Gudrun A-01

Project: Gudrun A-01
Prepared by: Lars-Espen Kolberg on mars 30, 2023

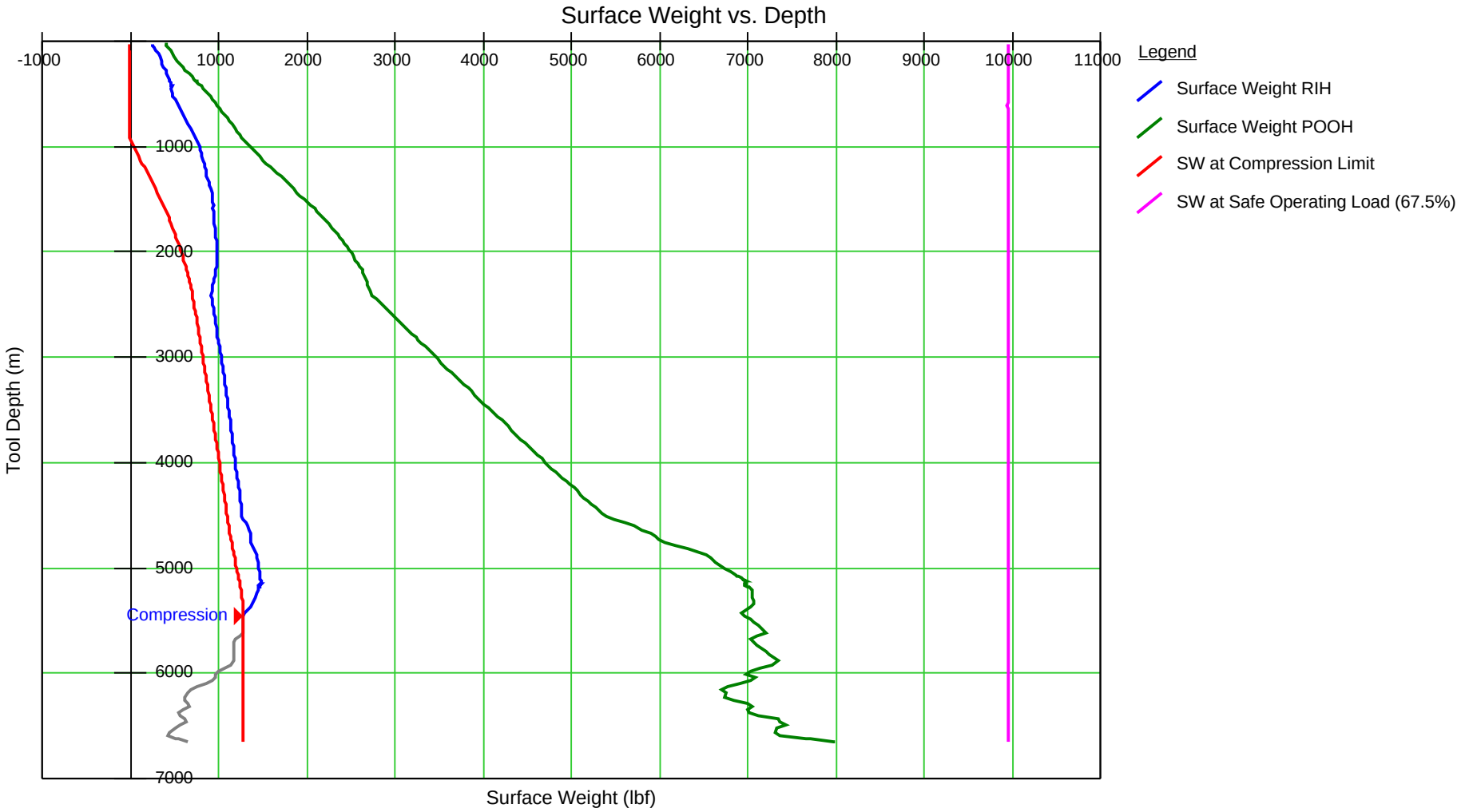
Project Summary

Wireline: SLB 2-32ZA-HC
Well: Gudrun A-01
Tool: SLB PLT

Calculation Depth: 6648.0 m
Well Depth: 6648.0 m

Cable Speed :	0.0	m/min
Stuffing Box Friction :	50	lbf
Wellhead Pressure :	370.0	bar
Fluid Travel Time :	--	
Tractor Force :	0	lbf
Force On End :	0	lbf

Gudrun A-01



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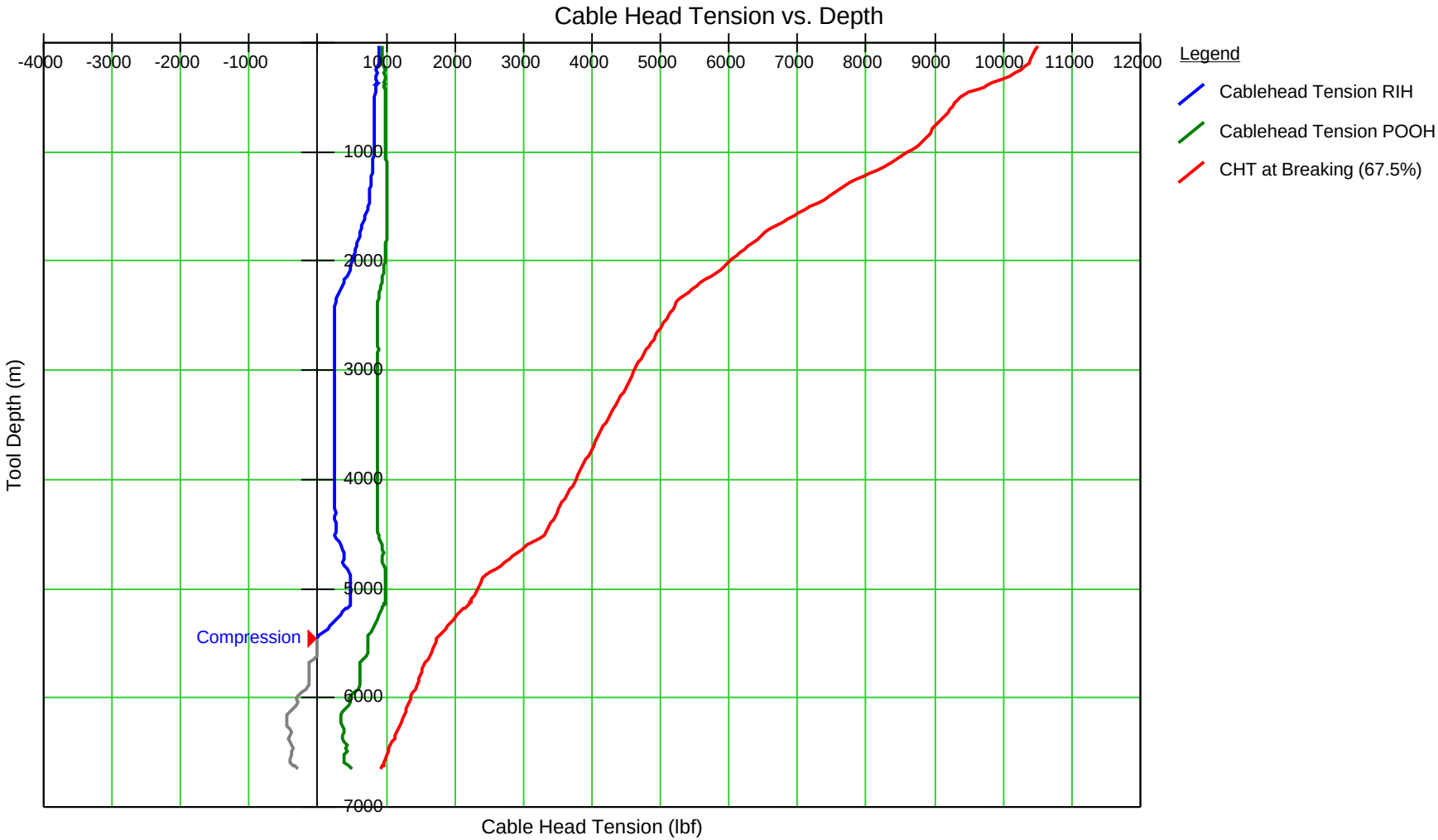
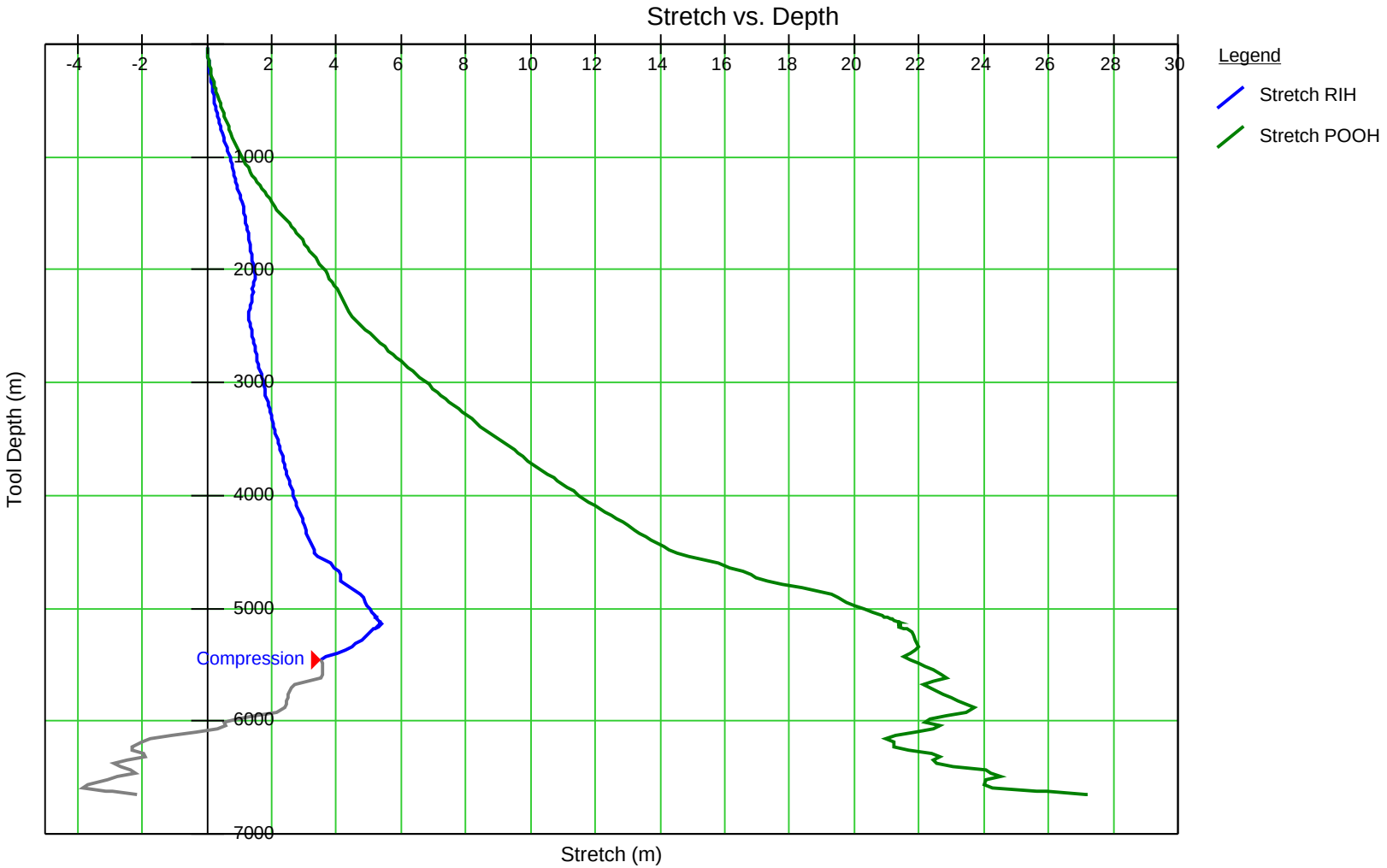
Gudrun A-01


Cable Head Tension vs. Depth
-4000
-3000
-2000
-1000
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000
11000
12000
1000
2000
3000
4000
5000
6000
7000
Tool Depth (m)
Cable Head Tension (lbf)
Compression
Legend
Cablehead Tension RIH
Cablehead Tension POOH
CHT at Breaking (67.5%)

Gudrun A-01



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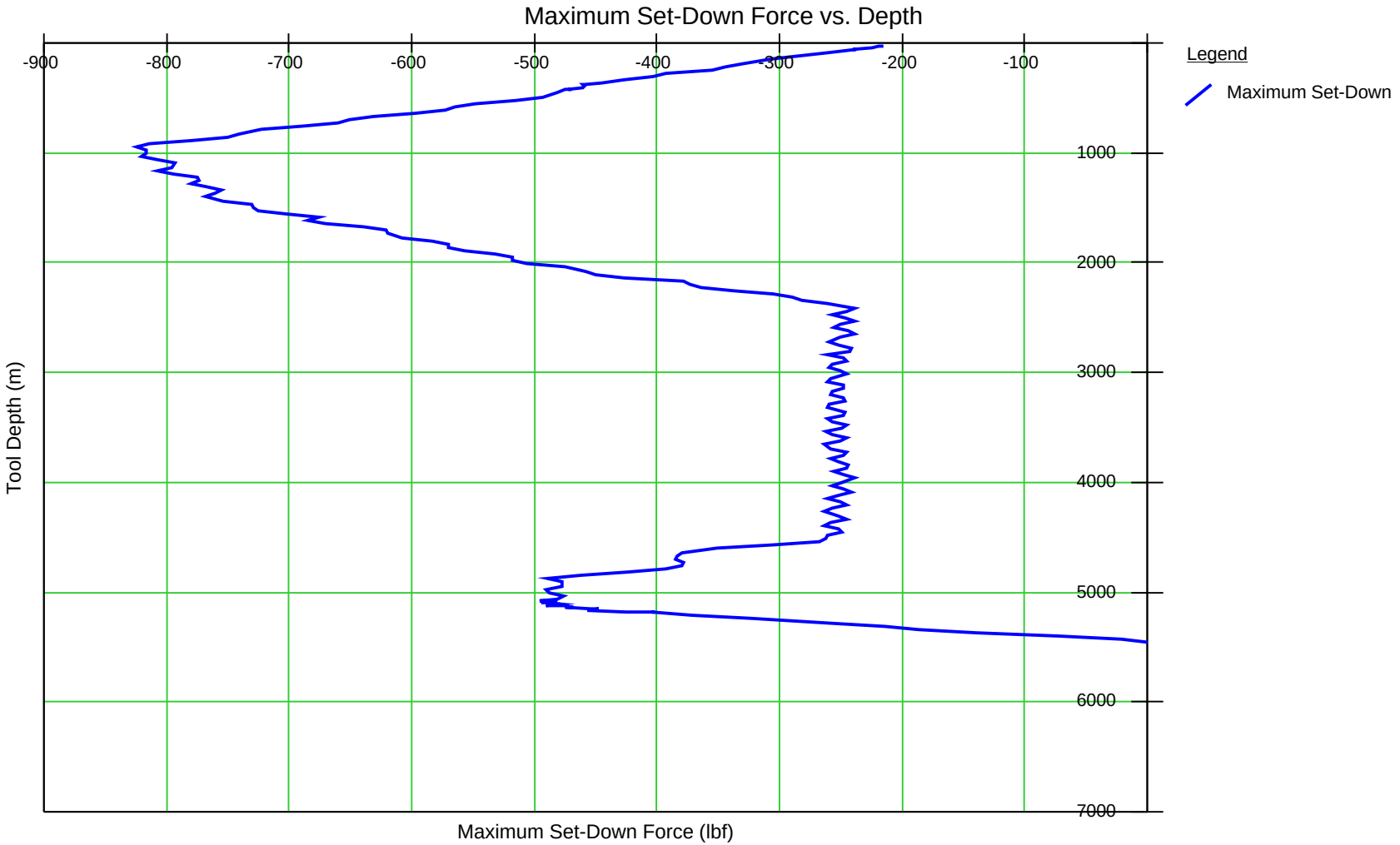
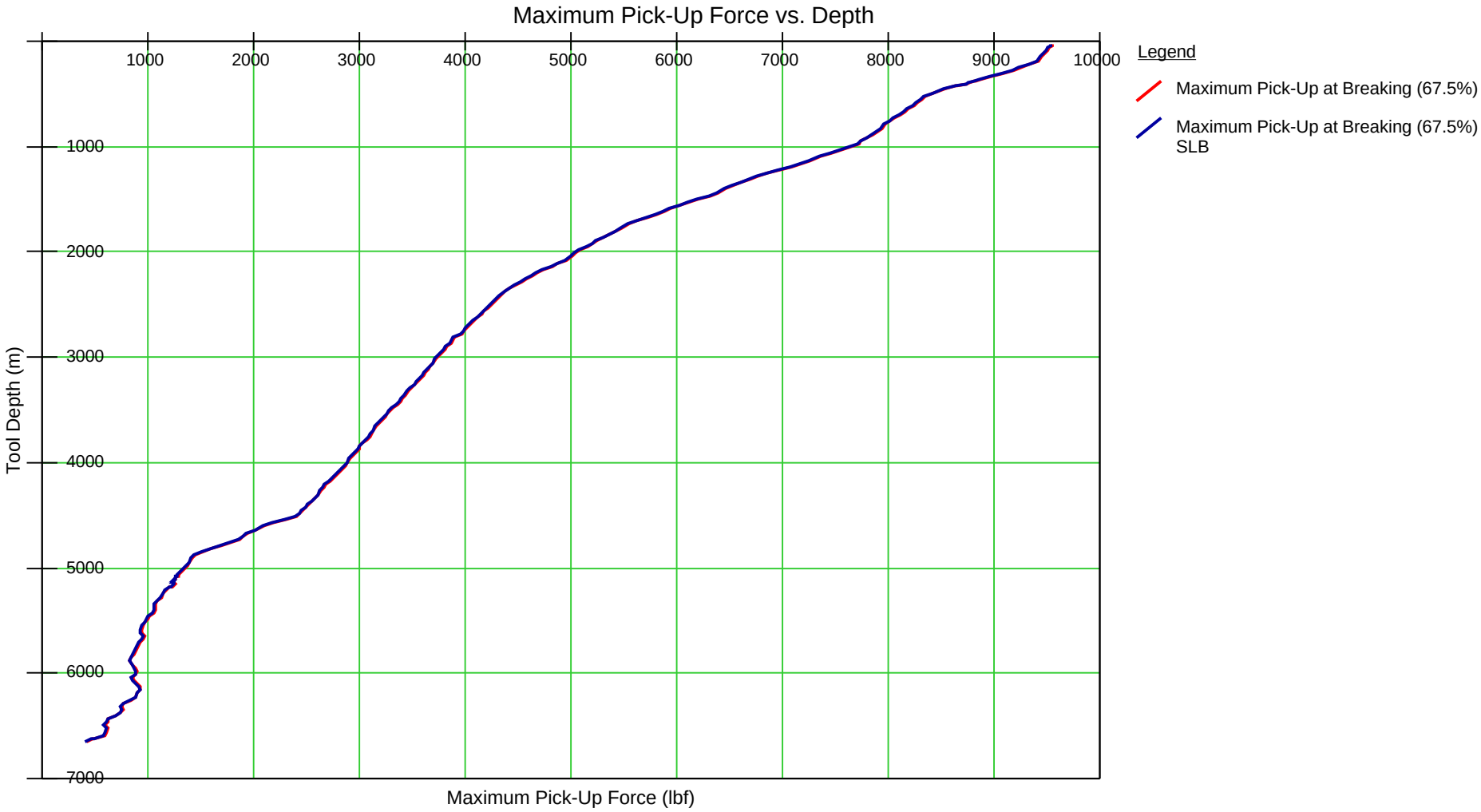
Gudrun A-01


Maximum Set-Down Force vs. Depth
-900
-800
-700
-600
-500
-400
-300
-200
-100
1000
2000
3000
4000
5000
6000
7000
Tool Depth (m)
Maximum Set-Down Force (lbf)
Legend
Maximum Set-Down

Gudrun A-01



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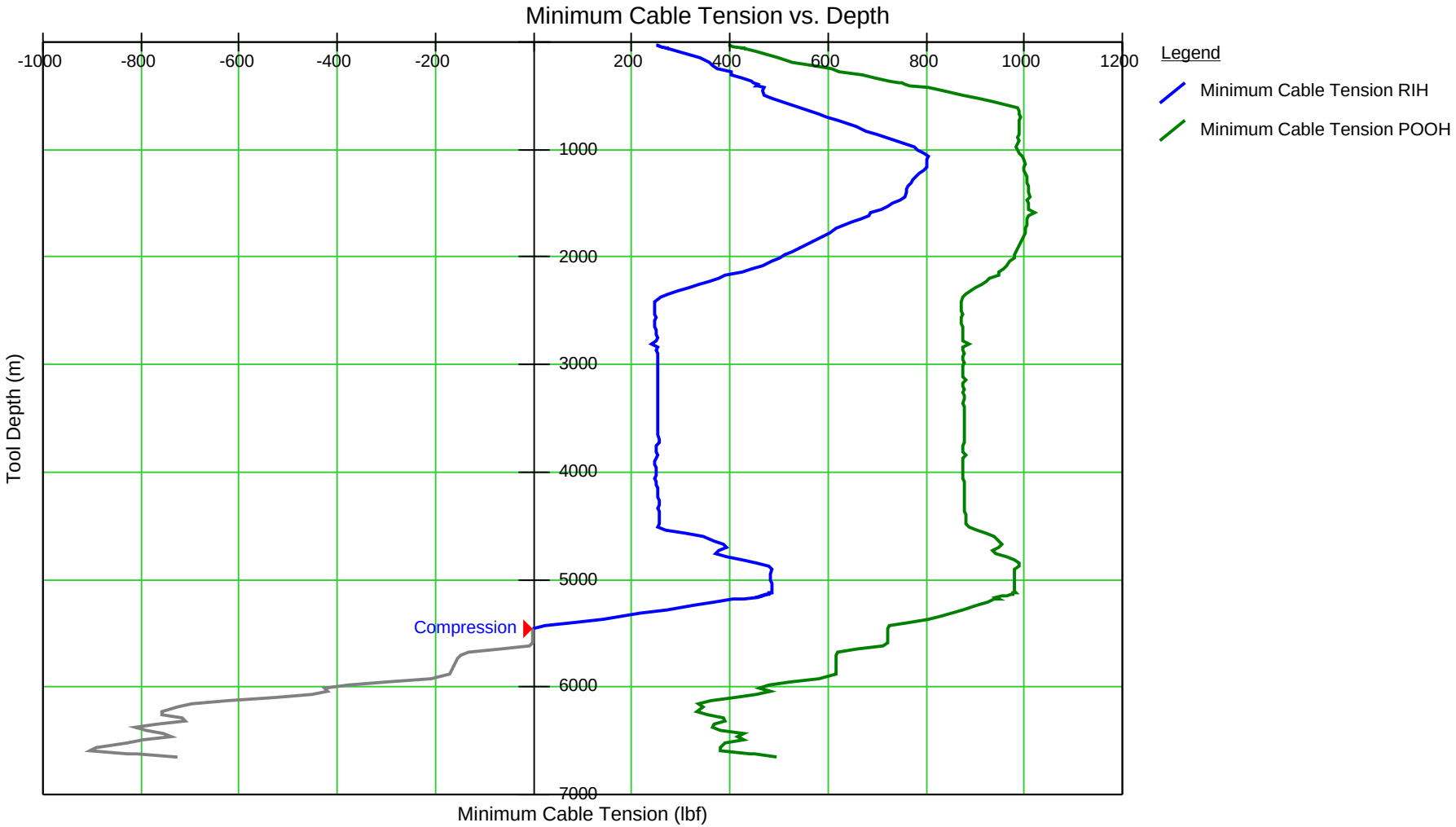
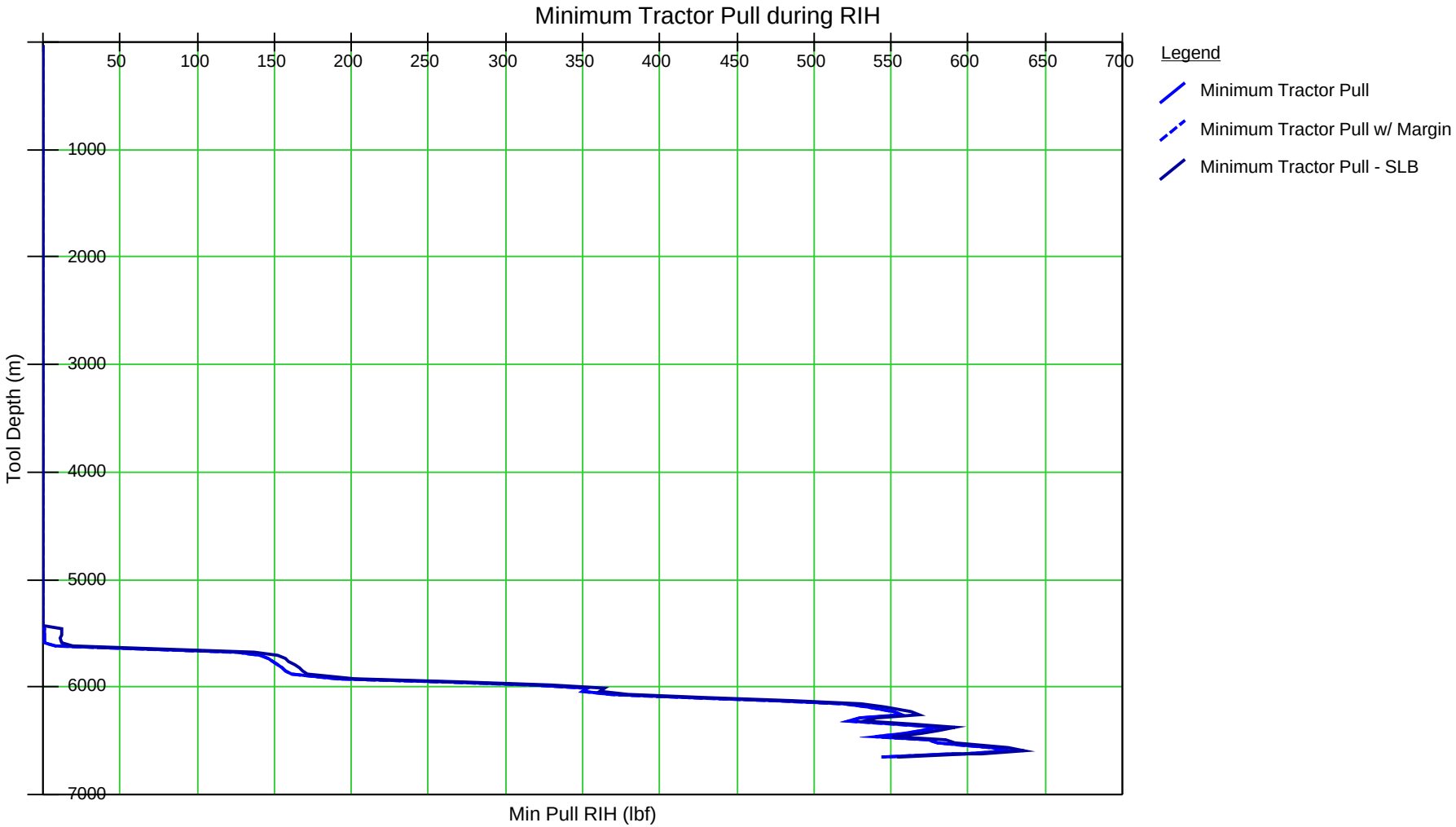
Gudrun A-01


Minimum Cable Tension vs. Depth
-1000
-800
-600
-400
-200
200
400
600
800
1000
1200
1000
2000
3000
4000
5000
6000
7000
Tool Depth (m)
Compression
Minimum Cable Tension (lbf)
Legend
Minimum Cable Tension RIH
Minimum Cable Tension POOH

Gudrun A-01



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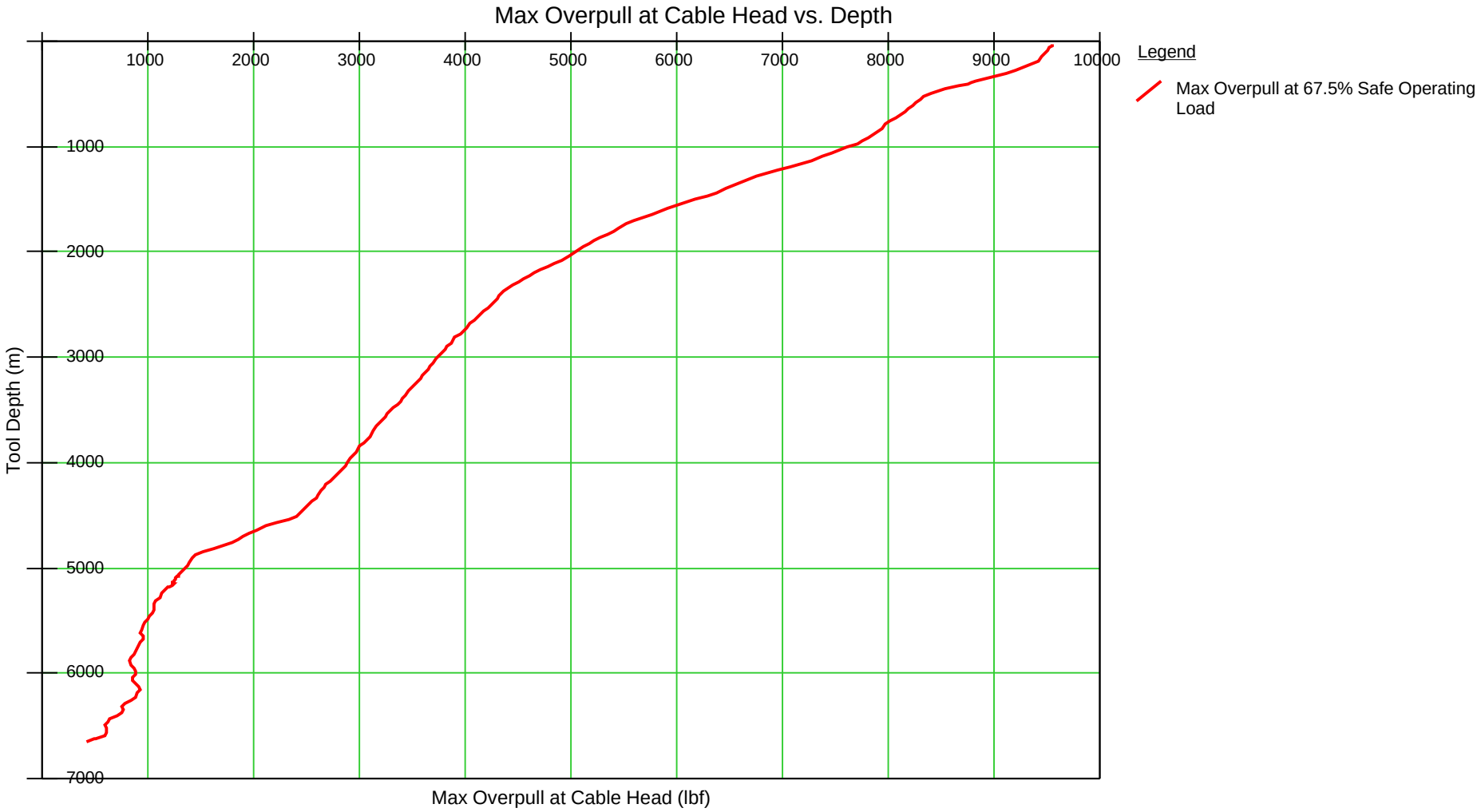
Gudrun A-01



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Gudrun A-01

Surface Weight During Tripping

Tool Depth (m)	Surface Weight RIH (lbf)	Surface Weight POOH (lbf)	SW at Compression Limit (lbf)	SW at Safe Operating Load (67.5%) (lbf)
24.6	249	396	0	9950
30.5	253	400	0	9951
37.2	258	405	0	9954
61.0	274	433	0	9952
61.5	271	430	0	9953
91.5	294	453	0	9955
122.0	317	476	0	9952
152.5	340	499	0	9954
183.0	359	527	0	9950
213.5	364	569	0	9949
244.0	373	607	0	9953
274.5	404	622	0	9953
305.0	403	671	0	9954
335.5	424	697	0	9953
366.0	443	724	0	9953
378.5	447	745	0	9952
378.8	449	749	0	9952
396.5	456	757	0	9954
402.8	455	768	0	9950
403.1	456	768	0	9950
427.0	469	804	0	9954
427.1	469	806	-3	9954
427.4	470	806	-4	9952
457.5	467	835	0	9953
488.0	471	876	0	9951
518.5	485	908	0	9955
549.0	505	934	0	9951

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Gudrun A-01

Surface Weight During Tripping (cont.)

Tool Depth (m)	Surface Weight RIH (lbf)	Surface Weight POOH (lbf)	SW at Compression Limit (lbf)	SW at Safe Operating Load (67.5%) (lbf)
579.5	523	961	0	9952
610.0	543	987	0	9948
640.5	561	1015	0	9953
671.0	581	1043	0	9955
701.5	599	1072	0	9955
732.0	619	1099	0	9954
762.5	640	1128	0	9953
793.0	659	1155	0	9954
823.5	678	1183	0	9954
854.0	698	1211	0	9953
884.5	718	1239	0	9954
915.0	736	1269	0	9952
945.5	756	1298	1	9952
976.0	775	1326	22	9955
1006.5	783	1361	41	9955
1037.0	794	1397	61	9954
1067.5	804	1433	80	9953
1098.0	815	1472	100	9955
1128.5	828	1510	120	9953
1159.0	841	1547	139	9952
1189.5	850	1584	158	9953
1220.0	854	1625	177	9954
1250.5	861	1667	196	9953
1281.0	869	1705	215	9954
1311.5	881	1741	233	9954
1342.0	892	1778	251	9951

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Gudrun A-01

Surface Weight During Tripping (cont.)

Tool Depth (m)	Surface Weight RIH (lbf)	Surface Weight POOH (lbf)	SW at Compression Limit (lbf)	SW at Safe Operating Load (67.5%) (lbf)
1372.5	904	1815	269	9951
1403.0	916	1853	287	9954
1433.5	928	1894	305	9954
1464.0	932	1928	326	9953
1494.5	933	1971	342	9955
1525.0	937	2010	358	9954
1555.5	941	2048	374	9953
1586.0	938	2098	390	9954
1616.5	950	2119	406	9954
1647.0	951	2154	421	9953
1677.5	951	2190	437	9954
1708.0	952	2226	452	9951
1738.5	954	2260	466	9954
1769.0	958	2292	480	9954
1799.5	963	2321	494	9955
1830.0	967	2351	508	9953
1860.5	971	2380	521	9951
1891.0	974	2407	535	9951
1921.5	979	2432	547	9953
1952.0	981	2457	560	9950
1982.5	983	2485	572	9954
2013.0	989	2516	584	9954
2043.5	989	2532	597	9954
2074.0	985	2556	608	9954
2104.5	981	2582	618	9955
2135.0	977	2602	629	9952

Gudrun A-01

Surface Weight During Tripping (cont.)

Tool Depth (m)	Surface Weight RIH (lbf)	Surface Weight POOH (lbf)	SW at Compression Limit (lbf)	SW at Safe Operating Load (67.5%) (lbf)
2165.5	962	2638	639	9953
2196.0	964	2641	648	9951
2226.5	959	2656	658	9955
2257.0	952	2671	666	9953
2287.5	945	2683	675	9954
2318.0	936	2696	682	9953
2348.5	929	2709	690	9952
2379.0	924	2727	697	9949
2409.5	921	2748	703	9950
2440.0	926	2783	710	9955
2470.5	932	2820	716	9954
2501.0	938	2854	722	9952
2531.5	943	2891	729	9953
2562.0	951	2930	735	9954
2592.5	955	2963	742	9949
2623.0	959	2998	748	9948
2653.5	966	3037	754	9952
2684.0	973	3075	759	9953
2714.5	979	3116	766	9950
2745.0	987	3154	772	9952
2775.5	990	3187	778	9953
2806.0	987	3247	784	9952
2836.5	1002	3265	790	9954
2867.0	1007	3299	796	9955
2897.5	1014	3342	802	9954
2928.0	1020	3378	808	9954

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Gudrun A-01

Surface Weight During Tripping (cont.)

Tool Depth (m)	Surface Weight RIH (lbf)	Surface Weight POOH (lbf)	SW at Compression Limit (lbf)	SW at Safe Operating Load (67.5%) (lbf)
2958.5	1023	3412	814	9955
2989.0	1031	3454	820	9954
3019.5	1036	3489	826	9955
3050.0	1041	3526	832	9955
3080.5	1046	3563	838	9952
3111.0	1051	3599	844	9955
3141.5	1057	3645	850	9954
3172.0	1061	3673	857	9954
3202.5	1066	3711	862	9952
3233.0	1073	3751	868	9953
3263.5	1077	3786	874	9953
3294.0	1082	3826	879	9954
3324.5	1088	3864	885	9954
3355.0	1093	3901	891	9952
3385.5	1098	3938	897	9953
3416.0	1103	3976	903	9955
3446.5	1107	4016	909	9952
3477.0	1113	4055	914	9955
3507.5	1118	4095	920	9952
3538.0	1123	4133	926	9955
3568.5	1127	4169	932	9954
3599.0	1132	4209	938	9952
3629.5	1137	4247	943	9954
3660.0	1143	4286	949	9955
3690.5	1148	4325	955	9953
3721.0	1152	4363	960	9953

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Gudrun A-01

Surface Weight During Tripping (cont.)

Tool Depth (m)	Surface Weight RIH (lbf)	Surface Weight POOH (lbf)	SW at Compression Limit (lbf)	SW at Safe Operating Load (67.5%) (lbf)
3751.5	1154	4394	966	9954
3782.0	1159	4433	972	9954
3812.5	1164	4473	977	9954
3843.0	1170	4521	983	9955
3873.5	1172	4546	989	9953
3904.0	1175	4583	994	9954
3934.5	1181	4623	999	9955
3965.0	1186	4663	1004	9951
3995.5	1191	4702	1010	9953
4026.0	1195	4740	1015	9954
4056.5	1199	4779	1020	9954
4087.0	1205	4821	1026	9952
4117.5	1210	4863	1031	9954
4148.0	1215	4904	1036	9952
4178.5	1220	4943	1042	9954
4209.0	1225	4988	1047	9953
4239.5	1230	5026	1052	9953
4270.0	1235	5067	1058	9954
4300.5	1240	5107	1063	9953
4331.0	1243	5145	1068	9954
4361.5	1248	5188	1073	9954
4392.0	1254	5230	1079	9955
4422.5	1258	5272	1084	9953
4453.0	1263	5314	1089	9953
4483.5	1267	5353	1094	9954
4514.0	1270	5405	1099	9952

Gudrun A-01

Surface Weight During Tripping (cont.)

Tool Depth (m)	Surface Weight RIH (lbf)	Surface Weight POOH (lbf)	SW at Compression Limit (lbf)	SW at Safe Operating Load (67.5%) (lbf)
4544.5	1283	5492	1105	9955
4575.0	1309	5606	1110	9954
4605.5	1331	5715	1115	9954
4636.0	1347	5808	1122	9954
4666.5	1360	5896	1128	9954
4697.0	1367	5955	1135	9955
4727.5	1364	5991	1142	9954
4758.0	1366	6064	1149	9954
4788.5	1382	6182	1155	9955
4819.0	1400	6316	1162	9954
4849.5	1416	6434	1169	9954
4880.0	1431	6530	1177	9953
4910.5	1438	6579	1184	9954
4941.0	1444	6632	1192	9953
4971.5	1450	6689	1200	9954
5002.0	1456	6746	1207	9953
5032.5	1463	6808	1214	9953
5063.0	1469	6866	1222	9955
5072.6	1471	6884	1223	9955
5072.9	1471	6884	1223	9955
5082.1	1473	6901	1223	9955
5093.5	1475	6923	1229	9955
5096.9	1476	6929	1230	9953
5097.2	1476	6929	1230	9953
5106.4	1478	6946	1230	9953
5121.2	1481	6981	1236	9955

Gudrun A-01

Surface Weight During Tripping (cont.)

Tool Depth (m)	Surface Weight RIH (lbf)	Surface Weight POOH (lbf)	SW at Compression Limit (lbf)	SW at Safe Operating Load (67.5%) (lbf)
5121.5	1480	6967	1236	9954
5124.0	1480	6970	1237	9954
5126.3	1480	6973	1237	9954
5130.7	1480	6979	1237	9954
5139.5	1480	6985	1239	9955
5150.6	1478	6980	1243	9954
5154.5	1479	6967	1244	9954
5163.8	1477	6966	1244	9954
5174.9	1466	7004	1244	9954
5185.0	1460	7014	1250	9955
5188.1	1459	7017	1250	9954
5215.5	1447	7049	1256	9955
5246.0	1435	7058	1262	9955
5276.5	1416	7057	1267	9955
5307.0	1396	7065	1271	9955
5337.5	1379	7065	1274	9953
5368.0	1361	7040	1277	9953
5398.5	1332	6991	1280	9953
5429.0	1296	6934	1282	9954
5459.5	1282	6974	1282	9955
5490.0	1282	7026	1283	9954
5520.5	1282	7078	1283	9955
5551.0	1283	7129	1283	9955
5581.5	1283	7180	1284	9953
5612.0	1278	7207	1284	9954
5642.5	1238	7104	1284	9955

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Gudrun A-01

Surface Weight During Tripping (cont.)

Tool Depth (m)	Surface Weight RIH (lbf)	Surface Weight POOH (lbf)	SW at Compression Limit (lbf)	SW at Safe Operating Load (67.5%) (lbf)
5673.0	1193	7029	1284	9955
5703.5	1181	7067	1284	9954
5734.0	1177	7110	1284	9954
5764.5	1175	7157	1284	9955
5795.0	1173	7203	1284	9955
5825.5	1170	7251	1284	9954
5856.0	1169	7299	1284	9955
5886.5	1166	7347	1284	9954
5917.0	1138	7284	1284	9955
5947.5	1069	7142	1284	9954
5978.0	1003	7027	1284	9953
6008.5	961	6986	1284	9955
6039.0	967	7087	1284	9954
6069.5	937	7040	1284	9955
6100.0	860	6913	1284	9955
6130.5	762	6768	1284	9955
6161.0	682	6704	1284	9954
6191.5	647	6753	1284	9955
6222.0	610	6746	1284	9955
6252.5	609	6846	1284	9954
6283.0	660	6995	1284	9954
6313.5	667	7051	1284	9955
6344.0	596	7000	1284	9955
6374.5	542	7019	1284	9955
6405.0	571	7123	1284	9954
6435.5	612	7339	1284	9954

Gudrun A-01

Surface Weight During Tripping (cont.)

Tool Depth (m)	Surface Weight RIH (lbf)	Surface Weight POOH (lbf)	SW at Compression Limit (lbf)	SW at Safe Operating Load (67.5%) (lbf)
6466.0	630	7369	1284	9954
6496.5	561	7431	1284	9953
6527.0	521	7336	1284	9954
6557.5	437	7319	1284	9954
6588.0	419	7364	1284	9954
6618.5	519	7657	1284	9955
6622.3	538	7703	1284	9954
6623.7	545	7720	1284	9955
6646.6	645	7977	1284	9955
6648.0	648	7988	1284	9954

Gudrun A-01

Data During Tripping

Tool Depth (m)	Stretch RIH (m)	Stretch POOH (m)	Maximum Set-Down (DH) (lbf)	Maximum Pick-Up at Breaking (67.5%) (DH) (lbf)	Cablehead Tension RIH (lbf)	Cablehead Tension POOH (lbf)	Minimum Cable Tension RIH (lbf)	Minimum Cable Tension POOH (lbf)	Max Overpull at 67.5% Safe Operating Load (lbf)	Minimum Tractor Pull (lbf)	Minimum Tractor Pull w/ Margin (lbf)
24.6	0.00	0.00	-215	9555	891	938	249	396	9555	0	0
30.5	0.00	0.00	-220	9551	891	938	253	400	9551	0	0
37.2	0.00	0.01	-225	9549	891	938	258	405	9549	0	0
61.0	0.01	0.02	-240	9520	889	947	274	433	9520	0	0
61.5	0.01	0.02	-237	9523	886	944	271	430	9523	0	0
91.5	0.03	0.03	-260	9502	886	944	294	453	9502	0	0
122.0	0.04	0.05	-283	9477	886	944	317	476	9477	0	0
152.5	0.05	0.06	-307	9455	886	944	340	499	9455	0	0
183.0	0.07	0.08	-330	9414	881	949	359	527	9423	0	0
213.5	0.08	0.10	-344	9336	865	965	364	569	9352	0	0
244.0	0.09	0.13	-355	9254	855	975	373	607	9277	0	0
274.5	0.11	0.15	-392	9191	869	961	404	622	9204	0	0
305.0	0.12	0.18	-403	9086	848	982	403	671	9117	0	0
335.5	0.14	0.20	-427	8977	854	975	424	697	9006	0	0
366.0	0.16	0.23	-445	8867	860	968	443	724	8887	0	0
378.5	0.17	0.25	-459	8820	857	975	447	745	8829	0	0
378.8	0.17	0.25	-461	8816	859	978	449	749	8825	0	0
396.5	0.18	0.26	-460	8768	857	968	456	757	8776	0	0
402.8	0.18	0.27	-460	8742	852	973	455	768	8753	0	0
403.1	0.18	0.27	-460	8742	852	973	456	768	8753	0	0
427.0	0.20	0.30	-473	8648	854	983	469	804	8669	0	0
427.1	0.20	0.30	-470	8648	853	985	469	806	8668	0	0
427.4	0.20	0.30	-475	8645	854	984	470	806	8665	0	0
457.5	0.21	0.33	-482	8539	838	977	467	835	8529	0	0
488.0	0.22	0.37	-493	8426	827	984	471	876	8402	0	0

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Gudrun A-01

Data During Tripping (cont.)

Tool Depth (m)	Stretch RIH (m)	Stretch POOH (m)	Maximum Set-Down (DH) (lbf)	Maximum Pick-Up at Breaking (67.5%) (DH) (lbf)	Cablehead Tension RIH (lbf)	Cablehead Tension POOH (lbf)	Minimum Cable Tension RIH (lbf)	Minimum Cable Tension POOH (lbf)	Max Overpull at 67.5% Safe Operating Load (lbf)	Minimum Tractor Pull (lbf)	Minimum Tractor Pull w/ Margin (lbf)
518.5	0.24	0.40	-515	8346	821	988	485	908	8340	0	0
549.0	0.26	0.44	-548	8316	820	988	505	934	8305	0	0
579.5	0.29	0.47	-565	8270	818	989	523	961	8266	0	0
610.0	0.31	0.50	-573	8242	817	989	543	987	8232	0	0
640.5	0.34	0.54	-597	8189	815	991	561	991	8193	0	0
671.0	0.36	0.58	-631	8156	816	991	581	991	8160	0	0
701.5	0.39	0.62	-650	8110	815	992	599	992	8119	0	0
732.0	0.42	0.66	-660	8055	818	990	619	990	8071	0	0
762.5	0.45	0.70	-688	8018	822	989	640	989	8020	0	0
793.0	0.48	0.74	-722	7977	822	988	659	988	7978	0	0
823.5	0.51	0.79	-740	7939	822	989	678	989	7947	0	0
854.0	0.55	0.83	-750	7895	823	988	698	988	7903	0	0
884.5	0.58	0.88	-779	7852	825	988	718	988	7860	0	0
915.0	0.62	0.93	-814	7801	826	988	736	988	7812	0	0
945.5	0.65	0.98	-825	7746	828	987	756	987	7758	0	0
976.0	0.69	1.03	-817	7721	830	985	775	985	7708	0	0
1006.5	0.71	1.09	-817	7637	821	987	783	987	7615	0	0
1037.0	0.74	1.15	-820	7557	814	991	794	991	7536	0	0
1067.5	0.77	1.21	-807	7465	806	996	804	996	7465	0	0
1098.0	0.79	1.28	-793	7360	802	1001	802	1001	7376	0	0
1128.5	0.83	1.34	-796	7262	801	1001	801	1001	7277	0	0
1159.0	0.86	1.41	-808	7168	801	1001	801	1001	7176	0	0
1189.5	0.88	1.48	-795	7082	796	999	796	999	7070	0	0
1220.0	0.91	1.55	-775	6969	787	1001	787	1001	6956	0	0

Gudrun A-01

Data During Tripping (cont.)

Tool Depth (m)	Stretch RIH (m)	Stretch POOH (m)	Maximum Set-Down (DH) (lbf)	Maximum Pick-Up at Breaking (67.5%) (DH) (lbf)	Cablehead Tension RIH (lbf)	Cablehead Tension POOH (lbf)	Minimum Cable Tension RIH (lbf)	Minimum Cable Tension POOH (lbf)	Max Overpull at 67.5% Safe Operating Load (lbf)	Minimum Tractor Pull (lbf)	Minimum Tractor Pull w/ Margin (lbf)
1250.5	0.93	1.63	-774	6861	778	1004	778	1004	6851	0	0
1281.0	0.96	1.71	-780	6770	773	1005	773	1005	6759	0	0
1311.5	0.99	1.78	-767	6689	768	1006	768	1006	6682	0	0
1342.0	1.02	1.85	-755	6613	764	1008	764	1008	6612	0	0
1372.5	1.06	1.93	-761	6535	761	1009	761	1009	6536	0	0
1403.0	1.09	2.01	-768	6462	759	1009	759	1009	6460	0	0
1433.5	1.13	2.10	-754	6393	758	1012	758	1012	6376	0	0
1464.0	1.15	2.17	-731	6316	747	1007	747	1007	6283	0	0
1494.5	1.16	2.26	-729	6205	733	1009	733	1009	6177	0	0
1525.0	1.18	2.35	-725	6118	721	1009	721	1009	6088	0	0
1555.5	1.20	2.44	-702	6033	709	1009	709	1009	6002	0	0
1586.0	1.21	2.54	-675	5947	686	1020	686	1020	5915	0	0
1616.5	1.25	2.60	-684	5887	683	1008	683	1008	5848	0	0
1647.0	1.26	2.69	-671	5807	667	1007	667	1007	5766	0	0
1677.5	1.27	2.77	-639	5723	648	1006	648	1006	5681	0	0
1708.0	1.28	2.86	-621	5629	631	1004	631	1004	5595	0	0
1738.5	1.30	2.95	-619	5551	616	1003	616	1003	5521	0	0
1769.0	1.32	3.03	-608	5480	603	1001	603	1001	5456	0	0
1799.5	1.34	3.11	-583	5426	592	999	592	999	5402	0	0
1830.0	1.36	3.19	-571	5369	579	996	579	996	5343	0	0
1860.5	1.38	3.27	-570	5309	566	993	566	993	5281	0	0
1891.0	1.40	3.35	-557	5246	552	990	552	990	5224	0	0
1921.5	1.42	3.42	-532	5207	541	988	541	988	5180	0	0
1952.0	1.43	3.49	-518	5152	526	983	526	983	5123	0	0

Gudrun A-01

Data During Tripping (cont.)

Tool Depth (m)	Stretch RIH (m)	Stretch POOH (m)	Maximum Set-Down (DH) (lbf)	Maximum Pick-Up at Breaking (67.5%) (DH) (lbf)	Cablehead Tension RIH (lbf)	Cablehead Tension POOH (lbf)	Minimum Cable Tension RIH (lbf)	Minimum Cable Tension POOH (lbf)	Max Overpull at 67.5% Safe Operating Load (lbf)	Minimum Tractor Pull (lbf)	Minimum Tractor Pull w/ Margin (lbf)
1982.5	1.44	3.57	-518	5082	511	980	511	980	5066	0	0
2013.0	1.47	3.66	-507	5047	503	981	503	981	5025	0	0
2043.5	1.47	3.72	-475	5018	487	971	487	971	4983	0	0
2074.0	1.47	3.79	-458	4954	466	963	466	963	4917	0	0
2104.5	1.46	3.87	-450	4875	445	958	445	958	4847	0	0
2135.0	1.46	3.94	-426	4822	425	948	425	948	4783	0	0
2165.5	1.41	4.04	-378	4744	389	949	389	949	4706	0	0
2196.0	1.42	4.07	-373	4684	378	930	378	930	4653	0	0
2226.5	1.41	4.13	-364	4634	358	921	358	921	4603	0	0
2257.0	1.39	4.18	-338	4582	337	912	337	912	4552	0	0
2287.5	1.37	4.23	-305	4535	316	902	316	902	4504	0	0
2318.0	1.35	4.29	-290	4480	294	891	294	891	4451	0	0
2348.5	1.32	4.34	-282	4426	275	882	275	882	4403	0	0
2379.0	1.31	4.40	-261	4379	260	876	260	876	4361	0	0
2409.5	1.30	4.47	-239	4332	248	870	248	870	4325	0	0
2440.0	1.31	4.58	-246	4298	246	872	246	872	4300	0	0
2470.5	1.33	4.69	-257	4274	248	873	248	873	4273	0	0
2501.0	1.35	4.79	-247	4244	247	872	247	872	4244	0	0
2531.5	1.37	4.91	-238	4215	247	873	247	873	4219	0	0
2562.0	1.40	5.03	-250	4181	250	873	250	873	4179	0	0
2592.5	1.41	5.13	-255	4152	248	872	248	872	4150	0	0
2623.0	1.43	5.24	-244	4121	246	872	246	872	4122	0	0
2653.5	1.45	5.36	-238	4082	247	874	247	874	4087	0	0
2684.0	1.48	5.48	-251	4051	249	873	249	873	4050	0	0

Gudrun A-01

Data During Tripping (cont.)

Tool Depth (m)	Stretch RIH (m)	Stretch POOH (m)	Maximum Set-Down (DH) (lbf)	Maximum Pick-Up at Breaking (67.5%) (DH) (lbf)	Cablehead Tension RIH (lbf)	Cablehead Tension POOH (lbf)	Minimum Cable Tension RIH (lbf)	Minimum Cable Tension POOH (lbf)	Max Overpull at 67.5% Safe Operating Load (lbf)	Minimum Tractor Pull (lbf)	Minimum Tractor Pull w/ Margin (lbf)
2714.5	1.50	5.61	-260	4012	251	876	251	876	4017	0	0
2745.0	1.54	5.73	-252	3988	254	876	254	876	3989	0	0
2775.5	1.55	5.84	-242	3965	251	874	251	874	3961	0	0
2806.0	1.54	6.02	-243	3900	240	887	240	887	3904	0	0
2836.5	1.60	6.09	-261	3887	252	875	252	875	3885	0	0
2867.0	1.62	6.21	-248	3864	251	874	251	874	3865	0	0
2897.5	1.65	6.35	-245	3830	254	877	254	877	3833	0	0
2928.0	1.67	6.47	-257	3809	254	876	254	876	3807	0	0
2958.5	1.69	6.59	-260	3779	252	875	252	875	3781	0	0
2989.0	1.72	6.73	-250	3747	254	877	254	877	3748	0	0
3019.5	1.75	6.85	-246	3723	254	876	254	876	3722	0	0
3050.0	1.77	6.98	-258	3699	253	876	253	876	3699	0	0
3080.5	1.80	7.11	-261	3674	253	876	253	876	3673	0	0
3111.0	1.82	7.23	-248	3652	253	876	253	876	3653	0	0
3141.5	1.85	7.39	-247	3625	254	881	254	881	3625	0	0
3172.0	1.87	7.49	-257	3603	252	875	252	875	3601	0	0
3202.5	1.90	7.63	-258	3576	252	876	252	876	3578	0	0
3233.0	1.93	7.77	-248	3545	254	877	254	877	3547	0	0
3263.5	1.96	7.90	-246	3525	253	875	253	875	3521	0	0
3294.0	1.98	8.05	-260	3486	253	878	253	878	3490	0	0
3324.5	2.02	8.18	-261	3463	254	877	254	877	3462	0	0
3355.0	2.04	8.32	-246	3436	253	876	253	876	3435	0	0
3385.5	2.07	8.46	-248	3408	253	876	253	876	3409	0	0
3416.0	2.10	8.60	-261	3387	253	877	253	877	3387	0	0

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Gudrun A-01

Data During Tripping (cont.)

Tool Depth (m)	Stretch RIH (m)	Stretch POOH (m)	Maximum Set-Down (DH) (lbf)	Maximum Pick-Up at Breaking (67.5%) (DH) (lbf)	Cablehead Tension RIH (lbf)	Cablehead Tension POOH (lbf)	Minimum Cable Tension RIH (lbf)	Minimum Cable Tension POOH (lbf)	Max Overpull at 67.5% Safe Operating Load (lbf)	Minimum Tractor Pull (lbf)	Minimum Tractor Pull w/ Margin (lbf)
3446.5	2.12	8.75	-257	3357	253	877	253	877	3358	0	0
3477.0	2.15	8.89	-246	3321	254	877	254	877	3322	0	0
3507.5	2.18	9.05	-249	3291	254	878	254	878	3292	0	0
3538.0	2.22	9.19	-262	3268	254	877	254	877	3267	0	0
3568.5	2.24	9.33	-258	3243	254	877	254	877	3243	0	0
3599.0	2.28	9.48	-245	3213	254	878	254	878	3213	0	0
3629.5	2.31	9.63	-250	3186	254	877	254	877	3186	0	0
3660.0	2.34	9.78	-263	3160	254	878	254	878	3161	0	0
3690.5	2.37	9.94	-258	3135	255	878	255	878	3135	0	0
3721.0	2.40	10.09	-246	3115	255	877	255	877	3112	0	0
3751.5	2.42	10.22	-248	3099	250	875	250	875	3097	0	0
3782.0	2.45	10.37	-258	3067	249	875	249	875	3067	0	0
3812.5	2.48	10.53	-252	3035	250	876	250	876	3038	0	0
3843.0	2.52	10.72	-244	3004	253	880	253	880	3002	0	0
3873.5	2.54	10.83	-246	2993	248	874	248	874	2990	0	0
3904.0	2.57	10.98	-255	2967	246	874	246	874	2969	0	0
3934.5	2.60	11.15	-248	2942	248	875	248	875	2943	0	0
3965.0	2.64	11.31	-239	2912	248	875	248	875	2913	0	0
3995.5	2.68	11.47	-249	2888	249	875	249	875	2888	0	0
4026.0	2.71	11.63	-257	2864	248	874	248	874	2863	0	0
4056.5	2.74	11.79	-247	2836	248	875	248	875	2838	0	0
4087.0	2.78	11.97	-241	2807	250	876	250	876	2809	0	0
4117.5	2.82	12.15	-252	2779	251	877	251	877	2780	0	0
4148.0	2.86	12.32	-261	2748	252	877	252	877	2748	0	0

Gudrun A-01

Data During Tripping (cont.)

Tool Depth (m)	Stretch RIH (m)	Stretch POOH (m)	Maximum Set-Down (DH) (lbf)	Maximum Pick-Up at Breaking (67.5%) (DH) (lbf)	Cablehead Tension RIH (lbf)	Cablehead Tension POOH (lbf)	Minimum Cable Tension RIH (lbf)	Minimum Cable Tension POOH (lbf)	Max Overpull at 67.5% Safe Operating Load (lbf)	Minimum Tractor Pull (lbf)	Minimum Tractor Pull w/ Margin (lbf)
4178.5	2.89	12.49	-251	2720	252	877	252	877	2721	0	0
4209.0	2.94	12.68	-245	2686	254	879	254	879	2686	0	0
4239.5	2.98	12.84	-257	2661	254	878	254	878	2661	0	0
4270.0	3.02	13.02	-264	2638	255	879	255	879	2638	0	0
4300.5	3.05	13.19	-252	2614	255	879	255	879	2613	0	0
4331.0	3.09	13.36	-245	2587	254	878	254	878	2588	0	0
4361.5	3.13	13.55	-259	2557	255	879	255	879	2557	0	0
4392.0	3.17	13.73	-263	2525	256	880	256	880	2526	0	0
4422.5	3.21	13.92	-251	2498	256	880	256	880	2497	0	0
4453.0	3.25	14.11	-249	2463	257	881	257	881	2465	0	0
4483.5	3.29	14.28	-261	2442	257	880	257	880	2441	0	0
4514.0	3.32	14.51	-263	2404	254	887	254	887	2410	0	0
4544.5	3.42	14.87	-267	2299	269	902	269	902	2329	0	0
4575.0	3.63	15.33	-305	2192	310	923	310	923	2220	0	0
4605.5	3.81	15.78	-351	2100	344	939	344	939	2119	0	0
4636.0	3.95	16.17	-380	2021	369	947	369	947	2033	0	0
4666.5	4.06	16.55	-384	1946	386	954	386	954	1956	0	0
4697.0	4.14	16.81	-384	1903	393	949	393	949	1898	0	0
4727.5	4.12	16.98	-378	1864	376	935	376	935	1852	0	0
4758.0	4.15	17.30	-379	1784	370	941	370	941	1793	0	0
4788.5	4.29	17.80	-392	1695	393	963	393	963	1716	0	0
4819.0	4.46	18.36	-423	1600	426	980	426	980	1617	0	0
4849.5	4.60	18.86	-462	1516	454	989	454	989	1528	0	0
4880.0	4.75	19.28	-489	1452	481	989	481	989	1455	0	0

Gudrun A-01

Data During Tripping (cont.)

Tool Depth (m)	Stretch RIH (m)	Stretch POOH (m)	Maximum Set-Down (DH) (lbf)	Maximum Pick-Up at Breaking (67.5%) (DH) (lbf)	Cablehead Tension RIH (lbf)	Cablehead Tension POOH (lbf)	Minimum Cable Tension RIH (lbf)	Minimum Cable Tension POOH (lbf)	Max Overpull at 67.5% Safe Operating Load (lbf)	Minimum Tractor Pull (lbf)	Minimum Tractor Pull w/ Margin (lbf)
4910.5	4.83	19.51	-478	1422	485	979	485	979	1420	0	0
4941.0	4.89	19.76	-478	1396	482	979	482	979	1395	0	0
4971.5	4.96	20.03	-490	1372	482	979	482	979	1371	0	0
5002.0	5.03	20.29	-487	1345	482	979	482	979	1346	0	0
5032.5	5.11	20.58	-477	1317	484	980	484	980	1318	0	0
5063.0	5.19	20.85	-481	1293	485	980	485	980	1293	0	0
5072.6	5.21	20.94	-495	1285	484	981	484	981	1285	0	0
5072.9	5.21	20.93	-495	1285	485	980	485	980	1285	0	0
5082.1	5.23	21.02	-482	1278	485	980	485	980	1278	0	0
5093.5	5.26	21.12	-494	1268	485	981	485	981	1268	0	0
5096.9	5.27	21.15	-493	1265	485	980	485	980	1265	0	0
5097.2	5.27	21.15	-492	1265	485	980	485	980	1265	0	0
5106.4	5.29	21.23	-478	1259	485	980	485	980	1257	0	0
5121.2	5.33	21.39	-491	1249	485	983	485	983	1243	0	0
5121.5	5.32	21.33	-487	1254	482	977	482	977	1249	0	0
5124.0	5.32	21.35	-482	1253	482	976	482	976	1247	0	0
5126.3	5.32	21.36	-477	1251	481	976	481	976	1245	0	0
5130.7	5.33	21.39	-468	1249	478	976	478	976	1242	0	0
5139.5	5.33	21.43	-475	1250	474	972	474	972	1238	0	0
5150.6	5.32	21.42	-454	1257	465	963	465	963	1237	0	0
5154.5	5.33	21.37	-448	1259	465	954	465	954	1241	0	0
5163.8	5.32	21.38	-456	1249	456	943	456	943	1233	0	0
5174.9	5.22	21.55	-426	1227	427	947	427	947	1207	0	0
5185.0	5.17	21.60	-402	1213	411	941	411	941	1194	0	0

Gudrun A-01

Data During Tripping (cont.)

Tool Depth (m)	Stretch RIH (m)	Stretch POOH (m)	Maximum Set-Down (DH) (lbf)	Maximum Pick-Up at Breaking (67.5%) (DH) (lbf)	Cablehead Tension RIH (lbf)	Cablehead Tension POOH (lbf)	Minimum Cable Tension RIH (lbf)	Minimum Cable Tension POOH (lbf)	Max Overpull at 67.5% Safe Operating Load (lbf)	Minimum Tractor Pull (lbf)	Minimum Tractor Pull w/ Margin (lbf)
5188.1	5.16	21.62	-405	1208	406	939	406	939	1190	0	0
5215.5	5.06	21.78	-371	1170	367	925	367	925	1156	0	0
5246.0	4.96	21.85	-323	1151	326	904	326	904	1133	0	0
5276.5	4.80	21.88	-258	1129	273	876	273	876	1109	0	0
5307.0	4.61	21.94	-214	1094	219	851	219	851	1080	0	0
5337.5	4.46	21.98	-186	1071	180	831	180	831	1061	0	0
5368.0	4.30	21.90	-139	1069	141	805	141	805	1055	0	0
5398.5	4.02	21.73	-74	1071	85	767	85	767	1051	0	0
5429.0	3.68	21.51	-21	1061	22	725	22	725	1045	0	0
5459.5	3.54	21.71	1	1014	-1	721	-1	721	1014	1	1
5490.0	3.55	21.96	1	995	-1	721	-1	721	995	1	1
5520.5	3.55	22.21	1	977	-1	721	-1	721	977	1	1
5551.0	3.56	22.46	1	958	-1	721	-1	721	958	1	1
5581.5	3.56	22.70	1	941	-1	720	-1	720	941	1	1
5612.0	3.52	22.85	8	943	-8	713	-8	713	931	8	8
5642.5	3.13	22.43	66	969	-67	659	-69	659	950	66	66
5673.0	2.70	22.13	126	957	-125	618	-133	618	950	126	126
5703.5	2.58	22.32	141	930	-137	617	-150	617	929	141	141
5734.0	2.54	22.53	146	914	-139	616	-155	616	914	146	146
5764.5	2.52	22.76	149	897	-138	616	-158	616	897	149	149
5795.0	2.49	22.99	152	881	-139	616	-162	616	881	152	152
5825.5	2.47	23.22	155	865	-139	617	-165	617	865	155	155
5856.0	2.45	23.46	157	848	-138	617	-168	617	848	157	157
5886.5	2.42	23.70	161	831	-139	617	-172	617	831	161	161

Gudrun A-01

Data During Tripping (cont.)

Tool Depth (m)	Stretch RIH (m)	Stretch POOH (m)	Maximum Set-Down (DH) (lbf)	Maximum Pick-Up at Breaking (67.5%) (DH) (lbf)	Cablehead Tension RIH (lbf)	Cablehead Tension POOH (lbf)	Minimum Cable Tension RIH (lbf)	Minimum Cable Tension POOH (lbf)	Max Overpull at 67.5% Safe Operating Load (lbf)	Minimum Tractor Pull (lbf)	Minimum Tractor Pull w/ Margin (lbf)
5917.0	2.15	23.44	191	862	-169	581	-210	581	845	191	191
5947.5	1.51	22.83	260	885	-237	524	-299	524	867	260	260
5978.0	0.92	22.34	319	892	-289	480	-379	480	882	319	319
6008.5	0.55	22.17	353	890	-314	462	-426	462	889	353	353
6039.0	0.59	22.65	350	852	-301	482	-419	482	854	350	350
6069.5	0.33	22.46	368	869	-318	455	-451	455	859	368	368
6100.0	-0.32	21.90	418	901	-363	410	-530	410	887	418	418
6130.5	-1.11	21.26	475	930	-412	361	-625	361	918	475	475
6161.0	-1.73	20.98	520	934	-443	336	-697	336	931	520	520
6191.5	-2.00	21.22	535	904	-448	344	-726	344	903	535	535
6222.0	-2.29	21.20	552	889	-452	332	-757	332	890	552	552
6252.5	-2.31	21.68	557	837	-441	355	-758	355	846	557	557
6283.0	-1.95	22.38	530	774	-403	386	-716	386	779	530	530
6313.5	-1.90	22.65	522	757	-392	389	-709	389	753	522	522
6344.0	-2.44	22.43	553	770	-415	367	-768	367	764	553	553
6374.5	-2.85	22.53	581	746	-427	365	-812	365	750	581	581
6405.0	-2.65	23.03	570	701	-402	382	-789	382	707	570	570
6435.5	-2.36	24.05	558	629	-376	427	-756	427	638	558	558
6466.0	-2.23	24.20	540	621	-358	417	-740	417	616	540	540
6496.5	-2.76	24.51	574	597	-379	427	-797	427	600	574	574
6527.0	-3.06	24.08	580	618	-385	389	-828	389	611	580	580
6557.5	-3.67	24.02	615	609	-406	380	-892	380	608	615	615
6588.0	-3.81	24.25	625	588	-402	381	-905	381	592	626	626
6618.5	-3.11	25.63	598	500	-353	441	-829	441	510	598	598

Gudrun A-01

Data During Tripping (cont.)

Tool Depth (m)	Stretch RIH (m)	Stretch POOH (m)	Maximum Set-Down (DH) (lbf)	Maximum Pick-Up at Breaking (67.5%) (DH) (lbf)	Cablehead Tension RIH (lbf)	Cablehead Tension POOH (lbf)	Minimum Cable Tension RIH (lbf)	Minimum Cable Tension POOH (lbf)	Max Overpull at 67.5% Safe Operating Load (lbf)	Minimum Tractor Pull (lbf)	Minimum Tractor Pull w/ Margin (lbf)
6622.3	-2.97	25.85	591	487	-344	449	-815	449	497	591	591
6623.7	-2.92	25.93	588	482	-341	452	-809	452	492	588	588
6646.6	-2.18	27.15	545	417	-294	494	-728	494	421	545	545
6648.0	-2.16	27.20	543	415	-292	495	-725	495	418	543	543

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Gudrun A-01 - Input Parameters

Calculation Depth :	6648.0 m	Well Depth :	6648.0 m
Fluid :	Gudrun A-01	Flow Path :	Up

Cable Speed :	0.0 m/min
Stuffing Box Friction :	50 lbf
Wellhead Pressure :	370.0 bar
Fluid Travel Time :	--
Tractor Force :	0 lbf
Force On End :	0 lbf

Max. Calculation Length :	30.5 m	Drum Crush Threshold :	80 %
Safe Operating Load :	67.5 % of cable strength	Drum Crush Warning :	3
Eccentricity :	0.0	Drum Crush Caution :	2
Tool Model :	v2	Compression Value :	0 lbf
Use Roughness :	Yes	Max. RIH Speed :	91.4 m/min
Cable Roughness :	1.860E-03 in	Include Weak Point :	No
Annular Roughness :	1.860E-03 in	Tool Stress Model :	von-Mises Stress (include bending)
		Tool Yield Safety Factor :	80 %

Wireline - SLB 2-32ZA-HC

Diameter :	0.375 in	Stretch Coefficient :	1.3489 m/km/5KN
Weight in air :	0.278 lb/ft		
Weight in water :	0.230 lb/ft		
Breaking Strength :	15552 lbf		

Tool String - SLB PLT

Name	Length (m)	OD (in)	OD Max (in)	ID (in)	Yield Strength (psi)	Weight (kg)	Youngs Modulus (psi)	Rollers	Roller Friction (%)	Knuckle Joints	Centralizers
SLB XHUH-B Cable head	0.84	3.125	3.125	0.1	58000	11.3	10000000	No	N/A	No	No
SLB SAH-RB	0.91	3.125	3.125	0.1	69995	26.8	10000000	No	N/A	No	No
SLB Tractor	11.39	3.125	3.125	0.1	101526	318	29999896	No	N/A	No	No
SLB Wired-HB Release D...	1.22	3.125	3.125	0.1	69995	33	10000062	No	N/A	No	No
SLB AH-326	0.24	3.125	3.125	0.1	69995	4.8	10000000	No	N/A	No	No
SLB AH-210	0.41	1.688	1.688	0.1	69995	2.8	10000000	No	N/A	No	No
SLB PBMS-T	1.65	1.688	1.688	0.1	70000	17	10000000	No	N/A	No	No
SLB AH-210	0.41	1.688	1.688	0.1	69995	2.8	10000000	No	N/A	No	No
SLB CTL-70 Centralizer	1.2	1.688	1.688	0.1	70000	15	30000000	No	N/A	No	Yes
SLB PTC-A	0.89	1.688	1.688	0.1	70000	8.6	10000000	No	N/A	No	No
SLB MFC40 Finger	2.37	2.87	2.87	0.1	70000	46	30000000	No	N/A	No	No
SLB CTL-70 Centralizer	1.2	1.688	1.688	0.1	70000	15	30000000	No	N/A	No	Yes
SLB PFCS-A	1.57	2.18	2.18	1	69995	8.5	30000042	No	N/A	No	No

Total Length : 24.3 m Max OD : 3.125 in Total Weight : 509.6 kg Total Disp. Vol. : 0.094 m³

Well Description - Gudrun A-01

Section	Depth (m)	Hole Dia. (in)	Friction in	Friction out
1	37.2	6.094	0.40	0.40
2	5106.4	4.548	0.40	0.40
3	5150.6	4.465	0.40	0.40
4	5163.8	6.094	0.40	0.40
5	6646.6	4.548	0.40	0.40
6	6648	8.5	0.40	0.40

Well Fluid Input

Section	Depth (m)	Fluid Name
1	6648	Gudrun A-01

Fluid name	Fluid Type	Rheology Model	Oil Gravity (kg/m³)	Water Fraction	Water Density (kg/m³)	GLR (scm/m³)	Gas Density (kg/Sm³)	Liq Density (kg/m³)	Liq Visc (cp)
Gudrun A-01	Multiphase	Wet Gas	768.44	0.718	1030	-	0.935	-	-

Bottom of Well Fluid Flow : 6648.0 m

Temperature Profile

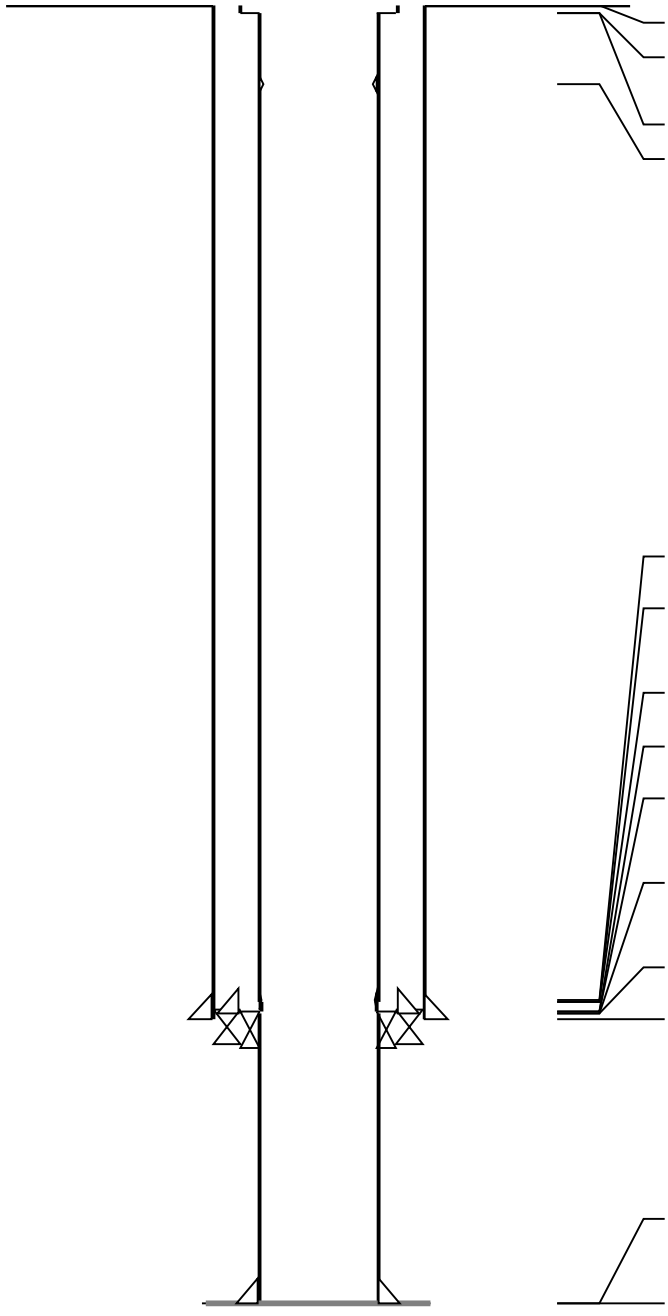
Depth (m)	Temperature (°C)
Surface - 0.0	15.5
Total Depth - 6648.0	135

Temperature Gradient : 0.0278 °C/m
2.77983 °C/100m

Parameter Profile (RIH)

Start Depth (m)	End Depth (m)	Cable Speed (m/min)	Wellhead Pressure (bar)	Liquid Rate (m³/D)	Gas Rate (scm/D)	Tractor Force (lbf)	Axial Force On End (lbf)	Comment
0.0	6648.0	0.0	370.0	0.0	0	0	0	

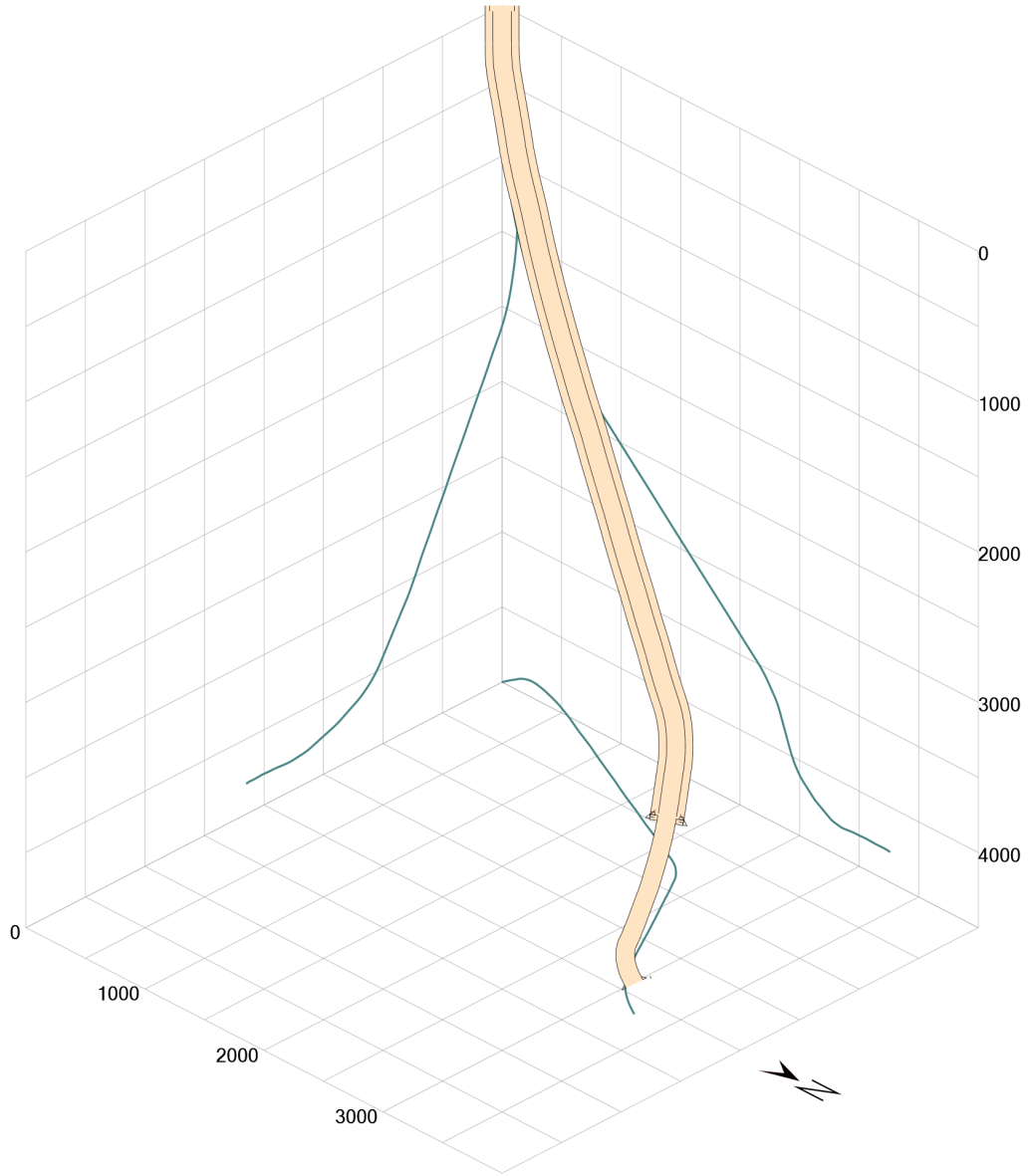
Gudrun A-01



0.0 m	7.000 in (32.000 lb/ft) Tubing top
37.2 m	7.000 in (32.000 lb/ft) Tubing bottom
37.2 m	5.500 in (26.000 lb/ft) Tubing top
402.8 m	4.250in ID Nipple
5096.9 m	4.477in ID Nipple
5106.4 m	5.500 in (26.000 lb/ft) Tubing bottom
5106.4 m	5.500 in (26.000 lb/ft) Tubing top
5147.9 m	7.000 in (32.000 lb/ft) Liner top
5150.6 m	5.500 in (26.000 lb/ft) Tubing bottom
5163.8 m	7.000 in (32.000 lb/ft) Liner bottom
5163.8 m	5.500 in (26.000 lb/ft) Liner top
5190.5 m	9.625 in (64.900 lb/ft) Casing
6646.6 m	5.500 in (26.000 lb/ft) Liner bottom
6648.0 m	8.500 in Open hole

Gudrun A-01

Well Survey Profile at 6648.0 m



Gudrun A-01

Survey Point Data - Input Parameters

	Depth (m)	Inclination (°)	Azimuth (°)	True Vertical Depth (m)	Dogleg Severity (°/30m)
1	0	0.0	0.0	0	0
2	171.8	0.0	0.0	171.8	0
3	177.7	0.2	213.4	177.7	0.945
4	187.6	0.1	295.0	187.6	0.619
5	197.6	0.4	311.9	197.6	0.83
6	207.6	0.1	308.4	207.6	0.806
7	217.6	0.0	272.5	217.6	0.279
8	227.8	0.2	256.3	227.8	0.546
9	237.3	0.5	321.0	237.3	1.684
10	247	0.4	340.7	247	0.603
11	257.4	0.4	354.4	257.4	0.313
12	267.2	0.4	311.9	267.2	0.949
13	274.3	0.4	308.0	274.3	0.103
14	295.3	1.0	257.0	295.3	1.24
15	303.9	1.5	263.0	303.9	1.929
16	313.9	1.7	267.9	313.9	0.698
17	324.1	2.0	272.8	324.1	1.166
18	334.9	2.6	278.8	334.9	1.909
19	344.9	3.1	285.9	344.9	1.743
20	354.7	3.5	286.2	354.6	1.392
21	364.5	3.7	282.7	364.4	0.882
22	374.4	4.1	286.2	374.3	1.568
23	384.2	4.1	284.8	384.1	0.321
24	410.7	5.2	289.4	410.5	1.368
25	439.9	7.2	290.1	439.5	2.038
26	469	8.4	289.7	468.4	1.352
27	497.6	8.9	290.4	496.6	0.469
28	526.6	9.0	290.4	525.3	0.107
29	554.4	9.2	290.4	552.7	0.29
30	583.6	9.3	290.8	581.5	0.113
31	612.8	9.6	291.8	610.4	0.331
32	671.7	9.4	293.6	668.4	0.174
33	686.1	9.3	295.5	682.7	0.685
34	715.3	9.1	296.5	711.5	0.276
35	744.4	8.7	296.2	740.2	0.492
36	773	8.8	297.9	768.5	0.296
37	802.2	8.7	298.1	797.4	0.072
38	889.2	8.2	303.7	883.4	0.348
39	946.7	7.8	297.3	940.4	0.53
40	975.4	8.2	295.1	968.8	0.527
41	985.3	9.2	292.9	978.6	3.355

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Gudrun A-01

Survey Point Data - Input Parameters (cont.)

	Depth (m)	Inclination (°)	Azimuth (°)	True Vertical Depth (m)	Dogleg Severity (°/30m)
42	1034	10.1	292.3	1026.6	0.62
43	1063.2	10.5	297.2	1055.3	1.003
44	1092.2	10.5	303.7	1083.8	1.263
45	1121.1	10.5	310.7	1112.2	1.382
46	1150	10.6	317.6	1140.6	1.35
47	1178.7	11.7	323.7	1168.8	1.753
48	1207.8	12.8	328.6	1197.2	1.595
49	1236.8	13.5	333.3	1225.5	1.385
50	1265.7	14.1	337.5	1253.6	1.27
51	1294.6	14.6	340.4	1281.6	0.896
52	1323.4	14.9	343.3	1309.4	0.841
53	1352.6	15.1	347.0	1337.6	1.053
54	1381.6	15.3	350.8	1365.6	1.077
55	1409.7	15.6	354.6	1392.7	1.158
56	1439.5	16.5	358.9	1421.3	1.534
57	1468.3	17.8	2.0	1448.9	1.749
58	1497.3	18.8	4.5	1476.4	1.374
59	1526.3	19.9	6.8	1503.8	1.398
60	1554.8	20.9	8.1	1530.5	1.209
61	1583.7	21.9	9.5	1557.4	1.24
62	1612.8	23.2	10.4	1584.3	1.377
63	1641.7	24.5	10.7	1610.7	1.411
64	1670.6	25.9	11.7	1636.9	1.596
65	1699.6	27.1	12.8	1662.8	1.393
66	1728.6	28.2	13.8	1688.5	1.283
67	1757.4	29.1	14.3	1713.8	0.977
68	1786.5	29.9	14.9	1739.1	0.886
69	1815.4	30.8	15.8	1764	1.109
70	1844.7	31.8	16.5	1789.1	1.077
71	1873.4	32.7	16.6	1813.3	1.025
72	1902.2	33.4	16.7	1837.5	0.749
73	1931.4	34.4	17.1	1861.7	1.14
74	1961.1	35.5	17.5	1886.1	1.167
75	1989.2	36.1	17.7	1908.8	0.594
76	2018.2	36.9	18.2	1932.2	0.919
77	2047	38.2	19.0	1955	1.48
78	2076	39.6	19.7	1977.6	1.577
79	2104.6	40.7	21.0	1999.5	1.481
80	2163.4	43.8	21.8	2043	1.656
81	2257.4	47.7	22.9	2108.6	1.318
82	2278.1	48.6	23.2	2122.4	1.451

Gudrun A-01

Survey Point Data - Input Parameters (cont.)

	Depth (m)	Inclination (°)	Azimuth (°)	True Vertical Depth (m)	Dogleg Severity (°/30m)
83	2307.1	49.9	23.8	2141.3	1.438
84	2336.3	51.0	24.2	2159.9	1.236
85	2394.1	52.5	25.4	2195.7	0.94
86	2423	52.6	25.3	2213.2	0.027
87	2451.9	52.4	25.5	2230.8	0.181
88	2480.9	52.5	25.0	2248.5	0.407
89	2510.1	52.5	24.9	2266.3	0.143
90	2539.1	52.3	24.0	2284	0.744
91	2568.1	52.4	23.6	2301.7	0.334
92	2597.6	52.5	23.2	2319.6	0.408
93	2625.8	52.5	22.5	2336.8	0.558
94	2654.7	52.3	23.2	2354.4	0.645
95	2683.8	52.4	23.7	2372.2	0.382
96	2712.7	52.1	23.8	2389.9	0.274
97	2741.9	52.1	23.7	2407.8	0.072
98	2770.8	52.4	24.8	2425.5	0.997
99	2799.5	52.2	25.5	2443.1	0.647
100	2828.6	52.2	25.8	2460.9	0.215
101	2857.7	52.3	25.9	2478.7	0.172
102	2886.6	52.0	25.4	2496.4	0.541
103	2915.6	52.1	25.5	2514.3	0.119
104	2944.4	52.3	24.9	2531.9	0.566
105	2973	52.0	24.8	2549.5	0.263
106	3002.1	52.1	24.5	2567.4	0.328
107	3030.6	52.1	24.6	2584.8	0.149
108	3059.9	52.1	24.9	2602.8	0.25
109	3088.8	52.2	24.8	2620.6	0.139
110	3117.5	52.2	24.8	2638.2	0.061
111	3146.7	52.2	24.3	2656.1	0.444
112	3175.7	52.3	24.4	2673.8	0.126
113	3204.7	52.1	23.9	2691.6	0.422
114	3233.6	52.0	24.2	2709.4	0.297
115	3262.5	52.3	24.8	2727.1	0.548
116	3291.4	52.0	25.0	2744.9	0.303
117	3356.5	52.2	26.0	2784.8	0.384
118	3385.4	52.1	26.0	2802.6	0.032
119	3414.4	52.1	26.1	2820.4	0.084
120	3442.8	52.1	25.0	2837.8	0.912
121	3471.9	52.1	24.5	2855.7	0.437
122	3500.5	52.1	24.8	2873.2	0.226
123	3529.7	52.1	25.3	2891.2	0.41

Gudrun A-01

Survey Point Data - Input Parameters (cont.)

	Depth (m)	Inclination (°)	Azimuth (°)	True Vertical Depth (m)	Dogleg Severity (°/30m)
124	3559.1	52.2	25.0	2909.2	0.206
125	3588	52.1	24.3	2927	0.597
126	3616.9	52.2	23.9	2944.7	0.344
127	3645.9	52.1	23.9	2962.5	0.086
128	3674.8	52.1	23.6	2980.3	0.271
129	3703.7	52.0	23.4	2998	0.131
130	3732.3	52.3	23.5	3015.6	0.328
131	3761.6	52.4	24.2	3033.5	0.623
132	3790.4	52.4	24.8	3051.1	0.46
133	3819	52.3	25.4	3068.5	0.536
134	3848.2	52.4	25.4	3086.4	0.167
135	3877	52.6	25.7	3103.9	0.324
136	3906.3	52.5	25.5	3121.7	0.191
137	3935	52.5	25.0	3139.2	0.454
138	3964	52.4	24.7	3156.9	0.258
139	3992.3	52.4	24.3	3174.1	0.366
140	4021.6	52.5	23.8	3192	0.359
141	4050.8	52.5	23.4	3209.8	0.349
142	4079.6	52.3	23.5	3227.3	0.177
143	4107.2	52.3	24.2	3244.2	0.658
144	4136.6	52.2	24.8	3262.2	0.461
145	4165.3	52.3	25.4	3279.8	0.532
146	4194.6	52.1	26.2	3297.8	0.67
147	4223.1	52.1	26.0	3315.3	0.108
148	4251.7	52.1	25.9	3332.8	0.127
149	4281	52.0	25.5	3350.9	0.328
150	4310.6	52.2	25.0	3369	0.458
151	4338.5	52.1	24.4	3386.2	0.529
152	4367.4	52.0	23.7	3403.9	0.594
153	4396	52.0	23.2	3421.6	0.416
154	4425.3	52.0	22.3	3439.6	0.769
155	4454.5	51.9	22.6	3457.6	0.263
156	4463.8	52.0	22.6	3463.3	0.368
157	4490.9	52.0	22.9	3480	0.279
158	4519.8	51.6	25.6	3497.9	2.304
159	4548.8	49.2	27.7	3516.4	3.082
160	4577.6	46.9	29.7	3535.6	2.99
161	4607	45.2	32.6	3556.1	2.807
162	4635.6	44.1	35.5	3576.4	2.505
163	4664.6	43.1	38.3	3597.4	2.327
164	4693.7	43.5	41.1	3618.6	2.092

Gudrun A-01

Survey Point Data - Input Parameters (cont.)

	Depth (m)	Inclination (°)	Azimuth (°)	True Vertical Depth (m)	Dogleg Severity (°/30m)
165	4722.5	45.2	43.7	3639.2	2.634
166	4751.6	44.7	44.6	3659.8	0.879
167	4780.5	42.4	47.1	3680.7	3.057
168	4809.6	40.2	50.6	3702.6	3.464
169	4837.8	38.6	54.8	3724.4	3.321
170	4866.7	37.2	58.0	3747.2	2.656
171	4896	37.6	59.4	3770.5	0.991
172	4925.1	37.8	59.3	3793.5	0.24
173	4953.2	37.7	59.2	3815.7	0.065
174	4982.3	37.8	58.8	3838.7	0.262
175	5011.4	37.6	58.8	3861.8	0.202
176	5039.7	37.5	58.9	3884.2	0.089
177	5070	37.6	59.3	3908.2	0.248
178	5098.9	37.6	59.2	3931.1	0.053
179	5128.1	38.4	59.6	3954.1	0.924
180	5156.8	41.4	59.9	3976.1	3.21
181	5182.2	44.0	60.0	3994.8	3.207
182	5222.8	47.2	60.2	4023.2	2.453
183	5251.5	50.1	60.0	4042.1	3.145
184	5280.1	53.4	59.9	4059.8	3.586
185	5309.4	55.9	59.8	4076.8	2.582
186	5338.5	57.7	59.6	4092.7	1.983
187	5367.4	60.3	59.7	4107.6	2.733
188	5396.1	63.8	59.5	4121	3.793
189	5424.7	67.1	59.4	4132.9	3.607
190	5453.9	67.1	59.4	4144.3	0.023
191	5482.8	67.1	59.9	4155.5	0.513
192	5510.9	67.1	59.8	4166.4	0.091
193	5540.2	67.1	59.9	4177.8	0.146
194	5569.4	67.1	60.2	4189.2	0.206
195	5598	67.2	59.9	4200.3	0.273
196	5626.8	70.9	60.0	4210.6	3.979
197	5656.1	74.5	59.9	4219.3	3.794
198	5684.9	74.9	60.8	4226.8	1.032
199	5713.7	75.1	61.5	4234.3	0.675
200	5742.3	75.0	60.9	4241.7	0.628
201	5772.5	75.1	60.7	4249.5	0.208
202	5800.8	75.1	60.3	4256.8	0.402
203	5829.2	75.0	60.9	4264.1	0.604
204	5858.1	75.0	61.3	4271.6	0.457
205	5887.4	75.0	60.4	4279.1	0.868

Gudrun A-01

Survey Point Data - Input Parameters (cont.)

	Depth (m)	Inclination (°)	Azimuth (°)	True Vertical Depth (m)	Dogleg Severity (°/30m)
206	5916.9	78.7	59.5	4285.9	3.93
207	5945.5	82.5	59.2	4290.6	4.134
208	5974.3	84.8	58.9	4293.8	2.501
209	6002.7	85.7	59.0	4296.1	0.973
210	6031.7	84.0	57.5	4298.7	2.346
211	6059.1	85.9	58.1	4301.1	2.148
212	6087.9	88.6	58.6	4302.5	2.969
213	6118.8	91.8	58.4	4302.5	3.207
214	6147.7	93.5	58.3	4301.1	1.833
215	6176.4	93.1	55.4	4299.5	3.235
216	6205.8	93.8	52.7	4297.7	2.947
217	6234.3	93.1	51.0	4296	1.919
218	6263.2	90.8	47.8	4295	4.265
219	6292.1	89.7	46.7	4294.9	1.713
220	6321.3	91.0	45.5	4294.7	1.911
221	6350	92.3	43.6	4293.8	2.534
222	6379	91.4	41.0	4292.9	2.892
223	6407.9	89.8	40.0	4292.6	1.962
224	6436.1	87.2	37.2	4293.3	4.188
225	6470.7	89.1	36.8	4294.4	1.721
226	6494	88.1	33.8	4295	4.198
227	6523.8	90.7	33.4	4295.3	2.728
228	6552.7	90.9	31.2	4295	2.345
229	6581.2	90.7	31.1	4294.6	0.235
230	6633.3	83.6	28.8	4297.2	4.447
231	6648	83.6	28.8	4298.8	0