

**EXPRO**

WELL FLOW MANAGEMENT™

Multifinger Caliper Analysis Report



Client: NAM
Well No.: ROSSUM WEERSELO - 7
Field: ROSSUM WEERSELO
Country: Netherlands
Survey Date: 3rd October 2023
Survey Type: Extended 24-Arm Caliper
Job ID: DAC882

www.exprogroupp.com

Client: NAM	Well No.: ROSSUM WEERSELO - 7	Field: ROSSOM WEERSELO
Survey Date: 03/10/2023	Survey MFC-24 Extended	Job ID: DAC882



Pass no.	Survey Interval (m)	Data Quality	Notes
1	1212 to 0	Good	

Rev	Description	Author	Checked by
0	Report	5.1.2.e	5.1.2.e

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The Expro Group Data Analysis Centre
Carnegie Building, Howe Moss Avenue, Dyce, Aberdeen, AB21 0GP

Tel: 5.1.2.e

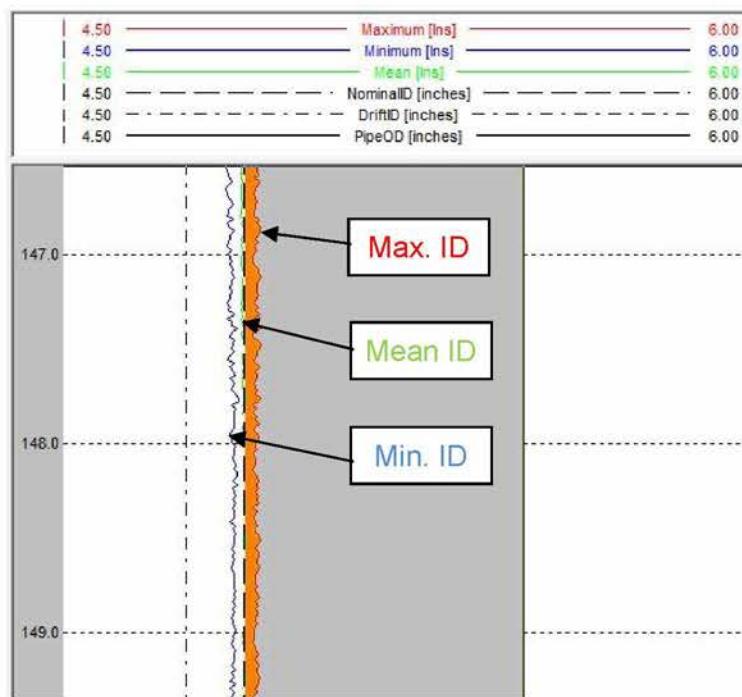
Website: www.exprogroup.com

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Definitions

Measured IDs

- Each caliper finger records a radius value at each depth sample. For the purposes of calculating metal loss, this value is multiplied by 2, creating an ID value which can be referenced against the nominal ID and OD of the tubular (all ID values quoted are 2* radius values unless otherwise indicated).
- When calculating restrictions within the tubular caused by features such as deposition or deformation, opposite arm radius values are combined to create an ID value.
- At each depth sample the Maximum ID, Minimum ID and Mean ID is recorded. These can then be plotted against the Drift ID and Nominal ID and OD.



Maximum Percentage Penetration

- The maximum percentage penetration is the maximum recorded radius x 2 value referenced against nominal ID and OD
- $$\text{Maximum percentage penetration} = 100 * \frac{\text{Max.ID} - \text{Nom.ID}}{\text{OD} - \text{NomID}}$$

Maximum Percentage Circumferential Wall Loss

- The maximum percentage circumferential wall loss is the sum of the areal metal loss at each depth sample with reference to nominal ID and OD
- $$\left(\frac{100}{N}\right) * \sum_{i=1}^{i=N} (S_i^2 - \text{Nom. ID}^2) \div (\text{OD}^2 - \text{Nom. ID}^2)$$
- N: is the number of caliper sensors on the tool, 24, 40, 60.
- S_i: is the measured radius value x 2 for each arm.

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Client: NAM	Well No.: ROSSUM WEERSELO - 7	Field: ROSSOM WEERSELO
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1. Survey Objectives and Interpretation Summary

Survey Objectives

An extended 24-arm memory multifinger caliper was run to determine the general condition of the 3-1/2", 10.2 lb/ft tubing within the ROSSUM WEERSELO - 7 well.

Data Analysis

This report highlights the main findings of the analysis. However, for a more detailed view of the tubing condition, the accompanying deliverables (which include the tool data and the MIPS client viewer) can be used to inspect the completion on a joint by joint basis.

Processing:

- Centralised
- Depth corrected – to well completion schematic TBF referenced depths, MD in metres
- Statistical analysis applied

Interpretation Summary

- The 3-1/2" tubing appears to be in poor condition, with a maximum recorded ID of 3.206" (equivalent to 49.1% penetration) at 1162.19 m.
- Tubing below approximately 950 m has been affected by scattered pitting.
- There is no clear evidence of any significant deposition or restrictions present.
- Time-lapse analysis indicates a potential minor increase in metal loss over time.

Statistical Data Summary	2023	2022	2021	2020	2018	T.L. Max Difference
Maximum % Penetration	49.1 %	61.1 %	58.3 %	61.9 %	47.2 %	14.7 %
Maximum Penetration Depth	1162.19 m	1161.94 m	1162.19 m	1162.20 m	1162.16 m	-
Average Maximum % Penetration	14.8 %	21.2 %	16.4 %	16.2 %	10.3 %	11.0 %
Maximum % Circumferential Wall Loss	11.3 %	16.7 %	12.5 %	11.6 %	6.5 %	5.4 %
Maximum % Circumferential Wall Loss Depth	646.08 m	646.18 m	80.58 m	646.51 m	116.57 m	-
Average Recorded Mean ID	2.946 inches	2.983 inches	2.954 inches	2.955 inches	2.921 inches	0.062 inches
Average Maximum % Circumferential Wall Loss	6.0 %	11.8 %	7.3 %	7.2 %	2.5 %	5.8 %
Survey Interval	1213 to surface	1203 to surface	1214 to surface	1214 to surface	1202 to surface	-

Note: All values from statistical analysis are based on the maximum, minimum and mean IDs per tubing or casing joint

Note: Caliper measurement tolerance is 0.03"

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2. Data Interpretation

3-1/2", 10.2 lb/ft Tubing Condition

- The 3-1/2" tubing appears to be in poor condition, with 4 of the 139 joints logged found to contain maximum recorded percentage penetrations ranging between 30% and 50% of the nominal tubing wall thickness, while the remaining 135 joints range between 7% and 30% and average 14.2% (see Figure 1, Section 3 & Max. Percentage Penetration per Joint vs. Depth Plot, Section 4).
- The maximum recorded ID was 3.206" (equivalent to a 49.1% penetration) at 1162.19 m. This relates to a sharply defined, deeply penetrating pit feature recorded towards the low-side of the tubing wall. This pit was recorded by a single caliper arm (suggesting a maximum potential width of approximately 0.70") and measured approximately 26 mm in length. However, due to the sharply defined nature of this feature, it is possible that it may in reality be a deeper penetration that the caliper arm has simply been unable to fully extend inside (see Figures 2 & 3, Section 3).
- Many of the tubing joints below approximately 900 m appear to have been affected by intermittent low-side focussed pitting, generally recorded by a single caliper arm, much like the abovementioned maximum recorded penetration.
- A number of connections have also been affected by pitting. The most severe of these pits appears to be at 1152.80 m, with a maximum recorded ID of 3.136". This would normally be equivalent to a 37% penetration based on the wall thickness of the tubing joint body. However, as this was recorded over a connection, the dimensions will vary and deeper pits could create a potential leak path via the connection threads (see Figures 4 & 5, Section 3).
- In addition to the abovementioned isolated pitting, there is some indication of minor circumferential metal loss within the 3-1/2" tubing. This is supported by the average recorded mean ID of 2.946", which is slightly higher than the manufacturer specified nominal ID of 2.922". Additionally, the maximum recorded circumferential wall loss was 11.3% at 646.08 m, with a total average value for the surveyed interval of 6% (see Measured ID per Joint vs. Depth Plot, Section 4 & Max. Percentage Circumferential Wall Loss per joint vs. Depth Plot, Section 4).
- None of the recorded IDs fall below the manufacturer specified drift ID of 2.797" and there is no clear evidence of any significant deposition.

Time-lapse Analysis

- Four 24-arm caliper surveys have been performed previously within this well by Expro, on the 11th of October 2018, 7th of October 2020, 11th of November 2021 and 16th of November 2022. Time-lapse analysis has been performed by comparing these previously recorded datasets with data recorded in the current 2023 survey (see Time-lapse plots, Section 4).
- It appears that the 2018 and 2022 surveys may be outliers when compared with 2020, 2021 and 2023, with significantly lower and higher overall IDs respectively. This likely relates to tool calibration discrepancies and it is thought that these surveys provide a less accurate representation of the true tubing condition than the others. Furthermore, while not included in the plots or table due to overcrowding, data from the 2016 and 2017 surveys also compare favourably with that of 2020, 2021 and 2023, with very similar values, features and profiles recorded. Therefore, it is thought that the 2016, 2017, 2020, 2021 and 2023 surveys offer the most accurate overview of the tubing condition, and it does not appear that there is any tangible evidence of significant change in the overall condition of the tubing since 2016.
- The maximum recorded IDs of each survey relate to the same sharply defined pit at approximately 1162 m. This appears to have developed from a penetration of 47.2% in 2018 to 61.9% in 2020. It was then measured as 58.3% in 2021, 61.1% in 2022 and 49.1% in the current 2023 survey. This variance is likely the result of minor differences in the physical position of the tool and fingers. Furthermore, as mentioned in the main findings above, it is possible that this pit may even deeper in reality, and it could potentially become a source of tubing to annulus communication in the future. It is therefore felt that it may be prudent to monitor this with subsequent caliper surveys.

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3. Caliper Graphics

Figure 1: Survey Overview

Figure 2: Maximum Recorded ID

Figure 3: Maximum Recorded ID (Cross-Section)

Figure 4: Pit Within Connection

Figure 5: Pit Within Connection (Cross-Section)

Client: NAM

Well No.: ROSSUM WEERSELO - 7

Field: ROSSOM WEERSELO

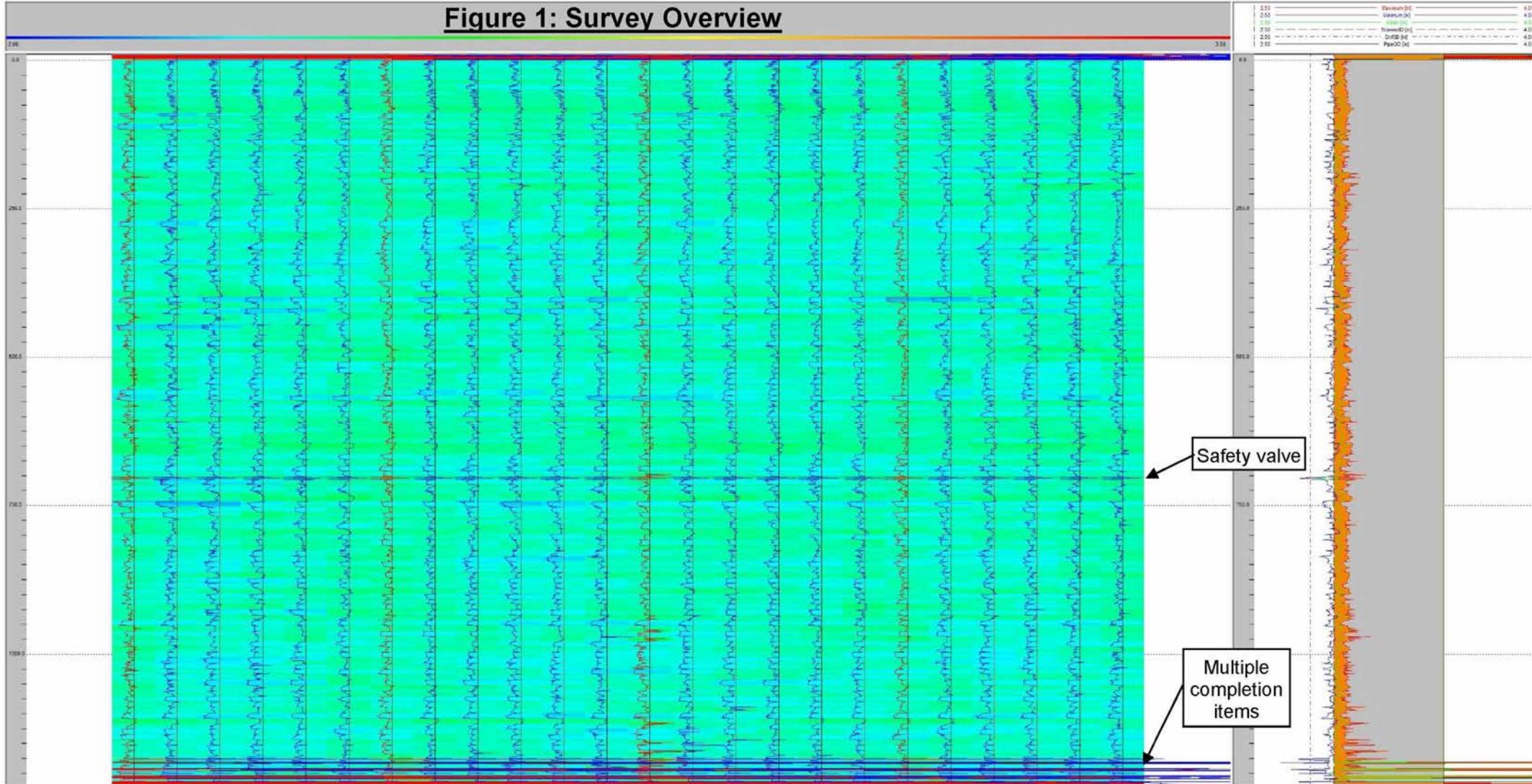
Survey Date: 03/10/2023

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Figure 1: Survey Overview



Client: NAM

Well No.: ROSSUM WEERSELO - 7

Field: ROSSOM WEERSELO

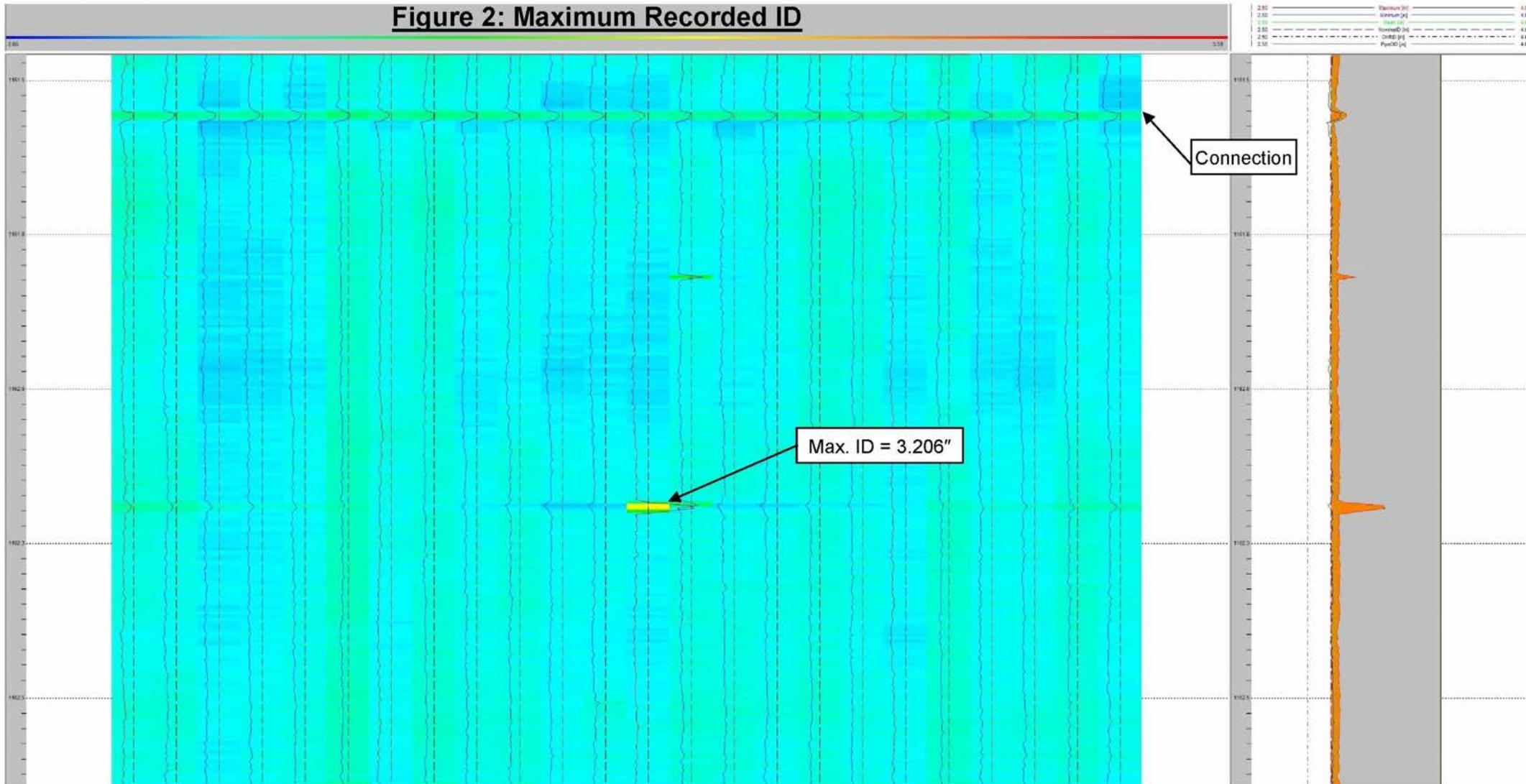
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Figure 2: Maximum Recorded ID



Client: NAM

Well No.: ROSSOM WEERSELO - 7

Field: ROSSOM WEERSELO

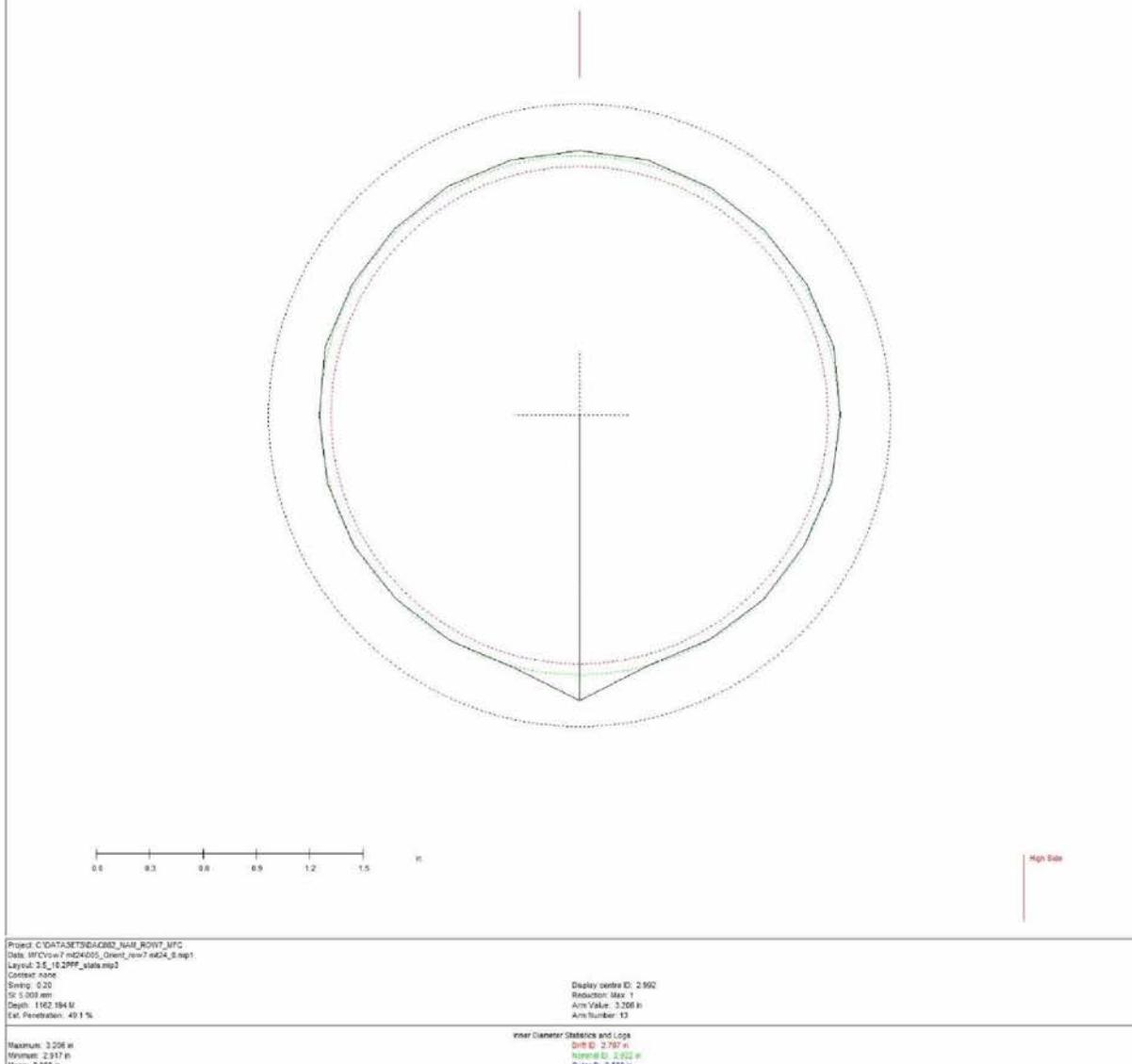
Survey Date: 03/10/2023

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Figure 3: Maximum Recorded ID (Cross-Section)



Client: NAM

Well No.: ROSSUM WEERSELO - 7

Field: ROSSOM WEERSELO

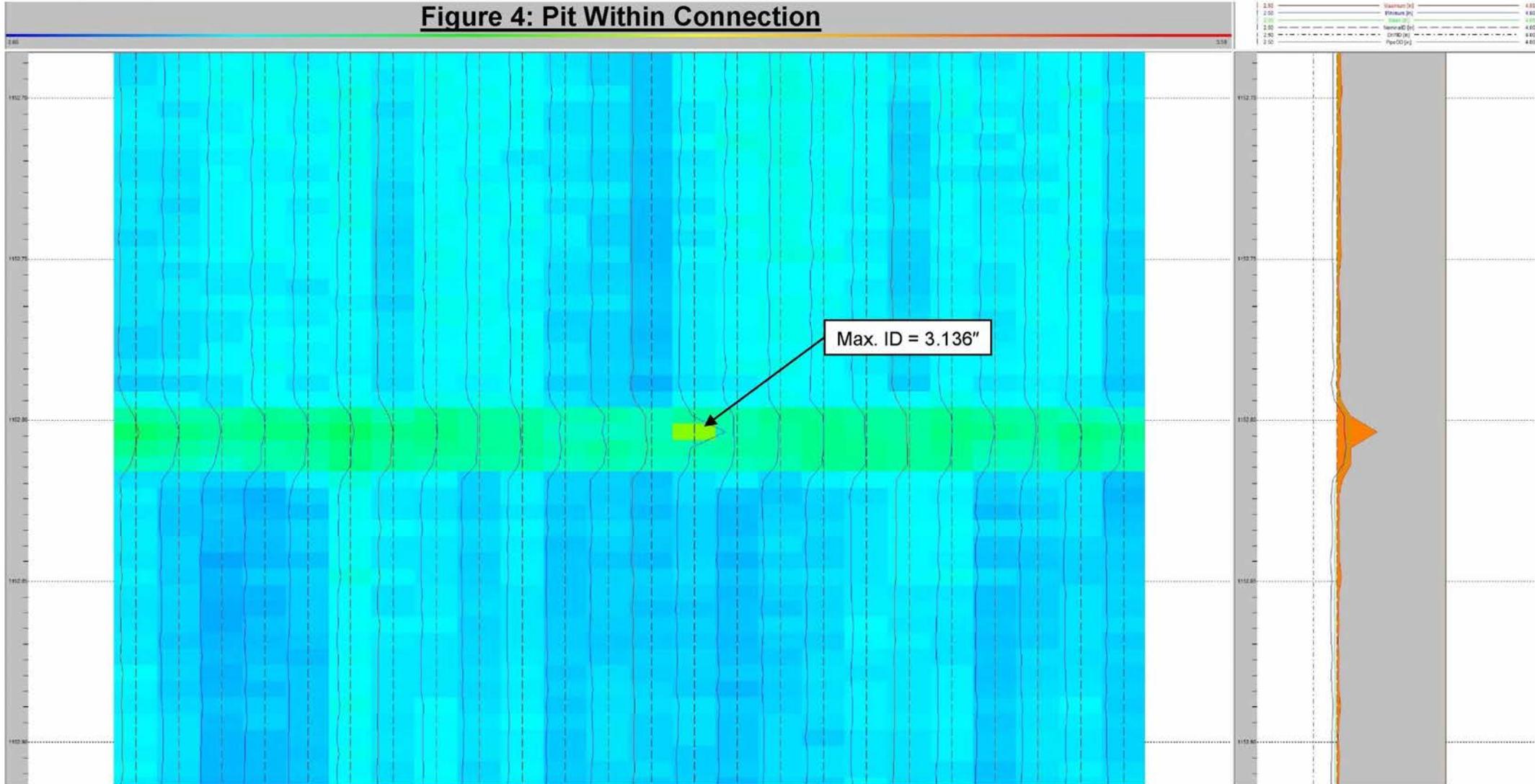
Survey Date: 03/10/2023

Survey MFC-24 Extended

Job ID: DAC882



Figure 4: Pit Within Connection



Client: NAM

Well No.: ROSSOM WEERSELO - 7

Field: ROSSOM WEERSELO

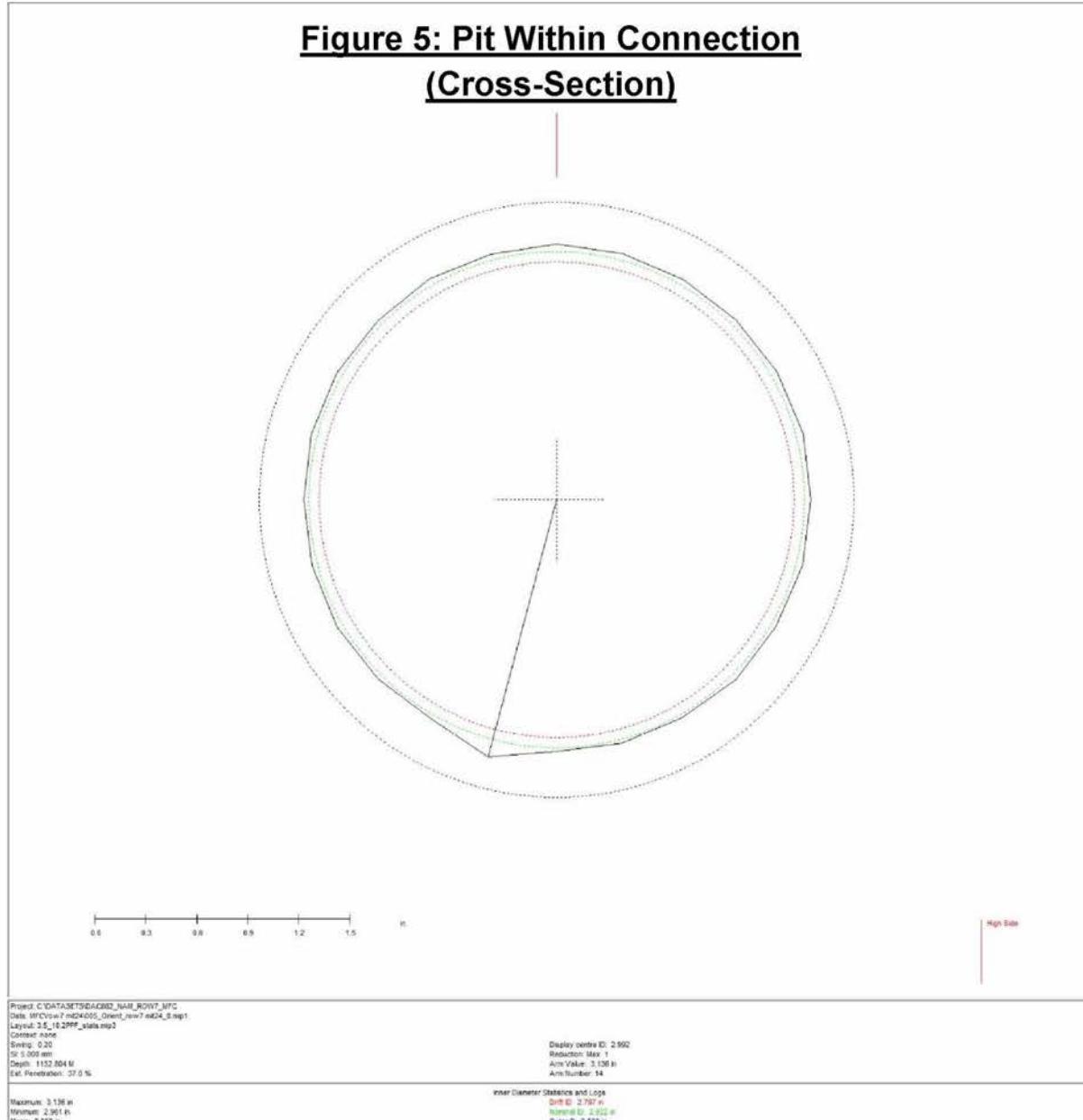
Survey Date: 03/10/2023

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**Figure 5: Pit Within Connection
(Cross-Section)**



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4. Statistical Analysis

Max. Percentage Penetration per Joint vs. Depth Plot

Max. Percentage Circumferential Wall Loss per Joint vs. Depth plot

Measured ID per Joint vs. Depth Plot

Tabulated Data

Time-lapse Percentage Penetration Histogram Plot

Time-lapse Max. Percentage Penetration per Joint vs. Depth Plot

Time-lapse Max. Percentage Circumferential Wall Loss per Joint vs. Depth Plot

Time-lapse Maximum ID per Joint vs. Depth Plot

Time-lapse Mean ID per Joint vs. Depth Plot

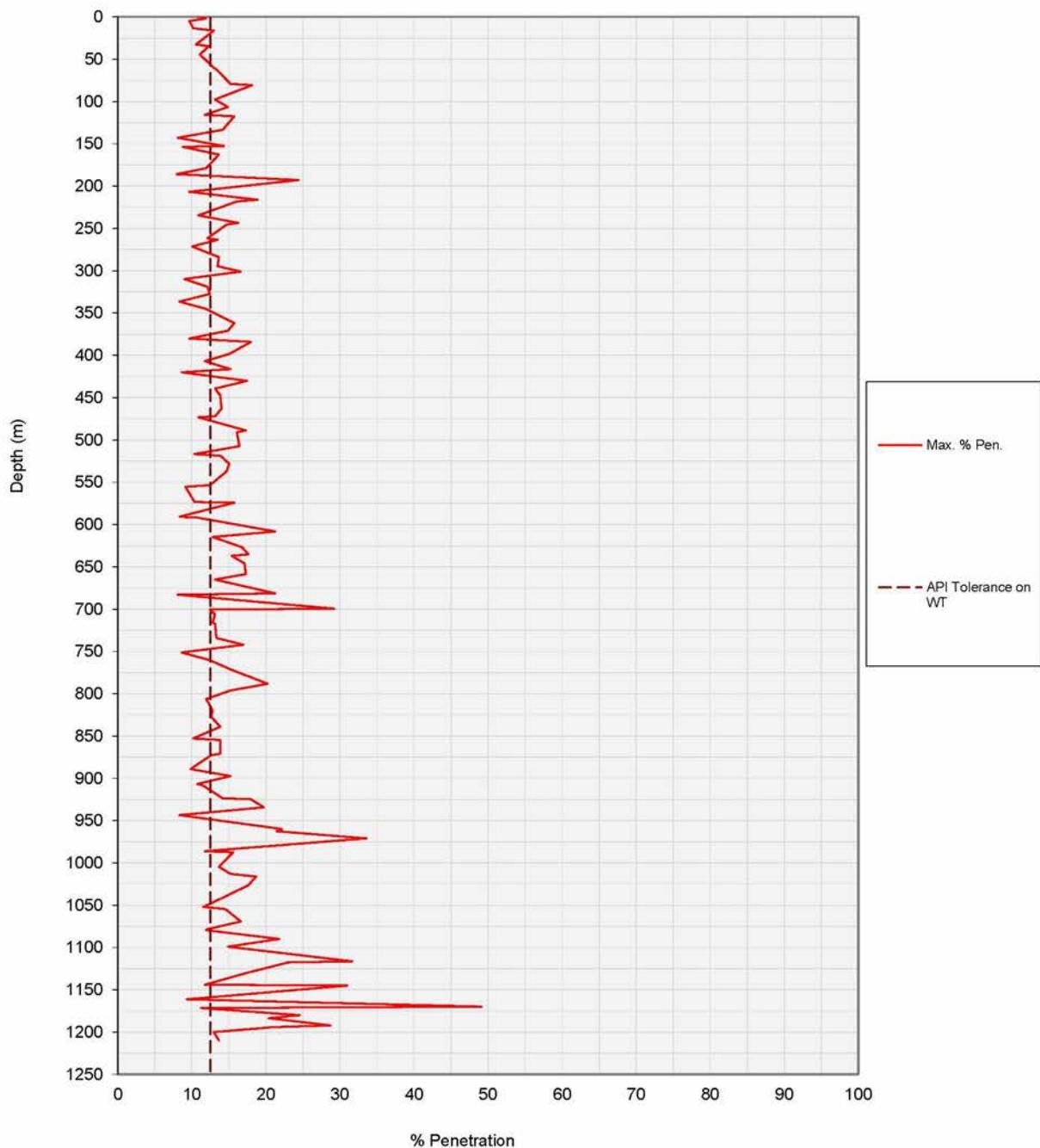
Time-lapse Minimum ID per Joint vs. Depth Plot

(Note: All values from statistical analysis are based on the maximum, mean & minimum recorded ID's from each tubing or casing joint)

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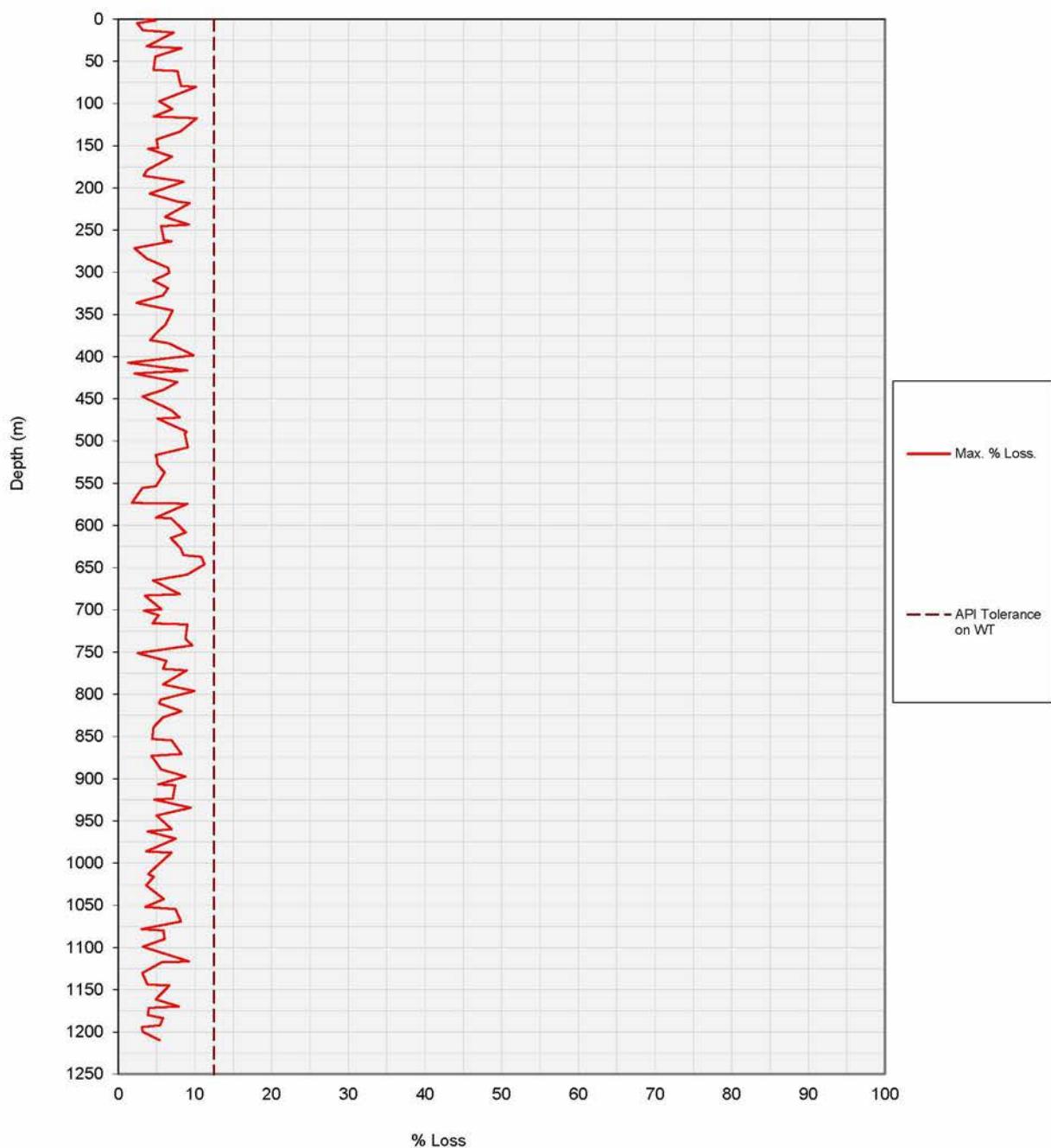
Max. Percentage Penetration per Joint vs. Depth Plot



Client: NAM	Well No.: ROSSUM WEERSELO - 7	Field: ROSSOM WEERSELO
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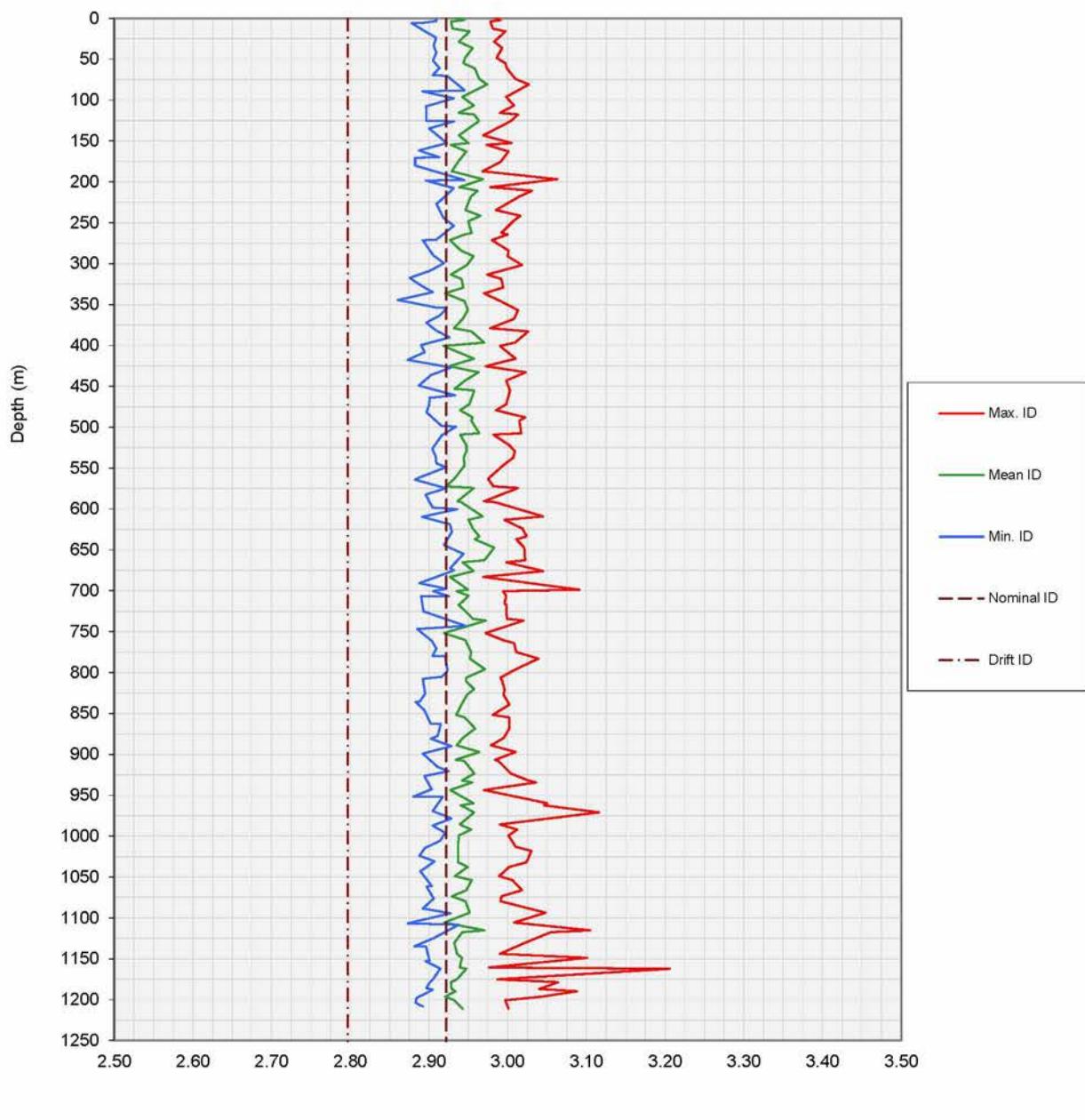
Max. Percentage Circumferential Wall Loss per Joint vs. Depth Plot



Client: NAM	Well No.: ROSSUM WEERSELO - 7	Field: ROSSOM WEERSELO
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Measured ID per Joint vs. Depth Plot



Measured ID ("")

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Client: NAM

Well: ROW-7

Survey Date: 3rd October 2023

Tubulars Surveyed: 3-1/2", 10.2 lb/ft

Nom. ID: 2.922

Drift ID: 2.797

Nom. OD: 3.500

Max. % Penetration

0 - 20%	20 - 40%	40 - 50%	50 - 100%
0 - 10%	10-20 %	20 - 25 %	25 - 100 %

Max. % Circumferential Loss

Ref.	Top (m)	Bottom (m)	Length (m)	Max. ID ("")	Dep. Max. (m)	Max. Pen. (%)	Max. Loss (%)	Min. ID (")	Dep. Min. (m)	Mean ID (")	Tubular OD (")	Completion Item
1	-9.96	-0.78	9.18	8.017	-5.90	-	-	2.869	-1.95	4.379	3.500	Hanger assembly
2	-0.69	1.57	2.27	2.984	-0.59	10.7	3.4	2.909	1.06	2.935	3.500	Pup joint
3	1.65	3.33	1.68	2.991	2.06	11.9	4.9	2.910	3.32	2.945	3.500	Pup joint
4	3.41	5.79	2.38	2.978	3.90	9.7	2.5	2.892	5.78	2.928	3.500	Pup joint
5	5.86	14.96	9.10	2.981	12.80	10.2	3.2	2.878	5.90	2.930	3.500	
6	15.36	23.94	8.58	2.997	15.95	13.0	7.2	2.909	23.91	2.952	3.500	
7	24.25	33.26	9.01	2.983	28.50	10.6	3.7	2.906	33.12	2.938	3.500	
8	33.68	42.44	8.76	2.993	36.51	12.3	8.3	2.910	42.39	2.956	3.500	
9	42.78	51.40	8.62	2.986	48.31	11.1	4.8	2.905	51.36	2.946	3.500	
10	51.81	61.06	9.25	2.997	55.05	13.0	4.6	2.914	60.92	2.944	3.500	
11	61.42	69.92	8.51	2.999	61.48	13.3	7.7	2.905	69.78	2.958	3.500	
12	70.20	79.15	8.96	3.010	74.31	15.2	8.2	2.923	70.20	2.964	3.500	
13	79.50	88.36	8.86	3.027	80.87	18.2	10.2	2.946	88.09	2.974	3.500	
14	88.50	97.58	9.08	2.998	96.09	13.1	5.4	2.892	89.33	2.942	3.500	
15	97.74	107.03	9.28	3.008	106.73	14.9	7.1	2.932	97.87	2.957	3.500	
16	107.22	116.52	9.30	2.990	115.55	11.8	4.6	2.896	107.68	2.938	3.500	
17	116.65	125.34	8.68	3.013	117.57	15.7	10.2	2.897	125.28	2.957	3.500	
18	125.57	134.09	8.52	3.004	125.77	14.2	8.1	2.932	125.81	2.964	3.500	
19	134.51	143.45	8.94	2.969	143.06	8.1	5.0	2.900	134.52	2.938	3.500	
20	143.86	152.68	8.82	3.005	152.50	14.4	5.2	2.923	152.49	2.950	3.500	
21	153.09	161.58	8.49	2.973	154.56	8.8	3.9	2.887	161.56	2.928	3.500	
22	161.97	170.22	8.26	3.001	162.79	13.7	7.0	2.914	170.10	2.947	3.500	
23	170.64	179.69	9.05	2.991	175.61	11.9	3.8	2.883	170.64	2.937	3.500	
24	180.10	188.58	8.48	2.968	186.94	8.0	3.3	2.883	180.20	2.929	3.500	
25	188.97	198.14	9.16	3.063	196.66	24.4	8.6	2.945	197.90	2.968	3.500	
26	198.40	207.57	9.17	2.978	206.56	9.7	4.1	2.896	198.40	2.939	3.500	
27	207.86	217.03	9.17	3.031	210.81	18.9	7.7	2.932	207.91	2.962	3.500	
28	217.44	225.91	8.47	3.015	217.91	16.1	9.3	2.912	225.61	2.953	3.500	

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Ref.	Top (m)	Bottom (m)	Length (m)	Max. ID ("")	Dep. Max. (m)	Max. Pen. (%)	Max. Loss (%)	Min. ID (")	Dep. Min. (m)	Mean ID (")	Tubular OD (")	Completion Item
29	226.33	234.99	8.67	2.985	234.59	10.9	6.1	2.910	226.73	2.946	3.500	
30	235.16	243.60	8.44	3.016	241.46	16.3	9.2	2.914	235.58	2.965	3.500	
31	243.79	253.16	9.37	3.007	248.12	14.7	5.6	2.919	244.10	2.950	3.500	
32	253.45	262.48	9.03	2.992	262.47	12.1	6.0	2.932	253.68	2.954	3.500	
33	262.88	271.01	8.13	3.000	264.32	13.5	6.9	2.909	270.74	2.945	3.500	
34	271.26	280.72	9.46	2.980	271.27	10.0	2.1	2.892	271.61	2.927	3.500	
35	281.02	290.13	9.10	3.001	284.01	13.7	3.7	2.906	289.79	2.941	3.500	
36	290.26	299.68	9.42	3.000	290.89	13.5	6.5	2.919	299.48	2.957	3.500	
37	299.83	308.89	9.06	3.018	301.76	16.6	6.7	2.902	308.84	2.948	3.500	
38	309.04	317.66	8.62	2.974	313.29	9.0	4.6	2.876	317.46	2.928	3.500	
39	317.89	326.33	8.44	2.992	318.81	12.1	6.5	2.889	325.85	2.941	3.500	
40	326.74	335.33	8.59	2.994	329.17	12.5	5.8	2.905	334.96	2.943	3.500	
41	335.65	344.48	8.83	2.970	336.36	8.3	2.4	2.861	344.40	2.921	3.500	
42	344.68	353.40	8.72	2.991	345.81	11.9	7.1	2.908	353.31	2.945	3.500	
43	353.81	362.72	8.91	3.013	356.95	15.7	6.2	2.923	353.90	2.949	3.500	
44	363.13	371.58	8.45	3.008	367.60	14.9	5.1	2.914	363.40	2.943	3.500	
45	372.00	380.65	8.65	2.978	379.00	9.7	4.2	2.897	372.08	2.932	3.500	
46	381.06	389.98	8.91	3.026	382.79	18.0	6.6	2.908	381.11	2.954	3.500	
47	390.27	398.98	8.71	3.009	396.48	15.1	9.8	2.926	390.34	2.970	3.500	
48	399.39	407.93	8.53	2.990	400.58	11.8	1.3	2.890	399.53	2.918	3.500	
49	408.19	417.21	9.03	3.010	416.33	15.2	9.0	2.895	408.39	2.957	3.500	
50	417.62	426.64	9.02	2.972	425.60	8.7	2.1	2.873	417.66	2.926	3.500	
51	426.95	436.25	9.30	3.023	432.78	17.5	7.7	2.928	426.99	2.963	3.500	
52	436.40	444.84	8.44	2.998	443.05	13.1	5.9	2.903	436.44	2.946	3.500	
53	445.15	453.86	8.72	3.002	453.10	13.8	3.2	2.887	449.24	2.933	3.500	
54	454.24	463.42	9.18	3.003	454.96	14.0	6.9	2.934	460.95	2.958	3.500	
55	463.70	472.28	8.58	2.998	472.07	13.1	8.0	2.901	464.14	2.951	3.500	
56	472.70	481.09	8.40	2.985	479.20	10.9	5.1	2.900	472.73	2.940	3.500	
57	481.51	490.01	8.51	3.022	487.84	17.3	8.9	2.897	481.73	2.956	3.500	
58	490.30	498.62	8.32	3.015	491.96	16.1	8.7	2.916	498.45	2.954	3.500	
59	498.92	508.31	9.40	3.017	507.37	16.4	9.1	2.935	499.15	2.964	3.500	
60	508.46	517.56	9.10	2.982	509.00	10.4	4.9	2.917	509.59	2.939	3.500	
61	517.74	526.71	8.97	3.002	522.07	13.8	5.0	2.904	526.52	2.948	3.500	
62	527.00	535.91	8.91	3.009	529.40	15.1	5.1	2.909	535.87	2.948	3.500	
63	536.32	545.11	8.79	3.007	537.16	14.7	6.1	2.910	544.13	2.944	3.500	
64	545.40	554.32	8.91	2.994	546.75	12.5	4.9	2.922	549.04	2.945	3.500	

Client: NAM
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Well No.: ROSSUM WEERSELO - 7

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Ref.	Top (m)	Bottom (m)	Length (m)	Max. ID ("")	Dep. Max. (m)	Max. Pen. (%)	Max. Loss (%)	Min. ID (")	Dep. Min. (m)	Mean ID (")	Tubular OD (")	Completion Item
65	554.60	563.77	9.17	2.975	563.07	9.2	3.2	2.888	561.62	2.932	3.500	
66	564.19	573.31	9.12	2.982	572.35	10.4	1.8	2.883	564.19	2.921	3.500	
67	573.69	581.98	8.30	3.013	574.18	15.7	9.1	2.922	574.61	2.957	3.500	
68	582.40	590.73	8.33	2.970	590.65	8.3	4.9	2.896	582.51	2.936	3.500	
69	591.04	599.59	8.56	2.984	591.61	10.7	6.9	2.905	598.30	2.941	3.500	
70	600.01	609.21	9.19	3.045	609.18	21.3	8.8	2.936	600.16	2.968	3.500	
71	609.46	618.27	8.82	2.996	613.12	12.8	6.9	2.891	609.58	2.950	3.500	
72	618.55	627.30	8.76	3.019	623.90	16.8	8.2	2.927	618.69	2.956	3.500	
73	627.72	635.96	8.25	3.024	633.54	17.6	8.5	2.929	627.74	2.964	3.500	
74	636.37	644.84	8.47	3.011	637.04	15.4	10.8	2.919	644.05	2.958	3.500	
75	645.19	654.40	9.21	3.021	647.12	17.1	11.3	2.943	654.30	2.983	3.500	
76	654.54	663.95	9.42	3.022	662.74	17.3	9.0	2.944	654.55	2.970	3.500	
77	664.07	672.82	8.75	2.998	665.00	13.1	4.6	2.927	672.29	2.943	3.500	
78	672.98	682.32	9.35	3.045	675.90	21.3	8.0	2.932	675.02	2.956	3.500	
79	682.47	690.90	8.43	2.969	683.01	8.1	3.5	2.888	690.87	2.927	3.500	
80	691.26	700.34	9.07	3.091	698.80	29.2	5.7	2.922	697.45	2.950	3.500	
81	700.47	701.56	1.09	2.994	700.59	12.5	3.3	2.906	700.64	2.935	3.500	Pup joint
82	701.75	703.42	1.67	2.910	701.79	-	-	2.862	702.87	2.878	3.500	Flow coupling
83	703.48	704.12	0.64	3.077	703.65	-	-	2.751	704.02	2.801	3.500	Safety valve
84	704.29	705.97	1.68	2.904	705.53	-	-	2.860	704.41	2.875	3.500	Flow coupling
85	706.05	706.60	0.55	2.998	706.24	13.1	5.3	2.926	706.59	2.950	3.500	Pup joint
86	706.67	716.05	9.38	2.996	715.31	12.8	4.5	2.890	706.67	2.940	3.500	
87	716.16	725.31	9.16	2.998	717.19	13.1	9.0	2.893	725.24	2.938	3.500	
88	725.73	734.41	8.68	2.999	734.10	13.3	8.8	2.896	726.21	2.956	3.500	
89	734.50	742.96	8.46	3.020	736.51	17.0	9.7	2.947	742.96	2.972	3.500	
90	743.11	752.07	8.96	2.972	751.91	8.7	2.5	2.885	746.65	2.919	3.500	
91	752.25	761.46	9.22	2.994	760.45	12.5	6.3	2.904	761.20	2.946	3.500	
92	761.62	770.69	9.08	3.008	763.93	14.9	5.9	2.910	770.69	2.948	3.500	
93	771.11	779.65	8.55	3.011	775.07	15.4	9.0	2.905	779.52	2.954	3.500	
94	780.00	789.03	9.03	3.039	782.89	20.2	5.9	2.921	780.07	2.952	3.500	
95	789.44	798.01	8.57	3.010	795.92	15.2	9.9	2.924	797.96	2.971	3.500	
96	798.42	807.20	8.78	2.991	806.43	11.9	5.6	2.916	805.37	2.947	3.500	
97	807.62	816.57	8.95	2.993	810.80	12.3	5.3	2.892	807.62	2.947	3.500	
98	816.99	825.99	9.00	2.996	820.05	12.8	8.3	2.895	825.90	2.957	3.500	
99	826.36	835.37	9.01	2.995	827.10	12.6	5.8	2.889	835.35	2.948	3.500	
100	835.78	844.84	9.07	3.002	839.28	13.8	4.6	2.883	836.11	2.941	3.500	
101	845.26	853.68	8.43	2.981	851.77	10.2	4.5	2.894	845.52	2.934	3.500	
102	853.96	862.48	8.52	3.002	854.79	13.8	7.0	2.902	862.39	2.945	3.500	
103	862.75	870.96	8.21	3.002	868.44	13.8	8.3	2.915	862.88	2.959	3.500	
104	871.38	880.38	9.01	2.995	879.96	12.6	4.3	2.911	877.54	2.943	3.500	
105	880.79	889.56	8.77	2.979	889.07	9.9	5.6	2.903	881.11	2.935	3.500	

Client: NAM
Survey Date: 03/10/2023

Well No.: ROSSUM WEERSELO - 7

Field: ROSSOM WEERSELO

Job ID: DAC882



Ref.	Top (m)	Bottom (m)	Length (m)	Max. ID ("")	Dep. Max. (m)	Max. Pen. (%)	Max. Loss (%)	Min. ID (")	Dep. Min. (m)	Mean ID (")	Tubular OD (")	Completion Item
106	889.86	898.31	8.45	3.010	897.33	15.2	8.8	2.929	889.99	2.964	3.500	
107	898.46	907.05	8.59	2.984	906.70	10.7	5.2	2.892	898.99	2.934	3.500	
108	907.24	915.48	8.25	2.988	907.86	11.4	7.4	2.911	915.43	2.945	3.500	
109	915.87	924.31	8.45	3.004	923.43	14.2	7.1	2.925	920.56	2.958	3.500	
110	924.73	933.85	9.12	3.026	931.82	18.0	4.7	2.894	926.53	2.942	3.500	
111	934.26	942.63	8.36	3.036	934.44	19.7	9.5	2.904	942.61	2.955	3.500	
112	942.77	951.75	8.98	2.970	943.73	8.3	5.0	2.880	951.69	2.927	3.500	
113	952.03	960.61	8.58	3.050	959.91	22.1	7.0	2.918	952.03	2.957	3.500	
114	961.02	969.40	8.38	3.046	962.43	21.5	3.8	2.905	969.28	2.940	3.500	
115	969.82	978.21	8.40	3.116	970.82	33.6	7.5	2.929	978.21	2.957	3.500	
116	978.62	987.04	8.42	2.990	985.82	11.8	3.7	2.905	986.97	2.939	3.500	
117	987.45	996.00	8.56	3.012	991.97	15.6	7.0	2.921	995.95	2.953	3.500	
118	996.42	1005.48	9.06	3.001	999.14	13.7	4.9	2.915	1005.31	2.938	3.500	
119	1005.89	1014.83	8.94	3.010	1013.02	15.2	3.9	2.895	1014.69	2.937	3.500	
120	1015.24	1024.27	9.03	3.030	1018.03	18.7	4.6	2.888	1024.14	2.937	3.500	
121	1024.68	1033.38	8.70	3.024	1032.10	17.6	3.7	2.907	1030.72	2.937	3.500	
122	1033.80	1042.65	8.85	3.002	1037.52	13.8	5.9	2.903	1033.83	2.949	3.500	
123	1043.07	1052.08	9.01	2.989	1049.06	11.6	3.6	2.889	1043.12	2.933	3.500	
124	1052.38	1061.04	8.66	3.006	1053.83	14.5	7.4	2.904	1060.90	2.954	3.500	
125	1061.45	1069.91	8.47	3.018	1066.23	16.6	8.2	2.897	1061.61	2.947	3.500	
126	1070.33	1079.22	8.90	2.992	1073.51	12.1	3.0	2.906	1076.29	2.929	3.500	
127	1079.56	1088.53	8.97	2.991	1079.59	11.9	5.9	2.892	1088.49	2.946	3.500	
128	1088.95	1098.03	9.09	3.048	1093.62	21.8	6.0	2.928	1094.50	2.952	3.500	
129	1098.44	1106.85	8.41	3.008	1105.59	14.9	3.2	2.873	1106.66	2.919	3.500	
130	1107.01	1116.39	9.38	3.105	1115.17	31.7	9.2	2.938	1108.21	2.971	3.500	
131	1116.54	1125.08	8.54	3.055	1117.58	23.0	5.6	2.906	1124.84	2.942	3.500	
132	1125.35	1134.71	9.36	3.022	1130.34	17.3	3.2	2.882	1134.71	2.932	3.500	
133	1134.99	1143.89	8.90	2.990	1143.88	11.8	3.8	2.896	1135.05	2.935	3.500	
134	1144.31	1152.60	8.29	3.101	1148.84	31.0	6.7	2.901	1151.98	2.942	3.500	
135	1153.01	1161.49	8.48	2.976	1160.51	9.3	4.9	2.896	1153.01	2.939	3.500	
136	1161.66	1170.35	8.69	3.206	1162.19	49.1	7.9	2.915	1161.97	2.948	3.500	
137	1170.50	1175.17	4.67	2.987	1175.01	11.2	4.0	2.906	1174.76	2.936	3.500	Pup joint
138	1175.23	1176.13	0.90	3.198	1175.56	-	-	2.747	1175.34	2.906	3.500	SSD
139	1176.32	1180.74	4.42	3.064	1178.48	24.6	3.9	2.900	1179.91	2.928	3.500	Pup joint
140	1180.88	1182.59	1.71	4.858	1181.94	-	-	2.913	1182.56	3.565	3.500	SPM
141	1182.71	1187.26	4.55	3.040	1186.74	20.4	5.8	2.897	1185.80	2.929	3.500	Pup joint
142	1187.67	1192.30	4.62	3.088	1189.59	28.7	5.4	2.905	1187.82	2.934	3.500	Pup joint
143	1192.37	1194.20	1.83	4.803	1193.47	-	-	2.932	1192.38	3.546	3.500	SPM
144	1194.25	1198.85	4.60	3.043	1196.31	20.9	3.1	2.884	1198.09	2.921	3.500	Pup joint
145	1198.91	1199.10	0.20	3.077	1198.99	-	-	2.746	1199.09	2.828	3.500	Nipple
146	1199.25	1203.89	4.64	2.997	1200.74	13.0	3.2	2.883	1203.88	2.932	3.500	Pup joint

Client: NAM	Well No.: ROSSUM WEERSELO - 7	Field: ROSSOM WEERSELO
Survey Date: 03/10/2023	Survey MFC-24 Extended	Job ID: DAC882

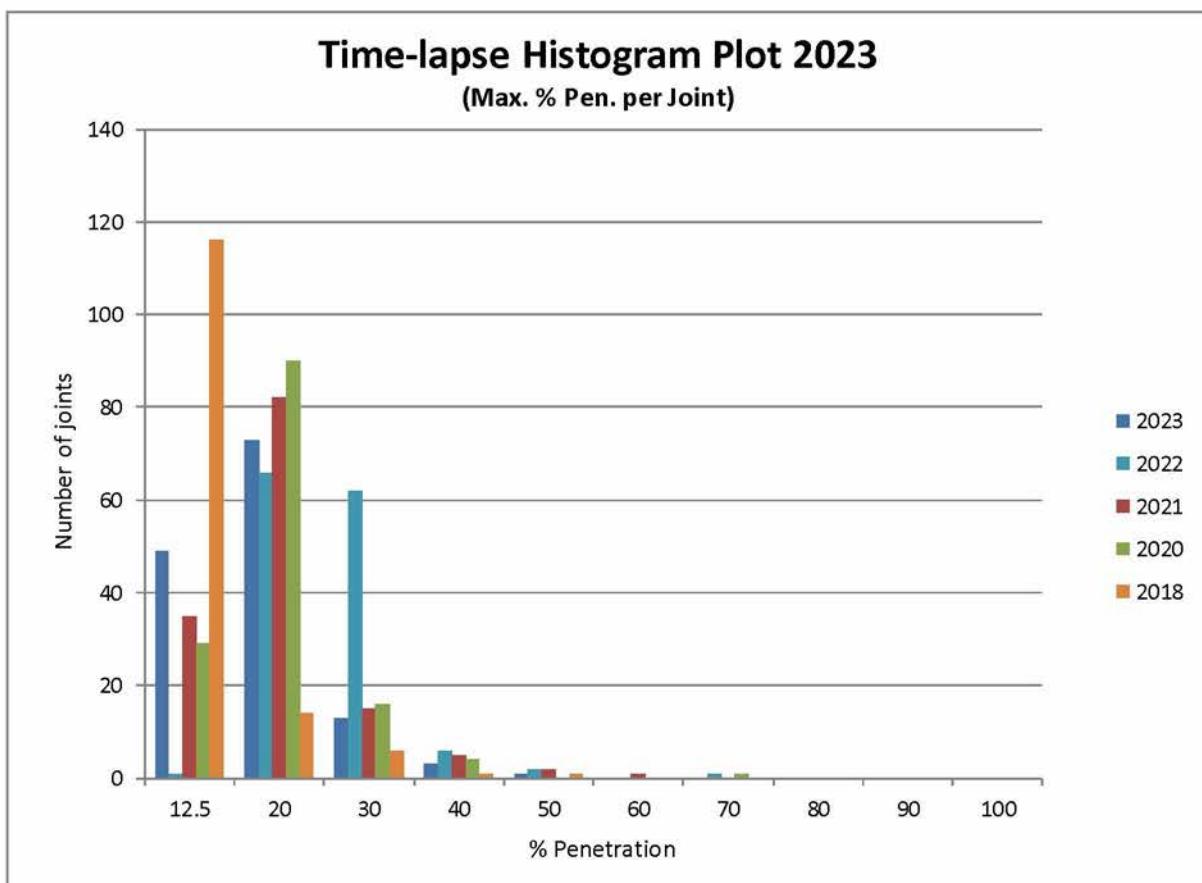


Ref.	Top (m)	Bottom (m)	Length (m)	Max. ID (")	Dep. Max. (m)	Max. Pen. (%)	Max. Loss (%)	Min. ID (")	Dep. Min. (m)	Mean ID (")	Tubular OD (")	Completion Item
147	1204.03	1208.09	4.06	6.386	1205.58	-	-	3.132	1204.03	5.608	3.500	Anchor / packer
148	1208.34	1212.96	4.62	3.001	1211.06	13.7	5.4	2.893	1208.37	2.943	3.500	Pup joint
149	1213.03	1213.90	0.86	3.053	1213.58	-	-	2.925	1213.53	2.942	3.500	Flow coupling
150	1213.94	1214.15	0.21	3.120	1214.04	-	-	2.741	1214.10	2.830	3.500	Nipple
151	1214.27	1214.59	0.31	7.780	1214.58	-	-	2.738	1214.35	4.231	3.500	WEG

Client: NAM	Well No.: ROSSUM WEERSELO - 7	Field: ROSSOM WEERSELO
Survey Date: 03/10/2023	Survey MFC-24 Extended	Job ID: DAC882



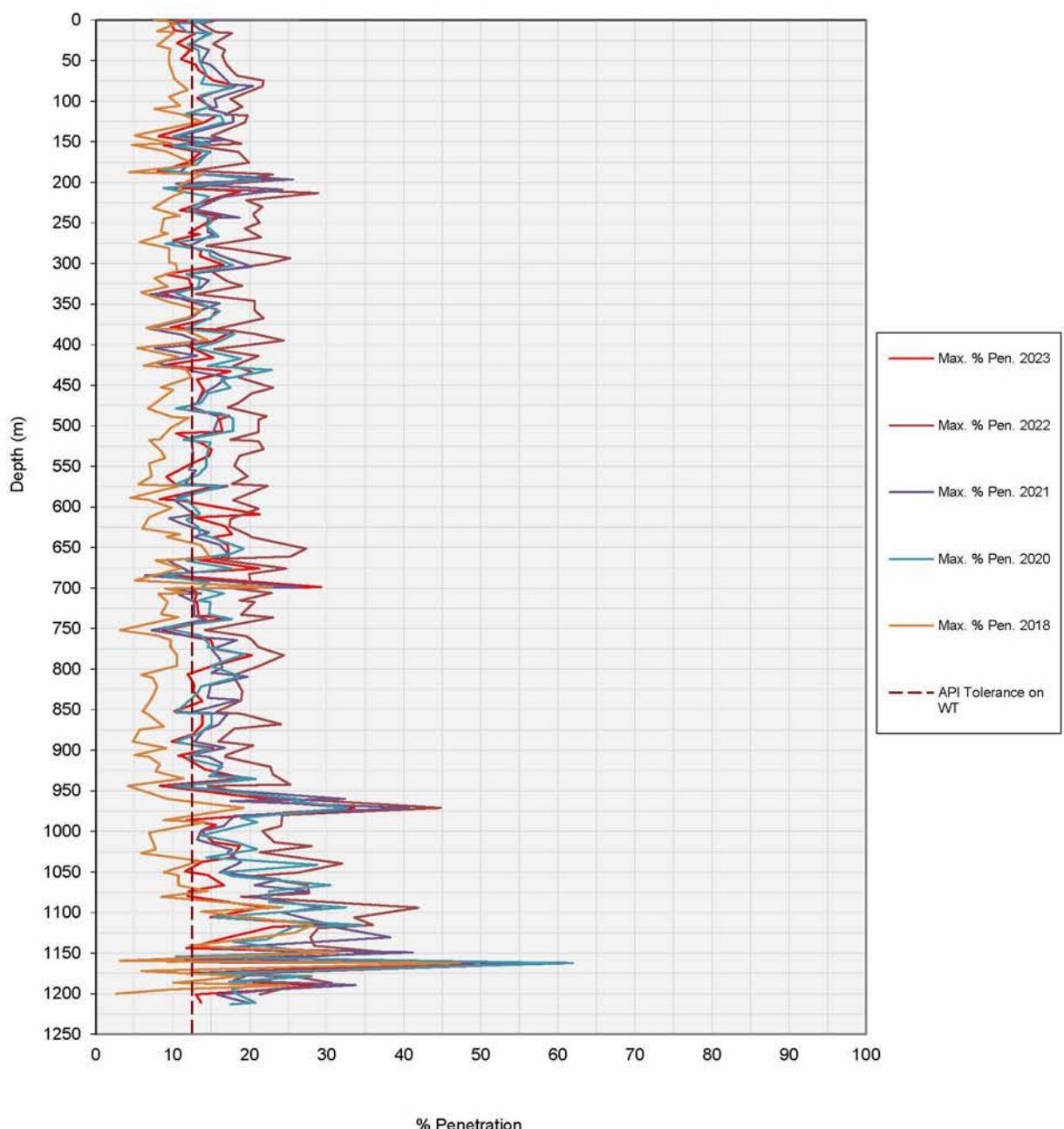
Total number of joints logged: 139					
49	Joints with Max. % Penetrations Between	0	and	12.5 %	
73	Joints with Max. % Penetrations Between	12.5	and	20 %	
13	Joints with Max. % Penetrations Between	20	and	30 %	
3	Joints with Max. % Penetrations Between	30	and	40 %	
1	Joints with Max. % Penetrations Between	40	and	50 %	
0	Joints with Max. % Penetrations Between	50	and	60 %	
0	Joints with Max. % Penetrations Between	60	and	70 %	
0	Joints with Max. % Penetrations Between	70	and	80 %	
0	Joints with Max. % Penetrations Between	80	and	90 %	
0	Joints with Max. % Penetrations Between	90	and	100 %	



Client: NAM	Well No.: ROSSUM WEERSELO - 7	Field: ROSSOM WEERSELO
Survey Date: 03/10/2023	Survey MFC-24 Extended	Job ID: DAC882



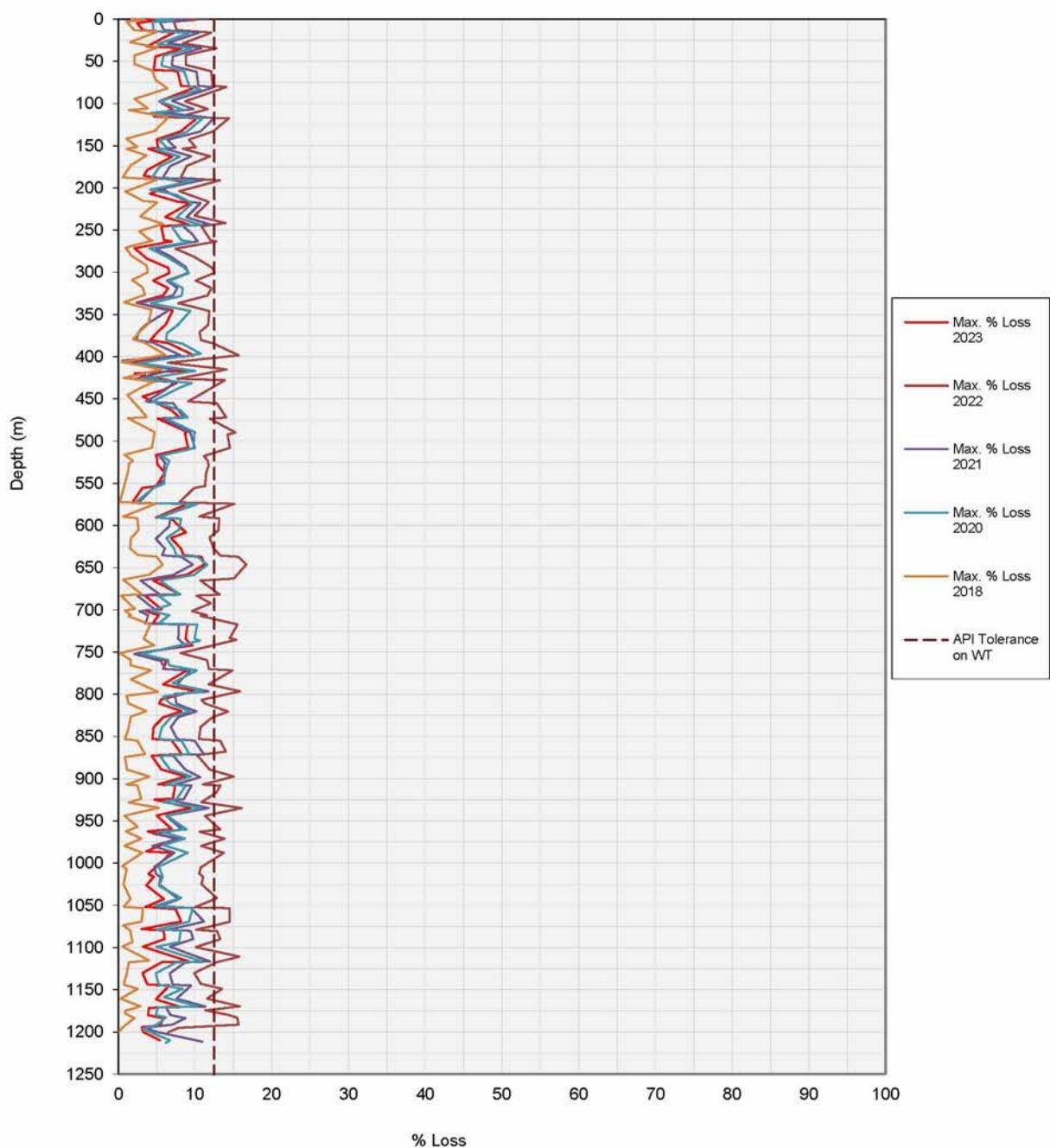
Time-lapse Max. Percentage Penetration per Joint vs. Depth Plot



Client: NAM	Well No.: ROSSUM WEERSELO - 7	Field: ROSSOM WEERSELO
Survey Date: 03/10/2023	Survey MFC-24 Extended	Job ID: DAC882



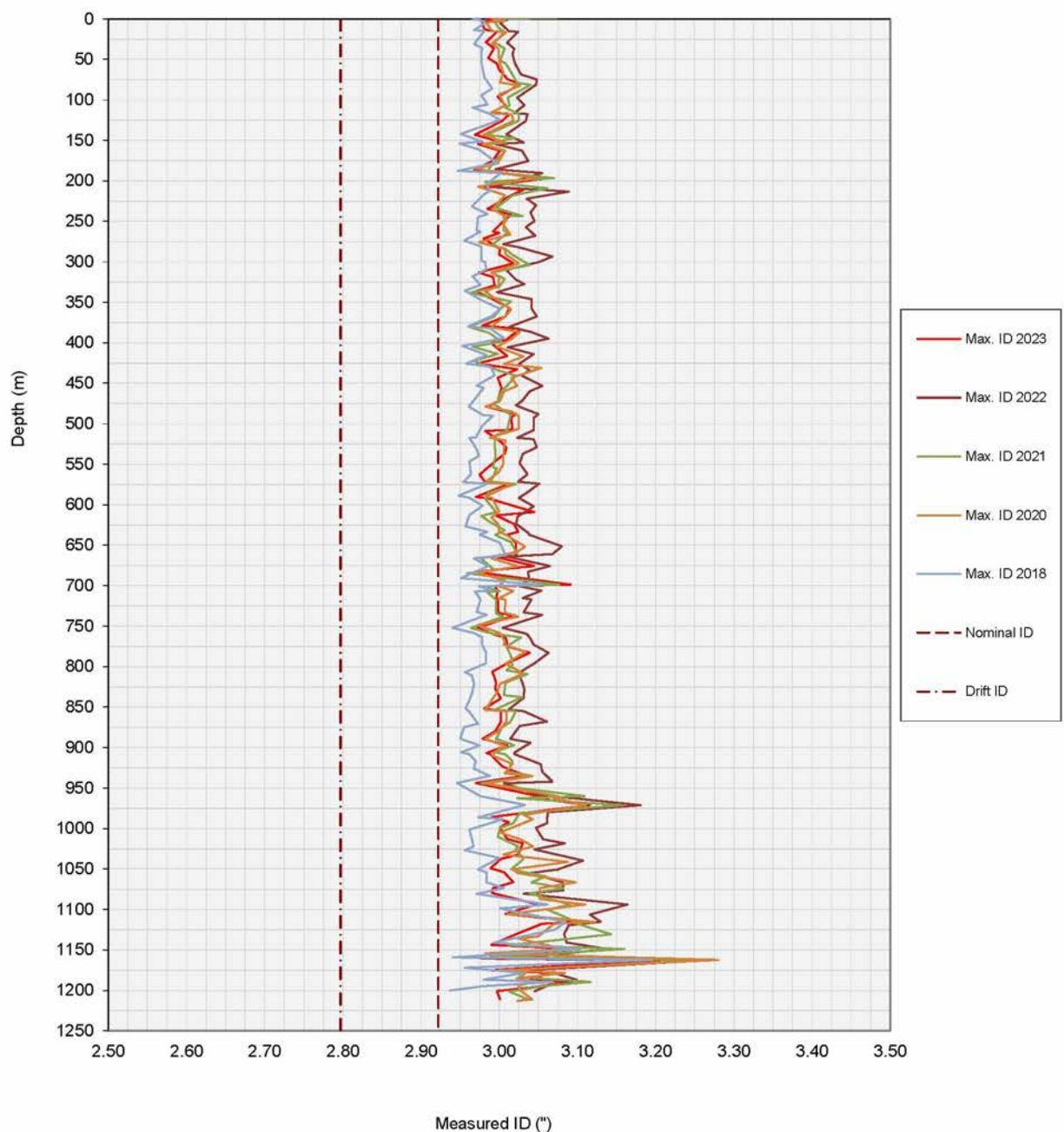
Max. Percentage Circumferential Wall Loss per Joint vs. Depth Plot



Client: NAM	Well No.: ROSSUM WEERSELO - 7	Field: ROSSOM WEERSELO
Survey Date: 03/10/2023	Survey MFC-24 Extended	Job ID: DAC882



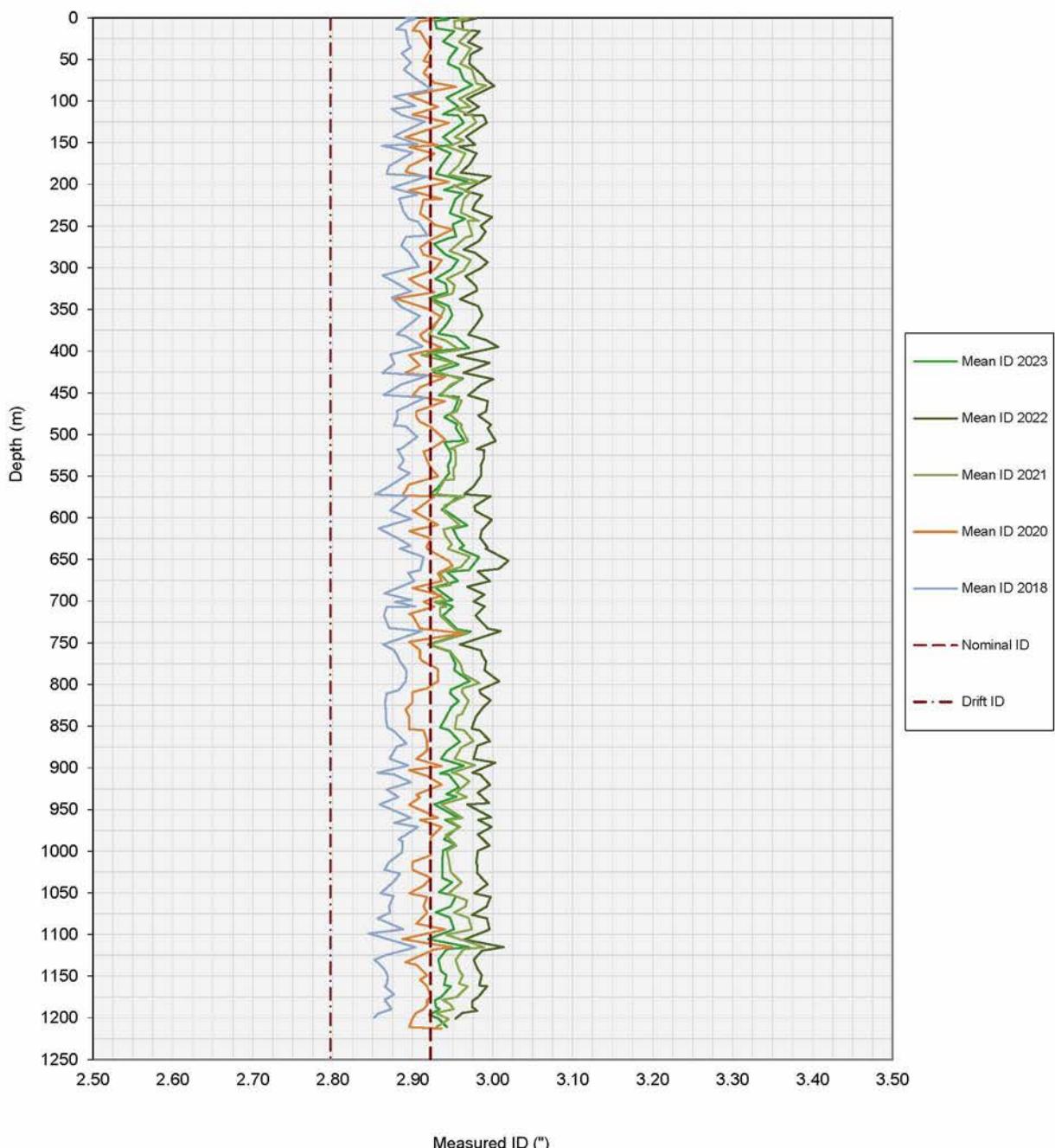
Time-lapse Maximum ID per Joint vs. Depth Plot



Client: NAM	Well No.: ROSSUM WEERSELO - 7	Field: ROSSOM WEERSELO
Survey Date: 03/10/2023	Survey MFC-24 Extended	Job ID: DAC882



Time-lapse Mean ID per Joint vs. Depth Plot

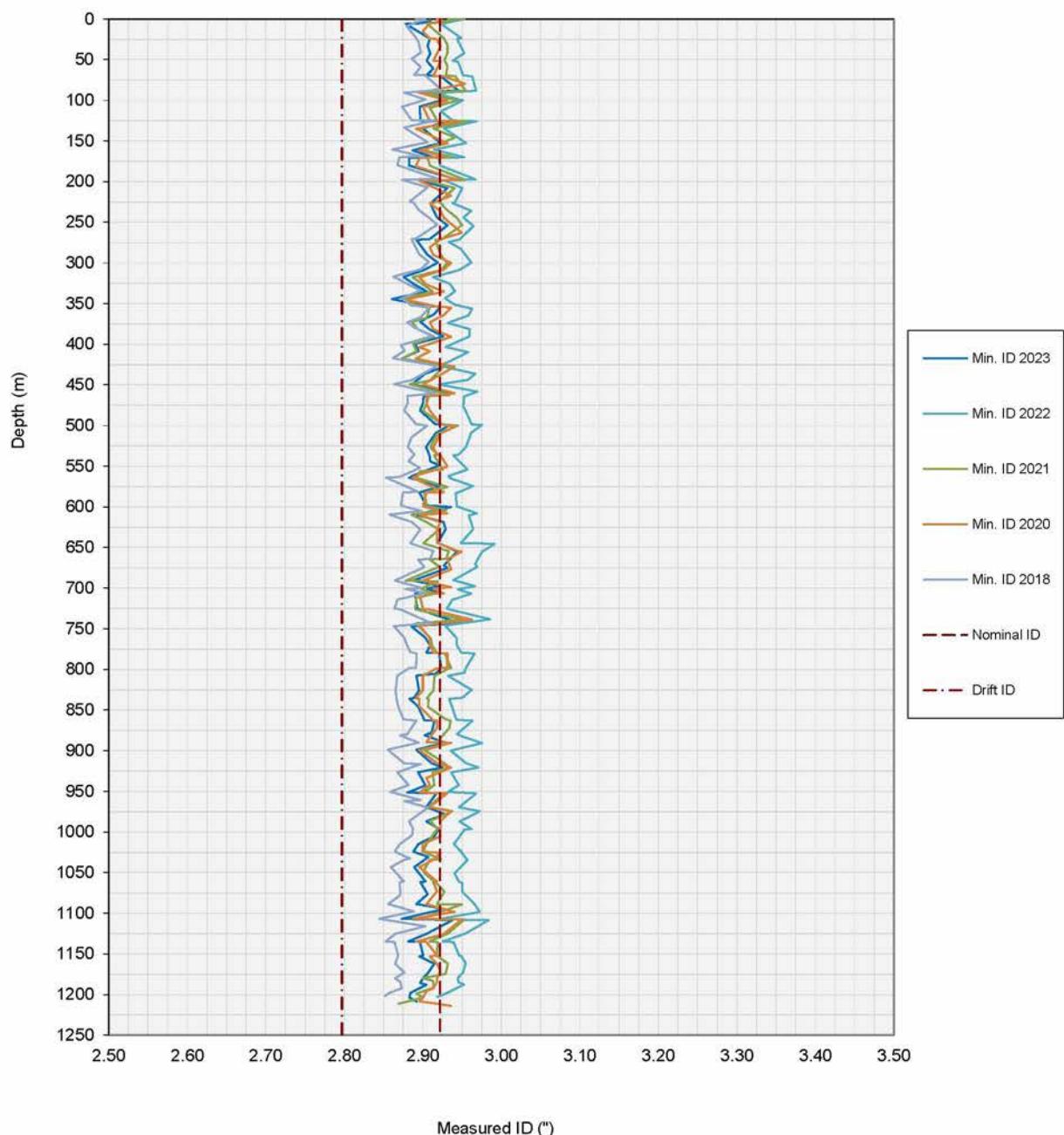


Measured ID (")

Client: NAM	Well No.: ROSSUM WEERSELO - 7	Field: ROSSOM WEERSELO
Survey Date: 03/10/2023	Survey MFC-24 Extended	Job ID: DAC882



Time-lapse Minimum ID per Joint vs. Depth Plot



Measured ID ("")

Client:	NAM	Well No.:	ROSSUM WEERSELO - 7	Field:	ROSSOM WEERSELO
Survey Date:	03/10/2023	Survey	MFC-24 Extended	Job ID:	DAC882



5. Well & Survey Information

Site: ROSSUM-WEERSELO-2
Well Name: ROSSUM-WEERSELO-7
Wellbore Name: ROW- 7A
Wellbore No: 01
Legal Wellbore Name: ROSSUM-WEERSELO- 7-2
Original Spud Date: 27/10/1976
Spud/Kick-off date: 24/11/1976
Tree Cap Connection:
 H2S Present: Y
 LSA Present: N
Well Comments:

NOTE: For further detail: consult OpenWells/iWellfile

Casing Assemblies		
Name	Top MD(m)/Base MD(m)	Size(in)
Conductor - driven	0.00	35.92
Surface Casing	0.71	299.82
Intermediate Casing	-0.00	970.00
Production Casing	-0.00	1,891.92
Production Liner	1,730.16	2,241.92
		7.000

Schematic Datum: TBF @ 29.99m

Top Perfo's	Casing Details	Schematic last update (30/08/2023)	Completion Details	Body ID / Min ID	HUD ORDERED AT DEPTH NOT AT DATE !!
28.000*, 35.90m			-1.28m, WLLM 2.87 KAMPEN 5X, 5000/5000,6TD, , LM3167 -1.28m, WLSR2.750 17-BPV-00684SL,BPV,3800,628,N, + 2.313" X EQ sub 6x2mm holes, FV2213 -1.30m, SRT TENTON TBG +GR, 2.87" SX-PROFILE, 3 1/2" - 10.2W VAM, 6.1 4" RAMS, CL, H1v2 -0.70m, TGPJ 3 1/2" - 10.2W VAM, L80, 10 ft., 4.08m, TGPJ 3 1/2" - 10.2W VAM, L80, 6 ft.,	1.750m / 1.750m 0.000m / 0.000m 2.875m / 2.875m 2.923m / 2.923m 2.922m / 2.922m	
20.000*, 299.92m			5.84m, TBNG 3 1/2" - 10.2W VAM, L80,,	2.922m / 2.922m	
13.375*, 870.00m			700.42m, TGPJ 3 1/2" - 10.2W VAM, L80, 5 ft., 703.64m, WLLM 2.75 910X027502, A000/9900, H25,, LM1798 701.00m, FLCP 3 1/2" - 10.2W VAM, 9C1Mo,, 702.69m, WLSR2.75,22-X-2762Z FXE 10K,2300FT,STD,E, , CPD=110, FULL+12%, CL=M, ber + O+ings, FV1023 703.63m, LNSV, 2.750" XXO-PROFILE, 3 1/2" - 10.2W VAM, 9C1Mo,, 704.36m, FLCP 3 1/2" - 10.2W VAM, 9C1Mo,, 706.19m, TGPJ 3 1/2" - 10.2W VAM, L80, 2 ft., 706.69m, TBNG 3 1/2" - 10.2W VAM, L80,,	2.922m / 2.922m 1.750m / 1.750m 2.613m / 2.612m 1.500m / 1.500m 2.750m / 2.750m 2.812m / 2.812m 2.923m / 2.923m 2.922m / 2.922m	
1,275.90m					
1,362.90m			1.170.41m, TGPJ 3 1/2" - 10.2W VAM, L80, 16 ft., 1.175.18m, SLSD 2.750" O19 XA, 3 1/2" - 10.2W VAM, 9C1Mo,, SHIFT UP TO OPEN,, 1.176.25m, TGPJ 3 1/2" - 10.2W VAM, L80, 15 ft., 1.180.50m, CANCE DUMMY VALVE E, 1 inch,, 1.180.80m, SPMA 3 1/2" - 10.2W VAM, MHO, SCUR, 4130, BvB,, 1.182.35m, TGPJ 3 1/2" - 10.2W VAM, L80, 16 ft., PxP,, 1.187.48m, TGPJ 3 1/2" - 10.2W VAM, L80, 16 ft., 1.192.42m, CANCE DUMMY VALVE E, 1 inch,, 1.192.32m, SPMA 3 1/2" - 10.2W VAM, MHO, SCUR, 4130, BvB,, 1.194.37m, TGPJ 3 1/2" - 10.2W VAM, L80, 8 ft., PxP,, 1.196.67m, LN, 2.750" X-PROFILE, 3 1/2" - 10.2W VAM, 9C1Mo,, 1.199.19m, TGPJ 3 1/2" - 10.2W VAM, L80, 16 ft., 1.203.89m, TCCO 3.0" - 32-0W VAM x 3 1/2" - 10.2W VAM, CT5,, 1.208.17m, TGPJ 3 1/2" - 10.2W VAM, L80, 16 ft., 1.212.94m, FLCP 3 1/2" - 10.2W VAM, 9C1Mo,, 1.213.78m, LN, 2.750" X-PROFILE, 3 1/2" - 10.2W VAM, 9C1Mo,, 1.214.10m, ENTRY GUIDE 2.750", 3 1/2" - 10.2W VAM, DCR1Mo,,	2.922m / 2.922m 2.750m / 2.750m 2.922m / 2.922m /	
1,358.90m			1.598.00m, PISH WIRELINE ITEM; Cancos sheathless,, 1.599.00m, PACKER 3 1/2", 194.DAB80, 7.0" - 32.0W VAM, BD, 4140,, 1.600.50m, TGPJ 7.0" - 32.0W VAM, 8 ft, PxP,, 1.603.00m, TCCO 5.0" - 15.0W VAM x 3 1/2" - 10.2W VAM, CT5,, 1.603.10m, TGPJ 3 1/2" - 10.2W VAM, L80, 16 ft., 1.607.90m, FLCP 3 1/2" - 10.2W VAM, 9C1Mo,, 1.608.70m, LN, 2.750" X-PROFILE, 3 1/2" - 10.2W VAM, 9C1Mo,, 1.609.00m, ENTRY GUIDE 2.750", 3 1/2" - 10.2W VAM, 9C1Mo,,	2.958m / 3.958m 4.750m / 4.750m 6.034m / 6.034m 2.921m / 2.921m 2.922m / 2.922m 2.613m / 2.612m 2.750m / 2.750m 2.750m / 2.750m	H.1.587.00m 24/02/2014 00:00 H.1.597.00m 05/13/2015 00:00 H.1.599.00m 22/11/2011 00:00 H.1.599.00m 25/03/2012 00:00 H.1.599.00m 21/01/2013 00:00 H.1.599.00m 17/07/2014 00:00 H.1.596.00m 16/12/2022 00:00 H.1.599.00m 22/05/1997 00:00 H.1.599.00m 01/11/1995 00:00 H.1.599.00m 01/11/1994 00:00 H.1.599.00m 05/05/1991 00:00 H.1.601.00m 26/10/2021 00:00 H.1.602.00m 08/11/2021 00:00 H.1.603.93m 10/11/2021 00:00
9.625*, 1,691.92m			1.960.11m, PACKER 7.0", 82DAB80, 5.0" - 15.0W VAM, BD, 4140,, 1.961.55m, TGPJ 5.0" - 18.0W VAM, CT5, 8 ft, PxP,, 1.963.73m, TCCO 5.0" - 15.0W VAM x 3 1/2" - 10.2W VAM,, 1.963.96m, TGPJ 3 1/2" - 10.2W VAM, CT5, 16 ft., 1.968.71m, FLCP 3 1/2" - 10.2W VAM, 9C1Mo,, 1.969.55m, LN, 2.750" X-PROFILE, 3 1/2" - 10.2W VAM, 9C1Mo,, 1.969.82m, ENTRY GUIDE 2.750", 3 1/2" - 10.2W VAM, 9C1Mo,,	3.250m / 3.250m 4.278m / 4.278m 2.921m / 2.921m 2.922m / 2.922m 2.613m / 2.612m 2.750m / 2.750m 2.750m / 2.750m 2.750m / 2.750m	
2.000.62m					
2.005.72m					
2.005.22m					
2.027.52m					
7.000*, 2,241.93m					

Prepared By: EUROPE n. 1.2.e

Data QA/QC'd by:

30/08/2023

Date QA/QC'd:

Client: NAM	Well No.: ROSSUM WEERSELO - 7	Field: ROSSOM WEERSELO
Survey Date: 03/10/2023	Survey MFC-24 Extended	Job ID: DAC882



Sensor	Offset (m)	Schematic	Description	Length (m)	O.D. (in)	Weight (lb)
			MBH-025 (10018758) Memory Battery Housing (5CC) S/N 5261	0.74	1.69	11.00
			UMT-007 (11297923) Ultrawire Memory Tool (1GB)	0.32	1.69	6.60
			PKJ-013 (00499) Production Knuckle Joint	0.17	1.69	3.50
			PKJ-013 (11136402) Production Knuckle Joint	0.17	1.69	3.50
			PRC-034 (C-1224) Production Roller Centraliser (4 Arm)	0.84	1.69	13.00
MIT	1.54	MIT Schematic	MIT-034 (11140595) Multifinger Imaging Tool (UW 24F Ext.)	1.29	1.69	20.70
			PRC-034 (11187221) Production Roller Centraliser (4 Arm)	0.84	1.69	13.00
			BUL-006 (212792) Terminator bullnose	0.10	1.69	1.50
Dataset: Sondex Ultrawire Memory MIT/MTT Total length: 4.47 m Total weight: 72.80 lb O.D.: 1.69 in						