End of Well Report - Drilling
MDM-GT-06
MDM-GT-06-S1
MDM-GT-06-S2

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Glossary

AH	Along Hole (depth)
ECW	Energie Combinatie Wieringermeer
GL	Ground Level
hrs	Hours
HSE	Health Safety & Environment
MT	Metric ton
NAP	Normaal Amsterdam Peil
RD	Rijksdriehoeksmeting
RT	Rotary Table
s.g.	Specific gravity
TOC	Top of Cement
TOL	Top of Liner
TVD	True Vertical Depth
WEP	Well Engineering Partners

1 General Well Data

Table 1: Well Summary

License	Middenmeer 1	
Well Number	MDM-GT-06; MDM-GT-06-S1; MDM-GT-06-S2	
Well Name	Middenmeer-Geothermal-#6; -sidetrack#1; -sidetrack 2	
Well Type	Geothermal – water producer	
Location Municipality	Hollands Kroon	
Wellbore Profile	Deviated (S shape)	
Well target	Upper Rotliegend Group, Slochteren formation	
Commence Rig up	22/04/2017 12:00 hrs	
Spud Date	7/05/2017 00:00 hrs	
Kick-off MDM-GT-06-S1	27/07/2017 24:00 hrs	
Kick-off MDM-GT-06-S2	23/08/2017 14:30 hrs	
End of Operations Date	8/10/2017 01:00 hrs	
Total Days Operational	154	
Operator	ECW Geomanagement B.V.	
Grid Coordinate System	Rijksdriehoeksmeting	
Surface Location	X: 131,809m (RD)	
	Y: 531,205m (RD)	
Wellsite Address	Oostlanderweg 17, Middenmeer, 1775 TH.	
Drilling Contractor	KCA Deutag Drilling GmbH	
Drilling Rig	T-700	
Depth Reference	Rotary Table elevation (RT), unless otherwise stated.	
	RT is 9.27m above GL	
	RT is 5.57m above NAP	
NAP Depth Reference	Ground level of surface location 3.7 m below NAP	
Personnel		
Project Manager (Manager Geothermie)	Bertran de Lange	22/04/2017-8/10/2017
Drilling Manager	Evgeny Proselkov,	22/04/2017-22/06/2017
Drilling Manager	Peter Jan Kwakernaak	23/06/2017-8/10/2017
Senior Well Engineer	Claudio Virgilio	22/04/2017-8/10/2017
Well Engineer	Yogeshwar Patil	22/04/2017-8/10/2017
HSE Manager	Arno Otten	22/04/2017-8/10/2017
Senior Wellsite Geologist	Julien Smeulders	22/04/2017-8/10/2017
Drilling Supervisor	Dirk van den Nieuwendijk	25/04/17-9/05/17
		23/5/17-6/6/17
		20/6/17-27/6/17
		5/7/17-17/7/17
		2/8/17-14/8/17
		29/8/17-12/9/17
		26/9/17-3/10/17
Drilling Supervisor	Gerrit Ham	15/08/17-28/08/17

		12/9/17-26/9/17
		3/10/17-10/10/17
Drilling Supervisor	Koop Eleveld	10/05/17-22/05/17
		7/06/17-19/06/17
		28/06/17-4/07/17
		18/07/17-1/08/17
Night Drilling Supervisor	Henri Quist	22/08/17-4/08/17
		18/9/2017-2/10/2017
Night Drilling Supervisor	Jack Schelvis	13/06/17-27/06/17
		11/07/17-24/07/17
		7/08/17-21/08/17
		4/9/17-18/9/17
		2/10/17-8/9/17
Night Drilling Supervisor	Johan Vliek	06/05/17-16/05/17
		30/05/17-12/6/17
		27/06/17-10/07/17
		25/07/17-7/08/17
Night Drilling Supervisor	Peter Jan Kwakernaak	17/05/17-29/05/17
Wellsite Drilling Engineer	Leon de Villiers	17/05/17-3-/05/17
		14/06/17-10/07/17
		18/07/17-27/07/17
Wellsite Drilling Engineer	Thijs Boerrigter	27/07/17-09/08/17
		24/8/17-6/9/17
		22/9/17-4/10/17
Wellsite Drilling Engineer	Jurjen de Vries	7/5/17-16/5/17
		31/5/17-13/6/17
		11/7/17-17/7/17
		10/8/17-23/8/17
		7/9/17-21/9/17
		5/10/17-10/10/17

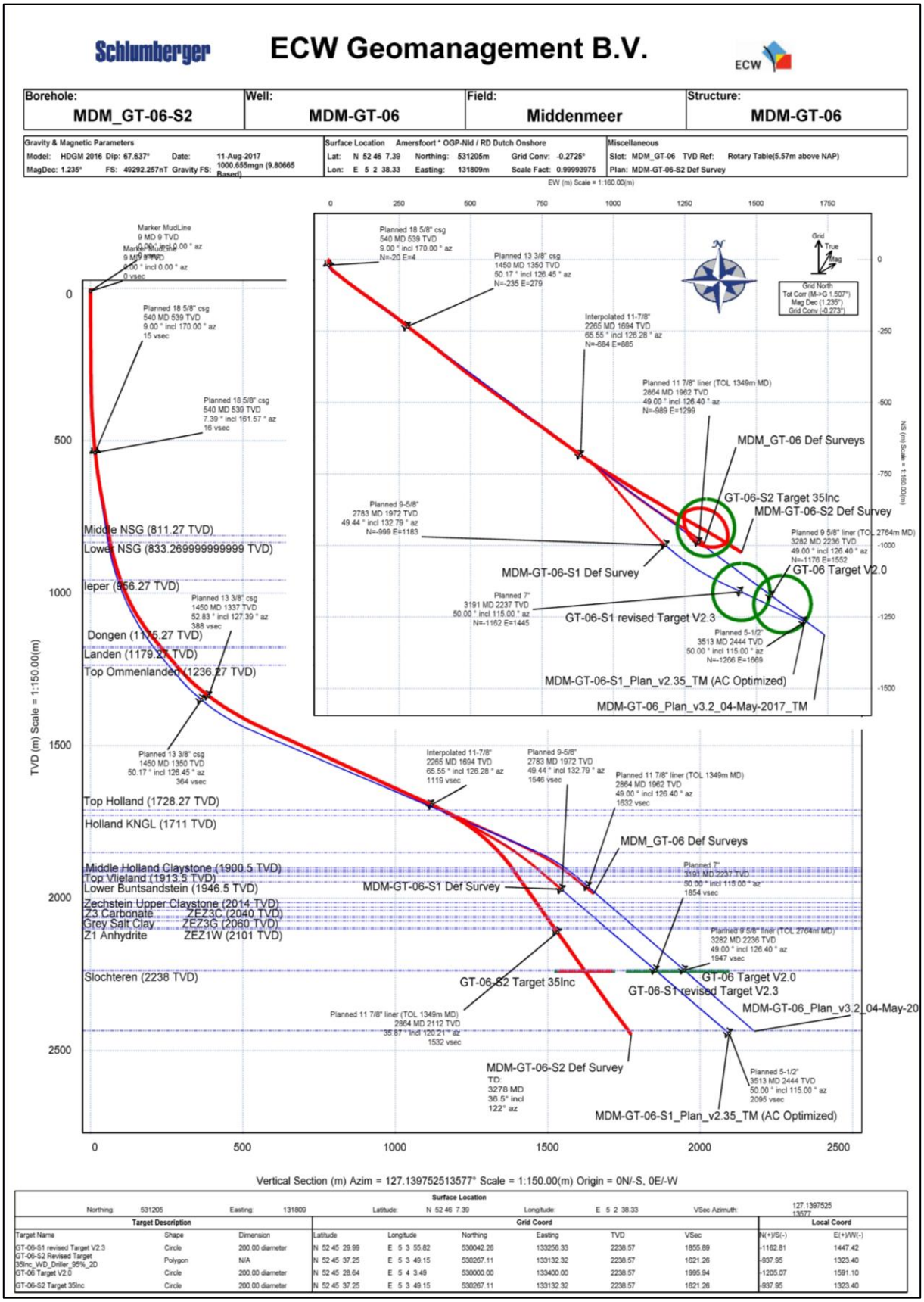


Figure 1: MDM-GT-06 Directional Surveys (Plan vs Actual)

2 Casing and cementing

Table 2: MDM-GT-06-S2 Tubular Summary

Item	Top (m AH)	Bottom (m AH)	Weight (lb/ft)	Grade	Connection
24'' Conductor	0	107	195.6		Welded
18-5/8'' Surface Casing	0	545	87.5	K55	BTC
13-3/8" Production Casing	0	1446	72	P110	Vam TOP
11-7/8'' Liner	1390	2265	71.8	P110	Vam FJL
9-5/8" Liner	2153	2712	53.3	P110	Vam FJL
7" Liner	2608 2793	2793 3019	26 29	P110 P110	VA Roughneck Vam Top
5-1/2'' Pre-perforated Liner	2980	3277	17	L80	Vam FJL

No cement bond logs were run on this well, all TOC values are estimates based on observations during cementing operations.

Table 3: MDM-GT-06-S2 Cement Summary

Item	TOC (m AH)	Lead Slurry		Tail Slurry	
		Volume (m^3)	Weight (s.g.)	Volume (m^3)	Weight (s.g.)
18-5/8'' Casing	Surface	107	1.57	27	1.67
13-3/8" Casing	Surface	93.6	1.62	8.5	1.9
11-7/8" Liner[1]	1390	30.7	1.62	7.4	1.9
9-5/8'' Liner	2153	30.7	1.62	11	1.6
7" Liner	2645[2]	6.7	1.90	-	-

Table 4: Cement Plugs Summary

Well	Plug type	Plug weight (sg)	Plug length (mAH)	Plug Test
MDM-GT-06	P&A, plug #1	1.90	185	Tagged
	P&A, plug #2	1.90	47	Tagged with 10 MT
	Kick-off, plug #3	1.97	198	-
MDM-GT-06-S1	P&A, plug #1	1.90	44	Tagged with 10 MT
	P&A, plug #2	1.97	104	Tagged with 10 MT
	Kick-off, plug #3	1.97	194	-

Figure 4: Well schematic, 3 and 4 , below, show the well schematics with casing setting depths and abandonment plugs set.

[1] With additional cement squeeze job at the TOL: 10 m^3 cement of 1.90 s.g.
[2] Determined with the differential pressure method.

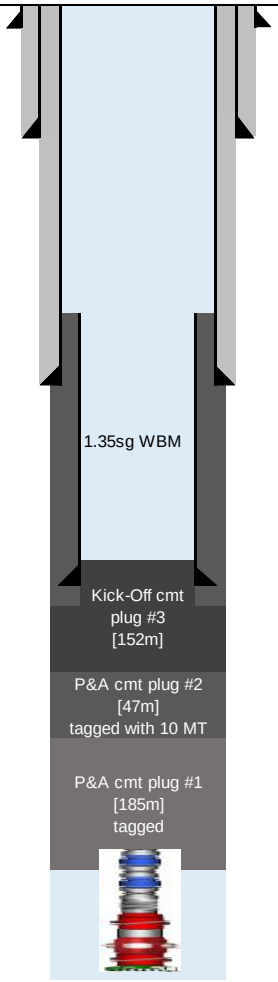
Item Description All depths from RT	MDM-GT-06 Cement plugs	Depth m ah	Depth m tvd	Hole ID in	Pipe OD in	Collar OD in (nom)	Pipe ID in	 in (drift)
24" Conductor 125,7#, welded		107	107	Driven	24.000	24.000	22.441	
18 ⅝" Surface casing, #87.5, K55, BTC		545	544	22.000	18.625	20.000	17.755	17.568
11 ⅞" top of liner (stump)		1391		TOL with 55 m liner lap				
13 3/8" Production casing, 72#, P110, Vam Top, SD		1446	1334	16.000	13.375	14.398	12.347	12.250
11 7/8" Intermediate Production liner, 71.8#, P110, Vam FJL		2265	1694	12 1/4 x 14	11.875	11.875	10.711	10.555
		2417						
		2464						
TOF		2649						
12 1/4" x 14" section TD 12 1/4" hole TD: 10/06/2017; 14" hole open TD: 14/06/2017		2875	1984	12 1/4 x 14				

Figure 2: P&A well schematic of MDM-GT-06

Item Description All depths from RT	MDM-GT-06-S1 Cement plugs	Depth	Depth	Hole ID	Pipe OD	Collar OD	Pipe ID	
		m ah	m tvd	in	in	in (nom)	in	in (drift)
24" Conductor 125,7#, welded		107	107	Driven	24.000	24.000	22.441	
18 ⅝" Surface casing, #87.5, K55, BTC		545	544	22.000	18.625	20.000	17.755	17.568
11 ⅞" top of liner (stump)		1391	1299	TOL with 55 m liner lap				
13 3/8" Production casing, 72#, P110, Vam Top, SD		1446	1334	16.000	13.375	14.398	12.347	12.250
	1.35sg WBM							
		2227						
11 7/8" Intermediate Production liner, 71.8#, P110, Vam FJL	Kick off cmt plug#3 [152m]	2265	1694	12 1/4 x 14	11.875	11.875	10.711	10.555
		2417						
	P&A cmt plug #2 [104m] tagged with 10 MT							
		2521						
	P&A cmt plug #1 [44m] tagged with 10 MT							
	High-vis pill (1,85 s.g)	2565						
		2600						
	1.35sg WBM							
8 1/2" X 12 1/4" section TD		2781	1970.6	8 1/2 X 12 1/4				

Figure 3: P&A well schematic of MDM-GT-06-S1

Depth ref: RT-GL=9,27m	Wellhead and Xmastree MDM-GT-06-S2	Depth RT		Hole ID	Pipe OD	Collar OD	Pipe ID	
Item Description		m ah	m tvd	in	in	in (nom)	in	in (drift)
24" Conductor 125,7#, welded		107	107	Driven	24.000	24.000	22.441	
Tail cement top		231	231					
18 ⅝" Surface casing, #87.5, K55, BTC		545	544	22	18.625	20.000	17.755	17.568
Tail cement top		1292	1228					
Top PBR-upper 9 ⅝" x 13 ⅜ packer assembly	Ptest packer to 128bar	1382	1293					
9 ⅝" x 13 ⅜ packer		1387	1297					
11 ⅞" TOL- Cement top		1391	1299	TOL with 55 m liner lap				
Top PBR-lower 9 ⅝" x 11 ⅞" packer assembly		1401	1306					
9 ⅝" x 11 ⅞" packer		1406	1309					
		1407	1310	*Slips-9 5/8" X 11 7/8" packer system*				
13 3/8" Production casing, 72#, P110, Vam Top, SD		1446	1334	16	13.375	14.398	12.347	12.250
cement squeezed in 11 7/8" annular		1754	1482					
Tail cement top		2054	1606					
9 ⅝" Liner Hanger/Packer + PBR		2153	1647	TOL with 112 m liner lap				
11 7/8" Intermediate Production liner, 71.8#, P110, Vam		2265	1694	12 1/4 x 14	11.875	11.875	10.711	10.555
Tail cement top		2375	1746					
7" Liner Hanger/Packer + PBR		2608	1903	TOL with 104 m liner lap				
TOC/Tail cement top		2645	1934					
9 ⅝" liner, #53.5, P110, Vam FJL SD	Brine 1.09sg	2712	1988	8 1/2 x 13 1/2	9.625	9.625	8.535	8.500
7" liner 26# P110 VA Roughneck		2769	2035	8.5	7.000	7.874	6.276	6.151
5 1/2" TOL+ PBR		2980	2206	TOL with 39 m liner lap				
		2995	*2219*	*Top of Pre-perforated casing*				
7" liner 29# P110 VAM Top		3019	2238	8.5	7.000	7.644	6.184	6.059
Top Slochteren		3025	2242					
Top Ruurlo		3255	2428					
		3265	2436	Top blank shoe track				
Pre-perf 5 1/2" 17# L80 VAM FJL liner		3277	2446		5.500	5.500	4.892	4.767
Well TD		3278	2447	6 x 8 1/2				

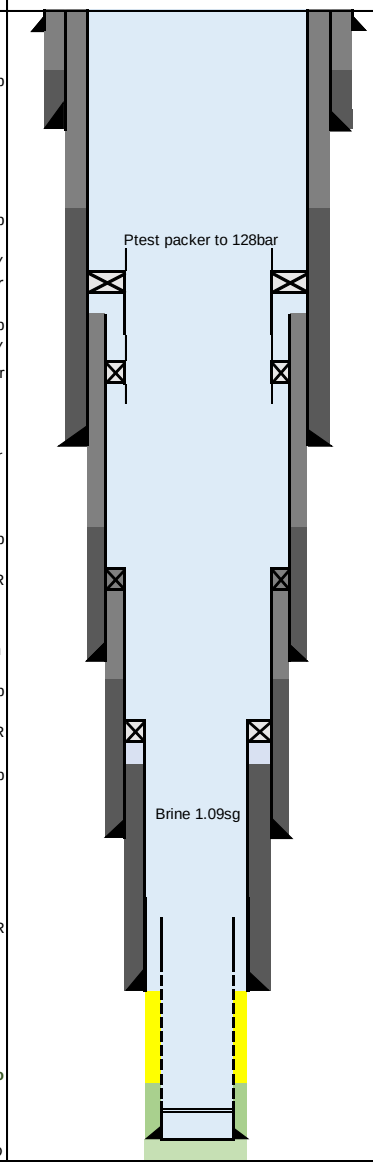


Figure 4: Well schematic of MDM-GT-06-S2

3 Drilling Fluids

The drilling fluids used are summarized in the table below:

Table 5: MDM-GT-06-S2 Drilling Fluid Summary

Section	Type	Density (s.g.) Min – Max	PV (cP) Min – Max	YP (lb/100ft^2) Min - Max
22''	Pure Bore	1.02 – 1.06	8 – 12	29 – 33
16''	Pure Bore/Glycol/KCl	1.06 – 1.25	12 – 26	26 – 34
12 1/4 x 14''	Pure Bore/Glycol/KCl	1.26 – 1.27	18 – 23	25 – 38
8 1/2 x 13 ½"	Pure Bore/Glycol/KCl	1.34 -1.35	25 – 32	26 – 35
8 1/2"	Pure Bore/Glycol/KCl	1.25	25	29
6 x 8 1/2"	Drill in Fluid	1.09	15 – 17	15 – 20

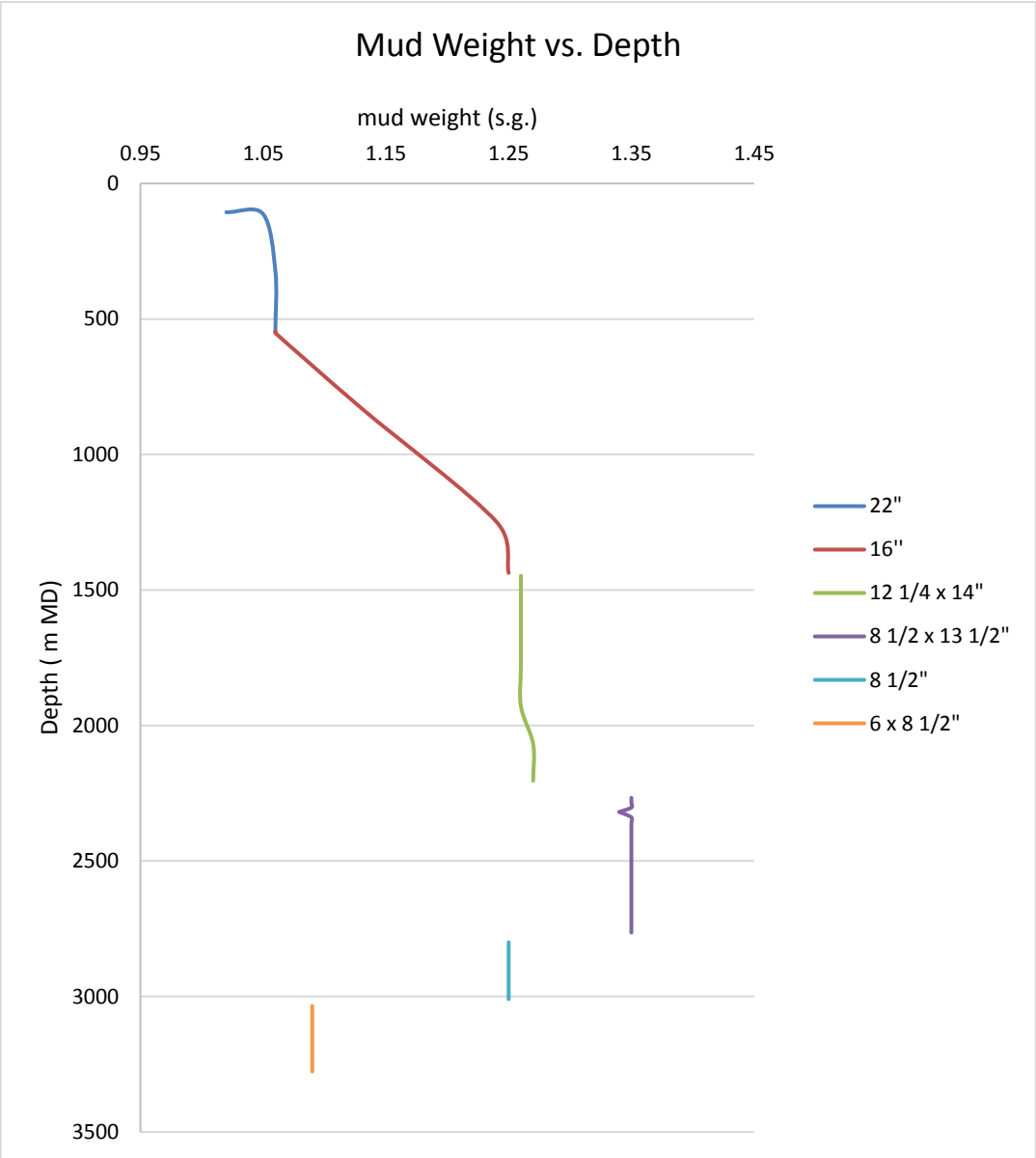


Figure 5: MDM-GT-06-S2 Mud weight vs Depth for each section

4 Geology

Below are the lithostratigraphic columns with the actual lithology depths as recorded by the mudloggers from surface to TD for the initial hole and the two sidetracks.

Lithostratigraphic Column MDM-GT-06 10-6-2017 J.Smeulders					Expected		Actual	
Group	Period	Formation	Member	Lithology	TV - RT	AH - RT	TV - RT	AH - RT
Upper North Sea NU	Quaternary	"Diverse"		Diverse continental deposits, mostly fluvial sands and silts intercalated by some thin layers of grey or greenish-grey, silty clays. [wood, shell, fossil fragments]	9	9	9	9
		Maassluis NUMS		Deposits of coastal sands, very fine to medium coarse, calcareous, shell and wood bearing, mica rich. Silty to sandy, grey to dark grey clay containing shells and mica.	285	285 KOP@ 500m	285	285
	Tertiary	Oosterhout NUOT		Succession of sands, sandy clays, and dark grey to greenish grey marls or argillaceous marls. The lower part of the formation often consists of sands that are extremely rich in shells and bryozoans. The top is characterised by a layer of clay (Kallo Clay). [mica, many foraminifera]	531	532	498,5	498,5 22" hole depth @552m; 18 5/8" casing shoe@545m
		Breda NUBA		Sequence of marine, glauconitic sands, sandy clays and dark brown to dark green clays. In places a glauconite-rich layer occurs at the base. [mica, fora's]	760	764	711	714
Middle North Sea NM		Rupel NMRF	Rupel Clay NMRFC	Clays that become more silty towards basis and top. It is rich in pyrite, contains hardly any glauconite and calcium carbonate tends to be concentrated in the septaria layers. [some mica]	809	813	804,5	809
			Vessem NMRFV	Silty to clayey sands with a low glauconite content, flint pebbles or phosphorite nodules commonly occur at the base.	834	839	825	830
Lower North Sea NL		Dongen NLFF	Asse NLFFB	Dark greenish-grey and blue-grey, plastic clays. The unit locally shows indications of bioturbation, and may be glauconitic and somewhat micaceous.	839	844	833	838
			Brussels Marl NLFFM	Greenish to brownish grey, silty, calcareous clay to marl.	907	913	861	867
			Brussels Sand NLFFS	Succession of green-grey, glauconitic, very fine-grained sand with, mainly in the upper part, a number of hard, calcareous sandstone layers. Towards the base of the unit the clay content increases, and the calcium carbonate content and amount of glauconite decreases.	934	941	904	911
			Ieper NLFFI	A soft, tough and sticky to hardened and friable clay. The lower part is characterised by its brown-grey colour, tending to beige or red-brown locally. The upper two-thirds have a green-grey colour. It has a sandy upper part.	956	965	948	957,5
			Basal Dongen Tuffite NLFFT	Tuffaceous clays, blue to violet-grey in colour, alternating with dark-grey and red-brown clays.	1175	1214	1172	1218,5
		Landen NLLF	Landen Clay NLLFC	Generally dark-green, hard, flaky clay, somewhat silty, containing glauconite, pyrite and mica. The basal part of the member can be marly and of a lighter colour.	1179	1219	1177	1225,5
Chalk CK	Cretaceous	Ommelanden CKGR		Succession of white, yellowish-white or light-grey, fine grained limestones, in places argillaceous. Layers of chert nodules can be very common over thick intervals, especially at the base section. Along the basin edge coarse, bioclastic limestones and tongues of sandstone can occur.	1236	1293	1225,5	1289 16" hole depth @1449m 13 3/8" Casing shoe@1445m
		Texel CKTX	Plenus Marl CKTXP	Dark-grey, partly black, calcareous, laminated claystone. Its thickness generally does not exceed a couple of metres.	1617	2071	1594	2024
			Texel Marlstone CKTXM	White to light-grey (locally pinkish) limestones, marls and marly chalks.	1620	2078	1597,5	2033
Rijnland KN		Holland KNGL	Upper Holland Marl KNGLU	Light-grey and red-brown argillaceous marls, characterised by a carbonate content which gradually increases towards the top. Some chert and pyrite is present.	1728	2355	1711	2307 @2532m tight spot&pack off
			Middle Holland Claystone KNGLM	Grey and/or red-brown calcareous shaly claystone with a distinctly lower lime content than the under- and overlying members.	1891	2750	1865	2670
			Lower Holland Marl KNGLL	Generally consists of grey and red-brown marl or calcareous, fissile claystone, frequently with intercalated bituminous claystone beds.	1914	2790	1900	2736
		Vlieland Claystone KNNC		Dark redbrown to grey sticky claystone. Mica and very fine lignitic matter are common. Generally, the claystones are only very slightly calcareous. The base section often contains dark grey shales.	1927	2810	1900,5	2737,5
Lower Germanic Trias RB	Triassic	Lower Buntsandstein RBSH	Main Claystone RBSHM	The member consists of a succession of red-brown to green silty, sometimes anhydritic claystones. Some thin sandstone beds and oolitic beds also occur. The base is characterized by a, generally thin, sandstone bed which overlies the Zechstein fines.	1935	2823	12 1/4" hole depth @ 1986m	12 1/4" hole depth @ 2875m
Zechstein ZE	Permian	Zechstein Upper Claystone ZEUC		The formation is composed of red-brown to pale brown, occasionally grey-green claystones with some anhydrite and/or carbonate stringers. In the upper part thin, well-cemented, sandy beds may occur.	2014	2943		
		Zechstein 3 (Leine) ZEZ3	Z3 Main Anhydrite ZEZ3A	Generally developed as a relatively pure anhydrite body, but it can contain a large number of dolomitic or claystone intercalations.	2029	2966		
			Z3 Carbonate ZEZ3C	'Plattendolomit'. A brownish, slightly argillaceous, dolomitic limestone or coarse-crystalline dolomite.	2040	2983		
			Grey Salt Clay ZEZ3G	A grey claystone with a high gamma-ray response and corresponding low velocities on the sonic log.	2060	3013		
		Zechstein 2 (Stassfurt) ZEZ2	Z2 Basal Anhydrite ZEZ2A	A massive body of relatively pure anhydrite.	2064	3020		
			Z2 Carbonate ZEZ2C	"Stinkschiefer', a thin, finely laminated, argillaceous, black and often bituminous limestone. It's charact. by an increasing amount of clay towards the top.	2075	3036		
			Red-Brown Salt Clay ZEZ2R	A red to red-brown, finely laminatedbed with a high gamma-ray reading.	2096	3068		
		Zechstein 1 (Werra) ZEZ1	Z1 Anhydrite ZEZ1W	A massive anhydrite body which attains a huge thickness in the sub-basins. Dolomite stringers occur frequently within the unit.	2101	3076		
			Z1 Lower Claystone ZEZ1G	A grey to brown claystone or marl, in places dolomitic or anhydritic.	2236	3282		
			Coppershale ZEZ1K	A microlaminated, brownish-black bituminous shale with a thickness of 0,5 to 1 m. It is characterized on wire-line logs by high gamma-ray and low acoustic velocity readings.	2237	3283		
Upper Rotliegend RO		Slochteren ROSL		Sequence of usually pink to pale red-brown, occasionally yellow or grey, sandstones with subordinate amounts of intercalated anhydrite, dolomite or dark red, red-brown or green-grey silty claystones. Locally a conglomeratic base is present.	2238	3285		
Limburg DC	Carboni-ferous	Ruurlo DCCR		Succession of light to dark-grey or black, silty claystones, mudstones and shales containing a variable number of coal seams, and grey or buff, very fine- to fine-grained, fairly- to poorly-sorted, argillaceous or silty sandstone beds.	2434	3583		

RT-NAP: 5.3m; NAP-GL: 3.7m; RT-GL: 9m

Figure 6: Lithostratigraphic Column MDM-GT-06 (mother bore)

Lithostratigraphic Column MDM-GT-06-S1 21-7-2017 J.Smeulders					Expected		Actual	
Group	Period	Formation	Member	Lithology	TV-RT	AH-RT	TV-RT	AH-RT
Upper North Sea NU	Quaternary	"Diverse"		Diverse continental deposits, mostly fluvial sands and silts intercalated by some thin layers of grey or greenish-grey, silty clays. [wood, shell, fossil fragments]	9	9	9	9
		Maassluis NUMS		Deposits of coastal sands, very fine to medium coarse, calcareous, shell and wood bearing, mica rich. Silty to sandy, grey to dark grey clay containing shells and mica.	285	285 KOP@ 500m	285	285
	Tertiary	Oosterhout NUOT		Succession of sands, sandy clays, and dark grey to greenish grey marls or argillaceous marls. The lower part of the formation often consists of sands that are extremely rich in shells and bryozoans. The top is characterised by a layer of clay (Kallo Clay). [mica, many foraminifera]	531	532	498,5	498,5 22" hole depth @552m; 18 5/8" casing shoe@545m
		Breda NUBA		Sequence of marine, glauconitic sands, sandy clays and dark brown to dark green clays. In places a glauconite-rich layer occurs at the base. [mica, fora's]	760	764	711	714
Middle North Sea NM		Rupel NMRF	Rupel Clay NMRFC	Clays that become more silty towards basis and top. It is rich in pyrite, contains hardly any glauconite and calcium carbonate tends to be concentrated in the septaria layers. [some mica]	809	813	804,5	809
			Vessem NMRFV	Silty to clayey sands with a low glauconite content, flint pebbles or phosphorite nodules commonly occur at the base.	834	839	825	830
Lower North Sea NL		Dongen NLFF	Asse NLFFB	Dark greenish-grey and blue-grey, plastic clays. The unit locally shows indications of bioturbation, and may be glauconitic and somewhat micaceous.	839	844	833	838
			Brussels Marl NLFFM	Greenish to brownish grey, silty, calcareous clay to marl.	907	913	861	867
			Brussels Sand NLFFS	Succession of green-grey, glauconitic, very fine-grained sand with, mainly in the upper part, a number of hard, calcareous sandstone layers. Towards the base of the unit the clay content increases, and the calcium carbonate content and amount of glauconite decreases.	934	941	904	911
			Ieper NLFFI	A soft, tough and sticky to hardened and friable clay. The lower part is characterised by its brown-grey colour, tending to beige or red-brown locally. The upper two-thirds have a green-grey colour. It has a sandy upper part.	956	965	948	957,5
			Basal Dongen Tuffite NLFFT	Tuffaceous clays, blue to violet-grey in colour, alternating with dark-grey and red-brown clays.	1175	1214	1172	1218,5
		Landen NLLF	Landen Clay NLLFC	Generally dark-green, hard, flaky clay, somewhat silty, containing glauconite, pyrite and mica. The basal part of the member can be marly and of a lighter colour.	1179	1219	1177	1225,5
Chalk CK	Cretaceous	Ommelanden CKGR		Succession of white, yellowish-white or light-grey, fine grained limestones, in places argillaceous. Layers of chert nodules can be very common over thick intervals, especially at the base section. Along the basin edge coarse, bioclastic limestones and tongues of sandstone can occur.	1236	1293	1225,5	1289 16" hole depth @1449m 13 3/8" Casing shoe@1445m
		Texel CKTX	Plenus Marl CKTXP	Dark-grey, partly black, calcareous, laminated claystone. Its thickness generally does not exceed a couple of metres.	1617	2071	1594	2024
			Texel Marlstone CKTXM	White to light-grey (locally pinkish) limestones, marls and marly chalks. Sidetrack MDM-GT-06-S1	1620	2078	1597,5	2033
Rijnland KN		Holland KNGL	Upper Holland Marl KNGLU	Light-grey and red-brown argillaceous marls, characterised by a carbonate content which gradually increases towards the top. Some chert and pyrite is present.	1711	2304	1711	2304
			Middle Holland Claystone KNGLM	Grey and/or red-brown calcareous shaly claystone with a distinctly lower lime content than the under- and overlying members.	1900	2672	1896	2668
			Lower Holland Marl KNGLL	Generally consists of grey and red-brown marl or calcareous, fissile claystone, frequently with intercalated bituminous claystone beds.	1912	2691	1905	2682
		Vlieland Claystone KNNC		Dark redbrown to grey sticky claystone. Mica and very fine lignitic matter are common. Generally, the claystones are only very slightly calcareous. The base section often contains dark grey shales.	1913	2692	1906	2684
Lower Germanic Trias RB	Triassic	Lower Buntsandstein RBSH	Main Claystone RBSHM	The member consists of a succession of red-brown to green silty, sometimes anhydritic claystones and dolomite. Some thin sandstone beds and oolitic beds also occur. The base is characterized by a, generally thin, sandstone bed which overlies the Zechstein fines.	1946	2743	1945	2741 section TD @ 2781m
Zechstein ZE	Permian	Zechstein Upper Claystone ZEUC		The formation is composed of red-brown to pale brown, occasionally grey-green claystones with some anhydrite and/or carbonate stringers. In the upper part thin, well-cemented, sandy beds may occur.	2014	2847		
		Zechstein 3 (Leine) ZEZ3	Z3 Main Anhydrite ZEZ3A	Generally developed as a relatively pure anhydrite body, but it can contain a large number of dolomitic or claystone intercalations.	2029	2870		
			Z3 Carbonate ZEZ3C	'Plattendolomit'. A brownish, slightly argillaceous, dolomitic limestone or coarse-crystalline dolomite.	2040	2887		
			Grey Salt Clay ZEZ3G	A grey claystone with a high gamma-ray response and corresponding low velocities on the sonic log.	2060	2918		
		Zechstein 2 (Stassfurt) ZEZ2	Z2 Basal Anhydrite ZEZ2A	A massive body of relatively pure anhydrite.	2064	2924		
			Z2 Carbonate ZEZ2C	"Stinkschiefer', a thin, finely laminated, argillaceous, black and often bituminous limestone. It's charact. by an increasing amount of clay towards the top.	2075	2973		
			Red-Brown Salt Clay ZEZ2R	A red to red-brown, finely laminatedbed with a high gamma-ray reading.	2096	2973		
		Zechstein 1 (Werra) ZEZ1	Z1 Anhydrite ZEZ1W	A massive anhydrite body which attains a huge thickness in the sub-basins. Dolomite stringers occur frequently within the unit.	2101	2981		
			Z1 Lower Claystone ZEZ1G	A grey to brown claystone or marl, in places dolomitic or anhydritic.	2236	3190		
			Coppershale ZEZ1K	A microlaminated, brownish-black bituminous shale with a thickness of 0,5 to 1 m. It is characterized on wire-line logs by high gamma-ray and low acoustic velocity readings.	2237	3191		
Upper Rotliegend RO		Slochteren ROSL		Sequence of usually pink to pale red-brown, occasionally yellow or grey, sandstones with subordinate amounts of intercalated anhydrite, dolomite or dark red, red-brown or green-grey silty claystones. Locally a conglomeratic base is present.	2238	3193		
Limburg DC	Carboni-ferous	Ruurlo DCCR		Succession of light to dark-grey or black, silty claystones, mudstones and shales containing a variable number of coal seams, and grey or buff, very fine- to fine-grained, fairly- to poorly-sorted, argillaceous or silty sandstone beds.	2434	3498		
				TD	± 2443	± 3513		

RT-NAP: 5.57m; NAP-GL: 3.7m; RT-GL: 9,27m

Figure 7: Lithostratigraphic Column MDM-GT-06-S1

Lithostratigraphic Column MDM-GT-06-S2 19-9-2017 J.Smeulders					Expected		Actual	
Group	Period	Formation	Member	Lithology	TV-RT	AH-RT	TV-RT	AH-RT
Upper North Sea NU	Quaternary	"Diverse"		Diverse continental deposits, mostly fluvial sands and silts intercalated by some thin layers of grey or greenish-grey, silty clays. [wood, shell, fossil fragments]	9	9	9	9
		Maassluis NUMS		Deposits of coastal sands, very fine to medium coarse, calcareous, shell and wood bearing, mica rich. Silty to sandy, grey to dark grey clay containing shells and mica.	285	285 KOP@ 500m	285	285
	Tertiary	Oosterhout NUOT		Succession of sands, sandy clays, and dark grey to greenish grey marls or argillaceous marls. The lower part of the formation often consists of sands that are extremely rich in shells and bryozoans. The top is characterised by a layer of clay (Kallo Clay). [mica, many foraminifera]	531	532	498,5	498,5 22" hole depth @552m; 18 5/8" casing shoe@3545m
		Breda NUBA		Sequence of marine, glauconitic sands, sandy clays and dark brown to dark green clays. In places a glauconite-rich layer occurs at the base. [mica, fora's]	760	764	711	714
Middle North Sea NM		Rupel NMRF	Rupel Clay NMRFC	Clays that become more silty towards basis and top. It is rich in pyrite, contains hardly any glauconite and calcium carbonate tends to be concentrated in the septaria layers. [some mica]	809	813	804,5	809
			Vessem NMRFV	Silty to clayey sands with a low glauconite content, flint pebbles or phosphorite nodules commonly occur at the base.	834	839	825	830
Lower North Sea NL		Dongen NLFF	Asse NLFFB	Dark greenish-grey and blue-grey, plastic clays. The unit locally shows indications of bioturbation, and may be glauconitic and somewhat micaceous.	839	844	833	838
			Brussels Marl NLFFM	Greenish to brownish grey, silty, calcareous clay to marl.	907	913	861	867
			Brussels Sand NLFFS	Succession of green-grey, glauconitic, very fine-grained sand with, mainly in the upper part, a number of hard, calcareous sandstone layers. Towards the base of the unit the clay content increases, and the calcium carbonate content and amount of glauconite decreases.	934	941	904	911
			Ieper NLFFI	A soft, tough and sticky to hardened and friable clay. The lower part is characterised by its brown-grey colour, tending to beige or red-brown locally. The upper two-thirds have a green-grey colour. It has a sandy upper part.	956	965	948	957,5
			Basal Dongen Tuffite NLFFT	Tuffaceous clays, blue to violet-grey in colour, alternating with dark-grey and red-brown clays.	1175	1214	1172	1218,5
		Landen NLLF	Landen Clay NLLFC	Generally dark-green, hard, flaky clay, somewhat silty, containing glauconite, pyrite and mica. The basal part of the member can be marly and of a lighter colour.	1179	1219	1177	1225,5
Chalk CK	Cretaceous	Ommelanden CKGR		Succession of white, yellowish-white or light-grey, fine grained limestones, in places argillaceous. Layers of chert nodules can be very common over thick intervals, especially at the base section. Along the basin edge coarse, bioclastic limestones and tongues of sandstone can occur.	1236	1293	1225,5	1289 16" hole depth @1449m 13 3/8" Casing shoe@1445m
		Texel CKTX	Plenus Marl CKTXP	Dark-grey, partly black, calcareous, laminated claystone. Its thickness generally does not exceed a couple of metres.	1617	2071	1594	2024
			Texel Marlstone CKTXM	White to light-grey (locally pinkish) limestones, marls and marly chalks.	1620	2078	1597,5	2033
					MDM-GT-06-S2 KOP @ ±1700m TV or 2280m AH			
Rijnland KN		Holland KNGL	Upper Holland Marl KNGLU	Light-grey and red-brown argillaceous marls, characterised by a carbonate content which gradually increases towards the top. Some chert and pyrite is present.	1711	2304	1712	2306
			Middle Holland Claystone KNGLM	Grey and/or red-brown calcareous shaly claystone with a distinctly lower lime content than the under- and overlying members.	1896	2603	1906,5	2612
			Lower Holland Marl KNGLL	Generally consists of grey and red-brown marl or calcareous, fissile claystone, frequently with intercalated bituminous claystone beds.	1905	2614	1915	2622
		Vlieland Claystone KNNC		Dark redbrown to grey sticky claystone. Mica and very fine lignitic matter are common. Generally, the claystones are only very slightly calcareous. The base section often contains dark grey shales.	1906	2615	1917,5	2625
Lower Germanic Trias RB	Triassic	Lower Buntsandstein RBSH	Main Claystone RBSHM	The member consists of a succession of red-brown to green silty, sometimes anhydritic claystones and dolomite. Some thin sandstone beds and oolitic beds also occur. The base is characterized by a, generally thin, sandstone bed which overlies the Zechstein fines.	1945	2663	1974,5	2695 9 5/8" casing shoe @ 2712m
Zechstein ZE	Permian	Zechstein Upper Claystone ZEUC		The formation is composed of red-brown to pale brown, occasionally grey-green claystones with some anhydrite and/or carbonate stringers. In the upper part thin, well-cemented, sandy beds may occur.	2014	2747	1995,5	2721
		Zechstein 3 (Leine) ZEZ3	Z3 Carbonate ZEZ3C	'Plattendolomit'. A brownish, slightly argillaceous, dolomitic limestone or coarse-crystalline dolomite.	2040	2779	1996,5	2722,5
			Grey Salt Clay ZEZ3G	A grey claystone with a high gamma-ray response and corresponding low velocities on the sonic log.	2060	2803	2019,5	2750
		Zechstein 2 (Stassfurt) ZEZ2	Z2 Basal Anhydrite ZEZ2A	A massive body of relatively pure anhydrite.	2064	2808	2027,5	2760
			Z2 Carbonate ZEZ2C	"Stinkschiefer', a thin, finely laminated, argillaceous, black and often bituminous limestone. It's charact. by an increasing amount of clay towards the top.	2075	2822	2039	2774,5
			Red-Brown Salt Clay ZEZ2R	A red to red-brown, finely laminatedbed with a high gamma-ray reading.	2096	2847	2086,5	2833
		Zechstein 1 (Werra) ZEZ1	Z1 Anhydrite ZEZ1W	A massive anhydrite body which attains a huge thickness in the sub-basins. Dolomite stringers occur frequently within the unit.	2101	2854	2089	2836
			Z1 Lower Claystone ZEZ1G	A grey to brown claystone or marl, in places dolomitic or anhydritic.	2236	3018	2236	3017 7" liner shoe @ 3018m
			Coppershale ZEZ1K	A microlaminated, brownish-black bituminous shale with a thickness of 0,5 to 1 m. It is characterized on wire-line logs by high gamma-ray and low acoustic velocity readings.	2237	3019	2241,5	3023
Upper Rotliegend RO		Slochteren ROSL		Sequence of usually pink to pale red-brown, occasionally yellow or grey, sandstones with subordinate amounts of intercalated anhydrite, dolomite or dark red, red-brown or green-grey silty claystones. Locally a conglomeratic base is present.	2238	3021	2243	3025
Limburg DC	Carboniferous	Ruurlo DCCR		Succession of light to dark-grey or black, silty claystones, mudstones and shales containing a variable number of coal seams, and grey or buff, very fine- to fine-grained, fairly- to poorly-sorted, argillaceous or silty sandstone beds.	2434	3260	2455	3255
				TD	± 2446	± 3275	2446,5	3278

RT-NAP: 5.57m; NAP-GL: 3.7m; RT-GL: 9,27m

Figure 8: Lithostratigraphic Column MDM-GT-06-S2

No faults or abnormal formation pressures were encountered while drilling this well.

5 Well Completion and Status

The well is suspended until well testing and cased hole logging operations. The wireline logs will be used to determine baseline casing wall thickness and internal diameter. Figure 9: Wellhead schematic for well suspension, below, shows the wellhead configuration that was used upon completion of the well and prior to moving the rig.

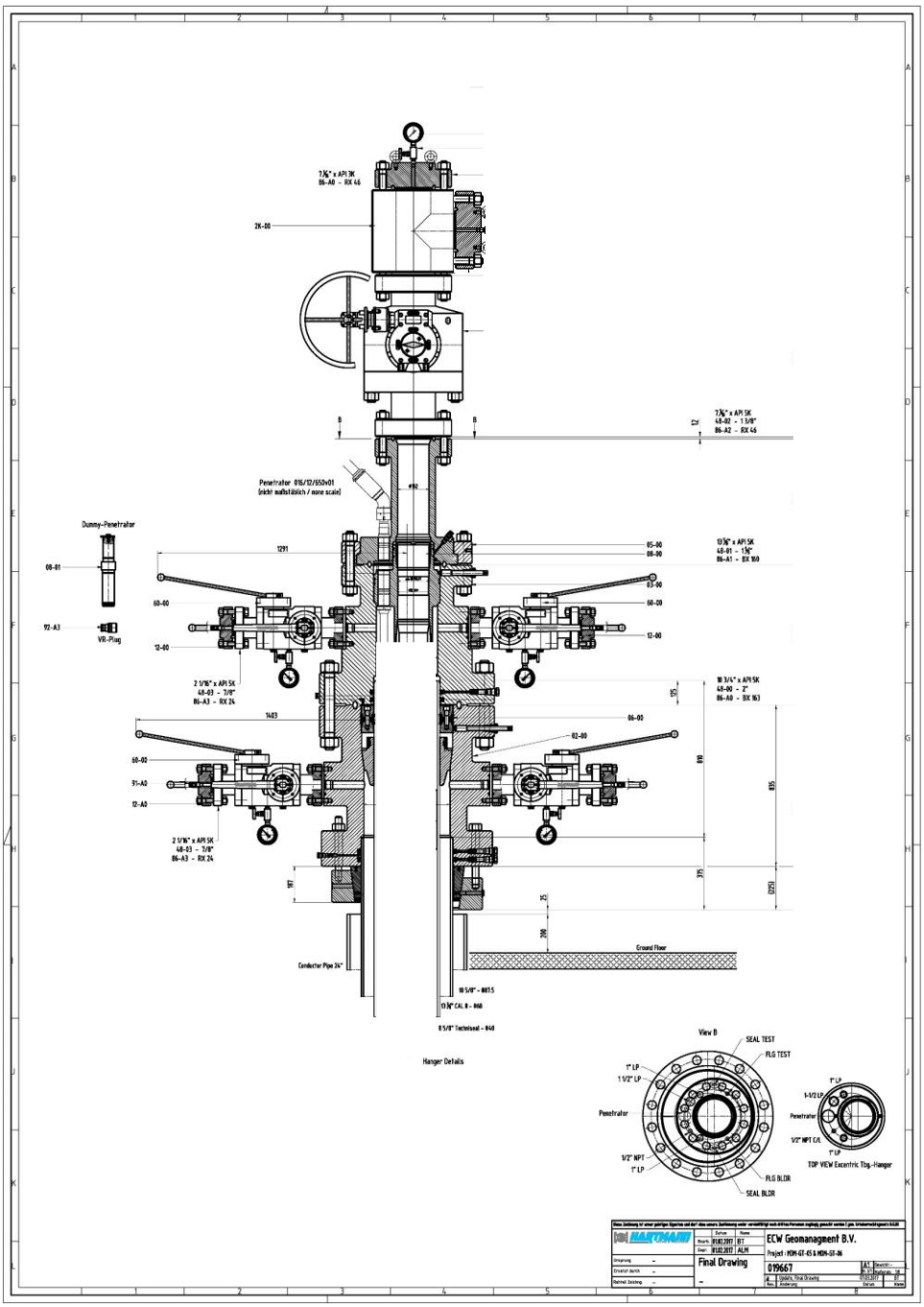


Figure 9: Wellhead schematic for well suspension

6 Signature

Place: Date:

Signature: Bertran de Lange (Manager Geothermie)

7 Appendices

Appendix I. a) Litholog MDM-GT-06 (mother bore)
b) Litholog MDM-GT-06-S1
c) Litholog MDM-GT-06-S2

Appendix II. a) Survey Geodetic Report MDM-GT-06 (mother bore)
b) Survey Geodetic Report MDM-GT-06-S1
c) Survey Geodetic Report MDM-GT-06

Appendix III. Casing and Liner Tallies

ECW

ADM-07-08
NORANDA

Technical log, 1:200

GEO SERVICE Zone

Client:
Noranda
Inc.

Project:
Noranda - Horizon 45
Noranda - Horizon 45

Location:
Noranda - Horizon 45
Noranda - Horizon 45

Coordinates:
Noranda - Horizon 45 - 4.0 - 4.0 - 4.0 - 4.0
Noranda - Horizon 45
Noranda - Horizon 45 - 4.0 - 4.0 - 4.0 - 4.0

Start Depth:
Noranda - Horizon 45 - 0.0

End Depth:
Noranda - Horizon 45 - 1.0

Drilling:
Start date: 2007-11-14
End date: 2007-11-14
Contractor: Forage Boreal Inc.
Method: Rotary
Bit size: 152.4 mm
Bit type: Tricone
Mud type: Water

Equipment:
Model: Mobile Drill
Serial number: 1
Operator: Forage Boreal Inc.
Operator: Forage Boreal Inc.
Operator: Forage Boreal Inc.

ECW

Client:
Statoil
Area:
Gullfaks
Project:
Gullfaks - 2010 S-E-W
Well:
Gullfaks - 2010 S-E-W
Location:
Gullfaks - 2010 S-E-W
Coordinates: Latitude: 61.0000000
Longitude: 1.8333333
Coordinates: Northing: 6763000.00
Easting: 1000000.00
Well Datum:
Rotary Table: 0.00 m AMSL
Well Datum:
Rotary Table: 0.00 m AMSL

HOW-07-08-03

Schlumberger

Technical log, LWD

Drilling Date:
Start: 2010-07-08
End: 2010-07-08
Logging Date:
Start: 2010-07-08
End: 2010-07-08
Depth:
Start: 1000.00 m
End: 1000.00 m
Logged Interval:
Start: 1000.00 m
End: 1000.00 m
Tools:
Tool Name: LWD-Combo
Tool Name: LWD-Combo
Bit Size:
Bit Size: 12.250 in, 12.250 in, 12.250 in,

ECW

HDR-07-09-02
Mirrlees

Mirrlees - Lot 1

Client: ECW
Project: Mirrlees
Location: Mirrlees - Lot 1
Hole ID: HDR-07-09-02
Date: 10/9/2007
Logged by: Mirrlees
Checked by: Mirrlees
Comments:
Coordinates: 1 m E of HDR - 07-09-01
Datum: Mirrlees
Elevation: 0.000 m
Total Depth: 15.000 m
Inclination: 90.000 °
Azimuth: 0.000 °
Drilling Method: Rotary
Hole Diameter: 152 mm
Casing: 152 mm x 15.000 m
Water Level: 1.000 m
Comments:

Logging Company: GEO SERVICES
Logging Date: 10/9/2007
Logging Method: Wireline
Logging Engineer: Mirrlees
Logging Unit: 1
Logging Truck: Mirrlees
Logging Depth: 15.000 m
Comments:
Tool Name: Gamma Density, Caliper, Gamma Ray
Tool Serial No: 2
Comments:

GEO SERVICES

Tool Configuration

Calibrations

Logging Parameters

Tool	Parameter	Value	Units
Gamma Ray	Time Constant	1	s
	Logging Speed	5	m/min
	Sample Rate	0.1	m
Density	Time Constant	1	s
	Logging Speed	5	m/min
	Sample Rate	0.1	m

Comments

Legend

Gamma Ray | Caliper | Density | Sonic | Resistivity | Temperature | Flow | Velocity | Pressure | Conductivity | Other

Vertical Scale (m:100m/100m)

Depth Scale

Scale	Units
1:200	m

Depth Reference

Reference	Offset
Ground Level	0.000 m

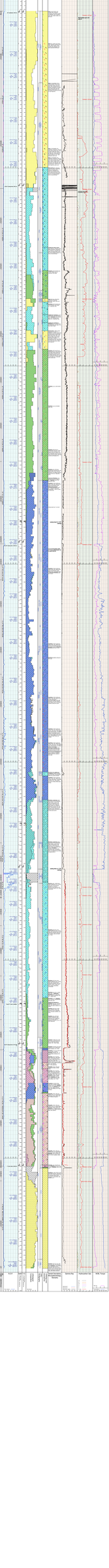
Comments

Depth Reference	Offset
Ground Level	0.000 m

Comments

Depth Reference	Offset
Ground Level	0.000 m

Comments



Schlumberger

MDM_GT-06 Def Surveys Survey Geodetic Report

ECW

(Def Survey)

Report Date:	October 12, 2017 - 11:29 PM	**Survey / DLS Computation:**	Minimum Curvature / Lubinski
Client:	ECW Geomanagement B.V.	**Vertical Section Azimuth:**	127.140 ° (Grid North)
Field:	Middenmeer	**Vertical Section Origin:**	0.000 m, 0.000 m
Structure / Slot:	MDM-GT-06 / MDM_GT-06	**TVD Reference Datum:**	Rotary Table
Well:	MDM-GT-06	**TVD Reference Elevation:**	5.570 m above NAP
Borehole:	MDM_GT-06	**Seabed / Ground Elevation:**	3.700 m below NAP
UWI / API#:	Unknown / Unknown	**Magnetic Declination:**	1.190 °
Survey Name:	MDM_GT-06 Def Surveys	**Total Gravity Field Strength:**	1000.6550mgn (9.80665 Based)
Survey Date:	May 08, 2017	**Gravity Model:**	GARM
Tort / AHD / DDI / ERD Ratio:	107.036 ° / 1657.190 m / 5.926 / 0.834	**Total Magnetic Field Strength:**	49284.145 nT
Coordinate Reference System:	Amersfoort * OGP-Nld / RD Dutch Onshore	**Magnetic Dip Angle:**	67.634 °
Location Lat / Long:	N 52° 46' 7.39415", E 5° 2' 38.32964"	**Declination Date:**	May 08, 2017
Location Grid N/E Y/X:	N 531205.000 m, E 131809.000 m	**Magnetic Declination Model:**	HDGM 2016
CRS Grid Convergence Angle:	-0.2725 °	**North Reference:**	Grid North
Grid Scale Factor:	0.99993975	**Grid Convergence Used:**	-0.2725 °
Version / Patch:	2.10.254.0	**Total Corr Mag North->Grid North:**	1.4629 °
		Local Coord Referenced To:	Well Head

Comments	MD (m)	Incl (°)	Azim Grid (°)	TVD (m)	TVDSS (m)	VSEC (m)	NS (m)	EW (m)	DLS (°/30m)	Northing (m)	Easting (m)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
Tie-In	0.00	0.00	0.00	0.00	-5.57	0.00	0.00	0.00	N/A	531205.00	131809.00	N 52 46 7.39	E 5 2 38.33
Ground level (vertical)	9.27	0.00	0.00	9.27	3.70	0.00	0.00	0.00	0.00	531205.00	131809.00	N 52 46 7.39	E 5 2 38.33
22" Section Surveys:	130.10	0.55	142.18	130.10	124.53	0.56	-0.46	0.36	0.14	531204.54	131809.36	N 52 46 7.38	E 5 2 38.35
MWD Survey INC only	149.41	0.27	134.13	149.41	143.84	0.69	-0.56	0.45	0.44	531204.44	131809.45	N 52 46 7.38	E 5 2 38.35
MWD Survey INC only	186.42	0.42	103.79	186.42	180.85	0.91	-0.66	0.64	0.19	531204.34	131809.64	N 52 46 7.37	E 5 2 38.36
MWD Survey INC only	205.32	0.40	92.70	205.32	199.75	1.02	-0.68	0.77	0.13	531204.32	131809.77	N 52 46 7.37	E 5 2 38.37
MWD Survey	223.63	0.37	86.00	223.63	218.06	1.12	-0.67	0.90	0.09	531204.33	131809.90	N 52 46 7.37	E 5 2 38.38
MWD Survey	242.13	0.43	85.95	242.13	236.56	1.22	-0.67	1.02	0.10	531204.33	131810.02	N 52 46 7.37	E 5 2 38.38
MWD Survey	260.34	0.57	97.30	260.33	254.76	1.35	-0.67	1.18	0.28	531204.33	131810.18	N 52 46 7.37	E 5 2 38.39
MWD Survey	279.11	0.69	105.85	279.10	273.53	1.53	-0.71	1.38	0.24	531204.29	131810.38	N 52 46 7.37	E 5 2 38.40
MWD Survey	297.40	0.88	127.63	297.39	291.82	1.78	-0.83	1.60	0.57	531204.17	131810.60	N 52 46 7.37	E 5 2 38.42
MWD Survey	315.86	1.00	140.01	315.85	310.28	2.08	-1.04	1.82	0.38	531203.96	131810.82	N 52 46 7.36	E 5 2 38.43
MWD Survey	334.58	1.37	145.59	334.57	329.00	2.45	-1.35	2.05	0.62	531203.65	131811.05	N 52 46 7.35	E 5 2 38.44
MWD Survey	353.53	1.75	155.96	353.51	347.94	2.92	-1.80	2.29	0.75	531203.20	131811.29	N 52 46 7.34	E 5 2 38.45
MWD Survey	371.99	2.25	163.42	371.96	366.39	3.46	-2.41	2.51	0.91	531202.59	131811.51	N 52 46 7.32	E 5 2 38.46
MWD Survey	390.96	3.14	170.75	390.91	385.34	4.13	-3.28	2.70	1.51	531201.72	131811.70	N 52 46 7.29	E 5 2 38.47
MWD Survey	408.92	4.72	175.58	408.82	403.25	4.98	-4.50	2.84	2.69	531200.50	131811.84	N 52 46 7.25	E 5 2 38.48
MWD Survey	427.41	5.34	172.13	427.24	421.67	6.09	-6.11	3.01	1.12	531198.89	131812.01	N 52 46 7.20	E 5 2 38.49
MWD Survey	445.85	5.75	169.12	445.60	440.03	7.38	-7.87	3.31	0.82	531197.13	131812.31	N 52 46 7.14	E 5 2 38.51
MWD Survey	464.03	6.00	167.06	463.68	458.11	8.79	-9.69	3.69	0.54	531195.31	131812.69	N 52 46 7.08	E 5 2 38.53
MWD Survey	483.02	6.14	165.46	482.56	476.99	10.35	-11.64	4.17	0.35	531193.36	131813.17	N 52 46 7.02	E 5 2 38.55
MWD Survey	501.58	6.75	164.70	501.01	495.44	11.99	-13.65	4.71	1.00	531191.35	131813.70	N 52 46 6.95	E 5 2 38.58
MWD Survey	519.86	7.00	162.43	519.16	513.59	13.75	-15.75	5.32	0.61	531189.25	131814.32	N 52 46 6.89	E 5 2 38.62
16" section Surveys:	574.37	8.05	160.31	573.20	567.63	19.66	-22.51	7.61	0.60	531182.49	131816.61	N 52 46 6.67	E 5 2 38.74
MWD Survey DMAG cor.	593.00	8.44	157.65	591.63	586.06	21.93	-25.00	8.57	0.88	531180.00	131817.57	N 52 46 6.59	E 5 2 38.79
MWD Survey DMAG cor.	611.46	8.96	153.47	609.88	604.31	24.38	-27.54	9.73	1.33	531177.46	131818.73	N 52 46 6.50	E 5 2 38.86
MWD Survey DMAG cor.	629.41	9.51	148.81	627.60	622.03	27.02	-30.06	11.12	1.55	531174.94	131820.12	N 52 46 6.42	E 5 2 38.93
MWD Survey DMAG cor.	648.75	9.99	143.91	646.66	641.09	30.11	-32.78	12.94	1.49	531172.22	131821.94	N 52 46 6.34	E 5 2 39.03
MWD Survey DMAG cor.	667.26	10.37	138.29	664.88	659.31	33.28	-35.32	14.99	1.72	531169.68	131823.99	N 52 46 6.25	E 5 2 39.14
MWD Survey DMAG cor.	685.95	10.62	133.25	683.26	677.69	36.64	-37.76	17.37	1.53	531167.24	131826.37	N 52 46 6.18	E 5 2 39.27
MWD Survey DMAG cor.	704.36	10.62	130.71	701.35	695.78	40.02	-40.03	19.89	0.76	531164.97	131828.89	N 52 46 6.10	E 5 2 39.40
MWD Survey DMAG cor.	722.76	10.58	129.24	719.44	713.87	43.40	-42.20	22.48	0.45	531162.80	131831.48	N 52 46 6.03	E 5 2 39.54
MWD Survey DMAG cor.	740.98	10.65	127.95	737.34	731.77	46.76	-44.30	25.10	0.41	531160.71	131834.10	N 52 46 5.96	E 5 2 39.68
MWD Survey DMAG cor.	759.29	10.71	126.74	755.34	749.77	50.15	-46.35	27.80	0.38	531158.65	131836.80	N 52 46 5.90	E 5 2 39.82
MWD Survey DMAG cor.	777.39	10.60	125.19	773.13	767.56	53.49	-48.32	30.51	0.51	531156.68	131839.51	N 52 46 5.84	E 5 2 39.97
MWD Survey DMAG cor.	795.70	10.48	125.85	791.13	785.56	56.84	-50.26	33.24	0.28	531154.74	131842.23	N 52 46 5.77	E 5 2 40.12
MWD Survey DMAG cor.	815.16	10.42	128.46	810.26	804.69	60.37	-52.40	36.05	0.74	531152.61	131845.05	N 52 46 5.70	E 5 2 40.27
MWD Survey DMAG cor.	834.18	10.87	130.94	828.96	823.39	63.88	-54.64	38.75	1.01	531150.36	131847.75	N 52 46 5.63	E 5 2 40.41
MWD Survey DMAG cor.	852.68	11.99	130.75	847.09	841.52	67.54	-57.04	41.52	1.82	531147.97	131850.52	N 52 46 5.56	E 5 2 40.56
MWD Survey DMAG cor.	870.99	13.18	129.77	864.96	859.39	71.52	-59.62	44.57	1.98	531145.39	131853.57	N 52 46 5.47	E 5 2 40.72
MWD Survey DMAG cor.	889.45	14.67	128.16	882.88	877.31	75.96	-62.41	48.02	2.50	531142.60	131857.02	N 52 46 5.38	E 5 2 40.91
MWD Survey DMAG cor.	908.16	15.82	127.77	900.93	895.36	80.88	-65.43	51.90	1.85	531139.57	131860.90	N 52 46 5.29	E 5 2 41.11
MWD Survey DMAG cor.	926.85	16.64	128.64	918.87	913.30	86.10	-68.66	56.01	1.37	531136.34	131865.00	N 52 46 5.18	E 5 2 41.33
MWD Survey DMAG cor.	945.00	17.85	128.66	936.21	930.64	91.48	-72.02	60.21	2.00	531132.98	131869.21	N 52 46 5.07	E 5 2 41.56
MWD Survey DMAG cor.	963.37	19.41	127.67	953.61	948.04	97.35	-75.65	64.82	2.60	531129.36	131873.82	N 52 46 4.96	E 5 2 41.81
MWD Survey DMAG cor.	981.79	21.13	126.79	970.89	965.32	103.73	-79.51	69.91	2.84	531125.50	131878.90	N 52 46 4.83	E 5 2 42.08
MWD Survey DMAG cor.	1000.76	22.72	126.14	988.49	982.92	110.81	-83.72	75.60	2.54	531121.29	131884.60	N 52 46 4.70	E 5 2 42.38
MWD Survey DMAG cor.	1019.27	24.21	126.04	1005.47	999.90	118.18	-88.06	81.56	2.42	531116.95	131890.56	N 52 46 4.56	E 5 2 42.70
MWD Survey DMAG cor.	1037.48	25.65	126.38	1021.98	1016.41	125.86	-92.59	87.75	2.38	531112.41	131896.75	N 52 46 4.41	E 5 2 43.03
MWD Survey DMAG cor.	1057.16	27.24	126.50	1039.60	1034.03	134.62	-97.80	94.80	2.43	531107.21	131903.80	N 52 46 4.24	E 5 2 43.41
MWD Survey DMAG cor.	1075.02	29.12	126.62	1055.34	1049.77	143.05	-102.82	101.58	3.16	531102.18	131910.57	N 52 46 4.08	E 5 2 43.77
MWD Survey DMAG cor.	1094.47	30.93	126.25	1072.18	1066.61	152.78	-108.60	109.41	2.81	531096.41	131918.40	N 52 46 3.90	E 5 2 44.19
MWD Survey DMAG cor.	1113.13	32.65	125.98	1088.04	1082.47	162.61	-114.39	117.35	2.77	531090.61	131926.34	N 52 46 3.71	E 5 2 44.62
MWD Survey DMAG cor.	1130.42	34.35	125.79	1102.46	1096.89	172.15	-119.99	125.08	2.96	531085.02	131934.07	N 52 46 3.53	E 5 2 45.03
MWD Survey DMAG cor.	1149.74	36.13	125.49	1118.24	1112.67	183.30	-126.48	134.14	2.78	531078.53	131943.13	N 52 46 3.32	E 5 2 45.52
MWD Survey DMAG cor.	1167.83	37.89	125.18	1132.68	1127.11	194.18	-132.78	143.02	2.94	531072.23	131952.01	N 52 46 3.12	E 5 2 45.99
MWD Survey DMAG cor.	1185.54	39.51	125.26	1146.50	1140.93	205.25	-139.17	152.07	2.75	531065.84	131961.06	N 52 46 2.91	E 5 2 46.48
MWD Survey DMAG cor.	1204.09	40.09	125.03	1160.76	1155.19	217.11	-146.00	161.78	0.97	531059.01	131970.77	N 52 46 2.70	E 5 2 47.00
MWD Survey DMAG cor.	1221.74	40.11	125.01	1174.26	1168.69	228.47	-152.52	171.09	0.04	531052.48	131980.08	N 52 46 2.49	E 5 2 47.49

Comments	MD (m)	Incl (°)	Azim Grid (°)	TVD (m)	TVDSS (m)	VSEC (m)	NS (m)	EW (m)	DLS (°/30m)	Northing (m)	Easting (m)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
MWD Survey DMAG cor.	1241.25	40.13	125.12	1189.18	1183.61	241.04	-159.75	181.38	0.11	531045.26	131990.37	N 52 46 2.25	E 5 2 48.05
MWD Survey DMAG cor.	1259.64	40.07	125.42	1203.24	1197.67	252.88	-166.59	191.05	0.33	531038.42	132000.04	N 52 46 2.03	E 5 2 48.56
MWD Survey DMAG cor.	1278.28	40.12	125.58	1217.50	1211.93	264.88	-173.56	200.82	0.18	531031.45	132009.81	N 52 46 1.81	E 5 2 49.09
MWD Survey DMAG cor.	1296.97	40.39	126.01	1231.77	1226.20	276.95	-180.62	210.62	0.62	531024.39	132019.61	N 52 46 1.58	E 5 2 49.61
MWD Survey DMAG cor.	1315.39	41.49	126.94	1245.68	1240.11	289.02	-187.80	220.32	2.05	531017.21	132029.31	N 52 46 1.35	E 5 2 50.13
MWD Survey DMAG cor.	1333.88	42.75	127.56	1259.40	1253.83	301.42	-195.31	230.19	2.15	531009.71	132039.18	N 52 46 1.11	E 5 2 50.66
MWD Survey DMAG cor.	1352.64	44.34	127.71	1272.99	1267.42	314.34	-203.20	240.43	2.55	531001.82	132049.41	N 52 46 0.86	E 5 2 51.21
MWD Survey DMAG cor.	1370.76	46.20	128.07	1285.74	1280.17	327.22	-211.10	250.59	3.11	530993.91	132059.57	N 52 46 0.60	E 5 2 51.75
MWD Survey DMAG cor.	1389.48	47.95	128.50	1298.49	1292.92	340.92	-219.60	261.35	2.85	530985.42	132070.33	N 52 46 0.33	E 5 2 52.33
MWD Survey DMAG cor.	1407.77	49.54	128.10	1310.55	1304.98	354.67	-228.12	272.14	2.65	530976.90	132081.12	N 52 46 0.06	E 5 2 52.90
MWD Survey DMAG cor.	1426.19	51.20	127.92	1322.30	1316.73	368.85	-236.85	283.31	2.71	530968.16	132092.30	N 52 45 59.77	E 5 2 53.50
MWD Survey DMAG cor.	1437.13	52.28	127.55	1329.08	1323.51	377.44	-242.11	290.11	3.07	530962.90	132099.09	N 52 45 59.61	E 5 2 53.87
12.25x14" section Surveys:	1458.33	53.17	127.29	1341.92	1336.35	394.31	-252.36	303.51	1.29	530952.65	132112.49	N 52 45 59.28	E 5 2 54.58
MWD Survey	1478.36	54.71	127.84	1353.71	1348.14	410.50	-262.23	316.34	2.40	530942.78	132125.32	N 52 45 58.96	E 5 2 55.27
MWD Survey	1496.95	56.25	127.81	1364.24	1358.67	425.82	-271.63	328.44	2.49	530933.39	132137.42	N 52 45 58.66	E 5 2 55.92
MWD Survey	1516.81	57.64	127.83	1375.07	1369.50	442.46	-281.83	341.59	2.10	530923.18	132150.57	N 52 45 58.33	E 5 2 56.62
MWD Survey	1535.61	59.33	127.41	1384.90	1379.33	458.49	-291.61	354.28	2.76	530913.40	132163.26	N 52 45 58.01	E 5 2 57.30
MWD Survey	1555.63	60.07	127.54	1395.00	1389.43	475.77	-302.13	368.00	1.12	530902.89	132176.98	N 52 45 57.68	E 5 2 58.04
MWD Survey	1573.85	59.89	128.24	1404.12	1398.55	491.55	-311.82	380.45	1.04	530893.20	132189.43	N 52 45 57.36	E 5 2 58.70
MWD Survey	1593.98	60.89	128.27	1414.06	1408.49	509.04	-322.66	394.19	1.49	530882.36	132203.17	N 52 45 57.02	E 5 2 59.44
MWD Survey	1612.51	62.79	128.14	1422.81	1417.24	525.38	-332.76	407.03	3.08	530872.26	132216.00	N 52 45 56.69	E 5 3 0.12
MWD Survey	1632.46	64.40	128.23	1431.68	1426.11	543.24	-343.81	421.07	2.42	530861.22	132230.05	N 52 45 56.34	E 5 3 0.88
MWD Survey	1651.15	65.42	128.65	1439.60	1434.03	560.16	-354.33	434.33	1.75	530850.69	132243.30	N 52 45 56.00	E 5 3 1.59
MWD Survey	1670.84	65.11	128.69	1447.84	1442.27	578.04	-365.50	448.29	0.48	530839.52	132257.27	N 52 45 55.64	E 5 3 2.33
MWD Survey	1689.69	65.53	128.72	1455.71	1450.14	595.16	-376.21	461.66	0.67	530828.81	132270.63	N 52 45 55.29	E 5 3 3.05
MWD Survey	1709.57	65.85	127.92	1463.90	1458.33	613.28	-387.45	475.87	1.20	530817.58	132284.85	N 52 45 54.93	E 5 3 3.81
MWD Survey	1728.07	66.04	127.26	1471.44	1465.87	630.17	-397.75	489.26	1.02	530807.27	132298.23	N 52 45 54.60	E 5 3 4.53
MWD Survey	1748.29	65.87	126.53	1479.68	1474.11	648.63	-408.84	504.03	1.02	530796.19	132313.00	N 52 45 54.24	E 5 3 5.32
MWD Survey	1766.78	65.61	126.06	1487.27	1481.70	665.49	-418.82	517.61	0.81	530786.21	132326.58	N 52 45 53.92	E 5 3 6.04
MWD Survey	1786.85	65.16	125.81	1495.63	1490.06	683.73	-429.52	532.39	0.75	530775.50	132341.36	N 52 45 53.58	E 5 3 6.84
MWD Survey	1805.40	65.27	125.86	1503.41	1497.84	700.57	-439.38	546.04	0.19	530765.64	132355.01	N 52 45 53.26	E 5 3 7.57
MWD Survey	1825.81	65.36	126.06	1511.93	1506.36	719.11	-450.27	561.05	0.30	530754.75	132370.02	N 52 45 52.91	E 5 3 8.37
MWD Survey	1844.08	65.47	125.98	1519.53	1513.96	735.72	-460.04	574.49	0.22	530744.98	132383.45	N 52 45 52.60	E 5 3 9.09
MWD Survey	1864.11	65.40	125.77	1527.86	1522.29	753.93	-470.72	589.25	0.30	530734.31	132398.21	N 52 45 52.25	E 5 3 9.88
MWD Survey	1882.69	65.56	126.11	1535.57	1530.00	770.83	-480.64	602.94	0.56	530724.39	132411.90	N 52 45 51.94	E 5 3 10.61
MWD Survey	1902.50	65.53	125.93	1543.77	1538.20	788.86	-491.24	617.52	0.25	530713.78	132426.48	N 52 45 51.59	E 5 3 11.39
MWD Survey	1920.65	65.58	125.75	1551.28	1545.71	805.38	-500.92	630.92	0.28	530704.11	132439.88	N 52 45 51.28	E 5 3 12.11
MWD Survey	1940.95	65.54	125.74	1559.68	1554.11	823.86	-511.72	645.92	0.06	530693.32	132454.88	N 52 45 50.94	E 5 3 12.91
MWD Survey	1959.41	65.44	125.71	1567.34	1561.77	840.65	-521.52	659.55	0.17	530683.51	132468.51	N 52 45 50.62	E 5 3 13.64
MWD Survey	1979.58	65.70	125.72	1575.68	1570.11	859.01	-532.24	674.46	0.39	530672.79	132483.42	N 52 45 50.28	E 5 3 14.44
MWD Survey	1998.35	65.67	125.92	1583.41	1577.84	876.11	-542.25	688.33	0.30	530662.78	132497.29	N 52 45 49.95	E 5 3 15.18
MWD Survey	2018.47	65.59	125.53	1591.71	1586.14	894.43	-552.96	703.21	0.54	530652.08	132512.17	N 52 45 49.61	E 5 3 15.98
MWD Survey	2037.09	65.51	125.56	1599.42	1593.85	911.37	-562.81	717.00	0.14	530642.22	132525.96	N 52 45 49.29	E 5 3 16.71
MWD Survey	2056.99	65.65	125.39	1607.65	1602.08	929.48	-573.32	731.76	0.31	530631.71	132540.71	N 52 45 48.96	E 5 3 17.50
MWD Survey	2075.34	65.45	125.57	1615.24	1609.67	946.18	-583.02	745.36	0.42	530622.01	132554.32	N 52 45 48.64	E 5 3 18.23
MWD Survey	2095.81	65.45	125.94	1623.75	1618.18	964.79	-593.90	760.47	0.49	530611.14	132569.42	N 52 45 48.29	E 5 3 19.04
MWD Survey	2114.06	65.61	125.85	1631.31	1625.74	981.40	-603.64	773.93	0.30	530601.40	132582.88	N 52 45 47.98	E 5 3 19.76
MWD Survey	2133.97	65.59	126.05	1639.53	1633.96	999.53	-614.28	788.61	0.28	530590.75	132597.56	N 52 45 47.64	E 5 3 20.55
MWD Survey	2152.72	65.53	125.89	1647.29	1641.72	1016.60	-624.31	802.42	0.25	530580.73	132611.37	N 52 45 47.32	E 5 3 21.29
MWD Survey	2172.09	65.59	125.81	1655.30	1649.73	1034.23	-634.64	816.71	0.15	530570.40	132625.66	N 52 45 46.98	E 5 3 22.05
MWD Survey	2190.68	65.61	125.99	1662.98	1657.41	1051.15	-644.56	830.43	0.27	530560.47	132639.38	N 52 45 46.67	E 5 3 22.78
MWD Survey	2211.03	65.56	125.71	1671.39	1665.82	1069.68	-655.42	845.45	0.38	530549.62	132654.40	N 52 45 46.32	E 5 3 23.59
MWD Survey	2229.22	65.55	126.08	1678.92	1673.35	1086.23	-665.13	858.86	0.56	530539.91	132667.81	N 52 45 46.00	E 5 3 24.31
MWD Survey	2249.98	65.61	126.31	1687.50	1681.93	1105.13	-676.29	874.12	0.31	530528.75	132683.06	N 52 45 45.65	E 5 3 25.12
MWD Survey	2268.46	65.54	126.27	1695.15	1689.58	1121.96	-686.25	887.68	0.13	530518.79	132696.63	N 52 45 45.33	E 5 3 25.85
MWD Survey	2288.51	65.61	126.56	1703.44	1697.87	1140.21	-697.08	902.37	0.41	530507.96	132711.32	N 52 45 44.98	E 5 3 26.63
MWD Survey	2306.93	65.55	126.43	1711.05	1705.48	1156.98	-707.06	915.85	0.22	530497.98	132724.80	N 52 45 44.66	E 5 3 27.36
MWD Survey	2325.58	65.62	126.63	1718.76	1713.19	1173.96	-717.17	929.50	0.31	530487.87	132738.44	N 52 45 44.33	E 5 3 28.09
MWD Survey	2344.12	65.64	126.61	1726.41	1720.84	1190.85	-727.24	943.05	0.04	530477.80	132752.00	N 52 45 44.01	E 5 3 28.81
MWD Survey	2362.61	65.53	126.02	1734.05	1728.48	1207.69	-737.21	956.62	0.89	530467.83	132765.56	N 52 45 43.69	E 5 3 29.54
MWD Survey	2381.39	65.55	126.72	1741.83	1736.26	1224.78	-747.35	970.38	1.02	530457.69	132779.33	N 52 45 43.36	E 5 3 30.27
MWD Survey	2399.94	65.54	126.81	1749.51	1743.94	1241.66	-757.46	983.91	0.13	530447.59	132792.85	N 52 45 43.04	E 5 3 31.00
MWD Survey	2418.41	65.55	126.81	1757.16	1751.59	1258.48	-767.53	997.37	0.02	530437.52	132806.31	N 52 45 42.71	E 5 3 31.72
MWD Survey	2436.84	65.50	127.03	1764.79	1759.22	1275.25	-777.61	1010.78	0.34	530427.44	132819.72	N 52 45 42.39	E 5 3 32.44
MWD Survey	2454.98	65.62	127.12	1772.30	1766.73	1291.76	-787.56	1023.96	0.24	530417.48	132832.90	N 52 45 42.07	E 5 3 33.14
MWD Survey	2473.70	65.62	126.64	1780.02	1774.45	1308.81	-797.80	1037.60	0.70	530407.25	132846.54	N 52 45 41.74	E 5 3 33.87
MWD Survey	2492.22	65.64	126.72	1787.67	1782.10	1325.68	-807.87	1051.13	0.12	530397.18	132860.06	N 52 45 41.41	E 5 3 34.60
MWD Survey	2510.88	65.65	126.28	1795.36	1789.79	1342.68	-817.98	1064.79	0.64	530387.06	132873.73	N 52 45 41.09	E 5 3 35.33
MWD Survey	2529.69	65.62	126.26	1803.12	1797.55	1359.82	-828.12	1078.61	0.06	530376.93	132887.54	N 52 45 40.76	E 5 3 36.07
MWD Survey	2548.33	65.58	126.44	1810.82	1805.25	1376.79	-838.18	1092.28	0.27	530366.87	132901.21	N 52 45 40.44	E 5 3 36.80
MWD Survey	2566.50	65.50	126.36	1818.34	1812.77	1393.33	-848.00	1105.59	0.18	530357.05	132914.52	N 52 45 40.12	E 5 3 37.51
MWD Survey	2585.04	65.15	125.99	1826.08	1820.51	1410.17	-857.94	1119.19	0.79	530347.11	132928.12	N 52 45 39.80	E 5 3 38.24
MWD Survey	2603.28	64.09	124.74	1833.90	1828.33	1426.64	-867.48	1132.63	2.55	530337.57	132941.56	N 52 45 39.50	E 5 3 38.96
MWD Survey	2622.11	62.77	123.66	1842.33	1836.76	1443.46	-876.95	1146.56	2.61	530328.11	132955.49	N 52 45 39.19	E 5 3 39.70
MWD Survey	2640.80	61.90	122.45	1851.00	1845.43	1459.97	-885.98	1160.43	2.22	530319.08	132969.36	N 52 45 38.90	E 5 3 40.44
MWD Survey	2665.93	61.06	121.53	1863.00	1857.43	1481.96	-897.67	1179.16	1.39	530307.38	132988.08	N 52 45 38.53	E 5 3 41.45
MWD Survey Sag(-0.32)	2678.46	61.17	121.02	1869.05	1863.48	1492.88	-903.37	1188.53	1.10	530301.69	132997.46	N 52 45 38.35	E 5 3 41.95
MWD Survey Sag(-0.32)	2697.03	58.73	122.52	1878.35	1872.78	1508.88	-911.83	1202.20	4.47	530293.23	133011.13	N 52 45 38.07	E 5 3 42.68
MWD Survey Sag(-0.32)	2715.36	56.77	122.25	1888.13	1882.56	1524.33	-920.13	1215.29	3.23	530284.92	133024.22	N 52 45 37.81	E 5 3 43.38
MWD Survey Sag(-0.32)Out of FAC	2735.91	55.43	121.96	1899.60	1894.03	1541.32	-929.20	1229.74	1.99	530275.86	133038.66	N 52 45 37.52	E 5 3 44.15
MWD Survey Sag(-0.32)	2755.88	53.74	124.49	1911.17	1905.60	1557.55	-938.11	1243.35	4.00	530266.95	133052.28	N 52 45 37.23	E 5 3 44.88
MWD Survey Sag(-0.32)	2774.99	51.90	126.03	1922.72	1917.15	1572.77	-946.90	1255.78	3.47	530258.16	133064.71	N 52 45 36.95	E 5 3 45.54
MWD Survey Sag(-0.32)	2794.19	50.68	126.87	1934.72	1929.15	1587.75	-955.80	1267.83	2.16	530249.26	133076.76	N 52 45 36.66	E 5 3 46.19
MWD Survey Sag(-0.32)	2811.66	50.79	127.44	1945.78	1940.21	1601.27	-963.97	1278.61	0.78	530241.09	133087.54	N 52 45 36.40	E 5 3 46.77
MWD Survey Sag(-0.32)	2831.45	50.69	127.69	1958.31	1952.74	1616.59	-973.31	1290.76	0.33	530231.75	133099.68	N 52 45 36.10	E 5 3 47.42
MWD Survey Sag(-0.32)	2849.37	50.57	127.54	1969.67	1964.10	1630.45	-981.76	1301.73	0.28	530223.30	133110.66	N 52 45 35.83	E 5 3 48.00
Proj. to TD	2875.00	50.35	127.40	1985.99	1980.42	1650.21	-993.79	1317.42	0.29	530211.27	133126.34	N 52 45 35.44	E 5 3 48.84

Survey Type: Def Survey

Survey Error Model: ISCWSA Rev 0 *** 3-D 95.000% Confidence 2.7955 sigma

Survey Program:

Description	Part	MD From (m)	MD To (m)	EOU Freq (m)	Hole Size (in)	Casing Diameter (in)	Survey Tool Type	Borehole / Survey
	1	0.000	9.270	Act Stns			SLB_INC_ONLY<10-Depth Only	MDM_GT-06 / MDM_GT-06 Def Surveys
	1	9.270	130.100	1/30.000			SLB_INC_ONLY<10	MDM_GT-06 / MDM_GT-06 Def Surveys
	1	130.100	149.410	Act Stns			SLB_INC_ONLY<10	MDM_GT-06 / MDM_GT-06 Def Surveys

Comments	MD (m)	Incl (°)	Azim Grid (°)	TVD (m)	TVDSS (m)	VSEC (m)	NS (m)	EW (m)	DLS (°/30m)	Northing (m)	Easting (m)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
		1	149.410	2665.930	Act Stns			SLB_MWD-STD		MDM_GT-06 / MDM_GT-06 Def Surveys			
		1	2665.930	2875.000	Act Stns			SLB_MWD+SAG		MDM_GT-06 / MDM_GT-06 Def Surveys			

Schlumberger

MDM-GT-06-S1 Def Survey Survey Geodetic Report

ECW

(Def Survey)

Report Date:	October 13, 2017 - 12:10 AM	**Survey / DLS Computation:**	Minimum Curvature / Lubinski
Client:	ECW Geomanagement B.V.	**Vertical Section Azimuth:**	127.140 ° (Grid North)
Field:	Middenmeer	**Vertical Section Origin:**	0.000 m, 0.000 m
Structure / Slot:	MDM-GT-06 / MDM_GT-06	**TVD Reference Datum:**	Rotary Table
Well:	MDM-GT-06	**TVD Reference Elevation:**	5.570 m above NAP
Borehole:	MDM_GT-06-S1	**Seabed / Ground Elevation:**	3.700 m below NAP
UWI / API#:	Unknown / Unknown	**Magnetic Declination:**	1.218 °
Survey Name:	MDM-GT-06-S1 Def Survey	**Total Gravity Field Strength:**	1000.6550mgn (9.80665 Based)
Survey Date:	July 07, 2017	**Gravity Model:**	GARM
Tort / AHD / DDI / ERD Ratio:	114.011 ° / 1558.355 m / 5.915 / 0.791	**Total Magnetic Field Strength:**	49289.268 nT
Coordinate Reference System:	Amersfoort * OGP-Nld / RD Dutch Onshore	**Magnetic Dip Angle:**	67.636 °
Location Lat / Long:	N 52° 46' 7.39415", E 5° 2' 38.32964"	**Declination Date:**	July 07, 2017
Location Grid N/E Y/X:	N 531205.000 m, E 131809.000 m	**Magnetic Declination Model:**	HDGM 2016
CRS Grid Convergence Angle:	-0.2725 °	**North Reference:**	Grid North
Grid Scale Factor:	0.99993975	**Grid Convergence Used:**	-0.2725 °
Version / Patch:	2.10.254.0	**Total Corr Mag North->Grid North:**	1.4909 °
		Local Coord Referenced To:	Well Head

Comments	MD (m)	Incl (°)	Azim Grid (°)	TVD (m)	TVDSS (m)	VSEC (m)	NS (m)	EW (m)	DLS (°/30m)	Northing (m)	Easting (m)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
Tie-In	0.00	0.00	0.00	0.00	-5.57	0.00	0.00	0.00	N/A	531205.00	131809.00	N 52 46 7.39	E 5 2 38.33
Ground level (vertical)	9.27	0.00	0.00	9.27	3.70	0.00	0.00	0.00	0.00	531205.00	131809.00	N 52 46 7.39	E 5 2 38.33
22" Section Surveys:	130.10	0.55	142.18	130.10	124.53	0.56	-0.46	0.36	0.14	531204.54	131809.36	N 52 46 7.38	E 5 2 38.35
MWD Survey INC only	149.41	0.27	134.13	149.41	143.84	0.69	-0.56	0.45	0.44	531204.44	131809.45	N 52 46 7.38	E 5 2 38.35
MWD Survey INC only	186.42	0.42	103.79	186.42	180.85	0.91	-0.66	0.64	0.19	531204.34	131809.64	N 52 46 7.37	E 5 2 38.36
MWD Survey INC only	205.32	0.40	92.70	205.32	199.75	1.02	-0.68	0.77	0.13	531204.32	131809.77	N 52 46 7.37	E 5 2 38.37
MWD Survey	223.63	0.37	86.00	223.63	218.06	1.12	-0.67	0.90	0.09	531204.33	131809.90	N 52 46 7.37	E 5 2 38.38
MWD Survey	242.13	0.43	85.95	242.13	236.56	1.22	-0.67	1.02	0.10	531204.33	131810.02	N 52 46 7.37	E 5 2 38.38
MWD Survey	260.34	0.57	97.30	260.33	254.76	1.35	-0.67	1.18	0.28	531204.33	131810.18	N 52 46 7.37	E 5 2 38.39
MWD Survey	279.11	0.69	105.85	279.10	273.53	1.53	-0.71	1.38	0.24	531204.29	131810.38	N 52 46 7.37	E 5 2 38.40
MWD Survey	297.40	0.88	127.63	297.39	291.82	1.78	-0.83	1.60	0.57	531204.17	131810.60	N 52 46 7.37	E 5 2 38.42
MWD Survey	315.86	1.00	140.01	315.85	310.28	2.08	-1.04	1.82	0.38	531203.96	131810.82	N 52 46 7.36	E 5 2 38.43
MWD Survey	334.58	1.37	145.59	334.57	329.00	2.45	-1.35	2.05	0.62	531203.65	131811.05	N 52 46 7.35	E 5 2 38.44
MWD Survey	353.53	1.75	155.96	353.51	347.94	2.92	-1.80	2.29	0.75	531203.20	131811.29	N 52 46 7.34	E 5 2 38.45
MWD Survey	371.99	2.25	163.42	371.96	366.39	3.46	-2.41	2.51	0.91	531202.59	131811.51	N 52 46 7.32	E 5 2 38.46
MWD Survey	390.96	3.14	170.75	390.91	385.34	4.13	-3.28	2.70	1.51	531201.72	131811.70	N 52 46 7.29	E 5 2 38.47
MWD Survey	408.92	4.72	175.58	408.82	403.25	4.98	-4.50	2.84	2.69	531200.50	131811.84	N 52 46 7.25	E 5 2 38.48
MWD Survey	427.41	5.34	172.13	427.24	421.67	6.09	-6.11	3.01	1.12	531198.89	131812.01	N 52 46 7.20	E 5 2 38.49
MWD Survey	445.85	5.75	169.12	445.60	440.03	7.38	-7.87	3.31	0.82	531197.13	131812.31	N 52 46 7.14	E 5 2 38.51
MWD Survey	464.03	6.00	167.06	463.68	458.11	8.79	-9.69	3.69	0.54	531195.31	131812.69	N 52 46 7.08	E 5 2 38.53
MWD Survey	483.02	6.14	165.46	482.56	476.99	10.35	-11.64	4.17	0.35	531193.36	131813.17	N 52 46 7.02	E 5 2 38.55
MWD Survey	501.58	6.75	164.70	501.01	495.44	11.99	-13.65	4.71	1.00	531191.35	131813.70	N 52 46 6.95	E 5 2 38.58
MWD Survey	519.86	7.00	162.43	519.16	513.59	13.75	-15.75	5.32	0.61	531189.25	131814.32	N 52 46 6.89	E 5 2 38.62
16" section Surveys:	574.37	8.05	160.31	573.20	567.63	19.66	-22.51	7.61	0.60	531182.49	131816.61	N 52 46 6.67	E 5 2 38.74
MWD Survey DMAG cor.	593.00	8.44	157.65	591.63	586.06	21.93	-25.00	8.57	0.88	531180.00	131817.57	N 52 46 6.59	E 5 2 38.79
MWD Survey DMAG cor.	611.46	8.96	153.47	609.88	604.31	24.38	-27.54	9.73	1.33	531177.46	131818.73	N 52 46 6.50	E 5 2 38.86
MWD Survey DMAG cor.	629.41	9.51	148.81	627.60	622.03	27.02	-30.06	11.12	1.55	531174.94	131820.12	N 52 46 6.42	E 5 2 38.93
MWD Survey DMAG cor.	648.75	9.99	143.91	646.66	641.09	30.11	-32.78	12.94	1.49	531172.22	131821.94	N 52 46 6.34	E 5 2 39.03
MWD Survey DMAG cor.	667.26	10.37	138.29	664.88	659.31	33.28	-35.32	14.99	1.72	531169.68	131823.99	N 52 46 6.25	E 5 2 39.14
MWD Survey DMAG cor.	685.95	10.62	133.25	683.26	677.69	36.64	-37.76	17.37	1.53	531167.24	131826.37	N 52 46 6.18	E 5 2 39.27
MWD Survey DMAG cor.	704.36	10.62	130.71	701.35	695.78	40.02	-40.03	19.89	0.76	531164.97	131828.89	N 52 46 6.10	E 5 2 39.40
MWD Survey DMAG cor.	722.76	10.58	129.24	719.44	713.87	43.40	-42.20	22.48	0.45	531162.80	131831.48	N 52 46 6.03	E 5 2 39.54
MWD Survey DMAG cor.	740.98	10.65	127.95	737.34	731.77	46.76	-44.30	25.10	0.41	531160.71	131834.10	N 52 46 5.96	E 5 2 39.68
MWD Survey DMAG cor.	759.29	10.71	126.74	755.34	749.77	50.15	-46.35	27.80	0.38	531158.65	131836.80	N 52 46 5.90	E 5 2 39.82
MWD Survey DMAG cor.	777.39	10.60	125.19	773.13	767.56	53.49	-48.32	30.51	0.51	531156.68	131839.51	N 52 46 5.84	E 5 2 39.97
MWD Survey DMAG cor.	795.70	10.48	125.85	791.13	785.56	56.84	-50.26	33.24	0.28	531154.74	131842.23	N 52 46 5.77	E 5 2 40.12
MWD Survey DMAG cor.	815.16	10.42	128.46	810.26	804.69	60.37	-52.40	36.05	0.74	531152.61	131845.05	N 52 46 5.70	E 5 2 40.27
MWD Survey DMAG cor.	834.18	10.87	130.94	828.96	823.39	63.88	-54.64	38.75	1.01	531150.36	131847.75	N 52 46 5.63	E 5 2 40.41
MWD Survey DMAG cor.	852.68	11.99	130.75	847.09	841.52	67.54	-57.04	41.52	1.82	531147.97	131850.52	N 52 46 5.56	E 5 2 40.56
MWD Survey DMAG cor.	870.99	13.18	129.77	864.96	859.39	71.52	-59.62	44.57	1.98	531145.39	131853.57	N 52 46 5.47	E 5 2 40.72
MWD Survey DMAG cor.	889.45	14.67	128.16	882.88	877.31	75.96	-62.41	48.02	2.50	531142.60	131857.02	N 52 46 5.38	E 5 2 40.91
MWD Survey DMAG cor.	908.16	15.82	127.77	900.93	895.36	80.88	-65.43	51.90	1.85	531139.57	131860.90	N 52 46 5.29	E 5 2 41.11
MWD Survey DMAG cor.	926.85	16.64	128.64	918.87	913.30	86.10	-68.66	56.01	1.37	531136.34	131865.00	N 52 46 5.18	E 5 2 41.33
MWD Survey DMAG cor.	945.00	17.85	128.66	936.21	930.64	91.48	-72.02	60.21	2.00	531132.98	131869.21	N 52 46 5.07	E 5 2 41.56
MWD Survey DMAG cor.	963.37	19.41	127.67	953.61	948.04	97.35	-75.65	64.82	2.60	531129.36	131873.82	N 52 46 4.96	E 5 2 41.81
MWD Survey DMAG cor.	981.79	21.13	126.79	970.89	965.32	103.73	-79.51	69.91	2.84	531125.50	131878.90	N 52 46 4.83	E 5 2 42.08
MWD Survey DMAG cor.	1000.76	22.72	126.14	988.49	982.92	110.81	-83.72	75.60	2.54	531121.29	131884.60	N 52 46 4.70	E 5 2 42.38
MWD Survey DMAG cor.	1019.27	24.21	126.04	1005.47	999.90	118.18	-88.06	81.56	2.42	531116.95	131890.56	N 52 46 4.56	E 5 2 42.70
MWD Survey DMAG cor.	1037.48	25.65	126.38	1021.98	1016.41	125.86	-92.59	87.75	2.38	531112.41	131896.75	N 52 46 4.41	E 5 2 43.03
MWD Survey DMAG cor.	1057.16	27.24	126.50	1039.60	1034.03	134.62	-97.80	94.80	2.43	531107.21	131903.80	N 52 46 4.24	E 5 2 43.41
MWD Survey DMAG cor.	1075.02	29.12	126.62	1055.34	1049.77	143.05	-102.82	101.58	3.16	531102.18	131910.57	N 52 46 4.08	E 5 2 43.77
MWD Survey DMAG cor.	1094.47	30.93	126.25	1072.18	1066.61	152.78	-108.60	109.41	2.81	531096.41	131918.40	N 52 46 3.90	E 5 2 44.19
MWD Survey DMAG cor.	1113.13	32.65	125.98	1088.04	1082.47	162.61	-114.39	117.35	2.77	531090.61	131926.34	N 52 46 3.71	E 5 2 44.62
MWD Survey DMAG cor.	1130.42	34.35	125.79	1102.46	1096.89	172.15	-119.99	125.08	2.96	531085.02	131934.07	N 52 46 3.53	E 5 2 45.03
MWD Survey DMAG cor.	1149.74	36.13	125.49	1118.24	1112.67	183.30	-126.48	134.14	2.78	531078.53	131943.13	N 52 46 3.32	E 5 2 45.52
MWD Survey DMAG cor.	1167.83	37.89	125.18	1132.68	1127.11	194.18	-132.78	143.02	2.94	531072.23	131952.01	N 52 46 3.12	E 5 2 45.99
MWD Survey DMAG cor.	1185.54	39.51	125.26	1146.50	1140.93	205.25	-139.17	152.07	2.75	531065.84	131961.06	N 52 46 2.91	E 5 2 46.48
MWD Survey DMAG cor.	1204.09	40.09	125.03	1160.76	1155.19	217.11	-146.00	161.78	0.97	531059.01	131970.77	N 52 46 2.70	E 5 2 47.00
MWD Survey DMAG cor.	1221.74	40.11	125.01	1174.26	1168.69	228.47	-152.52	171.09	0.04	531052.48	131980.08	N 52 46 2.49	E 5 2 47.49

Comments	MD (m)	Incl (°)	Azim Grid (°)	TVD (m)	TVDSS (m)	VSEC (m)	NS (m)	EW (m)	DLS (°/30m)	Northing (m)	Easting (m)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
MWD Survey DMAG cor.	1241.25	40.13	125.12	1189.18	1183.61	241.04	-159.75	181.38	0.11	531045.26	131990.37	N 52 46 2.25	E 5 2 48.05
MWD Survey DMAG cor.	1259.64	40.07	125.42	1203.24	1197.67	252.88	-166.59	191.05	0.33	531038.42	132000.04	N 52 46 2.03	E 5 2 48.56
MWD Survey DMAG cor.	1278.28	40.12	125.58	1217.50	1211.93	264.88	-173.56	200.82	0.18	531031.45	132009.81	N 52 46 1.81	E 5 2 49.09
MWD Survey DMAG cor.	1296.97	40.39	126.01	1231.77	1226.20	276.95	-180.62	210.62	0.62	531024.39	132019.61	N 52 46 1.58	E 5 2 49.61
MWD Survey DMAG cor.	1315.39	41.49	126.94	1245.68	1240.11	289.02	-187.80	220.32	2.05	531017.21	132029.31	N 52 46 1.35	E 5 2 50.13
MWD Survey DMAG cor.	1333.88	42.75	127.56	1259.40	1253.83	301.42	-195.31	230.19	2.15	531009.71	132039.18	N 52 46 1.11	E 5 2 50.66
MWD Survey DMAG cor.	1352.64	44.34	127.71	1272.99	1267.42	314.34	-203.20	240.43	2.55	531001.82	132049.41	N 52 46 0.86	E 5 2 51.21
MWD Survey DMAG cor.	1370.76	46.20	128.07	1285.74	1280.17	327.22	-211.10	250.59	3.11	530993.91	132059.57	N 52 46 0.60	E 5 2 51.75
MWD Survey DMAG cor.	1389.48	47.95	128.50	1298.49	1292.92	340.92	-219.60	261.35	2.85	530985.42	132070.33	N 52 46 0.33	E 5 2 52.33
MWD Survey DMAG cor.	1407.77	49.54	128.10	1310.55	1304.98	354.67	-228.12	272.14	2.65	530976.90	132081.12	N 52 46 0.06	E 5 2 52.90
MWD Survey DMAG cor.	1426.19	51.20	127.92	1322.30	1316.73	368.85	-236.85	283.31	2.71	530968.16	132092.30	N 52 45 59.77	E 5 2 53.50
MWD Survey DMAG cor.	1437.13	52.28	127.55	1329.08	1323.51	377.44	-242.11	290.11	3.07	530962.90	132099.09	N 52 45 59.61	E 5 2 53.87
12.25x14" section Surveys:	1458.33	53.17	127.29	1341.92	1336.35	394.31	-252.36	303.51	1.29	530952.65	132112.49	N 52 45 59.28	E 5 2 54.58
MWD Survey	1478.36	54.71	127.84	1353.71	1348.14	410.50	-262.23	316.34	2.40	530942.78	132125.32	N 52 45 58.96	E 5 2 55.27
MWD Survey	1496.95	56.25	127.81	1364.24	1358.67	425.82	-271.63	328.44	2.49	530933.39	132137.42	N 52 45 58.66	E 5 2 55.92
MWD Survey	1516.81	57.64	127.83	1375.07	1369.50	442.46	-281.83	341.59	2.10	530923.18	132150.57	N 52 45 58.33	E 5 2 56.62
MWD Survey	1535.61	59.33	127.41	1384.90	1379.33	458.49	-291.61	354.28	2.76	530913.40	132163.26	N 52 45 58.01	E 5 2 57.30
MWD Survey	1555.63	60.07	127.54	1395.00	1389.43	475.77	-302.13	368.00	1.12	530902.89	132176.98	N 52 45 57.68	E 5 2 58.04
MWD Survey	1573.85	59.89	128.24	1404.12	1398.55	491.55	-311.82	380.45	1.04	530893.20	132189.43	N 52 45 57.36	E 5 2 58.70
MWD Survey	1593.98	60.89	128.27	1414.06	1408.49	509.04	-322.66	394.19	1.49	530882.36	132203.17	N 52 45 57.02	E 5 2 59.44
MWD Survey	1612.51	62.79	128.14	1422.81	1417.24	525.38	-332.76	407.03	3.08	530872.26	132216.00	N 52 45 56.69	E 5 3 0.12
MWD Survey	1632.46	64.40	128.23	1431.68	1426.11	543.24	-343.81	421.07	2.42	530861.22	132230.05	N 52 45 56.34	E 5 3 0.88
MWD Survey	1651.15	65.42	128.65	1439.60	1434.03	560.16	-354.33	434.33	1.75	530850.69	132243.30	N 52 45 56.00	E 5 3 1.59
MWD Survey	1670.84	65.11	128.69	1447.84	1442.27	578.04	-365.50	448.29	0.48	530839.52	132257.27	N 52 45 55.64	E 5 3 2.33
MWD Survey	1689.69	65.53	128.72	1455.71	1450.14	595.16	-376.21	461.66	0.67	530828.81	132270.63	N 52 45 55.29	E 5 3 3.05
MWD Survey	1709.57	65.85	127.92	1463.90	1458.33	613.28	-387.45	475.87	1.20	530817.58	132284.85	N 52 45 54.93	E 5 3 3.81
MWD Survey	1728.07	66.04	127.26	1471.44	1465.87	630.17	-397.75	489.26	1.02	530807.27	132298.23	N 52 45 54.60	E 5 3 4.53
MWD Survey	1748.29	65.87	126.53	1479.68	1474.11	648.63	-408.84	504.03	1.02	530796.19	132313.00	N 52 45 54.24	E 5 3 5.32
MWD Survey	1766.78	65.61	126.06	1487.27	1481.70	665.49	-418.82	517.61	0.81	530786.21	132326.58	N 52 45 53.92	E 5 3 6.04
MWD Survey	1786.85	65.16	125.81	1495.63	1490.06	683.73	-429.52	532.39	0.75	530775.50	132341.36	N 52 45 53.58	E 5 3 6.84
MWD Survey	1805.40	65.27	125.86	1503.41	1497.84	700.57	-439.38	546.04	0.19	530765.64	132355.01	N 52 45 53.26	E 5 3 7.57
MWD Survey	1825.81	65.36	126.06	1511.93	1506.36	719.11	-450.27	561.05	0.30	530754.75	132370.02	N 52 45 52.91	E 5 3 8.37
MWD Survey	1844.08	65.47	125.98	1519.53	1513.96	735.72	-460.04	574.49	0.22	530744.98	132383.45	N 52 45 52.60	E 5 3 9.09
MWD Survey	1864.11	65.40	125.77	1527.86	1522.29	753.93	-470.72	589.25	0.30	530734.31	132398.21	N 52 45 52.25	E 5 3 9.88
MWD Survey	1882.69	65.56	126.11	1535.57	1530.00	770.83	-480.64	602.94	0.56	530724.39	132411.90	N 52 45 51.94	E 5 3 10.61
MWD Survey	1902.50	65.53	125.93	1543.77	1538.20	788.86	-491.24	617.52	0.25	530713.78	132426.48	N 52 45 51.59	E 5 3 11.39
MWD Survey	1920.65	65.58	125.75	1551.28	1545.71	805.38	-500.92	630.92	0.28	530704.11	132439.88	N 52 45 51.28	E 5 3 12.11
MWD Survey	1940.95	65.54	125.74	1559.68	1554.11	823.86	-511.72	645.92	0.06	530693.32	132454.88	N 52 45 50.94	E 5 3 12.91
MWD Survey	1959.41	65.44	125.71	1567.34	1561.77	840.65	-521.52	659.55	0.17	530683.51	132468.51	N 52 45 50.62	E 5 3 13.64
MWD Survey	1979.58	65.70	125.72	1575.68	1570.11	859.01	-532.24	674.46	0.39	530672.79	132483.42	N 52 45 50.28	E 5 3 14.44
MWD Survey	1998.35	65.67	125.92	1583.41	1577.84	876.11	-542.25	688.33	0.30	530662.78	132497.29	N 52 45 49.95	E 5 3 15.18
MWD Survey	2018.47	65.59	125.53	1591.71	1586.14	894.43	-552.96	703.21	0.54	530652.08	132512.17	N 52 45 49.61	E 5 3 15.98
MWD Survey	2037.09	65.51	125.56	1599.42	1593.85	911.37	-562.81	717.00	0.14	530642.22	132525.96	N 52 45 49.29	E 5 3 16.71
MWD Survey	2056.99	65.65	125.39	1607.65	1602.08	929.48	-573.32	731.76	0.31	530631.71	132540.71	N 52 45 48.96	E 5 3 17.50
MWD Survey	2075.34	65.45	125.57	1615.24	1609.67	946.18	-583.02	745.36	0.42	530622.01	132554.32	N 52 45 48.64	E 5 3 18.23
MWD Survey	2095.81	65.45	125.94	1623.75	1618.18	964.79	-593.90	760.47	0.49	530611.14	132569.42	N 52 45 48.29	E 5 3 19.04
MWD Survey	2114.06	65.61	125.85	1631.31	1625.74	981.40	-603.64	773.93	0.30	530601.40	132582.88	N 52 45 47.98	E 5 3 19.76
MWD Survey	2133.97	65.59	126.05	1639.53	1633.96	999.53	-614.28	788.61	0.28	530590.75	132597.56	N 52 45 47.64	E 5 3 20.55
MWD Survey	2152.72	65.53	125.89	1647.29	1641.72	1016.60	-624.31	802.42	0.25	530580.73	132611.37	N 52 45 47.32	E 5 3 21.29
MWD Survey	2172.09	65.59	125.81	1655.30	1649.73	1034.23	-634.64	816.71	0.15	530570.40	132625.66	N 52 45 46.98	E 5 3 22.05
MWD Survey	2190.68	65.61	125.99	1662.98	1657.41	1051.15	-644.56	830.43	0.27	530560.47	132639.38	N 52 45 46.67	E 5 3 22.78
MWD Survey	2211.03	65.56	125.71	1671.39	1665.82	1069.68	-655.42	845.45	0.38	530549.62	132654.40	N 52 45 46.32	E 5 3 23.59
MWD Survey	2229.22	65.55	126.08	1678.92	1673.35	1086.23	-665.13	858.86	0.56	530539.91	132667.81	N 52 45 46.00	E 5 3 24.31
Tie-In	2249.98	65.61	126.31	1687.50	1681.93	1105.13	-676.29	874.12	0.31	530528.75	132683.06	N 52 45 45.65	E 5 3 25.12
8.5x12.25" Section:	2268.46	65.54	126.27	1695.15	1689.58	1121.96	-686.25	887.68	0.13	530518.79	132696.63	N 52 45 45.33	E 5 3 25.85
MDM-GT-06 Survey	2288.51	65.61	126.56	1703.44	1697.87	1140.21	-697.08	902.37	0.41	530507.96	132711.32	N 52 45 44.98	E 5 3 26.63
MDM-GT-06-S1 Survey (RSS BHA):	2294.82	65.41	126.46	1706.05	1700.48	1145.95	-700.50	906.99	1.04	530504.54	132715.93	N 52 45 44.87	E 5 3 26.88
MWD Survey	2323.25	63.64	128.42	1718.28	1712.71	1171.62	-716.10	927.36	2.64	530488.94	132736.31	N 52 45 44.37	E 5 3 27.97
MWD Survey	2340.76	61.22	131.28	1726.39	1720.82	1187.12	-726.04	939.28	6.00	530479.00	132748.22	N 52 45 44.05	E 5 3 28.61
MWD Survey	2353.78	60.40	135.59	1732.74	1727.17	1198.41	-733.85	947.53	8.87	530471.19	132756.48	N 52 45 43.79	E 5 3 29.05
MWD Survey	2372.04	60.66	137.45	1741.72	1736.15	1214.09	-745.39	958.47	2.69	530459.66	132767.41	N 52 45 43.42	E 5 3 29.64
MWD Survey	2392.18	60.54	137.90	1751.61	1746.04	1231.34	-758.36	970.28	0.61	530446.69	132779.23	N 52 45 43.00	E 5 3 30.27
MWD Survey	2410.44	60.55	139.01	1760.59	1755.02	1246.94	-770.26	980.83	1.59	530434.79	132789.77	N 52 45 42.62	E 5 3 30.84
MWD Survey	2430.55	60.49	139.09	1770.49	1764.92	1264.06	-783.48	992.30	0.14	530421.57	132801.24	N 52 45 42.20	E 5 3 31.45
MWD Survey	2449.02	60.55	139.17	1779.57	1774.00	1279.79	-795.64	1002.82	0.15	530409.41	132811.76	N 52 45 41.80	E 5 3 32.02
MWD Survey	2469.10	60.48	139.63	1789.46	1783.89	1296.87	-808.91	1014.20	0.61	530396.14	132823.14	N 52 45 41.38	E 5 3 32.63
MWD Survey	2487.70	60.45	140.08	1798.63	1793.06	1312.66	-821.28	1024.63	0.63	530383.77	132833.57	N 52 45 40.98	E 5 3 33.19
MWD Survey	2507.86	60.46	139.88	1808.57	1803.00	1329.76	-834.71	1035.91	0.26	530370.34	132844.85	N 52 45 40.54	E 5 3 33.79
MWD Survey	2526.33	59.50	139.45	1817.81	1812.24	1345.37	-846.90	1046.26	1.67	530358.15	132855.20	N 52 45 40.15	E 5 3 34.35
MWD Survey	2545.40	58.33	139.65	1827.65	1822.08	1361.32	-859.33	1056.86	1.86	530345.72	132865.79	N 52 45 39.75	E 5 3 34.91
MWD Survey	2565.00	57.30	140.19	1838.09	1832.52	1377.50	-872.02	1067.54	1.72	530333.03	132876.47	N 52 45 39.34	E 5 3 35.49
MWD Survey	2584.90	56.06	140.41	1849.03	1843.46	1393.69	-884.82	1078.16	1.89	530320.24	132887.09	N 52 45 38.93	E 5 3 36.06
MWD Survey	2603.41	54.95	140.76	1859.51	1853.94	1408.53	-896.60	1087.85	1.86	530308.45	132896.78	N 52 45 38.55	E 5 3 36.58
MWD Survey	2623.37	53.91	140.38	1871.12	1865.55	1424.32	-909.14	1098.16	1.63	530295.91	132907.09	N 52 45 38.15	E 5 3 37.13
MWD Survey	2641.60	52.79	140.55	1882.00	1876.43	1438.55	-920.42	1107.47	1.86	530284.63	132916.40	N 52 45 37.78	E 5 3 37.63
MWD Survey	2661.62	51.66	140.09	1894.26	1888.69	1453.96	-932.60	1117.57	1.78	530272.46	132926.50	N 52 45 37.39	E 5 3 38.17
MWD Survey	2680.49	50.58	139.15	1906.11	1900.54	1468.30	-943.79	1127.09	2.07	530261.27	132936.02	N 52 45 37.03	E 5 3 38.68
MWD Survey	2700.53	49.96	137.93	1918.92	1913.35	1483.41	-955.34	1137.29	1.68	530249.72	132946.22	N 52 45 36.66	E 5 3 39.23
MWD Survey	2719.36	49.89	137.05	1931.04	1925.47	1497.58	-965.96	1147.03	1.08	530239.10	132955.96	N 52 45 36.31	E 5 3 39.75
MWD Survey	2739.39	50.04	135.51	1943.93	1938.36	1512.72	-977.05	1157.62	1.78	530228.01	132966.55	N 52 45 35.96	E 5 3 40.32
MWD Survey	2758.05	50.05	134.00	1955.91	1950.34	1526.90	-987.12	1167.78	1.86	530217.94	132976.71	N 52 45 35.63	E 5 3 40.86
MWD Survey	2770.00	50.09	133.01	1963.58	1958.01	1536.00	-993.42	1174.43	1.91	530211.64	132983.36	N 52 45 35.43	E 5 3 41.22
Proj. to MDM-GT-06-S1 TD	2781.00	50.00	132.10	1970.64	1965.07	1544.40	-999.13	1180.64	1.92	530205.93	132989.57	N 52 45 35.25	E 5 3 41.55

Survey Type: Def Survey

Survey Error Model: ISCWSA Rev 0 *** 3-D 95.000% Confidence 2.7955 sigma

Survey Program:

Description	Part	MD From (m)	MD To (m)	EOU Freq (m)	Hole Size (in)	Casing Diameter (in)	Survey Tool Type	Borehole / Survey
	1	0.000	9.270	Act Stns			SLB_INC_ONLY<10-Depth Only	MDM_GT-06-S1 / MDM-GT-06-S1 Def Survey
	1	9.270	130.100	1/30.000			SLB_INC_ONLY<10	MDM_GT-06-S1 / MDM-GT-06-S1 Def Survey
	1	130.100	149.410	Act Stns			SLB_INC_ONLY<10	MDM_GT-06-S1 / MDM-GT-06-S1 Def Survey
	1	149.410	2781.000	Act Stns			SLB_MWD-STD	MDM_GT-06-S1 / MDM-GT-06-S1 Def Survey

Schlumberger

MDM-GT-06-S2 Def Survey Survey Geodetic Report

ECW

(Def Survey)

Report Date:	October 13, 2017 - 02:43 AM	**Survey / DLS Computation:**	Minimum Curvature / Lubinski
Client:	ECW Geomanagement B.V.	**Vertical Section Azimuth:**	127.140 ° (Grid North)
Field:	Middenmeer	**Vertical Section Origin:**	0.000 m, 0.000 m
Structure / Slot:	MDM-GT-06 / MDM_GT-06	**TVD Reference Datum:**	Rotary Table
Well:	MDM-GT-06	**TVD Reference Elevation:**	5.570 m above NAP
Borehole:	MDM_GT-06-S2	**Seabed / Ground Elevation:**	3.700 m below NAP
UWI / API#:	Unknown / Unknown	**Magnetic Declination:**	1.235 °
Survey Name:	MDM-GT-06-S2 Def Survey	**Total Gravity Field Strength:**	1000.6550mgn (9.80665 Based)
Survey Date:	August 11, 2017	**Gravity Model:**	GARM
Tort / AHD / DDI / ERD Ratio:	127.045 ° / 1783.792 m / 5.998 / 0.729	**Total Magnetic Field Strength:**	49292.257 nT
Coordinate Reference System:	Amersfoort * OGP-Nld / RD Dutch Onshore	**Magnetic Dip Angle:**	67.637 °
Location Lat / Long:	N 52° 46' 7.39415", E 5° 2' 38.32964"	**Declination Date:**	August 11, 2017
Location Grid N/E Y/X:	N 531205.000 m, E 131809.000 m	**Magnetic Declination Model:**	HDGM 2016
CRS Grid Convergence Angle:	-0.2725 °	**North Reference:**	Grid North
Grid Scale Factor:	0.99993975	**Grid Convergence Used:**	-0.2725 °
Version / Patch:	2.10.254.0	**Total Corr Mag North->Grid North:**	1.5072 °
		Local Coord Referenced To:	Well Head

Comments	MD (m)	Incl (°)	Azim Grid (°)	TVD (m)	TVDSS (m)	VSEC (m)	NS (m)	EW (m)	DLS (°/30m)	Northing (m)	Easting (m)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
Tie-In	0.00	0.00	0.00	0.00	-5.57	0.00	0.00	0.00	N/A	531205.00	131809.00	N 52 46 7.39	E 5 2 38.33
Ground level (vertical)	9.27	0.00	0.00	9.27	3.70	0.00	0.00	0.00	0.00	531205.00	131809.00	N 52 46 7.39	E 5 2 38.33
22" Section Surveys:	130.10	0.55	142.18	130.10	124.53	0.56	-0.46	0.36	0.14	531204.54	131809.36	N 52 46 7.38	E 5 2 38.35
MWD Survey INC only	149.41	0.27	134.13	149.41	143.84	0.69	-0.56	0.45	0.44	531204.44	131809.45	N 52 46 7.38	E 5 2 38.35
MWD Survey INC only	186.42	0.42	103.79	186.42	180.85	0.91	-0.66	0.64	0.19	531204.34	131809.64	N 52 46 7.37	E 5 2 38.36
MWD Survey INC only	205.32	0.40	92.70	205.32	199.75	1.02	-0.68	0.77	0.13	531204.32	131809.77	N 52 46 7.37	E 5 2 38.37
MWD Survey	223.63	0.37	86.00	223.63	218.06	1.12	-0.67	0.90	0.09	531204.33	131809.90	N 52 46 7.37	E 5 2 38.38
MWD Survey	242.13	0.43	85.95	242.13	236.56	1.22	-0.67	1.02	0.10	531204.33	131810.02	N 52 46 7.37	E 5 2 38.38
MWD Survey	260.34	0.57	97.30	260.33	254.76	1.35	-0.67	1.18	0.28	531204.33	131810.18	N 52 46 7.37	E 5 2 38.39
MWD Survey	279.11	0.69	105.85	279.10	273.53	1.53	-0.71	1.38	0.24	531204.29	131810.38	N 52 46 7.37	E 5 2 38.40
MWD Survey	297.40	0.88	127.63	297.39	291.82	1.78	-0.83	1.60	0.57	531204.17	131810.60	N 52 46 7.37	E 5 2 38.42
MWD Survey	315.86	1.00	140.01	315.85	310.28	2.08	-1.04	1.82	0.38	531203.96	131810.82	N 52 46 7.36	E 5 2 38.43
MWD Survey	334.58	1.37	145.59	334.57	329.00	2.45	-1.35	2.05	0.62	531203.65	131811.05	N 52 46 7.35	E 5 2 38.44
MWD Survey	353.53	1.75	155.96	353.51	347.94	2.92	-1.80	2.29	0.75	531203.20	131811.29	N 52 46 7.34	E 5 2 38.45
MWD Survey	371.99	2.25	163.42	371.96	366.39	3.46	-2.41	2.51	0.91	531202.59	131811.51	N 52 46 7.32	E 5 2 38.46
MWD Survey	390.96	3.14	170.75	390.91	385.34	4.13	-3.28	2.70	1.51	531201.72	131811.70	N 52 46 7.29	E 5 2 38.47
MWD Survey	408.92	4.72	175.58	408.82	403.25	4.98	-4.50	2.84	2.69	531200.50	131811.84	N 52 46 7.25	E 5 2 38.48
MWD Survey	427.41	5.34	172.13	427.24	421.67	6.09	-6.11	3.01	1.12	531198.89	131812.01	N 52 46 7.20	E 5 2 38.49
MWD Survey	445.85	5.75	169.12	445.60	440.03	7.38	-7.87	3.31	0.82	531197.13	131812.31	N 52 46 7.14	E 5 2 38.51
MWD Survey	464.03	6.00	167.06	463.68	458.11	8.79	-9.69	3.69	0.54	531195.31	131812.69	N 52 46 7.08	E 5 2 38.53
MWD Survey	483.02	6.14	165.46	482.56	476.99	10.35	-11.64	4.17	0.35	531193.36	131813.17	N 52 46 7.02	E 5 2 38.55
MWD Survey	501.58	6.75	164.70	501.01	495.44	11.99	-13.65	4.71	1.00	531191.35	131813.70	N 52 46 6.95	E 5 2 38.58
MWD Survey	519.86	7.00	162.43	519.16	513.59	13.75	-15.75	5.32	0.61	531189.25	131814.32	N 52 46 6.89	E 5 2 38.62
16" section Surveys:	574.37	8.05	160.31	573.20	567.63	19.66	-22.51	7.61	0.60	531182.49	131816.61	N 52 46 6.67	E 5 2 38.74
MWD Survey DMAG cor.	593.00	8.44	157.65	591.63	586.06	21.93	-25.00	8.57	0.88	531180.00	131817.57	N 52 46 6.59	E 5 2 38.79
MWD Survey DMAG cor.	611.46	8.96	153.47	609.88	604.31	24.38	-27.54	9.73	1.33	531177.46	131818.73	N 52 46 6.50	E 5 2 38.86
MWD Survey DMAG cor.	629.41	9.51	148.81	627.60	622.03	27.02	-30.06	11.12	1.55	531174.94	131820.12	N 52 46 6.42	E 5 2 38.93
MWD Survey DMAG cor.	648.75	9.99	143.91	646.66	641.09	30.11	-32.78	12.94	1.49	531172.22	131821.94	N 52 46 6.34	E 5 2 39.03
MWD Survey DMAG cor.	667.26	10.37	138.29	664.88	659.31	33.28	-35.32	14.99	1.72	531169.68	131823.99	N 52 46 6.25	E 5 2 39.14
MWD Survey DMAG cor.	685.95	10.62	133.25	683.26	677.69	36.64	-37.76	17.37	1.53	531167.24	131826.37	N 52 46 6.18	E 5 2 39.27
MWD Survey DMAG cor.	704.36	10.62	130.71	701.35	695.78	40.02	-40.03	19.89	0.76	531164.97	131828.89	N 52 46 6.10	E 5 2 39.40
MWD Survey DMAG cor.	722.76	10.58	129.24	719.44	713.87	43.40	-42.20	22.48	0.45	531162.80	131831.48	N 52 46 6.03	E 5 2 39.54
MWD Survey DMAG cor.	740.98	10.65	127.95	737.34	731.77	46.76	-44.30	25.10	0.41	531160.71	131834.10	N 52 46 5.96	E 5 2 39.68
MWD Survey DMAG cor.	759.29	10.71	126.74	755.34	749.77	50.15	-46.35	27.80	0.38	531158.65	131836.80	N 52 46 5.90	E 5 2 39.82
MWD Survey DMAG cor.	777.39	10.60	125.19	773.13	767.56	53.49	-48.32	30.51	0.51	531156.68	131839.51	N 52 46 5.84	E 5 2 39.97
MWD Survey DMAG cor.	795.70	10.48	125.85	791.13	785.56	56.84	-50.26	33.24	0.28	531154.74	131842.23	N 52 46 5.77	E 5 2 40.12
MWD Survey DMAG cor.	815.16	10.42	128.46	810.26	804.69	60.37	-52.40	36.05	0.74	531152.61	131845.05	N 52 46 5.70	E 5 2 40.27
MWD Survey DMAG cor.	834.18	10.87	130.94	828.96	823.39	63.88	-54.64	38.75	1.01	531150.36	131847.75	N 52 46 5.63	E 5 2 40.41
MWD Survey DMAG cor.	852.68	11.99	130.75	847.09	841.52	67.54	-57.04	41.52	1.82	531147.97	131850.52	N 52 46 5.56	E 5 2 40.56
MWD Survey DMAG cor.	870.99	13.18	129.77	864.96	859.39	71.52	-59.62	44.57	1.98	531145.39	131853.57	N 52 46 5.47	E 5 2 40.72
MWD Survey DMAG cor.	889.45	14.67	128.16	882.88	877.31	75.96	-62.41	48.02	2.50	531142.60	131857.02	N 52 46 5.38	E 5 2 40.91
MWD Survey DMAG cor.	908.16	15.82	127.77	900.93	895.36	80.88	-65.43	51.90	1.85	531139.57	131860.90	N 52 46 5.29	E 5 2 41.11
MWD Survey DMAG cor.	926.85	16.64	128.64	918.87	913.30	86.10	-68.66	56.01	1.37	531136.34	131865.00	N 52 46 5.18	E 5 2 41.33
MWD Survey DMAG cor.	945.00	17.85	128.66	936.21	930.64	91.48	-72.02	60.21	2.00	531132.98	131869.21	N 52 46 5.07	E 5 2 41.56
MWD Survey DMAG cor.	963.37	19.41	127.67	953.61	948.04	97.35	-75.65	64.82	2.60	531129.36	131873.82	N 52 46 4.96	E 5 2 41.81
MWD Survey DMAG cor.	981.79	21.13	126.79	970.89	965.32	103.73	-79.51	69.91	2.84	531125.50	131878.90	N 52 46 4.83	E 5 2 42.08
MWD Survey DMAG cor.	1000.76	22.72	126.14	988.49	982.92	110.81	-83.72	75.60	2.54	531121.29	131884.60	N 52 46 4.70	E 5 2 42.38
MWD Survey DMAG cor.	1019.27	24.21	126.04	1005.47	999.90	118.18	-88.06	81.56	2.42	531116.95	131890.56	N 52 46 4.56	E 5 2 42.70
MWD Survey DMAG cor.	1037.48	25.65	126.38	1021.98	1016.41	125.86	-92.59	87.75	2.38	531112.41	131896.75	N 52 46 4.41	E 5 2 43.03
MWD Survey DMAG cor.	1057.16	27.24	126.50	1039.60	1034.03	134.62	-97.80	94.80	2.43	531107.21	131903.80	N 52 46 4.24	E 5 2 43.41
MWD Survey DMAG cor.	1075.02	29.12	126.62	1055.34	1049.77	143.05	-102.82	101.58	3.16	531102.18	131910.57	N 52 46 4.08	E 5 2 43.77
MWD Survey DMAG cor.	1094.47	30.93	126.25	1072.18	1066.61	152.78	-108.60	109.41	2.81	531096.41	131918.40	N 52 46 3.90	E 5 2 44.19
MWD Survey DMAG cor.	1113.13	32.65	125.98	1088.04	1082.47	162.61	-114.39	117.35	2.77	531090.61	131926.34	N 52 46 3.71	E 5 2 44.62
MWD Survey DMAG cor.	1130.42	34.35	125.79	1102.46	1096.89	172.15	-119.99	125.08	2.96	531085.02	131934.07	N 52 46 3.53	E 5 2 45.03
MWD Survey DMAG cor.	1149.74	36.13	125.49	1118.24	1112.67	183.30	-126.48	134.14	2.78	531078.53	131943.13	N 52 46 3.32	E 5 2 45.52
MWD Survey DMAG cor.	1167.83	37.89	125.18	1132.68	1127.11	194.18	-132.78	143.02	2.94	531072.23	131952.01	N 52 46 3.12	E 5 2 45.99
MWD Survey DMAG cor.	1185.54	39.51	125.26	1146.50	1140.93	205.25	-139.17	152.07	2.75	531065.84	131961.06	N 52 46 2.91	E 5 2 46.48
MWD Survey DMAG cor.	1204.09	40.09	125.03	1160.76	1155.19	217.11	-146.00	161.78	0.97	531059.01	131970.77	N 52 46 2.70	E 5 2 47.00
MWD Survey DMAG cor.	1221.74	40.11	125.01	1174.26	1168.69	228.47	-152.52	171.09	0.04	531052.48	131980.08	N 52 46 2.49	E 5 2 47.49

Comments	MD (m)	Incl (°)	Azim Grid (°)	TVD (m)	TVDSS (m)	VSEC (m)	NS (m)	EW (m)	DLS (°/30m)	Northing (m)	Easting (m)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
MWD Survey DMAG cor.	1241.25	40.13	125.12	1189.18	1183.61	241.04	-159.75	181.38	0.11	531045.26	131990.37	N 52 46 2.25	E 5 2 48.05
MWD Survey DMAG cor.	1259.64	40.07	125.42	1203.24	1197.67	252.88	-166.59	191.05	0.33	531038.42	132000.04	N 52 46 2.03	E 5 2 48.56
MWD Survey DMAG cor.	1278.28	40.12	125.58	1217.50	1211.93	264.88	-173.56	200.82	0.18	531031.45	132009.81	N 52 46 1.81	E 5 2 49.09
MWD Survey DMAG cor.	1296.97	40.39	126.01	1231.77	1226.20	276.95	-180.62	210.62	0.62	531024.39	132019.61	N 52 46 1.58	E 5 2 49.61
MWD Survey DMAG cor.	1315.39	41.49	126.94	1245.68	1240.11	289.02	-187.80	220.32	2.05	531017.21	132029.31	N 52 46 1.35	E 5 2 50.13
MWD Survey DMAG cor.	1333.88	42.75	127.56	1259.40	1253.83	301.42	-195.31	230.19	2.15	531009.71	132039.18	N 52 46 1.11	E 5 2 50.66
MWD Survey DMAG cor.	1352.64	44.34	127.71	1272.99	1267.42	314.34	-203.20	240.43	2.55	531001.82	132049.41	N 52 46 0.86	E 5 2 51.21
MWD Survey DMAG cor.	1370.76	46.20	128.07	1285.74	1280.17	327.22	-211.10	250.59	3.11	530993.91	132059.57	N 52 46 0.60	E 5 2 51.75
MWD Survey DMAG cor.	1389.48	47.95	128.50	1298.49	1292.92	340.92	-219.60	261.35	2.85	530985.42	132070.33	N 52 46 0.33	E 5 2 52.33
MWD Survey DMAG cor.	1407.77	49.54	128.10	1310.55	1304.98	354.67	-228.12	272.14	2.65	530976.90	132081.12	N 52 46 0.06	E 5 2 52.90
MWD Survey DMAG cor.	1426.19	51.20	127.92	1322.30	1316.73	368.85	-236.85	283.31	2.71	530968.16	132092.30	N 52 45 59.77	E 5 2 53.50
MWD Survey DMAG cor.	1437.13	52.28	127.55	1329.08	1323.51	377.44	-242.11	290.11	3.07	530962.90	132099.09	N 52 45 59.61	E 5 2 53.87
12.25x14" section Surveys:	1458.33	53.17	127.29	1341.92	1336.35	394.31	-252.36	303.51	1.29	530952.65	132112.49	N 52 45 59.28	E 5 2 54.58
MWD Survey	1478.36	54.71	127.84	1353.71	1348.14	410.50	-262.23	316.34	2.40	530942.78	132125.32	N 52 45 58.96	E 5 2 55.27
MWD Survey	1496.95	56.25	127.81	1364.24	1358.67	425.82	-271.63	328.44	2.49	530933.39	132137.42	N 52 45 58.66	E 5 2 55.92
MWD Survey	1516.81	57.64	127.83	1375.07	1369.50	442.46	-281.83	341.59	2.10	530923.18	132150.57	N 52 45 58.33	E 5 2 56.62
MWD Survey	1535.61	59.33	127.41	1384.90	1379.33	458.49	-291.61	354.28	2.76	530913.40	132163.26	N 52 45 58.01	E 5 2 57.30
MWD Survey	1555.63	60.07	127.54	1395.00	1389.43	475.77	-302.13	368.00	1.12	530902.89	132176.98	N 52 45 57.68	E 5 2 58.04
MWD Survey	1573.85	59.89	128.24	1404.12	1398.55	491.55	-311.82	380.45	1.04	530893.20	132189.43	N 52 45 57.36	E 5 2 58.70
MWD Survey	1593.98	60.89	128.27	1414.06	1408.49	509.04	-322.66	394.19	1.49	530882.36	132203.17	N 52 45 57.02	E 5 2 59.44
MWD Survey	1612.51	62.79	128.14	1422.81	1417.24	525.38	-332.76	407.03	3.08	530872.26	132216.00	N 52 45 56.69	E 5 3 0.12
MWD Survey	1632.46	64.40	128.23	1431.68	1426.11	543.24	-343.81	421.07	2.42	530861.22	132230.05	N 52 45 56.34	E 5 3 0.88
MWD Survey	1651.15	65.42	128.65	1439.60	1434.03	560.16	-354.33	434.33	1.75	530850.69	132243.30	N 52 45 56.00	E 5 3 1.59
MWD Survey	1670.84	65.11	128.69	1447.84	1442.27	578.04	-365.50	448.29	0.48	530839.52	132257.27	N 52 45 55.64	E 5 3 2.33
MWD Survey	1689.69	65.53	128.72	1455.71	1450.14	595.16	-376.21	461.66	0.67	530828.81	132270.63	N 52 45 55.29	E 5 3 3.05
MWD Survey	1709.57	65.85	127.92	1463.90	1458.33	613.28	-387.45	475.87	1.20	530817.58	132284.85	N 52 45 54.93	E 5 3 3.81
MWD Survey	1728.07	66.04	127.26	1471.44	1465.87	630.17	-397.75	489.26	1.02	530807.27	132298.23	N 52 45 54.60	E 5 3 4.53
MWD Survey	1748.29	65.87	126.53	1479.68	1474.11	648.63	-408.84	504.03	1.02	530796.19	132313.00	N 52 45 54.24	E 5 3 5.32
MWD Survey	1766.78	65.61	126.06	1487.27	1481.70	665.49	-418.82	517.61	0.81	530786.21	132326.58	N 52 45 53.92	E 5 3 6.04
MWD Survey	1786.85	65.16	125.81	1495.63	1490.06	683.73	-429.52	532.39	0.75	530775.50	132341.36	N 52 45 53.58	E 5 3 6.84
MWD Survey	1805.40	65.27	125.86	1503.41	1497.84	700.57	-439.38	546.04	0.19	530765.64	132355.01	N 52 45 53.26	E 5 3 7.57
MWD Survey	1825.81	65.36	126.06	1511.93	1506.36	719.11	-450.27	561.05	0.30	530754.75	132370.02	N 52 45 52.91	E 5 3 8.37
MWD Survey	1844.08	65.47	125.98	1519.53	1513.96	735.72	-460.04	574.49	0.22	530744.98	132383.45	N 52 45 52.60	E 5 3 9.09
MWD Survey	1864.11	65.40	125.77	1527.86	1522.29	753.93	-470.72	589.25	0.30	530734.31	132398.21	N 52 45 52.25	E 5 3 9.88
MWD Survey	1882.69	65.56	126.11	1535.57	1530.00	770.83	-480.64	602.94	0.56	530724.39	132411.90	N 52 45 51.94	E 5 3 10.61
MWD Survey	1902.50	65.53	125.93	1543.77	1538.20	788.86	-491.24	617.52	0.25	530713.78	132426.48	N 52 45 51.59	E 5 3 11.39
MWD Survey	1920.65	65.58	125.75	1551.28	1545.71	805.38	-500.92	630.92	0.28	530704.11	132439.88	N 52 45 51.28	E 5 3 12.11
MWD Survey	1940.95	65.54	125.74	1559.68	1554.11	823.86	-511.72	645.92	0.06	530693.32	132454.88	N 52 45 50.94	E 5 3 12.91
MWD Survey	1959.41	65.44	125.71	1567.34	1561.77	840.65	-521.52	659.55	0.17	530683.51	132468.51	N 52 45 50.62	E 5 3 13.64
MWD Survey	1979.58	65.70	125.72	1575.68	1570.11	859.01	-532.24	674.46	0.39	530672.79	132483.42	N 52 45 50.28	E 5 3 14.44
MWD Survey	1998.35	65.67	125.92	1583.41	1577.84	876.11	-542.25	688.33	0.30	530662.78	132497.29	N 52 45 49.95	E 5 3 15.18
MWD Survey	2018.47	65.59	125.53	1591.71	1586.14	894.43	-552.96	703.21	0.54	530652.08	132512.17	N 52 45 49.61	E 5 3 15.98
MWD Survey	2037.09	65.51	125.56	1599.42	1593.85	911.37	-562.81	717.00	0.14	530642.22	132525.96	N 52 45 49.29	E 5 3 16.71
MWD Survey	2056.99	65.65	125.39	1607.65	1602.08	929.48	-573.32	731.76	0.31	530631.71	132540.71	N 52 45 48.96	E 5 3 17.50
MWD Survey	2075.34	65.45	125.57	1615.24	1609.67	946.18	-583.02	745.36	0.42	530622.01	132554.32	N 52 45 48.64	E 5 3 18.23
MWD Survey	2095.81	65.45	125.94	1623.75	1618.18	964.79	-593.90	760.47	0.49	530611.14	132569.42	N 52 45 48.29	E 5 3 19.04
MWD Survey	2114.06	65.61	125.85	1631.31	1625.74	981.40	-603.64	773.93	0.30	530601.40	132582.88	N 52 45 47.98	E 5 3 19.76
MWD Survey	2133.97	65.59	126.05	1639.53	1633.96	999.53	-614.28	788.61	0.28	530590.75	132597.56	N 52 45 47.64	E 5 3 20.55
MWD Survey	2152.72	65.53	125.89	1647.29	1641.72	1016.60	-624.31	802.42	0.25	530580.73	132611.37	N 52 45 47.32	E 5 3 21.29
MWD Survey	2172.09	65.59	125.81	1655.30	1649.73	1034.23	-634.64	816.71	0.15	530570.40	132625.66	N 52 45 46.98	E 5 3 22.05
MWD Survey	2190.68	65.61	125.99	1662.98	1657.41	1051.15	-644.56	830.43	0.27	530560.47	132639.38	N 52 45 46.67	E 5 3 22.78
MWD Survey	2211.03	65.56	125.71	1671.39	1665.82	1069.68	-655.42	845.45	0.38	530549.62	132654.40	N 52 45 46.32	E 5 3 23.59
MWD Survey	2229.22	65.55	126.08	1678.92	1673.35	1086.23	-665.13	858.86	0.56	530539.91	132667.81	N 52 45 46.00	E 5 3 24.31
Tie-In	2249.98	65.61	126.31	1687.50	1681.93	1105.13	-676.29	874.12	0.31	530528.75	132683.06	N 52 45 45.65	E 5 3 25.12
11 7/8" liner shoe (interpolated)	2265.00	65.55	126.28	1693.71	1688.14	1118.81	-684.38	885.14	0.13	530520.66	132694.09	N 52 45 45.39	E 5 3 25.71
8.5x12.25" Section:	2294.15	62.23	124.04	1706.54	1700.97	1144.96	-699.46	906.53	3.99	530505.58	132715.48	N 52 45 44.90	E 5 3 26.86
MWD Survey	2307.51	61.18	123.37	1712.88	1707.31	1156.70	-705.99	916.32	2.70	530499.05	132725.26	N 52 45 44.69	E 5 3 27.38
MWD Survey	2313.64	61.17	123.22	1715.83	1710.26	1162.06	-708.94	920.80	0.64	530496.11	132729.75	N 52 45 44.60	E 5 3 27.62
MWD Survey	2328.76	61.43	123.44	1723.09	1717.52	1175.29	-716.22	931.89	0.64	530488.82	132740.83	N 52 45 44.36	E 5 3 28.21
MWD Survey	2350.73	60.31	122.30	1733.79	1728.22	1194.43	-726.64	948.00	2.05	530478.40	132756.95	N 52 45 44.03	E 5 3 29.08
MWD Survey	2369.81	58.74	120.74	1743.46	1737.89	1210.80	-735.24	962.02	3.25	530469.81	132770.96	N 52 45 43.75	E 5 3 29.83
MWD Survey	2388.73	56.91	120.17	1753.54	1747.97	1226.70	-743.35	975.82	3.00	530461.69	132784.76	N 52 45 43.49	E 5 3 30.56
MWD Survey	2407.16	54.87	120.74	1763.87	1758.30	1241.86	-751.09	988.98	3.41	530453.96	132797.92	N 52 45 43.24	E 5 3 31.27
MWD Survey	2426.28	53.21	121.38	1775.10	1769.53	1257.24	-759.07	1002.23	2.73	530445.97	132811.17	N 52 45 42.99	E 5 3 31.98
MWD Survey	2444.54	51.49	121.88	1786.25	1780.68	1271.63	-766.65	1014.54	2.90	530438.39	132823.48	N 52 45 42.74	E 5 3 32.63
MWD Survey	2463.33	50.23	121.67	1798.11	1792.54	1286.14	-774.33	1026.93	2.03	530430.72	132835.87	N 52 45 42.50	E 5 3 33.30
MWD Survey	2482.40	48.49	121.61	1810.53	1804.96	1300.55	-781.92	1039.25	2.74	530423.13	132848.19	N 52 45 42.25	E 5 3 33.96
MWD Survey	2501.23	46.80	121.49	1823.22	1817.65	1314.40	-789.20	1051.11	2.70	530415.85	132860.05	N 52 45 42.02	E 5 3 34.59
MWD Survey	2519.27	44.92	121.27	1835.78	1830.21	1327.28	-795.94	1062.16	3.14	530409.11	132871.10	N 52 45 41.80	E 5 3 35.18
MWD Survey	2538.54	42.84	121.49	1849.67	1844.10	1340.56	-802.89	1073.56	3.25	530402.15	132882.50	N 52 45 41.58	E 5 3 35.79
MWD Survey	2556.83	40.86	120.96	1863.30	1857.73	1352.70	-809.22	1084.00	3.30	530395.83	132892.93	N 52 45 41.38	E 5 3 36.35
MWD Survey	2575.53	39.04	120.36	1877.63	1872.06	1364.63	-815.34	1094.33	2.98	530389.70	132903.26	N 52 45 41.18	E 5 3 36.90
MWD Survey	2594.58	36.87	120.55	1892.65	1887.08	1376.27	-821.28	1104.43	3.42	530383.77	132913.36	N 52 45 40.99	E 5 3 37.44
MWD Survey	2612.92	34.69	120.27	1907.53	1901.96	1386.92	-826.71	1113.67	3.58	530378.34	132922.61	N 52 45 40.81	E 5 3 37.94
MWD Survey	2631.77	34.93	120.05	1923.00	1917.43	1397.60	-832.12	1122.98	0.43	530372.93	132931.91	N 52 45 40.64	E 5 3 38.43
MWD Survey	2650.72	35.48	120.43	1938.49	1932.92	1408.44	-837.62	1132.41	0.94	530367.43	132941.35	N 52 45 40.46	E 5 3 38.94
MWD Survey	2669.45	35.68	120.81	1953.72	1948.15	1419.27	-843.17	1141.79	0.48	530361.88	132950.72	N 52 45 40.29	E 5 3 39.44
MWD Survey	2687.65	35.83	120.63	1968.49	1962.92	1429.84	-848.60	1150.93	0.30	530356.45	132959.87	N 52 45 40.11	E 5 3 39.93
MWD Survey	2705.67	35.82	120.80	1983.10	1977.53	1440.32	-853.99	1160.00	0.17	530351.06	132968.93	N 52 45 39.94	E 5 3 40.41
8.5" Section:	2731.34	35.63	120.73	2003.94	1998.37	1455.22	-861.66	1172.88	0.23	530343.40	132981.81	N 52 45 39.69	E 5 3 41.10
MWD Survey	2750.27	35.04	120.90	2019.38	2013.81	1466.10	-867.26	1182.28	0.95	530337.79	132991.21	N 52 45 39.51	E 5 3 41.60
MWD Survey	2770.69	35.04	120.51	2036.10	2030.53	1477.75	-873.25	1192.36	0.33	530331.80	133001.29	N 52 45 39.32	E 5 3 42.14
MWD Survey	2789.23	35.57	119.99	2051.23	2045.66	1488.38	-878.65	1201.62	0.99	530326.40	133010.55	N 52 45 39.15	E 5 3 42.64
MWD Survey	2807.98	35.67	120.28	2066.48	2060.91	1499.22	-884.13	1211.07	0.31	530320.92	133019.99	N 52 45 38.97	E 5 3 43.14
MWD Survey	2826.91	35.72	120.63	2081.85	2076.28	1510.19	-889.73	1220.59	0.33	530315.32	133029.51	N 52 45 38.79	E 5 3 43.65
MWD Survey	2845.29	35.92	120.50	2096.75	2091.18	1520.88	-895.20	1229.85	0.35	530309.85	133038.77	N 52 45 38.62	E 5 3 44.15
MWD Survey	2863.95	35.87	120.21	2111.87	2106.30	1531.74	-900.73	1239.29	0.28	530304.33	133048.21	N 52 45 38.44	E 5 3 44.65
MWD Survey	2882.78	35.88	120.20	2127.13	2121.56	1542.70	-906.28	1248.83	0.02	530298.77	133057.75	N 52 45 38.26	E 5 3 45.16
MWD Survey	2901.53	35.75	120.30	2142.33	2136.76	1553.59	-911.81	1258.30	0.23	530293.25	133067.23	N 52 45 38.08	E 5 3 45.67
MWD Survey	2920.24	35.64	120.17	2157.53	2151.96	1564.43	-917.30	1267.74	0.21	530287.75	133076.66	N 52 45 37.91	E 5 3 46.17
MWD Survey	2938.87	35.25	120.40	2172.70	2167.13	1575.15	-922.75	1277.06	0.66	530282.30	133085.99	N 52 45 37.73	E 5 3 46.67
MWD Survey	2957.66	35.09	119.93	2188.06	2182.49	1585.90	-928.19	1286.42	0.50	530276.86	133095.34	N 52 45 37.56	E 5 3 47.17
MWD Survey	2976.13	35.47	118.88	2203.14	2197.57	1596.47	-933.43	1295.72	1.16	530271.63	133104.64	N 52 45 37.39	E 5 3 47.67
MWD Survey	2995.18	35.51	119.12	2218.65	2213.08	1607.42	-938.79	1305.39	0.23	530266.27	133114.31	N 52 45 37.22	E 5 3 48.19
MWD Survey	3009.02	35.67	119.26	2229.91	2224.34	1615.39	-942.72	1312.42	0.39	530262.34	133121.34	N 52 45 37.09	E 5 3 48.56
6" Section:	3020.00	35.70	119.00	2238.83	2233.26	1621.73	-945.84	1318.01	0.42	530259.22	133126.94	N 52 45 36.99	E 5 3 48.86
WFT MWD Survey	3033.00	35.73	119.71	2249.38	2243.81	1629.25	-949.56	1324.63	0.96	530255.50	133133.55	N 52 45 36.87	E 5 3 49.22
WFT MWD Survey	3055.00	35.39	120.14	2267.28	2261.71	1641.95	-955.94	1335.72	0.58	530249.12	133144.64	N 52 45 36.67	E 5 3 49.81
WFT MWD Survey	3073.00	35.26	120.42	2281.96	2276.39	1652.28	-961.19	1344.71	0.35	530243.87	133153.62	N 52 45 36.50	E 5 3 50.29
WFT MWD Survey	3092.00	35.54	120.68	2297.45	2291.88	1663.21	-966.78	1354.18	0.50	530238.28	133163.10	N 52 45 36.32	E 5 3 50.80
WFT MWD Survey	3111.00	35.76	120.76	2312.89	2307.32	1674.22	-972.44	1363.70	0.36	530232.62	133172.62	N 52 45 36.14	E 5 3 51.31
WFT MWD Survey	3130.00	36.01	121.20	2328.28	2322.71	1685.29	-978.17	1373.25	0.57	530226.89	133182.17	N 52 45 35.95	E 5 3 51.82
WFT MWD Survey	3149.00	36.27	121.23	2343.63	2338.06	1696.44	-983.98	1382.84	0.41	530221.08	133191.75	N 52 45 35.77	E 5 3 52.33
WFT MWD Survey	3167.00	36.71	121.70	2358.10	2352.53	1707.09	-989.57	1391.97	0.87	530215.49	133200.88	N 52 45 35.59	E 5 3 52.82
WFT MWD Survey	3186.00	36.82	121.72	2373.32	2367.75	1718.41	-995.54	1401.64	0.17	530209.52	133210.56	N 52 45 35.39	E 5 3 53.33

Comments	MD (m)	Incl (°)	Azim Grid (°)	TVD (m)	TVDSS (m)	VSEC (m)	NS (m)	EW (m)	DLS (°/30m)	Northing (m)	Easting (m)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
WFT MWD Survey	3205.00	37.02	121.64	2388.51	2382.94	1729.77	-1001.54	1411.35	0.32	530203.52	133220.27	N 52 45 35.20	E 5 3 53.85
WFT MWD Survey	3223.00	37.20	121.88	2402.87	2397.30	1740.58	-1007.25	1420.59	0.39	530197.81	133229.50	N 52 45 35.02	E 5 3 54.35
WFT MWD Survey	3243.00	37.16	121.76	2418.80	2413.23	1752.62	-1013.63	1430.86	0.12	530191.44	133239.77	N 52 45 34.81	E 5 3 54.90
WFT MWD Survey	3260.00	36.85	121.98	2432.38	2426.81	1762.81	-1019.03	1439.55	0.59	530186.03	133248.46	N 52 45 34.64	E 5 3 55.36
Proj. to MDM-GT-06-S2 TD	3278.00	36.50	122.00	2446.81	2441.24	1773.51	-1024.72	1448.66	0.58	530180.34	133257.58	N 52 45 34.46	E 5 3 55.85

Survey Type: Def Survey

Survey Error Model: ISCWSA Rev 0 *** 3-D 95.000% Confidence 2.7955 sigma

Survey Program:

Description	Part	MD From (m)	MD To (m)	EOU Freq (m)	Hole Size (in)	Casing Diameter (in)	Survey Tool Type	Borehole / Survey
	1	0.000	9.270	Act Stns			SLB_INC_ONLY<10-Depth Only	MDM_GT-06-S2 / MDM-GT-06-S2 Def Survey
	1	9.270	130.100	1/30.000			SLB_INC_ONLY<10	MDM_GT-06-S2 / MDM-GT-06-S2 Def Survey
	1	130.100	149.410	Act Stns			SLB_INC_ONLY<10	MDM_GT-06-S2 / MDM-GT-06-S2 Def Survey
	1	149.410	3278.000	Act Stns			SLB_MWD-STD	MDM_GT-06-S2 / MDM-GT-06-S2 Def Survey

18 5/8" casing tally

Rig : T-700
DSV: Dirk van den Nieuwendijk

Well : MDM-GT-06
Date: 09/05/2017

Depth reference :	**Rotary table**		**TD :**	552.00		m	**Buoyancy :**	0.86	
RT-GL :	9.27	m	**Rat hole :**	6.70		m	**Block weight :**	25	metric Tons
RT- HOP :	n/a	m	**Shoe depth :**	545.30		m	**PUW :**		metric Tons
			Mud weight :	1.09		sg	**SOW :**		metric Tons

Casing or DP data (DP used as running string)

Type	OD	ID	Grade	Weight	Capacity	Metal displ.	Thread	Make up torque ft.lb				MU Loss
	(inch)	(inch)		(lb/ft)	(l/m)	(l/m)			Min	Optimum	Max	(m)
1	18 3/8	17.76	K55	87.50	159.73	175.55	BTC					0.123
2												
3												
4												

Joint n° or name	Heat/batch no	Type n°	Total length	Effective Length	In string	Cumul. length	Top depth BRT	Hook load	Mud gain	Thread (bottom)	Centraliser	Remark
			m	m	Y/N	m	m	mT	(m3)		# & type	
Shoe depth					y		545.30	25				
Float Shoe		1	0,550	0,550	y	0,55	544,75	0,1	0,10	BTC		Assy1
Shoe joint A		1	11650.00	11650.00	y	12,20	533,10	1,4	2,14	BTC	2	Bwsprng Btw Stp col/ Assy 1
Intermediate joint		1	11,76	11638.00	y	23,84	521,46	2,7	4,18	BTC	2	Bwsprng Btw Stp col
Float Collar		1	0,67	0,548	y	24,39	520,92	2,7	4,28	BTC		Bwsprng Btw Stp col / Assy2
Float collar joint		1	11,64	11640.00	y	36,03	509,28	4,0	6,32	BTC	2	Bwsprng Btw Stp col / Assy2
No: 00001		1	11,73	11608.00	y	47,63	497,67	5,3	8,36	BTC		
No: 00002		1	11,73	11608.00	y	59,24	486,06	6,6	10,40	BTC		
No: 00003		1	11,73	11608.00	y	70,85	474,45	7,9	12,44	BTC	1	betw Stop col and Coupl
No: 00004		1	11,73	11608.00	y	82,46	462,85	9,2	14,47	BTC		
No: 00005		1	11,73	11608.00	y	94,06	451,24	10,5	16,51	BTC		
No: 00006		1	11,73	11608.00	y	105,67	439,63	11,8	18,55	BTC	1	betw Stop col and Coupl
No: 00007		1	11,73	11608.00	y	117,28	428,02	13,2	20,59	BTC		
No: 00008		1	11,73	11608.00	y	128,89	416,42	14,5	22,63	BTC		
No: 00009		1	11,73	11608.00	y	140,49	404,81	15,8	24,66	BTC	1	betw Stop col and Coupl
No: 00010		1	11,73	11608.00	y	152,10	393,20	17,1	26,70	BTC		
No: 00011		1	11,73	11608.00	y	163,71	381,59	18,4	28,74	BTC		
No: 00012		1	11,73	11608.00	y	175,32	369,99	19,7	30,78	BTC	1	betw Stop col and Coupl
No: 00013		1	11,73	11608.00	y	186,92	358,38	21,0	32,81	BTC		
No: 00014		1	11,73	11608.00	y	198,53	346,77	22,3	34,85	BTC		
No: 00015		1	11,73	11608.00	y	210,14	335,16	23,6	36,89	BTC	1	betw Stop col and Coupl
No: 00016		1	11,73	11608.00	y	221,75	323,56	24,9	38,93	BTC		
No: 00017		1	11,73	11608.00	y	233,35	311,95	26,2	40,97	BTC		
No: 00018		1	11,6	11478.00	y	244,83	300,47	27,5	42,98	BTC	1	betw Stop col and Coupl
No: 00019		1	11,3	11178.00	y	256,01	289,29	28,7	44,94	BTC		
No: 00020		1	11,73	11608.00	y	267,62	277,69	30,0	46,98	BTC		
No: 00021		1	11,73	11608.00	y	279,22	266,08	31,3	49,02	BTC	1	betw Stop col and Coupl
No: 00022		1	11,73	11608.00	y	290,83	254,47	32,6	51,06	BTC		
No: 00023		1	11,73	11608.00	y	302,44	242,86	33,9	53,09	BTC		
No: 00024		1	11,73	11608.00	y	314,05	231,26	35,2	55,13	BTC	1	betw Stop col and Coupl
No: 00025		1	11,73	11608.00	y	325,65	219,65	36,5	57,17	BTC		
No: 00026		1	11,6	11478.00	y	337,13	208,17	37,8	59,18	BTC		
No: 00027		1	11,6	11478.00	y	348,61	196,69	39,1	61,20	BTC	1	betw Stop col and Coupl
No: 00028		1	11,73	11608.00	y	360,22	185,09	40,4	63,24	BTC		
No: 00029		1	11,73	11608.00	y	371,82	173,48	41,7	65,27	BTC		
No: 00030		1	11,73	11608.00	y	383,43	161,87	43,0	67,31	BTC	1	betw Stop col and Coupl
No: 00031		1	11,73	11608.00	y	395,04	150,26	44,3	69,35	BTC		
No: 00032		1	11,73	11608.00	y	406,65	138,66	45,6	71,39	BTC		
No: 00033		1	11,73	11608.00	y	418,25	127,05	46,9	73,42	BTC	1	betw Stop col and Coupl
No: 00034		1	11,73	11608.00	y	429,86	115,44	48,2	75,46	BTC		
No: 00035		1	11,73	11608.00	y	441,47	103,83	49,5	77,50	BTC		
No: 00036		1	11,73	11608.00	y	453,08	92,22	50,8	79,54	BTC	1	betw Stop col and Coupl
No: 00037		1	11,73	11608.00	y	464,68	80,62	52,1	81,58	BTC		
No: 00038		1	11,73	11608.00	y	476,29	69,01	53,4	83,61	BTC		
No: 00039		1	11,73	11608.00	y	487,90	57,40	54,7	85,65	BTC	1	betw Stop col and Coupl
No: 00040		1	11,61	11488.00	y	499,39	45,91	56,0	87,67	BTC		
No: 00041		1	11,73	11608.00	y	510,99	34,31	57,3	89,70	BTC		
No: 00042		1	11,73	11608.00	y	522,60	22,70	58,6	91,74	BTC	1	betw Stop col and Coupl
No: 00043		1	11,73	11608.00	y	534,21	11,09	59,9	93,78	BTC		
No: 00044		1	11,73	11608.00	y	545,82	-0,52	61,2	95,82	BTC		

13 3/8" casing tally

Rig : T-700
DSV: Koop Eleveld

Well : MDM-GT-06
Date: 19/05/2017

Depth reference :	**Rotary table**		**TD :**	1,449.00		m	**Buoyancy :**	0.84	
RT-GL :	9.27	m	**Rat hole :**	3.00		m	**Block weight :**	25	metric Tons
RT- HOP :	n/a	m	**Shoe depth :**	1446.00		m	**PUW :**		metric Tons
			Mud weight :	1.25		sg	**SOW :**		metric Tons

Casing or DP data (DP used as running string)

Type	OD	ID	Grade	Weight	Capacity	Metal displ.	Thread	Make up torque ft.lb				MU Loss
	(inch)	(inch)		(lb/ft)	(l/m)	(l/m)			Min	Optimum	Max	(m)
1	13 3/8	12.35	P110	72.00	77.24	13.41	VAM TOP		20,850	23,150	25,450	0.145
2												
3												
4												

Joint n° or name	Heat/batch no	Type n°	Total length	Effective Length	In string	Cumul. length	Top depth BRT	Hook load	Mud gain	Thread (bottom)	Centraliser	Remark
			m	m	Y/N	m	m	mT	(m3)		# & type	
Shoe depth					y		1,446.00	25				
Float Shoe		1	0.640	0.64	y	0.640	1445.360	25.1	0.01	VAM TOP		
Shoe Joint A		1	13.06	13.06	y	13.700	1432.300	26.2	0.18	VAM TOP	2x WF Bow Spring Centralizer	
Intermediate jnt.		1	12.80	12.66	y	26.355	1419.645	27.4	0.35	VAM TOP	2x WF Bow Spring Centralizer	
Float Collar		1	0.91	0.76	y	27.120	1418.880	27.4	0.36	VAM TOP		
Float Collar Joint A		1	12.84	12.84	y	39.960	1406.040	28.6	0.54	VAM TOP	1x WF Bow Spring Centralizer	
No: 10004		1	12.05 m	11.90	y	51.862	1394.138	29.7	0.70	VAM TOP	1x WF Bow Spring Centralizer	
No: 10005		1	12.04 m	11.89	y	63.756	1382.244	30.7	0.85	VAM TOP	1x WF Bow Spring Centralizer	
No: 10006		1	11.92 m	11.77	y	75.527	1370.474	31.8	1.01	VAM TOP	1x WF Bow Spring Centralizer	
No: 10007		1	12.11 m	11.96	y	87.490	1358.510	32.9	1.17	VAM TOP	1x WF Bow Spring Centralizer	
No: 10008		1	12.06 m	11.91	y	99.402	1346.598	34.0	1.33	VAM TOP	1x WF Bow Spring Centralizer	
No: 10009		1	12.11 m	11.97	y	111.367	1334.633	35.0	1.49	VAM TOP	1x WF Bow Spring Centralizer	
No: 10010		1	12.18 m	12.03	y	123.399	1322.601	36.1	1.65	VAM TOP	1x WF Bow Spring Centralizer	
No: 10011		1	12.74 m	12.59	y	135.989	1310.011	37.3	1.82	VAM TOP	1x WF Bow Spring Centralizer	
No: 10012		1	12.080 m	11.94	y	147.924	1298.076	38.3	1.98	VAM TOP	1x WF Bow Spring Centralizer	
No: 10013		1	12.186 m	12.04	y	159.966	1286.034	39.4	2.15	VAM TOP		
No: 10014		1	12.182 m	12.04	y	172.003	1273.997	40.5	2.31	VAM TOP	1x WF Bow Spring Centralizer	
No: 10015		1	12.925 m	12.78	y	184.783	1261.217	41.6	2.48	VAM TOP		
No: 10016		1	12.171 m	12.03	y	196.810	1249.191	42.7	2.64	VAM TOP	1x WF Bow Spring Centralizer	
No: 10017		1	12.085 m	11.94	y	208.750	1237.250	43.8	2.80	VAM TOP		
No: 10018		1	12.170 m	12.03	y	220.775	1225.225	44.9	2.96	VAM TOP	1x WF Bow Spring Centralizer	
No: 10019		1	12.083 m	11.94	y	232.713	1213.287	46.0	3.12	VAM TOP	1x WF Bow Spring Centralizer	
No: 10020		1	12.176 m	12.03	y	244.745	1201.255	47.0	3.28	VAM TOP	1x WF Bow Spring Centralizer	
No: 10021		1	11.905 m	11.76	y	256.505	1189.495	48.1	3.44	VAM TOP	1x WF Bow Spring Centralizer	
No: 10022		1	12.119 m	11.97	y	268.479	1177.521	49.2	3.60	VAM TOP	1x WF Bow Spring Centralizer	
No: 10023		1	12.081 m	11.94	y	280.416	1165.584	50.3	3.76	VAM TOP	1x WF Bow Spring Centralizer	
No: 10024		1	12.181 m	12.04	y	292.452	1153.548	51.3	3.92	VAM TOP	1x WF Bow Spring Centralizer	
No: 10025		1	12.059 m	11.91	y	304.366	1141.634	52.4	4.08	VAM TOP	1x WF Bow Spring Centralizer	
No: 10026		1	12.183 m	12.04	y	316.405	1129.596	53.5	4.24	VAM TOP	1x WF Bow Spring Centralizer	
No: 10027		1	12.181 m	12.04	y	328.441	1117.559	54.6	4.40	VAM TOP	1x WF Bow Spring Centralizer	
No: 10028		1	12.156 m	12.01	y	340.452	1105.548	55.7	4.57	VAM TOP	1x WF Bow Spring Centralizer	
No: 10029		1	12.121 m	11.98	y	352.428	1093.572	56.8	4.73	VAM TOP	1x WF Bow Spring Centralizer	
No: 10030		1	12.082 m	11.94	y	364.366	1081.634	57.8	4.89	VAM TOP	1x WF Bow Spring Centralizer	
No: 10031		1	12.025 m	11.88	y	376.246	1069.754	58.9	5.05	VAM TOP	1x WF Bow Spring Centralizer	
No: 10032		1	12.149 m	12.00	y	388.250	1057.750	60.0	5.21	VAM TOP		
No: 10033		1	12.185 m	12.04	y	400.291	1045.709	61.1	5.37	VAM TOP		
No: 10034		1	12.044 m	11.90	y	412.190	1033.810	62.1	5.53	VAM TOP		
No: 10035		1	12.160 m	12.02	y	424.205	1021.795	63.2	5.69	VAM TOP		
No: 10036		1	12.048 m	11.90	y	436.109	1009.892	64.3	5.85	VAM TOP	1x WF Bow Spring Centralizer	
No: 10037		1	12.126 m	11.98	y	448.090	997.910	65.4	6.01	VAM TOP		
No: 10038		1	12.106 m	11.96	y	460.051	985.949	66.4	6.17	VAM TOP		
No: 10039		1	12.183 m	12.04	y	472.089	973.911	67.5	6.33	VAM TOP		
No: 10040		1	12.792 m	12.65	y	484.737	961.263	68.7	6.50	VAM TOP		
No: 10041		1	12.783 m	12.64	y	497.375	948.625	69.8	6.67	VAM TOP	1x WF Bow Spring Centralizer	
No: 10042		1	12.096 m	11.95	y	509.326	936.674	70.9	6.83	VAM TOP		
No: 10043		1	12.790 m	12.65	y	521.972	924.028	72.0	7.00	VAM TOP		
No: 10044		1	12.790 m	12.65	y	534.617	911.383	73.2	7.17	VAM TOP		
No: 10045		1	12.794 m	12.65	y	547.266	898.734	74.3	7.34	VAM TOP		
No: 10046		1	12.789 m	12.64	y	559.911	886.090	75.4	7.51	VAM TOP	1x WF Bow Spring Centralizer	
No: 10047		1	12.788 m	12.64	y	572.554	873.446	76.6	7.68	VAM TOP		
No: 10048		1	12.795 m	12.65	y	585.204	860.796	77.7	7.85	VAM TOP		
No: 10049		1	12.790 m	12.65	y	597.849	848.151	78.9	8.02	VAM TOP		
No: 10050		1	12.789 m	12.64	y	610.494	835.506	80.0	8.19	VAM TOP		
No: 10051		1	12.740 m	12.60	y	623.089	822.911	81.1	8.36	VAM TOP	1x WF Bow Spring Centralizer	
No: 10052		1	12.588 m	12.44	y	635.532	810.468	82.3	8.52	VAM TOP		
No: 10053		1	12.783 m	12.64	y	648.171	797.829	83.4	8.69	VAM TOP		
No: 10054		1	12.700 m	12.56	y	660.726	785.274	84.5	8.86	VAM TOP		
No: 10055		1	12.790 m	12.65	y	673.371	772.629	85.7	9.03	VAM TOP		
No: 10056		1	12.794 m	12.65	y	686.021	759.980	86.8	9.20	VAM TOP	1x WF Bow Spring Centralizer	
No: 10057		1	12.792 m	12.65	y	698.668	747.332	87.9	9.37	VAM TOP		
No: 10058		1	12.160 m	12.02	y	710.683	735.317	89.0	9.53	VAM TOP		
No: 10059		1	12.152 m	12.01	y	722.690	723.310	90.1	9.69	VAM TOP		
No: 10060		1	12.141 m	12.00	y	734.687	711.313	91.2	9.85	VAM TOP		
No: 10061		1	12.066 m	11.92	y	746.608	699.392	92.3	10.01	VAM TOP	1x WF Bow Spring Centralizer	
No: 10062		1	12.109 m	11.96	y	758.572	687.428	93.3	10.17	VAM TOP		
No: 10063		1	12.179 m	12.03	y	770.607	675.393	94.4	10.33	VAM TOP		
No: 10064		1	12.182 m	12.04	y	782.644	663.356	95.5	10.50	VAM TOP		
No: 10065		1	12.170 m	12.03	y	794.669	651.331	96.6	10.66	VAM TOP		
No: 10066		1	12.130 m	11.99	y	806.655	639.346	97.7	10.82	VAM TOP	1x WF Bow Spring Centralizer	
No: 10067		1	12.040 m	11.90	y	818.550	627.450	98.7	10.98	VAM TOP		
No: 10068		1	12.141 m	12.00	y	830.546	615.454	99.8	11.14	VAM TOP		
No: 10069		1	12.156 m	12.01	y	842.557	603.443	100.9	11.30	VAM TOP		
No: 10070		1	12.145 m	12.00	y	854.558	591.442	102.0	11.46	VAM TOP		
No: 10071		1	12.142 m	12.00	y	866.555	579.445	103.1	11.62	VAM TOP	1x WF Bow Spring Centralizer	
No: 10072		1	12.151 m	12.01	y	878.561	567.439	104.2	11.78	VAM TOP		

13 3/8" casing tally

Rig : T-700
DSV: Koop Eleveld

Well : MDM-GT-06
Date: 19/05/2017

Depth reference :	**Rotary table**		**TD :**	1,449.00		m	**Buoyancy :**	0.84	
RT-GL :	9.27	m	**Rat hole :**	3.00		m	**Block weight :**	25	metric Tons
RT- HOP :	n/a	m	**Shoe depth :**	1446.00		m	**PUW :**		metric Tons
			Mud weight :	1.25		sg	**SOW :**		metric Tons

Casing or DP data (DP used as running string)

Type	OD	ID	Grade	Weight	Capacity	Metal displ.	Thread	Make up torque ft.lb				MU Loss
	(inch)	(inch)		(lb/ft)	(l/m)	(l/m)			Min	Optimum	Max	(m)
1	13 3/8	12.35	P110	72.00	77.24	13.41	VAM TOP		20,850	23,150	25,450	0.145
2												
3												
4												

Joint n° or name	Heat/batch no	Type n°	Total length	Effective Length	In string	Cumul. length	Top depth BRT	Hook load	Mud gain	Thread (bottom)	Centraliser	Remark
			m	m	Y/N	m	m	mT	(m3)		# & type	
No: 10073		1	12.185 m	12.04	y	890.602	555.398	105.2	11.94	VAM TOP		
No: 10074		1	12.181 m	12.04	y	902.638	543.362	106.3	12.10	VAM TOP		
No: 10075		1	12.179 m	12.03	y	914.672	531.328	107.4	12.27	VAM TOP		
No: 10076		1	12.793 m	12.65	y	927.321	518.680	108.5	12.44	VAM TOP	1x WF Bow Spring Centralizer	
No: 10077		1	12.758 m	12.61	y	939.934	506.066	109.7	12.60	VAM TOP		
No: 10078		1	12.788 m	12.64	y	952.577	493.423	110.8	12.77	VAM TOP		
No: 10079		1	12.791 m	12.65	y	965.223	480.777	112.0	12.94	VAM TOP		
No: 10080		1	12.792 m	12.65	y	977.871	468.129	113.1	13.11	VAM TOP		
No: 10081		1	12.770 m	12.63	y	990.496	455.504	114.2	13.28	VAM TOP	1x WF Bow Spring Centralizer	
No: 10082		1	11.575 m	11.43	y	1001.926	444.074	115.3	13.44	VAM TOP		
No: 10083		1	12.180 m	12.04	y	1013.962	432.038	116.3	13.60	VAM TOP		
No: 10084		1	12.144 m	12.00	y	1025.961	420.039	117.4	13.76	VAM TOP		
No: 10085		1	12.179 m	12.03	y	1037.995	408.005	118.5	13.92	VAM TOP		
No: 10086		1	12.182 m	12.04	y	1050.033	395.968	119.6	14.08	VAM TOP	1x WF Bow Spring Centralizer	
No: 10087		1	12.153 m	12.01	y	1062.041	383.959	120.7	14.24	VAM TOP		
No: 10088		1	12.107 m	11.96	y	1074.003	371.997	121.8	14.40	VAM TOP		
No: 10089		1	12.179 m	12.03	y	1086.037	359.963	122.8	14.56	VAM TOP		
No: 10090		1	12.177 m	12.03	y	1098.070	347.930	123.9	14.73	VAM TOP		
No: 10091		1	12.182 m	12.04	y	1110.107	335.893	125.0	14.89	VAM TOP	1x WF Bow Spring Centralizer	
No: 10092		1	12.050 m	11.91	y	1122.012	323.988	126.1	15.05	VAM TOP		
No: 10093		1	12.144 m	12.00	y	1134.012	311.988	127.2	15.21	VAM TOP		
No: 10094		1	12.120 m	11.98	y	1145.987	300.013	128.2	15.37	VAM TOP		
No: 10095		1	12.176 m	12.03	y	1158.018	287.982	129.3	15.53	VAM TOP		
No: 10096		1	12.170 m	12.03	y	1170.044	275.957	130.4	15.69	VAM TOP	1x WF Bow Spring Centralizer	
No: 10097		1	12.183 m	12.04	y	1182.082	263.918	131.5	15.85	VAM TOP		
No: 10098		1	11.905 m	11.76	y	1193.842	252.158	132.6	16.01	VAM TOP		
No: 10099		1	12.032 m	11.89	y	1205.729	240.271	133.6	16.17	VAM TOP		
No: 10100		1	12.155 m	12.01	y	1217.740	228.260	134.7	16.33	VAM TOP		
No: 10101		1	12.082 m	11.94	y	1229.677	216.323	135.8	16.49	VAM TOP	1x WF Bow Spring Centralizer	
No: 10102		1	12.179 m	12.03	y	1241.711	204.289	136.9	16.65	VAM TOP		
No: 10103		1	12.115 m	11.97	y	1253.682	192.318	137.9	16.81	VAM TOP		
No: 10104		1	12.183 m	12.04	y	1265.720	180.280	139.0	16.97	VAM TOP		
No: 10105		1	12.155 m	12.01	y	1277.730	168.270	140.1	17.13	VAM TOP		
No: 10106		1	12.072 m	11.93	y	1289.658	156.343	141.2	17.29	VAM TOP	1x WF Bow Spring Centralizer	
No: 10107		1	11.977 m	11.83	y	1301.490	144.510	142.3	17.45	VAM TOP		
No: 10108		1	12.095 m	11.95	y	1313.440	132.560	143.3	17.61	VAM TOP		
No: 10109		1	12.177 m	12.03	y	1325.472	120.528	144.4	17.77	VAM TOP		
No: 10110		1	12.180 m	12.04	y	1337.508	108.492	145.5	17.94	VAM TOP		
No: 10111		1	12.179 m	12.03	y	1349.542	96.458	146.6	18.10	VAM TOP	1x WF Bow Spring Centralizer	
No: 10112		1	12.180 m	12.04	y	1361.577	84.423	147.7	18.26	VAM TOP		
No: 10113		1	12.080 m	11.94	y	1373.513	72.487	148.7	18.42	VAM TOP		
No: 10114		1	12.178 m	12.03	y	1385.546	60.454	149.8	18.58	VAM TOP		
No: 10115		1	12.116 m	11.97	y	1397.517	48.483	150.9	18.74	VAM TOP		
No: 10116		1	12.150 m	12.01	y	1409.523	36.477	152.0	18.90	VAM TOP	1x WF Bow Spring Centralizer	
No: 10117		1	12.183 m	12.04	y	1421.561	24.439	153.1	19.06	VAM TOP		
No: 10118		1	12.936 m	12.79	y	1434.352	11.648	154.2	19.23	VAM TOP		
No: 10119		1	12.950 m	12.81	y	1447.157	-1.157	155.4	19.41	VAM TOP	1x WF Positive Centralizer	

11 7/8" casing tally

Rig : T-700 | Well : MDM-GT-06

DSV: Koop Eleveld | Date: 11/07/2017

Depth reference :	**Rotary table**		**TD :**	2,870.00		m	**Buoyancy :**	0.83	
RT-GL :	9.27	m	**Rat hole :**			m	**Block weight :**	25	metric Tons
RT- HOP :	n/a	m	**Shoe depth :**	2267.00		m	**PUW :**		metric Tons
			Mud weight :	1.30		sg	**SOW :**		metric Tons

Casing or DP data (DP used as running string)

Type	OD	ID	Grade	Weight	Capacity	CE displ.	Thread		Make up torque ft.lb			MU Loss
	(inch)	(inch)		(lb/ft)	(l/m)	(l/m)			Min	Optimum	Max	(m)
1	11 7/8	10.71	P110	71.80	58.13	13.32	VAM FJL		14,400	15,900	17,400	0.144
2												
3												
4												

Joint n° or name	Heat/batch no	Type n°	Total length m	Effective Length m	In string Y/N	Cumul. length m	Top depth BRT m	Hook load mT	Mud gain (m3)	Thread (bottom)	Centraliser # & type	Remark
Shoe depth					y		2,267.00	25				
Float Shoe		1	0.71	0.71	y	0.710	2266.290	25.1	0.01	VAM FJL	Float shoe Assy incl cen sub	
Centralizer+ shoe Joint A		1	12.40	12.40	y	13.110	2253.890	26.2	0.17	VAM FJL		
Centralizer sub		1	1.50	1.36	y	14.467	2252.534	26.3	0.19	VAM FJL	Centralizer Assy 1	
Int. Jnt.		1	11.05	11.05	y	25.517	2241.484	27.3	0.34	VAM FJL		
Float Collar		1	1.10	0.95	y	26.468	2240.532	27.4	0.35	VAM FJL	Float collar Assy	
Float Collar Joint		1	10.82	10.82	y	37.288	2229.712	28.3	0.50	VAM FJL		
No: 00043		1	11.44	11.30	y	48.588	2218.412	29.3	0.65	VAM FJL		
Centralizer sub		1	1.50	1.36	y	49.945	2217.056	29.5	0.67	VAM FJL	Centralizer assy 2	
Jnt abv Cen sub		1	10.85	10.85	y	60.795	2206.206	30.4	0.81	VAM FJL		
No: 00045		1	11.16	11.02	y	71.815	2195.186	31.4	0.96	VAM FJL		
No: 00044		1	11.16	11.02	y	82.835	2184.166	32.4	1.10	VAM FJL		
No: 00048		1	11.44	11.30	y	94.135	2172.866	33.4	1.25	VAM FJL		
No: 00047		1	11.45	11.31	y	105.445	2161.556	34.4	1.40	VAM FJL		
No: 00046		1	11.51	11.37	y	116.815	2150.186	35.4	1.56	VAM FJL		
Centralizer sub		1	1.64	1.50	y	118.315	2148.686	35.5	1.58	VAM FJL	Centralizer Assy 3	
Jnt abv Cen sub		1	11.17	11.03	y	129.345	2137.656	36.5	1.72	VAM FJL		
No: 00051		1	11.49	11.35	y	140.695	2126.306	37.5	1.87	VAM FJL		
No: 00050		1	11.14	11.00	y	151.695	2115.306	38.5	2.02	VAM FJL		
No: 00049		1	11.44	11.30	y	162.995	2104.006	39.5	2.17	VAM FJL		
No: 00054		1	11.07	10.93	y	173.925	2093.076	40.5	2.32	VAM FJL		
No: 00053		1	11.48	11.34	y	185.265	2081.736	41.5	2.47	VAM FJL		
No: 00052		1	11.18	11.04	y	196.305	2070.696	42.5	2.61	VAM FJL		
No: 00057		1	11.18	11.04	y	207.345	2059.656	43.5	2.76	VAM FJL		
No: 00056		1	11.45	11.31	y	218.655	2048.346	44.5	2.91	VAM FJL		
No: 00055		1	10.13	9.99	y	228.645	2038.356	45.4	3.05	VAM FJL		
No: 00060		1	11.31	11.17	y	239.815	2027.186	46.4	3.19	VAM FJL		
No: 00059		1	11.43	11.29	y	251.105	2015.896	47.4	3.34	VAM FJL		
No: 00058		1	11.39	11.25	y	262.355	2004.646	48.4	3.49	VAM FJL		
No: 00063		1	11.25	11.11	y	273.465	1993.536	49.4	3.64	VAM FJL		
No: 00062		1	11.44	11.30	y	284.765	1982.236	50.4	3.79	VAM FJL		
No: 00061		1	11.17	11.03	y	295.795	1971.206	51.4	3.94	VAM FJL		
No: 00066		1	11.40	11.26	y	307.055	1959.946	52.4	4.09	VAM FJL		
No: 00065		1	11.23	11.09	y	318.145	1948.856	53.4	4.24	VAM FJL		
No: 00064		1	11.44	11.30	y	329.445	1937.556	54.4	4.39	VAM FJL		
No: 00069		1	11.46	11.32	y	340.765	1926.236	55.4	4.54	VAM FJL		
No: 00068		1	11.47	11.33	y	352.095	1914.906	56.4	4.69	VAM FJL		
No: 00067		1	11.43	11.29	y	363.385	1903.616	57.4	4.84	VAM FJL		
No: 00072		1	11.09	10.95	y	374.335	1892.666	58.4	4.99	VAM FJL		
No: 00071		1	11.17	11.03	y	385.365	1881.636	59.4	5.13	VAM FJL		
No: 00070		1	11.16	11.02	y	396.385	1870.616	60.3	5.28	VAM FJL		
No: 00075		1	11.14	11.00	y	407.385	1859.616	61.3	5.43	VAM FJL		
No: 00074		1	10.23	10.09	y	417.475	1849.526	62.2	5.56	VAM FJL		
No: 00073		1	11.47	11.33	y	428.805	1838.196	63.2	5.71	VAM FJL		
No: 00078		1	11.17	11.03	y	439.835	1827.166	64.2	5.86	VAM FJL		
No: 00077		1	11.46	11.32	y	451.155	1815.846	65.2	6.01	VAM FJL		
No: 00076		1	11.18	11.04	y	462.195	1804.806	66.2	6.16	VAM FJL		
No: 00081		1	11.17	11.03	y	473.225	1793.776	67.2	6.30	VAM FJL		
No: 00080		1	11.10	10.96	y	484.185	1782.816	68.2	6.45	VAM FJL		
No: 00079		1	11.09	10.95	y	495.135	1771.866	69.1	6.60	VAM FJL		
No: 00084		1	11.15	11.01	y	506.145	1760.856	70.1	6.74	VAM FJL		
No: 00083		1	11.45	11.31	y	517.455	1749.546	71.1	6.89	VAM FJL		
No: 00082		1	11.19	11.05	y	528.505	1738.496	72.1	7.04	VAM FJL		
No: 00087		1	10.94	10.80	y	539.305	1727.696	73.1	7.18	VAM FJL		
No: 00086		1	11.18	11.04	y	550.345	1716.656	74.1	7.33	VAM FJL		
No: 00085		1	11.47	11.33	y	561.675	1705.326	75.1	7.48	VAM FJL		
No: 00090		1	11.17	11.03	y	572.705	1694.296	76.1	7.63	VAM FJL		
No: 00089		1	11.46	11.32	y	584.025	1682.976	77.1	7.78	VAM FJL		
No: 00088		1	11.44	11.30	y	595.325	1671.676	78.1	7.93	VAM FJL		
No: 00093		1	11.12	10.98	y	606.305	1660.696	79.1	8.08	VAM FJL		
No: 00092		1	11.46	11.32	y	617.625	1649.376	80.1	8.23	VAM FJL		
No: 00091		1	11.45	11.31	y	628.935	1638.066	81.1	8.38	VAM FJL		
No: 00096		1	11.45	11.31	y	640.245	1626.756	82.1	8.53	VAM FJL		
No: 00095		1	11.17	11.03	y	651.275	1615.726	83.1	8.68	VAM FJL		
No: 00094		1	11.16	11.02	y	662.295	1604.706	84.1	8.82	VAM FJL		
No: 00099		1	11.17	11.03	y	673.324	1593.676	85.0	8.97	VAM FJL		
No: 00098		1	11.44	11.30	y	684.624	1582.376	86.0	9.12	VAM FJL		
No: 00097		1	11.17	11.03	y	695.654	1571.346	87.0	9.27	VAM FJL		
No: 00102		1	11.43	11.29	y	706.944	1560.056	88.0	9.42	VAM FJL		
No: 00101		1	11.43	11.29	y	718.234	1548.766	89.0	9.57	VAM FJL		
No: 00100		1	11.17	11.03	y	729.264	1537.736	90.0	9.71	VAM FJL		
No: 00105		1	11.43	11.29	y	740.554	1526.446	91.0	9.86	VAM FJL		
No: 00104		1	11.40	11.26	y	751.814	1515.186	92.0	10.01	VAM FJL		
No: 00103		1	11.46	11.32	y	763.134	1503.866	93.0	10.17	VAM FJL		
No: 00108		1	11.41	11.27	y	774.404	1492.596	94.0	10.32	VAM FJL		
No: 00107		1	11.45	11.31	y	785.714	1481.286	95.1	10.47	VAM FJL		
No: 00106		1	11.18	11.04	y	796.754	1470.246	96.0	10.61	VAM FJL		
No: 00111		1	11.43	11.29	y	808.044	1458.956	97.0	10.76	VAM FJL		
No: 00110		1	11.43	11.29	y	819.334	1447.666	98.1	10.91	VAM FJL		
No: 00109		1	11.45	11.31	y	830.644	1436.356	99.1	11.07	VAM FJL		
No: 00114		1	11.44	11.30	y	841.944	1425.056	100.1	11.22	VAM FJL		
No: 00113		1	11.36	11.22	y	853.164	1413.836	101.1	11.37	VAM FJL		
No: 00112		1	11.42	11.28	y	864.444	1402.556	102.1	11.52	VAM FJL		
No: 00117		1	11.47	11.33	y	875.774	1391.226	103.1	11.67	VAM FJL		
No: 00116		1	1.03	0.89	y	876.660	1390.340	103.2	11.68	VAM FJL	Cut at 1390,34mAHRT	

9-5/8" production liner tally

Rig : T700
DSV: Gerrit Ham

Well : MDM-GT-06 S2
Date: 14/09/2017

			Ream. till :	2,721.00	m				
			8,5" TD :	2,726.00	m				
Depth reference :	**Rotary Table**		**Rat hole till ream depth**	2.00	m		**Buoyancy :**	0.83	
RT - GL	9.27	m	**Shoe depth :**	2712.00	m		**Block weight :**	25	metric Tons
RT-HOP :	0.00	m	**Mud weight :**	1.35	sg		**PUW :**		metric Tons
							SOW :		metric Tons

Casing or DP data (DP used as running string)

Type	OD	ID	Grade	Weight	Capacity	Metal displ.	Thread	Make up torque ft.lb			MU Loss
	(inch)	(inch)		(lb/ft)	(l/m)	(l/m)		Min	Optimum	Max	(m)
1	9-5/8"	8.57	P110	53.50	36.91	10.03	VAM FJL	14,400	15,900	17,400	0.135
2											
3											
4											

Joint n° or name	Heat/ batch no.	Type n°	Total length m	Make up length m	In string Y/N	Cumul. length m	Top depth BGL m	Hook load mT	Mud gain (m3)	Thread (bottom)	Remarks (centralizers, cable splices, floats etc.)
	Shoe depth				y		2,712.00	25			
Shoe		1	1.06	1.06	y	1.06	2710.94	25	0.0	VAM FJL	Shoe assy incl. centralizer
Centralizer sub		1	1.34	1.34	y	2.40	2709.60	25	0.0	VAM FJL	
Shoe int. Joint		1	12.05	12.05	y	14.45	2697.55	26	0.1	VAM FJL	CENTEK UROS Centralizer btw 2 Stop collars.
Centr.sub		1	1.48	1.35	y	15.80	2696.20	26	0.2	VAM FJL	Centralizer sub assy 1
Centr.int. Joint		1	12.05	12.05	y	27.85	2684.15	27	0.3	VAM FJL	
Float collar		1	1.30	1.17	y	29.01	2682.99	27	0.3	VAM FJL	Float collar assy
Centralizer sub		1	1.34	1.34	y	30.35	2681.65	27	0.3	VAM FJL	
Float int. Joint		1	11.07	11.07	y	41.42	2670.58	28	0.4	VAM FJL	
50		1	11.98	11.85	y	53.26	2658.74	29	0.5	VAM FJL	
49		1	12.00	11.87	y	65.13	2646.87	29	0.7	VAM FJL	CENTEK UROS Centralizer btw 2 Stop
48		1	10.63	10.50	y	75.62	2636.38	30	0.8	VAM FJL	
47		1	12.01	11.88	y	87.50	2624.50	31	0.9	VAM FJL	CENTEK UROS Centralizer btw 2 Stop
46		1	11.98	11.85	y	99.34	2612.66	32	1.0	VAM FJL	
45		1	10.49	10.36	y	109.70	2602.30	32	1.1	VAM FJL	CENTEK UROS Centralizer btw 2 Stop
44		1	10.63	10.50	y	120.19	2591.81	33	1.2	VAM FJL	
43		1	12.14	12.01	y	132.20	2579.80	34	1.3	VAM FJL	CENTEK UROS Centralizer btw 2 Stop
42		1	11.19	11.06	y	143.26	2568.74	34	1.4	VAM FJL	
41		1	13.29	13.16	y	156.41	2555.59	35	1.6	VAM FJL	CENTEK UROS Centralizer btw 2 Stop
40		1	12.12	11.99	y	168.40	2543.60	36	1.7	VAM FJL	
39		1	11.25	11.12	y	179.51	2532.49	37	1.8	VAM FJL	CENTEK UROS Centralizer btw 2 Stop
38		1	11.24	11.11	y	190.62	2521.38	38	1.9	VAM FJL	
37		1	11.27	11.14	y	201.75	2510.25	38	2.0	VAM FJL	
36		1	12.20	12.07	y	213.82	2498.18	39	2.1	VAM FJL	
35		1	12.11	11.98	y	225.79	2486.21	40	2.3	VAM FJL	
34		1	11.28	11.15	y	236.94	2475.06	41	2.4	VAM FJL	
33		1	11.18	11.05	y	247.99	2464.02	41	2.5	VAM FJL	
32		1	11.19	11.06	y	259.04	2452.96	42	2.6	VAM FJL	
31		1	11.35	11.22	y	270.26	2441.74	43	2.7	VAM FJL	
30		1	11.13	11.00	y	281.25	2430.75	44	2.8	VAM FJL	
29		1	11.96	11.83	y	293.08	2418.92	44	2.9	VAM FJL	
28		1	12.31	12.18	y	305.25	2406.75	45	3.1	VAM FJL	
27		1	12.47	12.34	y	317.59	2394.41	46	3.2	VAM FJL	
26		1	12.27	12.14	y	329.72	2382.28	47	3.3	VAM FJL	
25		1	12.17	12.04	y	341.76	2370.24	48	3.4	VAM FJL	
24		1	12.00	11.87	y	353.62	2358.38	48	3.5	VAM FJL	
23		1	12.20	12.07	y	365.69	2346.31	49	3.7	VAM FJL	
22		1	12.13	12.00	y	377.69	2334.31	50	3.8	VAM FJL	
21		1	12.00	11.87	y	389.55	2322.45	51	3.9	VAM FJL	
20		1	11.60	11.47	y	401.02	2310.98	51	4.0	VAM FJL	
19		1	11.67	11.54	y	412.55	2299.45	52	4.1	VAM FJL	
18		1	11.99	11.86	y	424.41	2287.59	53	4.3	VAM FJL	
17		1	11.41	11.28	y	435.68	2276.32	54	4.4	VAM FJL	
16		1	11.53	11.40	y	447.08	2264.92	54	4.5	VAM FJL	
15		1	11.22	11.09	y	458.16	2253.84	55	4.6	VAM FJL	
Centr.sub		1	1.48	1.35	y	459.51	2252.49	55	4.6	VAM FJL	Centralizer sub assy 2
Centr.int. Joint		1	12.05	12.05	y	471.56	2240.44	56	4.7	VAM FJL	
14		1	11.66	11.53	y	483.09	2228.92	57	4.8	VAM FJL	
13		1	11.67	11.54	y	494.62	2217.38	58	5.0	VAM FJL	
12		1	11.67	11.54	y	506.16	2205.84	58	5.1	VAM FJL	
11		1	11.57	11.44	y	517.59	2194.41	59	5.2	VAM FJL	
10		1	11.21	11.08	y	528.67	2183.33	60	5.3	VAM FJL	
9		1	11.54	11.41	y	540.07	2171.93	61	5.4	VAM FJL	
8		1	11.33	11.20	y	551.27	2160.73	61	5.5	VAM FJL	
X/O - csg slips		1	1.80	1.67	y	552.93	2159.07	61	5.5	VAM FJL	Liner hanger Assy
csg slips - Mid pack.Elem		1	0.86	0.86	y	553.79	2158.21	62	5.6	VAM FJL	
Mid packer el.- Top PBR		1	5.39	5.39	y	559.18	2152.82	62	5.6	VAM FJL	

7" Liner tally

Rig : T-700
DSV: Gerrit Ham

Well : MDM-GT-06
Date: 20/09/2017

Depth reference :	GL		**TD :**	3,020.00	m	**Buoyancy :**	0.84	
Wellhead-GL :	9.27	m	**Rat hole :**	1.00	m	**Block weight :**	25	metric Tons
Wellhead-HOP :	0.00	m	**Shoe depth :**	3019.00	m	**PUW :**		metric Tons
			Mud weight :	1.25	sg	**SOW :**		metric Tons

Casing or DP data (DP used as running string)

Type	OD	ID	Grade	Weight	Capacity	Metal displ.	Thread	Make up torque ft.lb			MU Loss
	(inch)	(inch)		(lb/ft)	(l/m)	(l/m)		Min	Optimum	Max	(m)
1	7	6.18	p110	29.00	19.38	5.45	VAM Top	10,450	11,550	12,650	0.108
2	7	6.28	p110	26.00	19.96	4.87	VA Rougneck	n/a	24,190	n/a	0.106
3											
4											

Joint n° or name	Heat/ batch no.	Type n°	Total length	Make up length	In string	Cumul. length	Top depth BGL	sg	Mud gain	Thread (bottom)	Remarks (centralizers, cable splices, floats etc.)
			m	m	Y/N	m	m	mT	(m3)		
	Shoe depth				y		3,019.00	25			
Shoe		1	0.64	0.64	y	0.64	3018.36	25	0.0	n/a	
Shoejnt		1	11.05	11.05	y	11.69	3007.31	25	0.2	VAM Top	29# - 2 centralizers (pre installed)
Int jnt /43		1	11.26	11.15	y	22.84	2996.16	26	0.4	VAM Top	29# - 2 centralizers over stop collars
FC		1	0.73	0.62	y	23.46	2995.54	26	0.5	VAM Top	
FC jnt		1	11.05	11.05	y	34.51	2984.49	26	0.7	VAM Top	29# - 2 centralizers (pre installed)
LC		1	0.73	0.62	y	35.14	2983.86	26	0.7	VAM Top	
LC jnt		1	10.81	10.81	y	45.95	2973.05	27	0.9	VAM Top	29# - 2 centralizers (pre installed)
44		1	10.92	10.81	y	56.76	2962.24	27	1.1	VAM Top	29#
45		1	11.45	11.34	y	68.10	2950.90	27	1.3	VAM Top	29# - 1 centralizer over stop collar
46		1	11.13	11.02	y	79.12	2939.88	28	1.5	VAM Top	29#
1		1	11.41	11.30	y	90.43	2928.57	28	1.8	VAM Top	29# - 1 centralizer over stop collar
2		1	11.41	11.30	y	101.73	2917.27	29	2.0	VAM Top	29#
4		1	11.12	11.01	y	112.74	2906.26	29	2.2	VAM Top	29# - 1 centralizer over stop collar
6		1	10.87	10.76	y	123.50	2895.50	29	2.4	VAM Top	29#
7		1	11.5	11.39	y	134.90	2884.10	30	2.6	VAM Top	29# - 1 centralizer over stop collar
8		1	11.27	11.16	y	146.06	2872.94	30	2.8	VAM Top	29#
9		1	11.25	11.14	y	157.20	2861.80	31	3.0	VAM Top	29# - 1 centralizer over stop collar
10		1	11.3	11.19	y	168.39	2850.61	31	3.3	VAM Top	29#
12		1	11.31	11.20	y	179.60	2839.40	32	3.5	VAM Top	29# - 1 centralizer over stop collar
13		1	11.3	11.19	y	190.79	2828.21	32	3.7	VAM Top	29#
14		1	11.25	11.14	y	201.93	2817.07	32	3.9	VAM Top	29# - 1 centralizer over stop collar
15		1	10.93	10.82	y	212.75	2806.25	33	4.1	VAM Top	29#
XO 1		1	12.59	12.48	y	225.23	2793.77	33	4.5	VAM Top	VAM TOP pin x VA Roughneck box -
16		2	12.74	12.63	y	237.87	2781.13	34	4.7	VA Rougneck	26#
17		2	12.74	12.63	y	250.50	2768.50	34	5.0	VA Rougneck	26# - 1 centralizer over stop collar
18		2	12.74	12.63	y	263.14	2755.86	35	5.3	VA Rougneck	26#
19		2	12.24	12.13	y	275.27	2743.73	35	5.5	VA Rougneck	26# - 1 centralizer over stop collar
20		2	12.74	12.63	y	287.90	2731.10	35	5.7	VA Rougneck	26#
21		2	12.74	12.63	y	300.54	2718.46	36	6.0	VA Rougneck	26# - 1 centralizer over stop collar
22		2	12.74	12.63	y	313.17	2705.83	36	6.3	VA Rougneck	26#
23		2	12.42	12.31	y	325.48	2693.52	37	6.5	VA Rougneck	26# - 1 centralizer over stop collar
24		2	12.74	12.63	y	338.12	2680.88	37	6.7	VA Rougneck	26#
25		2	12.59	12.48	y	350.60	2668.40	38	7.0	VA Rougneck	26#
26		2	12.74	12.63	y	363.23	2655.77	38	7.3	VA Rougneck	26# - 1 centralizer over stop collar
27		2	12.74	12.63	y	375.87	2643.13	39	7.5	VA Rougneck	26#
28		2	12.74	12.63	y	388.50	2630.50	39	7.8	VA Rougneck	26#
29		2	12.75	12.64	y	401.14	2617.86	40	8.0	VA Rougneck	26# - 1 centralizer over stop collar
	X/O to mid csg slips	1	1.96	1.85	y	403.00	2616.00	40	8.0	VA Rougneck	
	mid csg slips - mid	1	2.55	2.55	y	405.55	2613.45	40	8.1		
	mid pack - upp slips	1	0.40	0.40	y	405.95	2613.05	40	8.1		
	upp slips - top PBR	1	5.4	5.40	y	411.35	2607.65	40	8.1		
	Running tool	1	3.51	3.51	y	414.86	2604.14	40	8.1		

5-1/2" production liner tally

Rig : T700
DSV: Dirk v.d. Nieuwendijk

Well : MDM-GT-06 S2
Date: 30/09/2017

Depth reference :	**Rotary Table**		**TD :**	3,273.75	m	**Buoyancy :**	0.86	
RT - GL	9.27	m	**Rat hole :**	0.00	m	**Block weight :**	25	metric Tons
RT-HOP :	0.00	m	**Shoe depth :**	3277.00	m	**PUW :**		metric Tons
			Mud weight :	1.09	sg	**SOW :**		metric Tons

Casing or DP data (DP used as running string)

Type	OD	ID	Grade	Weight	Capacity	Metal displ.	Thread	Make up torque ft.lb			MU Loss
	(inch)	(inch)		(lb/ft)	(l/m)	(l/m)		Min	Optimum	Max	(m)
1	5 1/2	4.89	L80	17.00	12.14	3.19	VAM FJL	2,540	2,820	3,100	0.085
2											
3											
4											

Joint n° or name	Heat/ batch no.	Type n°	Total length m	Make up length m	In string Y/N	Cumul. length m	Top depth BGL m	Hook load mT	Mud gain (m3)	Thread (bottom)	Remarks (centralizers, cable splices, floats etc.)
	Shoe depth				y		3,277.00	25			
Float shoe		1	0.75	0.75	y	0.75	3276.25	25	0.00	VAM Top	Shoe assy incl. 2 pre-installed centralizers (11,86 m total)
Float shoe joint		1	8.11	8.11	y	8.85	3268.15	25	0.03	VAM Top	
Stinger pack off		1	0.57	0.57	y	9.42	3267.58	25	0.03	VAM Top	
Crossover		1	0.49	0.49	y	9.91	3267.09	25	0.03	VAM Top	
Crossover Pup jnt		1	1.95	1.95	y	11.86	3265.14	25	0.04	VAM FJL	
1		1	11.29	11.21	y	23.07	3253.93	26	0.1	VAM FJL	pre-perf.
2		1	11.34	11.26	y	34.32	3242.68	26	0.1	VAM FJL	pre-perf.
3		1	11.59	11.51	y	45.83	3231.17	26	0.1	VAM FJL	pre-perf.
4		1	11.34	11.26	y	57.08	3219.92	26	0.2	VAM FJL	pre-perf.
5		1	11.26	11.18	y	68.26	3208.74	26	0.2	VAM FJL	pre-perf.
6		1	11.32	11.24	y	79.49	3197.51	27	0.3	VAM FJL	pre-perf.
7		1	11.35	11.27	y	90.76	3186.24	27	0.3	VAM FJL	pre-perf.
8		1	11.35	11.27	y	102.02	3174.98	27	0.3	VAM FJL	pre-perf.
9		1	11.36	11.28	y	113.30	3163.70	27	0.4	VAM FJL	pre-perf.
10		1	11.42	11.34	y	124.63	3152.37	28	0.4	VAM FJL	pre-perf.
11		1	11.37	11.29	y	135.92	3141.08	28	0.4	VAM FJL	pre-perf.
12		1	11.24	11.16	y	147.07	3129.93	28	0.5	VAM FJL	pre-perf.
13		1	11.55	11.47	y	158.54	3118.46	28	0.5	VAM FJL	pre-perf.
14		1	11.56	11.48	y	170.01	3106.99	29	0.5	VAM FJL	pre-perf.
15		1	11.35	11.27	y	181.28	3095.72	29	0.6	VAM FJL	pre-perf.
16		1	11.35	11.27	y	192.54	3084.46	29	0.6	VAM FJL	pre-perf.
17		1	11.36	11.28	y	203.82	3073.18	29	0.7	VAM FJL	pre-perf.
18		1	11.15	11.07	y	214.88	3062.12	30	0.7	VAM FJL	pre-perf.
19		1	11.31	11.23	y	226.11	3050.89	30	0.7	VAM FJL	pre-perf.
20		1	11.22	11.14	y	237.24	3039.76	30	0.8	VAM FJL	pre-perf.
21		1	11.22	11.14	y	248.38	3028.62	30	0.8	VAM FJL	pre-perf.
22		1	11.39	11.31	y	259.68	3017.32	31	0.8	VAM FJL	pre-perf.
23		1	11.39	11.31	y	270.99	3006.01	31	0.9	VAM FJL	pre-perf.
24		1	11.39	11.31	y	282.29	2994.71	31	0.9	VAM FJL	pre-perf.
1.		1	11.22	11.14	y	293.43	2983.57	31	0.9	VAM FJL	non perforated, blank joint
X-over Nipple		1	0.94	0.85	y	294.28	2982.72	31	0.9	VAM FJL	Setting sleeve assy
Setting Sleeve		1	0.45	0.45	y	294.73	2982.27	31	0.9	VAM FJL	
PBR		1	2.20	2.20	y	296.93	2980.07	31	0.9	VAM FJL	
Junk cup handlin sub		1	4.03	4.03	Y	300.96	2976.04	32	1.0	VAM FJL	running tool stick up(4,03 m above PBR)