



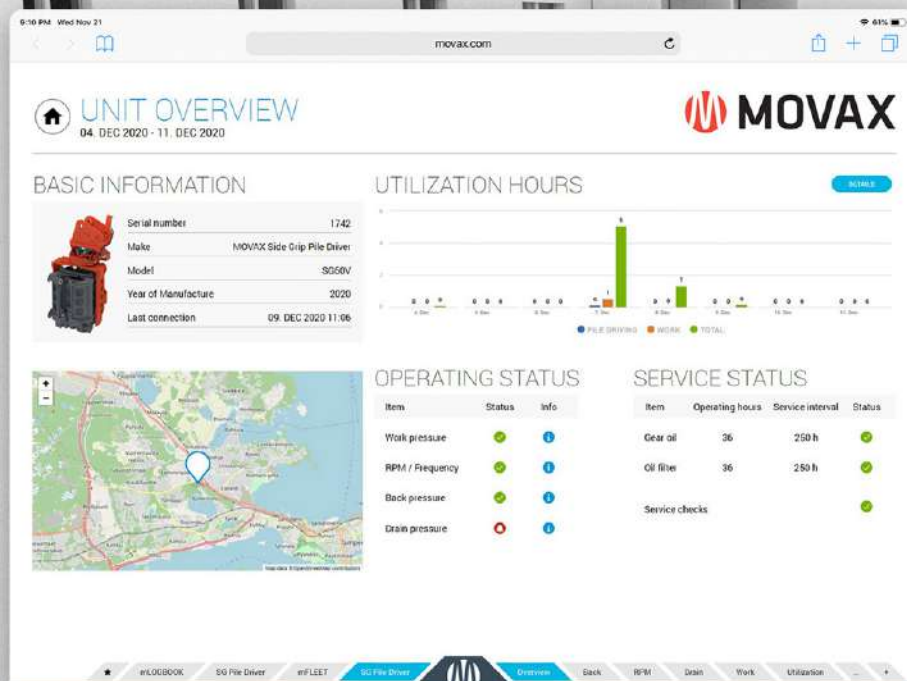
MOVAX

Total Piling Solutions

INFORMATION
MANAGEMENT
SYSTEM (MIMS)

TECHNICAL SPECIFICATION





HIGHER PRODUCTIVITY – SIGNIFICANT SAVINGS

Efficient. Fast. Versatile. Accurate. Safe. Reliable.

MOVAX WAY-OF-PILING

INTRODUCTION

Movax Oy, established in 1993, is a Finnish-based, privately-owned world-leading innovator, developer and manufacturer of excavator-mounted piling and foundation equipment with highly advanced automatic control systems and information management solutions.

A TOTAL SOLUTION

Movax Oy focuses solely on solutions for the piling & foundation industry. The comprehensive range of excavator-mounted piling & foundation equipment and customized solutions cover a complete range of piling technologies - including both driven and bored piles.

UNIQUE, VALUE-ADDING TECHNOLOGY

Movax Oy's piling and foundation equipment provide the optimum way-of-working - **MOVAX WAY-OF-PILING™** - when constructing foundations, building retaining walls, both temporary and permanent, cofferdams and when performing trenching and excavation work and soil stabilisation in a wide range of applications.

QUALITY BUILT-TO-LAST

MOVAX is made with high-class materials, equipment and components – and modern, state-of-the-art production technologies and machinery ensuring the highest possible quality of manufacture. Movax Oy's Quality Management Systems is certified on accordance with ISO 9001:2015.

GLOBALLY PROVEN

With almost **30 years of experience** and more than **3000 units delivered** to all over the world and with a clear focus on the piling and foundation industry, MOVAX has a deep understanding and know-how of varying site and soil conditions - and of all kinds of different type of excavators and rail roaders. Movax Oy's experience also covers a wide range of applications ranging from Rail, Road and Civil to Waterways & Piers, Utilities and Environmental & Energy.

GLOBALLY LOCAL CUSTOMER CARE

Movax Oy focuses on superior customer service and support together with a world-wide network of local partners, established in more than 30 countries all over the world, performing trenching and excavation work in a wide range of applications from civil/structural, rail and road to waterways & piers, utilities and environmental.



INNOVATION & CONTINUOUS DEVELOPMENT

Movax Oy is the inventor of the modular, vibratory side grip pile driver technology. Movax Oy's inventions have resulted in numerous patents (50+) and its trademark, MOVAX®, is registered and well known for the quality it represents all over the world.

Movax Oy is strongly committed to continuously develop its products and services in close cooperation with its customers and local partners.



TOTAL SOLUTION

PILING, FOUNDATION & SOIL STABILISATION

MOVAX excavator mounted piling equipment and customised solutions are available for different piling technologies, including both driven and bored piles, and for varying site and soil conditions and requirements.

The MOVAX Control System links the excavator with the MOVAX piling equipment and customised solutions whereas the MOVAX Information Management System (MIMS) provides essential information about the piling process and the pile installation - and about the MOVAX piling equipment.



PILE DRIVERS

Side grip vibratory-type pile driver for handling, pitching, driving & extracting a complete range of driven piles, including sheet piles, H-beams, tubular steel piles and timber piles.



PILING HAMMERS

Hydraulic, double-acting impact-type piling hammers for driving load-bearing piles or assisting in sheet pile driving in even the most difficult soil conditions.



PILING DRILLS

Telescopic/kelly bar-type piling drills for bored, cast-in-situ (concrete) piles.



MOVAX CONTROL SYSTEM

The **MOVAX Control System (mControl+)** controls all MOVAX piling equipment and customised solutions. The system controls the auxiliary hydraulics of the excavator and all the functions of MOVAX's piling equipment.



MULTI-TOOL PILING LEADERS

Customised multi-purpose piling leaders with tooling including vibratory pile driver, piling hammer and rotary drives for pre-augering and CFA piling.



COLUMN STABILISATION LEADERS

Customised column stabilisation leader for increasing strength, improving deformation properties and to increase stiffness of soft soil.



INFORMATION MANAGEMENT

The **MOVAX Information Management System (MIMS)** provides essential information about the piling process and the pile installation – mLogbook - as well as about the MOVAX piling equipment itself – mFleet Management.

PRODUCTS & SERVICES

MOVAX INFORMATION MANAGEMENT SYSTEM (MIMS)

The MOVAX Information Management System (MIMS) provides essential information about the piling process and the pile installation, and about the MOVAX piling equipment itself. The information is intended for maintenance personnel and for the owners, operators and engineers designing and overseeing a piling or foundation project.

The goal is increase the availability of the MOVAX piling equipment and to improve the quality of the piling project and to save costs in reporting and testing.

The **MIMS hardware (HW)** which is included with mControl+ PRO and optional in case of mControl+ LITE is provided for data collection, initial storage and transfer. The MIMS HW is connected to mControl+ from which the data is collected automatically.

MIMS data suites (SW) provide detailed real-time information, documentation and reports which are accessed through a web-based user interface



mFleet Management

provides essential information about the operation, performance and condition of the MOVAX piling equipment. mFleetManagement is designed to assist in troubleshooting, diagnostics and analysis - and for fast and efficient customer technical support.

mLogbook

is a documentation and reporting tool which provides essential data related to the piling process and the piling or foundation project.

The screenshot displays the MOVAX mLogbook web interface, showing a detailed table of piling data. The table includes columns for ID, Pile name, Date, Pile type, Pile dimensions (mm), Pile length (m), Total depth (m), Depth (m), Blows, Depth (m), Blows, Energy, and Unit. The data is organized into rows, each representing a specific piling event.

ID	Pile name	Date	Pile type	Pile dimensions (mm)	Pile length (m)	Total depth (m)	Depth (m)	Blows	Depth (m)	Blows	Energy	Unit
10	1	2017-10-01 14:00	Screw pile	400	10	2.817	6.143	66	7.754	10110	1913010000	0.30170.9
10	2	2017-10-01 14:00	Screw pile	400	12	6.216	6.188	90	1.085	10110	1913010000	0.30170.9
10	3	2017-10-01 14:00	Screw pile	400	10	11.505	11.121	126	3.805	10110	1913010000	0.30170.9
10	4	2017-10-01 14:00	Screw pile	400	12	7.952	9.107	64	0.309	10110	1913010000	0.30170.9
10	5	2017-10-01 14:00	Screw pile	400	12	6.907	6.768	86	3.144	10110	1913010000	0.30170.9
10	6	2017-10-01 14:00	Screw pile	400	12	6.868	6.901	10	6.947	10110	1913010000	0.30170.9
10	7	2017-10-01 14:00	Screw pile	400	12	9.909	9.148	81	6.788	10110	1913010000	0.30170.9
10	8	2017-10-01 14:00	Screw pile	400	12	6.861	6.907	228	2.314	10110	1913010000	0.30170.9

MIMS HARDWARE

DATA COLLECTION AND -TRANSFER

The MIMS hardware (HW), which is connected to the MOVAX Control System and installed onto the excavator (or other carrier) is utilised for automatic data collection and data transfer. The same HW is utilised for all MIMS data suites (SW), The MIMS HW includes a fully integrated 3G/GPS-system providing the remote connection as well as the general location of the excavator and the MOVAX piling equipment.

The MIMS module will automatically recognize the specific MOVAX piling equipment (SG vibratory pile driver, DH piling hammer, MPL Multi-tool piling leader etc.) connected to the excavator and collect the data accordingly.

MOVAX Information Management System is compatible with third-party global positioning systems such as Novatron/MOBA, Trimble and Leica. When connected to a third party global positioning system it is possible to obtain also the exact location of the pile to be driven. In addition, independent global positioning sensors (RTK GNSS) compatible with the MOVAX Information Management System are also available for pile specific precise GPS information.

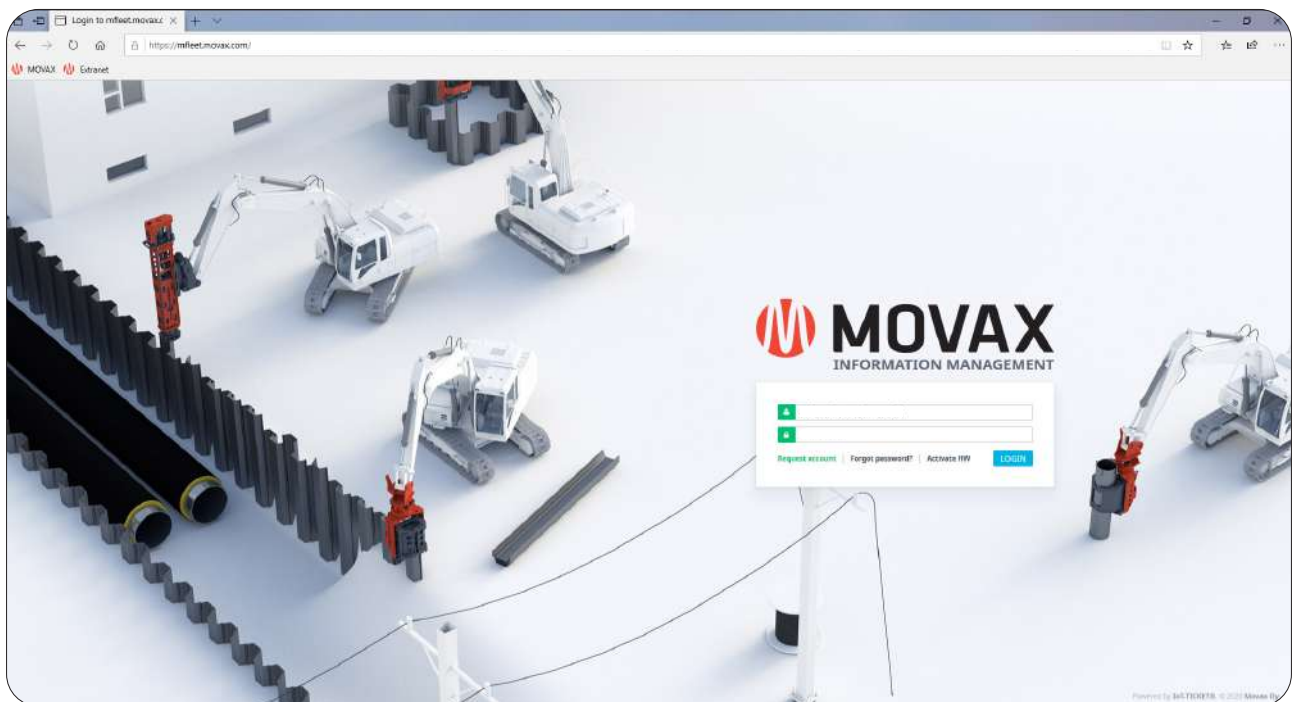
The MIMS HW includes the following;

- MOVAX MIMS module (MRM) with GPS and 3G- antennas
- Cabling, connectors
- Mounting kit



DATA STORAGE AND USER INTERFACE

The information is sent to and stored in the MOVAX mCLOUD data storage. The information stored in the mCLOUD data storage is accessed through a web-based user interface. The information can also be accessed through the mFleetCare app.



MOVAX Information Management System 'log-in'

mFleet Management

The mFleetManagement-data suite provides basic operational, real-time information about the MOVAX piling equipment as well as the general global positioning (GPS) data of the MOVAX piling equipment and the excavator it is connected to. The information can be accessed remotely for adjustment and calibration – and for instance to provide operational guidance and support – as well as for trouble-shooting and quick problem-solving.

mFleetManagement also provides information for the prediction of maintenance requirements thus enabling preventive maintenance with the intent to maximize the availability of the MOVAX piling equipment.

The information can furthermore be utilised for instance for invoicing purposes, etc.



The **'Fleet Overview'** presents an overview of all the MOVAX piling equipment including all the excavators the MOVAX piling equipment is connected to. The 'Fleet overview' also provides a quick overview of the operating and service status of the entire fleet.

The MOVAX piling equipment to be monitored or analysed in more detail is selected from the 'Fleet Overview'.

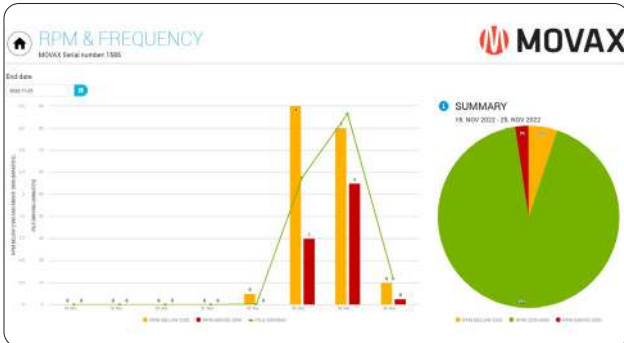
The main **'Unit Overview'** provides the general information about the specific MOVAX piling equipment in question, its general geographical location, overall utilization hours, operating and service status.

More detailed information is obtained by moving from the 'unit overview' to the ready-prepared reports.



REPORTS

The operational information is presented in an illustrative, easy-to-view and -browse format. The point-in-time or time interval to be reviewed or analysed can be selected flexibly. The information presented is providing a fast and flexibly overview of the operation, how the unit has been operated – especially in regards to the limits of some of the key operational parameters.



SG rpm/frequency

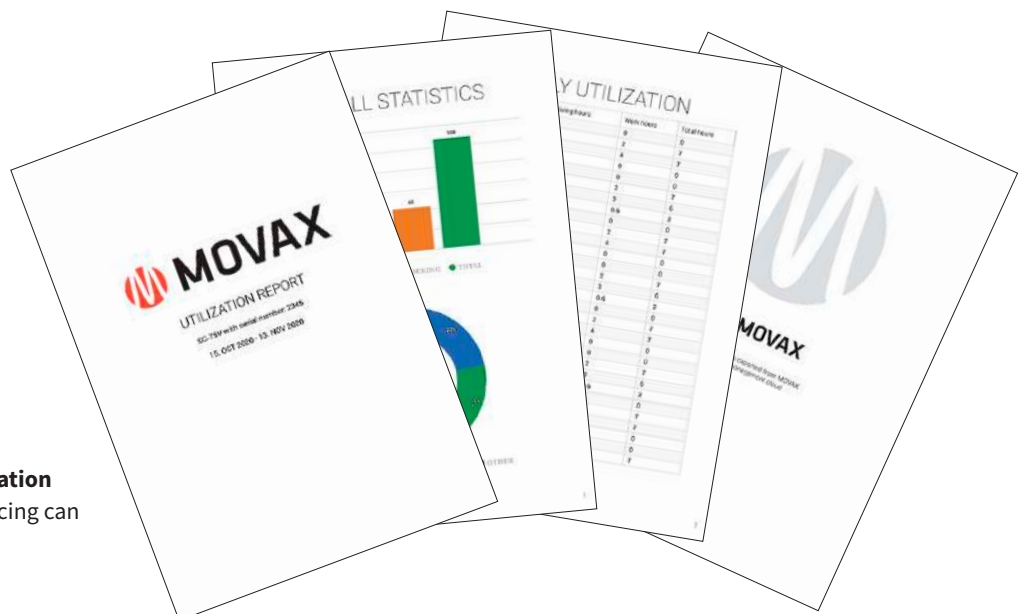


SG utilization

The ready-made reports include the following:

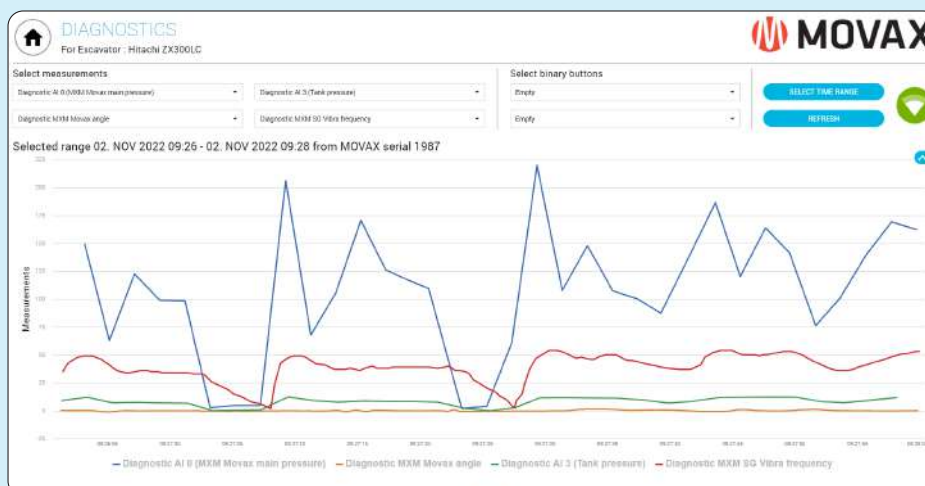
MOVAX SG Side grip pile drivers	MOVAX DH Piling hammers	MOVAX PA Pre-augers	MOVAX KB/TAD Piling drills	MOVAX MPL Multi-tool piling leaders
Utilization hours	Utilization hours	Utilization hours	Utilization hours	Utilization hours
RPM/Frequency	Back pressure	Working pressure	RPM	Working pressure
Working pressure	Refusal*	Back pressure	Working pressure	Back pressure
Back pressure	Service checks	Drain pressure	Back pressure	Service checks
Drain pressure		Service checks	Drain pressure	
Clamp pressure			Service checks	
Refusal*				
Service checks				

*requires mControl+ PRO



Based on for instance the ‘**Utilization hours**’ a pdf-document for invoicing can be generated.

With the mFleetManagement it is possible to prevent failures, predict maintenance requirements and analyse and solve any unexpected problems. mFleetManagement includes versatile tools which enables analysis of the entire work cycle and makes it possible to find deviations and abnormalities. The amount of data varies based on the MOVAX piling equipment in question.



mLOGBOOK

mLogbook is a documentation and reporting tool which provides essential data related to the piling process and the piling or foundation project.

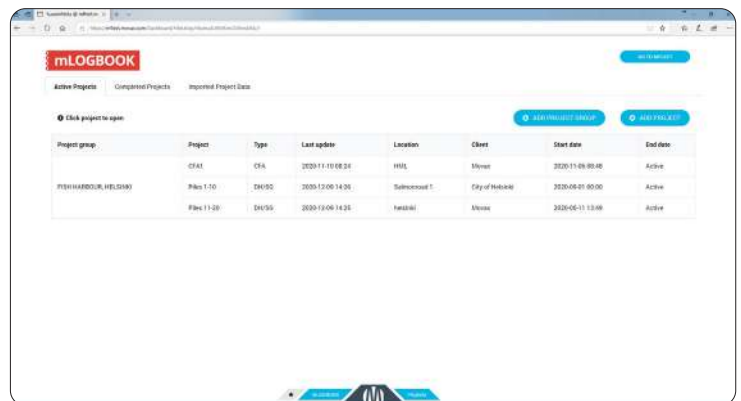
The piling information is collected by the MOVAX Control System and stored in the MOVAX Control System's excavator module. To report the piling works the operator only has to input the pile number, the system will take care of the rest. Data concerning site and pile information is added by the user (engineer or equal) and the system will generate automatically illustrative, ready-made reports - including both measured and calculated data - which provide essential information about the piling process and its quality.

mLogbook is compatible with commonly used global positioning systems such as Trimble, Novatron and Leica which adds also the positioning data to the pile reports. Optionally independent global positioning sensors (RTK GNSS) can also be provided to allow for the addition of the exact pile positioning data without a third party global positioning system.

PROJECT OVERVIEW

Specific reports are generated for MOVAX piling equipment including MOVAX side grip pile drivers, MOVAX piling hammers, MOVAX piling drills and MOVAX multi-tool piling leaders including the associated tooling,

The 'Project overview' provides the information of all main projects and also sub-projects.



The screenshot shows the mLOGBOOK web application interface. At the top, there's a navigation bar with 'Active Projects', 'Completed Projects', and 'Imported Project Data'. Below this, there's a table titled 'Click project to open' with columns: Project group, Project, Type, Last update, Location, Client, Start date, and End date. The table lists three projects under the 'PILING HAMMERS (HIL2000)' group.

Project group	Project	Type	Last update	Location	Client	Start date	End date
PILING HAMMERS (HIL2000)	CH11	CHA	2020-11-10 08:24	HILL	Miner	2020-11-09 09:48	Active
	Piles 1-50	DAV50	2020-12-08 14:36	Subsidence T.	City of Helsinki	2020-08-01 00:00	Active
	Piles 11-20	DAV50	2020-12-08 14:36	Helsinki	Miner	2020-08-11 13:08	Active



SG PROJECT REPORT

The mLogbook 'project report' includes all the information related to the piling or foundation project including pile type & dimensions, the depth to which the pile has been driven with the various tools and for instance in the case of load bearing piles also information related to the pile set.

Different parameters are reported for the different MOVAX piling equipment.

mLOGBOOK

PROJECT REPORT SG

Main project	Bridge construction	MOVAX piling equipment	SG-60, sn1462	Operator	Tom Jackson
Sub project	SE Exit			Start date	2020-05-12
Location	Islington, London	Pile type	Sheet piles	End date	2020-05-31
Customer	Road constructors ltd	Note!			
Contract number	923000-A1				

Pile#	Position data	Pile type	Pile dimensions [mm]	Pile length [m]	Total depth [m]	Depth [m]	Angle (avg) [°]	Date
1	53°26'54.036"N 2°12'47.012"W	AZ 13-770	770	12	7.877	6.143	0,0	2020-05-13 13:25
2	53°26'54.037"N 2°12'47.012"W	AZ 13-770	770	12	9.274	8.189	-0,1	2020-05-13 13:58
3	53°26'54.038"N 2°12'47.012"W	AZ 13-770	770	12	11.926	10.121	0,4	2020-05-13 14:38
4	53°26'54.039"N 2°12'47.012"W	AZ 13-770	770	12	7.062	6.157	0,2	2020-05-13 14:58
5	53°26'54.040"N 2°12'47.012"W	AZ 13-770	770	12	6.907	4.763	0,0	2020-05-13 15:05
6	53°26'54.041"N 2°12'47.012"W	AZ 13-770	770	12	6.368	5.921	0,0	2020-05-13 15:19
7	53°26'54.038"N 2°12'47.012"W	AZ 13-770	770	12	11.926	10.121	-0,3	2020-05-13 14:38
8	53°26'54.041"N 2°12'47.012"W	AZ 13-770	770	12	6.368	5.921	0,0	2020-05-13 15:19
9	53°26'54.038"N 2°12'47.012"W	AZ 13-770	770	12	11.926	10.121	0,1	2020-05-13 14:38
10	53°26'54.041"N 2°12'47.012"W	AZ 13-770	770	12	6.368	5.921	-0,1	2020-05-13 15:19
11	53°26'54.038"N 2°12'47.012"W	AZ 13-770	770	12	11.926	10.121	0,2	2020-05-13 14:38
12	53°26'54.041"N 2°12'47.012"W	AZ 13-770	770	12	6.368	5.921	0,0	2020-05-13 15:19
13	53°26'54.038"N 2°12'47.012"W	AZ 13-770	770	12	11.926	10.121	0,1	2020-05-13 14:38
14	53°26'54.041"N 2°12'47.012"W	AZ 13-770	770	12	6.368	5.921	-0,1	2020-05-13 15:19
15	53°26'54.038"N 2°12'47.012"W	AZ 13-770	770	12	11.926	10.121	0,2	2020-05-13 14:38
16	53°26'54.041"N 2°12'47.012"W	AZ 13-770	770	12	6.368	5.921	0,2	2020-05-13 15:19
17	53°26'54.038"N 2°12'47.012"W	AZ 13-770	770	12	11.926	10.121	0,3	2020-05-13 14:38
18	53°26'54.041"N 2°12'47.012"W	AZ 13-770	770	12	6.368	5.921	0,1	2020-05-13 15:19
19	53°26'54.038"N 2°12'47.012"W	AZ 13-770	770	12	11.926	10.121	0,1	2020-05-13 14:38
20	53°26'54.041"N 2°12'47.012"W	AZ 13-770	770	12	6.368	5.921	0,3	2020-05-13 15:19
21	53°26'54.038"N 2°12'47.012"W	AZ 13-770	770	12	11.926	10.121	0,0	2020-05-13 14:38

The individual, pile specific reports for the MOVAX SG include the following information:
Penetration rate, Centrifugal force, Working pressure, Eccentric moment, RPM, Inclination

DH PROJECT REPORT

The mLogbook 'project report' includes all the information related to the piling or foundation project including pile type & dimensions, the depth to which the pile has been driven with the various tools and for instance in the case of load bearing piles also information related to the pile set.

Different parameters are reported for the different MOVAX piling equipment.

mLOGBOOK

PROJECT REPORT DH

Main project	Bridge construction	MOVAX piling equipment	DH-25, sn1574	Operator	Tom Jackson
Sub project	SE Exit			Start date	2020-05-12
Location	Islington, London	Pile type	Sheet piles	End date	2020-05-31
Customer	Road constructors ltd	Note!			
Contract number	923000-A1				

Pile#	Position data	Pile type	Pile dimensions [mm]	Pile length [m]	Total depth [m]	Depth DH [m]	Blows DH [no]	Angle (avg) [°]	Pile set criterion			Date
									Energy [kJm]	Blows	Set [mm]	
1	53°26'54.036"N 2°12'47.012"W	AZ 13-770	770	12	7.877	1.734	56	0,0	21,9/20	10/10	19,1/20	2020-05-13 13:25
2	53°26'54.037"N 2°12'47.012"W	AZ 13-770	770	12	9.274	1.085	90	-0,1	20,8/20	10/10	13,6/20	2020-05-13 13:58
3	53°26'54.038"N 2°12'47.012"W	AZ 13-770	770	12	11.926	1.805	125	0,4	20,0/20	10/10	20,2/20	2020-05-13 14:38
4	53°26'54.039"N 2°12'47.012"W	AZ 13-770	770	12	7.062	0.905	64	0,2	21,3/20	10/10	14,8/20	2020-05-13 14:58
5	53°26'54.040"N 2°12'47.012"W	AZ 13-770	770	12	6.907	2.144	86	0,0	21,5/20	8/10	17,7/20	2020-05-13 15:05
6	53°26'54.041"N 2°12'47.012"W	AZ 13-770	770	12	6.368	0.447	13	0,0	20,1/20	10/10	17,6/20	2020-05-13 15:19
7	53°26'54.038"N 2°12'47.012"W	AZ 13-770	770	12	11.926	1.805	125	-0,3	22,0/20	10/10	18,9/20	2020-05-13 14:38
8	53°26'54.041"N 2°12'47.012"W	AZ 13-770	770	12	6.368	0.447	13	0,0	22,2/20	9/10	16,3/20	2020-05-13 15:19
9	53°26'54.038"N 2°12'47.012"W	AZ 13-770	770	12	11.926	1.805	125	0,1	21,1/20	10/10	14,6/20	2020-05-13 14:38
10	53°26'54.041"N 2°12'47.012"W	AZ 13-770	770	12	6.368	0.447	13	-0,1	22,3/20	10/10	18,6/20	2020-05-13 15:19
11	53°26'54.038"N 2°12'47.012"W	AZ 13-770	770	12	11.926	1.805	125	0,2	22,2/20	10/10	17,1/20	2020-05-13 14:38
12	53°26'54.041"N 2°12'47.012"W	AZ 13-770	770	12	6.368	0.447	13	0,0	21,8/20	10/10	17,7/20	2020-05-13 15:19
13	53°26'54.038"N 2°12'47.012"W	AZ 13-770	770	12	11.926	1.805	125	0,1	21,2/20	10/10	15,3/20	2020-05-13 14:38
14	53°26'54.041"N 2°12'47.012"W	AZ 13-770	770	12	6.368	0.447	13	-0,1	20,1/20	6/10	17,4/20	2020-05-13 15:19
15	53°26'54.038"N 2°12'47.012"W	AZ 13-770	770	12	11.926	1.805	125	0,2	21,1/20	10/10	14,6/20	2020-05-13 14:38
16	53°26'54.041"N 2°12'47.012"W	AZ 13-770	770	12	6.368	0.447	13	0,2	22,0/20	10/10	15,4/20	2020-05-13 15:19
17	53°26'54.038"N 2°12'47.012"W	AZ 13-770	770	12	11.926	1.805	125	0,3	21,9/20	10/10	21,0/20	2020-05-13 14:38
18	53°26'54.041"N 2°12'47.012"W	AZ 13-770	770	12	6.368	0.447	13	0,1	19,7/20	10/10	13,1/20	2020-05-13 15:19
19	53°26'54.038"N 2°12'47.012"W	AZ 13-770	770	12	11.926	1.805	125	0,1	21,6/20	10/10	13,2/20	2020-05-13 14:38
20	53°26'54.041"N 2°12'47.012"W	AZ 13-770	770	12	6.368	0.447	13	0,3	21,7/20	10/10	20,1/20	2020-05-13 15:19
21	53°26'54.038"N 2°12'47.012"W	AZ 13-770	770	12	11.926	1.805	125	0,0	22,4/20	5/10	14,8/20	2020-05-13 14:38

The individual, pile specific reports for the MOVAX DH include the following information:
Penetration rate, Rate per blow, Drop height, Energy, Inclination

CFA PROJECT REPORT

The mLogbook **'project report'** includes all the information related to the piling or foundation project including pile type & dimensions, the depth to which the pile has been driven with the various tools and for instance in the case of load bearing piles also information related to the pile set.

Different parameters are reported for the different MOVAX piling equipment.

mLOGBOOK

PROJECT REPORT

Main project	Bridge construction	MOVAX piling equipment	MPL-400/CFA, sn 1255	Operator	Tom Jackson
Sub project	SE Exit			Start date	2020-05-12
Location	Islington, London	Pile type	CFA	End date	2020-05-31
Customer	Road constructors ltd	Note!			
Contract number	923000-A1				

Pile#	Position data	Pile type	Pile dimensions [mm]	Pile depth [m]	Angle [°]	Torque (average) [kNm]	Concrete volume [m³]	Concrete pressure (average) [bar]	Start time	End time	Elapsed time	Date
1	53°26'54.036"N 2°12'47.012"W	CFA	400	10	0,1	41,1	5,39	68	12:04:40	12:45:34	0:40:54	2020-05-12
2	53°26'54.037"N 2°12'47.012"W	CFA	400	10	-0,3	36,2	5,55	37	8:42:24	8:55:55	0:13:31	2020-05-13
3	53°26'54.038"N 2°12'47.012"W	CFA	400	10	-0,4	36,4	5,33	21	9:44:22	9:59:20	0:14:58	2020-05-13
4	53°26'54.039"N 2°12'47.012"W	CFA	400	10	0,1	35,5	5,72	48	10:55:33	11:34:22	0:38:49	2020-05-13
5	53°26'54.040"N 2°12'47.012"W	CFA	400	10	-0,1	38,9	5,11	24	12:04:40	12:45:34	0:40:54	2020-05-13
6	53°26'54.041"N 2°12'47.012"W	CFA	400	10	0,2	39,7	5,64	28	13:07:22	13:30:22	0:23:00	2020-05-13
7	53°26'54.038"N 2°12'47.012"W	CFA	400	10	0,4	36,8	5,21	79	13:45:55	13:59:22	0:13:27	2020-05-13
8	53°26'54.041"N 2°12'47.012"W	CFA	400	10	-0,2	36,3	5,03	27	14:15:00	14:26:22	0:11:22	2020-05-13
9	53°26'54.038"N 2°12'47.012"W	CFA	400	10	0,0	39,9	5,20	73	14:47:44	15:13:20	0:25:36	2020-05-13
10	53°26'54.041"N 2°12'47.012"W	CFA	400	10	0,0	37,6	5,79	64	14:15:00	14:26:22	0:11:22	2020-05-14
11	53°26'54.038"N 2°12'47.012"W	CFA	400	10	-0,3	36,5	5,87	33	13:07:22	13:30:22	0:23:00	2020-05-15
12	53°26'54.041"N 2°12'47.012"W	CFA	400	10	0,1	37,4	5,73	60	12:04:40	12:45:34	0:40:54	2020-05-16
13	53°26'54.038"N 2°12'47.012"W	CFA	400	10	-0,3	39,3	5,24	59	8:42:24	8:55:55	0:13:31	2020-05-17
14	53°26'54.041"N 2°12'47.012"W	CFA	400	10	-0,1	41,0	5,91	76	9:44:22	9:59:20	0:14:58	2020-05-18
15	53°26'54.038"N 2°12'47.012"W	CFA	400	10	-0,3	41,6	5,44	58	10:55:33	11:34:22	0:38:49	2020-05-18
16	53°26'54.041"N 2°12'47.012"W	CFA	400	10	-0,1	40,1	5,44	78	12:04:40	12:45:34	0:40:54	2020-05-25
17	53°26'54.038"N 2°12'47.012"W	CFA	400	10	-0,1	38,2	5,67	75	8:42:24	8:55:55	0:13:31	2020-05-26
18	53°26'54.041"N 2°12'47.012"W	CFA	400	10	0,1	37,4	5,41	30	9:44:22	9:59:20	0:14:58	2020-05-26
19	53°26'54.038"N 2°12'47.012"W	CFA	400	10	-0,1	37,6	5,07	35	10:55:33	11:34:22	0:38:49	2020-05-26

The individual, pile specific reports for the MOVAX MPL CFA include the following information:

Position data, Pile type, Pile dimensions, Pile depth, Angle, Torque, Concrete volume, Concrete pressure, Start time, End time, Elapsed time, Date

MSL PROJECT REPORT

The mLogbook 'project report' includes all the information related to the piling or foundation project including pile type & dimensions, the depth to which the pile has been driven with the various tools and for instance in the case of load bearing piles also information related to the pile set.

Different parameters are reported for the different MOVAX piling equipment.

mLOGBOOK

PROJECT REPORT Column stabilisation

Main project	Bridge construction	Stabilization method	column stabilization	Operator	Tom Jackson
Sub project	SE Exit	Binder material	Cement	Start date	2020-05-12
Location	Islington, London	Jobsite data (measured) Total mass 2328 kg Total volume 32 m³		End date	2020-05-31
Customer	Road constructors ltd			Note!	
Contract number	923000-A1				

Column #	Column ID	Position data	PF ID	Section dimensions [mm]	Total depth [m]	Binder [kg/m³]	Total amount [kg]	Total volume [m³]	Pressure [bar]	Flow [kg/s]	Feeding time [hh:min:ss]	Mixing time [hh:min:ss]	Date
1	1,1	53°26'54.036"N 2°12'47.012"W	K7R234	800	15	88	530	5,39	0,2	2,9	0:07:45	0:08:34	2020-05-12
2	1,2	53°26'54.037"N 2°12'47.012"W	K7R234	800	15	89	510	5,55	0,3	2,7	0:06:45	0:07:34	2020-05-13
3	1,3	53°26'54.038"N 2°12'47.012"W	K7R234	800	15	87	540	5,33	0,2	3,1	0:08:34	0:07:45	2020-05-13
4	1,4	53°26'54.039"N 2°12'47.012"W	K7R234	800	15	85	525	5,72	0,4	3,2	0:07:34	0:06:45	2020-05-13
5	1,5	53°26'54.040"N 2°12'47.012"W	K7R234	800	15	86	530	5,11	0,2	3,1	0:07:45	0:08:34	2020-05-13
6	1,6	53°26'54.041"N 2°12'47.012"W	K7R234	800	15	83	525	5,64	0,2	3,3	0:06:45	0:08:34	2020-05-13
7	1,7	53°26'54.038"N 2°12'47.012"W	K7R234	800	15	84	530	5,21	0,2	2,6	0:08:34	0:07:34	2020-05-13
8	2,1	53°26'54.041"N 2°12'47.012"W	K7R234	800	15	89	510	5,03	0,3	2,9	0:07:34	0:07:45	2020-05-13
9	2,2	53°26'54.038"N 2°12'47.012"W	K7R234	800	15	88	540	5,20	0,2	2,9	0:07:45	0:06:45	2020-05-13
10	2,3	53°26'54.041"N 2°12'47.012"W	K7R234	800	15	89	525	5,79	0,4	2,7	0:06:45	0:08:34	2020-05-14
11	2,4	53°26'54.038"N 2°12'47.012"W	K7R234	800	15	87	530	5,87	0,2	3,1	0:08:34	0:08:34	2020-05-15
12	2,5	53°26'54.041"N 2°12'47.012"W	K7R234	800	15	85	525	5,73	0,2	3,2	0:07:34	0:07:34	2020-05-16
13	2,6	53°26'54.038"N 2°12'47.012"W	K7R234	800	15	86	530	5,24	0,2	3,1	0:07:45	0:07:45	2020-05-17
14	2,7	53°26'54.041"N 2°12'47.012"W	K7R234	800	15	83	510	5,91	0,3	3,3	0:06:45	0:06:45	2020-05-18
15	3,1	53°26'54.038"N 2°12'47.012"W	K7R234	800	15	84	540	5,44	0,2	2,6	0:08:34	0:08:34	2020-05-18
16	3,2	53°26'54.041"N 2°12'47.012"W	K7R234	800	15	89	525	5,44	0,4	2,9	0:07:34	0:08:34	2020-05-25
17	3,3	53°26'54.038"N 2°12'47.012"W	K7R234	800	15	88	530	5,67	0,2	2,9	0:07:45	0:07:34	2020-05-26
18	3,4	53°26'54.041"N 2°12'47.012"W	K7R234	800	15	89	525	5,41	0,2	2,7	0:06:45	0:07:45	2020-05-26
19	3,5	53°26'54.038"N 2°12'47.012"W	K7R234	800	15	88	530	5,07	0,2	3,1	0:08:34	0:06:45	2020-05-26
20	3,6	53°26'54.041"N 2°12'47.012"W	K7R234	800	15	89	510	5,86	0,3	3,2	0:07:34	0:08:34	2020-05-26

The individual, pile specific reports for the MOVAX MSL include the following information:

Position data, Pile type, Pile dimensions, Pile depth, Angle, Torque, Binder amount, Feed pressure
Ascent rate, Start time, End time, Elapsed time, Date

SG PILE REPORT

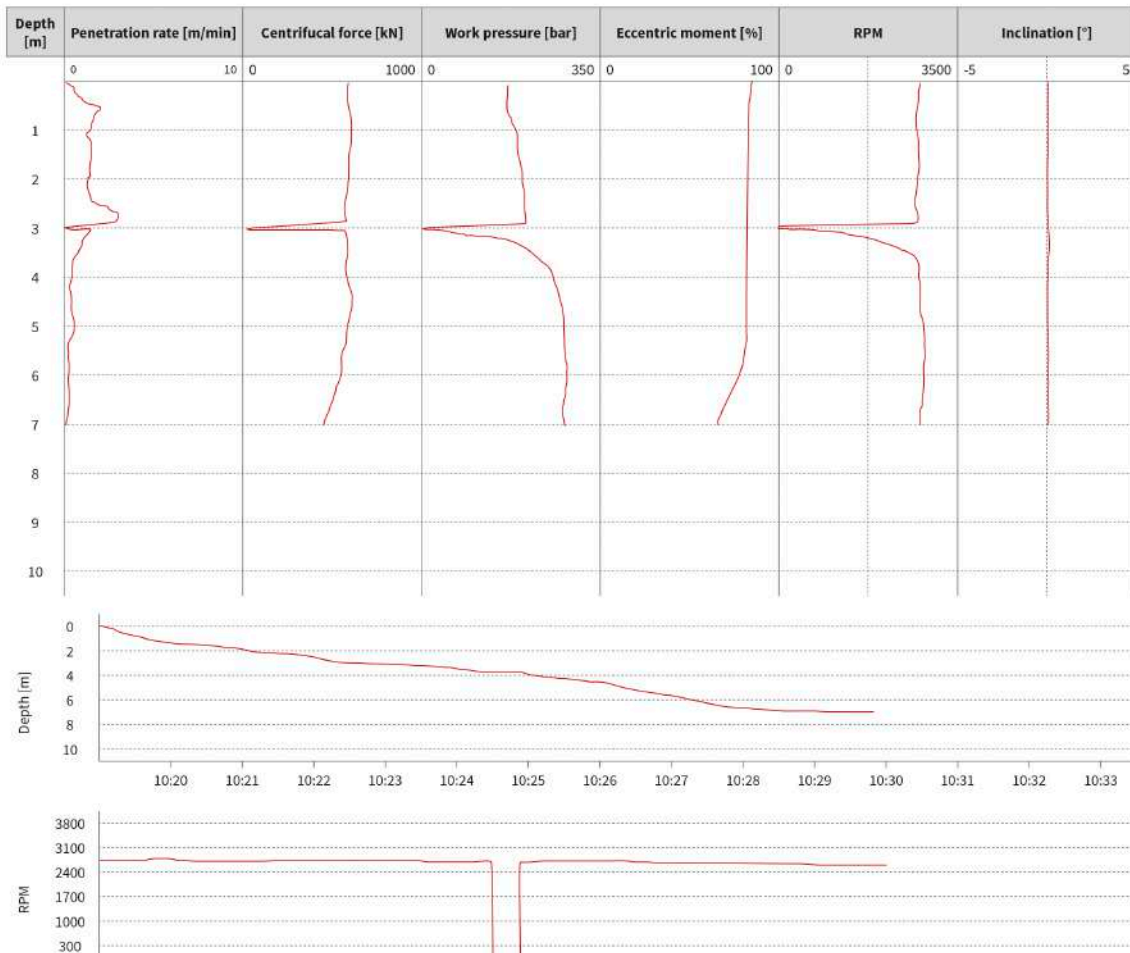
Based on the project report it is possible to generate pile specific reports for each individual pile; and for each individual MOVAX piling equipment.

mLOGBOOK

PILE REPORT SG

Pile# **12**

Main project	Bridge construction	Operator	Tom Jackson	MOVAX piling equipment	SG-60, sn 7354
Sub project	SE Exit	Date	2020-05-12		
Location	Islington, London	Start time	10:19:00	Piling technology	Vibratory pile driver
Customer	Road constructors ltd	End time	10:30:10	Vibration time	09:45
Contract number	923000-A1	Elapsed time	10:10	Pile type & dimensions	AZ 13-770 / 770 mm
Note!				Total depth	7.0 m



The individual, pile specific reports for MOVAX SG include the following information:
Penetration rate, Centrifugal force, Working pressure, Eccentric moment, RPM, Inclination

DH PILE REPORT

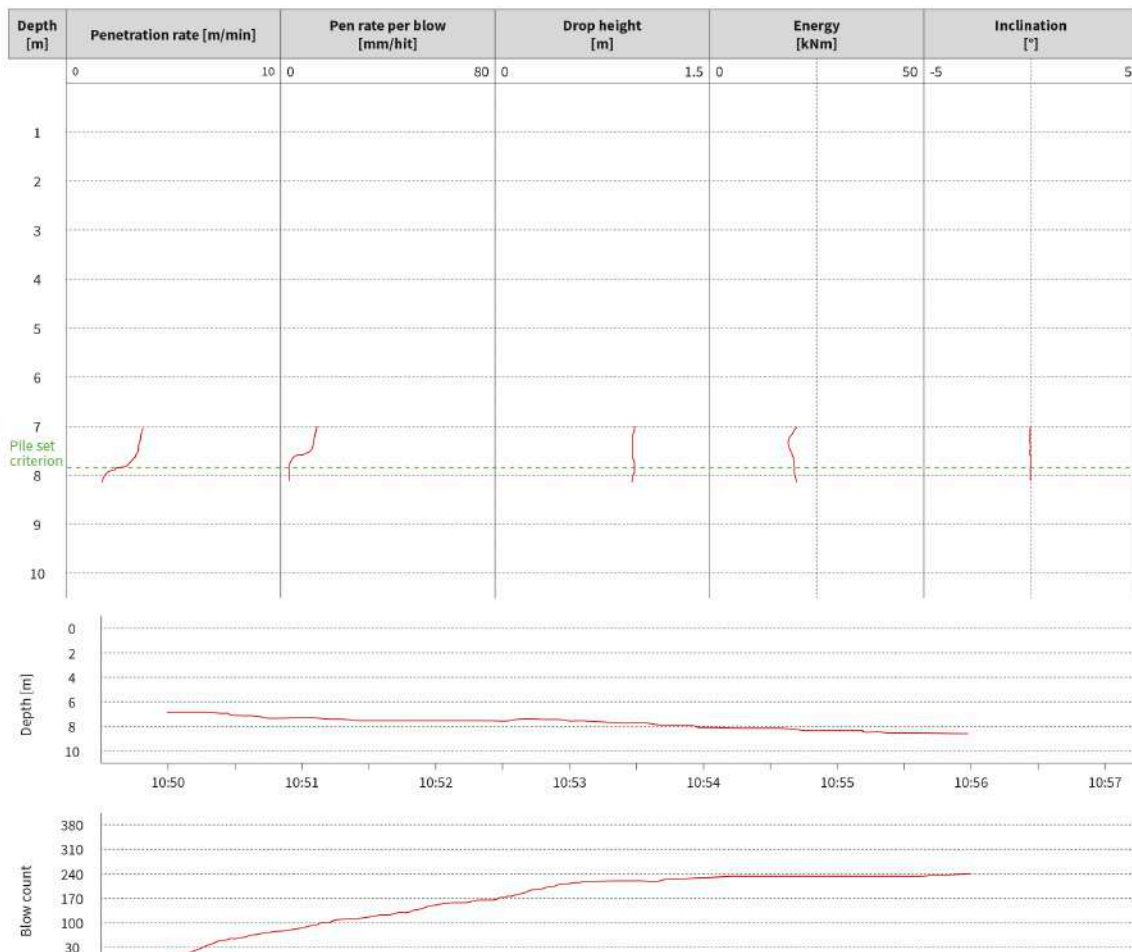
Based on the project report it is possible to generate pile specific reports for each individual pile; and for each individual MOVAX piling equipment.

mLOGBOOK

PILE REPORT DH

Pile# 12

Main project	Bridge construction	Operator	Tom Jackson	MOVAX piling equipment	DH-25, sn 8743
Sub project	SE Exit	Date	2020-05-12		
Location	Islington, London	Start time	10:49:05	Piling technology	Hydraulic hammer
Customer	Road constructors ltd	End time	10:56:10	Blow count	240
Contract number	923000-A1	Elapsed time	07:05	Pile type & dimensions	AZ 13-770 / 770 mm
Note!				Pile type	8.1 m
				Pile set criterion	20 kJ, 10 blows, 20 mm



The individual, pile specific reports for MOVAX DH include the following information:
Penetration rate, Rate per blow, Drop height, Energy, Inclination

CFA PILE REPORT

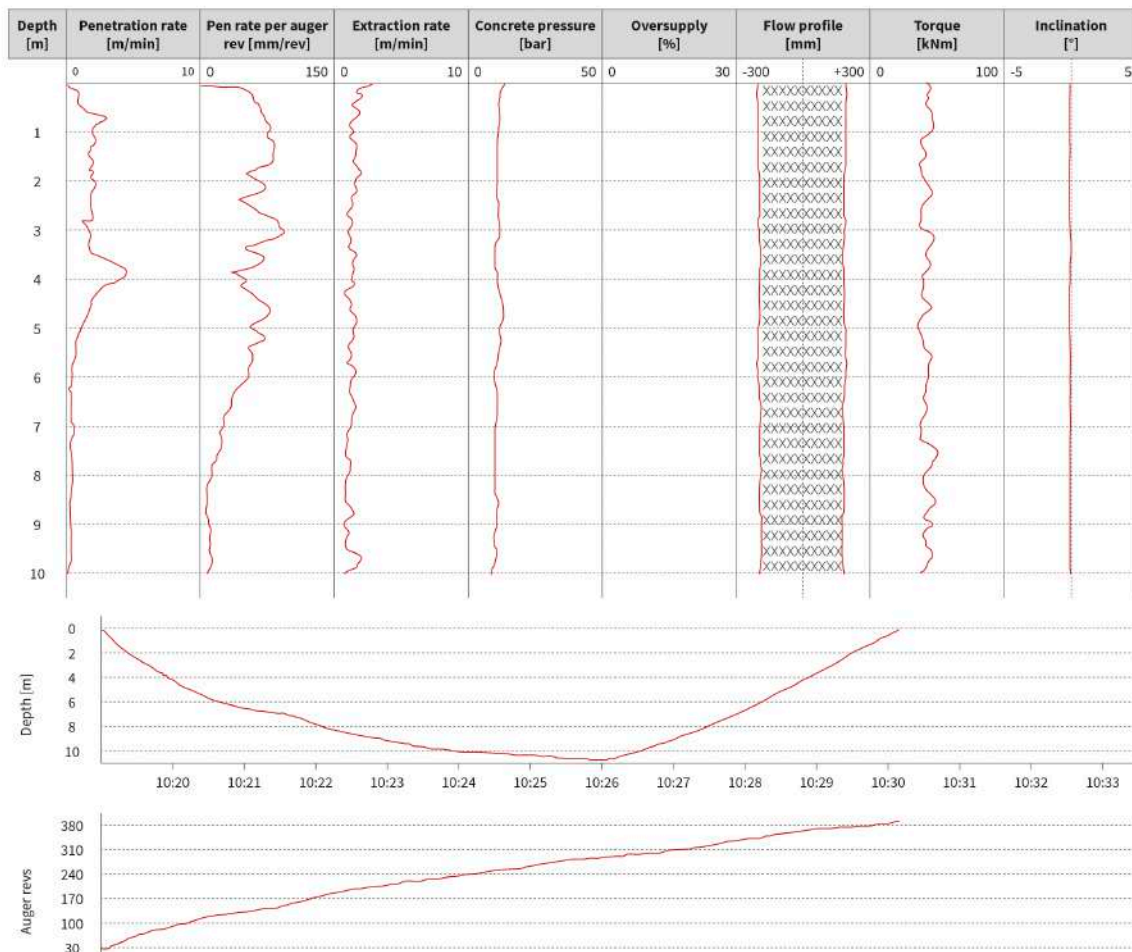
Based on the project report it is possible to generate pile specific reports for each individual pile; and for each individual MOVAX piling equipment.

mLOGBOOK

PILE REPORT CFA

Pile# 12

Main project	Bridge construction	Operator	Tom Jackson	MOVAX piling equipment	MPL-400/CFA, sn 1255
Sub project	SE Exit	Date	2020-05-12		
Location	Islington, London	Start time	12:50:00	Pile type	CFA
Customer	Road constructors ltd	End time	12:53:10	Auger rev's	384
Contract number	923000-A1	Elapsed time	03:10	Pile dimensions/depth	dia 400 mm / 10 m
Note!				Concrete volume	6 m ³
				Oversupply	25%



The individual, pile specific reports for MOVAX MPL CFA include the following information:
Position data, Pile type, Pile dimensions, Pile depth, Angle, Torque, Concrete volume,
Concrete pressure, Start time, End time, Elapsed time, Date

MSL COLUMN REPORT

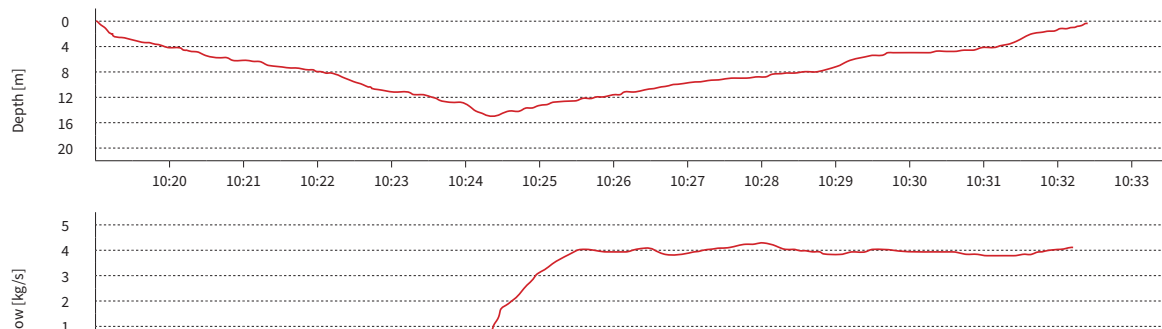
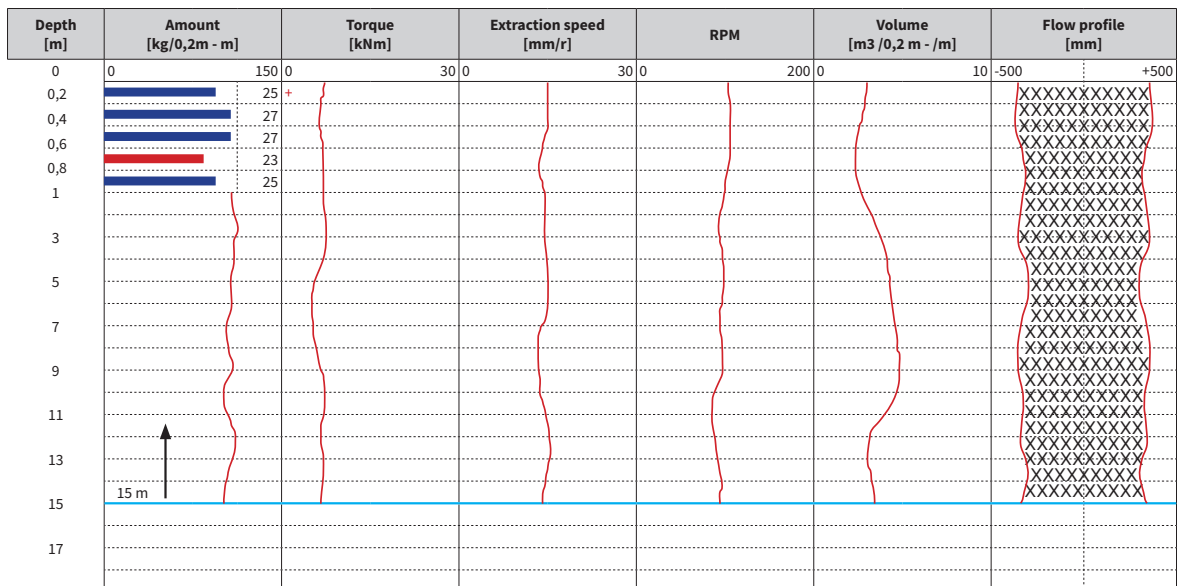
Based on the project report it is possible to generate pile specific reports for each individual pile; and for each individual MOVAX piling equipment.

mLOGBOOK

COLUMN REPORT Column stabilisation

COLUMN ID 3,4

Main project	Bridge construction	Operator	Tom Jackson	Stabilization method	column
Sub project	SE Exit	Date	2020-05-12	Total depth	15 m
Location	Islington, London	Start time	12:50:00	Total mass [kg]	525
Customer	Road constructors ltd	End time	12:53:10	Column dimension	600 mm
Contract number	923000-A1	Elapsed time	03:10	Total volume	5,34 m³
Note!					



The individual, pile specific reports for MOVAX MSL include the following information:

Position data, Pile type, Pile dimensions, Pile depth, Angle, Torque, Binder amount, Feed pressure, Ascent rate, Start time, End time, Elapsed time, Date



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