Height from Strike Point to Bottom of Floating Roof: 43"

Height from deck to Tank Floor at Inner Edge of Pontoon 55 3/4"

Pontoon Diameter or Height: 34 1/2" Pontoon Length: 78 1/2"

Pontoon Rim Space: 8

9) **Roof Position at Time of Measurements:** HIGH / (LOW) extng position

Tank Calibration Package

DATE: Nov 27/19 TANK #: 339

FIELD DATA

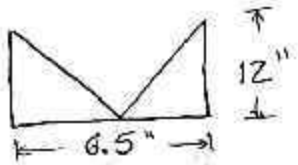
1) Total Tank Height: 14.6 m
2) Gauge Height: 17.365 m 3) Distance Gauge Point to Shell: 35''
4) Overflow / (Foam line) Height: 14.183 m
5) Shell Construction: (Butt Welded) / Lap Welded Other: _____
6) Number of Vertical Welds Per Course and Tape Rise (if Applicable):
Number: 12 Width: 3/4 Depth: 1 mm
7) Tape Number: —
8) Strapped Circumference: 115.33
9) Benchmark Description: Benchmark opposite side of Hinge

FIELD TABLE

65'' up

Ring #	Strapped %	Plate Thickness	Ring Height
Bottom		3/4	8'
1	67%		
2	20%	1/2	8'
	80%		
3	20%	7/16	8'
	80%		
4	20%	5/16	8'
	80%		
5	20%	5/16	8'
	80%		
6	20%	5/16	8'
	80%		
7			
8			
9			
10			

Tank Calibration Package



DATE: Nov 27/19 TANK #: 339

DEADWOOD

INTERNAL

Quantity	Description	Diameter	Length	Open (O) Close (C)	Height From bottom	Height If not horizontal
1	Gauge pole	8	TH-8	O	8	TH
1	Pipe ladder	2.5	TH-14.5	O	14.5	TH
2	Support 3 x 3 x 1/4	—	52		12	—
1	Pipe (d. Hover)	14	24'-5"	O	24	9
4	Support (plate 1/4)	—		—	0	12
50	Leg repads	18	—	—	0	1/4
1	Pipe	20	47	O	11	—
1	Pipe	20	55	O	30	10
1	Water drain	6	62'	O	17.5	O
6	Supports (8 1/4 x 2 1/4 x 2 1/4)	—	20	—	20	O
6	Supports (8 1/4 x 2 1/4 x 2 1/4)	—	11	—	18	—
3	Repad 25 x 12 x 1/4	—	25x12	—	0	1/4

Tank Calibration Package

NEXTGEN

EXTERNAL

Quantity	Description	Diameter	Length	Height
1	Sump	40	—	12
3	Manway	24	8	18
1	Nozzle	12	16	12
1	Nozzle	20	18	11
1	Nozzle	26	22	11

Tank Calibration Package

NEXTGEN

DATE Nov 07/19 TANK # 339

PHYSICAL BOTTOM SURVEY

	SHELL	1	5	10	15	20	30	40	50	60	70	80	90	100	110	120	130	140	CTR.
1																			
2																			
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			
11																			
12																			
13																			
14																			
15																			
16																			
17																			
18																			
19																			
20																			
21																			
22																			
23																			
24																			
25																			
26																			
27																			
28																			

SEE INTERNAL SETTLEMENT ATTACHED

FLOATING ROOF SURVEY

		RIM	5	10	15	20	30	40	50	60	70	80	90	100	110	120	130	140	CTR.
1	—	1415	673	741	691	661	648	655	660										658

1) Reading of Floor @ Strike Point: 385 (mark with "X" on table)
2) Reading of Roof @ Strike Point: 390
3) Reading of Shell Nearest Strike Point: 408
4) Readings Recorded in: Inches / Feet / (Millimetres)
5) Direction of Stations: Clockwise / (Counter - Clockwise)

Tank Calibration Package

NEXTGEN

DATE: Nov 27/19 TANK #: 339

OPTICAL READINGS

IOL

STATIONS	TANK COURSES															
	65" 1		2		3		4		5		6		7		8	
	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%
1		425	419	410	411	405	406	404	403	403	401	400				
2		780	740	726	729	735	744	748	752	759	764	771				
3		541	545	543	550	544	539	534	532	523	526	526				
4		563	568	570	573	568	566	558	560	568	575	582				
5		954	961	956	954	963	965	964	960	961	964	965				
6		508	513	510	519	518	523	538	541	524	519	516				
7		136	127	118	117	113	116	124	125	130	128	126				
8		210	216	212	212	204	226	203	198	198	195	191				
9		105	108	106	112	108	111	118	117	116	115	114				
10		661	665	666	667	662	662	673	683	689	690	691				
11		143	156	155	155	154	155	155	154	150	156	152				
12		941	946	938	941	944	950	956	958	955	951	950				
13		749	754	756	764	757	761	766	768	763	762	759				
14		424	429	425	423	420	421	422	420	417	416	417				
15		195	201	199	203	206	208	205	199	202	207	214				
16		763	773	770	775	780	774	773	774	767	762	766				
17																
18																
19																
20																
21																
22																
23																
24																
25																
26																

1) OVERFLOW HEIGHT: ———

2) FOAMLINE HEIGHT: 14.183 m

3) Internal / (External)

4) Direction of Stations: Clockwise / (Counter-Clockwise)

Bottom
566.676

Foam line
580.859

Internal Settlement

(mm)

Nov 27/2019 Date	IOL Company	Site Location
16675 Job #	339 Tank #	TH, IS Personnel

Station	Shell	1'	2'	3'	4'	5'	6'	7'	8'	9'	10'	15'	20'	30'	40'	50'	60'	70'	80'	CTR
1	408	405	413	405	343	365	350	334	332	350	328	300	242	185	120	60				0
2	410	406	400	402	392	385	374	358	352	345	337	318	295	218	138	40				4
3	402	400	342	390	365	348	335	330	320	310	300	274	222	175	152	41				2
4	405	405	398	394	380	368	358	346	340	330	321	270	251	180	160	63				3
5	408	400	406	395	330	355	334	328	319	316	308	260	270	216	122	90				6
6	409	400	400	395	390	370	368	370	365	370	365	340	284	195	142	67				22
7	405	403	403	405	397	390	376	364	345	334	320	308	240	193	110	75				28
8	404	403	405	400	391	382	363	351	336	334	330	284	272	195	95	73				27
9	408	408	410	385	368	356	340	325	319	315	308	270	262	190	88	64				27
10	408	405	400	395	374	355	343	338	330	315	318	314	248	215	143	78				27
11	408	409	409	404	386	365	365	365	377	370	356	301	270	178	112	90				25
12	408	410	405	397	373	365	355	350	346	348	360	315	263	178	113	80				20
13	408	411	413	413	400	382	360	344	333	335	335	310	252	155	115	44				18
14	405	403	398	398	365	342	328	327	330	332	337	285	274	205	128	70				17
15	408	410	411	424	405	387	366	360	358	360	354	300	278	153	150	45				16
16	405	405	407	406	395	380	365	350	342	328	316	265	240	286	140	58				16
17																				
18																				
19																				
20																				
21																				
22							POST			HYDRO										
23																				
24																				

Tank Diameter: _____ **Tank Circumference:** _____ **Distance Between Stations:** _____

Tank Calibration Package

NEXTGEN

Date	Company	Site Location
Oct 19th/2019	CRC	Regina, SK
Work Order	Tank Number	Personnel
16668	88-10-704	SL, EJ, IS

Table increments: Inches ☑ Centimetres ☐

Table volume units: Barrels ☐ Cubic Meters ☑ Litres ☐

TANK DATA

Diameter: 150'Ø Height: 49'6" Safe Fill Height: 46'-0" Data to be Inverted?: Yes ☐ No ☒

1) Product Information

Product Service to be: Gasoline Product Density: 0.7348 ~~As per temperature~~

Product Level @ Strapping: Empty Temperature @ Strapping: 15 Celsius ☑ Fahrenheit ☐

2) Tank Shell

Mild Steel ☑ Stainless ☐ Insulated: YES / (NO)

Reference Product Temperature: (15°C) / other _____

3) Tank Bottom

Cone up: ✓ Cone down: _____ Flat ☐ Physical Survey ☑

4) Type of Roof

Cone ☐ Dome ☐ Flat ☐ Internal Floating ☑ External Floating ☐

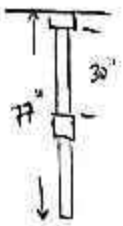
5) Under Side of Floating Roof:

Flat Pan ☑ Round pontoon ☐ Angle pontoon ☐ Square pontoon ☐ Other _____

6) Weight of Floating Roof: _____ Kilograms / 161,000 pounds

7) Distance Between Floating Roof Pin Settings: 30"

Roof Leg Detail



8) Roof Information

Height Tank Floor to Bottom of Deck or Pontoon Nearest Shell: 78½"

Height from Strike Point to Bottom of Floating Roof: 76"

Height from deck to Tank Floor at Inner Edge of Pontoon 74" ≈ 15' from shell (Flat Pan)

Pontoon Diameter or Height: _____ Pontoon Length: _____ (IFR Baffles on Roof)

Pontoon Rim Space: 4½ - 6½

9) Roof Position at Time of Measurements: (HIGH) / LOW position

Tank Calibration Package

DATE: 0.t 19/19 TANK #: 88-10-704

FIELD DATA

1) Total Tank Height: 49'6"

2) Gauge Height: 16 428 3) Distance Gauge Point to Shell: 46"

4) Overflow / Foam line Height: 48'

5) Shell Construction:
Butt Welded / Lap Welded Other: _____

6) Number of Vertical Welds Per Course and Tape Rise (if Applicable):
Number: 14 Width: 5/8 Depth: 0.080"

#	Doubler Sheet Width	Depth
x2	1"	0.080"

7) Tape Number: _____

8) Strapped Circumference: 143.916 m 0.t 21/19 IS

9) Benchmark Description: tab in hatch

FIELD TABLE

Ring #	Strapped %	Plate Thickness	Ring Height
Bottom	50%	0.875	93.15
1			
2	20 / 80	0.750	95.94
3	20 / 80	0.625	96.14
4	20 / 80	0.500	95.87
5	20 / 80	0.375	104.84
6	20 / 80	0.375	105.12
7			
8			
9			
10			

Btm	0.487	
1	2.853	
2	5.290	
3	7.732	
4	10.167	
5	12.830	
6	15.500	
Overflow	15.118	48'
Top ∠	15.575	3"

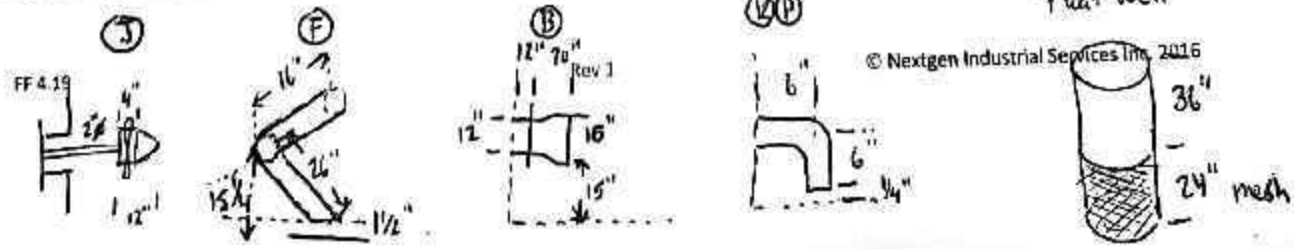
NEXTGEN

DATE: Oct 20/19 TANK #: 88-10-704

DEADWOOD

INTERNAL

Quantity	Description	Diameter	Length	Open (O) Close (C)	Height From bottom	Height if not horizontal
1	Center Column (0.250" thk)	12"	Roof	O	1 1/4"	
1	Bearing Plate (center column) 38" x 38" x 1 1/4"	–	–	C	0"	
38	Restraint Clips 3" x 3" . 5/16 ∠	–	3	C	0"	
18	Roof Columns (0.250" thk)	10"	Roof	O	1"	
18	Bearing Plate (Roof columns) 30" x 30" x 1"	–	–	C	0"	
74	Roof Legs (0.188" thk)	2"	77"	O	0"	
74	Stiffener Plates 18" x 18" x 1/4"	–	–	C	0"	
18	Repads under Bearing Plates (0.312" thk) 38" x 38"	–	–	C	0"	
1	" " Center Column (0.312" thk) 47" x 47"	–	–	C	0"	
1	Mixer 16" Ø x 12" cone length (J)	–	–	C	20"	
1	Nozzle (I)	6"	12 1/2	O	38 1/4"	
1	Nozzle (H)	6	19 1/2	O	23 1/2	
1	Nozzle (F)	4	42	O	15 1/4"	1 1/2"
1	Nozzle (D)	16"	47"	O	20 1/2	10"
1	Wear Plate (D)	32"	–	C	4"	
1	Nozzle Diffuser (B)	16"	220"	O	15"	18"
2	Nozzle WDO (K)(P)	2"	12"	O	4 1/2"	1/4"
1	Gauge Pole	8"	Roof	O	9"	
1	Gauge Radar	8"	Roof	O	12"	
3	Gauge Pole Supports 3" x 3" x 1/4" ∠	–	16	C	0"	9"
3	Radar Supports 1" x 1" ■ solid stock	–	18	C	0"	
1	Float Well	22"	60"	O	15"	



Tank Calibration Package

NEXTGEN

EXTERNAL

Quantity	Description	Diameter	Length	Height
1	Nozzle (G)	8"	14"	23"
1	Nozzle (New) (Q)	2"	10 3/4"	3½"
2	Manway (A)(L)	24"	8"	27"
1	Nozzle (B)	12"	9 1/2"	20¼"
1	Nozzle (D)	16"	9 1/2"	21 1/2"
1	Nozzle (F)	4	6 1/2"	15 3/4"
1	Nozzle (H)	6"	7 5/8"	24"
1	Nozzle (I)	6"	7 3/4"	39"
1	Mixer (J)	8"	8"	17 1/2"
2	Nozzle WBO (K)(P)	2"	7"	5"
1	Nozzle (M)	6"	8"	17"
2	Nozzle (New) (N)(O) Temp probes	2"	5 3/4"	41 1/4"

Tank Calibration Package

NEXTGEN

DATE: Oct 21/19 TANK #: 86-10-704

OPTICAL READINGS

STATIONS	TANK COURSES															
	1 50%		2		3		4		5		6		7		8	
	20%	~~80%~~	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%
1		809	795	782	797	800	802	788	786	796	800	819				
2		788	785	785	794	788	787	779	791	791	794	793				
3		876	886	889	901	905	899	881	876	864	863	868				
4		720	732	731	729	745	752	759	765	756	755	734				
5		456	463	467	480	486	495	493	491	489	487	469				
6		562	567	570	570	568	569	564	581	589	591	580				
7		660	661	653	651	650	645	643	650	653	666	675				
8		707	709	703	705	692	687	678	676	672	678	682				
9		265	260	257	265	265	262	248	757	760	259	260				
10		785	785	779	788	792	793	792	792	784	779	800				
11		268	269	253	262	255	255	243	744	744	243	261				
12		459	479	456	463	467	470	467	481	483	478	477				
13		414	414	407	408	407	400	388	394	403	399	383				
14		386	388	379	373	366	359	357	365	361	367	388				
15		700	705	707	711	711	713	723	752	765	750	742				
16		454	457	462	472	468	464	461	462	453	455	487				
17																
18																
19																
20																
21																
22																
23																
24																
25																
26																

1) OVERFLOW HEIGHT: 48'

2) FOAMLINE HEIGHT: Blind

3) Internal / (External)

4) Direction of Stations: Clockwise / (Counter-Clockwise)

Tank Calibration Package

NEXTGEN

DATE Oct 21/19 TANK # 88-10-704

PHYSICAL BOTTOM SURVEY

	SHELL	1	2	3	4	5	6	7	8	9	10	15	20	30	40	50	60	70	CTR
1	526	565	600	633	648	650	650	645	640	635	630	648	650	640	708	697	730	740	710
2	521	540	595	578	590	592	592	595	598	605	616	690	670	695	690	686	730	725	711
3	525	572	595	642	655	660	665	665	665	665	665	668	665	675	698	725	740	705	712
4	522	556	588	630	656	675	682	685	685	684	675	695	688	718	702	700	715	704	715
5	530	572	623	665	690	705	710	708	705	700	690	700	672	690	675	715	753	745	718
6	520	555	588	623	655	670	675	674	670	665	660	660	682	710	710	705	735	750	722
7	512	542	570	608	628	641	644	655	658	660	660	662	665	708	710	723	760	735	720
8	513	542	571	607	622	650	634	634	633	634	637	660	668	670	686	704	750	756	722
9	518	544	570	605	620	630	633	631	627	620	612	629	625	649	685	700	713	743	720
10	512	544	569	604	620	633	638	636	633	634	638	634	659	685	675	720	760	740	721
11	520	562	596	635	653	660	662	660	655	652	650	662	700	689	718	720	730	750	723
12	525	558	584	616	630	637	640	640	640	640	640	660	660	682	712	696	745	760	720
13	525	558	582	615	625	640	640	640	638	630	625	650	645	675	688	715	768	750	718
14	530	562	595	630	650	655	658	653	648	640	632	653	653	678	680	712	750	745	716
15	532	566	595	630	645	652	652	650	645	640	648	645	645	645	680	720	715	730	716
16	532	576	610	646	652	650	648	642	642	640	638	656	668	658	670	708	745	735	715
-																			
-																			
3																			

FLOATING ROOF SURVEY

		RIM	1	2	3	4	5	6	7	8	9	10	15	20	30	40	50	60	70	CTR
1		1285	1280	1278	1290	1285	1285	1285	1288	1305	1315	1320	1300	1325	1275	1340	1230	1278	1190	1168

1) Reading of Floor @ Strike Point: 645 (mark with "X" on table)
2) Reading of Roof @ Strike Point: 1285
3) Reading of Shell Nearest Strike Point: 532
4) Readings Recorded in: Inches / Feet / Millimetres
5) Direction of Stations: Clockwise / Counter - Clockwise

June 2, 2019	Shell Canada	Sherwood Park Terminal
Nextgen Job#16525	9202	Ivan Sanchez

Table increments: Inches ☐ Centimetres ☑
Table volume units: Barrels ☐ Cubic Meters ☑ Litres ☐

TANK DATA

Diameter: 40.2m Height: 14.63m Safe Fill Height: _____
Year Built: 1982 Data to be Inverted?: Yes ☐ No ☑

1) Product Information

Product Service to be: CBOB (Gasoline) Product Density: 0.715 (kg/l)
Product Level @ Strapping: EMPTY Temperature @ Strapping: 24.0 Celsius ☑ Fahrenheit☐

2) Tank Shell

Mild Steel ☑ Stainless ☐ Insulated: YES / NO☑
Reference Product Temperature: 15 °C ☑ / other _____

3) Tank Bottom

Cone up: ☑ Cone down: _____ Flat ☐ Physical Survey ☑ LASER SCANNED

Type of Roof

Cone ☐ Dome ☐ Flat ☐ Internal Floating ☑ External Floating ☐

4) Under Side of Floating Roof:

Flat Pan ☐ Round pontoon ☐ Angle pontoon ☐ Square pontoon ☐ Other: SandBorn☑

5) Weight of Floating Roof: 13,635 Kilograms / 30,060 pounds

6) Distance Between Floating Roof Pin Settings: 36 inches (0.914m)

7) Roof Information Height Tank Floor to Bottom of Deck or Pontoon Nearest Shell: _____
Height from Strike Point to Bottom of Floating Roof: 2.018 m (underside of floating roof ranges 1.98 m to 2.20 m above strike, immersion listed as 0.625 inch above; immersion height would be 2.20 m + 0.016 m = 2.22 m)
Height from deck to Tank Floor at Inner Edge of Pontoon_____ Pontoon Length: N/A
Pontoon Diameter or Height: N/A Pontoon Rim Space: 0.161 m near strike, 6" on spec. = 0.152 m

8) Roof Position at Time of Measurements: HIGH ☑ / LOW position

DATE: June 2, 2019 TANK #: 9202

FIELD DATA

1) Total Tank Height: 14.630 m

2) Gauge Height: TO BE REGAGED 3) Distance Gauge Point to Shell: 1.34 m

4) Overflow / Foam line Height: 13.510 m above strike point (minimum)

5) Shell Construction:
Butt Welded ☑ / Lap Welded Other: _____

6) Number of Vertical Welds Per Course and Tape Rise (if Applicable):
Number: 8 Width: _____ Depth: _____

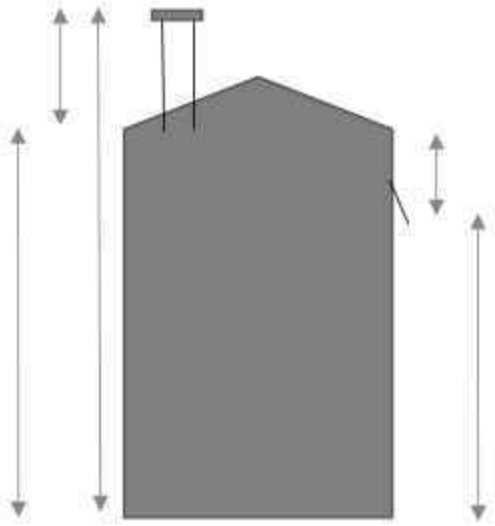
7) Tape Number: LASER SCANNED (No Tape Correction) Faro S Scanner

8) Strapped Circumference: See Below (Internal Laser Scan S)

9) Benchmark Description: At Marks Inside of Radar Gauge Extension

FIELD TABLE

Ring #	Internal Strapped Circumference	TCF (Shell Int.) (75.2F to 60F) 0.99990196	Strapped %	Plate Thickness	Ring Height
Bottom				0.652 in 16.56 mm	2.242 m
1	126.335894 m	126.323508 m	50%		
2	126.364778 m	126.352389 m	50%	0.534 in 13.56 mm	2.242 m
3	126.378654 m	126.366264 m	50%	0.415 in 10.54 mm	2.242 m
4	126.379216 m	126.366826 m	50%	0.353 in 8.97 mm	2.242 m
5	126.388484 m	126.376093 m	50%	0.353 in 8.97 mm	2.242 m
6	126.396608 m	126.384216 m	50%	0.353 in 8.97 mm	2.242 m



DATE: June 2, 2019 TANK #:

9202

DEADWOOD

INTERNAL

Quantity	Description	Diameter	Length	Open (O) Close (C)	Height From bottom	Height If not horizontal
1	Water Draw	2"	85"	O	14"	0"
2	Support < 2" x 2" x 1/4"	-	10"	-	0	14"
6	Support < 2" x 2" x 1/4"	-	32"	-	0	32"
7	Column O	10"	576"	O	1"	576"/TH
1	Column O	14"	576"	O	1"	576"/TH
7	Repad O	40"	-	-	0	1"
1	Repad O	50"	-	-	0	1"
1	Pipe	10"	804"	O	24"	12"
4	Pipe	6"	564"	O	6"	-
1	Pipe (Gauge Pole)	8"	567"	O	9"	576"/TH
3	Support < 3" x 3" x 1/4"	-	10"	-	0	10"
1	Pipe	2"	576"	C	0.5"	576"/TH
1	Repad (Square 53" x 43" x 1/2")	-	-	-	0	12"
1	Pipe	3"	516"	O	6"	-

EXTERNAL

Quantity	Description	Diameter	Length	Height
3	Sump (Cylinder) 24" x 12"	24"	-	(-)12"
4	Manway	24"	7"	18"
1	Manway	30"	30"	16"
2	Manway	20"	12"	16"

June 2, 2019 TANK #: 9202

PHYSICAL BOTTOM SURVEY (See Appended Page for Bottom Plate Deduction Increments)

	SHELL	1	5	10	15	20	30	40	50	60	70	80	90	100			110	120	130	140	CTR.
1	-25	-25	25	38	51	72	90	115	168	137											164
2	-26	-26	14	35	35	84	85	114	178	153											165
3	-21	-21	1	33	40	68	102	112	149	159											161
4	-18	-18	45	23	40	37	74	116	151	161											165
5	-20	-20	28	43	30	42	71	130	157	153											167
6	-25	-25	28	25	32	67	71	103	123	136											167
7	-27	-27	18	42	32	73	64	103	121	154											165
8	-31	-31	21	18	31	76	75	100	114	142											166
9	-34	-34	-3	4	24	36	66	86	99	127											172
10	-34	-34	5	-8	24	11	21	71	125	145											165
11	-37	-37	-12	-16	-8	7	25	69	97	144											162
12	-34	-34	15	-6	5	51	52	52	108	127											162
13	-36	-36	6	13	32	30	47	90	114	152											163
14	-25	-25	11	39	28	40	57	68	115	137											162
15	-29	-29	13	21	42	62	57	86	127	139											162
16	-26	-26	9	14	32	53	77	133	166	140											163
17																					
18																					
19																					
20																					
21																					
22																					
23																					
24																					
25																					
26																					
27																					
28																					
		FLOATING ROOF SURVEY																			
		RIM	5	10	15	20	30	40	50	60	70	80	90	100			110	120	130	140	CTR.
1																					

1) Reading of Floor @ Strike Point: 0 m (mark with "X" on table)
2) Reading of Roof @ Strike Point: 2.18 m (Floating Roof 1.98 m to 2.20 m Above Strike Point)
3) Reading of Shell Nearest Strike Point: _____
4) Readings Recorded in: **Inches / Feet / Millimetres ☑ (Positive Values = Positive Elevations)**
5) Direction of Stations: **Clockwise ☑ / Counter - Clockwise**

DATE: _____ TANK #:

OPTICAL READINGS

STATIO	TANK COURSES

NS	1		2		3		4		5		6		7		8	
	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%	20%	80%
1																
2																
3																
4																
5																
6																
7																
8																
9																
10																
11																
12																
13																
14																
15																
16																
17																
18																
19																
20																
21																
22																
23																
24																
25																
26																

1) OVERFLOW HEIGHT: 13.533 m (+/- 0.020 m tie-in error est.) at low point
13.510 m (Overflow height w/ Safety Factor)

2) FOAMLINE HEIGHT: N/A

3) Internal ☑ / External

4) Direction of Stations: Clockwise / Counter-Clockwise

Internal Circumference Circle Fit from Point Cloud

	INTERNAL Radius (m)	INTERNAL Circ. (m)	CF	INTERNAL Circ. Temp. Corrrected
C1	20.106982	126.335894	0.99990196	126.323508
C2	20.111579	126.364778	0.99990196	126.352389
C3	20.1137875	126.378654	0.99990196	126.366264
C4	20.113877	126.379216	0.99990196	126.366826
C5	20.115352	126.388484	0.99990196	126.376093
C6	20.116645	126.396608	0.99990196	126.384216

OPTICAL SHELL CORRECTION

S Temp.	75.2 F	
S Exp F	0.00000645	ft/ft/deg F
CTF	1	
O Corr	1	
S Corr	0.99990196	
CF	0.99990196	

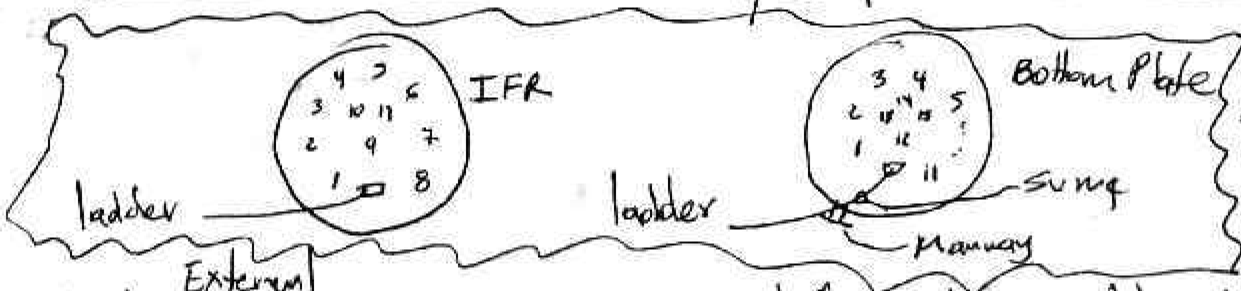
Bottom Incremental Volume

0 is at the strike point, volume in cubic meters; remainder of shown volumes are to be deducted from the incremental volume); volumes calculated with 1cm grid of the registered point cloud.

BOTTOM PLATE INCREMENTAL FREEBOARD AND DEADWOOD

INC	VOL M3
0	1.21275349
0.01	-11.34443519
0.02	-10.49853439
0.03	-9.49017107
0.04	-8.25861716
0.05	-7.18016009
0.06	-6.16735695
0.07	-5.24394807
0.08	-4.36052246
0.09	-3.58177587
0.1	-2.92452738
0.11	-2.32220788
0.12	-1.84896184
0.13	-1.37963351
0.14	-0.98169016
0.15	-0.61634174
0.16	-0.37236838
0.17	-0.22040875
0.18	-0.11800613
0.19	-0.05515971
0.2	-0.01880310
0.21	-0.00001168

Qty	Description	ϕ	lenght	Open/close	height	(if any) horizontals
1 pipe	water draw		85	O	14	O
2	Support (ϕ2x2x¼)		10	—	0	14
6	Support (ϕ2x2x¼)		32	—	0	32
7	Column	10	TH-1	O	1	TH
1	Column	14	TH-1	O	1	TH
7	Repad	40	—	—	0	1
1	Repad	50	—	—	0	1
1	Pipe	10	67 ft	O	24	12
4	Pipe	6	47 ft	O	6	—
1	Pipe (Gauge Pole)	8	TH-9	O	9	TH
3	Support (ϕ3x3x¼)	-	—	—	0	10
1	Pipe	2	TH-½	C	½	TH
1	Repad (53x43x½)	—	—	~~C~~	0	12
1	Pipe	3	43 ft	O	6	—



Total 10x2

Externals

Qty			ϕ	Lenght	Height
3	Sump	24x12	24	[illegible]	12
4	Manway		24	7	18
1	Manway		30	30	16
2	Manway		20	12	16

28x4 hose

12942mm Gauge Height

Tank Calibration Package

July 24/19	E. Gruben's Transport	Tuktoyaktuk, NT
16612	1	SM

Table increments: Inches ☐ Centimetres ☒

Table volume units: Barrels ☐ Cubic Meters ☐ Litres ☒

TANK DATA

Diameter: 33'-6" Height: 16'-0" Safe Fill Height: _____

Year Built: 1972 Data to be Inverted?: Yes ☐ No ☐ N/A

1) Product Information

Product Service to be: Jet A1 Product Density: 813.8 Kg/m3

Product Level @ Strapping: Empty Temperature @ Strapping: 9 Celsius ☒ Fahrenheit ☐

2) Tank Shell

Mild Steel ☒ Stainless ☐ Insulated: YES / (NO)

Reference Product Temperature: (15 °C) / other _____

3) Tank Bottom

Cone up: _____ Cone down: _____ Flat ☐ Physical Survey ☐

4) Type of Roof

Cone ☒ Dome ☐ Flat ☐ Internal Floating ☐ External Floating ☐

5) Under Side of Floating Roof:

Flat Pan ☐ Round pontoon ☐ Angle pontoon ☐ Square pontoon ☐ Other _____

6) Weight of Floating Roof: _____ Kilograms / _____ pounds

7) Distance Between Floating Roof Pin Settings: _____

8) Roof Information

Height Tank Floor to Bottom of Deck or Pontoon Nearest Shell: _____

Height from Strike Point to Bottom of Floating Roof: _____

Height from deck to Tank Floor at Inner Edge of Pontoon _____ Pontoon Length: _____

Pontoon Diameter or Height: _____ Pontoon Rim Space: _____

9) Roof Position at Time of Measurements: HIGH / LOW position

Tank Calibration Package

NEXTGEN

DATE: July 24/19 TANK #: 1

FIELD DATA

1) **Total Tank Height:** _____

2) **Gauge Height:** 5.326M 3) **Distance Gauge Point to Shell:** 16'-3" - In Middle of Tank

4) **Overflow / Foam line Height:** N/A

5) **Shell Construction:**
(Butt Welded) / Lap Welded Other: _____

6) **Number of Vertical Welds Per Course and Tape Rise (if Applicable):**
Number: _____ Width: _____ Depth: _____

7) **Tape Number:** _____

8) **Strapped Circumference:** _____

9) **Benchmark Description:** _____

FIELD TABLE

Ring #	Strapped %	Plate Thickness	Ring Height
Bottom			
1		0.250	8'
2		0.250	8'
3			
4			
5			
6			
7			
8			
9			
10			

Tank Calibration Package

July 24/19	E. Gruben's Transport	Tuktoyaktuk, NT
16612	2	SM

Table increments: Inches ☐ Centimetres ☒

Table volume units: Barrels ☐ Cubic Meters ☐ Litres ☒

TANK DATA

Diameter: 33'-6" Height: 16'-0" Safe Fill Height: _____

Year Built: 1972 Data to be Inverted?: Yes ☐ No ☐ N/A

1) Product Information

Product Service to be: Jet A1 Product Density: 813.8 Kg/M3

Product Level @ Strapping: Empty Temperature @ Strapping: 9 Celsius ☒ Fahrenheit ☐

2) Tank Shell

Mild Steel ☒ Stainless ☐ Insulated: YES / (NO)

Reference Product Temperature: (15 °C) / other _____

3) Tank Bottom

Cone up: _____ Cone down: _____ Flat ☐ Physical Survey ☐

4) Type of Roof

Cone ☒ Dome ☐ Flat ☐ Internal Floating ☐ External Floating ☐

5) Under Side of Floating Roof:

Flat Pan ☐ Round pontoon ☐ Angle pontoon ☐ Square pontoon ☐ Other _____

6) Weight of Floating Roof: _____ Kilograms / _____ pounds

7) Distance Between Floating Roof Pin Settings: _____

8) Roof Information

Height Tank Floor to Bottom of Deck or Pontoon Nearest Shell: _____

Height from Strike Point to Bottom of Floating Roof: _____

Height from deck to Tank Floor at Inner Edge of Pontoon _____ Pontoon Length: _____

Pontoon Diameter or Height: _____ Pontoon Rim Space: _____

9) Roof Position at Time of Measurements: HIGH / LOW position

Tank Calibration Package

DATE: Jul/24/19 TANK #: 2

FIELD DATA

1) **Total Tank Height:** _____

2) **Gauge Height:** 5.003m 3) **Distance Gauge Point to Shell:** 24"

4) **Overflow / Foam line Height:** N/A

5) **Shell Construction:**
(Butt Welded) / Lap Welded Other: _____

6) **Number of Vertical Welds Per Course and Tape Rise (if Applicable):**
Number: _____ Width: _____ Depth: _____

7) **Tape Number:** _____

8) **Strapped Circumference:** _____

9) **Benchmark Description:** _____

FIELD TABLE

Ring #	Strapped %	Plate Thickness	Ring Height
Bottom		0.250	8'
1			
2		0.250	8'
3			
4			
5			
6			
7			
8			
9			
10			

July 24	E. Gruben's Transport	Tuktoyaktuk, NT
16612	3	SM

Table increments: Inches ☐ Centimetres ☒

Table volume units: Barrels ☐ Cubic Meters ☐ Litres ☒

TANK DATA

Diameter: 33'-6" Height: 32'-0" Safe Fill Height: _____

Year Built: 1972 Data to be Inverted?: Yes ☐ No ☐ N/A

1) Product Information

Product Service to be: Jet-A 1 Product Density: 813.8 Kg/m3

Product Level @ Strapping: EMPTY Temperature @ Strapping: 9 Celsius ☒ Fahrenheit ☐

2) Tank Shell

Mild Steel ☑ Stainless ☐ Insulated: YES / (NO)

Reference Product Temperature: (15 °C) / other _____

3) Tank Bottom

Cone up: _____ Cone down: _____ Flat ☐ Physical Survey ☐

4) Type of Roof

Cone ☒ Dome ☐ Flat ☐ Internal Floating ☐ External Floating ☐

5) Under Side of Floating Roof:

Flat Pan ☐ Round pontoon ☐ Angle pontoon ☐ Square pontoon ☐ Other _____

6) Weight of Floating Roof: _____ Kilograms / _____ pounds

7) Distance Between Floating Roof Pin Settings: _____

8) Roof Information

Height Tank Floor to Bottom of Deck or Pontoon Nearest Shell: _____

Height from Strike Point to Bottom of Floating Roof: _____

Height from deck to Tank Floor at Inner Edge of Pontoon _____ Pontoon Length: _____

Pontoon Diameter or Height: _____ Pontoon Rim Space: _____

9) Roof Position at Time of Measurements: HIGH / LOW position

Tank Calibration Package

NEXTGEN

DATE: July 24 19 TANK #: 3

FIELD DATA

1) **Total Tank Height:** _____

2) **Gauge Height:** 9.888M 3) **Distance Gauge Point to Shell:** 23"

4) **Overflow / Foam line Height:** N/A

5) **Shell Construction:**
(Butt Welded) / Lap Welded Other: _____

6) **Number of Vertical Welds Per Course and Tape Rise (if Applicable):**
Number: _____ Width: _____ Depth: _____

7) **Tape Number:** _____

8) **Strapped Circumference:** _____

9) **Benchmark Description:** Benchmark in hatch

FIELD TABLE

Ring #	Strapped %	Plate Thickness	Ring Height
Bottom		0.250	8'
1			
2		0.250	8'
3		0.250	8'
4		0.250	8'
5			
6			
7			
8			
9			
10			

Tank Calibration Package

NG NEXT GEN

23

July 29/19	E. Grubens Transport	Tuktoyaktuk, NT
16612	8	SM

Table increments: Inches ☐ Centimetres ☒

Table volume units: Barrels ☐ Cubic Meters ☐ Litres ☒

TANK DATA

Diameter: 36'-8" Height: 32'-0" Safe Fill Height: _____

Year Built: 1975 Data to be Inverted?: Yes ☐ No ☐ N/A

1) **Product Information** ULSD ultra low sulphur diesel

Product Service to be: ~~JET A1~~ Product Density: 813.8 Kg/m3

Product Level @ Strapping: Empty Temperature @ Strapping: 10 Celsius ☒ Fahrenheit ☐

2) **Tank Shell**

Mild Steel ☒ Stainless ☐ Insulated: YES / (NO)

Reference Product Temperature: (15 °C) / other _____

3) **Tank Bottom**

Cone up: _____ Cone down: _____ Flat ☐ Physical Survey ☐

4) **Type of Roof**

Cone ☒ Dome ☐ Flat ☐ Internal Floating ☐ External Floating ☐

5) **Under Side of Floating Roof:**

Flat Pan ☐ Round pontoon ☐ Angle pontoon ☐ Square pontoon ☐ Other _____

6) **Weight of Floating Roof:** _____ Kilograms / _____ pounds

7) **Distance Between Floating Roof Pin Settings:** _____

8) **Roof Information**

Height Tank Floor to Bottom of Deck or Pontoon Nearest Shell: _____

Height from Strike Point to Bottom of Floating Roof: _____

Height from deck to Tank Floor at Inner Edge of Pontoon _____ Pontoon Length: _____

Pontoon Diameter or Height: _____ Pontoon Rim Space: _____

9) **Roof Position at Time of Measurements:** HIGH / LOW position

Tank Calibration Package

DATE: July 23 TANK #: 8

FIELD DATA

1) Total Tank Height: _____

2) Gauge Height: 10.035M 3) Distance Gauge Point to Shell: 24"

4) Overflow / Foam line Height: N/A

5) Shell Construction:

Butt Welded / Lap Welded Other: _____

6) Number of Vertical Welds Per Course and Tape Rise (if Applicable):

Number: 4 Width: _____ Depth: _____

7) Tape Number: _____

8) Strapped Circumference: _____

9) Benchmark Description: Top of Benchmark in Hatch

FIELD TABLE

Ring #	Strapped %	Plate Thickness	Ring Height
Bottom		0.250	8'
1			
2		0.250	8'
3		0.250	8'
4		0.250	8'
5			
6			
7			
8			
9			
10			

Tank Calibration Package

DATE: July 23 TANK #: 8

DEADWOOD

INTERNAL

Quantity	Description	Diameter	Length	Open (O) Close (C)	Height From bottom	Height If not horizontal
1	Center Column ~~water drain nozzle~~	10"	TH	O C	0"	TH

Tank Calibration Package

EXTERNAL

Quantity	Description	Diameter	Length	Height
1	Manway	24"	6.75"	17"
1	Nozzle	4"	~~8~~ 9"	6"
	Nozzle Threaded Plug	2"		