SUNOTEC

Pull Out Test Report

Energeia - Seval Skog - Norway - 45.21 MWp

1. Introduction

In the land area of Seval Skog, Gjovik kommune, Norway the construction of a photovoltaic power plant named “Seval Skog-Norway 45.21MWp” is planned. To investigate the required bearing capacity of the supporting structure in the soil, a geotechnical (engineering-geological) Field tests—Pull Out Tests (POT)—were performed by Sunotec-Engineering, in accordance with the methodology "NEXTRACKER” – Pull Out Test (POT) Pocedure provided by “NEXTRACKER”. Between Nov 13 and Nov 19. 2025, a total of 30 piles of “H” profile (SAP W6X7 and HAP W6X15) were tested in lateral, tension and compression directions. An additional 19 test piles were also driven for potential testing in the spring.

Lateral Load Test:

- The lateral load test is performed before the vertical load test
- Until failure displacement of 25 mm while loading pile or 10mm when no load is applied
- Maximum lateral pull-out force: 50 kN
- Position of two gauges 50mm above grade, one in the center of each flange above ground

Vertical Load Test:

Expansive soils:

- Tensile tests will be performed at locations 5m away from the horizontal tests on a contingency pier, i.e., at locations marked whit T , two piers will be driven and one will be tested in tension and the other in lateral
- Before driving the the post to be tested in tension , an excavation of 0,6x0,6 m and 1 m deep will be carried out in order to eliminate the first meter of expansive soil, which does not contribute to resistance effects
- After the excavation, the driving will be carried out to the planned depth, counting from 0 level. For example, a post at 3 m at 0 level will be driven 2 m from the bottom of the excavation
- Finaly, it will be tested to tensile according to traditional methodology up to the limit of machinery or extraction

- Vertical test follows lateral test

- Continue load test in accordance with compressive/tension load schedule in Appendix A until failure displacement of 19 mm either until testing equipment or reaches maximum capacity.
- Maximum compressive/tension pull-out force: 50 kN
- Place two dial gauges at each flange with a magnetic base on the pile against a flat, stationary object on the ground.

SOIL SATURATION:

- Due to the well-saturated soil, the low temperatures, and the discussions held with the investor and the colleagues from Nextracker, no saturation tests were carried out

2. Load test procedure

A total of 30steel posts of the type “H” profile (SAP W6X7 and HAP W6X15) *NEXTRACKER* were driven into the ground, and pull-out tests were conducted between 13 Nov and 19 Nov. 2025. The weather during the testing period was mostly sunny, but temperatures dropped below 0°C, which is typical for the season. The locations of the test points are shown in the site plan

(Appendix 1). The steel profiles were embedded at depths ranging from 0.60 m to 2.50 m The driving time for each pile varied from 8 seconds to 5 minutes

The driving force was applied using a hydraulic pile driving mechanism.
The application of the load and the resulting deformation were recorded under increasing stress.
The maximum applied forces are listed in the corresponding tables.
The test results are presented in dynamic graphs and are described in detail in the test protocols

2.1 Lateral load test

- The lateral load test is performed before the vertical load test.
- Position lateral reaction system concentric to the test pile strong axis to avoid eccentric loading.
- The reaction system provides resistance greater than the anticipated maximum lateral test load.
- Position two gauges 50 mm above grade, one in the center of each flange above ground; ensure dial indicator support on a stationary object with its support isolated from ground movement to ensure reading accuracy.
- Attach sling to post at 1,0 m above ground to tension dynamometer; slowly apply horizontal load with a hand-pulled winch supported on cribbing to reaction system. If it is not possible to set the pulling height at 1 m due to long driving depths, this height will be set to the maximum possible and will be reflected in the test report to be taken into account later in the calculation by NX.
- Apply incremental load in accordance with displacement schedule (see Appendix B) and record the reached load in each step.
- During each step the time during which the load must be maintained will be 30seconds or until the load stabilizes, using the same time interval for all loading increments throughout the test.
- Measure reached load at every displacement step applied and residual displacement (at release).
- Continue load test in accordance with displacement schedule in Appendix B until failure displacement of 25 mm while loading pile or 10mm when no load is applied, measured at 50 mm height, or until testing equipment either reaches capacity or no longer holds the applied load without slippage.
- If the target displacement step is reached with a load lower than that of the previous step, this implies that we are above the soil resistance breaking point and, therefore, the test should end at that step.

2.2 Vertical Pull-Out Tests (Compression/up-lift)

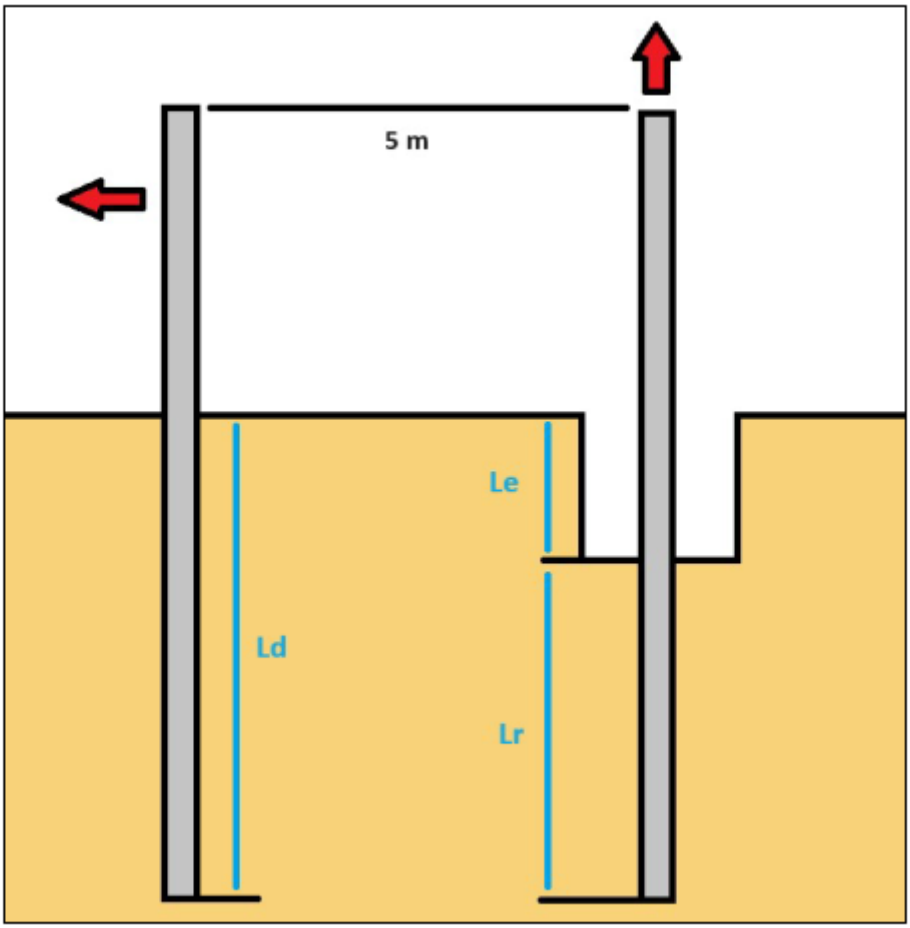
- Vertical test follows lateral test
- Reference beams are supported independent of the loading system, with supports firmly embedded in the ground at a clear distance from the test pile, not less than 1,5 m.
- Compression/up-lift load and all associated load-testing apparatus is rigidly connected concentric to the longitudinal axis of the test pile
- Place two dial gauges at each flange with a magnetic base on the pile against a flat, stationary object on the ground.
- Apply load in accordance to load schedule (see Appendix B)
- During each step the time during which the load must be maintained will be 30 seconds or until the load stabilizes in each load step.
- Continue load test in accordance with compressive/tension load schedule in Appendix A until failure displacement of 19 mm either until testing equipment or reaches maximum capacity.

Expansive soils:

- Tensile tests will be performed at locations 5m away from the horizontal tests on a contingency pier, i.e., at locations marked whit T , two piers will be driven and one will be tested in tension and the other in lateral
- Before driving the post to be tested in tension , an excavation of 0,6x0,6 m and 1 m deep will be carried out in order to eliminate the first meter of expansive soil, which does not contribute to resistance effects
- After the excavation, the driving will be carried out to the planned depth, counting from 0 level. For example, a post at 3 m at 0 level will be driven 2 m from the bottom of the excavation

- Finaly, it will be tested to tensile according to traditional methodology up to the limit of machinery or extraction

Figure 1 : Expansive soils tensile test croquis.



*Ld=design length ; Le=excavation length (1 m) ; Lr=resistant length (Ld-Le)

3. Conclusion

In conclusion, the geological report prepared by **VSO Consulting** on behalf of **Energeia AS** for the site **Seval Skog, Gjøvik Municipality**, identified an **elevated iron content**, which is an indicator of **pyrite oxidation** and therefore confirms the presence of **alum shale**.

The **uranium content in the analyzed samples ranges between 5.9 and 20 mg/kg**, which is **elevated compared to the natural background levels in Norway (1–3 mg/kg)**. These results confirm the presence of **acid-generating and potentially radiologically active bedrock** in parts of the investigated area.

Based on the **pull-out tests** carried out by **Sonotech Engineering**, the presence of **numerous large boulders transported by glacial activity**, as well as **multiple watercourses and wetland areas**, was identified. These features are characteristic of the **geographical and hydrogeological conditions of the site**.

All of the above factors must be considered as **significant geotechnical and hydrogeological constraints** during the design and execution of the construction works.

3.1 Geotechnical Risks and Recommendations

Due to the confirmed presence of **alum shale (acid-generating rock)** in parts of the site, there is an **increased geotechnical, environmental, and operational risk** associated with oxidation processes, acid drainage, corrosive effects on structural elements, and potential instability of the ground.

3.1.1. Mandatory Preparation of an Alum Shale Management Plan

Prior to the commencement of construction, a **specialized Alum Shale Management Plan** shall be prepared in accordance with national and international guidelines for handling sulfide-bearing rocks. The plan shall include, as a minimum:

- technologies for **controlled exposure and excavation**;
- **isolation of rock masses** to limit contact with air and water;
- a **system for control, collection, and discharge of acidic waters**.

3.2.1. Foundation Control

- The design of **foundations and piles must be strictly coordinated with a geotechnical engineer**;
- **Direct founding on alum shale shall be avoided** wherever technically feasible;
- Where required, **protective barriers, geomembranes, encapsulation, or other technical isolation measures** shall be applied to protect the foundations from aggressive ground conditions.

These measures are essential for **mitigating geotechnical risks, ensuring structural durability, and preventing long-term environmental impacts**.

3.3.1 Soil corrosion activity and corrosion susceptibility

For the investigation of soil components that may cause corrosion of steel and aggressive effects on concrete, a soil sample was taken at the coordinates **60.796829, 10.388982**. **At the present stage, the sample is being temporarily stored.**

Upon confirmation of the need for laboratory testing, the sample will be sent for analysis to the laboratory of **AquaSoli Geotechnik GmbH & Co. KG**, Germany. After the test results are received, an assessment of the soil aggressiveness towards construction materials will be carried out, and, if necessary, appropriate protective measures will be proposed.

ANNEX A – RAMMING TEST REPORT

RAMMING TIMES

Energeia-Seval Skog-Norway-45,21 MWp																	
Test	Date	Section type	Length	Goal depth.	Predrilling			Ramming times							Real length	Head damage	Comments
					Diam.	Depth.	Time										
(n)	(dd/mm/aa	(C,HEA, etc)	(m)	(m)	(m)	(m)	(m,s)	0.0-0.5m	0.5-1.0m	1.0-1.5m	1.5-2.0m	2.0-2.5m	2.5-3.0m	3.0-3.5m	(m)	(x)	
10C	13.11.25	W6x7	4	1.50				0.03	0.14	0.27					1.50		
15C	13.11.25	W6x7	4	2.50				0.04	0.1	0.17	0.22	0.28			2.50		
14T	13.11.25	W6x15	4	2.00				0.04	0.21	0.39	0.53				2.00		
19C	13.11.25	W6x7	4	1.50				0.04	0.14	0.22					1.50		
16T	13.11.25	W6x7	4	1.50				0.01	0.02	0.08					1.50		
8C	13.11.25	W6x15	4	2.00				0.09	0.31	0.49	1.17				2.00		
5C	13.11.25	W6x7	4	2.00				0.03	0.17	1.11	1.50				2.00		
11T-L	13.11.25	W6x7	4	2.00				0.02	0.08	1.3	2.30				2.00		
9C	13.11.25	W6x15	4	2.50				0.02	2.10	5.0					1.40		
9C'	14.11.25	W6x15	4	2.50				2.4	5.20						0.80		
6C	14.11.25	W6x7	4	2.50				0.01	0.10	0.42	1.16	2.24			2.50		
3C	14.11.25	W6x7	4	2.50				0.01	0.26	0.51	1.10	1.4			2.50		
7T-L	14.11.25	W6x7	4	1.50				0.02	0.09	0.20					1.50		
4C	15.11.25	W6x15	4	1.50				0.03	0.58	1.31					1.50		
2T-L	15.11.25	W6x15	4	2.00				0.04	0.21	0.45	1.19				2.00		
2T-L	15.11.25	W6x15	4	2.00				0.25	5.09						1.00		
1T-L	15.11.25	W6x7	4	1.50				0.01	0.35	1.16					1.50		
1T	15.11.25	W6x7	4	1.50				0.06	0.17						1.00		
7T	15.11.25	W6x7	4	1.50				0.05	0.14						1.00		
12T	15.11.25	W6x7	4	2.50				0.04	0.12	0.25					1.50		
12T-L	15.11.25	W6x7	4	2.50				0.06	0.21	0.45	1.52				2.50		
13C	15.11.25	W6x15	4	1.50				0.03	0.16	0.3					1.50		
17	17.11.25	W6x7	4	2.00				0.21	1.07	3.02					1.50		

RAMMING TIMES

Energeia-Seval Skog-Norway-45,21 MWp

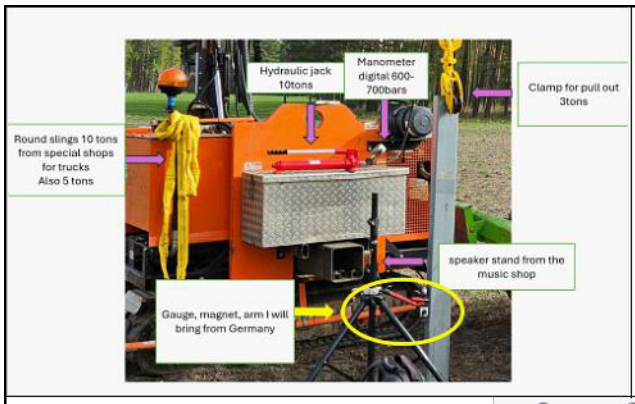
Test	Date	Section type	Length	Goal depth.	Predrilling			Ramming times							Real length	Head damage	Comments
					Diam.	Depth.	Time										
(n)	(dd/mm/aa)	(C,HEA, etc)	(m)	(m)	(m)	(m)	(m,s)	0.0-0.5m	0.5-1.0m	1.0-1.5m	1.5-2.0m	2.0-2.5m	2.5-3.0m	3.0-3.5m	(m)	(x)	
22C	17.11.25	W6x7	4	1.50				0.01	0.04	0.09					1.50		
18C	17.11.25	W6x7	4	2.50				0.15	0.2	0.35					1.50		
23C	17.11.25	W6x7	4	2.00				0.03	0.16	0.25	0.38				2.00		
24T	17.11.25	W6x15	4	2.50				0.06	5.05						1.00		
21C	17.11.25	W6x7	4	2.50				0.06	0.26	0.37	0.53	1.12			2.50		
24T-L	17.11.25	W6x15	4	2.50				0.4	5.30						0.60		
24sprin	18.11.25	W6x15	4	2.50				1.26	5.01						0.80		
24sprin	18.11.25	W6x15	4	2.50				0.25	5.00						0.60		

RAMMING TIMES S-SPRING

Energeia-Seval Skog-Norway-45,21 MWp

Test	Date	Section type	Length	Goal depth.	Predrilling			Ramming times							Real length	Head damage	Comments
					Diam.	Depth.	Time										
(n)	(dd/mm/aa)	(C,HEA, etc)	(m)	(m)	(m)	(m)	(m,s)	0.0-0.5m	0.5-1.0m	1.0-1.5m	1.5-2.0m	2.0-2.5m	2.5-3.0m	3.0-3.5m	(m)	(x)	
23C-S	19.11.25	W6x7	4	2.00				0.03	0.16	0.25	0.37				2.00		
22C-S	19.11.25	W6x7	4	1.50				0.04	0.12	0.20					1.50		
20C-S	19.11.25	W6x15	4	2.00				0.03	0.09	1.53	2.42				2.00		
17C-S	19.11.25	W6x7	4	2.00				0.01	0.07	0.14	0.23				2.00		
20C-S	19.11.25	W6x7	4	1.50				0.04	0.06	0.12	0.17				1.50		
2T-S	19.11.25	W6x15	3.8	2.00				0.06	0.23	3.05	3.50				2.00		
1T-S	19.11.25	W6x7	3.8	1.50				0.02	0.23	0.47					1.50		
1T-S	19.11.25	W6x7	4	1.50				0.07	0.21						1.00		
12T-S	19.11.25	W6x7	4	2.50				0.03	0.32	0.51					1.50		
12T-S	19.11.25	W6x7	3.8	2.50				0.14	3.09						0.60		
16T-S	19.11.25	W6x7	4	1.50				0.03	0.06	0.17					1.50		
16T-S	19.11.25	W6x7	4	1.50				0.02	0.07						1.00		
14T-S	19.11.25	W6x15	4	2.00				0.04	0.16						1.00		
14T-S	19.11.25	W6x15	3.05	2.00				0.24	5.3						1.00		
24T-S	18.11.25	W6x15	4	2.50				1.26	5.01						0.80		
24T-S	18.11.25	W6x15	4	2.50				0.25	5.0						0.60		
10C-S	19.11.25	W6x7	3.8	1.50				0.16	0.41	0.53					1.50		
11T	13.11.25	W6x7	4	2.00				0.02	0.08	3.10					1.40		

Equipment Used



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SNAS Reg. No. 377/K-098

СВИДЕТЕЛСТВО ЗА КАЛИБРИРАНЕ
CALIBRATION CERTIFICATE

Дата на издаване: 17.09.2025 г. **№ 3599А-Д-25**
Date of issue:

Средство за измерване: *Object:*	**Индикатор за преместване**
Производител: *Manufacturer:*	**Mitutoyo**
Тип (описание): *Type (description):*	**ID-C0550NXB, дигитален, обхват:50,8 mm, разделителна способност: 0,0005 mm**
Идентификационен № *Serial No*	**22271799**
Наименование и адрес на заявителя: *Applicant's name and address:*	**"Сънотех ПВ Сървисис" ЕООД - гр. София, ул. "Филип Кутев" № 14Б**
Заявка № *Application №*	**949/А/2025 г.**
Дата на калибриране: *Date of calibration:*	**17.09.2025 г.**
Място на калибриране: *Place of calibration:*	**Лаборатория "МЕТРОЛОГИЯ" - гр. София**
Свидетелството съдържа: *This certificate includes:*	**2 страници** *pages*
Калибровъчен знак: *Calibration mark:*	**3599А-25**

Извършил калибрирането: *Calibration carried out by:* (подпис / signature) **М. Гинев** (фамилия / family name)

Ръководител лаборатория: *Head of section:* (подпис / signature) **инж. Г. Лазаров** (фамилия / family name) (печат/ seal)

Свидетелство за калибриране без подпис и печат е невалидно. Не се допуска използването на копия на свидетелства и части от тях, освен с писменото разрешение на лабораторията, издала свидетелството.

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СВИДЕТЕЛСТВО ЗА КАЛИБРИРАНЕ № **3599А-Д-25**
CALIBRATION CERTIFICATE №

МЕТОД ЗА КАЛИБРИРАНЕ:
Calibration procedure:
РПК 702 Д-05 "Калибриране на индикатори за измерване и задаване на преместване".

УСЛОВИЯ, ПРИ КОИТО Е ИЗВЪРШЕНО КАЛИБРИРАНЕТО:
Conditions under which the calibration was performed:
Температура на заобикалящата среда: (20±1) °C

МЕТРОЛОГИЧНА ПРОСЛЕДИМОСТ:
Metrological traceability:
Уред за задаване на преместване, № DCT-1/736/11, със СК 051А-Д-24/10.01.2024 г. на Метрология Холдинг.

РЕЗУЛТАТИ ОТ ИЗМЕРВАНЕТО:
Measurement results:

Референтна стойност на преместването	Показание на индикатора (средна стойност)		Повторяемост	Разширена неопределеност	
mm	mm		mm	mm	
	Прав ход	Обр. ход		Прав ход	Обр. ход
0,000	0,000	0,000	0,000	0,002	0,002
5,000	4,999	5,000	0,001	0,002	0,002
10,000	10,001	10,002	0,001	0,002	0,002
15,000	15,002	15,003	0,001	0,002	0,002
20,000	20,002	20,003	0,001	0,002	0,002
25,000	25,002	25,003	0,001	0,002	0,002
30,000	30,006	30,006	0,000	0,002	0,002
35,000	35,008	35,009	0,001	0,002	0,002
40,000	40,009	40,009	0,000	0,002	0,002
45,000	45,009	45,010	0,000	0,002	0,002
50,000	50,009	50,010	0,001	0,002	0,002

Обявената разширена неопределеност на измерване е получена като произведение на комбинираната стандартна неопределеност и множителя на покритие k=2, което за нормално разпределение съответства на вероятност на покритие приблизително 95 %. Стандартната неопределеност на измерване е определена в съответствие с Ръководство EA-4/02 M:2022 „Evaluation of the Uncertainty of Measurement in calibration" (4th April 2022_rev 03).

The reported expanded uncertainty of measurement is stated as the combined standard uncertainty of measurement multiplied by the coverage factor k=2, which for a normal distribution corresponds to a coverage probability of approximately 95 %. The standard uncertainty of measurement has been determined in accordance with the Guidance document EA-4/02 M:2022 „Evaluation of the Uncertainty of Measurement in calibration" (4th April 2022 rev 03).

КРАЙ
End

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СВИДЕТЕЛСТВО ЗА КАЛИБРИРАНЕ

CALIBRATION CERTIFICATE

Дата на издаване: **20.08.2025 г.** **№ 3275А-Д-25**
Date of issue:

Средство за измерване: *Object:*	**Индикатор за преместване**
Производител: *Manufacturer:*	**Mitutoyo**
Тип (описание): *Type (description):*	**ID-C0550NXB, дигитален, обхват:54,0 mm, разделителна способност: 0,0005 mm**
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Заявка № *Application №*	**756/А/2025 г.**
Дата на калибриране: *Date of calibration:*	**20.08.2025 г.**
Място на калибриране: *Place of calibration:*	**Лаборатория "МЕТРОЛОГИЯ" - гр. София**
Свидетелството съдържа: *This certificate includes:*	**2 страници** *pages*
Калибровъчен знак: *Calibration mark:*	**3275А-25**

Извършил калибрирането: *Calibration carried out by:* *(подпис / signature)* **М. Гинев** *(фамилия / family name)*

Ръководител лаборатория: *Head of section:* *(подпис / signature)* **инж. Г. Лазаров** *(фамилия / family name)* (печат/ seal)

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CALIBRATION CERTIFICATE №

МЕТОД ЗА КАЛИБРИРАНЕ:
Calibration procedure:
РПК 702 Д-05 "Калибриране на индикатори за измерване и задаване на преместване".

УСЛОВИЯ, ПРИ КОИТО Е ИЗВЪРШЕНО КАЛИБРИРАНЕТО:
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Температура на заобикалящата среда: (20±1) °C

МЕТРОЛОГИЧНА ПРОСЛЕДИМОСТ:
Metrological traceability:
Уред за калибриране на индикатори за дължина тип: 3210, № U 48, със свидетелство за калибриране 4204А-Д-21 /10.10.2021 г. на Метрология Холдинг.

РЕЗУЛТАТИ ОТ ИЗМЕРВАНЕТО:
Measurement resulrs:

Референтна стойност на преместването	Показание на индикатора (средна стойност)		Повторяемост	Разширена неопределеност	
mm	mm		mm	mm	
	Прав ход	Обр. ход		Прав ход	Обр. ход
0,000	0,000	0,000	0,000	0,002	0,002
5,000	5,002	5,002	0,001	0,002	0,002
10,000	10,003	10,004	0,001	0,002	0,002
15,000	15,005	15,006	0,001	0,002	0,002
20,000	20,006	20,007	0,001	0,002	0,002
25,000	25,007	25,008	0,001	0,002	0,002
30,000	30,009	30,009	0,000	0,002	0,002
35,000	35,011	35,012	0,001	0,002	0,002
40,000	40,012	40,012	0,000	0,002	0,002
45,000	45,014	45,014	0,000	0,002	0,002
50,000	50,015	50,015	0,001	0,002	0,002

Обявената разширена неопределеност на измерване е получена като произведение на комбинираната стандартна неопределеност и множителя на покритие k=2, което за нормално разпределение съответства на вероятност на покритие приблизително 95 %. Стандартната неопределеност на измерване е определена в съответствие с Ръководство EA-4/02 M:2022 „Evaluation of the Uncertainty of Measurement in calibration" (4th April 2022_rev 03).

The reported expanded uncertainty of measurement is stated as the combined standard uncertainty of measurement multiplied by the coverage factor k=2, which for a normal distribution corresponds to a coverage probability of approximately 95 %. The standard uncertainty of measurement has been determined in accordance with the Guidance document EA-4/02 M:2022 „Evaluation of the Uncertainty of Measurement in calibration" (4th April 2022 rev 03).

КРАЙ
End

www.si-testing.com
lab_si_testing@abv.bg

МЕТРОЛОГИЯ ХОЛДИНГ
METROLOGIA HOLDING Ltd.
Лаборатория МЕТРОЛОГИЯ

ilac-MRA SNAS Reg. No. 377/K-098

София, жк Левски Г, бл.44А, Тел.:+359 2 8554176, 0878400039, 0878122153
Tomanova 35, 831 07 Bratislava, Phone:+421 254 416 250, +421 903 154 996

СВИДЕТЕЛСТВО ЗА КАЛИБРИРАНЕ

CALIBRATION CERTIFICATE

Дата на издаване: *Date of issue:* **30.01.2025 г.** **№ 144А-М-25**

Средство за измерване: *Object:*	**Везна**
Производител: *Manufacturer:*	**H-LIFT**
Тип (описание): *Type (description):*	**HACS05, Обхват: до 5000 kg, разделителна способност 1 kg**
Идентификационен № *Serial No*	**2313435**
Наименование и адрес на заявителя: *Applicant's name and address:*	**Сънотех ПВ Сървисис ЕООД - гр. София, ул."Филип Кутев" № 14Б**
Заявка № *Application №*	**059/А/2025 г.**
Дата на калибриране: *Date of calibration:*	**30.01.2025 г.**
Място на калибриране: *Place of calibration:*	**Лаборатория "Метрология"**
Калибровъчен знак: *Calibration mark:*	**144А-25**
Свидетелството съдържа: *This certificate includes:*	**2** **страници** *pages*

Извършил калибрирането: *Calibration carried out by:* (**подпис** / *signature*) **Стоянов** (**фамилия** / *family name*)

Ръководител лаборатория: *Head of laboratory:* (**подпис** / *signature*) **Лазаров** (**фамилия** / *family name*)

(**печат** / *seal*)

Свидетелство за калибриране без подпис и печат е невалидно. Не се допуска използването на копия на свидетелства и части от тях, освен с писменото разрешение на лабораторията, издала свидетелството.
Calibration certificate without signature and seal is not valid. Copies and extracts of the certificate may be taken only with the written permission of laboratory, the certificate issued.

СВИДЕТЕЛСТВО ЗА КАЛИБРИРАНЕ
CALIBRATION CERTIFICATE

№ 144А-М-25

МЕТОД ЗА КАЛИБРИРАНЕ:
Calibration method:
РПК 702 М01 "Методика за калибриране на везни".

УСЛОВИЯ, ПРИ КОИТО Е ИЗВЪРШЕНО КАЛИБРИРАНЕТО:
Conditions under which the calibration was carried out:

Температура на заобикалящата среда: 23±1°C
Ambient temperature:

МЕТРОЛОГИЧНА ПРОСЛЕДИМОСТ:
Metrological traceability:
Еталонни теглилки от 20 kg, със свидетелство за калибриране №075А-М-24 на "Метрология холдинг" с проследимост до Radwag Laboratorium.
Еталонни теглилки от 1000 kg, със СК № 3095А-М-24 на "Метрология холдинг" с проследимост до ESIT Elektronik KALIBRASYON LABORATUVARI - Турция.

РЕЗУЛТАТИ ОТ КАЛИБРИРАНЕТО:
Calibration results:

Товар /Load/	Показание на везната /Indication/	Грешка /Error/	Повторяемост /Repeatability/		Разширена неопределеност /Total measuring uncertainty/
			Средноквадратично отклонение /Standart deviation/	Неопределеност /Uncertainty/	
L	I	Ecal	Sr	Urep	U
kg	kg	kg	kg	kg	kg
200	200	0	1	1	2
500	500	0	1	1	2
1000	1000	0	1	1	2
1500	1500	0	1	1	2
2000	2000	0	1	1	2
2500	2500	0	1	1	2
3000	3000	0	1	1	2
4000	4001	1	1	1	2
5000	5001	1	1	1	2

Декларираната разширена неопределеност от измерването е изразена като стандартна неопределеност, умножена по множител на покритие k=2, което за нормално разпределение съответства на вероятност на покритие приблизително 95 %. Стандартната неопределеност на измерване е определена в съответствие с публикация EA-4/02 M:2022.

КРАЙ
End

"МЕТРОЛОГИЯ ХОЛДИНГ" ООД
METROLOGIA HOLDING Ltd.
Лаборатория "МЕТРОЛОГИЯ"
SNAS Reg. No. 377/K-098
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Tomanova 35, 831 07 Bratislava, Phone:+421 254 416 250, +421 903 154 996

СВИДЕТЕЛСТВО ЗА КАЛИБРИРАНЕ
CALIBRATION CERTIFICATE

Дата на издаване: 03.11.2025 г. *Date of issue:*	**№ 4238A-C-25**
Средство за измерване: *Object:*	**Силомер**
Производител: *Manufacturer:*	**LAUMAS**
	CLS
Тип (описание): *Type (description):*	**Обхват: 5000 kgf**
	Разделителна способност 1 kgf
Идентификационен № *Serial No*	**GNTNE20A00009**
Наименование и адрес на заявителя: *Applicant's name and address:*	**"Сънотех ПВ Сървисис" ЕООД - гр. София ул. "Филип Кутев" № 14Б**
Заявка № *Application №*	**1140/A/2025 г.**
Дата на калибриране: *Date of calibration:*	**03.11.2025 г.**
Калибровъчен знак: *Calibration mark:*	**4238A-25**
Място на калибриране: *Place of calibration:*	**Лаборатория "МЕТРОЛОГИЯ"**
Свидетелството съдържа: *This certificate includes:*	**2 страници** *pages*

Извършил калибрирането: *Calibration carried out by:* **инж. С. Стоянов**
(**фамилия** / *family name*)
(**подпис** / *signature*)

Ръководител лаборатория: *Head of laboratory:* **инж. Г. Лазаров**
(**фамилия** / *family name*)
(**подпис** / *signature*)
(**печат** / *seal*)

Свидетелство за калибриране без подпис и печат е невалидно. Не се допуска използването на копия на свидетелства и части от тях освен с писменото разрешение на лабораторията, издала свидетелството.
Calibration certificate without signature and seal is not valid. Copies and extracts of the certificate may be taken only with the written permission of laboratory, the certificate issued.

СВИДЕТЕЛСТВО ЗА КАЛИБРИРАНЕ № **4238A-C-25**
CALIBRATION CERTIFICATE №

МЕТОД ЗА КАЛИБРИРАНЕ:
Calibration procedure:
РПК 702 С-02, "Калибриране на силомери и преобразуватели на сила".
(базирана на ISO 376, EURAMET cg-4)
УСЛОВИЯ, ПРИ КОИТО Е ИЗВЪРШЕНО КАЛИБРИРАНЕТО:
Conditions under which the calibration was carried out:
Температура на въздуха: (22±1)°C
Air temperature:
МЕТРОЛОГИЧНА ПРОСЛЕДИМОСТ:
Metrological traceability:
Силомер тип Z3H2, № 44651 със свидетелство за калибриране № 1605-C-12/2023 на Лаборатория „КАЛАБСИ"

РЕЗУЛТАТИ ОТ КАЛИБРИРАНЕТО:

Вид на натоварването - натиск

Обхват: 5000 kgf, Калибриран от 500 kgf до 4500 kgf								
Разделителна способност: 1 kgf								
Стойност на силата по еталона		Стойност на силата по скалата на уреда		Отклонение		Неопределеност U		
kgf	kN	kgf	kN	kgf	kN	kgf	kN	%
500,0	4,903	507	4,97	7	0,07	3	0,03	0,7
1 000,0	9,807	1013	9,93	13	0,13	6	0,06	0,6
1 500,0	14,710	1518	14,88	18	0,17	10	0,09	0,6
2 000,0	19,613	2026	19,87	26	0,25	12	0,12	0,6
2 500,0	24,517	2530	24,81	30	0,30	15	0,15	0,6
3 000,0	29,420	3039	29,81	39	0,39	18	0,18	0,6
4 000,0	39,227	4043	39,65	43	0,42	24	0,24	0,6
4 500,0	44,130	4551	44,63	51	0,50	27	0,27	0,6

Обявената разширена неопределеност на измерване е получена като произведение на комбинираната стандартна неопределеност и множителя на покритие k=2, което за нормално разпределение съответства на вероятност на покритие приблизително 95 %. Стандартната неопределеност на измерване е определена в съответствие с Ръководство EA-4/02 M:2022 „Evaluation of the Uncertainty of Measurement in calibration" (4th April 2022_rev 03).

КРАЙ
End

- Ramming machine

– Type: GAYK HRE 4000

Weight including hydraulic hammer model Atlas-Copco IM405 – 3900kg

Pile height - 4200mm

Type of hammer: Atlas-Copco IM405

Weight of model Atlas-Copco IM405 -189kg

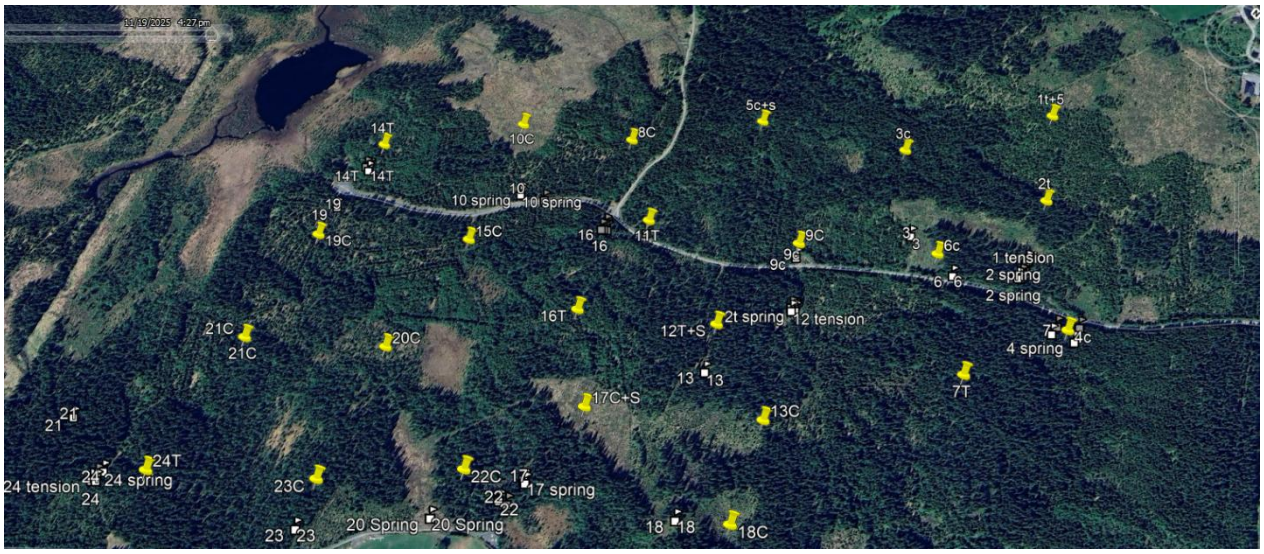
Rated energy of hammer 90Nm

Working pressure in bar 120-190

Frequency of beating in min 530-1050

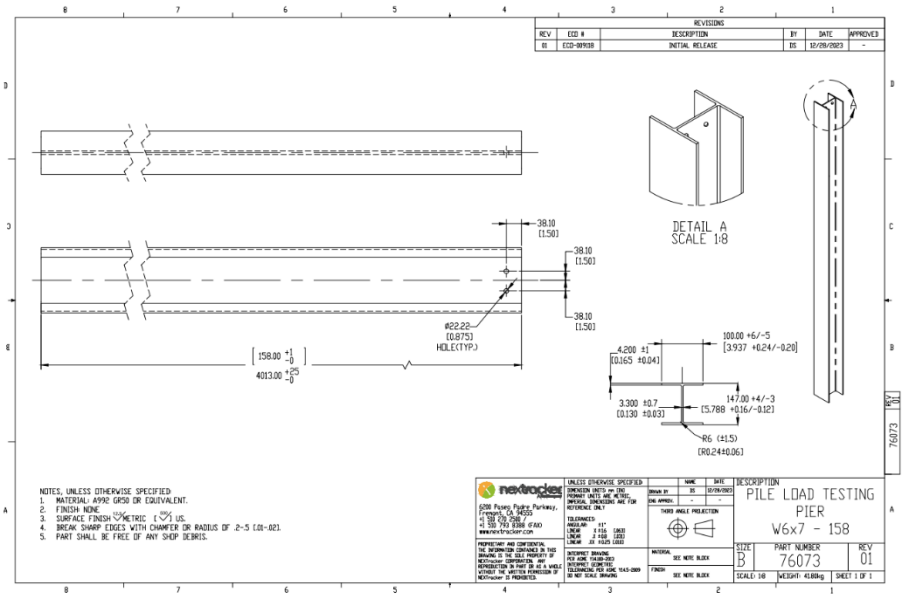
	 DEVELON	
	 XCMG	

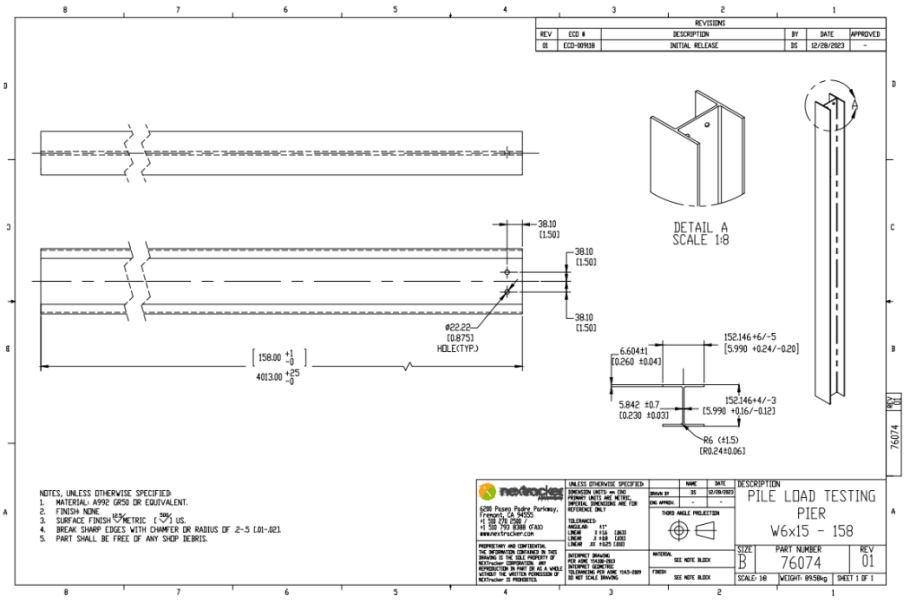
Appendix 1: Plan of the Bookkeeper (KML)



A number of the points were relocated due to the inability to access them, in coordination with the investor Energeia and Nextracker

Appendix 2: Sizing of the used pole for testing W6X7 and W6X15




REVISIONS
REV ECO # DESCRIPTION BY DATE APPROVED
01 ECO-00938 INITIAL RELEASE DS 12/28/2023 -
38.10 [1.50]
38.10 [1.50]
38.10 [1.50]
ø22.22 [0.875] HOLE(TYP.)
158.00 +1/-0
4013.00 +25/-0
DETAIL A SCALE 1:8
6.604±1 [0.260 ±0.04]
152.146+6/-5 [5.990 +0.24/-0.20]
5.842 ±0.7 [0.230 ±0.03]
152.146+4/-3 [5.990 +0.16/-0.12]
R6 (±1.5) [R0.24±0.06]
NOTES, UNLESS OTHERWISE SPECIFIED:
1. MATERIAL: A992 GR50 OR EQUIVALENT.
2. FINISH: NONE
3. SURFACE FINISH: METRIC ( ) US.
4. BREAK SHARP EDGES WITH CHAMFER OR RADIUS OF .2~.5 [.01~.02].
5. PART SHALL BE FREE OF ANY SHOP DEBRIS.
nextracker
6200 Paseo Padre Parkway, Fremont, CA 94555
+1 510 270 2500 /
+1 510 793 8166 (FAX)
www.nextracker.com
PROPRIETARY AND CONFIDENTIAL
THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF NEXTracker Inc. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF NEXTracker IS PROHIBITED.
UNLESS OTHERWISE SPECIFIED:
DIMENSION UNITS: mm [IN]
PERMIT UNITS ARE METRIC.
IMPERIAL DIMENSIONS ARE FOR REFERENCE ONLY
TOLERANCES:
ANGULAR: ±1°
LINEAR .X ±1.0 [.03]
LINEAR .XX ±0.8 [.03]
LINEAR .XXX ±0.25 [.010]
INTERPRET DRAWING PER ASME Y14.5M-2018
INTERPRET GEOMETRIC TOLERANCING PER ASME Y14.5-2009
DO NOT SCALE DRAWING
NAME DATE
Drawn BY DS 12/28/2023
ENG APPROV - -
THIRD ANGLE PROJECTION
MATERIAL SEE NOTE BLOCK
FINISH SEE NOTE BLOCK
DESCRIPTION
PILE LOAD TESTING PIER
W6x15 - 158
SIZE B
PART NUMBER 76074
REV 01
SCALE: 1:8
WEIGHT: 895lbs
SHEET 1 OF 1
REV 01
76074

ANNEX B – LOAD TEST REPORT

PULL OUT TEST

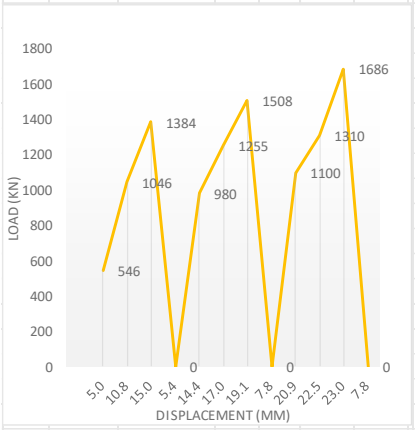
PROJECT	Energeia - Seval Skog - Norway - 45,21 MWp			TEST ID:	1T-LATERAL
LOCATION	Seval Skog	CLIENT:	Energeia		
COORDINATES:	X:	Y:		RAMMING TEST	
STEEL SECTION:	W6X7	PREDRILLING/ MICROPILE		Ramming depth	Time (sec) / Date
		Diameter (mm)	DATE:	0.0 m to 0.5m	0.02 / 19.11.25
L=Post length (m)=	4	Length (m)		0.5 m to 1.0m	0.23 / REJECTION:
Le=Embedment length (m)=	1.5	Type of filling		1,0 m to 1.5m	0.47
Lc=Canttilever length (m)=	2.5	**NEXTRACKER**		1.5 m to 2.0m	REJECTION REASON
				2.0 m to 2.5m	

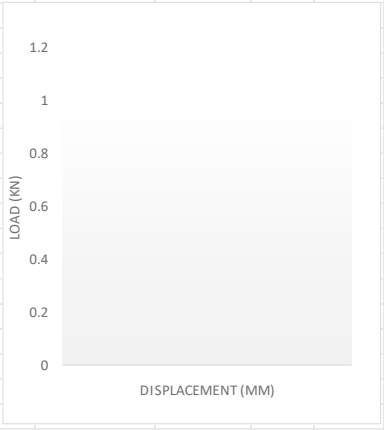
LATERAL LOOAD TEST		VERTICAL LOAD TEST - TENSILE		VERTIKAL LOAD TEST - COMPRESSION	
DATE:	17.11.25	DATE:		DATE:	
h = Load application heigth (m) =	1.0	h =Load application heigth (m) =		h = Load application heigth (m) =	
r = Mesasire point height (cm) =	10.0	r = Mesasire point height (cm) =		r = Mesasire point height (cm) =	

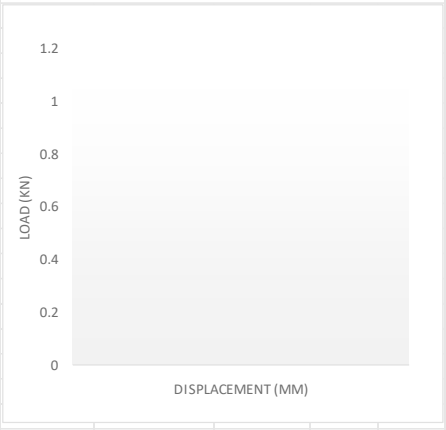
Time (sec)	Applied load (F) (kN)	Goal displacement (mm)	Real displacement (mm)	Displacement (mm)
30		0.0		
30	546	5.0	5.4	5.0
30	1046	10.0	11.0	10.8
30	1384	15.0	15.4	15.0
15	0	0.0	5.8	5.4
30	980	15.0	15.5	14.4
30	1255	17.5	17.5	17.0
30	1508	20.0	20.3	19.1
15	0	0.0	8.6	7.8
30	1100	20.0	21.0	20.9
30	1310	22.5	23.0	22.5
30	1686	25.0	25.0	23.0
15	0	0	8.7	7.8

Time (sec)	Goal load (F) (kN)	Applied load (F) (kN)	Displacement (mm)
30	0.0		
30	5.0		
30	10.0		
30	15.0		
30	20.0		
30	25.0		
30	30.0		
30	35.0		
30	40.0		
30	45.0		
30	50.0		
30	55.0		
30	60.0		
30	0.0		

Time (sec)	Goal load (F) (kN)	Applied load (F) (kN)	Displacement (mm)
30	0.0		
30	5.0		
30	10.0		
30	15.0		
30	20.0		
30	25.0		
30	30.0		
30	35.0		
30	40.0		
30	45.0		
30	50.0		
30	55.0		
30	60.0		
30	0.0		







SUNOTEC

PULL OUT TEST

PROJECT	Energeia - Seval Skog - Norway - 45,21 MWp			TEST ID:	1T
LOCATION	Seval Skog	CLIENT:	Energeia		
COORDINATES:	X:	Y:		RAMMING TEST	
STEEL SECTION:	W6X7	PREDRILLING/ MICROPILE		Ramming depth	Time (sec) / Date
		Diameter (mm)	DATE:	0.0 m to 0.5m	0.07 / 19.11.25
L=Post length (m)=	4	Length (m)		0.5 m to 1.0m	0.21 / REJECTION:
Le=Embedment length (m)=	1	Type of filling		1,0 m to 1.5m	
Lc=Canttilever length (m)=	3	**NEXTRACKER**		1.5 m to 2.0m	REJECTION REASON
				2.0 m to 2.5m	

LATERAL LOOAD TEST

DATE:	
h = Load application heigth (m) =	1.0
r = Mesasire point height (cm) =	10.0

Time (sec)	Applied load (F) (kN)	Goal displacement (mm)	Real displacement (mm)	Displacement (mm)
30		0.0		
30		5.0		
30		10.0		
30		15.0		
15	0	0.0		
30		15.0		
30		17.5		
30		20.0		
15	0	0.0		
30		20.0		
30		22.5		
30		25.0		
15	0	0		

VERTICAL LOAD TEST - TENSILE

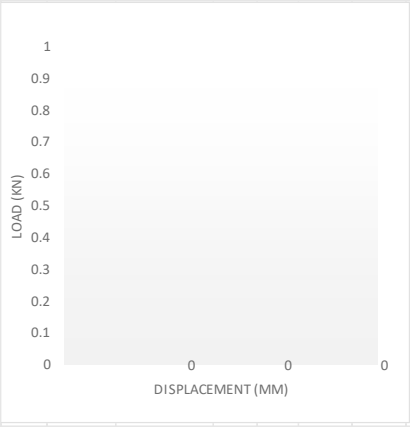
DATE:	17.11.25
h =Load application heigth (m) =	
r = Mesasire point height (cm) =	1600

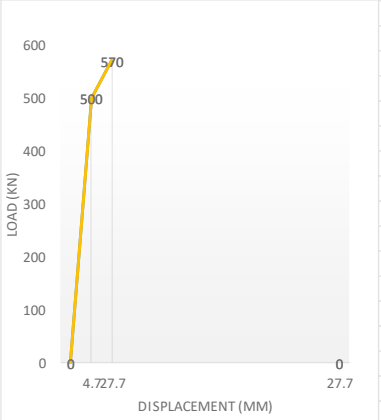
Time (sec)	Goal load (F) (kN)	Applied load (F) (kN)	Displacement (mm)	
30	0.0	0		
30	5.0	500	5	4.7
30	10.0	570	30	27.7
30	15.0			
30	20.0			
30	25.0			
30	30.0			
30	35.0			
30	40.0			
30	45.0			
30	50.0			
30	55.0			
30	60.0			
30	0.0	0	30	27.7

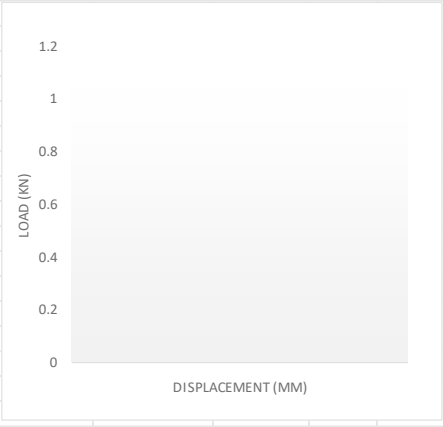
VERTIKAL LOAD TEST - COMPRESSION

DATE:	
h = Load application heigth (m) =	
r = Mesasire point height (cm) =	

Time (sec)	Goal load (F) (kN)	Applied load (F) (kN)	Displacement (mm)	
30	0.0			
30	5.0			
30	10.0			
30	15.0			
30	20.0			
30	25.0			
30	30.0			
30	35.0			
30	40.0			
30	45.0			
30	50.0			
30	55.0			
30	60.0			
30	0.0			







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4, Pavlina Unufrieva str.| Sofia 1510 | Bulgaria

SUNOTEC

PULL OUT TEST

PROJECT	Energeia - Seval Skog - Norway - 45,21 MWp			TEST ID:	2T
LOCATION	Seval Skog	CLIENT:	Energeia		
COORDINATES:	X:	Y:		RAMMING TEST	
STEEL SECTION:	W6X15	PREDRILLING/ MICROPILE		Ramming depth	Time (sec) / Date
		Diameter (mm)	DATE:	0.0 m to 0.5m	0.25 / 15.11.25
L=Post length (m)=	4	Length (m)		0.5 m to 1.0m	5.09 / REJECTION:
Le=Embedment length (m)=	1	Type of filling		1,0 m to 1.5m	
Lc=Canttilever length (m)=	3	**NEXTRACKER**		1.5 m to 2.0m	REJECTION REASON
				2.0 m to 2.5m	

LATERAL LOOAD TEST

DATE:	
h = Load application heigth (m) =	
r = Mesasire point height (cm) =	

Time (sec)	Applied load (F) (kN)	Goal displacement (mm)	Real displacement (mm)	Displacement (mm)
30		0.0		
30		5.0		
30		10.0		
30		15.0		
15	0	0.0		
30		15.0		
30		17.5		
30		20.0		
15	0	0.0		
30		20.0		
30		22.5		
30		25.0		
15	0	0		

VERTICAL LOAD TEST - TENSILE

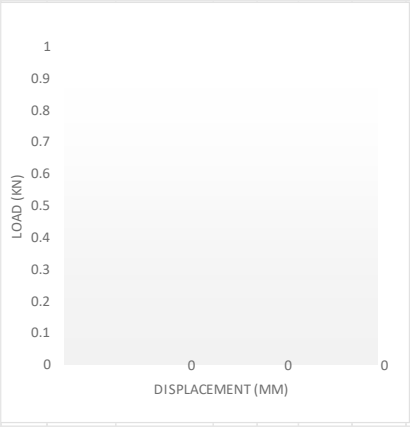
DATE:	17.11.25
h =Load application heigth (m) =	
r = Mesasire point height (cm) =	

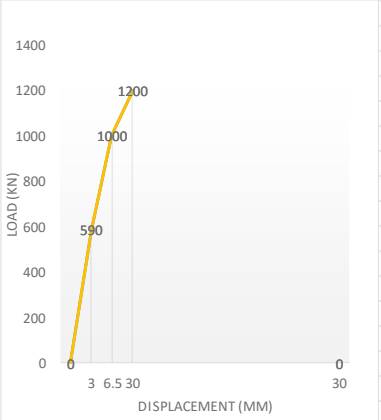
Time (sec)	Goal load (F) (kN)	Applied load (F) (kN)	Displacement (mm)	
30	0.0	0		
30	5.0	590	4	3
30	10.0	1000	10	6.5
30	15.0	1200	34	30
30	20.0			
30	25.0			
30	30.0			
30	35.0			
30	40.0			
30	45.0			
30	50.0			
30	55.0			
30	60.0			
30	0.0	0	34	30

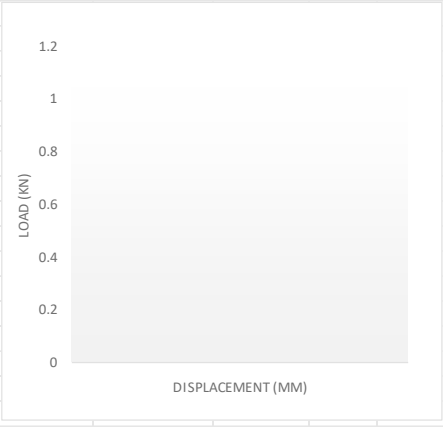
VERTIKAL LOAD TEST - COMPRESSION

DATE:	
h = Load application heigth (m) =	
r = Mesasire point height (cm) =	

Time (sec)	Goal load (F) (kN)	Applied load (F) (kN)	Displacement (mm)	
30	0.0			
30	5.0			
30	10.0			
30	15.0			
30	20.0			
30	25.0			
30	30.0			
30	35.0			
30	40.0			
30	45.0			
30	50.0			
30	55.0			
30	60.0			
30	0.0			







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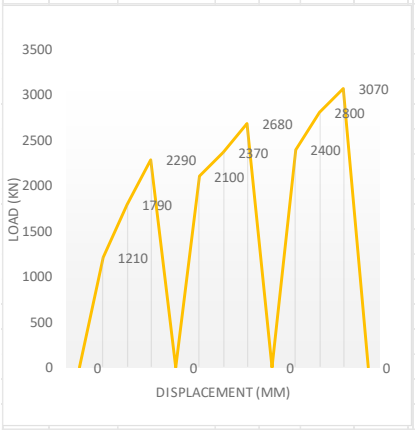
PULL OUT TEST

PROJECT	Energeia - Seval Skog - Norway - 45,21 MWp			TEST ID:	2T-LATERAL
LOCATION	Seval Skog	CLIENT:	Energeia		
COORDINATES:	X:	Y:		RAMMING TEST	
STEEL SECTION:	W6X15	PREDRILLING/ MICROPILE		Ramming depth	Time (sec) / Date
		Diameter (mm)	DATE:	0.0 m to 0.5m	0.04 / 15.11.25
L=Post length (m)=	4	Length (m)		0.5 m to 1.0m	0.21 / REJECTION:
Le=Embedment length (m)=	2	Type of filling		1,0 m to 1.5m	0.45
Lc=Canttilever length (m)=	2	**NEXTRACKER**		1.5 m to 2.0m	1.19 / REJECTION REASON
				2.0 m to 2.5m	

LATERAL LOOAD TEST

DATE:	17.11.25
h = Load application heigth (m) =	1.0
r = Mesasire point height (cm) =	10.0

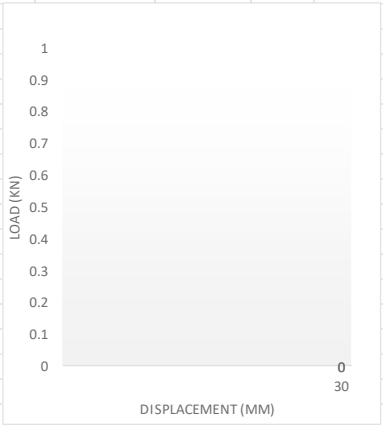
Time (sec)	Applied load (F) (kN)	Goal displacement (mm)	Real displacement (mm)	Displacement (mm)
30	0	0.0		
30	1210	5.0	5.8	5.7
30	1790	10.0	10.0	9.7
30	2290	15.0	15.7	15.6
15	0	0.0	7.8	6.2
30	2100	15.0	16.0	14.7
30	2370	17.5	17.5	16.0
30	2680	20.0	20.0	17.9
15	0	0.0	8.8	7.2
30	2400	20.0	20.1	17.0
30	2800	22.5	22.6	19.2
30	3070	25.0	25.1	21.3
15	0	0	9.9	8.7



VERTICAL LOAD TEST - TENSILE

DATE:	
h =Load application heigth (m) =	
r = Mesasire point height (cm) =	

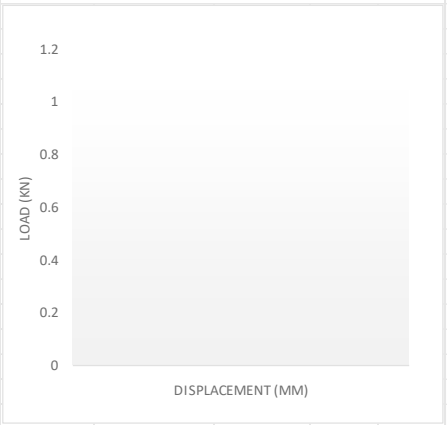
Time (sec)	Goal load (F) (kN)	Applied load (F) (kN)	Displacement (mm)	
30	0.0			
30	5.0			
30	10.0			
30	15.0			
30	20.0			
30	25.0			
30	30.0			
30	35.0			
30	40.0			
30	45.0			
30	50.0			
30	55.0			
30	60.0			
30	0.0	0		30



VERTIKAL LOAD TEST - COMPRESSION

DATE:	
h = Load application heigth (m) =	
r = Mesasire point height (cm) =	

Time (sec)	Goal load (F) (kN)	Applied load (F) (kN)	Displacement (mm)	
30	0.0			
30	5.0			
30	10.0			
30	15.0			
30	20.0			
30	25.0			
30	30.0			
30	35.0			
30	40.0			
30	45.0			
30	50.0			
30	55.0			
30	60.0			
30	0.0			



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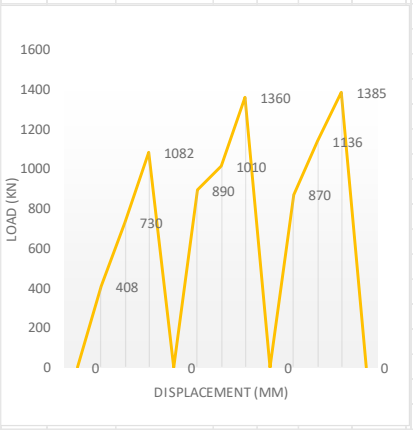
PULL OUT TEST

PROJECT	Energeia - Seval Skog - Norway - 45,21 MWp			TEST ID:	3C
LOCATION	Seval Skog	CLIENT:	Energeia		
COORDINATES:	X:	Y:		RAMMING TEST	
STEEL SECTION:	W6X7	PREDRILLING/ MICROPILE		Ramming depth	Time (sec) / Date
		Diameter (mm)	DATE:	0.0 m to 0.5m	0.01 / 14.11.25
L=Post length (m)=	4	Length (m)		0.5 m to 1.0m	0.26 / REJECTION:
Le=Embedment length (m)=	2.5	Type of filling		1,0 m to 1.5m	0.51
Lc=Canttilever length (m)=	1.5	**NEXTRACKER**		1.5 m to 2.0m	1.10 / REJECTION REASON
				2.0 m to 2.5m	1.40

LATERAL LOOAD TEST

DATE:	17.11.25
h = Load application heigth (m) =	1.0
r = Mesasire point height (cm) =	10

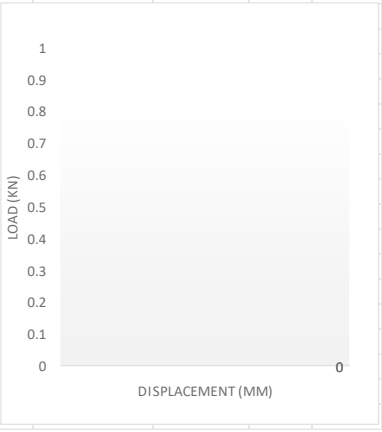
Time (sec)	Applied load (F) (kN)	Goal displacement (mm)	Real displacement (mm)	Displacement (mm)
30	0	0.0		
30	408	5.0	5.1	4.8
30	730	10.0	10.3	10.0
30	1082	15.0	15.3	15.0
15	0	0.0	6.7	6.2
30	890	15.0	15.7	15.0
30	1010	17.5	17.6	17.0
30	1360	20.0	21.0	20.7
15	0	0.0	10.2	9.5
30	870	20.0	20.1	19.7
30	1136	22.5	22.5	22.0
30	1385	25.0	25.5	24.5
15	0	0	10.9	10.0



VERTICAL LOAD TEST - TENSILE

DATE:	
h =Load application heigth (m) =	
r = Mesasire point height (cm) =	

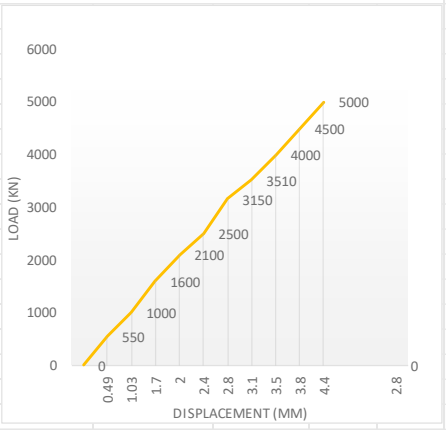
Time (sec)	Goal load (F) (kN)	Applied load (F) (kN)	Displacement (mm)
30	0.0		
30	5.0		
30	10.0		
30	15.0		
30	20.0		
30	25.0		
30	30.0		
30	35.0		
30	40.0		
30	45.0		
30	50.0		
30	55.0		
30	60.0		
30	0.0	0	



VERTIKAL LOAD TEST - COMPRESSION

DATE:	17.11.25
h = Load application heigth (m) =	
r = Mesasire point height (cm) =	

Time (sec)	Goal load (F) (kN)	Applied load (F) (kN)	Displacement (mm)	
30	0.0	0		
30	5.0	550	0.69	0.49
30	10.0	1000	1.43	1.03
30	15.0	1600	2.33	1.7
30	20.0	2100	2.8	2
30	25.0	2500	3.5	2.4
30	30.0	3150	4.2	2.8
30	35.0	3510	4.7	3.1
30	40.0	4000	5.2	3.5
30	45.0	4500	5.6	3.8
30	50.0	5000	6.12	4.4
30	55.0			
30	60.0			
30	0.0	0	3.6	2.8



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PULL OUT TEST

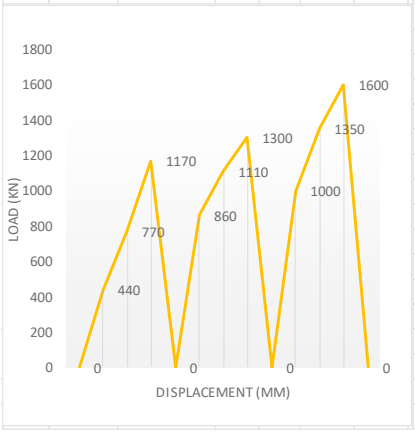
PROJECT	Energeia - Seval Skog - Norway - 45,21 MWp			TEST ID:	4C
LOCATION	Seval Skog	CLIENT:	Energeia		
COORDINATES:	X:	Y:		RAMMING TEST	
STEEL SECTION:	W6X15	PREDRILLING/ MICROPILE		Ramming depth	Time (sec) / Date
		Diameter (mm)	DATE:	0.0 m to 0.5m	0.03 / 15.11.25
L=Post length (m)=	4	Length (m)		0.5 m to 1.0m	0.58 / REJECTION:
Le=Embedment length (m)=	1.5	Type of filling		1,0 m to 1.5m	1.31
Lc=Canttilever length (m)=	2.5	**NEXTRACKER**		1.5 m to 2.0m	REJECTION REASON
				2.0 m to 2.5m	

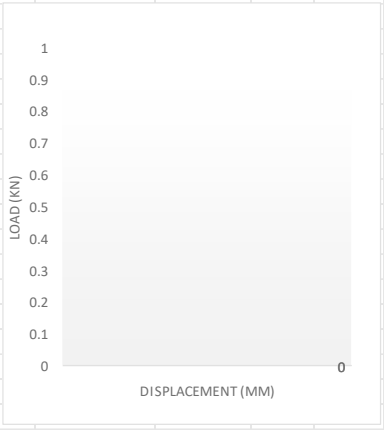
LATERAL LOOAD TEST		VERTICAL LOAD TEST - TENSILE		VERTIKAL LOAD TEST - COMPRESSION	
DATE:	17.11.25	DATE:		DATE:	17.11.25
h = Load application heigth (m) =	1.0	h =Load application heigth (m) =		h = Load application heigth (m) =	
r = Mesasire point height (cm) =	10	r = Mesasire point height (cm) =		r = Mesasire point height (cm) =	

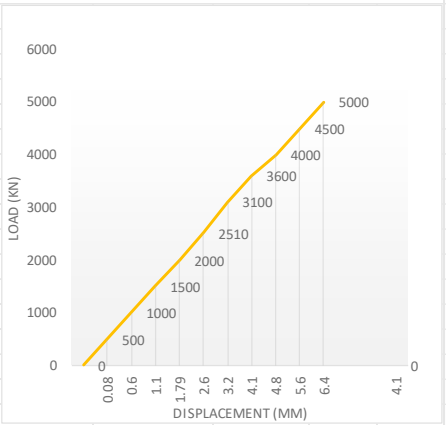
Time (sec)	Applied load (F) (kN)	Goal displacement (mm)	Real displacement (mm)	Displacement (mm)
30	0	0.0		
30	440	5.0	5.0	4.9
30	770	10.0	10.0	9.7
30	1170	15.0	15.7	14.0
15	0	0.0	5.8	4.8
30	860	15.0	15.1	13.8
30	1110	17.5	17.7	16.2
30	1300	20.0	20.3	18.8
15	0	0.0	8.0	7.4
30	1000	20.0	20.1	18.6
30	1350	22.5	22.6	21.1
30	1600	25.0	25.3	23.9
15	0	0	9.9	8.7

Time (sec)	Goal load (F) (kN)	Applied load (F) (kN)	Displacement (mm)	
30	0.0			
30	5.0			
30	10.0			
30	15.0			
30	20.0			
30	25.0			
30	30.0			
30	35.0			
30	40.0			
30	45.0			
30	50.0			
30	55.0			
30	60.0			
30	0.0	0		

Time (sec)	Goal load (F) (kN)	Applied load (F) (kN)	Displacement (mm)	
30	0.0	0		
30	5.0	500	0.1	0.08
30	10.0	1000	0.39	0.6
30	15.0	1500	0.64	1.1
30	20.0	2000	1.1	1.79
30	25.0	2510	1.52	2.6
30	30.0	3100	2	3.2
30	35.0	3600	2.4	4.1
30	40.0	4000	2.8	4.8
30	45.0	4500	3.3	5.6
30	50.0	5000	3.9	6.4
30	55.0			
30	60.0			
30	0.0	0	2.7	4.1







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PULL OUT TEST

PROJECT	Energeia - Seval Skog - Norway - 45,21 MWp			TEST ID:	5C
LOCATION	Seval Skog	CLIENT:	Energeia		
COORDINATES:	X:	Y:		RAMMING TEST	
STEEL SECTION:	W6X7	PREDRILLING/ MICROPILE		Ramming depth	Time (sec) / Date
		Diameter (mm)	DATE:	0.0 m to 0.5m	0.03 / 13.11.25
L=Post length (m)=	4	Length (m)		0.5 m to 1.0m	0.17 / REJECTION:
Le=Embedment length (m)=	2	Type of filling		1,0 m to 1.5m	1.11
Lc=Canttilever length (m)=	2	**NEXTRACKER**		1.5 m to 2.0m	1.50 / REJECTION REASON
				2.0 m to 2.5m	

LATERAL LOOAD TEST

DATE:	17.11.25
h = Load application heigth (m) =	1.0
r = Mesasire point height (cm) =	10

Time (sec)	Applied load (F) (kN)	Goal displacement (mm)	Real displacement (mm)	Displacement (mm)
30	0	0.0		
30	560	5.0	5.2	5.0
30	1158	10.0	10.2	9.8
30	1727	15.0	15.0	14.8
15	0	0.0	2.2	2.4
30	1502	15.0	15.0	14.0
30	1906	17.5	17.7	17.3
30	2216	20.0	20.3	19.8
15	0	0.0	3.6	3.9
30	1923	20.0	20.7	19.7
30	2309	22.5	22.6	22.0
30	2630	25.0	25.5	25.0
15	0	0	5.8	5.4

VERTICAL LOAD TEST - TENSILE

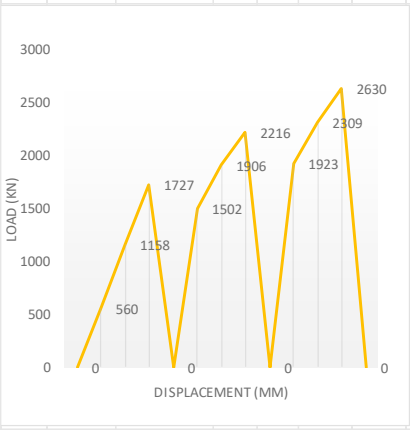
DATE:	
h =Load application heigth (m) =	
r = Mesasire point height (cm) =	

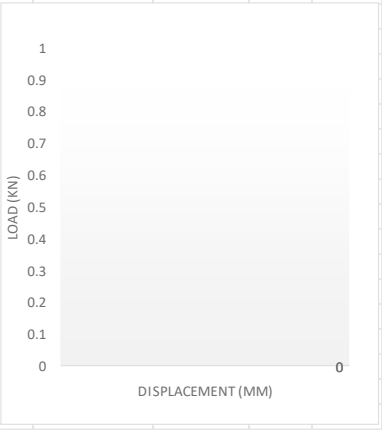
Time (sec)	Goal load (F) (kN)	Applied load (F) (kN)	Displacement (mm)
30	0.0		
30	5.0		
30	10.0		
30	15.0		
30	20.0		
30	25.0		
30	30.0		
30	35.0		
30	40.0		
30	45.0		
30	50.0		
30	55.0		
30	60.0		
30	0.0	0	

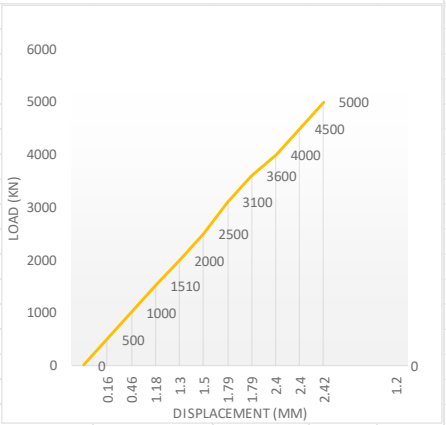
VERTIKAL LOAD TEST - COMPRESSION

DATE:	17.11.25
h = Load application heigth (m) =	
r = Mesasire point height (cm) =	

Time (sec)	Goal load (F) (kN)	Applied load (F) (kN)	Displacement (mm)	
30	0.0	0		
30	5.0	500	0.1	0.16
30	10.0	1000	0.45	0.46
30	15.0	1510	1.12	1.18
30	20.0	2000	1.21	1.3
30	25.0	2500	1.33	1.5
30	30.0	3100	1.52	1.79
30	35.0	3600	2.14	1.79
30	40.0	4000	2.42	2.4
30	45.0	4500	2.7	2.4
30	50.0	5000	3	2.42
30	55.0			
30	60.0			
30	0.0	0	1.8	1.2







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PULL OUT TEST

PROJECT	Energeia - Seval Skog - Norway - 45,21 MWp			TEST ID:	6C
LOCATION	Seval Skog	CLIENT:	Energeia		
COORDINATES:	X:	Y:		RAMMING TEST	
STEEL SECTION:	W6X7	PREDRILLING/ MICROPILE		Ramming depth	Time (sec) / Date
		Diameter (mm)	DATE:	0.0 m to 0.5m	0.01 / 14.11.25
L=Post length (m)=	4	Length (m)		0.5 m to 1.0m	0.1 / REJECTION:
Le=Embedment length (m)=	2	Type of filling		1,0 m to 1.5m	0.42
Lc=Canttilever length (m)=	2	**NEXTRACKER**		1.5 m to 2.0m	1.16 / REJECTION REASON
				2.0 m to 2.5m	2.24

LATERAL LOAD TEST

DATE: 17.11.25

h = Load application heigth (m) = 1.0

r = Mesasire point height (cm) = 10

Time (sec)	Applied load (F) (kN)	Goal displacement (mm)	Real displacement (mm)	Displacement (mm)
30	0	0.0		
30	360	5.0	5.0	5.0
30	846	10.0	10.3	9.0
30	1354	15.0	15.1	14.5
15	0	0.0	1.5	1.4
30	1194	15.0	15.5	15.0
30	1540	17.5	17.6	17.5
30	1850	20.0	20.2	19.7
15	0	0.0	2.5	2.3
30	1655	20.0	20.0	19.7
30	2021	22.5	22.5	22.0
30	2320	25.0	25.1	25.0
15	0	0	2.9	2.7

VERTICAL LOAD TEST - TENSILE

DATE:

h =Load application heigth (m) =

r = Mesasire point height (cm) =

Time (sec)	Goal load (F) (kN)	Applied load (F) (kN)	Displacement (mm)
30	0.0		
30	5.0		
30	10.0		
30	15.0		
30	20.0		
30	25.0		
30	30.0		
30	35.0		
30	40.0		
30	45.0		
30	50.0		
30	55.0		
30	60.0		
30	0.0	0	

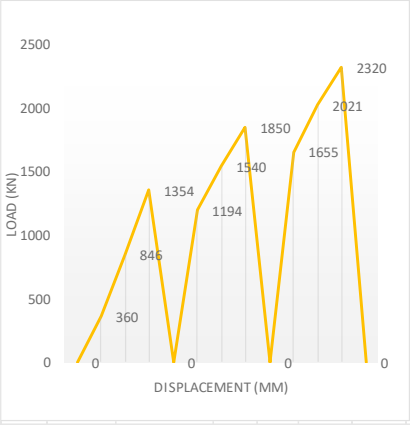
VERTIKAL LOAD TEST - COMPRESSION

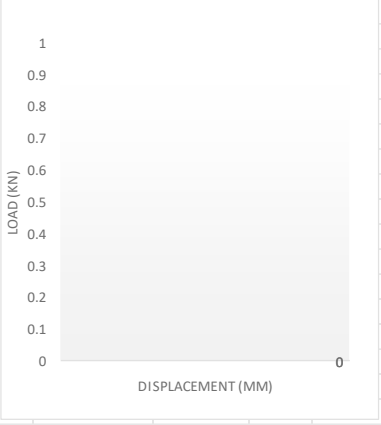
DATE: 17.11.25

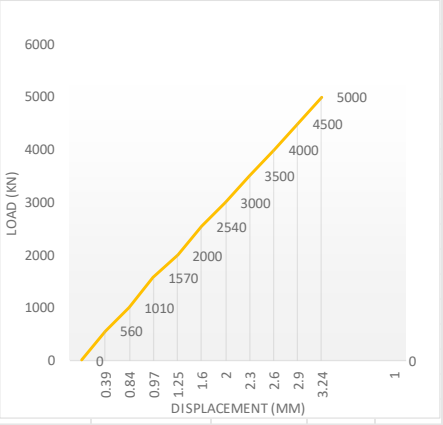
h = Load application heigth (m) =

r = Mesasire point height (cm) =

Time (sec)	Goal load (F) (kN)	Applied load (F) (kN)	Displacement (mm)	
30	0.0	0		
30	5.0	560	0.1	0.39
30	10.0	1010	0.24	0.84
30	15.0	1570	0.3	0.97
30	20.0	2000	0.39	1.25
30	25.0	2540	0.44	1.6
30	30.0	3000	0.62	2
30	35.0	3500	0.85	2.3
30	40.0	4000	1.1	2.6
30	45.0	4500	1.4	2.9
30	50.0	5000	1.7	3.24
30	55.0			
30	60.0			
30	0.0	0	0.58	1







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PULL OUT TEST

PROJECT	Energeia - Seval Skog - Norway - 45,21 MWp			TEST ID:	7T-LATERAL
LOCATION	Seval Skog	CLIENT:	Energeia		
COORDINATES:	X:	Y:		RAMMING TEST	
STEEL SECTION:	W6X7	PREDRILLING/ MICROPILE		Ramming depth	Time (sec) / Date
		Diameter (mm)	DATE:	0.0 m to 0.5m	0.02 / 14.11.25
L=Post length (m)=	4	Length (m)		0.5 m to 1.0m	0.09 / REJECTION:
Le=Embedment length (m)=	2	Type of filling		1,0 m to 1.5m	0.20
Lc=Canttilever length (m)=	2	**NEXTRACKER**		1.5 m to 2.0m	REJECTION REASON
				2.0 m to 2.5m	

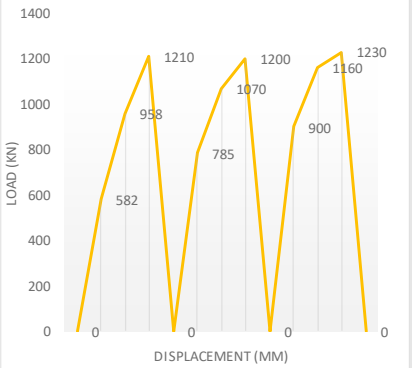
LATERAL LOOAD TEST

DATE: 17.11.25

h = Load application heigth (m) = 1.0

r = Mesasire point height (cm) = 10

Time (sec)	Applied load (F) (kN)	Goal displacement (mm)	Real displacement (mm)	Displacement (mm)
30	0	0.0		
30	582	5.0	5.2	5.0
30	958	10.0	10.4	10.0
30	1210	15.0	16.0	15.5
15	0	0.0	8.3	6.9
30	785	15.0	15.9	13.7
30	1070	17.5	17.7	15.6
30	1200	20.0	20.4	18.0
15	0	0.0	10.5	7.9
30	900	20.0	20.4	18.0
30	1160	22.5	22.5	19.4
30	1230	25.0	26.4	21.7
15	0	0	15.6	11.7



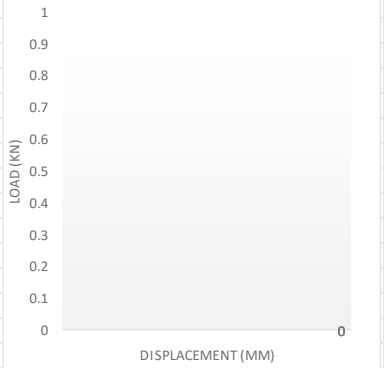
VERTICAL LOAD TEST - TENSILE

DATE:

h =Load application heigth (m) =

r = Mesasire point height (cm) =

Time (sec)	Goal load (F) (kN)	Applied load (F) (kN)	Displacement (mm)
30	0.0		
30	5.0		
30	10.0		
30	15.0		
30	20.0		
30	25.0		
30	30.0		
30	35.0		
30	40.0		
30	45.0		
30	50.0		
30	55.0		
30	60.0		
30	0.0	0	



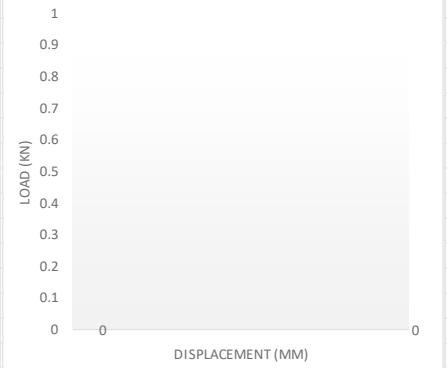
VERTIKAL LOAD TEST - COMPRESSION

DATE: 17.11.25

h = Load application heigth (m) =

r = Mesasire point height (cm) =

Time (sec)	Goal load (F) (kN)	Applied load (F) (kN)	Displacement (mm)
30	0.0	0	
30	5.0		
30	10.0		
30	15.0		
30	20.0		
30	25.0		
30	30.0		
30	35.0		
30	40.0		
30	45.0		
30	50.0		
30	55.0		
30	60.0		
30	0.0	0	



PULL OUT TEST

PROJECT	Energeia - Seval Skog - Norway - 45,21 MWp			TEST ID:	7T
LOCATION	Seval Skog	CLIENT:	Energeia		
COORDINATES:	X:	Y:		RAMMING TEST	
STEEL SECTION:	W6X7	PREDRILLING/ MICROPILE		Ramming depth	Time (sec) / Date
		Diameter (mm)	DATE:	0.0 m to 0.5m	0.05 / 15.11.25
L=Post length (m)=	4	Length (m)		0.5 m to 1.0m	0.14 / REJECTION:
Le=Embedment length (m)=	1	Type of filling		1,0 m to 1.5m	0.20
Lc=Canttilever length (m)=	3	**NEXTRACKER**		1.5 m to 2.0m	REJECTION REASON
				2.0 m to 2.5m	

LATERAL LOOAD TEST

DATE:	17.11.25
h = Load application heigth (m) =	
r = Mesasire point height (cm) =	10

Time (sec)	Applied load (F) (kN)	Goal displacement (mm)	Real displacement (mm)	Displacement (mm)
30				
30				
30				
30				
15				
30				
30				
30				
15				
30				
30				
30				
15				

VERTICAL LOAD TEST - TENSILE

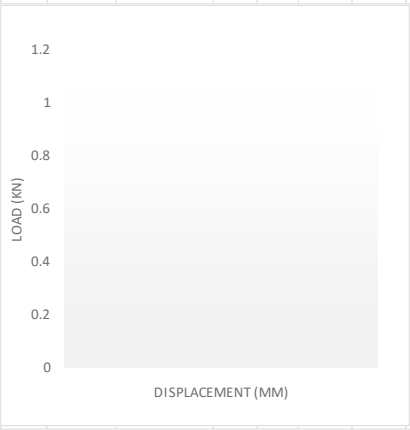
DATE:	17.11.25
h =Load application heigth (m) =	
r = Mesasire point height (cm) =	1900

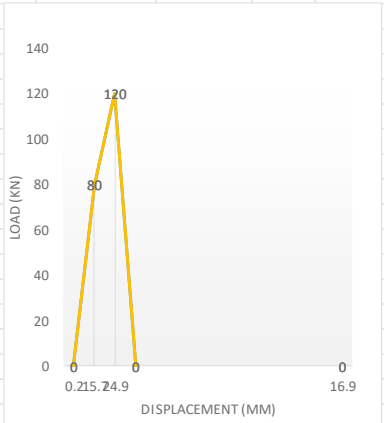
Time (sec)	Goal load (F) (kN)	Applied load (F) (kN)	Displacement (mm)	
30	0.0	0	0.1	0.2
30	5.0	80	10.6	15.7
30	10.0	120	19.7	24.9
30	15.0	0		
30	20.0			
30	25.0			
30	30.0			
30	35.0			
30	40.0			
30	45.0			
30	50.0			
30	55.0			
30	60.0			
30	0.0	0	17.7	16.9

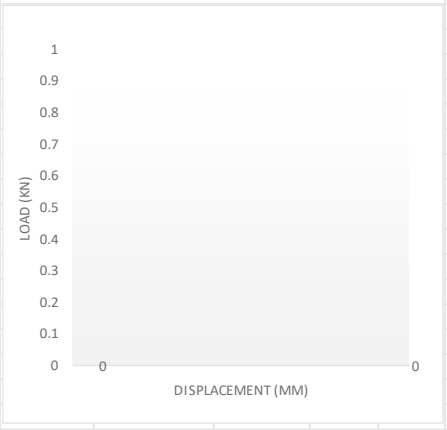
VERTIKAL LOAD TEST - COMPRESSION

DATE:	
h = Load application heigth (m) =	
r = Mesasire point height (cm) =	

Time (sec)	Goal load (F) (kN)	Applied load (F) (kN)	Displacement (mm)	
30	0.0	0		
30	5.0			
30	10.0			
30	15.0			
30	20.0			
30	25.0			
30	30.0			
30	35.0			
30	40.0			
30	45.0			
30	50.0			
30	55.0			
30	60.0			
30	0.0	0		







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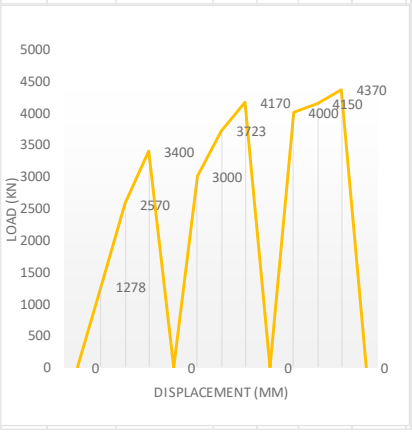
PULL OUT TEST

PROJECT	Energeia - Seval Skog - Norway - 45,21 MWp			TEST ID:	8C
LOCATION	Seval Skog	CLIENT:	Energeia		
COORDINATES:	X:	Y:		RAMMING TEST	
STEEL SECTION:	W6X15	PREDRILLING/ MICROPILE		Ramming depth	Time (sec) / Date
		Diameter (mm)	DATE:	0.0 m to 0.5m	0.09 / 13.11.25
L=Post length (m)=	4	Length (m)		0.5 m to 1.0m	0.31 / REJECTION:
Le=Embedment length (m)=	2	Type of filling		1,0 m to 1.5m	0.49
Lc=Canttilever length (m)=	2	**NEXTRACKER**		1.5 m to 2.0m	1.17 / REJECTION REASON
				2.0 m to 2.5m	

LATERAL LOOAD TEST

DATE:	17.11.25
h = Load application heigth (m) =	1.0
r = Mesasire point height (cm) =	10

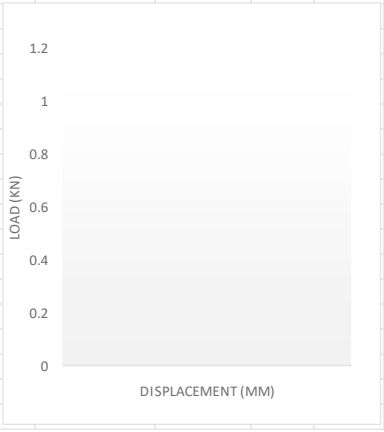
Time (sec)	Applied load (F) (kN)	Goal displacement (mm)	Real displacement (mm)	Displacement (mm)
30	0	0.0	0.0	0.0
30	1278	5.0	5.0	4.9
30	2570	10.0	10.3	9.8
30	3400	15.0	15.0	14.6
15	0	0.0	1.5	1.4
30	3000	15.0	15.0	14.0
30	3723	17.5	17.6	16.8
30	4170	20.0	20.0	19.2
15	0	0.0	4.5	4.5
30	4000	20.0	20.0	19.7
30	4150	22.5	22.5	21.0
30	4370	25.0	25.0	24.0
15	0	0	4.5	4.6



VERTICAL LOAD TEST - TENSILE

DATE:	
h =Load application heigth (m) =	
r = Mesasire point height (cm) =	

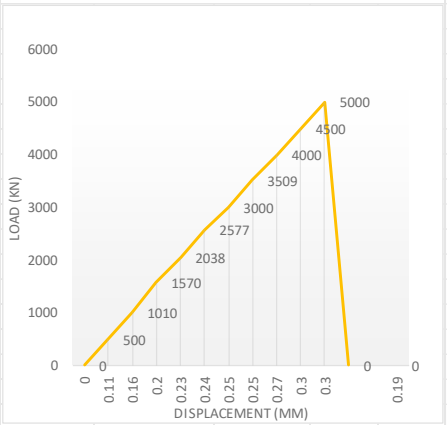
Time (sec)	Goal load (F) (kN)	Applied load (F) (kN)	Displacement (mm)
30	0.0		
30	5.0		
30	10.0		
30	15.0		
30	20.0		
30	25.0		
30	30.0		
30	35.0		
30	40.0		
30	45.0		
30	50.0		
30	55.0		
30	60.0		
30	0.0		



VERTIKAL LOAD TEST - COMPRESSION

DATE:	17.11.25
h = Load application heigth (m) =	
r = Mesasire point height (cm) =	

Time (sec)	Goal load (F) (kN)	Applied load (F) (kN)	Displacement (mm)	
30	0.0	0	0	0
30	5.0	500	0.18	0.11
30	10.0	1010	0.31	0.16
30	15.0	1570	0.46	0.2
30	20.0	2038	0.66	0.23
30	25.0	2577	0.81	0.24
30	30.0	3000	0.97	0.25
30	35.0	3509	1.18	0.25
30	40.0	4000	1.36	0.27
30	45.0	4500	1.57	0.3
30	50.0	5000	1.8	0.3
30	55.0	0		
30	60.0			
30	0.0	0	0.62	0.19



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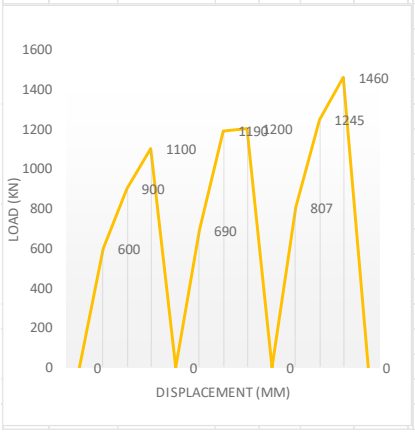
PULL OUT TEST

PROJECT	Energeia - Seval Skog - Norway - 45,21 MWp			TEST ID:	9C.1
LOCATION	Seval Skog	CLIENT:	Energeia		
COORDINATES:	X:	Y:		RAMMING TEST	
STEEL SECTION:	W6X15	PREDRILLING/ MICROPILE		Ramming depth	Time (sec) / Date
		Diameter (mm)	DATE:	0.0 m to 0.5m	2.4 / 14.11.25
L=Post length (m)=	4	Length (m)		0.5 m to 1.0m	5.2 / REJECTION:
Le=Embedment length (m)=	0.8	Type of filling		1,0 m to 1.5m	
Lc=Canttilever length (m)=	3.2	**NEXTRACKER**		1.5 m to 2.0m	REJECTION REASON
				2.0 m to 2.5m	

LATERAL LOOAD TEST

DATE:	16.11.25
h = Load application heigth (m) =	1.0
r = Mesasire point height (cm) =	10

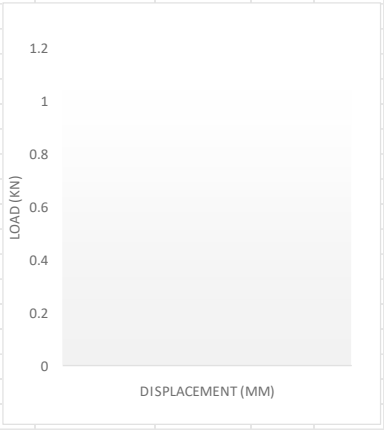
Time (sec)	Applied load (F) (kN)	Goal displacement (mm)	Real displacement (mm)	Displacement (mm)
30	0	0.0	0.0	0.0
30	600	5.0	5.4	5.2
30	900	10.0	10.3	10.2
30	1100	15.0	15.9	15.6
15	0	0.0	12.7	12.4
30	690	15.0	15.4	15.0
30	1190	17.5	17.8	17.5
30	1200	20.0	20.1	20.0
15	0	0.0	17.0	16.0
30	807	20.0	20.1	20.0
30	1245	22.5	22.7	22.5
30	1460	25.0	25.0	24.9
15	0	0	22.6	22.1



VERTICAL LOAD TEST - TENSILE

DATE:	
h =Load application heigth (m) =	
r = Mesasire point height (cm) =	

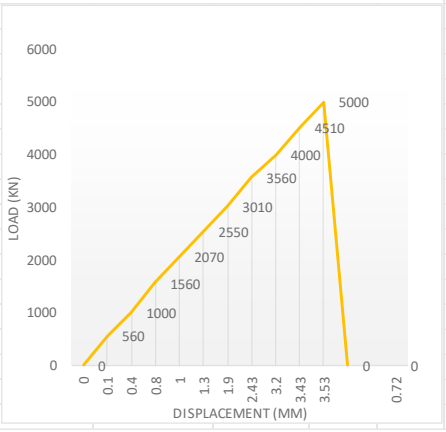
Time (sec)	Goal load (F) (kN)	Applied load (F) (kN)	Displacement (mm)
30	0.0		
30	5.0		
30	10.0		
30	15.0		
30	20.0		
30	25.0		
30	30.0		
30	35.0		
30	40.0		
30	45.0		
30	50.0		
30	55.0		
30	60.0		
30	0.0		



VERTIKAL LOAD TEST - COMPRESSION

DATE:	16.11.25
h = Load application heigth (m) =	
r = Mesasire point height (cm) =	

Time (sec)	Goal load (F) (kN)	Applied load (F) (kN)	Displacement (mm)	
30	0.0	0	0	0
30	5.0	560	2.7	0.1
30	10.0	1000	3.5	0.4
30	15.0	1560	4.6	0.8
30	20.0	2070	4.8	1
30	25.0	2550	5.1	1.3
30	30.0	3010	5.5	1.9
30	35.0	3560	5.9	2.43
30	40.0	4000	6	3.2
30	45.0	4510	6.23	3.43
30	50.0	5000	6.5	3.53
30	55.0	0		
30	60.0			
30	0.0	0	4.15	0.72



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PULL OUT TEST

PROJECT	Energeia - Seval Skog - Norway - 45,21 MWp			TEST ID:	9C
LOCATION	Seval Skog	CLIENT:	Energeia		
COORDINATES:	X:	Y:		RAMMING TEST	
STEEL SECTION:	W6X15	PREDRILLING/ MICROPILE		Ramming depth	Time (sec) / Date
		Diameter (mm)	DATE:	0.0 m to 0.5m	0.02 / 14.11.25
L=Post length (m)=	4	Length (m)		0.5 m to 1.0m	2.1 / REJECTION:
Le=Embedment length (m)=	1.4	Type of filling		1,0 m to 1.5m	5.00
Lc=Canttilever length (m)=	2.6	**NEXTRACKER**		1.5 m to 2.0m	REJECTION REASON
				2.0 m to 2.5m	

LATERAL LOOAD TEST

DATE:	16.11.25
h = Load application heigth (m) =	1.0
r = Mesasire point height (cm) =	10

Time (sec)	Applied load (F) (kN)	Goal displacement (mm)	Real displacement (mm)	Displacement (mm)
30	0	0.0	0.0	0.0
30	1770	5.0	5.1	5.0
30	3010	10.0	10.1	10.0
30	3450	15.0	15.5	15.6
15	0	0.0	4.3	4.0
30	2690	15.0	15.0	15.0
30	3310	17.5	17.5	17.0
30	3760	20.0	21.0	20.0
15	0	0.0	5.3	4.4
30	3000	20.0	20.2	19.0
30	3760	22.5	22.5	22.0
30	4330	25.0	25.6	24.9
15	0	0	9.8	8.7

VERTICAL LOAD TEST - TENSILE

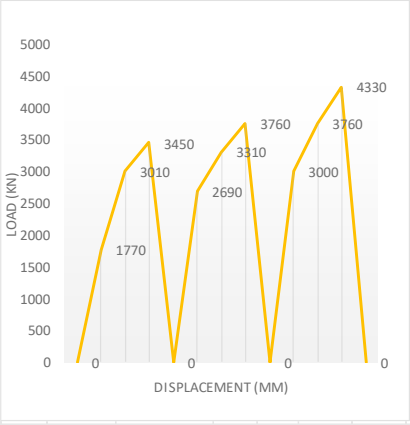
DATE:	
h =Load application heigth (m) =	
r = Mesasire point height (cm) =	

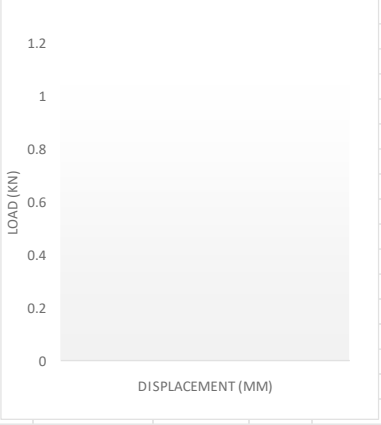
Time (sec)	Goal load (F) (kN)	Applied load (F) (kN)	Displacement (mm)
30	0.0		
30	5.0		
30	10.0		
30	15.0		
30	20.0		
30	25.0		
30	30.0		
30	35.0		
30	40.0		
30	45.0		
30	50.0		
30	55.0		
30	60.0		
30	0.0		

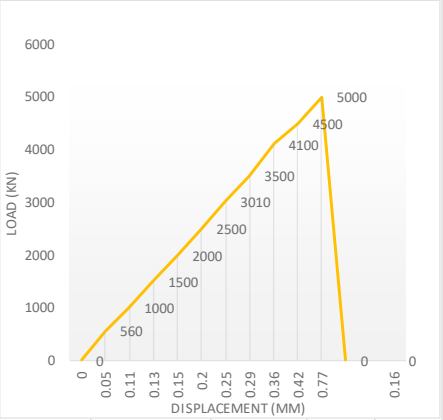
VERTIKAL LOAD TEST - COMPRESSION

DATE:	16.11.25
h = Load application heigth (m) =	
r = Mesasire point height (cm) =	

Time (sec)	Goal load (F) (kN)	Applied load (F) (kN)	Displacement (mm)	
30	0.0	0	0	0
30	5.0	560	0.08	0.05
30	10.0	1000	0.16	0.11
30	15.0	1500	0.2	0.13
30	20.0	2000	0.27	0.15
30	25.0	2500	0.36	0.2
30	30.0	3010	0.47	0.25
30	35.0	3500	0.6	0.29
30	40.0	4100	0.72	0.36
30	45.0	4500	0.86	0.42
30	50.0	5000	1.1	0.77
30	55.0	0		
30	60.0			
30	0.0	0	0.52	0.16







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PULL OUT TEST

PROJECT	Energeia - Seval Skog - Norway - 45,21 MWp			TEST ID:	10C
LOCATION	Seval Skog	CLIENT:	Energeia		
COORDINATES:	X:	Y:		RAMMING TEST	
STEEL SECTION:	W6X7	PREDRILLING/ MICROPILE		Ramming depth	Time (sec) / Date
		Diameter (mm)	DATE:	0.0 m to 0.5m	0.03 / 13.11.25
L=Post length (m)=	4	Length (m)		0.5 m to 1.0m	0.14 / REJECTION:
Le=Embedment length (m)=	1.5	Type of filling		1,0 m to 1.5m	0.27
Lc=Canttilever length (m)=	2.5	**NEXTRACKER**		1.5 m to 2.0m	REJECTION REASON
				2.0 m to 2.5m	

LATERAL LOOAD TEST

DATE:	17.11.25
h = Load application heigth (m) =	1.0
r = Mesasire point height (cm) =	10

Time (sec)	Applied load (F) (kN)	Goal displacement (mm)	Real displacement (mm)	Displacement (mm)
30	0	0.0	0.0	0.0
30	1146	5.0	5.3	5.1
30	1350	10.0	11.0	10.0
30	1740	15.0	15.6	15.3
15	0	0.0	9.0	9.0
30	1600	15.0	15.0	10.0
30	1846	17.5	18.0	17.5
30	2100	20.0	22.0	21.0
15	0	0.0	13.4	13.4
30	900	20.0	20.0	19.0
30	1900	22.5	23.0	22.5
30	2210	25.0	25.0	24.3
15	0	0	14.9	14.9

VERTICAL LOAD TEST - TENSILE

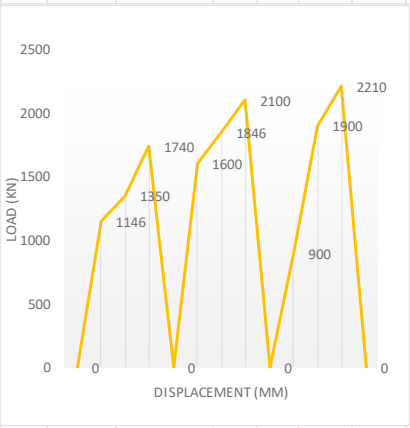
DATE:	
h =Load application heigth (m) =	
r = Mesasire point height (cm) =	

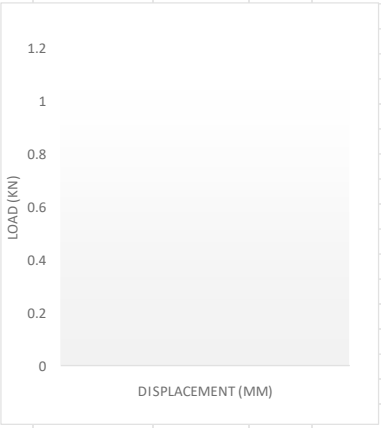
Time (sec)	Goal load (F) (kN)	Applied load (F) (kN)	Displacement (mm)
30	0.0		
30	5.0		
30	10.0		
30	15.0		
30	20.0		
30	25.0		
30	30.0		
30	35.0		
30	40.0		
30	45.0		
30	50.0		
30	55.0		
30	60.0		
30	0.0		

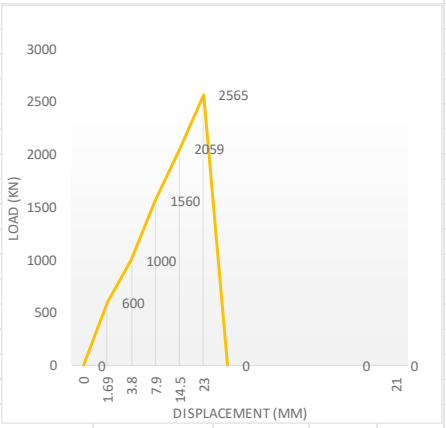
VERTIKAL LOAD TEST - COMPRESSION

DATE:	17.11.25
h = Load application heigth (m) =	
r = Mesasire point height (cm) =	

Time (sec)	Goal load (F) (kN)	Applied load (F) (kN)	Displacement (mm)	
30	0.0	0	0	0
30	5.0	600	1.2	1.69
30	10.0	1000	3.6	3.8
30	15.0	1560	7.6	7.9
30	20.0	2059	13.5	14.5
30	25.0	2565	21.4	23
30	30.0	0		
30	35.0			
30	40.0			
30	45.0			
30	50.0			
30	55.0	0		
30	60.0			
30	0.0	0	20	21







PULL OUT TEST

PROJECT	Energeia - Seval Skog - Norway - 45,21 MWp			TEST ID:	11T
LOCATION	Seval Skog	CLIENT:	Energeia		
COORDINATES:	X:	Y:		RAMMING TEST	
STEEL SECTION:	W6X7	PREDRILLING/ MICROPILE		Ramming depth	Time (sec) / Date
		Diameter (mm)	DATE:	0.0 m to 0.5m	0.02 / 13.11.25
L=Post length (m)=	4	Length (m)		0.5 m to 1.0m	0.08 / REJECTION:
Le=Embedment length (m)=	1.4	Type of filling		1,0 m to 1.5m	3.10
Lc=Canttilever length (m)=	2.6	**NEXTRACKER**		1.5 m to 2.0m	REJECTION REASON
				2.0 m to 2.5m	

LATERAL LOOAD TEST

DATE:		→
h = Load application heigth (m) =	1.0	
r = Mesasire point height (cm) =	10	

Time (sec)	Applied load (F) (kN)	Goal displacement (mm)	Real displacement (mm)	Displacement (mm)
30	0	0.0		
30		5.0		
30		10.0		
30		15.0		
15	0	0.0		
30		15.0		
30		17.5		
30		20.0		
15	0	0.0		
30		20.0		
30		22.5		
30		25.0		
15	0	0		

VERTICAL LOAD TEST - TENSILE

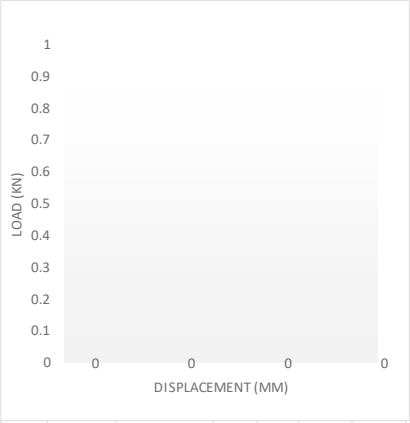
DATE:	18.11.2025	↑
h =Load application heigth (m) =		
r = Mesasire point height (cm) =		

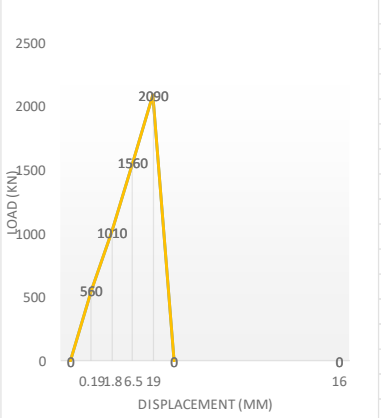
Time (sec)	Goal load (F) (kN)	Applied load (F) (kN)	Displacement (mm)	
30	0.0	0		
30	5.0	560	0.2	0.19
30	10.0	1010	2.2	1.8
30	15.0	1560	7.9	6.5
30	20.0	2090	20	19
30	25.0	0		
30	30.0			
30	35.0			
30	40.0			
30	45.0			
30	50.0			
30	55.0			
30	60.0			
30	0.0	0	17.8	16

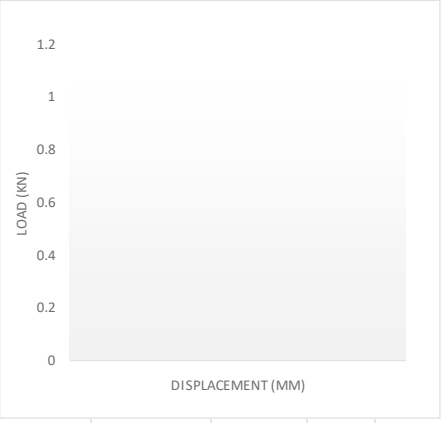
VERTIKAL LOAD TEST - COMPRESSION

DATE:		↓
h = Load application heigth (m) =		
r = Mesasire point height (cm) =		

Time (sec)	Goal load (F) (kN)	Applied load (F) (kN)	Displacement (mm)	
30	0.0			
30	5.0			
30	10.0			
30	15.0			
30	20.0			
30	25.0			
30	30.0			
30	35.0			
30	40.0			
30	45.0			
30	50.0			
30	55.0			
30	60.0			
30	0.0			







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PULL OUT TEST

PROJECT	Energeia - Seval Skog - Norway - 45,21 MWp			TEST ID:	11T-LATERAL
LOCATION	Seval Skog	CLIENT:	Energeia		
COORDINATES:	X:	Y:		RAMMING TEST	
STEEL SECTION:	W6X7	PREDRILLING/ MICROPILE		Ramming depth	Time (sec) / Date
		Diameter (mm)	DATE:	0.0 m to 0.5m	0.02 / 13.11.25
L=Post length (m)=	4	Length (m)		0.5 m to 1.0m	0.08 / REJECTION:
Le=Embedment length (m)=	2	Type of filling		1,0 m to 1.5m	1.30
Lc=Canttilever length (m)=	2	**NEXTRACKER**		1.5 m to 2.0m	2.30 / REJECTION REASON
				2.0 m to 2.5m	

LATERAL LOOAD TEST

DATE:	17.11.2025
h = Load application heigth (m) =	1.0
r = Mesasire point height (cm) =	10

Time (sec)	Applied load (F) (kN)	Goal displacement (mm)	Real displacement (mm)	Displacement (mm)
30	0	0.0		
30	150	5.0	5.0	4.4
30	260	10.0	10.2	8.9
30	370	15.0	16.0	13.6
15	0	0.0	9.0	8.0
30	274	15.0	15.0	13.0
30	360	17.5	17.6	15.0
30	466	20.0	20.3	18.0
15	0	0.0	10.5	9.2
30	370	20.0	20.0	18.0
30	470	22.5	22.8	20.2
30	526	25.0	25.0	22.8
15	0	0	11.0	9.8

VERTICAL LOAD TEST - TENSILE

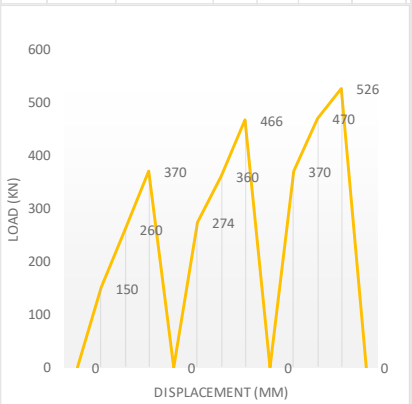
DATE:	
h =Load application heigth (m) =	
r = Mesasire point height (cm) =	

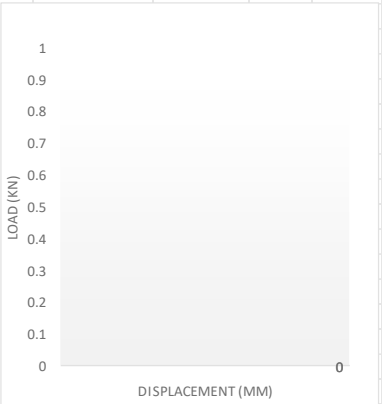
Time (sec)	Goal load (F) (kN)	Applied load (F) (kN)	Displacement (mm)
30	0.0		
30	5.0		
30	10.0		
30	15.0		
30	20.0		
30	25.0		
30	30.0		
30	35.0		
30	40.0		
30	45.0		
30	50.0		
30	55.0		
30	60.0		
30	0.0	0	

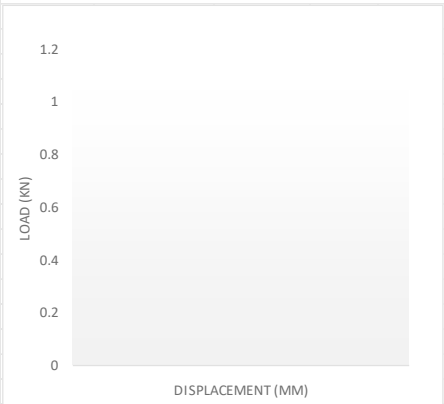
VERTIKAL LOAD TEST - COMPRESSION

DATE:	
h = Load application heigth (m) =	
r = Mesasire point height (cm) =	

Time (sec)	Goal load (F) (kN)	Applied load (F) (kN)	Displacement (mm)
30	0.0		
30	5.0		
30	10.0		
30	15.0		
30	20.0		
30	25.0		
30	30.0		
30	35.0		
30	40.0		
30	45.0		
30	50.0		
30	55.0		
30	60.0		
30	0.0		







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PULL OUT TEST

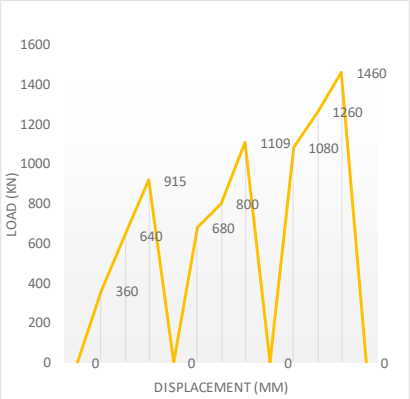
PROJECT	Energeia - Seval Skog - Norway - 45,21 MWp			TEST ID:	12T-LATERAL
LOCATION	Seval Skog	CLIENT:	Energeia		
COORDINATES:	X:	Y:		RAMMING TEST	
STEEL SECTION:	W6X7	PREDRILLING/ MICROPILE		Ramming depth	Time (sec) / Date
		Diameter (mm)	DATE:	0.0 m to 0.5m	0.06 / 15.11.25
L=Post length (m)=	4	Length (m)		0.5 m to 1.0m	0.21 / REJECTION:
Le=Embedment length (m)=	2.5	Type of filling		1,0 m to 1.5m	0.45
Lc=Canttilever length (m)=	1.5	**NEXTRACKER**		1.5 m to 2.0m	1.52 / REJECTION REASON
				2.0 m to 2.5m	

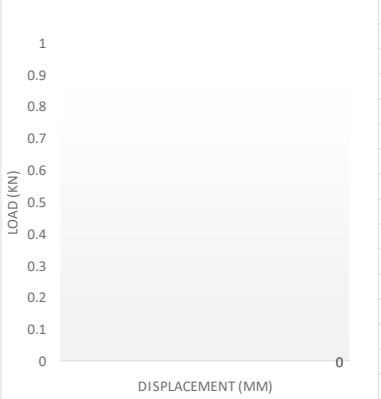
LATERAL LOOAD TEST		VERTICAL LOAD TEST - TENSILE		VERTIKAL LOAD TEST - COMPRESSION	
DATE:	16.11.2025	DATE:		DATE:	
h = Load application heigth (m) =	1.0	h =Load application heigth (m) =		h = Load application heigth (m) =	
r = Mesasire point height (cm) =	10	r = Mesasire point height (cm) =		r = Mesasire point height (cm) =	

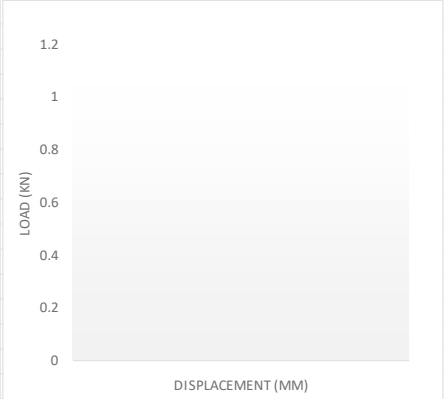
Time (sec)	Applied load (F) (kN)	Goal displacement (mm)	Real displacement (mm)	Displacement (mm)
30	0	0.0		
30	360	5.0	5.0	4.0
30	640	10.0	10.5	8.0
30	915	15.0	15.0	12.0
15	0	0.0	5.7	3.9
30	680	15.0	15.1	13.0
30	800	17.5	18.0	15.3
30	1109	20.0	20.1	16.7
15	0	0.0	7.2	6.1
30	1080	20.0	20.5	16.4
30	1260	22.5	22.6	18.7
30	1460	25.0	25.4	21.2
15	0	0	8.9	7.5

Time (sec)	Goal load (F) (kN)	Applied load (F) (kN)	Displacement (mm)
30	0.0		
30	5.0		
30	10.0		
30	15.0		
30	20.0		
30	25.0		
30	30.0		
30	35.0		
30	40.0		
30	45.0		
30	50.0		
30	55.0		
30	60.0		
30	0.0	0	

Time (sec)	Goal load (F) (kN)	Applied load (F) (kN)	Displacement (mm)
30	0.0		
30	5.0		
30	10.0		
30	15.0		
30	20.0		
30	25.0		
30	30.0		
30	35.0		
30	40.0		
30	45.0		
30	50.0		
30	55.0		
30	60.0		
30	0.0		







PULL OUT TEST

PROJECT	Energeia - Seval Skog - Norway - 45,21 MWp			TEST ID:	12T
LOCATION	Seval Skog	CLIENT:	Energeia		
COORDINATES:	X:	Y:		RAMMING TEST	
STEEL SECTION:	W6X7	PREDRILLING/ MICROPILE		Ramming depth	Time (sec) / Date
		Diameter (mm)	DATE:	0.0 m to 0.5m	0.04 / 15.11.25
L=Post length (m)=	4	Length (m)		0.5 m to 1.0m	0.12 / REJECTION:
Le=Embedment length (m)=	1.5	Type of filling		1,0 m to 1.5m	0.25
Lc=Canttilever length (m)=	2.5	**NEXTRACKER**		1.5 m to 2.0m	REJECTION REASON
				2.0 m to 2.5m	

LATERAL LOOAD TEST

DATE:		→
h = Load application heigth (m) =	1.0	
r = Mesasire point height (cm) =	10	

Time (sec)	Applied load (F) (kN)	Goal displacement (mm)	Real displacement (mm)	Displacement (mm)
30	0	0.0		
30		5.0		
30		10.0		
30		15.0		
15	0	0.0		
30		15.0		
30		17.5		
30		20.0		
15	0	0.0		
30		20.0		
30		22.5		
30		25.0		
15	0	0		

VERTICAL LOAD TEST - TENSILE

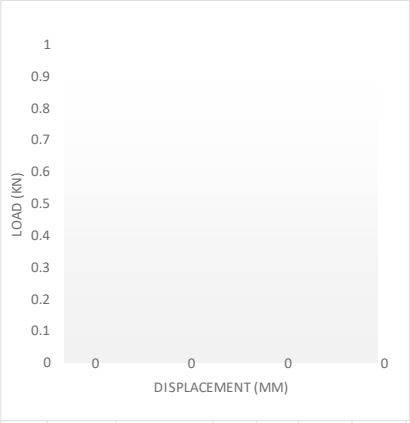
DATE:	16.11.2025	↑
h =Load application heigth (m) =		
r = Mesasire point height (cm) =		

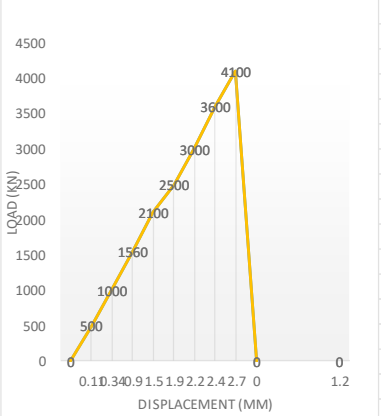
Time (sec)	Goal load (F) (kN)	Applied load (F) (kN)	Displacement (mm)	
30	0.0	0		
30	5.0	500	0.05	0.11
30	10.0	1000	0.06	0.34
30	15.0	1560	0.1	0.9
30	20.0	2100	0.37	1.5
30	25.0	2500	0.9	1.9
30	30.0	3000	1.2	2.2
30	35.0	3600	1.4	2.4
30	40.0	4100	1.77	2.7
30	45.0	0		0
30	50.0			
30	55.0			
30	60.0			
30	0.0	0	1.22	1.2

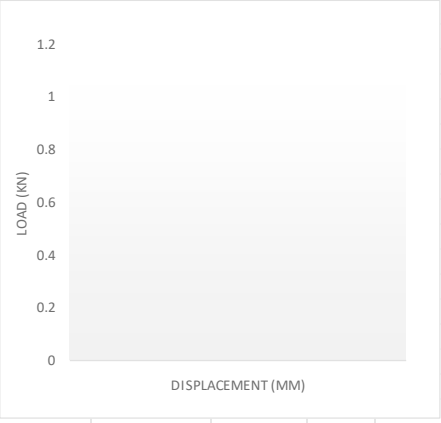
VERTIKAL LOAD TEST - COMPRESSION

DATE:		↓
h = Load application heigth (m) =		
r = Mesasire point height (cm) =		

Time (sec)	Goal load (F) (kN)	Applied load (F) (kN)	Displacement (mm)	
30	0.0			
30	5.0			
30	10.0			
30	15.0			
30	20.0			
30	25.0			
30	30.0			
30	35.0			
30	40.0			
30	45.0			
30	50.0			
30	55.0			
30	60.0			
30	0.0			







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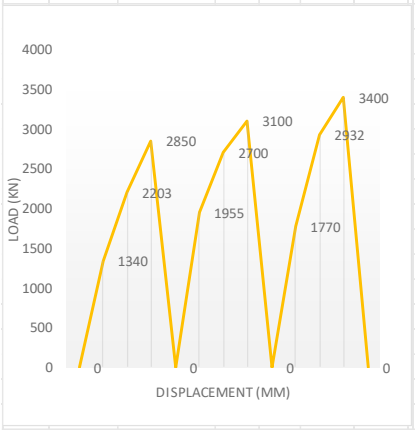
PULL OUT TEST

PROJECT	Energeia - Seval Skog - Norway - 45,21 MWp			TEST ID:	13C
LOCATION	Seval Skog	CLIENT:	Energeia		
COORDINATES:	X:	Y:		RAMMING TEST	
STEEL SECTION:	W6X15	PREDRILLING/ MICROPILE		Ramming depth	Time (sec) / Date
		Diameter (mm)	DATE:	0.0 m to 0.5m	0.03 / 15.11.25
L=Post length (m)=	4	Length (m)		0.5 m to 1.0m	0.16 / REJECTION:
Le=Embedment length (m)=	1.5	Type of filling		1,0 m to 1.5m	0.30
Lc=Canttilever length (m)=	2.5	**NEXTRACKER**		1.5 m to 2.0m	REJECTION REASON
				2.0 m to 2.5m	

LATERAL LOOAD TEST

DATE:	16.11.25
h = Load application heigth (m) =	1.0
r = Mesasire point height (cm) =	10

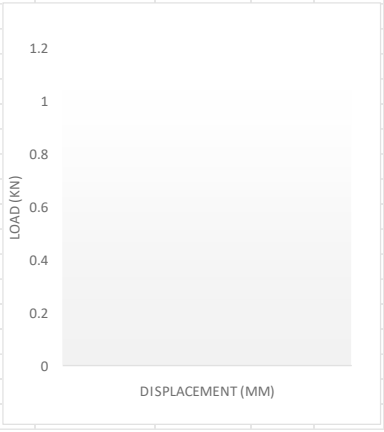
Time (sec)	Applied load (F) (kN)	Goal displacement (mm)	Real displacement (mm)	Displacement (mm)
30	0	0.0		
30	1340	5.0	5.5	5.4
30	2203	10.0	10.8	10.6
30	2850	15.0	15.9	15.6
15	0	0.0	7.4	6.8
30	1955	15.0	15.4	15.1
30	2700	17.5	18.0	17.5
30	3100	20.0	21.0	19.9
15	0	0.0	11.0	10.9
30	1770	20.0	20.1	19.0
30	2932	22.5	22.8	22.5
30	3400	25.0	25.5	23.9
15	0	0	14.0	11.3



VERTICAL LOAD TEST - TENSILE

DATE:	
h =Load application heigth (m) =	
r = Mesasire point height (cm) =	

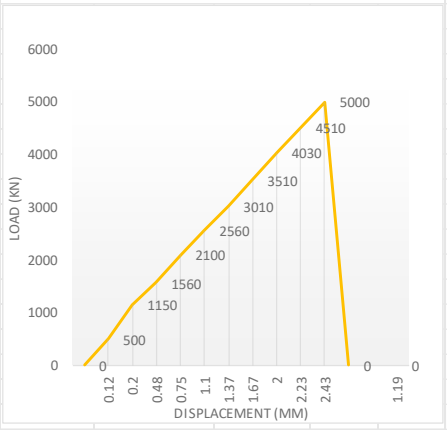
Time (sec)	Goal load (F) (kN)	Applied load (F) (kN)	Displacement (mm)
30	0.0		
30	5.0		
30	10.0		
30	15.0		
30	20.0		
30	25.0		
30	30.0		
30	35.0		
30	40.0		
30	45.0		
30	50.0		
30	55.0		
30	60.0		
30	0.0		



VERTIKAL LOAD TEST - COMPRESSION

DATE:	16.11.2025
h = Load application heigth (m) =	
r = Mesasire point height (cm) =	

Time (sec)	Goal load (F) (kN)	Applied load (F) (kN)	Displacement (mm)	
30	0.0	0		
30	5.0	500	0.1	0.12
30	10.0	1150	0.2	0.2
30	15.0	1560	0.24	0.48
30	20.0	2100	0.34	0.75
30	25.0	2560	0.55	1.1
30	30.0	3010	0.72	1.37
30	35.0	3510	0.9	1.67
30	40.0	4030	1.1	2
30	45.0	4510	1.32	2.23
30	50.0	5000	1.7	2.43
30	55.0	0		
30	60.0			
30	0.0	0	0.93	1.19



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PULL OUT TEST

PROJECT	Energeia - Seval Skog - Norway - 45,21 MWp			TEST ID:	14T
LOCATION	Seval Skog	CLIENT:	Energeia		
COORDINATES:	X:	Y:		RAMMING TEST	
STEEL SECTION:	W6X15	PREDRILLING/ MICROPILE		Ramming depth	Time (sec) / Date
		Diameter (mm)	DATE:	0.0 m to 0.5m	0.04 / 13.11.25
L=Post length (m)=	4	Length (m)		0.5 m to 1.0m	0.21 / REJECTION:
Le=Embedment length (m)=	2	Type of filling		1,0 m to 1.5m	0.39
Lc=Canttilever length (m)=	2	**NEXTRACKER**		1.5 m to 2.0m	0.53 / REJECTION REASON
				2.0 m to 2.5m	

LATERAL LOOAD TEST

DATE:	13.11.25
h = Load application heigth (m) =	1.0
r = Mesasire point height (cm) =	10

Time (sec)	Applied load (F) (kN)	Goal displacement (mm)	Real displacement (mm)	Displacement (mm)
30	0	0.0		
30	674	5.0	5.0	4.7
30	1190	10.0	10.0	9.9
30	1610	15.0	15.7	15.2
15	0	0.0	5.7	5.5
30	1290	15.0	15.2	15.2
30	1632	17.5	18.8	17.7
30	1940	20.0	21.0	20.0
15	0	0.0	10.4	10.0
30	1614	20.0	21.0	20.0
30	1970	22.5	22.6	22.7
30	2370	25.0	27.0	25.2
15	0	0	13.4	12.0

VERTICAL LOAD TEST - TENSILE

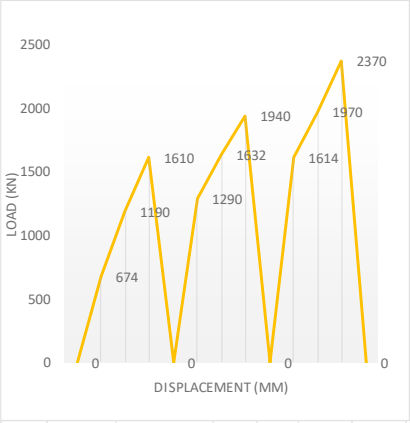
DATE:	13.11.2025
h =Load application heigth (m) =	SAME PILE
r = Mesasire point height (cm) =	

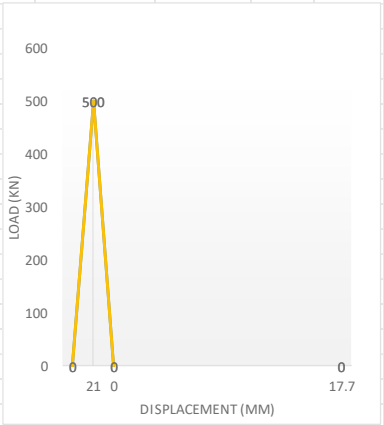
Time (sec)	Goal load (F) (kN)	Applied load (F) (kN)	Displacement (mm)	
30	0.0	0		
30	5.0	500	20	21
30	10.0	0		0
30	15.0			
30	20.0			
30	25.0			
30	30.0			
30	35.0			
30	40.0			
30	45.0			
30	50.0			
30	55.0			
30	60.0			
30	0.0	0	19.7	17.7

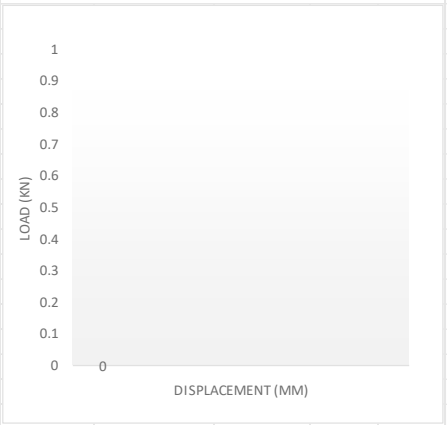
VERTIKAL LOAD TEST - COMPRESSION

DATE:	16.11.2025
h = Load application heigth (m) =	
r = Mesasire point height (cm) =	

Time (sec)	Goal load (F) (kN)	Applied load (F) (kN)	Displacement (mm)	
30	0.0	0		
30	5.0			
30	10.0			
30	15.0			
30	20.0			
30	25.0			
30	30.0			
30	35.0			
30	40.0			
30	45.0			
30	50.0			
30	55.0			
30	60.0			
30	0.0			







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PULL OUT TEST

PROJECT	Energeia - Seval Skog - Norway - 45,21 MWp			TEST ID:	15C
LOCATION	Seval Skog	CLIENT:	Energeia		
COORDINATES:	X:	Y:		RAMMING TEST	
STEEL SECTION:	W6X15	PREDRILLING/ MICROPILE		Ramming depth	Time (sec) / Date
		Diameter (mm)	DATE:	0.0 m to 0.5m	0.04 / 13.11.25
L=Post length (m)=	4	Length (m)		0.5 m to 1.0m	0.1 / REJECTION:
Le=Embedment length (m)=	2.5	Type of filling		1,0 m to 1.5m	0.17
Lc=Canttilever length (m)=	1.5	**NEXTRACKER**		1.5 m to 2.0m	0.22 / REJECTION REASON
				2.0 m to 2.5m	0.28

LATERAL LOOAD TEST

DATE:	15.11.25
h = Load application heigth (m) =	1.0
r = Mesasire point height (cm) =	10

Time (sec)	Applied load (F) (kN)	Goal displacement (mm)	Real displacement (mm)	Displacement (mm)
30	0	0.0		
30	380	5.0	6.0	5.0
30	682	10.0	10.0	10.0
30	848	15.0	15.3	15.1
15	0	0.0	8.0	8.0
30	741	15.0	15.0	14.7
30	940	17.5	18.0	17.7
30	1120	20.0	20.6	20.2
15	0	0.0	11.9	11.5
30	960	20.0	20.1	19.5
30	1165	22.5	22.8	22.3
30	1311	25.0	25.3	25.0
15	0	0	12.7	12.4

VERTICAL LOAD TEST - TENSILE

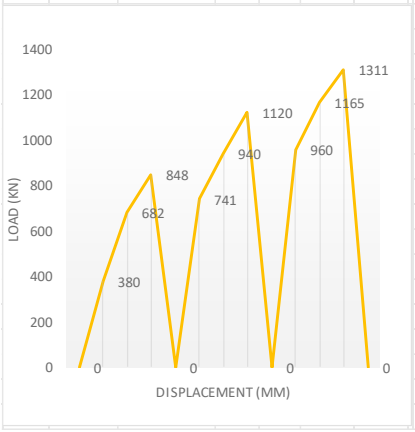
DATE:	
h =Load application heigth (m) =	
r = Mesasire point height (cm) =	

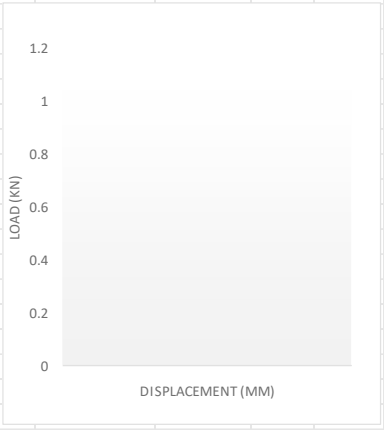
Time (sec)	Goal load (F) (kN)	Applied load (F) (kN)	Displacement (mm)
30	0.0		
30	5.0		
30	10.0		
30	15.0		
30	20.0		
30	25.0		
30	30.0		
30	35.0		
30	40.0		
30	45.0		
30	50.0		
30	55.0		
30	60.0		
30	0.0		

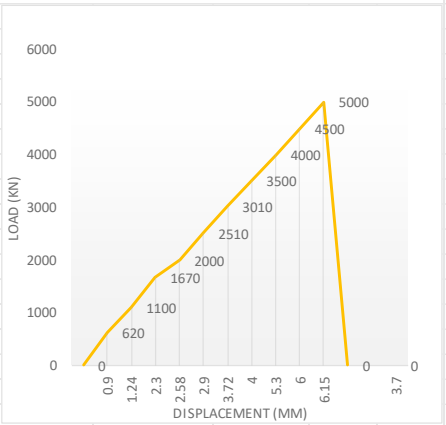
VERTIKAL LOAD TEST - COMPRESSION

DATE:	15.11.2025
h = Load application heigth (m) =	
r = Mesasire point height (cm) =	

Time (sec)	Goal load (F) (kN)	Applied load (F) (kN)	Displacement (mm)	
30	0.0	0		
30	5.0	620	1	0.9
30	10.0	1100	1.5	1.24
30	15.0	1670	2.42	2.3
30	20.0	2000	2.7	2.58
30	25.0	2510	3.2	2.9
30	30.0	3010	3.8	3.72
30	35.0	3500	4.52	4
30	40.0	4000	5.53	5.3
30	45.0	4500	6.5	6
30	50.0	5000	7.1	6.15
30	55.0	0		
30	60.0			
30	0.0	0	4.5	3.7







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PULL OUT TEST

PROJECT	Energeia - Seval Skog - Norway - 45,21 MWp			TEST ID:	16T
LOCATION	Seval Skog	CLIENT:	Energeia		
COORDINATES:	X:	Y:		RAMMING TEST	
STEEL SECTION:	W6X7	PREDRILLING/ MICROPILE		Ramming depth	Time (sec) / Date
		Diameter (mm)	DATE:	0.0 m to 0.5m	0.01 / 13.11.25
L=Post length (m)=	4	Length (m)		0.5 m to 1.0m	0.02 / REJECTION:
Le=Embedment length (m)=	1.5	Type of filling		1,0 m to 1.5m	0.08
Lc=Canttilever length (m)=	2.5	**NEXTRACKER**		1.5 m to 2.0m	REJECTION REASON
				2.0 m to 2.5m	

LATERAL LOOAD TEST

DATE:	17.11.25
h = Load application heigth (m) =	1.0
r = Mesasire point height (cm) =	10

Time (sec)	Applied load (F) (kN)	Goal displacement (mm)	Real displacement (mm)	Displacement (mm)
30	0	0.0		
30	270	5.0	6.3	6.3
30	414	10.0	10.2	10.0
30	547	15.0	15.6	15.0
15	0	0.0	8.0	8.0
30	340	15.0	15.9	18.0
30	600	17.5	17.8	17.5
30	624	20.0	20.1	20.0
15	0	0.0	12.8	12.7
30	400	20.0	20.0	19.0
30	720	22.5	23.0	22.5
30	747	25.0	25.4	25.0
15	0	0	14.4	14.1

VERTICAL LOAD TEST - TENSILE

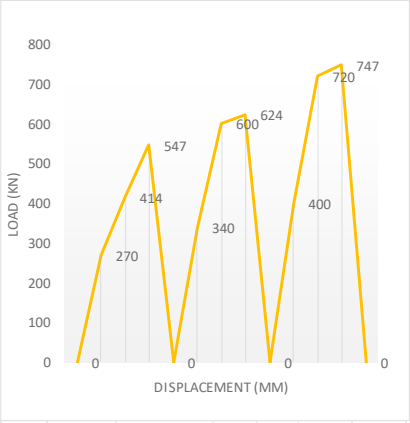
DATE:	17.11.25
h =Load application heigth (m) =	
r = Mesasire point height (cm) =	

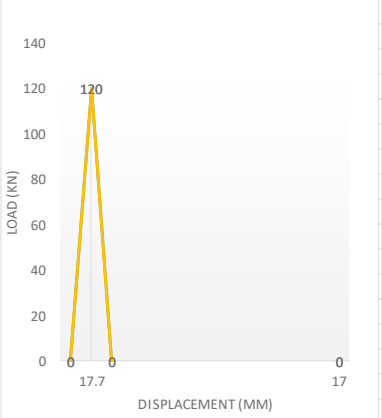
Time (sec)	Goal load (F) (kN)	Applied load (F) (kN)	Displacement (mm)	
30	0.0	0		
30	5.0	120	19.7	17.7
30	10.0	0		
30	15.0			
30	20.0			
30	25.0			
30	30.0			
30	35.0			
30	40.0			
30	45.0			
30	50.0			
30	55.0			
30	60.0			
30	0.0	0	18	17

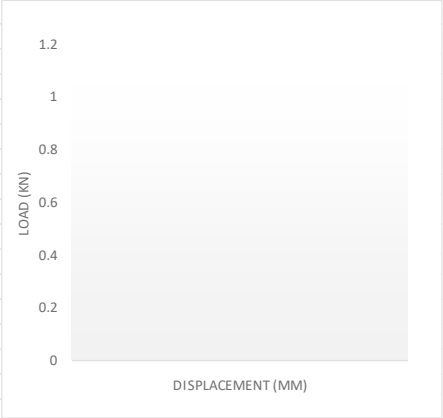
VERTIKAL LOAD TEST - COMPRESSION

DATE:	
h = Load application heigth (m) =	
r = Mesasire point height (cm) =	

Time (sec)	Goal load (F) (kN)	Applied load (F) (kN)	Displacement (mm)	
30	0.0			
30	5.0			
30	10.0			
30	15.0			
30	20.0			
30	25.0			
30	30.0			
30	35.0			
30	40.0			
30	45.0			
30	50.0			
30	55.0			
30	60.0			
30	0.0			







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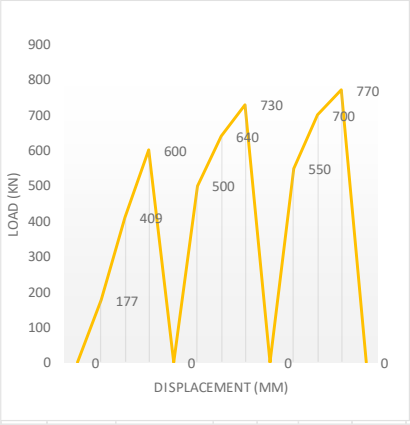
PULL OUT TEST

PROJECT	Energeia - Seval Skog - Norway - 45,21 MWp			TEST ID:	17C
LOCATION	Seval Skog	CLIENT:	Energeia		
COORDINATES:	X:	Y:		RAMMING TEST	
STEEL SECTION:	W6X7	PREDRILLING/ MICROPILE		Ramming depth	Time (sec) / Date
		Diameter (mm)	DATE:	0.0 m to 0.5m	0.21 / 17.11.25
L=Post length (m)=	4	Length (m)		0.5 m to 1.0m	1.07 / REJECTION:
Le=Embedment length (m)=	1.5	Type of filling		1,0 m to 1.5m	3.02
Lc=Canttilever length (m)=	2.5	**NEXTRACKER**		1.5 m to 2.0m	REJECTION REASON
				2.0 m to 2.5m	

LATERAL LOOAD TEST

DATE:	18.11.25
h = Load application heigth (m) =	1.0
r = Mesasire point height (cm) =	10

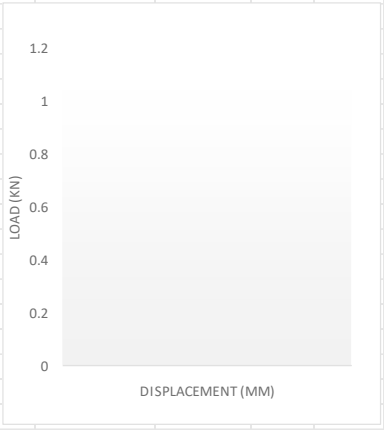
Time (sec)	Applied load (F) (kN)	Goal displacement (mm)	Real displacement (mm)	Displacement (mm)
30	0	0.0		
30	177	5.0	5.1	5.0
30	409	10.0	10.2	10.0
30	600	15.0	15.4	15.0
15	0	0.0	7.4	7.2
30	500	15.0	15.2	14.7
30	640	17.5	18.0	17.3
30	730	20.0	20.5	19.8
15	0	0.0	10.4	9.8
30	550	20.0	20.3	19.5
30	700	22.5	23.6	22.5
30	770	25.0	25.3	24.2
15	0	0	14.7	13.6



VERTICAL LOAD TEST - TENSILE

DATE:	
h =Load application heigth (m) =	
r = Mesasire point height (cm) =	

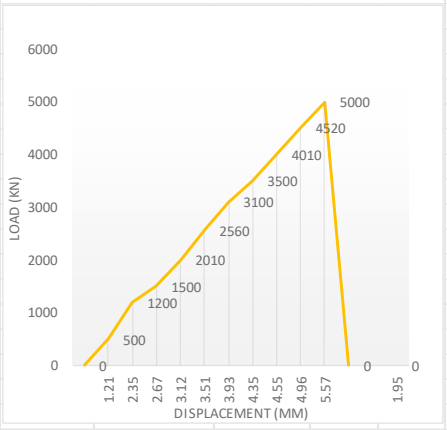
Time (sec)	Goal load (F) (kN)	Applied load (F) (kN)	Displacement (mm)
30	0.0		
30	5.0		
30	10.0		
30	15.0		
30	20.0		
30	25.0		
30	30.0		
30	35.0		
30	40.0		
30	45.0		
30	50.0		
30	55.0		
30	60.0		
30	0.0		



VERTIKAL LOAD TEST - COMPRESSION

DATE:	18.11.25
h = Load application heigth (m) =	
r = Mesasire point height (cm) =	

Time (sec)	Goal load (F) (kN)	Applied load (F) (kN)	Displacement (mm)	
30	0.0	0		
30	5.0	500	0.71	1.21
30	10.0	1200	1	2.35
30	15.0	1500	1	2.67
30	20.0	2010	1.08	3.12
30	25.0	2560	1.1	3.51
30	30.0	3100	1.24	3.93
30	35.0	3500	1.3	4.35
30	40.0	4010	1.47	4.55
30	45.0	4520	1.5	4.96
30	50.0	5000	1.9	5.57
30	55.0	0		
30	60.0			
30	0.0	0	0.77	1.95



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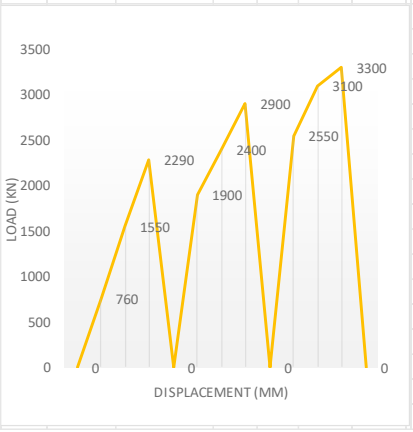
PULL OUT TEST

PROJECT	Energeia - Seval Skog - Norway - 45,21 MWp			TEST ID:	18C
LOCATION	Seval Skog	CLIENT:	Energeia		
COORDINATES:	X:	Y:		RAMMING TEST	
STEEL SECTION:	W6X7	PREDRILLING/ MICROPILE		Ramming depth	Time (sec) / Date
		Diameter (mm)	DATE:	0.0 m to 0.5m	0.15 / 17.11.25
L=Post length (m)=	4	Length (m)		0.5 m to 1.0m	0.20 / REJECTION:
Le=Embedment length (m)=	1.5	Type of filling		1,0 m to 1.5m	0.35
Lc=Canttilever length (m)=	2.5	**NEXTRACKER**		1.5 m to 2.0m	REJECTION REASON
				2.0 m to 2.5m	

LATERAL LOOAD TEST

DATE:	18.11.25
h = Load application heigth (m) =	1.0
r = Mesasire point height (cm) =	10

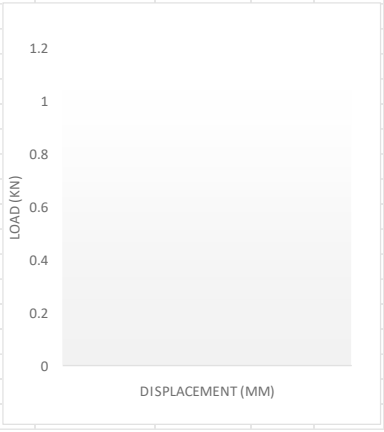
Time (sec)	Applied load (F) (kN)	Goal displacement (mm)	Real displacement (mm)	Displacement (mm)
30	0	0.0		
30	760	5.0	5.2	5.1
30	1550	10.0	10.1	10.0
30	2290	15.0	15.0	14.9
15	0	0.0	2.5	2.4
30	1900	15.0	15.7	15.6
30	2400	17.5	17.5	17.4
30	2900	20.0	20.0	19.7
15	0	0.0	4.4	4.4
30	2550	20.0	20.5	20.4
30	3100	22.5	22.5	22.3
30	3300	25.0	26.1	26.0
15	0	0	7.5	7.3



VERTICAL LOAD TEST - TENSILE

DATE:	
h =Load application heigth (m) =	
r = Mesasire point height (cm) =	

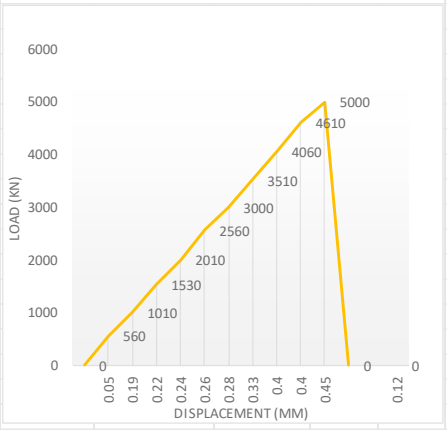
Time (sec)	Goal load (F) (kN)	Applied load (F) (kN)	Displacement (mm)
30	0.0		
30	5.0		
30	10.0		
30	15.0		
30	20.0		
30	25.0		
30	30.0		
30	35.0		
30	40.0		
30	45.0		
30	50.0		
30	55.0		
30	60.0		
30	0.0		



VERTIKAL LOAD TEST - COMPRESSION

DATE:	18.11.25
h = Load application heigth (m) =	
r = Mesasire point height (cm) =	

Time (sec)	Goal load (F) (kN)	Applied load (F) (kN)	Displacement (mm)	
30	0.0	0		
30	5.0	560	0.08	0.05
30	10.0	1010	0.18	0.19
30	15.0	1530	0.2	0.22
30	20.0	2010	0.2	0.24
30	25.0	2560	0.24	0.26
30	30.0	3000	0.27	0.28
30	35.0	3510	0.3	0.33
30	40.0	4060	0.37	0.4
30	45.0	4610	0.39	0.4
30	50.0	5000	0.46	0.45
30	55.0	0		
30	60.0			
30	0.0	0	0.14	0.12



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PULL OUT TEST

PROJECT	Energeia - Seval Skog - Norway - 45,21 MWp			TEST ID:	19C
LOCATION	Seval Skog	CLIENT:	Energeia		
COORDINATES:	X:	Y:		RAMMING TEST	
STEEL SECTION:	W6X7	PREDRILLING/ MICROPILE		Ramming depth	Time (sec) / Date
		Diameter (mm)	DATE:	0.0 m to 0.5m	0.04 / 13.11.25
L=Post length (m)=	4	Length (m)		0.5 m to 1.0m	0.14 / REJECTION:
Le=Embedment length (m)=	1.5	Type of filling		1,0 m to 1.5m	0.22
Lc=Canttilever length (m)=	2.5	**NEXTRACKER**		1.5 m to 2.0m	REJECTION REASON
				2.0 m to 2.5m	

LATERAL LOOAD TEST

DATE:	15.11.25
h = Load application heigth (m) =	1.0
r = Mesasire point height (cm) =	10

Time (sec)	Applied load (F) (kN)	Goal displacement (mm)	Real displacement (mm)	Displacement (mm)
30	0	0.0		
30	618	5.0	5.1	4.6
30	1028	10.0	10.2	9.3
30	1365	15.0	15.5	14.3
15	0	0.0	6.6	5.9
30	1016	15.0	16.0	15.7
30	1326	17.5	17.6	16.4
30	1469	20.0	20.3	19.0
15	0	0.0	9.6	8.8
30	1190	20.0	21.0	20.0
30	1330	22.5	23.9	22.5
30	1450	25.0	26.5	25.0
15	0	0	13.1	12.0

VERTICAL LOAD TEST - TENSILE

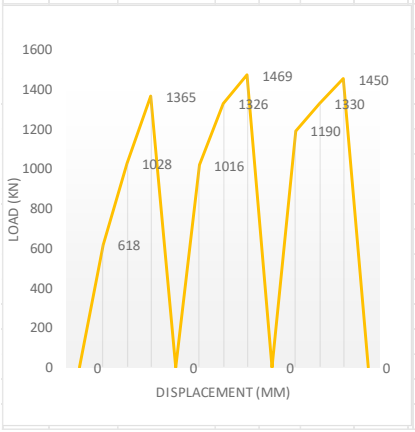
DATE:	
h =Load application heigth (m) =	
r = Mesasire point height (cm) =	

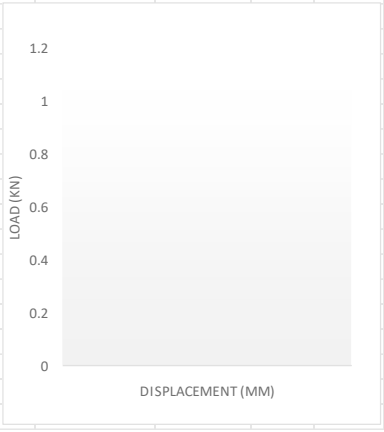
Time (sec)	Goal load (F) (kN)	Applied load (F) (kN)	Displacement (mm)
30	0.0		
30	5.0		
30	10.0		
30	15.0		
30	20.0		
30	25.0		
30	30.0		
30	35.0		
30	40.0		
30	45.0		
30	50.0		
30	55.0		
30	60.0		
30	0.0		

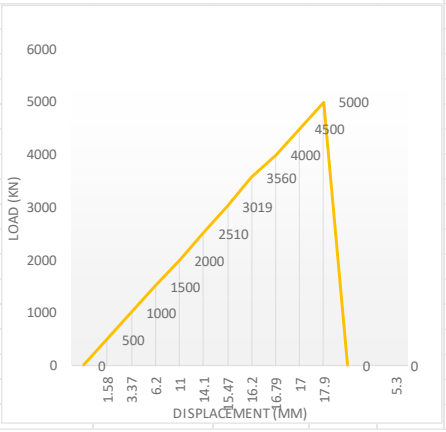
VERTIKAL LOAD TEST - COMPRESSION

DATE:	15.11.25
h = Load application heigth (m) =	
r = Mesasire point height (cm) =	

Time (sec)	Goal load (F) (kN)	Applied load (F) (kN)	Displacement (mm)	
30	0.0	0		
30	5.0	500	0.92	1.58
30	10.0	1000	2.45	3.37
30	15.0	1500	3.8	6.2
30	20.0	2000	4	11
30	25.0	2510	5.6	14.1
30	30.0	3019	5.9	15.47
30	35.0	3560	6.7	16.2
30	40.0	4000	7.45	16.79
30	45.0	4500	8.7	17
30	50.0	5000	9.56	17.9
30	55.0	0		
30	60.0			
30	0.0	0	5.9	5.3







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PULL OUT TEST

PROJECT	Energeia - Seval Skog - Norway - 45,21 MWp			TEST ID:	21C
LOCATION	Seval Skog	CLIENT:	Energeia		
COORDINATES:	X:	Y:		RAMMING TEST	
STEEL SECTION:	W6X7	PREDRILLING/ MICROPILE		Ramming depth	Time (sec) / Date
		Diameter (mm)	DATE:	0.0 m to 0.5m	0.06 / 17.11.25
L=Post length (m)=	4	Length (m)		0.5 m to 1.0m	0.26 / REJECTION:
Le=Embedment length (m)=	2.5	Type of filling		1,0 m to 1.5m	0.37
Lc=Canttilever length (m)=	2.5	**NEXTRACKER**		1.5 m to 2.0m	0.53 / REJECTION REASON
				2.0 m to 2.5m	1.12

LATERAL LOOAD TEST

DATE:	18.11.25
h = Load application heigth (m) =	1.0
r = Mesasire point height (cm) =	10

Time (sec)	Applied load (F) (kN)	Goal displacement (mm)	Real displacement (mm)	Displacement (mm)
30	0	0.0		
30	604	5.0	5.1	5.0
30	1136	10.0	10.4	10.0
30	1720	15.0	16.0	15.0
15	0	0.0	2.0	1.9
30	1630	15.0	15.0	14.9
30	1950	17.5	17.5	16.7
30	2300	20.0	20.3	20.3
15	0	0.0	2.3	1.9
30	1730	20.0	20.0	19.7
30	2100	22.5	23.0	22.5
30	2560	25.0	26.0	25.7
15	0	0	2.5	2.3

VERTICAL LOAD TEST - TENSILE

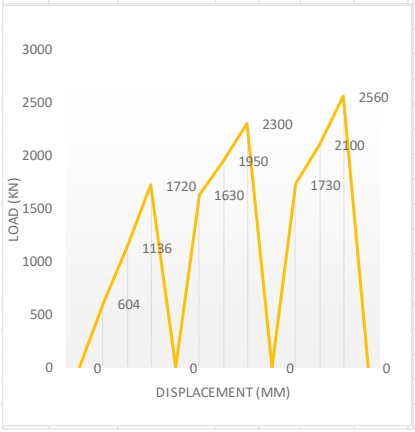
DATE:	
h =Load application heigth (m) =	
r = Mesasire point height (cm) =	

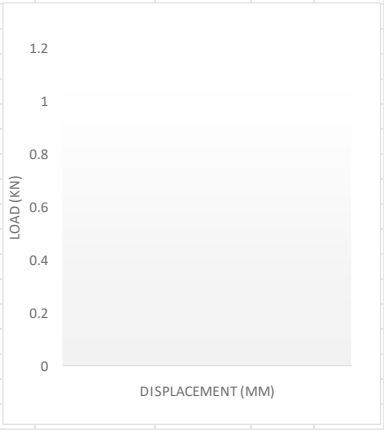
Time (sec)	Goal load (F) (kN)	Applied load (F) (kN)	Displacement (mm)
30	0.0		
30	5.0		
30	10.0		
30	15.0		
30	20.0		
30	25.0		
30	30.0		
30	35.0		
30	40.0		
30	45.0		
30	50.0		
30	55.0		
30	60.0		
30	0.0		

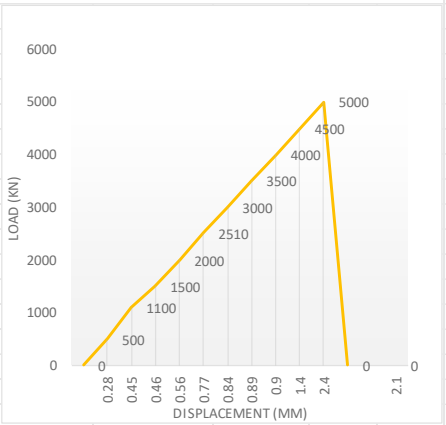
VERTIKAL LOAD TEST - COMPRESSION

DATE:	18.11.25
h = Load application heigth (m) =	
r = Mesasire point height (cm) =	

Time (sec)	Goal load (F) (kN)	Applied load (F) (kN)	Displacement (mm)	
30	0.0	0		
30	5.0	500	0.32	0.28
30	10.0	1100	0.37	0.45
30	15.0	1500	0.52	0.46
30	20.0	2000	0.64	0.56
30	25.0	2510	0.81	0.77
30	30.0	3000	1.1	0.84
30	35.0	3500	1.45	0.89
30	40.0	4000	2	0.9
30	45.0	4500	2.5	1.4
30	50.0	5000	3.6	2.4
30	55.0	0		
30	60.0			
30	0.0	0	2.4	2.1







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PULL OUT TEST

PROJECT	Energeia - Seval Skog - Norway - 45,21 MWp			TEST ID:	22C
LOCATION	Seval Skog	CLIENT:	Energeia		
COORDINATES:	X:	Y:		RAMMING TEST	
STEEL SECTION:	W6X7	PREDRILLING/ MICROPILE		Ramming depth	Time (sec) / Date
		Diameter (mm)	DATE:	0.0 m to 0.5m	0.01 / 17.11.25
L=Post length (m)=	4	Length (m)		0.5 m to 1.0m	0.04 / REJECTION:
Le=Embedment length (m)=	1.5	Type of filling		1,0 m to 1.5m	0.09
Lc=Canttilever length (m)=	2.5	**NEXTRACKER**		1.5 m to 2.0m	REJECTION REASON
				2.0 m to 2.5m	

LATERAL LOOAD TEST

DATE:	18.11.25
h = Load application heigth (m) =	1.0
r = Mesasire point height (cm) =	10

Time (sec)	Applied load (F) (kN)	Goal displacement (mm)	Real displacement (mm)	Displacement (mm)
30	0	0.0		
30	400	5.0	5.7	5.6
30	680	10.0	10.3	10.2
30	900	15.0	15.3	15.2
15	0	0.0	8.4	8.3
30	700	15.0	15.1	14.9
30	900	17.5	18.2	18.0
30	990	20.0	20.5	20.3
15	0	0.0	10.4	10.3
30	830	20.0	20.0	19.8
30	1000	22.5	22.8	22.5
30	1110	25.0	25.6	25.5
15	0	0	13.5	13.3

VERTICAL LOAD TEST - TENSILE

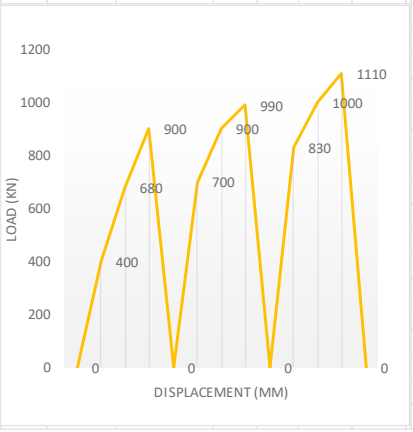
DATE:	
h =Load application heigth (m) =	
r = Mesasire point height (cm) =	

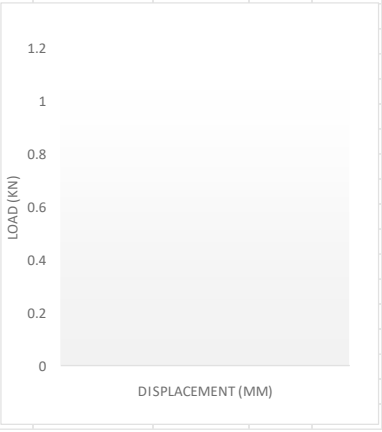
Time (sec)	Goal load (F) (kN)	Applied load (F) (kN)	Displacement (mm)
30	0.0		
30	5.0		
30	10.0		
30	15.0		
30	20.0		
30	25.0		
30	30.0		
30	35.0		
30	40.0		
30	45.0		
30	50.0		
30	55.0		
30	60.0		
30	0.0		

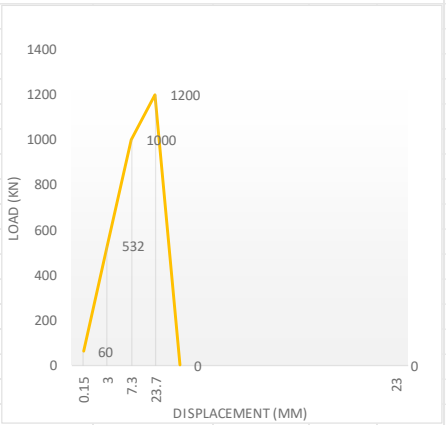
VERTIKAL LOAD TEST - COMPRESSION

DATE:	18.11.25
h = Load application heigth (m) =	
r = Mesasire point height (cm) =	

Time (sec)	Goal load (F) (kN)	Applied load (F) (kN)	Displacement (mm)	
30	0.0	60	0.08	0.15
30	5.0	532	2.9	3
30	10.0	1000	6.9	7.3
30	15.0	1200	22	23.7
30	20.0	0		
30	25.0			
30	30.0			
30	35.0			
30	40.0			
30	45.0			
30	50.0			
30	55.0			
30	60.0			
30	0.0	0	21.7	23







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PULL OUT TEST

PROJECT	Energeia - Seval Skog - Norway - 45,21 MWp			TEST ID:	23C
LOCATION	Seval Skog	CLIENT:	Energeia		
COORDINATES:	X:	Y:		RAMMING TEST	
STEEL SECTION:	W6X7	PREDRILLING/ MICROPILE		Ramming depth	Time (sec) / Date
		Diameter (mm)	DATE:	0.0 m to 0.5m	0.03 / 17.11.25
L=Post length (m)=	4	Length (m)		0.5 m to 1.0m	0.16 / REJECTION:
Le=Embedment length (m)=	2	Type of filling		1,0 m to 1.5m	0.25
Lc=Canttilever length (m)=	2	**NEXTRACKER**		1.5 m to 2.0m	0.38 / REJECTION REASON
				2.0 m to 2.5m	

LATERAL LOOAD TEST

DATE:	18.11.25
h = Load application heigth (m) =	1.0
r = Mesasire point height (cm) =	10

Time (sec)	Applied load (F) (kN)	Goal displacement (mm)	Real displacement (mm)	Displacement (mm)
30	0	0.0		
30	580	5.0	5.1	5.1
30	1080	10.0	10.2	9.8
30	1540	15.0	15.4	14.4
15	0	0.0	2.1	1.7
30	1330	15.0	15.0	14.5
30	1570	17.5	17.5	16.4
30	1830	20.0	20.2	18.8
15	0	0.0	3.3	2.4
30	1630	20.0	20.1	18.6
30	1870	22.5	22.7	20.8
30	2100	25.0	25.2	23.2
15	0	0	3.8	2.4

VERTICAL LOAD TEST - TENSILE

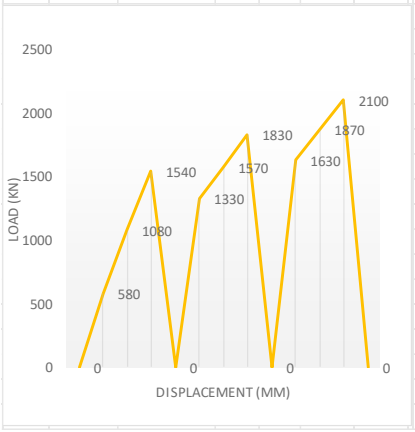
DATE:	
h =Load application heigth (m) =	
r = Mesasire point height (cm) =	

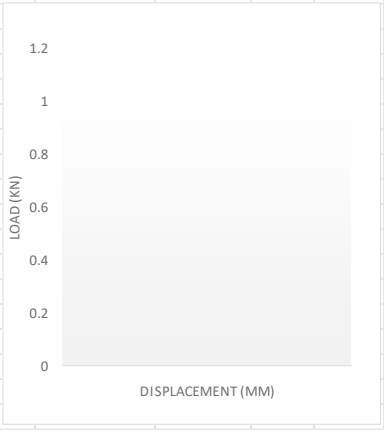
Time (sec)	Goal load (F) (kN)	Applied load (F) (kN)	Displacement (mm)
30	0.0		
30	5.0		
30	10.0		
30	15.0		
30	20.0		
30	25.0		
30	30.0		
30	35.0		
30	40.0		
30	45.0		
30	50.0		
30	55.0		
30	60.0		
30	0.0		

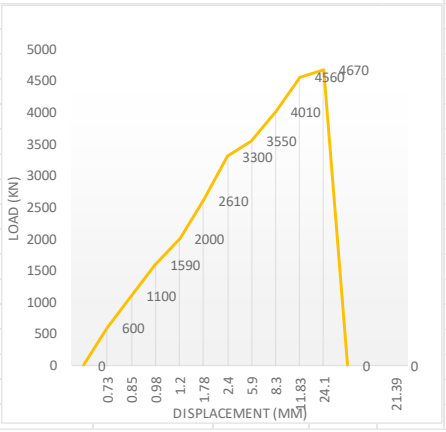
VERTIKAL LOAD TEST - COMPRESSION

DATE:	18.11.25
h = Load application heigth (m) =	
r = Mesasire point height (cm) =	

Time (sec)	Goal load (F) (kN)	Applied load (F) (kN)	Displacement (mm)	
30	0.0	0		
30	5.0	600	0.48	0.73
30	10.0	1100	0.93	0.85
30	15.0	1590	1.58	0.98
30	20.0	2000	2.2	1.2
30	25.0	2610	2.51	1.78
30	30.0	3300	3.4	2.4
30	35.0	3550	5.5	5.9
30	40.0	4010	11.9	8.3
30	45.0	4560	15.6	11.83
30	50.0	4670	25.9	24.1
30	55.0	0		
30	60.0			
30	0.0	0	22.86	21.39







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PULL OUT TEST

PROJECT	Energeia - Seval Skog - Norway - 45,21 MWp			TEST ID:	24T
LOCATION	Seval Skog	CLIENT:	Energeia		
COORDINATES:	X:	Y:		RAMMING TEST	
STEEL SECTION:	W6X15	PREDRILLING/ MICROPILE		Ramming depth	Time (sec) / Date
		Diameter (mm)	DATE:	0.0 m to 0.5m	0.4 / 17.11.25
L=Post length (m)=	4	Length (m)		0.5 m to 1.0m	5.30 / REJECTION:
Le=Embedment length (m)=	0.6	Type of filling		1,0 m to 1.5m	
Lc=Canttilever length (m)=	3.4	**NEXTRACKER**		1.5 m to 2.0m	REJECTION REASON
				2.0 m to 2.5m	

LATERAL LOOAD TEST

DATE:	
h = Load application heigth (m) =	1.0
r = Mesasire point height (cm) =	10

Time (sec)	Applied load (F) (kN)	Goal displacement (mm)	Real displacement (mm)	Displacement (mm)
30	0	0.0		
30		5.0		
30		10.0		
30		15.0		
15	0	0.0		
30		15.0		
30		17.5		
30		20.0		
15	0	0.0		
30		20.0		
30		22.5		
30		25.0		
15	0	0		

VERTICAL LOAD TEST - TENSILE

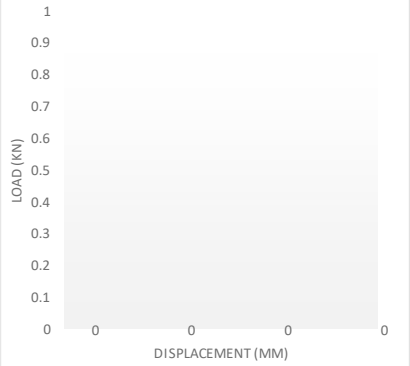
DATE:	18.11.2025
h =Load application heigth (m) =	
r = Mesasire point height (cm) =	

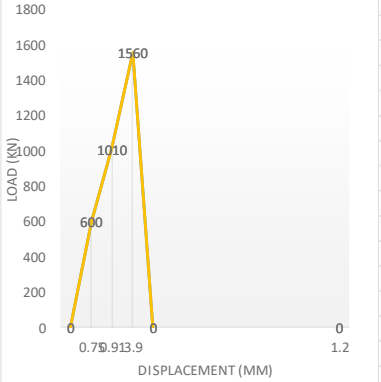
Time (sec)	Goal load (F) (kN)	Applied load (F) (kN)	Displacement (mm)	
30	0.0	0		
30	5.0	600	0.23	0.75
30	10.0	1010	0.28	0.91
30	15.0	1560	1.72	3.9
30	20.0	0		
30	25.0			
30	30.0			
30	35.0			
30	40.0			
30	45.0			
30	50.0			
30	55.0			
30	60.0			
30	0.0	0	0.4	1.2

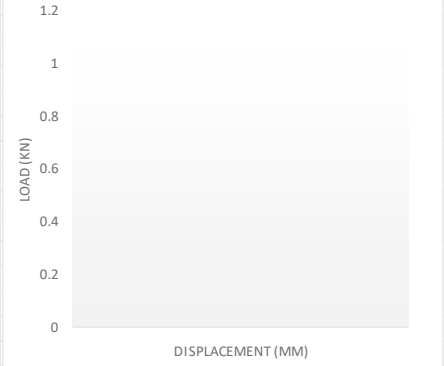
VERTIKAL LOAD TEST - COMPRESSION

DATE:	
h = Load application heigth (m) =	
r = Mesasire point height (cm) =	

Time (sec)	Goal load (F) (kN)	Applied load (F) (kN)	Displacement (mm)	
30	0.0			
30	5.0			
30	10.0			
30	15.0			
30	20.0			
30	25.0			
30	30.0			
30	35.0			
30	40.0			
30	45.0			
30	50.0			
30	55.0			
30	60.0			
30	0.0			







PULL OUT TEST

PROJECT	Energeia - Seval Skog - Norway - 45,21 MWp			TEST ID:	24T-LATERAL
LOCATION	Seval Skog	CLIENT:	Energeia		
COORDINATES:	X:	Y:		RAMMING TEST	
STEEL SECTION:	W6X15	PREDRILLING/ MICROPILE		Ramming depth	Time (sec) / Date
		Diameter (mm)	DATE:	0.0 m to 0.5m	0.06 / 17.11.25
L=Post length (m)=	4	Length (m)		0.5 m to 1.0m	5.05 / REJECTION:
Le=Embedment length (m)=	1	Type of filling		1,0 m to 1.5m	
Lc=Canttilever length (m)=	3	**NEXTRACKER**		1.5 m to 2.0m	REJECTION REASON
				2.0 m to 2.5m	

LATERAL LOOAD TEST

DATE:	18.11.25
h = Load application heigth (m) =	1.0
r = Mesasire point height (cm) =	10

Time (sec)	Applied load (F) (kN)	Goal displacement (mm)	Real displacement (mm)	Displacement (mm)
30	0	0.0		
30	900	5.0	5.1	4.9
30	1300	10.0	11.2	10.9
30	2100	15.0	16.7	15.1
15	0	0.0	8.5	8.2
30	1240	15.0	16.6	15.0
30	1600	17.5	17.7	17.0
30	2100	20.0	21.1	20.7
15	0	0.0	10.0	10.3
30	1540	20.0	20.2	19.7
30	1900	22.5	23.5	22.5
30	2100	25.0	25.4	24.1
15	0	0	12.1	12.0

VERTICAL LOAD TEST - TENSILE

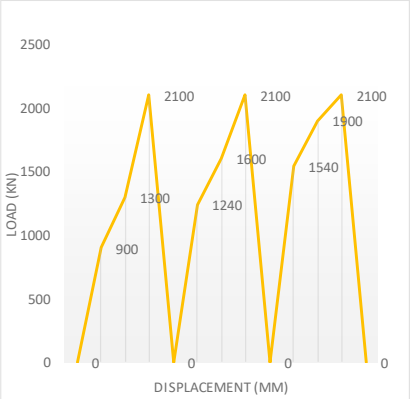
DATE:	
h =Load application heigth (m) =	
r = Mesasire point height (cm) =	

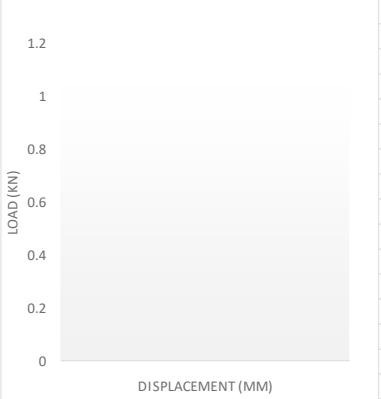
Time (sec)	Goal load (F) (kN)	Applied load (F) (kN)	Displacement (mm)
30	0.0		
30	5.0		
30	10.0		
30	15.0		
30	20.0		
30	25.0		
30	30.0		
30	35.0		
30	40.0		
30	45.0		
30	50.0		
30	55.0		
30	60.0		
30	0.0		

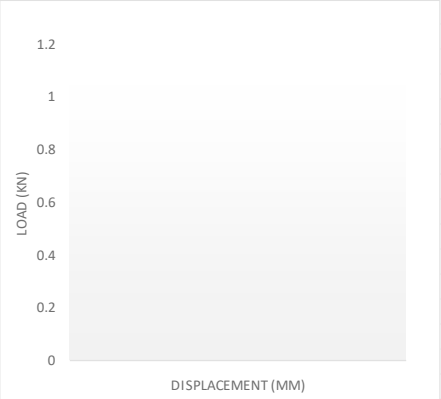
VERTIKAL LOAD TEST - COMPRESSION

DATE:	
h = Load application heigth (m) =	
r = Mesasire point height (cm) =	

Time (sec)	Goal load (F) (kN)	Applied load (F) (kN)	Displacement (mm)
30	0.0		
30	5.0		
30	10.0		
30	15.0		
30	20.0		
30	25.0		
30	30.0		
30	35.0		
30	40.0		
30	45.0		
30	50.0		
30	55.0		
30	60.0		
30	0.0		







ANNEX C – PILE TEST LOCATIONS AND COORDINATES

Number	Latitude	Longitude	SECTION	LENGTH (m)	TYPE OF TEST	
					TENSILE	COMPRESION
1T-Tension	60.797474	10.386928	W6X7	1.5	X	
1T-Lateral	60.797413	10.386954	W6X7	1.5	X	
2T-Lateral	60.7972	10.387054	W6X15	2	X	
2T-Tension	60.797255	10.387027	W6X15	2	X	
3C	60.796914	10.38427	W6X7	2.5		X
4C	60.796829	10.388982	W6X15	1.5		X
5C	60.797142	10.379124	W6X7	2		X
6C	60.796734	10.385734	W6X7	2.5		X
7T-Tension	60.79689	10.388452	W6X7	1.5	X	
7T-Lateral	60.796762	10.388463	W6X7	1.5		
8C	60.79584	10.3769833	W6X15	2		X
9C	60.795764	10.382426	W6X15	2.5		X
10C	60.794388	10.375617	W6X7	1.5		X
11T-Tension	60.7949	10.379028	W6X7	2	X	
12T-Tension	60.795112	10.383284	W6X7	2	X	
12T-Lateral	60.795166	10.383269	W6X7	2.5	X	
13C	60.793807	10.38269	W6X15	1.5		X
14T	60.793373	10.37201	W6X15	2	X	
15C	60.79339	10.375646	W6X7	2.5		X
16T-Tension	60.794689	10.377999	W6X7	1.5	X	
16T-Lateral	60.794611	10.378083	W6X7	1.5	X	
17C	60.791449	10.38127	W6X7	2		X
18C	60.792158	10.384531	W6X7	2.5		X
19C	60.792708	10.372261	W6X7	1.5		X
21C	60.788692	10.37195	W6X7	2.5		X
22C	60.791085	10.381197	W6X7	1.5		X
24T-Tension	60.788332	10.373716	W6X15	2.5	X	
24T-Lateral	60.788362	10.373803	W6X15	2.5	X	

C=Compression T=Tensile S=Saturation test

PILE TEST LOCATIONS AND COORDINATES FOR THE SPRING

Number	Latitude	Longitude	SECTION	LENGTH (m)	TYPE OF TEST	
					TENSILE	COMPRESION
1T Spring	60.797353	10.387004	W6X7	1.5	X	
1T Spring	60.79732	10.386979	W6X7	1.5	X	
2T Spring	60.797191	10.387007	W6X15	2	X	
4C Spring	60.796834	10.388991	W6X15	1.5		X
10C Spring	60.794349	10.375676	W6X7	1.5		X
12T-Tension Spring	60.795141	10.383329	W6X7	2.5	X	
12T-Lateral Spring	60.79515	10.383198	W6X7	2.5	X	
14T-Lateral Spring	60.793425	10.371942	W6X15	2	X	
14T-Tension Spring	60.793399	10.371861	W6X15	2	X	
12T-Tension Spring	60.795141	10.383329	W6X7	2.5	X	
12T-Lateral Spring	60.79515	10.383198	W6X7	2.5	X	
16T-Lateral Spring	60.794594	10.378035	W6X7	1.5	X	
16T-Tension Spring	60.79463	10.378164	W6X7	1.5	X	
17C Spring	60.791425	10.381359	W6X7	2		X
20C Spring	60.790451	10.380316	W6X15	2		X
22C Spring	60.791108	10.381397	W6X7	1.5		X
23C	60.789409	10.378228	W6X7	2		X
24T Spring	60.788485	10.37375	W6X15	2.5	X	
24T Spring	60.788413	10.373698	W6X15	2.5	X	

C=Compression T=Tensile S=Saturation test

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