

To: NVE  
Attn.: Gustav Pless  
Copy to:  
Date: 2019-01-07  
Revision no./Rev.date: 1 / 2020-03-27  
Document no.: 20180662-01-TN  
Project: Drainage Åknes  
Project manager: Kristin Hilde Holmøy  
Prepared by: Henrik Langeland  
Reviewed by: Kristin Hilde Holmøy

---

## Input to data report on hydraulic investigations in boreholes - from 2017 and 2018

### Contents

<b>1</b>	<b>Introduction</b>	<b>2</b>
<b>2</b>	<b>Methodology</b>	<b>3</b>
	2.1 Packer tests	3
	2.2 2017 boreholes	3
	2.3 2018 boreholes	5
<b>3</b>	<b>Results</b>	<b>5</b>
<b>4</b>	<b>References</b>	<b>7</b>

### Appendix

A – Geodrilling report packer test KH-01-2017  
B – Geodrilling report packer test KH-02-2017  
C – Geodrilling report packer test KH-01-2018  
D – Geodrilling report packer test KH-02-2018

### Review and reference page

# 1 Introduction

This technical note is revised and include a summary of methodology and results from packer tests in 2017 and 2018 boreholes. The packer tests were performed with both single step pressure tests and 5 step pressure tests.

Packer test "Lugeon tests" were performed in borehole KH-01-2017 and KH-02-2017 in August and October/November 2017 and KH-01-2018 and KH-02-2018 in July/August and September/October 2018 (Figure 1). Testing was performed by Geodrilling.

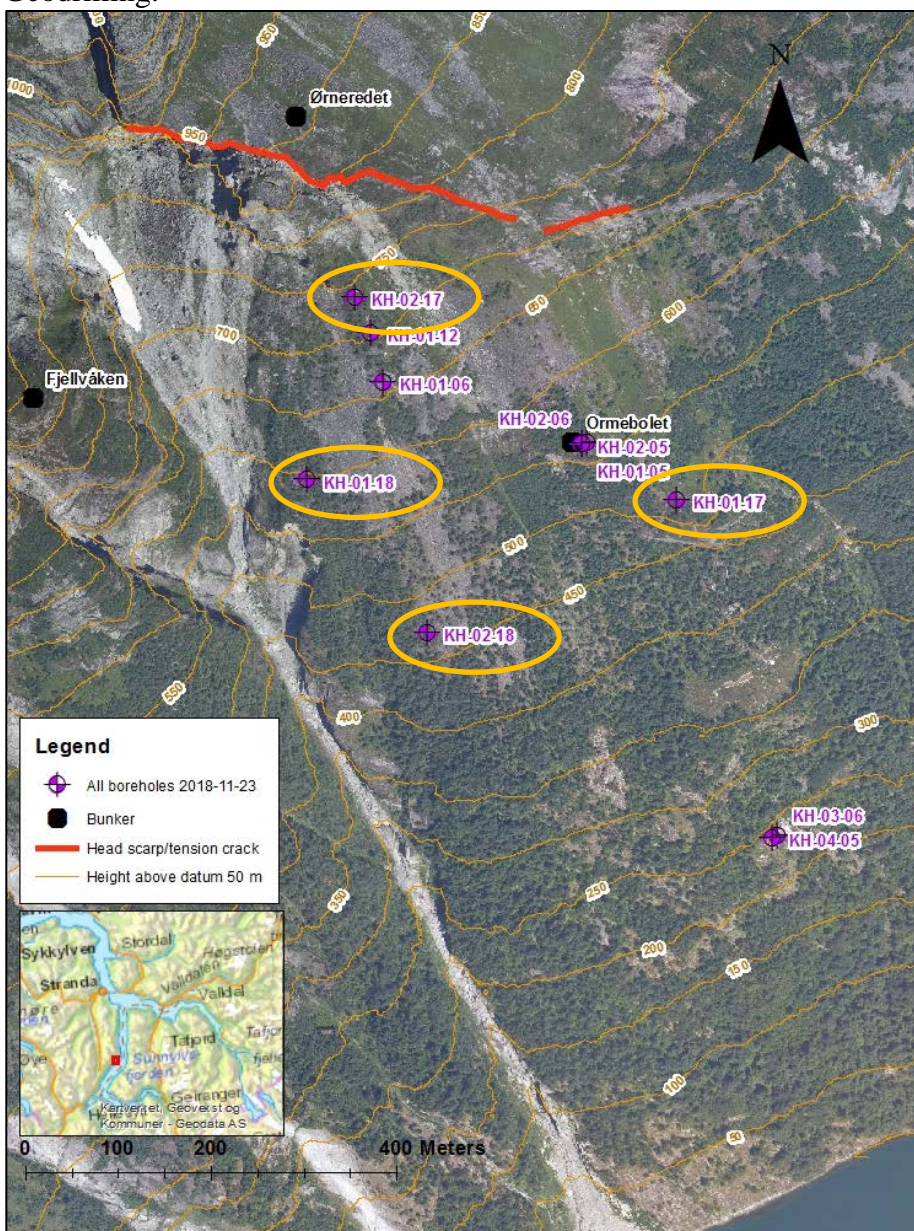


Figure 1. Overview of instrumentation and boreholes at Åknes rock slope.

## 2 Methodology

### 2.1 Packer tests

Packer tests, sometimes named Lugeon test after Maurice Lugeon (Lugeon, 1933), was performed in all 2017- and 2018 boreholes, however the entire borehole length is not continuously tested in any borehole.

The packer test was originally developed for assessing the need for foundation grouting at dam sites and the test have been modified from its original method (Houlsby, 1976). Fell et al. (2015) describe the test as: "The use of successive rising and falling test pressures establishes the relationship between the volume of water accepted into the section and the pressure, to provide an estimation of permeability, and indicate water flow mechanisms. As rock substance is generally almost impermeable, the permeability determined in this test represents an indication of the number, continuity and opening of the rock defects which intersect the wall of the borehole in the test section".

The permeability is expressed in terms of the *Lugeon value*, which is empirically defined as the hydraulic conductivity required to achieve a flow rate of 1 liter/minute per meter of test interval at an over-pressure of 1 MPa (Houlsby, 1976, Quiñones-Rozo, 2010, Fell et al., 2015):

$$\text{Lugeon value} = \text{water taken in test (litres/meter/min)} * (10 \text{ (bars)} / \text{test pressure (bars)})$$

### 2.2 2017 boreholes

Testing in KH-01-2017 was performed during drilling, with an inflatable packer as the upper packer and the bottom of the borehole as the "lower" packer. Two sections were tested, but the inflatable packer was wrecked in both tests (Table 1).

Table 1. Overview of the test sections in KH01-2017.

Zone	Packer test	Packer placement		Length	Groundwater before test	Groundwater after test	Test status
		From	To				
		meter	meter	meter	meter	meter	
Zone 1	1 stage	-84	-88,9	4,90			Unsuccessful, wrecked (upper) packer
Zone 2	1 stage	-69	-88,9	19,90			Unsuccessful, wrecked (upper) packer

In borehole KH-02-2017 testing was performed after drilling, and prior to testing the borehole was logged with flowmeter, and optical televiewer. In addition, core logging of the upper approximately 150 meters was performed. Based on available results from investigations carried out, specified sections was determined to be tested (Table 2).

Table 2. Overview of the test sections in KH-02-2017.

Zone	Packer test	Packer placement		Length	Groundwater before test	Groundwater after test	Test status
		From	To				
		meter	meter	meter	meter	meter	
Zone 1	1 stage	-66,50	-73,50	7,00	-70,00		Successful
Zone 2	5 stage	-84,50	-87,00	2,50	-78,50	-76,20	Successful
Zone 3	1 stage	-88,20	-90,50	2,30	-77,00		Successful
Zone 4	1 stage	-111,30	-114,30	3,00	-77,00		Successful
Zone 5	5 stage	-120,50	-123,50	3,00	-77,60	-76,10	Successful
Zone 6	1 stage	-268,00	-271,50	3,50	-77,40	-74,50	Successful

### 2.2.1 Methodology for packer tests in 2017 boreholes

The tests were conducted with a single packer system in KH-01-2017 and a double-packer system in KH-02-2017 (Beale and Read, 2013, Fell et al., 2015), after the principles in NS-EN 22282-3:2012 (NS-EN, 2012). NS-EN (2012) demands that a continuous log is registered during testing, readings every 5 second for an automatic-system and every 1 minute with a manual system. This is to ensure a log showing the entire test procedure, not only during the specified pressure steps. The tests were performed with following procedure:

- Readings started when pressure in the test zone was stable.
- When the pressure is stable over time, total water loss is registered.

This deviates from NS-EN (2012) by:

- The entire test procedure is not registered, only during the pressure steps.
- Readings of water loss is performed manually when the value is stabilized, not every 5 second or 1 minute during the test.

The following method was used to conduct packer tests in the different sections in borehole KH-02-2017 (In borehole KH-01-2017, where testing was performed with single packer system, only step 3 was performed):

- 1) Geodrilling positioned the lower packers (VanRuth, 2017) in each zone successively upwards, starting at the lowermost zone (zone 6) in the borehole.
- 2) After placing all lower packers successively upwards, Geodrilling where ready for testing of zone 1 (Table 2).

- 3) Testing zone 1, 2, 3 and so on:
  - a) Ground water level was measured before testing started (only in KH-02-2017).
  - b) Lugeon tests were performed by lowering the upper (inflatable) packer through the drill rod, to the designated packer spot.
  - c) Testing of the zone initiated and completed.
- 4) When testing was completed in zone 1, the upper packer was deflated and extracted through the drill rod, and the lower packer was removed by core drilling.
- 5) After drilling the lower packer, zone 2 was exposed and ready for testing. This methodology was carried out for testing in all the zones.

## 2.3 2018 boreholes

The test in borehole KH-01-2018 and KH-02-2018 was conducted with a double-packer system (Beale and Read, 2013, Fell et al., 2015) as in borehole 02-2017, after the principles in NS-EN 22282-3:2012 (NS-EN, 2012).

NS-EN (2012) demands that a continuous log is registered during testing, readings every 5 second for an automatic system and every 1 minute with a manual system. This is to ensure a log showing the entire test procedure, not only during the specified pressure steps. Readings every 1 minute was performed in all 5 stage tests in 2018 boreholes.

## 3 Results

Results from packer test are received in report format from Geodrilling and unedited attached in appendix (Appendix A - D). Results are summarized in Table 3- 6.

Table 3. Calculated Lugeon values in KH-01-2017.

Zone	Packer test	From	To	Length	Lugeon (l/min/m)
		Meter	Meter	Meter	
1	1 stage	-84	-88,9	4,9	0,81
2	1 stage	-69	-88,9	19,9	2,36

Table 4. Calculated Lugeon values in KH-02-2017.

Zone	Packer test	From	To	Length	Lugeon (l/min/m)
		Meter	Meter	Meter	
1	1 stage	-66,50	-73,50	7,00	11,63
2	5 stage	-84,50	-87,00	2,50	8
3	1 stage	-88,20	-90,50	2,30	45,219
4	1 stage	-111,30	-114,30	3,00	2
5	5 stage	-120,50	-123,50	3,00	12
6	1 stage	-268,00	-271,50	3,50	3,14

Table 5. Results from packer tests KH-01-2018.

Zone	Packer test	From	To	Length	Lugeon (l/min/m)
		Meter	Meter	Meter	
Zone 1	5 stage	41	47	6	6,43
Zone 2	5 stage	47,9	53,9	6	4,74
Zone 3	5 stage	53,9	59,9	6	11,43
Zone 4	5 stage	65,5	71,5	6	1,5
Zone 5	5 stage	72,5	78,5	6	0
Zone 6	5 stage	84,5	90,5	6	0,1
Zone 7	5 stage	141	147	6	4,24
Zone 8	5 stage	158,9	164,9	6	0
Zone 9	5 stage	164,8	170,8	6	0
Zone 10	5 stage	170,8	176,8	6	0
Zone 11	5 stage	176,8	182,9	6,1	0
Zone 12	5 stage	182,9	188,9	6	0
Zone 13	5 stage	188,9	194,9	6	0
Zone 14	5 stage	194,9	200,9	6	0
Zone 15	5 stage	200,9	206,9	6	0
Zone 16	5 stage	206,9	212,9	6	0
Zone 17	5 stage	212,9	218,9	6	0
Zone 18	5 stage	218,9	222,6	3,7	2,95

Table 6. Results from packer tests KH-02-2018.

Zone	Packer test	From	To	Length	Lugeon (l/min/m)
		Meter	Meter	Meter	
Zone 1	5 stage	30	36	6	0
Zone 2	5 stage	35,8	41,8	6	24,917
Zone 3	5 stage	51	57,1	6,1	27,706
Zone 4	5 stage	57	63	6	29,25
Zone 5	5 stage	63	69	6	10,233
Zone 6	5 stage	69	76	7	0,536
Zone 7	5 stage	75,5	82,5	7	0
Zone 8	5 stage	82,5	88	5,5	0
Zone 9	5 stage	93	99	6	0,217
Zone 10	5 stage	101	109,5	8,5	0,436
Zone 11	5 stage	122	130,5	8,5	0,847
Zone 12	5 stage	138	145	7	0,171
Zone 13	5 stage	148	154	6	0
Zone 14	5 stage	154	160	6	0,567
Zone 15	5 stage	160	166	6	0
Zone 16	5 stage	185	200	15	0,6

## 4 References

- BEALE, G. & READ, J. 2013. *Guidelines for evaluating water in pit slope stability*, Australia and New Zealand, CSIRO Publishing.
- FELL, R., MACGREGOR, P., STAPLEDON, D., BELL, G. & FOSTER, M. 2015. *Geotechnical Engineering of Dams, 2nd Edition*, London, CRC Press.
- HOULSBY, A. 1976. Routine interpretation of the Lugeon water-test. *Quarterly Journal of Engineering Geology and Hydrogeology*, 9, 303-313.
- NS-EN 2012. Geotekniske felt- og laboratorieundersøkelser. Hydraulisk prøving Del 3: Vanntapsmåling i berg. *Geotechnical investigation and testing Geohydraulic testing Part 3: Water pressure tests in rock (ISO 22282-3:2012)*. Norsk Standard, EN ISO.
- QUIÑONES-ROZO, C. 2010. Lugeon test interpretation, revisited. *Collaborative Management of Integrated Watersheds, United States Society on Dams, 30th Annual Conference*. Sacramento, California.
- VANRUTH. 2017. *CEMENTING AND WEDGING BOTTOM PACKERS (CWBP)* [Online]. Available: [http://www.vanruth.com/instructions/cementing\\_wedging\\_bottom\\_packer.pdf](http://www.vanruth.com/instructions/cementing_wedging_bottom_packer.pdf) [Accessed].

# Appendix A

PACKER TEST KH-01-2017

## Contents

<b>A1</b>	<b>Packer test KH-01-2017</b>	<b>2</b>
-----------	-------------------------------	----------



## **A1 Packer test KH-01-2017**



# Appendix B

PACKER TEST KH-02-2017

## Contents

**B1 Packer test KH-02-2017**

**2**



## **B1 Packer test KH-02-2017**















# Appendix C

PACKER TEST KH-01-2018

## Contents

<b>C1</b>	<b>Packer test KH-01-2018</b>	<b>2</b>
-----------	-------------------------------	----------

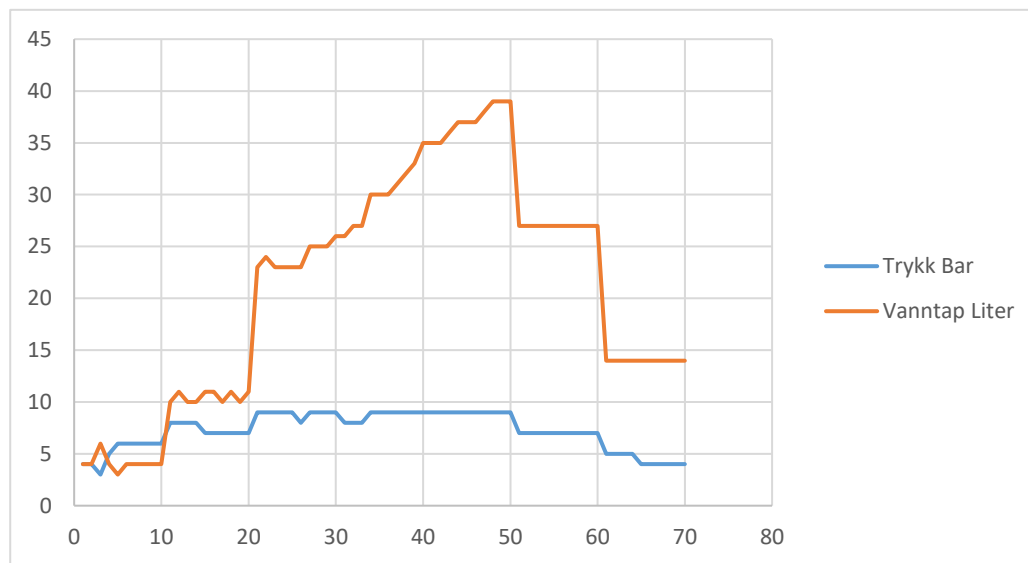


## **C1 Packer test KH-01-2018**

Rapport Vanntapsmåling 5 steps Lugeon								
Lokalitet:	Åknes							
Borehull:	KH-01-18							
Vannspeil	5.3m							
Dato	11.08.2018							
Måleseksjon	Fra	41,9	Til	47,9	Lengde	6		
	Minutt	Trykk	Vannmengde		Tid	Vanntap pr min	Vanntap Mpa	Ved 0,98
			Målt	Korr for 0,98 Mpa (10kp/cm2)			Pr. seksjon	Pr. Lugeon
		[98 KPa] kPa/cm2	[l]	[l]	[Min]	[l/Min]	[l/Min]	[l/Min/m]
	1		2	3=(2/1)x10	4	5=2/4	6=3/4	7=6/m
Trinn 1	1	4	4	10	1	4	10	1,66666667
	2	4	4	10	1	4	10	1,66666667
	3	3	6	20	1	6	20	3,33333333
	4	5	4	8	1	4	8	1,33333333
	5	6	3	5	1	3	5	0,83333333
	6	6	4	6,66666667	1	4	6,66666667	1,11111111
	7	6	4	6,66666667	1	4	6,66666667	1,11111111
	8	6	4	6,66666667	1	4	6,66666667	1,11111111
	9	6	4	6,66666667	1	4	6,66666667	1,11111111
	10	6	4	6,66666667	1	4	6,66666667	1,11111111
Trinn 2	11	8	10	12,5	1	10	12,5	2,08333333
	12	8	11	13,75	1	11	13,75	2,29166667
	13	8	10	12,5	1	10	12,5	2,08333333
	14	8	10	12,5	1	10	12,5	2,08333333
	15	7	11	15,7142857	1	11	15,7142857	2,61904762
	16	7	11	15,7142857	1	11	15,7142857	2,61904762
	17	7	10	14,2857143	1	10	14,2857143	2,38095238
	18	7	11	15,7142857	1	11	15,7142857	2,61904762
	19	7	10	14,2857143	1	10	14,2857143	2,38095238

	20	7	11	15,7142857	1	11	15,7142857	2,61904762
Trinn 3	21	9	23	25,5555556	1	23	25,5555556	4,25925926
	22	9	24	26,6666667	1	24	26,6666667	4,44444444
	23	9	23	25,5555556	1	23	25,5555556	4,25925926
	24	9	23	25,5555556	1	23	25,5555556	4,25925926
	25	9	23	25,5555556	1	23	25,5555556	4,25925926
	26	8	23	28,75	1	23	28,75	4,79166667
	27	9	25	27,7777778	1	25	27,7777778	4,62962963
	28	9	25	27,7777778	1	25	27,7777778	4,62962963
	29	9	25	27,7777778	1	25	27,7777778	4,62962963
	30	9	26	28,8888889	1	26	28,8888889	4,81481481
	31	8	26	32,5	1	26	32,5	5,41666667
	32	8	27	33,75	1	27	33,75	5,625
	33	8	27	33,75	1	27	33,75	5,625
	34	9	30	33,3333333	1	30	33,3333333	5,55555556
	35	9	30	33,3333333	1	30	33,3333333	5,55555556
	36	9	30	33,3333333	1	30	33,3333333	5,55555556
	37	9	31	34,4444444	1	31	34,4444444	5,74074074
	38	9	32	35,5555556	1	32	35,5555556	5,92592593
	39	9	33	36,6666667	1	33	36,6666667	6,11111111
	40	9	35	38,8888889	1	35	38,8888889	6,48148148
	41	9	35	38,8888889	1	35	38,8888889	6,48148148
	42	9	35	38,8888889	1	35	38,8888889	6,48148148
	43	9	36	40	1	36	40	6,66666667
	44	9	37	41,1111111	1	37	41,1111111	6,85185185
	45	9	37	41,1111111	1	37	41,1111111	6,85185185
	46	9	37	41,1111111	1	37	41,1111111	6,85185185
	47	9	38	42,2222222	1	38	42,2222222	7,03703704
	48	9	39	43,3333333	1	39	43,3333333	7,22222222
	49	9	39	43,3333333	1	39	43,3333333	7,22222222
	50	9	39	43,3333333	1	39	43,3333333	7,22222222
	51	7	27	38,5714286	1	27	38,5714286	6,42857143
	52	7	27	38,5714286	1	27	38,5714286	6,42857143

Trinn 4	53	7	27	38,5714286	1	27	38,5714286	6,42857143
	54	7	27	38,5714286	1	27	38,5714286	6,42857143
	55	7	27	38,5714286	1	27	38,5714286	6,42857143
	56	7	27	38,5714286	1	27	38,5714286	6,42857143
	57	7	27	38,5714286	1	27	38,5714286	6,42857143
	58	7	27	38,5714286	1	27	38,5714286	6,42857143
	59	7	27	38,5714286	1	27	38,5714286	6,42857143
	60	7	27	38,5714286	1	27	38,5714286	6,42857143
Trinn 5	61	5	14	28	1	14	28	4,66666667
	62	5	14	28	1	14	28	4,66666667
	63	5	14	28	1	14	28	4,66666667
	64	5	14	28	1	14	28	4,66666667
	65	4	14	35	1	14	35	5,83333333
	66	4	14	35	1	14	35	5,83333333
	67	4	14	35	1	14	35	5,83333333
	68	4	14	35	1	14	35	5,83333333
	69	4	14	35	1	14	35	5,83333333
	70	4	14	35	1	14	35	5,83333333

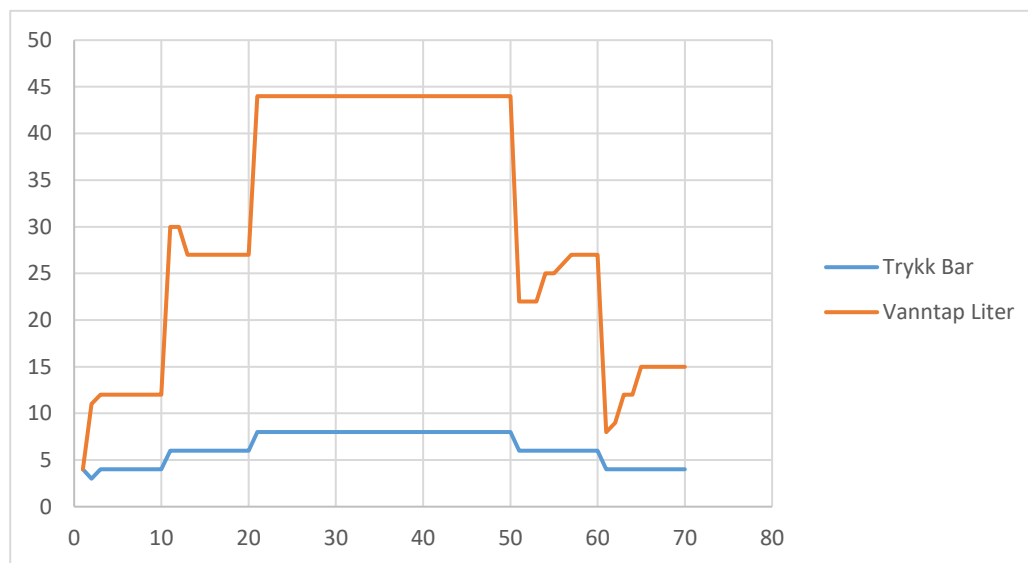




Rapport Vanntapsmåling 5 steps Lugeon								
Lokalitet:	Åknes							
Borehull:	KH-01-18							
Vannspeil	5,3							
Dato	11.08.2018							
Måleseksjon	Fra	47,9	Til	53,9	Lengde	6		
	Minutt	Trykk	Vannmengde		Tid	Vanntap pr min	Vanntap Mpa	Ved 0,98
			Målt	Korr for 0,98 Mpa (10kp/cm2)			Pr. seksjon	Pr. Lugeon
		[98 KPa] kPa/cm2	[l]	[l]	[Min]	[l/Min]	[l/Min]	[l/Min/m]
	1		2	3=(2/1)x10	4	5=2/4	6=3/4	7=6/m
Trinn 1	1	4	4	10	1	4	10	1,66666667
	2	3	11	36,6666667	1	11	36,6666667	6,11111111
	3	4	12	30	1	12	30	5
	4	4	12	30	1	12	30	5
	5	4	12	30	1	12	30	5
	6	4	12	30	1	12	30	5
	7	4	12	30	1	12	30	5
	8	4	12	30	1	12	30	5
	9	4	12	30	1	12	30	5
	10	4	12	30	1	12	30	5
Trinn 2	11	6	30	50	1	30	50	8,33333333
	12	6	30	50	1	30	50	8,33333333
	13	6	27	45	1	27	45	7,5
	14	6	27	45	1	27	45	7,5
	15	6	27	45	1	27	45	7,5
	16	6	27	45	1	27	45	7,5
	17	6	27	45	1	27	45	7,5
	18	6	27	45	1	27	45	7,5
	19	6	27	45	1	27	45	7,5

Trinn 3	20	6	27	45	1	27	45	7,5
	21	8	44	55	1	44	55	9,16666667
	22	8	44	55	1	44	55	9,16666667
	23	8	44	55	1	44	55	9,16666667
	24	8	44	55	1	44	55	9,16666667
	25	8	44	55	1	44	55	9,16666667
	26	8	44	55	1	44	55	9,16666667
	27	8	44	55	1	44	55	9,16666667
	28	8	44	55	1	44	55	9,16666667
	29	8	44	55	1	44	55	9,16666667
	30	8	44	55	1	44	55	9,16666667
	31	8	44	55	1	44	55	9,16666667
	32	8	44	55	1	44	55	9,16666667
	33	8	44	55	1	44	55	9,16666667
	34	8	44	55	1	44	55	9,16666667
	35	8	44	55	1	44	55	9,16666667
	36	8	44	55	1	44	55	9,16666667
	37	8	44	55	1	44	55	9,16666667
	38	8	44	55	1	44	55	9,16666667
	39	8	44	55	1	44	55	9,16666667
	40	8	44	55	1	44	55	9,16666667
	41	8	44	55	1	44	55	9,16666667
	42	8	44	55	1	44	55	9,16666667
	43	8	44	55	1	44	55	9,16666667
	44	8	44	55	1	44	55	9,16666667
	45	8	44	55	1	44	55	9,16666667
	46	8	44	55	1	44	55	9,16666667
	47	8	44	55	1	44	55	9,16666667
	48	8	44	55	1	44	55	9,16666667
	49	8	44	55	1	44	55	9,16666667
	50	8	44	55	1	44	55	9,16666667
51	6	22	36,6666667	1	22	36,6666667	6,11111111	
52	6	22	36,6666667	1	22	36,6666667	6,11111111	

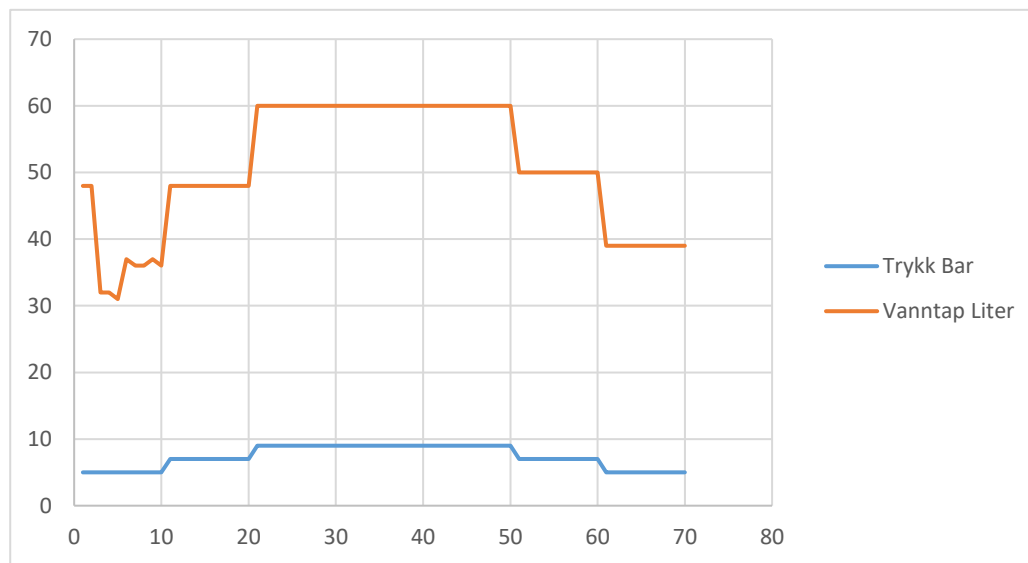
Trinn 4	53	6	22	36,6666667	1	22	36,6666667	6,111111111
	54	6	25	41,6666667	1	25	41,6666667	6,944444444
	55	6	25	41,6666667	1	25	41,6666667	6,944444444
	56	6	26	43,33333333	1	26	43,33333333	7,222222222
	57	6	27	45	1	27	45	7,5
	58	6	27	45	1	27	45	7,5
	59	6	27	45	1	27	45	7,5
	60	6	27	45	1	27	45	7,5
Trinn 5	61	4	8	20	1	8	20	3,333333333
	62	4	9	22,5	1	9	22,5	3,75
	63	4	12	30	1	12	30	5
	64	4	12	30	1	12	30	5
	65	4	15	37,5	1	15	37,5	6,25
	66	4	15	37,5	1	15	37,5	6,25
	67	4	15	37,5	1	15	37,5	6,25
	68	4	15	37,5	1	15	37,5	6,25
	69	4	15	37,5	1	15	37,5	6,25
	70	4	15	37,5	1	15	37,5	6,25



Rapport Vanntapsmåling 5 steps Lugeon								
Lokalitet:	Åknes							
Borehull:	KH-01-18							
Vannspeil:	39.6m							
Dato:	12.08.2018							
Måleseksjon	Fra	53,9	Til	59,9	Lengde	6		
	Minutt	Trykk	Vannmengde		Tid	Vanntap pr min	Vanntap Mpa	Ved 0,98
			Målt	Korr for 0,98 Mpa (10kp/cm2)			Pr. seksjon	Pr. Lugeon
		[98 KPa] kPa/cm2	[l]	[l]	[Min]	[l/Min]	[l/Min]	[l/Min/m]
	1		2	3=(2/1)x10	4	5=2/4	6=3/4	7=6/m
Trinn 1	1	5	48	96	1	48	96	16
	2	5	48	96	1	48	96	16
	3	5	32	64	1	32	64	10,6666667
	4	5	32	64	1	32	64	10,6666667
	5	5	31	62	1	31	62	10,3333333
	6	5	37	74	1	37	74	12,3333333
	7	5	36	72	1	36	72	12
	8	5	36	72	1	36	72	12
	9	5	37	74	1	37	74	12,3333333
	10	5	36	72	1	36	72	12
Trinn 2	11	7	48	68,5714286	1	48	68,5714286	11,4285714
	12	7	48	68,5714286	1	48	68,5714286	11,4285714
	13	7	48	68,5714286	1	48	68,5714286	11,4285714
	14	7	48	68,5714286	1	48	68,5714286	11,4285714
	15	7	48	68,5714286	1	48	68,5714286	11,4285714
	16	7	48	68,5714286	1	48	68,5714286	11,4285714
	17	7	48	68,5714286	1	48	68,5714286	11,4285714
	18	7	48	68,5714286	1	48	68,5714286	11,4285714
	19	7	48	68,5714286	1	48	68,5714286	11,4285714

Trinn 3	20	7	48	68,5714286	1	48	68,5714286	11,4285714
	21	9	60	66,6666667	1	60	66,6666667	11,1111111
	22	9	60	66,6666667	1	60	66,6666667	11,1111111
	23	9	60	66,6666667	1	60	66,6666667	11,1111111
	24	9	60	66,6666667	1	60	66,6666667	11,1111111
	25	9	60	66,6666667	1	60	66,6666667	11,1111111
	26	9	60	66,6666667	1	60	66,6666667	11,1111111
	27	9	60	66,6666667	1	60	66,6666667	11,1111111
	28	9	60	66,6666667	1	60	66,6666667	11,1111111
	29	9	60	66,6666667	1	60	66,6666667	11,1111111
	30	9	60	66,6666667	1	60	66,6666667	11,1111111
	31	9	60	66,6666667	1	60	66,6666667	11,1111111
	32	9	60	66,6666667	1	60	66,6666667	11,1111111
	33	9	60	66,6666667	1	60	66,6666667	11,1111111
	34	9	60	66,6666667	1	60	66,6666667	11,1111111
	35	9	60	66,6666667	1	60	66,6666667	11,1111111
	36	9	60	66,6666667	1	60	66,6666667	11,1111111
	37	9	60	66,6666667	1	60	66,6666667	11,1111111
	38	9	60	66,6666667	1	60	66,6666667	11,1111111
	39	9	60	66,6666667	1	60	66,6666667	11,1111111
	40	9	60	66,6666667	1	60	66,6666667	11,1111111
	41	9	60	66,6666667	1	60	66,6666667	11,1111111
	42	9	60	66,6666667	1	60	66,6666667	11,1111111
	43	9	60	66,6666667	1	60	66,6666667	11,1111111
	44	9	60	66,6666667	1	60	66,6666667	11,1111111
	45	9	60	66,6666667	1	60	66,6666667	11,1111111
	46	9	60	66,6666667	1	60	66,6666667	11,1111111
	47	9	60	66,6666667	1	60	66,6666667	11,1111111
	48	9	60	66,6666667	1	60	66,6666667	11,1111111
	49	9	60	66,6666667	1	60	66,6666667	11,1111111
	50	9	60	66,6666667	1	60	66,6666667	11,1111111
51	7	50	71,4285714	1	50	71,4285714	11,9047619	
52	7	50	71,4285714	1	50	71,4285714	11,9047619	

Trinn 4	53	7	50	71,4285714	1	50	71,4285714	11,9047619
	54	7	50	71,4285714	1	50	71,4285714	11,9047619
	55	7	50	71,4285714	1	50	71,4285714	11,9047619
	56	7	50	71,4285714	1	50	71,4285714	11,9047619
	57	7	50	71,4285714	1	50	71,4285714	11,9047619
	58	7	50	71,4285714	1	50	71,4285714	11,9047619
	59	7	50	71,4285714	1	50	71,4285714	11,9047619
	60	7	50	71,4285714	1	50	71,4285714	11,9047619
Trinn 5	61	5	39	78	1	39	78	13
	62	5	39	78	1	39	78	13
	63	5	39	78	1	39	78	13
	64	5	39	78	1	39	78	13
	65	5	39	78	1	39	78	13
	66	5	39	78	1	39	78	13
	67	5	39	78	1	39	78	13
	68	5	39	78	1	39	78	13
	69	5	39	78	1	39	78	13
	70	5	39	78	1	39	78	13

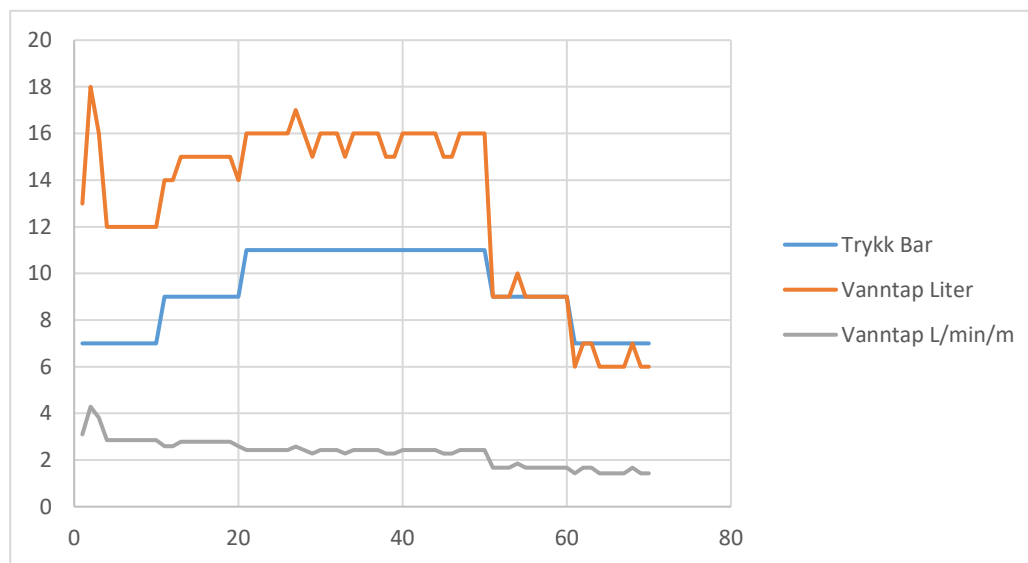




Rapport Vanntapsmåling 5 steps Lugeon								
Lokalitet:	Åknes							
Borehull:	KH-01-18							
Vannspeil:	41.2m							
Dato	30.08.2018							
Måleseksjon	Fra	65,5	Til	71,5	Lengde	6		
	Minutt	Trykk	Vannmengde		Tid	Vanntap pr min	Vanntap Mpa	Ved 0,98
			Målt	Korr for 0,98 Mpa (10kp/cm2)			Pr. seksjon	Pr. Lugeon
		[98 KPa] kPa/cm2	[l]	[l]	[Min]	[l/Min]	[l/Min]	[l/Min/m]
	1		2	3=(2/1)x10	4	5=2/4	6=3/4	7=6/m
Trinn 1	1	7	13	18,5714286	1	13	18,5714286	3,0952381
	2	7	18	25,7142857	1	18	25,7142857	4,28571429
	3	7	16	22,8571429	1	16	22,8571429	3,80952381
	4	7	12	17,1428571	1	12	17,1428571	2,85714286
	5	7	12	17,1428571	1	12	17,1428571	2,85714286
	6	7	12	17,1428571	1	12	17,1428571	2,85714286
	7	7	12	17,1428571	1	12	17,1428571	2,85714286
	8	7	12	17,1428571	1	12	17,1428571	2,85714286
	9	7	12	17,1428571	1	12	17,1428571	2,85714286
	10	7	12	17,1428571	1	12	17,1428571	2,85714286
Trinn 2	11	9	14	15,5555556	1	14	15,5555556	2,59259259
	12	9	14	15,5555556	1	14	15,5555556	2,59259259
	13	9	15	16,6666667	1	15	16,6666667	2,77777778
	14	9	15	16,6666667	1	15	16,6666667	2,77777778
	15	9	15	16,6666667	1	15	16,6666667	2,77777778
	16	9	15	16,6666667	1	15	16,6666667	2,77777778
	17	9	15	16,6666667	1	15	16,6666667	2,77777778
	18	9	15	16,6666667	1	15	16,6666667	2,77777778
	19	9	15	16,6666667	1	15	16,6666667	2,77777778

Trinn 3	20	9	14	15,5555556	1	14	15,5555556	2,59259259
	21	11	16	14,5454545	1	16	14,5454545	2,42424242
	22	11	16	14,5454545	1	16	14,5454545	2,42424242
	23	11	16	14,5454545	1	16	14,5454545	2,42424242
	24	11	16	14,5454545	1	16	14,5454545	2,42424242
	25	11	16	14,5454545	1	16	14,5454545	2,42424242
	26	11	16	14,5454545	1	16	14,5454545	2,42424242
	27	11	17	15,4545455	1	17	15,4545455	2,57575758
	28	11	16	14,5454545	1	16	14,5454545	2,42424242
	29	11	15	13,6363636	1	15	13,6363636	2,27272727
	30	11	16	14,5454545	1	16	14,5454545	2,42424242
	31	11	16	14,5454545	1	16	14,5454545	2,42424242
	32	11	16	14,5454545	1	16	14,5454545	2,42424242
	33	11	15	13,6363636	1	15	13,6363636	2,27272727
	34	11	16	14,5454545	1	16	14,5454545	2,42424242
	35	11	16	14,5454545	1	16	14,5454545	2,42424242
	36	11	16	14,5454545	1	16	14,5454545	2,42424242
	37	11	16	14,5454545	1	16	14,5454545	2,42424242
	38	11	15	13,6363636	1	15	13,6363636	2,27272727
	39	11	15	13,6363636	1	15	13,6363636	2,27272727
	40	11	16	14,5454545	1	16	14,5454545	2,42424242
	41	11	16	14,5454545	1	16	14,5454545	2,42424242
	42	11	16	14,5454545	1	16	14,5454545	2,42424242
	43	11	16	14,5454545	1	16	14,5454545	2,42424242
	44	11	16	14,5454545	1	16	14,5454545	2,42424242
	45	11	15	13,6363636	1	15	13,6363636	2,27272727
	46	11	15	13,6363636	1	15	13,6363636	2,27272727
	47	11	16	14,5454545	1	16	14,5454545	2,42424242
	48	11	16	14,5454545	1	16	14,5454545	2,42424242
	49	11	16	14,5454545	1	16	14,5454545	2,42424242
	50	11	16	14,5454545	1	16	14,5454545	2,42424242
51	9	9	10	1	9	10	1,66666667	
52	9	9	10	1	9	10	1,66666667	

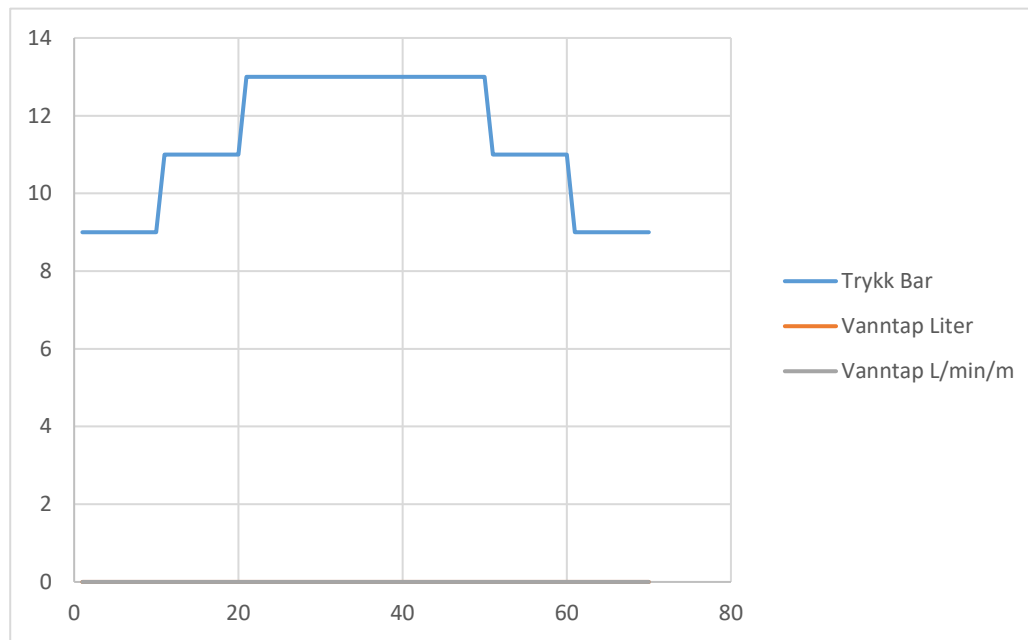
Trinn 4	53	9	9	10	1	9	10	1,66666667
	54	9	10	11,11111111	1	10	11,11111111	1,85185185
	55	9	9	10	1	9	10	1,66666667
	56	9	9	10	1	9	10	1,66666667
	57	9	9	10	1	9	10	1,66666667
	58	9	9	10	1	9	10	1,66666667
	59	9	9	10	1	9	10	1,66666667
	60	9	9	10	1	9	10	1,66666667
Trinn 5	61	7	6	8,57142857	1	6	8,57142857	1,42857143
	62	7	7	10	1	7	10	1,66666667
	63	7	7	10	1	7	10	1,66666667
	64	7	6	8,57142857	1	6	8,57142857	1,42857143
	65	7	6	8,57142857	1	6	8,57142857	1,42857143
	66	7	6	8,57142857	1	6	8,57142857	1,42857143
	67	7	6	8,57142857	1	6	8,57142857	1,42857143
	68	7	7	10	1	7	10	1,66666667
	69	7	6	8,57142857	1	6	8,57142857	1,42857143
	70	7	6	8,57142857	1	6	8,57142857	1,42857143



Rapport Vanntapsmåling 5 steps Lugeon								
Lokalitet:	Åknes							
Borehull:	KH-01-18							
Vannspeil:	41.2m							
Dato	30.08.2018							
Måleseksjon	Fra	72,5	Til	78,5	Lengde	6		
	Minutt	Trykk	Vannmengde		Tid	Vanntap pr min	Vanntap Mpa	Ved 0,98
			Målt	Korr for 0,98 Mpa (10kp/cm2)			Pr. seksjon	Pr. Lugeon
		[98 KPa] kPa/cm2	[l]	[l]	[Min]	[l/Min]	[l/Min]	[l/Min/m]
	1		2	3=(2/1)x10	4	5=2/4	6=3/4	7=6/m
Trinn 1	1	9	0	0	1	0	0	0
	2	9	0	0	1	0	0	0
	3	9	0	0	1	0	0	0
	4	9	0	0	1	0	0	0
	5	9	0	0	1	0	0	0
	6	9	0	0	1	0	0	0
	7	9	0	0	1	0	0	0
	8	9	0	0	1	0	0	0
	9	9	0	0	1	0	0	0
	10	9	0	0	1	0	0	0
Trinn 2	11	11	0	0	1	0	0	0
	12	11	0	0	1	0	0	0
	13	11	0	0	1	0	0	0
	14	11	0	0	1	0	0	0
	15	11	0	0	1	0	0	0
	16	11	0	0	1	0	0	0
	17	11	0	0	1	0	0	0
	18	11	0	0	1	0	0	0
	19	11	0	0	1	0	0	0

Trinn 3	20	11	0	0	1	0	0	0
	21	13	0	0	1	0	0	0
	22	13	0	0	1	0	0	0
	23	13	0	0	1	0	0	0
	24	13	0	0	1	0	0	0
	25	13	0	0	1	0	0	0
	26	13	0	0	1	0	0	0
	27	13	0	0	1	0	0	0
	28	13	0	0	1	0	0	0
	29	13	0	0	1	0	0	0
	30	13	0	0	1	0	0	0
	31	13	0	0	1	0	0	0
	32	13	0	0	1	0	0	0
	33	13	0	0	1	0	0	0
	34	13	0	0	1	0	0	0
	35	13	0	0	1	0	0	0
	36	13	0	0	1	0	0	0
	37	13	0	0	1	0	0	0
	38	13	0	0	1	0	0	0
	39	13	0	0	1	0	0	0
	40	13	0	0	1	0	0	0
	41	13	0	0	1	0	0	0
	42	13	0	0	1	0	0	0
	43	13	0	0	1	0	0	0
	44	13	0	0	1	0	0	0
	45	13	0	0	1	0	0	0
	46	13	0	0	1	0	0	0
	47	13	0	0	1	0	0	0
	48	13	0	0	1	0	0	0
	49	13	0	0	1	0	0	0
	50	13	0	0	1	0	0	0
51	11	0	0	1	0	0	0	
52	11	0	0	1	0	0	0	

Trinn 4	53	11	0	0	1	0	0	0
	54	11	0	0	1	0	0	0
	55	11	0	0	1	0	0	0
	56	11	0	0	1	0	0	0
	57	11	0	0	1	0	0	0
	58	11	0	0	1	0	0	0
	59	11	0	0	1	0	0	0
	60	11	0	0	1	0	0	0
Trinn 5	61	9	0	0	1	0	0	0
	62	9	0	0	1	0	0	0
	63	9	0	0	1	0	0	0
	64	9	0	0	1	0	0	0
	65	9	0	0	1	0	0	0
	66	9	0	0	1	0	0	0
	67	9	0	0	1	0	0	0
	68	9	0	0	1	0	0	0
	69	9	0	0	1	0	0	0
	70	9	0	0	1	0	0	0

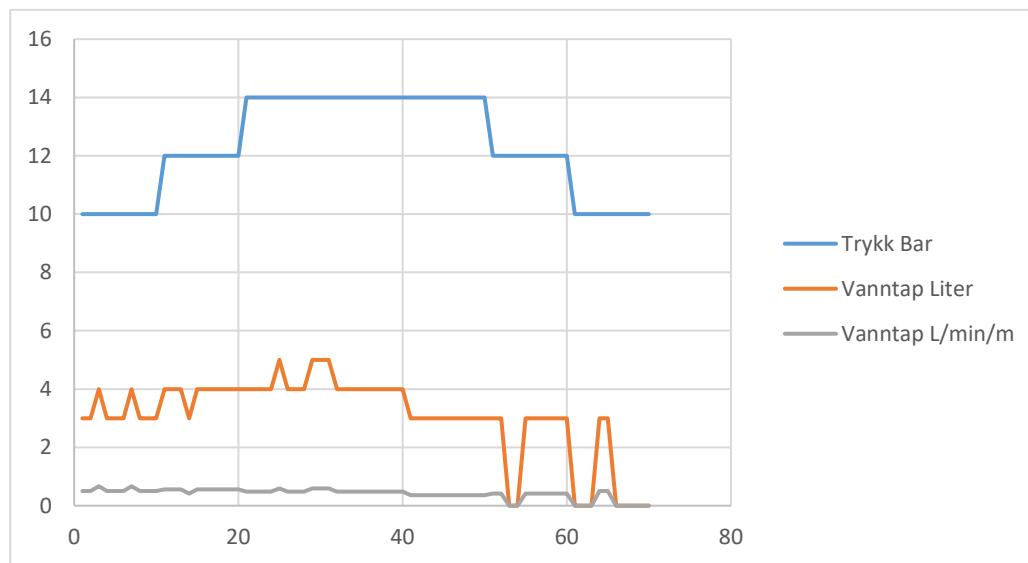




Rapport Vanntapsmåling 5 steps Lugeon								
Lokalitet:	Åknes							
Borehull:	KH-01-18							
Vannspeil:	41.2m							
Dato	30.08.2018							
Måleseksjon	Fra	84,5	Til	90,5	Lengde	6		
	Minutt	Trykk	Vannmengde		Tid	Vanntap pr min	Vanntap Mpa	Ved 0,98
			Målt	Korr for 0,98 Mpa (10kp/cm2)			Pr. seksjon	Pr. Lugeon
		[98 KPa] kPa/cm2	[l]	[l]	[Min]	[l/Min]	[l/Min]	[l/Min/m]
	1		2	3=(2/1)x10	4	5=2/4	6=3/4	7=6/m
Trinn 1	1	10	3	3	1	3	3	0,5
	2	10	3	3	1	3	3	0,5
	3	10	4	4	1	4	4	0,66666667
	4	10	3	3	1	3	3	0,5
	5	10	3	3	1	3	3	0,5
	6	10	3	3	1	3	3	0,5
	7	10	4	4	1	4	4	0,66666667
	8	10	3	3	1	3	3	0,5
	9	10	3	3	1	3	3	0,5
	10	10	3	3	1	3	3	0,5
Trinn 2	11	12	4	3,33333333	1	4	3,33333333	0,55555556
	12	12	4	3,33333333	1	4	3,33333333	0,55555556
	13	12	4	3,33333333	1	4	3,33333333	0,55555556
	14	12	3	2,5	1	3	2,5	0,41666667
	15	12	4	3,33333333	1	4	3,33333333	0,55555556
	16	12	4	3,33333333	1	4	3,33333333	0,55555556
	17	12	4	3,33333333	1	4	3,33333333	0,55555556
	18	12	4	3,33333333	1	4	3,33333333	0,55555556
	19	12	4	3,33333333	1	4	3,33333333	0,55555556

Trinn 3	20	12	4	3,33333333	1	4	3,33333333	0,55555556
	21	14	4	2,85714286	1	4	2,85714286	0,47619048
	22	14	4	2,85714286	1	4	2,85714286	0,47619048
	23	14	4	2,85714286	1	4	2,85714286	0,47619048
	24	14	4	2,85714286	1	4	2,85714286	0,47619048
	25	14	5	3,57142857	1	5	3,57142857	0,5952381
	26	14	4	2,85714286	1	4	2,85714286	0,47619048
	27	14	4	2,85714286	1	4	2,85714286	0,47619048
	28	14	4	2,85714286	1	4	2,85714286	0,47619048
	29	14	5	3,57142857	1	5	3,57142857	0,5952381
	30	14	5	3,57142857	1	5	3,57142857	0,5952381
	31	14	5	3,57142857	1	5	3,57142857	0,5952381
	32	14	4	2,85714286	1	4	2,85714286	0,47619048
	33	14	4	2,85714286	1	4	2,85714286	0,47619048
	34	14	4	2,85714286	1	4	2,85714286	0,47619048
	35	14	4	2,85714286	1	4	2,85714286	0,47619048
	36	14	4	2,85714286	1	4	2,85714286	0,47619048
	37	14	4	2,85714286	1	4	2,85714286	0,47619048
	38	14	4	2,85714286	1	4	2,85714286	0,47619048
	39	14	4	2,85714286	1	4	2,85714286	0,47619048
	40	14	4	2,85714286	1	4	2,85714286	0,47619048
	41	14	3	2,14285714	1	3	2,14285714	0,35714286
	42	14	3	2,14285714	1	3	2,14285714	0,35714286
	43	14	3	2,14285714	1	3	2,14285714	0,35714286
	44	14	3	2,14285714	1	3	2,14285714	0,35714286
	45	14	3	2,14285714	1	3	2,14285714	0,35714286
	46	14	3	2,14285714	1	3	2,14285714	0,35714286
	47	14	3	2,14285714	1	3	2,14285714	0,35714286
	48	14	3	2,14285714	1	3	2,14285714	0,35714286
	49	14	3	2,14285714	1	3	2,14285714	0,35714286
	50	14	3	2,14285714	1	3	2,14285714	0,35714286
51	12	3	2,5	1	3	2,5	0,41666667	
52	12	3	2,5	1	3	2,5	0,41666667	

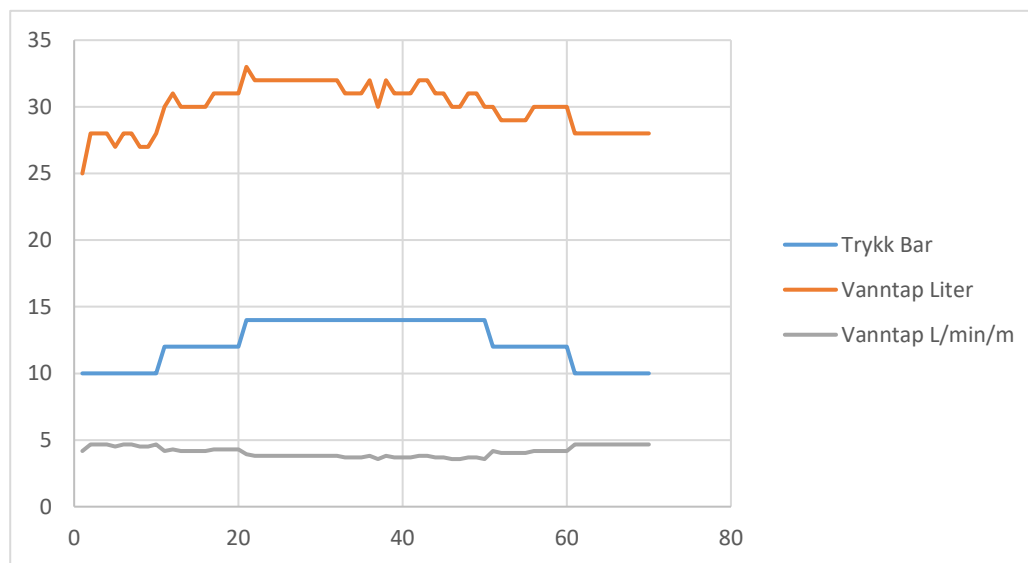
Trinn 4	53	12	0	0	1	0	0	0
	54	12	0	0	1	0	0	0
	55	12	3	2,5	1	3	2,5	0,41666667
	56	12	3	2,5	1	3	2,5	0,41666667
	57	12	3	2,5	1	3	2,5	0,41666667
	58	12	3	2,5	1	3	2,5	0,41666667
	59	12	3	2,5	1	3	2,5	0,41666667
	60	12	3	2,5	1	3	2,5	0,41666667
Trinn 5	61	10	0	0	1	0	0	0
	62	10	0	0	1	0	0	0
	63	10	0	0	1	0	0	0
	64	10	3	3	1	3	3	0,5
	65	10	3	3	1	3	3	0,5
	66	10	0	0	1	0	0	0
	67	10	0	0	1	0	0	0
	68	10	0	0	1	0	0	0
	69	10	0	0	1	0	0	0
	70	10	0	0	1	0	0	0



Rapport Vanntapsmåling 5 steps Lugeon								
Lokalitet:	Åknes							
Borehull:	KH-01-18							
Vannspeil:	41.2m							
Dato	30.08.2018							
Måleseksjon	Fra	141	Til	147	Lengde	6		
	Minutt	Trykk	Vannmengde		Tid	Vanntap pr min	Vanntap Mpa	Ved 0,98
			Målt	Korr for 0,98 Mpa (10kp/cm2)			Pr. seksjon	Pr. Lugeon
		[98 KPa] kPa/cm2	[l]	[l]	[Min]	[l/Min]	[l/Min]	[l/Min/m]
	1		2	3=(2/1)x10	4	5=2/4	6=3/4	7=6/m
Trinn 1	1	10	25	25	1	25	25	4,16666667
	2	10	28	28	1	28	28	4,66666667
	3	10	28	28	1	28	28	4,66666667
	4	10	28	28	1	28	28	4,66666667
	5	10	27	27	1	27	27	4,5
	6	10	28	28	1	28	28	4,66666667
	7	10	28	28	1	28	28	4,66666667
	8	10	27	27	1	27	27	4,5
	9	10	27	27	1	27	27	4,5
	10	10	28	28	1	28	28	4,66666667
Trinn 2	11	12	30	25	1	30	25	4,16666667
	12	12	31	25,83333333	1	31	25,83333333	4,30555556
	13	12	30	25	1	30	25	4,16666667
	14	12	30	25	1	30	25	4,16666667
	15	12	30	25	1	30	25	4,16666667
	16	12	30	25	1	30	25	4,16666667
	17	12	31	25,83333333	1	31	25,83333333	4,30555556
	18	12	31	25,83333333	1	31	25,83333333	4,30555556
	19	12	31	25,83333333	1	31	25,83333333	4,30555556

Trinn 3	20	12	31	25,8333333	1	31	25,8333333	4,30555556
	21	14	33	23,5714286	1	33	23,5714286	3,92857143
	22	14	32	22,8571429	1	32	22,8571429	3,80952381
	23	14	32	22,8571429	1	32	22,8571429	3,80952381
	24	14	32	22,8571429	1	32	22,8571429	3,80952381
	25	14	32	22,8571429	1	32	22,8571429	3,80952381
	26	14	32	22,8571429	1	32	22,8571429	3,80952381
	27	14	32	22,8571429	1	32	22,8571429	3,80952381
	28	14	32	22,8571429	1	32	22,8571429	3,80952381
	29	14	32	22,8571429	1	32	22,8571429	3,80952381
	30	14	32	22,8571429	1	32	22,8571429	3,80952381
	31	14	32	22,8571429	1	32	22,8571429	3,80952381
	32	14	32	22,8571429	1	32	22,8571429	3,80952381
	33	14	31	22,1428571	1	31	22,1428571	3,69047619
	34	14	31	22,1428571	1	31	22,1428571	3,69047619
	35	14	31	22,1428571	1	31	22,1428571	3,69047619
	36	14	32	22,8571429	1	32	22,8571429	3,80952381
	37	14	30	21,4285714	1	30	21,4285714	3,57142857
	38	14	32	22,8571429	1	32	22,8571429	3,80952381
	39	14	31	22,1428571	1	31	22,1428571	3,69047619
	40	14	31	22,1428571	1	31	22,1428571	3,69047619
	41	14	31	22,1428571	1	31	22,1428571	3,69047619
	42	14	32	22,8571429	1	32	22,8571429	3,80952381
	43	14	32	22,8571429	1	32	22,8571429	3,80952381
	44	14	31	22,1428571	1	31	22,1428571	3,69047619
	45	14	31	22,1428571	1	31	22,1428571	3,69047619
	46	14	30	21,4285714	1	30	21,4285714	3,57142857
	47	14	30	21,4285714	1	30	21,4285714	3,57142857
	48	14	31	22,1428571	1	31	22,1428571	3,69047619
	49	14	31	22,1428571	1	31	22,1428571	3,69047619
	50	14	30	21,4285714	1	30	21,4285714	3,57142857
51	12	30	25	1	30	25	4,16666667	
52	12	29	24,1666667	1	29	24,1666667	4,02777778	

Trinn 4	53	12	29	24,1666667	1	29	24,1666667	4,02777778
	54	12	29	24,1666667	1	29	24,1666667	4,02777778
	55	12	29	24,1666667	1	29	24,1666667	4,02777778
	56	12	30	25	1	30	25	4,16666667
	57	12	30	25	1	30	25	4,16666667
	58	12	30	25	1	30	25	4,16666667
	59	12	30	25	1	30	25	4,16666667
	60	12	30	25	1	30	25	4,16666667
Trinn 5	61	10	28	28	1	28	28	4,66666667
	62	10	28	28	1	28	28	4,66666667
	63	10	28	28	1	28	28	4,66666667
	64	10	28	28	1	28	28	4,66666667
	65	10	28	28	1	28	28	4,66666667
	66	10	28	28	1	28	28	4,66666667
	67	10	28	28	1	28	28	4,66666667
	68	10	28	28	1	28	28	4,66666667
	69	10	28	28	1	28	28	4,66666667
	70	10	28	28	1	28	28	4,66666667

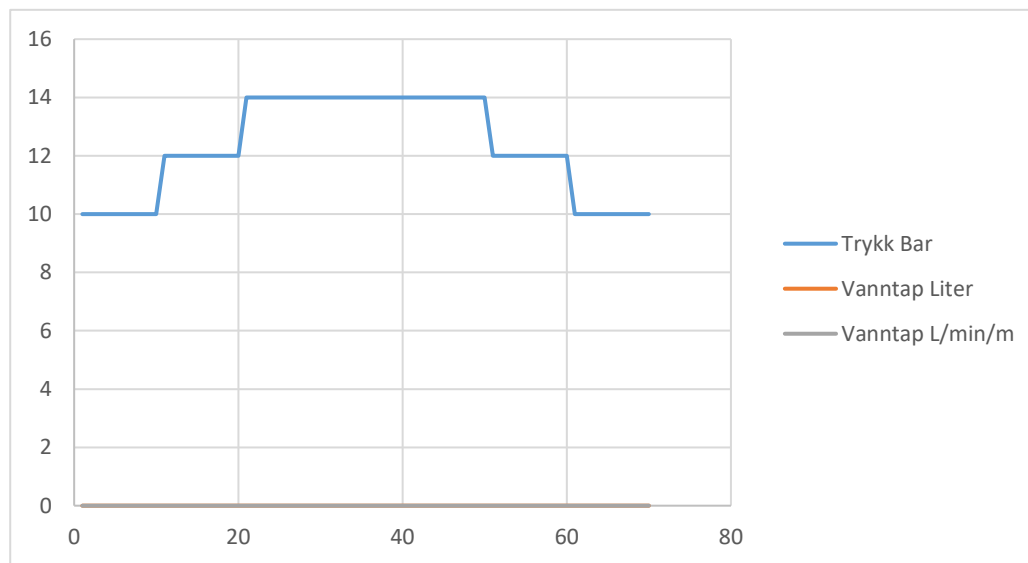




Rapport Vanntapsmåling 5 steps Lugeon								
Lokalitet:	Åknes							
Borehull:	KH-01-18							
Vannspeil:	65,7							
Dato	21.08.2018							
Måleseksjon	Fra	158,9	Til	164,9	Lengde	6		
	Minutt	Trykk	Vannmengde		Tid	Vanntap pr min	Vanntap Mpa	Ved 0,98
			Målt	Korr for 0,98 Mpa (10kp/cm2)			Pr. seksjon	Pr. Lugeon
		[98 KPa] kPa/cm2	[l]	[l]	[Min]	[l/Min]	[l/Min]	[l/Min/m]
	1		2	3=(2/1)x10	4	5=2/4	6=3/4	7=6/m
Trinn 1	1	10	0	0	1	0	0	0
	2	10	0	0	1	0	0	0
	3	10	0	0	1	0	0	0
	4	10	0	0	1	0	0	0
	5	10	0	0	1	0	0	0
	6	10	0	0	1	0	0	0
	7	10	0	0	1	0	0	0
	8	10	0	0	1	0	0	0
	9	10	0	0	1	0	0	0
	10	10	0	0	1	0	0	0
Trinn 2	11	12	0	0	1	0	0	0
	12	12	0	0	1	0	0	0
	13	12	0	0	1	0	0	0
	14	12	0	0	1	0	0	0
	15	12	0	0	1	0	0	0
	16	12	0	0	1	0	0	0
	17	12	0	0	1	0	0	0
	18	12	0	0	1	0	0	0
	19	12	0	0	1	0	0	0

Trinn 3	20	12	0	0	1	0	0	0
	21	14	0	0	1	0	0	0
	22	14	0	0	1	0	0	0
	23	14	0	0	1	0	0	0
	24	14	0	0	1	0	0	0
	25	14	0	0	1	0	0	0
	26	14	0	0	1	0	0	0
	27	14	0	0	1	0	0	0
	28	14	0	0	1	0	0	0
	29	14	0	0	1	0	0	0
	30	14	0	0	1	0	0	0
	31	14	0	0	1	0	0	0
	32	14	0	0	1	0	0	0
	33	14	0	0	1	0	0	0
	34	14	0	0	1	0	0	0
	35	14	0	0	1	0	0	0
	36	14	0	0	1	0	0	0
	37	14	0	0	1	0	0	0
	38	14	0	0	1	0	0	0
	39	14	0	0	1	0	0	0
	40	14	0	0	1	0	0	0
	41	14	0	0	1	0	0	0
	42	14	0	0	1	0	0	0
	43	14	0	0	1	0	0	0
	44	14	0	0	1	0	0	0
	45	14	0	0	1	0	0	0
	46	14	0	0	1	0	0	0
	47	14	0	0	1	0	0	0
	48	14	0	0	1	0	0	0
	49	14	0	0	1	0	0	0
	50	14	0	0	1	0	0	0
51	12	0	0	1	0	0	0	
52	12	0	0	1	0	0	0	

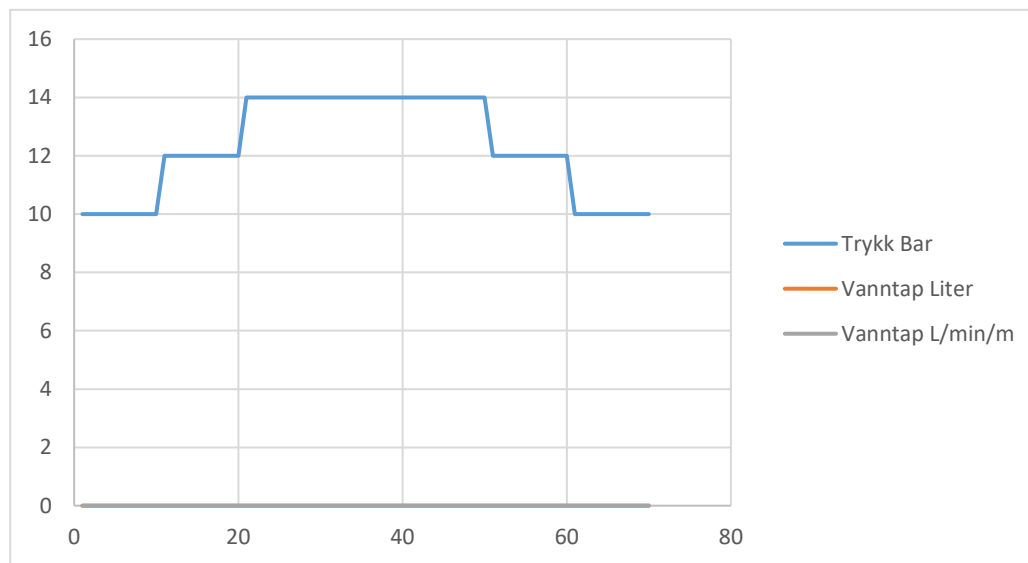
Trinn 4	53	12	0	0	1	0	0	0
	54	12	0	0	1	0	0	0
	55	12	0	0	1	0	0	0
	56	12	0	0	1	0	0	0
	57	12	0	0	1	0	0	0
	58	12	0	0	1	0	0	0
	59	12	0	0	1	0	0	0
	60	12	0	0	1	0	0	0
Trinn 5	61	10	0	0	1	0	0	0
	62	10	0	0	1	0	0	0
	63	10	0	0	1	0	0	0
	64	10	0	0	1	0	0	0
	65	10	0	0	1	0	0	0
	66	10	0	0	1	0	0	0
	67	10	0	0	1	0	0	0
	68	10	0	0	1	0	0	0
	69	10	0	0	1	0	0	0
	70	10	0	0	1	0	0	0



Rapport Vanntapsmåling 5 steps Lugeon								
Lokalitet:	Åknes							
Borehull:	KH-01-18							
Vannspeil:								
Dato	22.08.2018							
Måleseksjon	Fra	164,8	Til	170,8	Lengde	6		
	Minutt	Trykk	Vannmengde		Tid	Vanntap pr min	Vanntap Mpa	Ved 0,98
			Målt	Korr for 0,98 Mpa (10kp/cm2)			Pr. seksjon	Pr. Lugeon
		[98 KPa] kPa/cm2	[l]	[l]	[Min]	[l/Min]	[l/Min]	[l/Min/m]
	1		2	3=(2/1)x10	4	5=2/4	6=3/4	7=6/m
Trinn 1	1	10	0	0	1	0	0	0
	2	10	0	0	1	0	0	0
	3	10	0	0	1	0	0	0
	4	10	0	0	1	0	0	0
	5	10	0	0	1	0	0	0
	6	10	0	0	1	0	0	0
	7	10	0	0	1	0	0	0
	8	10	0	0	1	0	0	0
	9	10	0	0	1	0	0	0
	10	10	0	0	1	0	0	0
Trinn 2	11	12	0	0	1	0	0	0
	12	12	0	0	1	0	0	0
	13	12	0	0	1	0	0	0
	14	12	0	0	1	0	0	0
	15	12	0	0	1	0	0	0
	16	12	0	0	1	0	0	0
	17	12	0	0	1	0	0	0
	18	12	0	0	1	0	0	0
	19	12	0	0	1	0	0	0

Trinn 3	20	12	0	0	1	0	0	0
	21	14	0	0	1	0	0	0
	22	14	0	0	1	0	0	0
	23	14	0	0	1	0	0	0
	24	14	0	0	1	0	0	0
	25	14	0	0	1	0	0	0
	26	14	0	0	1	0	0	0
	27	14	0	0	1	0	0	0
	28	14	0	0	1	0	0	0
	29	14	0	0	1	0	0	0
	30	14	0	0	1	0	0	0
	31	14	0	0	1	0	0	0
	32	14	0	0	1	0	0	0
	33	14	0	0	1	0	0	0
	34	14	0	0	1	0	0	0
	35	14	0	0	1	0	0	0
	36	14	0	0	1	0	0	0
	37	14	0	0	1	0	0	0
	38	14	0	0	1	0	0	0
	39	14	0	0	1	0	0	0
	40	14	0	0	1	0	0	0
	41	14	0	0	1	0	0	0
	42	14	0	0	1	0	0	0
	43	14	0	0	1	0	0	0
	44	14	0	0	1	0	0	0
	45	14	0	0	1	0	0	0
	46	14	0	0	1	0	0	0
	47	14	0	0	1	0	0	0
	48	14	0	0	1	0	0	0
	49	14	0	0	1	0	0	0
	50	14	0	0	1	0	0	0
51	12	0	0	1	0	0	0	
52	12	0	0	1	0	0	0	

Trinn 4	53	12	0	0	1	0	0	0
	54	12	0	0	1	0	0	0
	55	12	0	0	1	0	0	0
	56	12	0	0	1	0	0	0
	57	12	0	0	1	0	0	0
	58	12	0	0	1	0	0	0
	59	12	0	0	1	0	0	0
	60	12	0	0	1	0	0	0
Trinn 5	61	10	0	0	1	0	0	0
	62	10	0	0	1	0	0	0
	63	10	0	0	1	0	0	0
	64	10	0	0	1	0	0	0
	65	10	0	0	1	0	0	0
	66	10	0	0	1	0	0	0
	67	10	0	0	1	0	0	0
	68	10	0	0	1	0	0	0
	69	10	0	0	1	0	0	0
	70	10	0	0	1	0	0	0

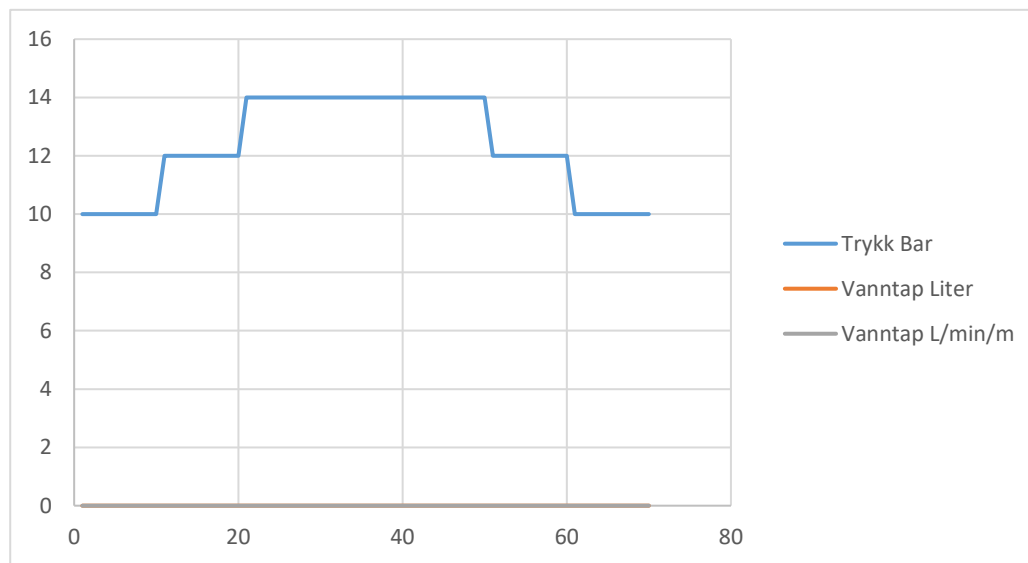




Rapport Vanntapsmåling 5 steps Lugeon								
Lokalitet:	Åknes							
Borehull:	KH-01-18							
Vannspeil:	61m							
Dato	23.08.2018							
Måleseksjon	Fra	170,8	Til	176,8	Lengde	6		
	Minutt	Trykk	Vannmengde		Tid	Vanntap pr min	Vanntap Mpa	Ved 0,98
			Målt	Korr for 0,98 Mpa (10kp/cm2)			Pr. seksjon	Pr. Lugeon
		[98 KPa] kPa/cm2	[l]	[l]	[Min]	[l/Min]	[l/Min]	[l/Min/m]
	1		2	3=(2/1)x10	4	5=2/4	6=3/4	7=6/m
Trinn 1	1	10	0	0	1	0	0	0
	2	10	0	0	1	0	0	0
	3	10	0	0	1	0	0	0
	4	10	0	0	1	0	0	0
	5	10	0	0	1	0	0	0
	6	10	0	0	1	0	0	0
	7	10	0	0	1	0	0	0
	8	10	0	0	1	0	0	0
	9	10	0	0	1	0	0	0
	10	10	0	0	1	0	0	0
Trinn 2	11	12	0	0	1	0	0	0
	12	12	0	0	1	0	0	0
	13	12	0	0	1	0	0	0
	14	12	0	0	1	0	0	0
	15	12	0	0	1	0	0	0
	16	12	0	0	1	0	0	0
	17	12	0	0	1	0	0	0
	18	12	0	0	1	0	0	0
	19	12	0	0	1	0	0	0

Trinn 3	20	12	0	0	1	0	0	0
	21	14	0	0	1	0	0	0
	22	14	0	0	1	0	0	0
	23	14	0	0	1	0	0	0
	24	14	0	0	1	0	0	0
	25	14	0	0	1	0	0	0
	26	14	0	0	1	0	0	0
	27	14	0	0	1	0	0	0
	28	14	0	0	1	0	0	0
	29	14	0	0	1	0	0	0
	30	14	0	0	1	0	0	0
	31	14	0	0	1	0	0	0
	32	14	0	0	1	0	0	0
	33	14	0	0	1	0	0	0
	34	14	0	0	1	0	0	0
	35	14	0	0	1	0	0	0
	36	14	0	0	1	0	0	0
	37	14	0	0	1	0	0	0
	38	14	0	0	1	0	0	0
	39	14	0	0	1	0	0	0
	40	14	0	0	1	0	0	0
	41	14	0	0	1	0	0	0
	42	14	0	0	1	0	0	0
	43	14	0	0	1	0	0	0
	44	14	0	0	1	0	0	0
	45	14	0	0	1	0	0	0
	46	14	0	0	1	0	0	0
	47	14	0	0	1	0	0	0
	48	14	0	0	1	0	0	0
	49	14	0	0	1	0	0	0
	50	14	0	0	1	0	0	0
51	12	0	0	1	0	0	0	
52	12	0	0	1	0	0	0	

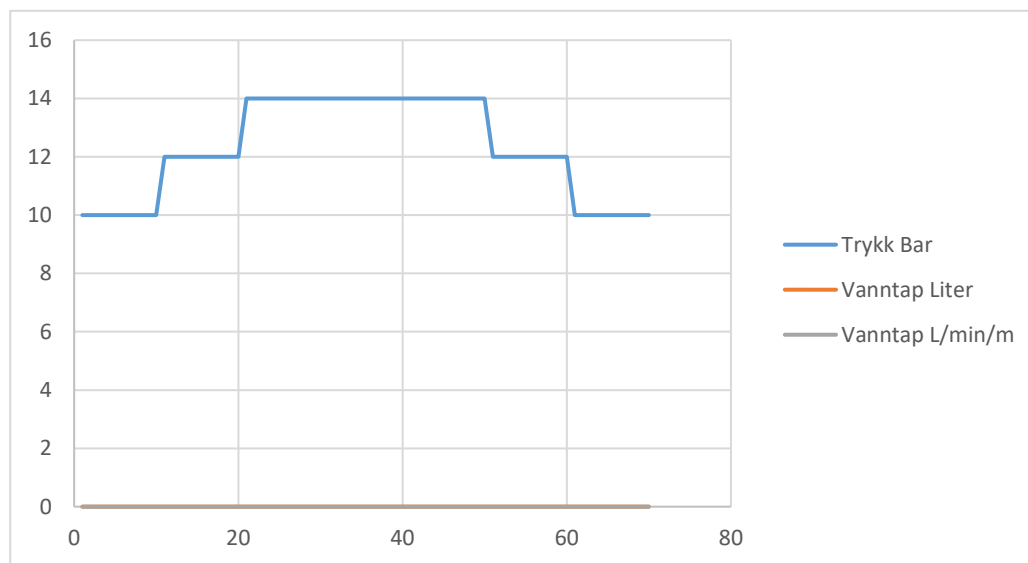
Trinn 4	53	12	0	0	1	0	0	0
	54	12	0	0	1	0	0	0
	55	12	0	0	1	0	0	0
	56	12	0	0	1	0	0	0
	57	12	0	0	1	0	0	0
	58	12	0	0	1	0	0	0
	59	12	0	0	1	0	0	0
	60	12	0	0	1	0	0	0
Trinn 5	61	10	0	0	1	0	0	0
	62	10	0	0	1	0	0	0
	63	10	0	0	1	0	0	0
	64	10	0	0	1	0	0	0
	65	10	0	0	1	0	0	0
	66	10	0	0	1	0	0	0
	67	10	0	0	1	0	0	0
	68	10	0	0	1	0	0	0
	69	10	0	0	1	0	0	0
	70	10	0	0	1	0	0	0



Rapport Vanntapsmåling 5 steps Lugeon								
Lokalitet:	Åknes							
Borehull:	KH-01-18							
Vannspeil:	61m							
Dato	23.08.2018							
Måleseksjon	Fra	176,8	Til	182,9	Lengde	6,1		
	Minutt	Trykk	Vannmengde		Tid	Vanntap pr min	Vanntap Mpa	Ved 0,98
			Målt	Korr for 0,98 Mpa (10kp/cm2)			Pr. seksjon	Pr. Lugeon
		[98 KPa] kPa/cm2	[l]	[l]	[Min]	[l/Min]	[l/Min]	[l/Min/m]
	1		2	3=(2/1)x10	4	5=2/4	6=3/4	7=6/m
Trinn 1	1	10	0	0	1	0	0	0
	2	10	0	0	1	0	0	0
	3	10	0	0	1	0	0	0
	4	10	0	0	1	0	0	0
	5	10	0	0	1	0	0	0
	6	10	0	0	1	0	0	0
	7	10	0	0	1	0	0	0
	8	10	0	0	1	0	0	0
	9	10	0	0	1	0	0	0
	10	10	0	0	1	0	0	0
Trinn 2	11	12	0	0	1	0	0	0
	12	12	0	0	1	0	0	0
	13	12	0	0	1	0	0	0
	14	12	0	0	1	0	0	0
	15	12	0	0	1	0	0	0
	16	12	0	0	1	0	0	0
	17	12	0	0	1	0	0	0
	18	12	0	0	1	0	0	0
	19	12	0	0	1	0	0	0

Trinn 3	20	12	0	0	1	0	0	0
	21	14	0	0	1	0	0	0
	22	14	0	0	1	0	0	0
	23	14	0	0	1	0	0	0
	24	14	0	0	1	0	0	0
	25	14	0	0	1	0	0	0
	26	14	0	0	1	0	0	0
	27	14	0	0	1	0	0	0
	28	14	0	0	1	0	0	0
	29	14	0	0	1	0	0	0
	30	14	0	0	1	0	0	0
	31	14	0	0	1	0	0	0
	32	14	0	0	1	0	0	0
	33	14	0	0	1	0	0	0
	34	14	0	0	1	0	0	0
	35	14	0	0	1	0	0	0
	36	14	0	0	1	0	0	0
	37	14	0	0	1	0	0	0
	38	14	0	0	1	0	0	0
	39	14	0	0	1	0	0	0
	40	14	0	0	1	0	0	0
	41	14	0	0	1	0	0	0
	42	14	0	0	1	0	0	0
	43	14	0	0	1	0	0	0
	44	14	0	0	1	0	0	0
	45	14	0	0	1	0	0	0
	46	14	0	0	1	0	0	0
	47	14	0	0	1	0	0	0
	48	14	0	0	1	0	0	0
	49	14	0	0	1	0	0	0
	50	14	0	0	1	0	0	0
51	12	0	0	1	0	0	0	
52	12	0	0	1	0	0	0	

Trinn 4	53	12	0	0	1	0	0	0
	54	12	0	0	1	0	0	0
	55	12	0	0	1	0	0	0
	56	12	0	0	1	0	0	0
	57	12	0	0	1	0	0	0
	58	12	0	0	1	0	0	0
	59	12	0	0	1	0	0	0
	60	12	0	0	1	0	0	0
Trinn 5	61	10	0	0	1	0	0	0
	62	10	0	0	1	0	0	0
	63	10	0	0	1	0	0	0
	64	10	0	0	1	0	0	0
	65	10	0	0	1	0	0	0
	66	10	0	0	1	0	0	0
	67	10	0	0	1	0	0	0
	68	10	0	0	1	0	0	0
	69	10	0	0	1	0	0	0
	70	10	0	0	1	0	0	0

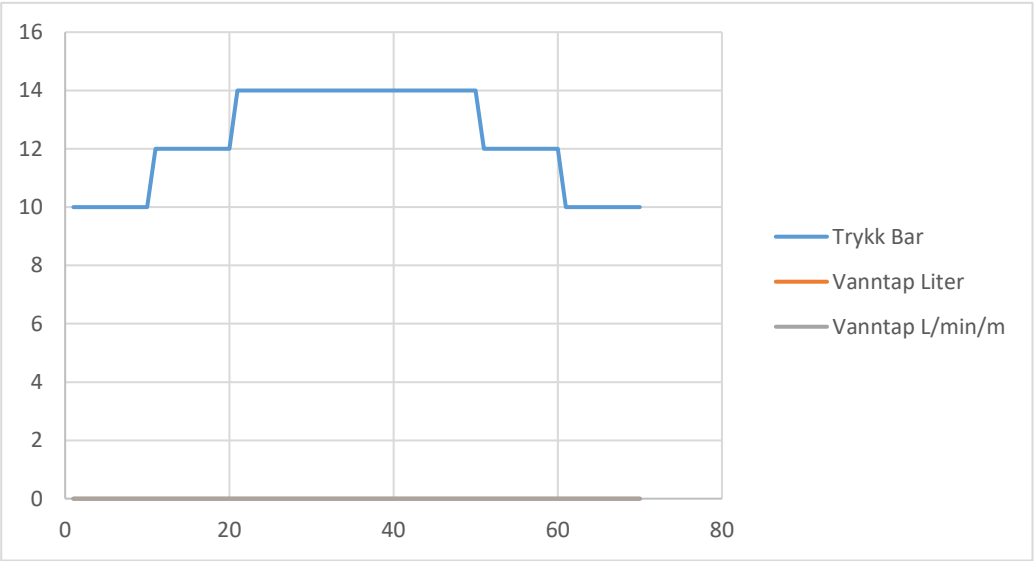




Rapport Vanntapsmåling 5 steps Lugeon								
Lokalitet:	Åknes							
Borehull:	KH-01-18							
Vannspeil:	57							
Dato	24.08.2018							
Måleseksjon	Fra	182,9	Til	188,9	Lengde	6		
	Minutt	Trykk	Vannmengde		Tid	Vanntap pr min	Vanntap Mpa	Ved 0,98
			Målt	Korr for 0,98 Mpa (10kp/cm2)			Pr. seksjon	Pr. Lugeon
		[98 KPa] kPa/cm2	[l]	[l]	[Min]	[l/Min]	[l/Min]	[l/Min/m]
	1		2	3=(2/1)x10	4	5=2/4	6=3/4	7=6/m
Trinn 1	1	10	0	0	1	0	0	0
	2	10	0	0	1	0	0	0
	3	10	0	0	1	0	0	0
	4	10	0	0	1	0	0	0
	5	10	0	0	1	0	0	0
	6	10	0	0	1	0	0	0
	7	10	0	0	1	0	0	0
	8	10	0	0	1	0	0	0
	9	10	0	0	1	0	0	0
	10	10	0	0	1	0	0	0
Trinn 2	11	12	0	0	1	0	0	0
	12	12	0	0	1	0	0	0
	13	12	0	0	1	0	0	0
	14	12	0	0	1	0	0	0
	15	12	0	0	1	0	0	0
	16	12	0	0	1	0	0	0
	17	12	0	0	1	0	0	0
	18	12	0	0	1	0	0	0
	19	12	0	0	1	0	0	0

Trinn 3	20	12	0	0	1	0	0	0
	21	14	0	0	1	0	0	0
	22	14	0	0	1	0	0	0
	23	14	0	0	1	0	0	0
	24	14	0	0	1	0	0	0
	25	14	0	0	1	0	0	0
	26	14	0	0	1	0	0	0
	27	14	0	0	1	0	0	0
	28	14	0	0	1	0	0	0
	29	14	0	0	1	0	0	0
	30	14	0	0	1	0	0	0
	31	14	0	0	1	0	0	0
	32	14	0	0	1	0	0	0
	33	14	0	0	1	0	0	0
	34	14	0	0	1	0	0	0
	35	14	0	0	1	0	0	0
	36	14	0	0	1	0	0	0
	37	14	0	0	1	0	0	0
	38	14	0	0	1	0	0	0
	39	14	0	0	1	0	0	0
	40	14	0	0	1	0	0	0
	41	14	0	0	1	0	0	0
	42	14	0	0	1	0	0	0
	43	14	0	0	1	0	0	0
	44	14	0	0	1	0	0	0
	45	14	0	0	1	0	0	0
	46	14	0	0	1	0	0	0
	47	14	0	0	1	0	0	0
	48	14	0	0	1	0	0	0
	49	14	0	0	1	0	0	0
	50	14	0	0	1	0	0	0
51	12	0	0	1	0	0	0	
52	12	0	0	1	0	0	0	

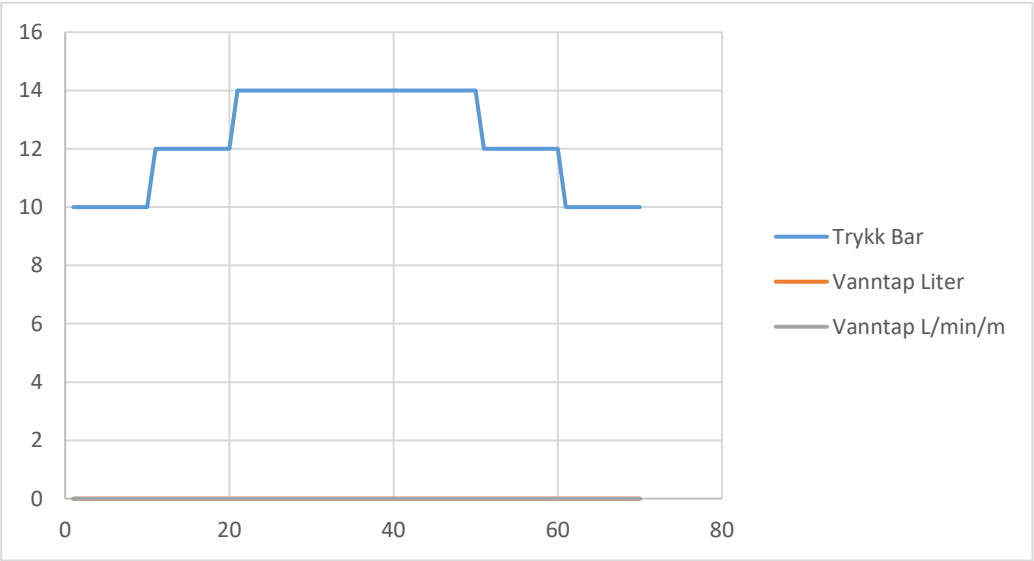
Trinn 4	53	12	0	0	1	0	0	0
	54	12	0	0	1	0	0	0
	55	12	0	0	1	0	0	0
	56	12	0	0	1	0	0	0
	57	12	0	0	1	0	0	0
	58	12	0	0	1	0	0	0
	59	12	0	0	1	0	0	0
	60	12	0	0	1	0	0	0
Trinn 5	61	10	0	0	1	0	0	0
	62	10	0	0	1	0	0	0
	63	10	0	0	1	0	0	0
	64	10	0	0	1	0	0	0
	65	10	0	0	1	0	0	0
	66	10	0	0	1	0	0	0
	67	10	0	0	1	0	0	0
	68	10	0	0	1	0	0	0
	69	10	0	0	1	0	0	0
	70	10	0	0	1	0	0	0



Rapport Vanntapsmåling 5 steps Lugeon								
Lokalitet:	Åknes							
Borehull:	KH-01-18							
Vannspeil:	57							
Dato	24.08.2018							
Måleseksjon	Fra	188,9	Til	194,9	Lengde	6		
	Minutt	Trykk	Vannmengde		Tid	Vanntap pr min	Vanntap Mpa	Ved 0,98
			Målt	Korr for 0,98 Mpa (10kp/cm2)			Pr. seksjon	Pr. Lugeon
		[98 KPa] kPa/cm2	[l]	[l]	[Min]	[l/Min]	[l/Min]	[l/Min/m]
	1		2	3=(2/1)x10	4	5=2/4	6=3/4	7=6/m
Trinn 1	1	10	0	0	1	0	0	0
	2	10	0	0	1	0	0	0
	3	10	0	0	1	0	0	0
	4	10	0	0	1	0	0	0
	5	10	0	0	1	0	0	0
	6	10	0	0	1	0	0	0
	7	10	0	0	1	0	0	0
	8	10	0	0	1	0	0	0
	9	10	0	0	1	0	0	0
	10	10	0	0	1	0	0	0
Trinn 2	11	12	0	0	1	0	0	0
	12	12	0	0	1	0	0	0
	13	12	0	0	1	0	0	0
	14	12	0	0	1	0	0	0
	15	12	0	0	1	0	0	0
	16	12	0	0	1	0	0	0
	17	12	0	0	1	0	0	0
	18	12	0	0	1	0	0	0
	19	12	0	0	1	0	0	0

Trinn 3	20	12	0	0	1	0	0	0
	21	14	0	0	1	0	0	0
	22	14	0	0	1	0	0	0
	23	14	0	0	1	0	0	0
	24	14	0	0	1	0	0	0
	25	14	0	0	1	0	0	0
	26	14	0	0	1	0	0	0
	27	14	0	0	1	0	0	0
	28	14	0	0	1	0	0	0
	29	14	0	0	1	0	0	0
	30	14	0	0	1	0	0	0
	31	14	0	0	1	0	0	0
	32	14	0	0	1	0	0	0
	33	14	0	0	1	0	0	0
	34	14	0	0	1	0	0	0
	35	14	0	0	1	0	0	0
	36	14	0	0	1	0	0	0
	37	14	0	0	1	0	0	0
	38	14	0	0	1	0	0	0
	39	14	0	0	1	0	0	0
	40	14	0	0	1	0	0	0
	41	14	0	0	1	0	0	0
	42	14	0	0	1	0	0	0
	43	14	0	0	1	0	0	0
	44	14	0	0	1	0	0	0
	45	14	0	0	1	0	0	0
	46	14	0	0	1	0	0	0
	47	14	0	0	1	0	0	0
	48	14	0	0	1	0	0	0
	49	14	0	0	1	0	0	0
	50	14	0	0	1	0	0	0
51	12	0	0	1	0	0	0	
52	12	0	0	1	0	0	0	

Trinn 4	53	12	0	0	1	0	0	0
	54	12	0	0	1	0	0	0
	55	12	0	0	1	0	0	0
	56	12	0	0	1	0	0	0
	57	12	0	0	1	0	0	0
	58	12	0	0	1	0	0	0
	59	12	0	0	1	0	0	0
	60	12	0	0	1	0	0	0
Trinn 5	61	10	0	0	1	0	0	0
	62	10	0	0	1	0	0	0
	63	10	0	0	1	0	0	0
	64	10	0	0	1	0	0	0
	65	10	0	0	1	0	0	0
	66	10	0	0	1	0	0	0
	67	10	0	0	1	0	0	0
	68	10	0	0	1	0	0	0
	69	10	0	0	1	0	0	0
	70	10	0	0	1	0	0	0

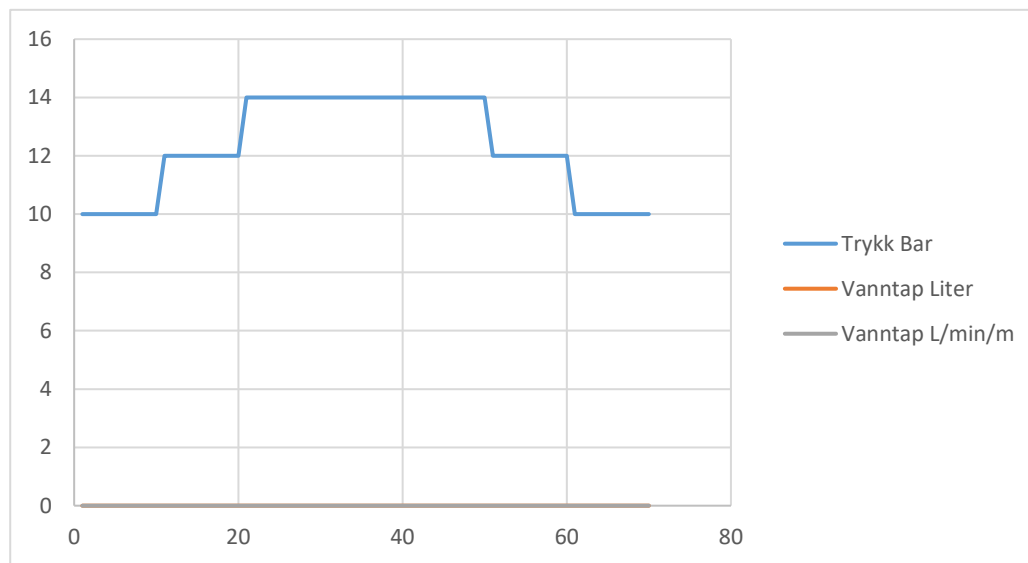




Rapport Vanntapsmåling 5 steps Lugeon								
Lokalitet:	Åknes							
Borehull:	KH-01-18							
Vannspeil:	56							
Dato	25.08.2018							
Måleseksjon	Fra	194,9	Til	200,9	Lengde	6		
	Minutt	Trykk	Vannmengde		Tid	Vanntap pr min	Vanntap Mpa	Ved 0,98
			Målt	Korr for 0,98 Mpa (10kp/cm2)			Pr. seksjon	Pr. Lugeon
		[98 KPa] kPa/cm2	[l]	[l]	[Min]	[l/Min]	[l/Min]	[l/Min/m]
	1		2	3=(2/1)x10	4	5=2/4	6=3/4	7=6/m
Trinn 1	1	10	0	0	1	0	0	0
	2	10	0	0	1	0	0	0
	3	10	0	0	1	0	0	0
	4	10	0	0	1	0	0	0
	5	10	0	0	1	0	0	0
	6	10	0	0	1	0	0	0
	7	10	0	0	1	0	0	0
	8	10	0	0	1	0	0	0
	9	10	0	0	1	0	0	0
	10	10	0	0	1	0	0	0
Trinn 2	11	12	0	0	1	0	0	0
	12	12	0	0	1	0	0	0
	13	12	0	0	1	0	0	0
	14	12	0	0	1	0	0	0
	15	12	0	0	1	0	0	0
	16	12	0	0	1	0	0	0
	17	12	0	0	1	0	0	0
	18	12	0	0	1	0	0	0
	19	12	0	0	1	0	0	0

Trinn 3	20	12	0	0	1	0	0	0
	21	14	0	0	1	0	0	0
	22	14	0	0	1	0	0	0
	23	14	0	0	1	0	0	0
	24	14	0	0	1	0	0	0
	25	14	0	0	1	0	0	0
	26	14	0	0	1	0	0	0
	27	14	0	0	1	0	0	0
	28	14	0	0	1	0	0	0
	29	14	0	0	1	0	0	0
	30	14	0	0	1	0	0	0
	31	14	0	0	1	0	0	0
	32	14	0	0	1	0	0	0
	33	14	0	0	1	0	0	0
	34	14	0	0	1	0	0	0
	35	14	0	0	1	0	0	0
	36	14	0	0	1	0	0	0
	37	14	0	0	1	0	0	0
	38	14	0	0	1	0	0	0
	39	14	0	0	1	0	0	0
	40	14	0	0	1	0	0	0
	41	14	0	0	1	0	0	0
	42	14	0	0	1	0	0	0
	43	14	0	0	1	0	0	0
	44	14	0	0	1	0	0	0
	45	14	0	0	1	0	0	0
	46	14	0	0	1	0	0	0
	47	14	0	0	1	0	0	0
	48	14	0	0	1	0	0	0
	49	14	0	0	1	0	0	0
	50	14	0	0	1	0	0	0
51	12	0	0	1	0	0	0	
52	12	0	0	1	0	0	0	

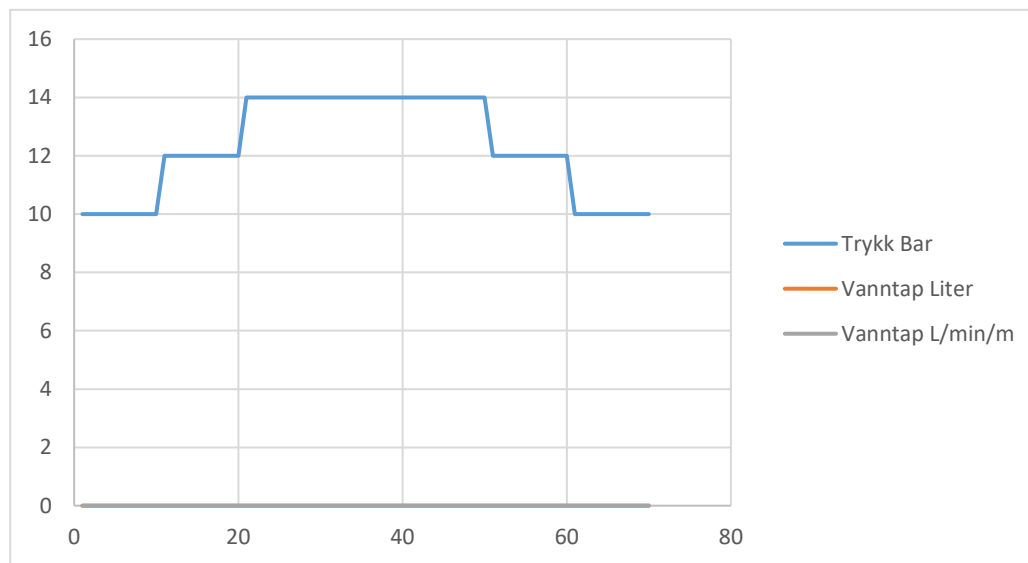
Trinn 4	53	12	0	0	1	0	0	0
	54	12	0	0	1	0	0	0
	55	12	0	0	1	0	0	0
	56	12	0	0	1	0	0	0
	57	12	0	0	1	0	0	0
	58	12	0	0	1	0	0	0
	59	12	0	0	1	0	0	0
	60	12	0	0	1	0	0	0
Trinn 5	61	10	0	0	1	0	0	0
	62	10	0	0	1	0	0	0
	63	10	0	0	1	0	0	0
	64	10	0	0	1	0	0	0
	65	10	0	0	1	0	0	0
	66	10	0	0	1	0	0	0
	67	10	0	0	1	0	0	0
	68	10	0	0	1	0	0	0
	69	10	0	0	1	0	0	0
	70	10	0	0	1	0	0	0



Rapport Vanntapsmåling 5 steps Lugeon								
Lokalitet:	Åknes							
Borehull:	KH-01-18							
Vannspeil:	56							
Dato	25.08.2018							
Måleseksjon	Fra	200,9	Til	206,9	Lengde	6		
	Minutt	Trykk	Vannmengde		Tid	Vanntap pr min	Vanntap Mpa	Ved 0,98
			Målt	Korr for 0,98 Mpa (10kp/cm2)			Pr. seksjon	Pr. Lugeon
		[98 KPa] kPa/cm2	[l]	[l]	[Min]	[l/Min]	[l/Min]	[l/Min/m]
	1		2	3=(2/1)x10	4	5=2/4	6=3/4	7=6/m
Trinn 1	1	10	0	0	1	0	0	0
	2	10	0	0	1	0	0	0
	3	10	0	0	1	0	0	0
	4	10	0	0	1	0	0	0
	5	10	0	0	1	0	0	0
	6	10	0	0	1	0	0	0
	7	10	0	0	1	0	0	0
	8	10	0	0	1	0	0	0
	9	10	0	0	1	0	0	0
	10	10	0	0	1	0	0	0
Trinn 2	11	12	0	0	1	0	0	0
	12	12	0	0	1	0	0	0
	13	12	0	0	1	0	0	0
	14	12	0	0	1	0	0	0
	15	12	0	0	1	0	0	0
	16	12	0	0	1	0	0	0
	17	12	0	0	1	0	0	0
	18	12	0	0	1	0	0	0
	19	12	0	0	1	0	0	0

Trinn 3	20	12	0	0	1	0	0	0
	21	14	0	0	1	0	0	0
	22	14	0	0	1	0	0	0
	23	14	0	0	1	0	0	0
	24	14	0	0	1	0	0	0
	25	14	0	0	1	0	0	0
	26	14	0	0	1	0	0	0
	27	14	0	0	1	0	0	0
	28	14	0	0	1	0	0	0
	29	14	0	0	1	0	0	0
	30	14	0	0	1	0	0	0
	31	14	0	0	1	0	0	0
	32	14	0	0	1	0	0	0
	33	14	0	0	1	0	0	0
	34	14	0	0	1	0	0	0
	35	14	0	0	1	0	0	0
	36	14	0	0	1	0	0	0
	37	14	0	0	1	0	0	0
	38	14	0	0	1	0	0	0
	39	14	0	0	1	0	0	0
	40	14	0	0	1	0	0	0
	41	14	0	0	1	0	0	0
	42	14	0	0	1	0	0	0
	43	14	0	0	1	0	0	0
	44	14	0	0	1	0	0	0
	45	14	0	0	1	0	0	0
	46	14	0	0	1	0	0	0
	47	14	0	0	1	0	0	0
	48	14	0	0	1	0	0	0
	49	14	0	0	1	0	0	0
	50	14	0	0	1	0	0	0
51	12	0	0	1	0	0	0	
52	12	0	0	1	0	0	0	

Trinn 4	53	12	0	0	1	0	0	0
	54	12	0	0	1	0	0	0
	55	12	0	0	1	0	0	0
	56	12	0	0	1	0	0	0
	57	12	0	0	1	0	0	0
	58	12	0	0	1	0	0	0
	59	12	0	0	1	0	0	0
	60	12	0	0	1	0	0	0
Trinn 5	61	10	0	0	1	0	0	0
	62	10	0	0	1	0	0	0
	63	10	0	0	1	0	0	0
	64	10	0	0	1	0	0	0
	65	10	0	0	1	0	0	0
	66	10	0	0	1	0	0	0
	67	10	0	0	1	0	0	0
	68	10	0	0	1	0	0	0
	69	10	0	0	1	0	0	0
	70	10	0	0	1	0	0	0

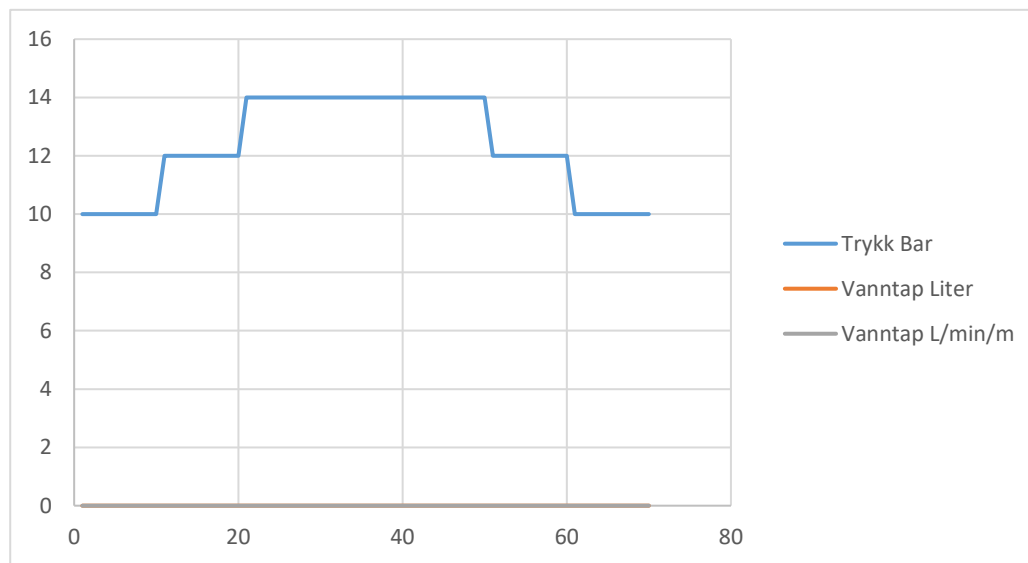




Rapport Vanntapsmåling 5 steps Lugeon								
Lokalitet:	Åknes							
Borehull:	KH-01-18							
Vannspeil:	56							
Dato	25.08.2018							
Måleseksjon	Fra	206,9	Til	212,9	Lengde	6		
	Minutt	Trykk	Vannmengde		Tid	Vanntap pr min	Vanntap Mpa	Ved 0,98
			Målt	Korr for 0,98 Mpa (10kp/cm2)			Pr. seksjon	Pr. Lugeon
		[98 KPa] kPa/cm2	[l]	[l]	[Min]	[l/Min]	[l/Min]	[l/Min/m]
	1		2	3=(2/1)x10	4	5=2/4	6=3/4	7=6/m
Trinn 1	1	10	0	0	1	0	0	0
	2	10	0	0	1	0	0	0
	3	10	0	0	1	0	0	0
	4	10	0	0	1	0	0	0
	5	10	0	0	1	0	0	0
	6	10	0	0	1	0	0	0
	7	10	0	0	1	0	0	0
	8	10	0	0	1	0	0	0
	9	10	0	0	1	0	0	0
	10	10	0	0	1	0	0	0
Trinn 2	11	12	0	0	1	0	0	0
	12	12	0	0	1	0	0	0
	13	12	0	0	1	0	0	0
	14	12	0	0	1	0	0	0
	15	12	0	0	1	0	0	0
	16	12	0	0	1	0	0	0
	17	12	0	0	1	0	0	0
	18	12	0	0	1	0	0	0
	19	12	0	0	1	0	0	0

Trinn 3	20	12	0	0	1	0	0	0
	21	14	0	0	1	0	0	0
	22	14	0	0	1	0	0	0
	23	14	0	0	1	0	0	0
	24	14	0	0	1	0	0	0
	25	14	0	0	1	0	0	0
	26	14	0	0	1	0	0	0
	27	14	0	0	1	0	0	0
	28	14	0	0	1	0	0	0
	29	14	0	0	1	0	0	0
	30	14	0	0	1	0	0	0
	31	14	0	0	1	0	0	0
	32	14	0	0	1	0	0	0
	33	14	0	0	1	0	0	0
	34	14	0	0	1	0	0	0
	35	14	0	0	1	0	0	0
	36	14	0	0	1	0	0	0
	37	14	0	0	1	0	0	0
	38	14	0	0	1	0	0	0
	39	14	0	0	1	0	0	0
	40	14	0	0	1	0	0	0
	41	14	0	0	1	0	0	0
	42	14	0	0	1	0	0	0
	43	14	0	0	1	0	0	0
	44	14	0	0	1	0	0	0
	45	14	0	0	1	0	0	0
	46	14	0	0	1	0	0	0
	47	14	0	0	1	0	0	0
	48	14	0	0	1	0	0	0
	49	14	0	0	1	0	0	0
	50	14	0	0	1	0	0	0
51	12	0	0	1	0	0	0	
52	12	0	0	1	0	0	0	

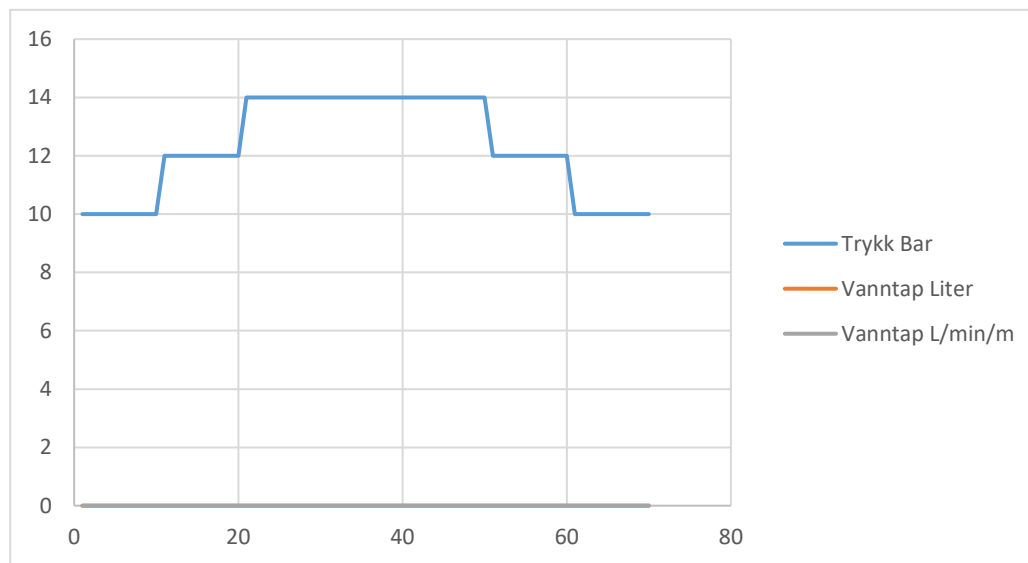
Trinn 4	53	12	0	0	1	0	0	0
	54	12	0	0	1	0	0	0
	55	12	0	0	1	0	0	0
	56	12	0	0	1	0	0	0
	57	12	0	0	1	0	0	0
	58	12	0	0	1	0	0	0
	59	12	0	0	1	0	0	0
	60	12	0	0	1	0	0	0
Trinn 5	61	10	0	0	1	0	0	0
	62	10	0	0	1	0	0	0
	63	10	0	0	1	0	0	0
	64	10	0	0	1	0	0	0
	65	10	0	0	1	0	0	0
	66	10	0	0	1	0	0	0
	67	10	0	0	1	0	0	0
	68	10	0	0	1	0	0	0
	69	10	0	0	1	0	0	0
	70	10	0	0	1	0	0	0



Rapport Vanntapsmåling 5 steps Lugeon								
Lokalitet:	Åknes							
Borehull:	KH-01-18							
Vannspeil:	50							
Dato	26.08.2018							
Måleseksjon	Fra	212,9	Til	218,9	Lengde	6		
	Minutt	Trykk	Vannmengde		Tid	Vanntap pr min	Vanntap Mpa	Ved 0,98
			Målt	Korr for 0,98 Mpa (10kp/cm2)			Pr. seksjon	Pr. Lugeon
		[98 KPa] kPa/cm2	[l]	[l]	[Min]	[l/Min]	[l/Min]	[l/Min/m]
	1		2	3=(2/1)x10	4	5=2/4	6=3/4	7=6/m
Trinn 1	1	10	0	0	1	0	0	0
	2	10	0	0	1	0	0	0
	3	10	0	0	1	0	0	0
	4	10	0	0	1	0	0	0
	5	10	0	0	1	0	0	0
	6	10	0	0	1	0	0	0
	7	10	0	0	1	0	0	0
	8	10	0	0	1	0	0	0
	9	10	0	0	1	0	0	0
	10	10	0	0	1	0	0	0
Trinn 2	11	12	0	0	1	0	0	0
	12	12	0	0	1	0	0	0
	13	12	0	0	1	0	0	0
	14	12	0	0	1	0	0	0
	15	12	0	0	1	0	0	0
	16	12	0	0	1	0	0	0
	17	12	0	0	1	0	0	0
	18	12	0	0	1	0	0	0
	19	12	0	0	1	0	0	0

Trinn 3	20	12	0	0	1	0	0	0
	21	14	0	0	1	0	0	0
	22	14	0	0	1	0	0	0
	23	14	0	0	1	0	0	0
	24	14	0	0	1	0	0	0
	25	14	0	0	1	0	0	0
	26	14	0	0	1	0	0	0
	27	14	0	0	1	0	0	0
	28	14	0	0	1	0	0	0
	29	14	0	0	1	0	0	0
	30	14	0	0	1	0	0	0
	31	14	0	0	1	0	0	0
	32	14	0	0	1	0	0	0
	33	14	0	0	1	0	0	0
	34	14	0	0	1	0	0	0
	35	14	0	0	1	0	0	0
	36	14	0	0	1	0	0	0
	37	14	0	0	1	0	0	0
	38	14	0	0	1	0	0	0
	39	14	0	0	1	0	0	0
	40	14	0	0	1	0	0	0
	41	14	0	0	1	0	0	0
	42	14	0	0	1	0	0	0
	43	14	0	0	1	0	0	0
	44	14	0	0	1	0	0	0
	45	14	0	0	1	0	0	0
	46	14	0	0	1	0	0	0
	47	14	0	0	1	0	0	0
	48	14	0	0	1	0	0	0
	49	14	0	0	1	0	0	0
	50	14	0	0	1	0	0	0
51	12	0	0	1	0	0	0	
52	12	0	0	1	0	0	0	

Trinn 4	53	12	0	0	1	0	0	0
	54	12	0	0	1	0	0	0
	55	12	0	0	1	0	0	0
	56	12	0	0	1	0	0	0
	57	12	0	0	1	0	0	0
	58	12	0	0	1	0	0	0
	59	12	0	0	1	0	0	0
	60	12	0	0	1	0	0	0
Trinn 5	61	10	0	0	1	0	0	0
	62	10	0	0	1	0	0	0
	63	10	0	0	1	0	0	0
	64	10	0	0	1	0	0	0
	65	10	0	0	1	0	0	0
	66	10	0	0	1	0	0	0
	67	10	0	0	1	0	0	0
	68	10	0	0	1	0	0	0
	69	10	0	0	1	0	0	0
	70	10	0	0	1	0	0	0

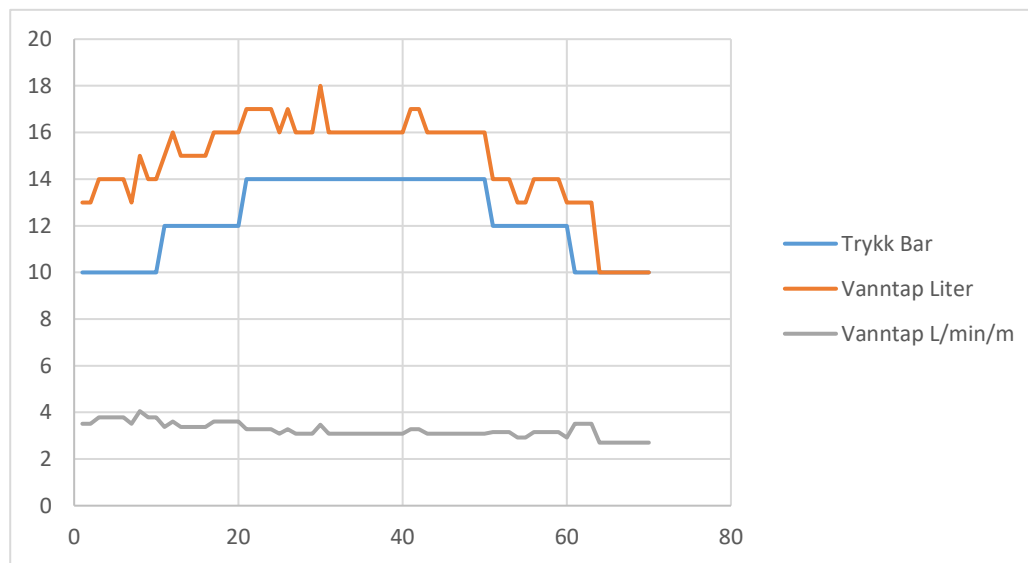




Rapport Vanntapsmåling 5 steps Lugeon								
Lokalitet:	Åknes							
Borehull:	KH-01-18							
Vannspeil:	50							
Dato	26.08.2018							
Måleseksjon	Fra	218,9	Til	222,6	Lengde	3,7		
	Minutt	Trykk	Vannmengde		Tid	Vanntap pr min	Vanntap Mpa	Ved 0,98
			Målt	Korr for 0,98 Mpa (10kp/cm2)			Pr. seksjon	Pr. Lugeon
		[98 KPa] kPa/cm2	[l]	[l]	[Min]	[l/Min]	[l/Min]	[l/Min/m]
	1		2	3=(2/1)x10	4	5=2/4	6=3/4	7=6/m
Trinn 1	1	10	13	13	1	13	13	3,51351351
	2	10	13	13	1	13	13	3,51351351
	3	10	14	14	1	14	14	3,78378378
	4	10	14	14	1	14	14	3,78378378
	5	10	14	14	1	14	14	3,78378378
	6	10	14	14	1	14	14	3,78378378
	7	10	13	13	1	13	13	3,51351351
	8	10	15	15	1	15	15	4,05405405
	9	10	14	14	1	14	14	3,78378378
	10	10	14	14	1	14	14	3,78378378
Trinn 2	11	12	15	12,5	1	15	12,5	3,37837838
	12	12	16	13,3333333	1	16	13,3333333	3,6036036
	13	12	15	12,5	1	15	12,5	3,37837838
	14	12	15	12,5	1	15	12,5	3,37837838
	15	12	15	12,5	1	15	12,5	3,37837838
	16	12	15	12,5	1	15	12,5	3,37837838
	17	12	16	13,3333333	1	16	13,3333333	3,6036036
	18	12	16	13,3333333	1	16	13,3333333	3,6036036
	19	12	16	13,3333333	1	16	13,3333333	3,6036036

Trinn 3	20	12	16	13,3333333	1	16	13,3333333	3,6036036
	21	14	17	12,1428571	1	17	12,1428571	3,28185328
	22	14	17	12,1428571	1	17	12,1428571	3,28185328
	23	14	17	12,1428571	1	17	12,1428571	3,28185328
	24	14	17	12,1428571	1	17	12,1428571	3,28185328
	25	14	16	11,4285714	1	16	11,4285714	3,08880309
	26	14	17	12,1428571	1	17	12,1428571	3,28185328
	27	14	16	11,4285714	1	16	11,4285714	3,08880309
	28	14	16	11,4285714	1	16	11,4285714	3,08880309
	29	14	16	11,4285714	1	16	11,4285714	3,08880309
	30	14	18	12,8571429	1	18	12,8571429	3,47490347
	31	14	16	11,4285714	1	16	11,4285714	3,08880309
	32	14	16	11,4285714	1	16	11,4285714	3,08880309
	33	14	16	11,4285714	1	16	11,4285714	3,08880309
	34	14	16	11,4285714	1	16	11,4285714	3,08880309
	35	14	16	11,4285714	1	16	11,4285714	3,08880309
	36	14	16	11,4285714	1	16	11,4285714	3,08880309
	37	14	16	11,4285714	1	16	11,4285714	3,08880309
	38	14	16	11,4285714	1	16	11,4285714	3,08880309
	39	14	16	11,4285714	1	16	11,4285714	3,08880309
	40	14	16	11,4285714	1	16	11,4285714	3,08880309
	41	14	17	12,1428571	1	17	12,1428571	3,28185328
	42	14	17	12,1428571	1	17	12,1428571	3,28185328
	43	14	16	11,4285714	1	16	11,4285714	3,08880309
	44	14	16	11,4285714	1	16	11,4285714	3,08880309
	45	14	16	11,4285714	1	16	11,4285714	3,08880309
	46	14	16	11,4285714	1	16	11,4285714	3,08880309
	47	14	16	11,4285714	1	16	11,4285714	3,08880309
	48	14	16	11,4285714	1	16	11,4285714	3,08880309
	49	14	16	11,4285714	1	16	11,4285714	3,08880309
50	14	16	11,4285714	1	16	11,4285714	3,08880309	
51	12	14	11,6666667	1	14	11,6666667	3,15315315	
52	12	14	11,6666667	1	14	11,6666667	3,15315315	

Trinn 4	53	12	14	11,6666667	1	14	11,6666667	3,15315315
	54	12	13	10,8333333	1	13	10,8333333	2,92792793
	55	12	13	10,8333333	1	13	10,8333333	2,92792793
	56	12	14	11,6666667	1	14	11,6666667	3,15315315
	57	12	14	11,6666667	1	14	11,6666667	3,15315315
	58	12	14	11,6666667	1	14	11,6666667	3,15315315
	59	12	14	11,6666667	1	14	11,6666667	3,15315315
	60	12	13	10,8333333	1	13	10,8333333	2,92792793
Trinn 5	61	10	13	13	1	13	13	3,51351351
	62	10	13	13	1	13	13	3,51351351
	63	10	13	13	1	13	13	3,51351351
	64	10	10	10	1	10	10	2,7027027
	65	10	10	10	1	10	10	2,7027027
	66	10	10	10	1	10	10	2,7027027
	67	10	10	10	1	10	10	2,7027027
	68	10	10	10	1	10	10	2,7027027
	69	10	10	10	1	10	10	2,7027027
	70	10	10	10	1	10	10	2,7027027



# Appendix D

PACKER TEST KH-02-2018

## Contents

D1 Packer test KH-02-2018

2



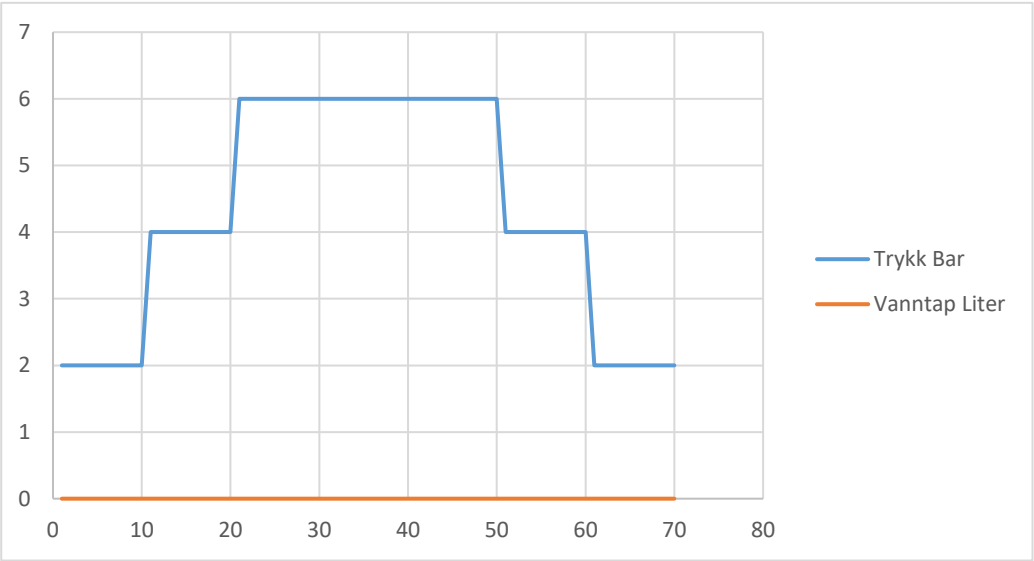
## **D1 Packer test KH-02-2018**

Rapport Vanntapsmåling 5 steps Lugeon								
Lokalitet:	Åknes							
Borehull:	KH-02-18							
Vannspeil								
Dato	17.09.2018							
Måleseksjon	Fra	30	Til	36	Lengde	6		
	Minutt	Trykk	Vannmengde		Tid	Vanntap pr min	Vanntap Mpa	Ved 0,98
			Målt	Korr for 0,98 Mpa (10kp/cm2)			Pr. seksjon	Pr. Lugeon
		[98 KPa] kPa/cm2	[l]	[l]	[Min]	[l/Min]	[l/Min]	[l/Min/m]
	1	2	3=(2/1)x10	4	5=2/4	6=3/4	7=6/m	
Trinn 1	1	2	0	0	1	0	0	0
	2	2	0	0	1	0	0	0
	3	2	0	0	1	0	0	0
	4	2	0	0	1	0	0	0
	5	2	0	0	1	0	0	0
	6	2	0	0	1	0	0	0
	7	2	0	0	1	0	0	0
	8	2	0	0	1	0	0	0
	9	2	0	0	1	0	0	0
	10	2	0	0	1	0	0	0
Trinn 2	11	4	0	0	1	0	0	0
	12	4	0	0	1	0	0	0
	13	4	0	0	1	0	0	0
	14	4	0	0	1	0	0	0
	15	4	0	0	1	0	0	0
	16	4	0	0	1	0	0	0
	17	4	0	0	1	0	0	0
	18	4	0	0	1	0	0	0
	19	4	0	0	1	0	0	0

Trinn 3	20	4	0	0	1	0	0	0
	21	6	0	0	1	0	0	0
	22	6	0	0	1	0	0	0
	23	6	0	0	1	0	0	0
	24	6	0	0	1	0	0	0
	25	6	0	0	1	0	0	0
	26	6	0	0	1	0	0	0
	27	6	0	0	1	0	0	0
	28	6	0	0	1	0	0	0
	29	6	0	0	1	0	0	0
	30	6	0	0	1	0	0	0
	31	6	0	0	1	0	0	0
	32	6	0	0	1	0	0	0
	33	6	0	0	1	0	0	0
	34	6	0	0	1	0	0	0
	35	6	0	0	1	0	0	0
	36	6	0	0	1	0	0	0
	37	6	0	0	1	0	0	0
	38	6	0	0	1	0	0	0
	39	6	0	0	1	0	0	0
	40	6	0	0	1	0	0	0
	41	6	0	0	1	0	0	0
	42	6	0	0	1	0	0	0
	43	6	0	0	1	0	0	0
	44	6	0	0	1	0	0	0
	45	6	0	0	1	0	0	0
	46	6	0	0	1	0	0	0
	47	6	0	0	1	0	0	0
	48	6	0	0	1	0	0	0
	49	6	0	0	1	0	0	0
	50	6	0	0	1	0	0	0
51	4	0	0	1	0	0	0	
52	4	0	0	1	0	0	0	



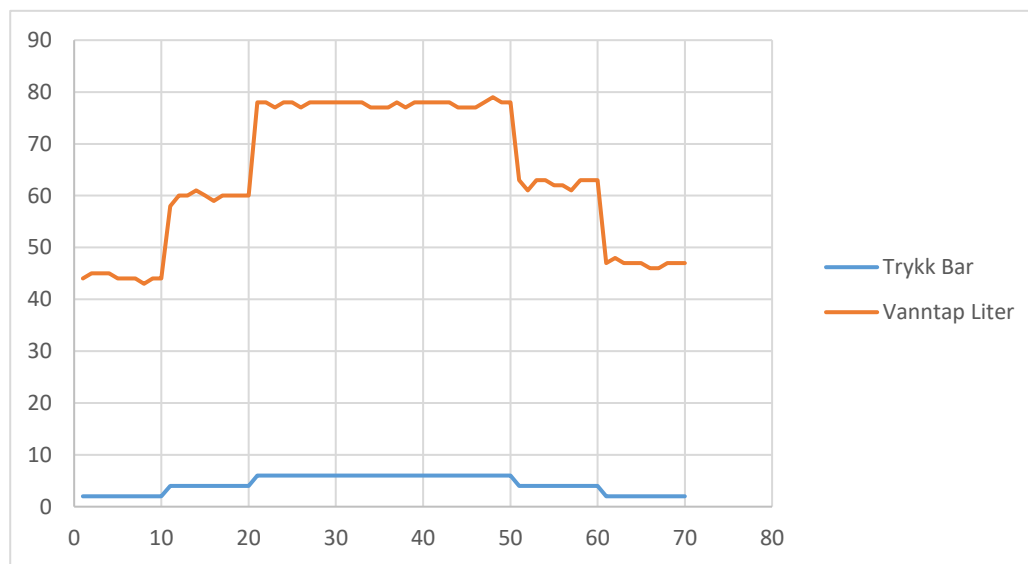
Trinn 4	53	4	0	0	1	0	0	0
	54	4	0	0	1	0	0	0
	55	4	0	0	1	0	0	0
	56	4	0	0	1	0	0	0
	57	4	0	0	1	0	0	0
	58	4	0	0	1	0	0	0
	59	4	0	0	1	0	0	0
	60	4	0	0	1	0	0	0
Trinn 5	61	2	0	0	1	0	0	0
	62	2	0	0	1	0	0	0
	63	2	0	0	1	0	0	0
	64	2	0	0	1	0	0	0
	65	2	0	0	1	0	0	0
	66	2	0	0	1	0	0	0
	67	2	0	0	1	0	0	0
	68	2	0	0	1	0	0	0
	69	2	0	0	1	0	0	0
	70	2	0	0	1	0	0	0



Rapport Vanntapsmåling 5 steps Lugeon								
Lokalitet:	Åknes							
Borehull:	KH-02-18							
Vannspeil								
Dato	17.09.2018							
Måleseksjon	Fra	35,8	Til	41,8	Lengde	6		
	Minutt	Trykk	Vannmengde		Tid	Vanntap pr min	Vanntap Mpa	Ved 0,98
			Målt	Korr for 0,98 Mpa (10kp/cm2)			Pr. seksjon	Pr. Lugeon
		[98 KPa] kPa/cm2	[l]	[l]	[Min]	[l/Min]	[l/Min]	[l/Min/m]
	1		2	3=(2/1)x10	4	5=2/4	6=3/4	7=6/m
Trinn 1	1	2	44	220	1	44	220	36,6666667
	2	2	45	225	1	45	225	37,5
	3	2	45	225	1	45	225	37,5
	4	2	45	225	1	45	225	37,5
	5	2	44	220	1	44	220	36,6666667
	6	2	44	220	1	44	220	36,6666667
	7	2	44	220	1	44	220	36,6666667
	8	2	43	215	1	43	215	35,83333333
	9	2	44	220	1	44	220	36,6666667
	10	2	44	220	1	44	220	36,6666667
Trinn 2	11	4	58	145	1	58	145	24,1666667
	12	4	60	150	1	60	150	25
	13	4	60	150	1	60	150	25
	14	4	61	152,5	1	61	152,5	25,4166667
	15	4	60	150	1	60	150	25
	16	4	59	147,5	1	59	147,5	24,58333333
	17	4	60	150	1	60	150	25
	18	4	60	150	1	60	150	25
	19	4	60	150	1	60	150	25

Trinn 3	20	4	60	150	1	60	150	25
	21	6	78	130	1	78	130	21,6666667
	22	6	78	130	1	78	130	21,6666667
	23	6	77	128,333333	1	77	128,333333	21,3888889
	24	6	78	130	1	78	130	21,6666667
	25	6	78	130	1	78	130	21,6666667
	26	6	77	128,333333	1	77	128,333333	21,3888889
	27	6	78	130	1	78	130	21,6666667
	28	6	78	130	1	78	130	21,6666667
	29	6	78	130	1	78	130	21,6666667
	30	6	78	130	1	78	130	21,6666667
	31	6	78	130	1	78	130	21,6666667
	32	6	78	130	1	78	130	21,6666667
	33	6	78	130	1	78	130	21,6666667
	34	6	77	128,333333	1	77	128,333333	21,3888889
	35	6	77	128,333333	1	77	128,333333	21,3888889
	36	6	77	128,333333	1	77	128,333333	21,3888889
	37	6	78	130	1	78	130	21,6666667
	38	6	77	128,333333	1	77	128,333333	21,3888889
	39	6	78	130	1	78	130	21,6666667
	40	6	78	130	1	78	130	21,6666667
	41	6	78	130	1	78	130	21,6666667
	42	6	78	130	1	78	130	21,6666667
	43	6	78	130	1	78	130	21,6666667
	44	6	77	128,333333	1	77	128,333333	21,3888889
	45	6	77	128,333333	1	77	128,333333	21,3888889
	46	6	77	128,333333	1	77	128,333333	21,3888889
	47	6	78	130	1	78	130	21,6666667
	48	6	79	131,666667	1	79	131,666667	21,9444444
	49	6	78	130	1	78	130	21,6666667
	50	6	78	130	1	78	130	21,6666667
51	4	63	157,5	1	63	157,5	26,25	
52	4	61	152,5	1	61	152,5	25,4166667	

Trinn 4	53	4	63	157,5	1	63	157,5	26,25
	54	4	63	157,5	1	63	157,5	26,25
	55	4	62	155	1	62	155	25,83333333
	56	4	62	155	1	62	155	25,83333333
	57	4	61	152,5	1	61	152,5	25,41666667
	58	4	63	157,5	1	63	157,5	26,25
	59	4	63	157,5	1	63	157,5	26,25
	60	4	63	157,5	1	63	157,5	26,25
Trinn 5	61	2	47	235	1	47	235	39,16666667
	62	2	48	240	1	48	240	40
	63	2	47	235	1	47	235	39,16666667
	64	2	47	235	1	47	235	39,16666667
	65	2	47	235	1	47	235	39,16666667
	66	2	46	230	1	46	230	38,33333333
	67	2	46	230	1	46	230	38,33333333
	68	2	47	235	1	47	235	39,16666667
	69	2	47	235	1	47	235	39,16666667
	70	2	47	235	1	47	235	39,16666667

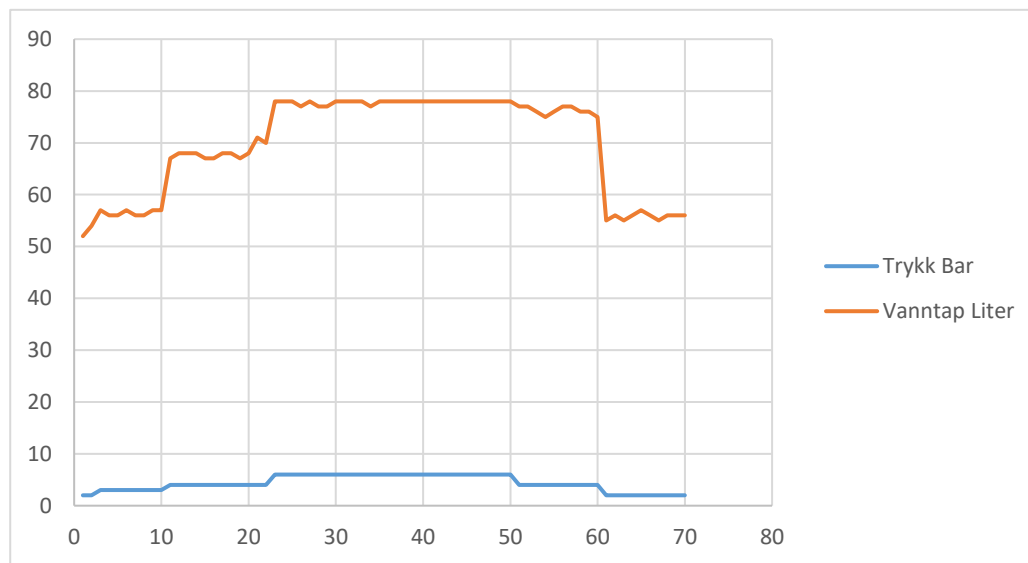


Rapport Vanntapsmåling 5 steps Lugeon								
Lokalitet:	Åknes							
Borehull:	KH-02-18							
Vannspeil:								
Dato:	18.09.2018							
Måleseksjon	Fra	51	Til	57,1	Lengde	6,1		
	Minutt	Trykk	Vannmengde		Tid	Vanntap pr min	Vanntap Mpa	Ved 0,98
			Målt	Korr for 0,98 Mpa (10kp/cm2)			Pr. seksjon	Pr. Lugeon
		[98 KPa] kPa/cm2	[l]	[l]	[Min]	[l/Min]	[l/Min]	[l/Min/m]
	1		2	3=(2/1)x10	4	5=2/4	6=3/4	7=6/m
Trinn 1	1	2	52	260	1	52	260	42,6229508
	2	2	54	270	1	54	270	44,2622951
	3	3	57	190	1	57	190	31,147541
	4	3	56	186,666667	1	56	186,666667	30,6010929
	5	3	56	186,666667	1	56	186,666667	30,6010929
	6	3	57	190	1	57	190	31,147541
	7	3	56	186,666667	1	56	186,666667	30,6010929
	8	3	56	186,666667	1	56	186,666667	30,6010929
	9	3	57	190	1	57	190	31,147541
	10	3	57	190	1	57	190	31,147541
Trinn 2	11	4	67	167,5	1	67	167,5	27,4590164
	12	4	68	170	1	68	170	27,8688525
	13	4	68	170	1	68	170	27,8688525
	14	4	68	170	1	68	170	27,8688525
	15	4	67	167,5	1	67	167,5	27,4590164
	16	4	67	167,5	1	67	167,5	27,4590164
	17	4	68	170	1	68	170	27,8688525
	18	4	68	170	1	68	170	27,8688525
	19	4	67	167,5	1	67	167,5	27,4590164

Trinn 3	20	4	68	170	1	68	170	27,8688525
	21	4	71	177,5	1	71	177,5	29,0983607
	22	4	70	175	1	70	175	28,6885246
	23	6	78	130	1	78	130	21,3114754
	24	6	78	130	1	78	130	21,3114754
	25	6	78	130	1	78	130	21,3114754
	26	6	77	128,333333	1	77	128,333333	21,0382514
	27	6	78	130	1	78	130	21,3114754
	28	6	77	128,333333	1	77	128,333333	21,0382514
	29	6	77	128,333333	1	77	128,333333	21,0382514
	30	6	78	130	1	78	130	21,3114754
	31	6	78	130	1	78	130	21,3114754
	32	6	78	130	1	78	130	21,3114754
	33	6	78	130	1	78	130	21,3114754
	34	6	77	128,333333	1	77	128,333333	21,0382514
	35	6	78	130	1	78	130	21,3114754
	36	6	78	130	1	78	130	21,3114754
	37	6	78	130	1	78	130	21,3114754
	38	6	78	130	1	78	130	21,3114754
	39	6	78	130	1	78	130	21,3114754
	40	6	78	130	1	78	130	21,3114754
	41	6	78	130	1	78	130	21,3114754
	42	6	78	130	1	78	130	21,3114754
	43	6	78	130	1	78	130	21,3114754
	44	6	78	130	1	78	130	21,3114754
	45	6	78	130	1	78	130	21,3114754
	46	6	78	130	1	78	130	21,3114754
	47	6	78	130	1	78	130	21,3114754
	48	6	78	130	1	78	130	21,3114754
	49	6	78	130	1	78	130	21,3114754
	50	6	78	130	1	78	130	21,3114754
51	4	77	192,5	1	77	192,5	31,557377	
52	4	77	192,5	1	77	192,5	31,557377	



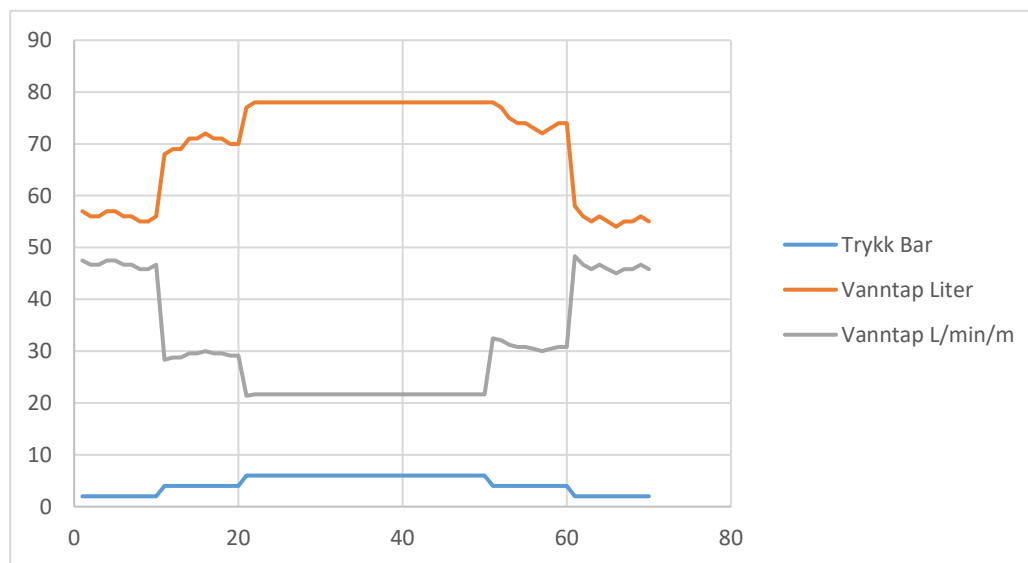
Trinn 4	53	4	76	190	1	76	190	31,147541
	54	4	75	187,5	1	75	187,5	30,7377049
	55	4	76	190	1	76	190	31,147541
	56	4	77	192,5	1	77	192,5	31,557377
	57	4	77	192,5	1	77	192,5	31,557377
	58	4	76	190	1	76	190	31,147541
	59	4	76	190	1	76	190	31,147541
	60	4	75	187,5	1	75	187,5	30,7377049
Trinn 5	61	2	55	275	1	55	275	45,0819672
	62	2	56	280	1	56	280	45,9016393
	63	2	55	275	1	55	275	45,0819672
	64	2	56	280	1	56	280	45,9016393
	65	2	57	285	1	57	285	46,7213115
	66	2	56	280	1	56	280	45,9016393
	67	2	55	275	1	55	275	45,0819672
	68	2	56	280	1	56	280	45,9016393
	69	2	56	280	1	56	280	45,9016393
	70	2	56	280	1	56	280	45,9016393



Rapport Vanntapsmåling 5 steps Lugeon								
Lokalitet:	Åknes							
Borehull:	KH-02-18							
Vannspeil:								
Dato	19.09.2018							
Måleseksjon	Fra	57	Til	63	Lengde	6		
	Minutt	Trykk	Vannmengde		Tid	Vanntap pr min	Vanntap Mpa	Ved 0,98
			Målt	Korr for 0,98 Mpa (10kp/cm2)			Pr. seksjon	Pr. Lugeon
		[98 KPa] kPa/cm2	[l]	[l]	[Min]	[l/Min]	[l/Min]	[l/Min/m]
	1		2	3=(2/1)x10	4	5=2/4	6=3/4	7=6/m
Trinn 1	1	2	57	285	1	57	285	47,5
	2	2	56	280	1	56	280	46,6666667
	3	2	56	280	1	56	280	46,6666667
	4	2	57	285	1	57	285	47,5
	5	2	57	285	1	57	285	47,5
	6	2	56	280	1	56	280	46,6666667
	7	2	56	280	1	56	280	46,6666667
	8	2	55	275	1	55	275	45,8333333
	9	2	55	275	1	55	275	45,8333333
	10	2	56	280	1	56	280	46,6666667
Trinn 2	11	4	68	170	1	68	170	28,3333333
	12	4	69	172,5	1	69	172,5	28,75
	13	4	69	172,5	1	69	172,5	28,75
	14	4	71	177,5	1	71	177,5	29,5833333
	15	4	71	177,5	1	71	177,5	29,5833333
	16	4	72	180	1	72	180	30
	17	4	71	177,5	1	71	177,5	29,5833333
	18	4	71	177,5	1	71	177,5	29,5833333
	19	4	70	175	1	70	175	29,1666667

Trinn 3	20	4	70	175	1	70	175	29,1666667
	21	6	77	128,333333	1	77	128,333333	21,3888889
	22	6	78	130	1	78	130	21,6666667
	23	6	78	130	1	78	130	21,6666667
	24	6	78	130	1	78	130	21,6666667
	25	6	78	130	1	78	130	21,6666667
	26	6	78	130	1	78	130	21,6666667
	27	6	78	130	1	78	130	21,6666667
	28	6	78	130	1	78	130	21,6666667
	29	6	78	130	1	78	130	21,6666667
	30	6	78	130	1	78	130	21,6666667
	31	6	78	130	1	78	130	21,6666667
	32	6	78	130	1	78	130	21,6666667
	33	6	78	130	1	78	130	21,6666667
	34	6	78	130	1	78	130	21,6666667
	35	6	78	130	1	78	130	21,6666667
	36	6	78	130	1	78	130	21,6666667
	37	6	78	130	1	78	130	21,6666667
	38	6	78	130	1	78	130	21,6666667
	39	6	78	130	1	78	130	21,6666667
	40	6	78	130	1	78	130	21,6666667
	41	6	78	130	1	78	130	21,6666667
	42	6	78	130	1	78	130	21,6666667
	43	6	78	130	1	78	130	21,6666667
	44	6	78	130	1	78	130	21,6666667
	45	6	78	130	1	78	130	21,6666667
	46	6	78	130	1	78	130	21,6666667
	47	6	78	130	1	78	130	21,6666667
	48	6	78	130	1	78	130	21,6666667
	49	6	78	130	1	78	130	21,6666667
	50	6	78	130	1	78	130	21,6666667
51	4	78	195	1	78	195	32,5	
52	4	77	192,5	1	77	192,5	32,0833333	

Trinn 4	53	4	75	187,5	1	75	187,5	31,25
	54	4	74	185	1	74	185	30,8333333
	55	4	74	185	1	74	185	30,8333333
	56	4	73	182,5	1	73	182,5	30,4166667
	57	4	72	180	1	72	180	30
	58	4	73	182,5	1	73	182,5	30,4166667
	59	4	74	185	1	74	185	30,8333333
	60	4	74	185	1	74	185	30,8333333
Trinn 5	61	2	58	290	1	58	290	48,3333333
	62	2	56	280	1	56	280	46,6666667
	63	2	55	275	1	55	275	45,8333333
	64	2	56	280	1	56	280	46,6666667
	65	2	55	275	1	55	275	45,8333333
	66	2	54	270	1	54	270	45
	67	2	55	275	1	55	275	45,8333333
	68	2	55	275	1	55	275	45,8333333
	69	2	56	280	1	56	280	46,6666667
	70	2	55	275	1	55	275	45,8333333

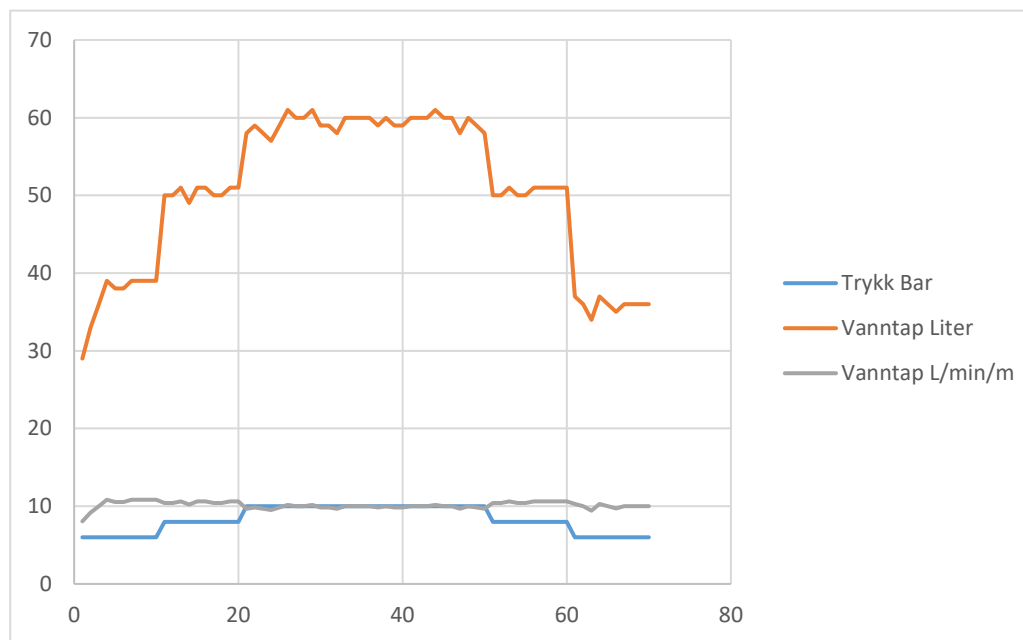


Rapport Vanntapsmåling 5 steps Lugeon								
Lokalitet:	Åknes							
Borehull:	KH-02-18							
Vannspeil:								
Dato	04.10.2019							
Måleseksjon	Fra	63	Til	69	Lengde	6		
	Minutt	Trykk	Vannmengde		Tid	Vanntap pr min	Vanntap Mpa	Ved 0,98
			Målt	Korr for 0,98 Mpa (10kp/cm2)			Pr. seksjon	Pr. Lugeon
		[98 KPa] kPa/cm2	[l]	[l]	[Min]	[l/Min]	[l/Min]	[l/Min/m]
	1		2	3=(2/1)x10	4	5=2/4	6=3/4	7=6/m
Trinn 1	1	6	29	48,3333333	1	29	48,3333333	8,05555556
	2	6	33	55	1	33	55	9,16666667
	3	6	36	60	1	36	60	10
	4	6	39	65	1	39	65	10,8333333
	5	6	38	63,3333333	1	38	63,3333333	10,5555556
	6	6	38	63,3333333	1	38	63,3333333	10,5555556
	7	6	39	65	1	39	65	10,8333333
	8	6	39	65	1	39	65	10,8333333
	9	6	39	65	1	39	65	10,8333333
	10	6	39	65	1	39	65	10,8333333
Trinn 2	11	8	50	62,5	1	50	62,5	10,4166667
	12	8	50	62,5	1	50	62,5	10,4166667
	13	8	51	63,75	1	51	63,75	10,625
	14	8	49	61,25	1	49	61,25	10,2083333
	15	8	51	63,75	1	51	63,75	10,625
	16	8	51	63,75	1	51	63,75	10,625
	17	8	50	62,5	1	50	62,5	10,4166667
	18	8	50	62,5	1	50	62,5	10,4166667
	19	8	51	63,75	1	51	63,75	10,625

Trinn 3	20	8	51	63,75	1	51	63,75	10,625
	21	10	58	58	1	58	58	9,66666667
	22	10	59	59	1	59	59	9,83333333
	23	10	58	58	1	58	58	9,66666667
	24	10	57	57	1	57	57	9,5
	25	10	59	59	1	59	59	9,83333333
	26	10	61	61	1	61	61	10,16666667
	27	10	60	60	1	60	60	10
	28	10	60	60	1	60	60	10
	29	10	61	61	1	61	61	10,16666667
	30	10	59	59	1	59	59	9,83333333
	31	10	59	59	1	59	59	9,83333333
	32	10	58	58	1	58	58	9,66666667
	33	10	60	60	1	60	60	10
	34	10	60	60	1	60	60	10
	35	10	60	60	1	60	60	10
	36	10	60	60	1	60	60	10
	37	10	59	59	1	59	59	9,83333333
	38	10	60	60	1	60	60	10
	39	10	59	59	1	59	59	9,83333333
	40	10	59	59	1	59	59	9,83333333
	41	10	60	60	1	60	60	10
	42	10	60	60	1	60	60	10
	43	10	60	60	1	60	60	10
	44	10	61	61	1	61	61	10,16666667
	45	10	60	60	1	60	60	10
	46	10	60	60	1	60	60	10
	47	10	58	58	1	58	58	9,66666667
	48	10	60	60	1	60	60	10
	49	10	59	59	1	59	59	9,83333333
	50	10	58	58	1	58	58	9,66666667
51	8	50	62,5	1	50	62,5	10,41666667	
52	8	50	62,5	1	50	62,5	10,41666667	



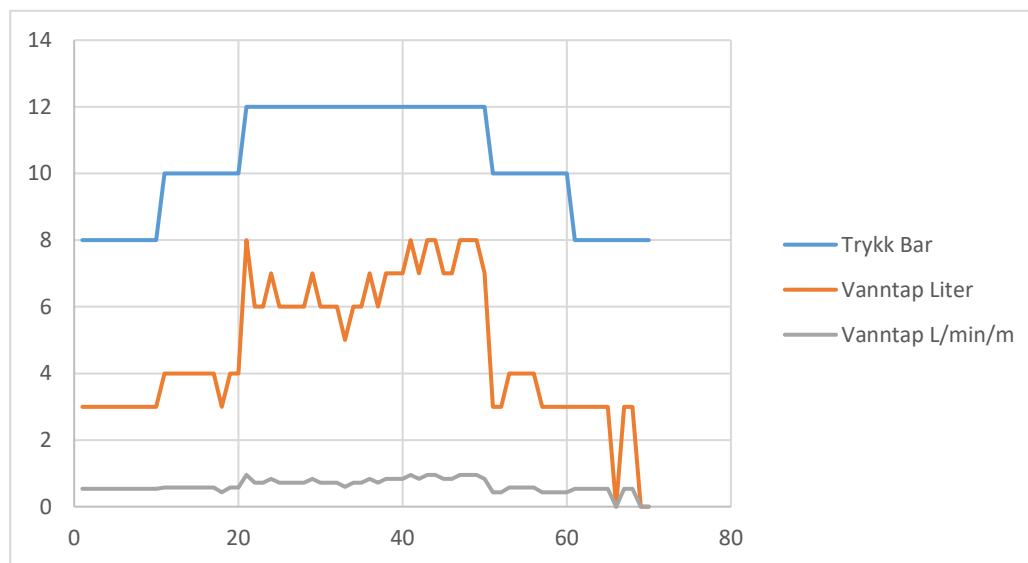
Trinn 4	53	8	51	63,75	1	51	63,75	10,625
	54	8	50	62,5	1	50	62,5	10,4166667
	55	8	50	62,5	1	50	62,5	10,4166667
	56	8	51	63,75	1	51	63,75	10,625
	57	8	51	63,75	1	51	63,75	10,625
	58	8	51	63,75	1	51	63,75	10,625
	59	8	51	63,75	1	51	63,75	10,625
	60	8	51	63,75	1	51	63,75	10,625
Trinn 5	61	6	37	61,6666667	1	37	61,6666667	10,2777778
	62	6	36	60	1	36	60	10
	63	6	34	56,6666667	1	34	56,6666667	9,44444444
	64	6	37	61,6666667	1	37	61,6666667	10,2777778
	65	6	36	60	1	36	60	10
	66	6	35	58,3333333	1	35	58,3333333	9,72222222
	67	6	36	60	1	36	60	10
	68	6	36	60	1	36	60	10
	69	6	36	60	1	36	60	10
	70	6	36	60	1	36	60	10



Rapport Vanntapsmåling 5 steps Lugeon								
Lokalitet:	Åknes							
Borehull:	KH-02-18							
Vannspeil:								
Dato	05.10.2018							
Måleseksjon	Fra	69	Til	76	Lengde	7		
	Minutt	Trykk	Vannmengde		Tid	Vanntap pr min	Vanntap Mpa	Ved 0,98
			Målt	Korr for 0,98 Mpa (10kp/cm2)			Pr. seksjon	Pr. Lugeon
		[98 KPa] kPa/cm2	[l]	[l]	[Min]	[l/Min]	[l/Min]	[l/Min/m]
	1		2	3=(2/1)x10	4	5=2/4	6=3/4	7=6/m
Trinn 1	1	8	3	3,75	1	3	3,75	0,53571429
	2	8	3	3,75	1	3	3,75	0,53571429
	3	8	3	3,75	1	3	3,75	0,53571429
	4	8	3	3,75	1	3	3,75	0,53571429
	5	8	3	3,75	1	3	3,75	0,53571429
	6	8	3	3,75	1	3	3,75	0,53571429
	7	8	3	3,75	1	3	3,75	0,53571429
	8	8	3	3,75	1	3	3,75	0,53571429
	9	8	3	3,75	1	3	3,75	0,53571429
	10	8	3	3,75	1	3	3,75	0,53571429
Trinn 2	11	10	4	4	1	4	4	0,57142857
	12	10	4	4	1	4	4	0,57142857
	13	10	4	4	1	4	4	0,57142857
	14	10	4	4	1	4	4	0,57142857
	15	10	4	4	1	4	4	0,57142857
	16	10	4	4	1	4	4	0,57142857
	17	10	4	4	1	4	4	0,57142857
	18	10	3	3	1	3	3	0,42857143
	19	10	4	4	1	4	4	0,57142857

Trinn 3	20	10	4	4	1	4	4	0,57142857
	21	12	8	6,66666667	1	8	6,66666667	0,95238095
	22	12	6	5	1	6	5	0,71428571
	23	12	6	5	1	6	5	0,71428571
	24	12	7	5,83333333	1	7	5,83333333	0,83333333
	25	12	6	5	1	6	5	0,71428571
	26	12	6	5	1	6	5	0,71428571
	27	12	6	5	1	6	5	0,71428571
	28	12	6	5	1	6	5	0,71428571
	29	12	7	5,83333333	1	7	5,83333333	0,83333333
	30	12	6	5	1	6	5	0,71428571
	31	12	6	5	1	6	5	0,71428571
	32	12	6	5	1	6	5	0,71428571
	33	12	5	4,16666667	1	5	4,16666667	0,5952381
	34	12	6	5	1	6	5	0,71428571
	35	12	6	5	1	6	5	0,71428571
	36	12	7	5,83333333	1	7	5,83333333	0,83333333
	37	12	6	5	1	6	5	0,71428571
	38	12	7	5,83333333	1	7	5,83333333	0,83333333
	39	12	7	5,83333333	1	7	5,83333333	0,83333333
	40	12	7	5,83333333	1	7	5,83333333	0,83333333
	41	12	8	6,66666667	1	8	6,66666667	0,95238095
	42	12	7	5,83333333	1	7	5,83333333	0,83333333
	43	12	8	6,66666667	1	8	6,66666667	0,95238095
	44	12	8	6,66666667	1	8	6,66666667	0,95238095
	45	12	7	5,83333333	1	7	5,83333333	0,83333333
	46	12	7	5,83333333	1	7	5,83333333	0,83333333
	47	12	8	6,66666667	1	8	6,66666667	0,95238095
	48	12	8	6,66666667	1	8	6,66666667	0,95238095
	49	12	8	6,66666667	1	8	6,66666667	0,95238095
50	12	7	5,83333333	1	7	5,83333333	0,83333333	
51	10	3	3	1	3	3	0,42857143	
52	10	3	3	1	3	3	0,42857143	

Trinn 4	53	10	4	4	1	4	4	0,57142857
	54	10	4	4	1	4	4	0,57142857
	55	10	4	4	1	4	4	0,57142857
	56	10	4	4	1	4	4	0,57142857
	57	10	3	3	1	3	3	0,42857143
	58	10	3	3	1	3	3	0,42857143
	59	10	3	3	1	3	3	0,42857143
	60	10	3	3	1	3	3	0,42857143
Trinn 5	61	8	3	3,75	1	3	3,75	0,53571429
	62	8	3	3,75	1	3	3,75	0,53571429
	63	8	3	3,75	1	3	3,75	0,53571429
	64	8	3	3,75	1	3	3,75	0,53571429
	65	8	3	3,75	1	3	3,75	0,53571429
	66	8	0	0	1	0	0	0
	67	8	3	3,75	1	3	3,75	0,53571429
	68	8	3	3,75	1	3	3,75	0,53571429
	69	8	0	0	1	0	0	0
	70	8	0	0	1	0	0	0

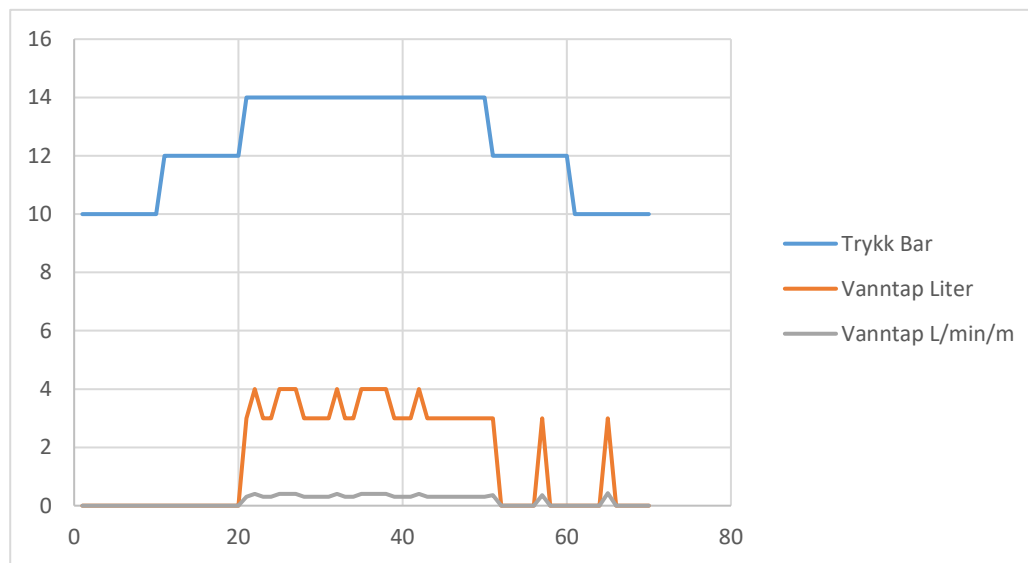


Rapport Vanntapsmåling 5 steps Lugeon								
Lokalitet:	Åknes							
Borehull:	KH-02-18							
Vannspeil:								
Dato	05.10.2018							
Måleseksjon	Fra	75,5	Til	82,5	Lengde	7		
	Minutt	Trykk	Vannmengde		Tid	Vanntap pr min	Vanntap Mpa	Ved 0,98
			Målt	Korr for 0,98 Mpa (10kp/cm2)			Pr. seksjon	Pr. Lugeon
		[98 KPa] kPa/cm2	[l]	[l]	[Min]	[l/Min]	[l/Min]	[l/Min/m]
	1		2	3=(2/1)x10	4	5=2/4	6=3/4	7=6/m
Trinn 1	1	10	0	0	1	0	0	0
	2	10	0	0	1	0	0	0
	3	10	0	0	1	0	0	0
	4	10	0	0	1	0	0	0
	5	10	0	0	1	0	0	0
	6	10	0	0	1	0	0	0
	7	10	0	0	1	0	0	0
	8	10	0	0	1	0	0	0
	9	10	0	0	1	0	0	0
	10	10	0	0	1	0	0	0
Trinn 2	11	12	0	0	1	0	0	0
	12	12	0	0	1	0	0	0
	13	12	0	0	1	0	0	0
	14	12	0	0	1	0	0	0
	15	12	0	0	1	0	0	0
	16	12	0	0	1	0	0	0
	17	12	0	0	1	0	0	0
	18	12	0	0	1	0	0	0
	19	12	0	0	1	0	0	0

	20	12	0	0	1	0	0	0
Trinn 3	21	14	3	2,14285714	1	3	2,14285714	0,30612245
	22	14	4	2,85714286	1	4	2,85714286	0,40816327
	23	14	3	2,14285714	1	3	2,14285714	0,30612245
	24	14	3	2,14285714	1	3	2,14285714	0,30612245
	25	14	4	2,85714286	1	4	2,85714286	0,40816327
	26	14	4	2,85714286	1	4	2,85714286	0,40816327
	27	14	4	2,85714286	1	4	2,85714286	0,40816327
	28	14	3	2,14285714	1	3	2,14285714	0,30612245
	29	14	3	2,14285714	1	3	2,14285714	0,30612245
	30	14	3	2,14285714	1	3	2,14285714	0,30612245
	31	14	3	2,14285714	1	3	2,14285714	0,30612245
	32	14	4	2,85714286	1	4	2,85714286	0,40816327
	33	14	3	2,14285714	1	3	2,14285714	0,30612245
	34	14	3	2,14285714	1	3	2,14285714	0,30612245
	35	14	4	2,85714286	1	4	2,85714286	0,40816327
	36	14	4	2,85714286	1	4	2,85714286	0,40816327
	37	14	4	2,85714286	1	4	2,85714286	0,40816327
	38	14	4	2,85714286	1	4	2,85714286	0,40816327
	39	14	3	2,14285714	1	3	2,14285714	0,30612245
	40	14	3	2,14285714	1	3	2,14285714	0,30612245
	41	14	3	2,14285714	1	3	2,14285714	0,30612245
	42	14	4	2,85714286	1	4	2,85714286	0,40816327
	43	14	3	2,14285714	1	3	2,14285714	0,30612245
	44	14	3	2,14285714	1	3	2,14285714	0,30612245
	45	14	3	2,14285714	1	3	2,14285714	0,30612245
	46	14	3	2,14285714	1	3	2,14285714	0,30612245
	47	14	3	2,14285714	1	3	2,14285714	0,30612245
	48	14	3	2,14285714	1	3	2,14285714	0,30612245
	49	14	3	2,14285714	1	3	2,14285714	0,30612245
	50	14	3	2,14285714	1	3	2,14285714	0,30612245
		51	12	3	2,5	1	3	2,5
	52	12	0	0	1	0	0	0



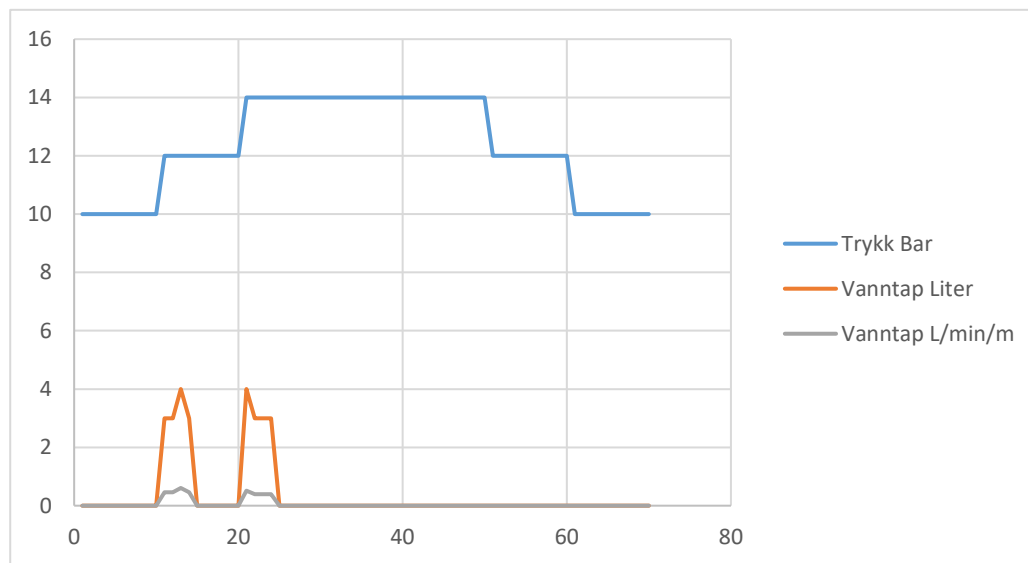
Trinn 4	53	12	0	0	1	0	0	0
	54	12	0	0	1	0	0	0
	55	12	0	0	1	0	0	0
	56	12	0	0	1	0	0	0
	57	12	3	2,5	1	3	2,5	0,35714286
	58	12	0	0	1	0	0	0
	59	12	0	0	1	0	0	0
	60	12	0	0	1	0	0	0
Trinn 5	61	10	0	0	1	0	0	0
	62	10	0	0	1	0	0	0
	63	10	0	0	1	0	0	0
	64	10	0	0	1	0	0	0
	65	10	3	3	1	3	3	0,42857143
	66	10	0	0	1	0	0	0
	67	10	0	0	1	0	0	0
	68	10	0	0	1	0	0	0
	69	10	0	0	1	0	0	0
	70	10	0	0	1	0	0	0



Rapport Vanntapsmåling 5 steps Lugeon								
Lokalitet:	Åknes							
Borehull:	KH-02-18							
Vannspeil:								
Dato	05.10.2018							
Måleseksjon	Fra	82,5	Til	88	Lengde	5,5		
	Minutt	Trykk	Vannmengde		Tid	Vanntap pr min	Vanntap Mpa	Ved 0,98
			Målt	Korr for 0,98 Mpa (10kp/cm2)			Pr. seksjon	Pr. Lugeon
		[98 KPa] kPa/cm2	[l]	[l]	[Min]	[l/Min]	[l/Min]	[l/Min/m]
	1		2	3=(2/1)x10	4	5=2/4	6=3/4	7=6/m
Trinn 1	1	10	0	0	1	0	0	0
	2	10	0	0	1	0	0	0
	3	10	0	0	1	0	0	0
	4	10	0	0	1	0	0	0
	5	10	0	0	1	0	0	0
	6	10	0	0	1	0	0	0
	7	10	0	0	1	0	0	0
	8	10	0	0	1	0	0	0
	9	10	0	0	1	0	0	0
	10	10	0	0	1	0	0	0
Trinn 2	11	12	3	2,5	1	3	2,5	0,45454545
	12	12	3	2,5	1	3	2,5	0,45454545
	13	12	4	3,33333333	1	4	3,33333333	0,60606061
	14	12	3	2,5	1	3	2,5	0,45454545
	15	12	0	0	1	0	0	0
	16	12	0	0	1	0	0	0
	17	12	0	0	1	0	0	0
	18	12	0	0	1	0	0	0
	19	12	0	0	1	0	0	0

Trinn 3	20	12	0	0	1	0	0	0
	21	14	4	2,85714286	1	4	2,85714286	0,51948052
	22	14	3	2,14285714	1	3	2,14285714	0,38961039
	23	14	3	2,14285714	1	3	2,14285714	0,38961039
	24	14	3	2,14285714	1	3	2,14285714	0,38961039
	25	14	0	0	1	0	0	0
	26	14	0	0	1	0	0	0
	27	14	0	0	1	0	0	0
	28	14	0	0	1	0	0	0
	29	14	0	0	1	0	0	0
	30	14	0	0	1	0	0	0
	31	14	0	0	1	0	0	0
	32	14	0	0	1	0	0	0
	33	14	0	0	1	0	0	0
	34	14	0	0	1	0	0	0
	35	14	0	0	1	0	0	0
	36	14	0	0	1	0	0	0
	37	14	0	0	1	0	0	0
	38	14	0	0	1	0	0	0
	39	14	0	0	1	0	0	0
	40	14	0	0	1	0	0	0
	41	14	0	0	1	0	0	0
	42	14	0	0	1	0	0	0
	43	14	0	0	1	0	0	0
	44	14	0	0	1	0	0	0
	45	14	0	0	1	0	0	0
	46	14	0	0	1	0	0	0
	47	14	0	0	1	0	0	0
	48	14	0	0	1	0	0	0
	49	14	0	0	1	0	0	0
	50	14	0	0	1	0	0	0
51	12	0	0	1	0	0	0	
52	12	0	0	1	0	0	0	

Trinn 4	53	12	0	0	1	0	0	0
	54	12	0	0	1	0	0	0
	55	12	0	0	1	0	0	0
	56	12	0	0	1	0	0	0
	57	12	0	0	1	0	0	0
	58	12	0	0	1	0	0	0
	59	12	0	0	1	0	0	0
	60	12	0	0	1	0	0	0
Trinn 5	61	10	0	0	1	0	0	0
	62	10	0	0	1	0	0	0
	63	10	0	0	1	0	0	0
	64	10	0	0	1	0	0	0
	65	10	0	0	1	0	0	0
	66	10	0	0	1	0	0	0
	67	10	0	0	1	0	0	0
	68	10	0	0	1	0	0	0
	69	10	0	0	1	0	0	0
	70	10	0	0	1	0	0	0

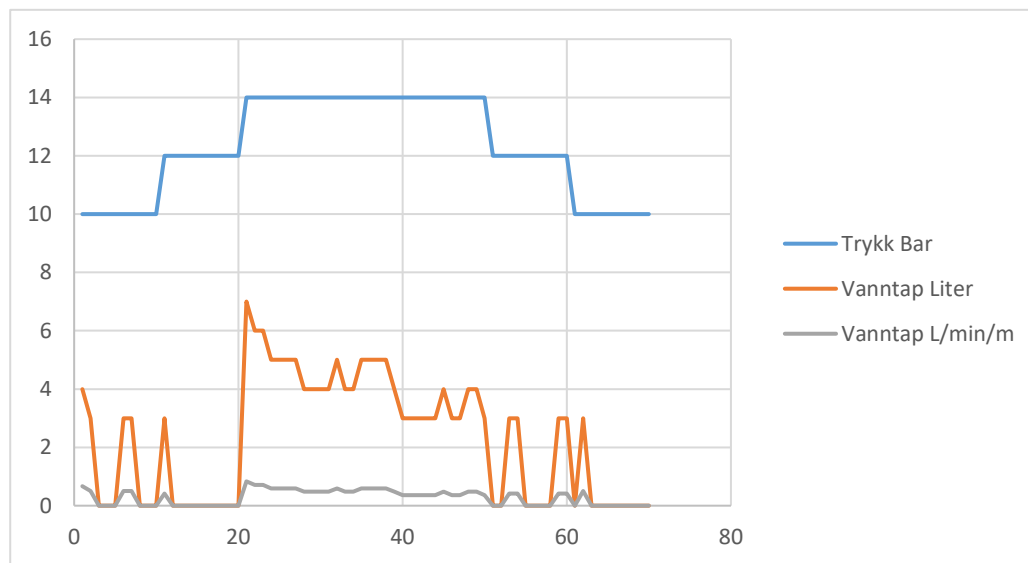


Rapport Vanntapsmåling 5 steps Lugeon								
Lokalitet:	Åknes							
Borehull:	KH-02-18							
Vannspeil:								
Dato	05.10.2018							
Måleseksjon	Fra	93	Til	99	Lengde	6		
	Minutt	Trykk	Vannmengde		Tid	Vanntap pr min	Vanntap Mpa	Ved 0,98
			Målt	Korr for 0,98 Mpa (10kp/cm2)			Pr. seksjon	Pr. Lugeon
		[98 KPa] kPa/cm2	[l]	[l]	[Min]	[l/Min]	[l/Min]	[l/Min/m]
	1		2	3=(2/1)x10	4	5=2/4	6=3/4	7=6/m
Trinn 1	1	10	4	4	1	4	4	0,66666667
	2	10	3	3	1	3	3	0,5
	3	10	0	0	1	0	0	0
	4	10	0	0	1	0	0	0
	5	10	0	0	1	0	0	0
	6	10	3	3	1	3	3	0,5
	7	10	3	3	1	3	3	0,5
	8	10	0	0	1	0	0	0
	9	10	0	0	1	0	0	0
	10	10	0	0	1	0	0	0
Trinn 2	11	12	3	2,5	1	3	2,5	0,41666667
	12	12	0	0	1	0	0	0
	13	12	0	0	1	0	0	0
	14	12	0	0	1	0	0	0
	15	12	0	0	1	0	0	0
	16	12	0	0	1	0	0	0
	17	12	0	0	1	0	0	0
	18	12	0	0	1	0	0	0
	19	12	0	0	1	0	0	0

	20	12	0	0	1	0	0	0
Trinn 3	21	14	7	5	1	7	5	0,83333333
	22	14	6	4,28571429	1	6	4,28571429	0,71428571
	23	14	6	4,28571429	1	6	4,28571429	0,71428571
	24	14	5	3,57142857	1	5	3,57142857	0,5952381
	25	14	5	3,57142857	1	5	3,57142857	0,5952381
	26	14	5	3,57142857	1	5	3,57142857	0,5952381
	27	14	5	3,57142857	1	5	3,57142857	0,5952381
	28	14	4	2,85714286	1	4	2,85714286	0,47619048
	29	14	4	2,85714286	1	4	2,85714286	0,47619048
	30	14	4	2,85714286	1	4	2,85714286	0,47619048
	31	14	4	2,85714286	1	4	2,85714286	0,47619048
	32	14	5	3,57142857	1	5	3,57142857	0,5952381
	33	14	4	2,85714286	1	4	2,85714286	0,47619048
	34	14	4	2,85714286	1	4	2,85714286	0,47619048
	35	14	5	3,57142857	1	5	3,57142857	0,5952381
	36	14	5	3,57142857	1	5	3,57142857	0,5952381
	37	14	5	3,57142857	1	5	3,57142857	0,5952381
	38	14	5	3,57142857	1	5	3,57142857	0,5952381
	39	14	4	2,85714286	1	4	2,85714286	0,47619048
	40	14	3	2,14285714	1	3	2,14285714	0,35714286
	41	14	3	2,14285714	1	3	2,14285714	0,35714286
	42	14	3	2,14285714	1	3	2,14285714	0,35714286
	43	14	3	2,14285714	1	3	2,14285714	0,35714286
	44	14	3	2,14285714	1	3	2,14285714	0,35714286
	45	14	4	2,85714286	1	4	2,85714286	0,47619048
	46	14	3	2,14285714	1	3	2,14285714	0,35714286
	47	14	3	2,14285714	1	3	2,14285714	0,35714286
	48	14	4	2,85714286	1	4	2,85714286	0,47619048
	49	14	4	2,85714286	1	4	2,85714286	0,47619048
	50	14	3	2,14285714	1	3	2,14285714	0,35714286
		51	12	0	0	1	0	0
	52	12	0	0	1	0	0	0



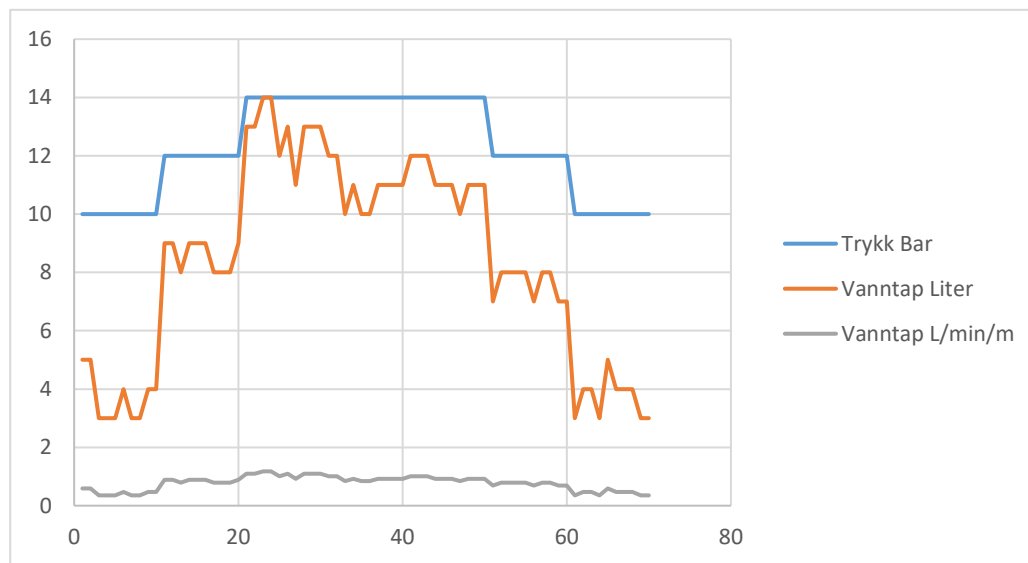
Trinn 4	53	12	3	2,5	1	3	2,5	0,41666667
	54	12	3	2,5	1	3	2,5	0,41666667
	55	12	0	0	1	0	0	0
	56	12	0	0	1	0	0	0
	57	12	0	0	1	0	0	0
	58	12	0	0	1	0	0	0
	59	12	3	2,5	1	3	2,5	0,41666667
	60	12	3	2,5	1	3	2,5	0,41666667
Trinn 5	61	10	0	0	1	0	0	0
	62	10	3	3	1	3	3	0,5
	63	10	0	0	1	0	0	0
	64	10	0	0	1	0	0	0
	65	10	0	0	1	0	0	0
	66	10	0	0	1	0	0	0
	67	10	0	0	1	0	0	0
	68	10	0	0	1	0	0	0
	69	10	0	0	1	0	0	0
	70	10	0	0	1	0	0	0



Rapport Vanntapsmåling 5 steps Lugeon								
Lokalitet:	Åknes							
Borehull:	KH-02-18							
Vannspeil:								
Dato	05.10.2018							
Måleseksjon	Fra	101	Til	109,5	Lengde	8,5		
	Minutt	Trykk	Vannmengde		Tid	Vanntap pr min	Vanntap Mpa	Ved 0,98
			Målt	Korr for 0,98 Mpa (10kp/cm2)			Pr. seksjon	Pr. Lugeon
		[98 KPa] kPa/cm2	[l]	[l]	[Min]	[l/Min]	[l/Min]	[l/Min/m]
	1		2	3=(2/1)x10	4	5=2/4	6=3/4	7=6/m
Trinn 1	1	10	5	5	1	5	5	0,58823529
	2	10	5	5	1	5	5	0,58823529
	3	10	3	3	1	3	3	0,35294118
	4	10	3	3	1	3	3	0,35294118
	5	10	3	3	1	3	3	0,35294118
	6	10	4	4	1	4	4	0,47058824
	7	10	3	3	1	3	3	0,35294118
	8	10	3	3	1	3	3	0,35294118
	9	10	4	4	1	4	4	0,47058824
	10	10	4	4	1	4	4	0,47058824
Trinn 2	11	12	9	7,5	1	9	7,5	0,88235294
	12	12	9	7,5	1	9	7,5	0,88235294
	13	12	8	6,66666667	1	8	6,66666667	0,78431373
	14	12	9	7,5	1	9	7,5	0,88235294
	15	12	9	7,5	1	9	7,5	0,88235294
	16	12	9	7,5	1	9	7,5	0,88235294
	17	12	8	6,66666667	1	8	6,66666667	0,78431373
	18	12	8	6,66666667	1	8	6,66666667	0,78431373
	19	12	8	6,66666667	1	8	6,66666667	0,78431373

Trinn 3	20	12	9	7,5	1	9	7,5	0,88235294
	21	14	13	9,28571429	1	13	9,28571429	1,09243697
	22	14	13	9,28571429	1	13	9,28571429	1,09243697
	23	14	14	10	1	14	10	1,17647059
	24	14	14	10	1	14	10	1,17647059
	25	14	12	8,57142857	1	12	8,57142857	1,00840336
	26	14	13	9,28571429	1	13	9,28571429	1,09243697
	27	14	11	7,85714286	1	11	7,85714286	0,92436975
	28	14	13	9,28571429	1	13	9,28571429	1,09243697
	29	14	13	9,28571429	1	13	9,28571429	1,09243697
	30	14	13	9,28571429	1	13	9,28571429	1,09243697
	31	14	12	8,57142857	1	12	8,57142857	1,00840336
	32	14	12	8,57142857	1	12	8,57142857	1,00840336
	33	14	10	7,14285714	1	10	7,14285714	0,84033613
	34	14	11	7,85714286	1	11	7,85714286	0,92436975
	35	14	10	7,14285714	1	10	7,14285714	0,84033613
	36	14	10	7,14285714	1	10	7,14285714	0,84033613
	37	14	11	7,85714286	1	11	7,85714286	0,92436975
	38	14	11	7,85714286	1	11	7,85714286	0,92436975
	39	14	11	7,85714286	1	11	7,85714286	0,92436975
	40	14	11	7,85714286	1	11	7,85714286	0,92436975
	41	14	12	8,57142857	1	12	8,57142857	1,00840336
	42	14	12	8,57142857	1	12	8,57142857	1,00840336
	43	14	12	8,57142857	1	12	8,57142857	1,00840336
	44	14	11	7,85714286	1	11	7,85714286	0,92436975
	45	14	11	7,85714286	1	11	7,85714286	0,92436975
	46	14	11	7,85714286	1	11	7,85714286	0,92436975
	47	14	10	7,14285714	1	10	7,14285714	0,84033613
	48	14	11	7,85714286	1	11	7,85714286	0,92436975
	49	14	11	7,85714286	1	11	7,85714286	0,92436975
50	14	11	7,85714286	1	11	7,85714286	0,92436975	
51	12	7	5,83333333	1	7	5,83333333	0,68627451	
52	12	8	6,66666667	1	8	6,66666667	0,78431373	

Trinn 4	53	12	8	6,66666667	1	8	6,66666667	0,78431373
	54	12	8	6,66666667	1	8	6,66666667	0,78431373
	55	12	8	6,66666667	1	8	6,66666667	0,78431373
	56	12	7	5,83333333	1	7	5,83333333	0,68627451
	57	12	8	6,66666667	1	8	6,66666667	0,78431373
	58	12	8	6,66666667	1	8	6,66666667	0,78431373
	59	12	7	5,83333333	1	7	5,83333333	0,68627451
	60	12	7	5,83333333	1	7	5,83333333	0,68627451
Trinn 5	61	10	3	3	1	3	3	0,35294118
	62	10	4	4	1	4	4	0,47058824
	63	10	4	4	1	4	4	0,47058824
	64	10	3	3	1	3	3	0,35294118
	65	10	5	5	1	5	5	0,58823529
	66	10	4	4	1	4	4	0,47058824
	67	10	4	4	1	4	4	0,47058824
	68	10	4	4	1	4	4	0,47058824
	69	10	3	3	1	3	3	0,35294118
	70	10	3	3	1	3	3	0,35294118

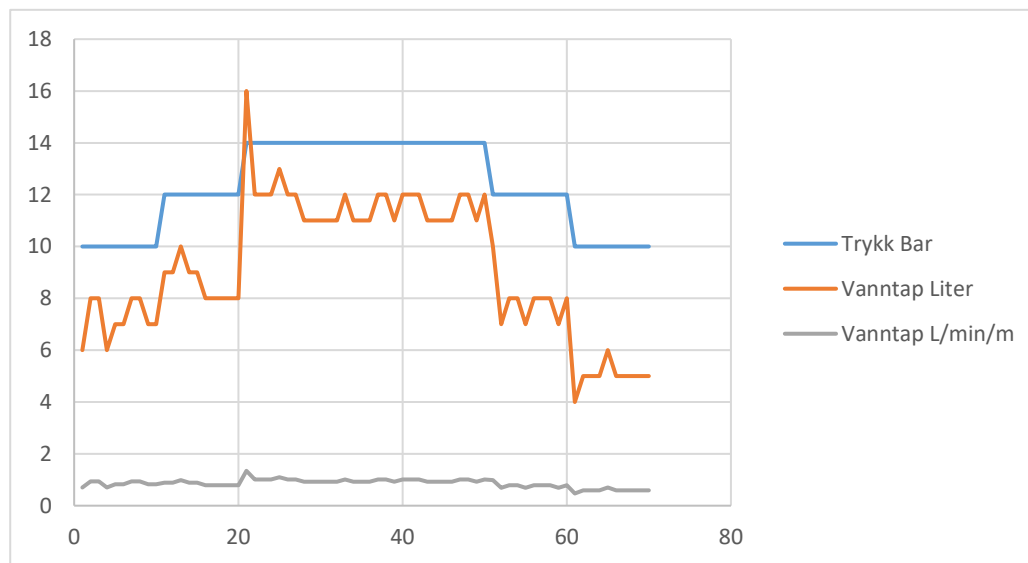


Rapport Vanntapsmåling 5 steps Lugeon								
Lokalitet:	Åknes							
Borehull:	KH-02-18							
Vannspeil:								
Dato								
Måleseksjon	Fra	122	Til	130,5	Lengde	8,5		
	Minutt	Trykk	Vannmengde		Tid	Vanntap pr min	Vanntap Mpa	Ved 0,98
			Målt	Korr for 0,98 Mpa (10kp/cm2)			Pr. seksjon	Pr. Lugeon
		[98 KPa] kPa/cm2	[l]	[l]	[Min]	[l/Min]	[l/Min]	[l/Min/m]
	1		2	3=(2/1)x10	4	5=2/4	6=3/4	7=6/m
Trinn 1	1	10	6	6	1	6	6	0,70588235
	2	10	8	8	1	8	8	0,94117647
	3	10	8	8	1	8	8	0,94117647
	4	10	6	6	1	6	6	0,70588235
	5	10	7	7	1	7	7	0,82352941
	6	10	7	7	1	7	7	0,82352941
	7	10	8	8	1	8	8	0,94117647
	8	10	8	8	1	8	8	0,94117647
	9	10	7	7	1	7	7	0,82352941
	10	10	7	7	1	7	7	0,82352941
Trinn 2	11	12	9	7,5	1	9	7,5	0,88235294
	12	12	9	7,5	1	9	7,5	0,88235294
	13	12	10	8,33333333	1	10	8,33333333	0,98039216
	14	12	9	7,5	1	9	7,5	0,88235294
	15	12	9	7,5	1	9	7,5	0,88235294
	16	12	8	6,66666667	1	8	6,66666667	0,78431373
	17	12	8	6,66666667	1	8	6,66666667	0,78431373
	18	12	8	6,66666667	1	8	6,66666667	0,78431373
	19	12	8	6,66666667	1	8	6,66666667	0,78431373

Trinn 3	20	12	8	6,66666667	1	8	6,66666667	0,78431373
	21	14	16	11,4285714	1	16	11,4285714	1,34453782
	22	14	12	8,57142857	1	12	8,57142857	1,00840336
	23	14	12	8,57142857	1	12	8,57142857	1,00840336
	24	14	12	8,57142857	1	12	8,57142857	1,00840336
	25	14	13	9,28571429	1	13	9,28571429	1,09243697
	26	14	12	8,57142857	1	12	8,57142857	1,00840336
	27	14	12	8,57142857	1	12	8,57142857	1,00840336
	28	14	11	7,85714286	1	11	7,85714286	0,92436975
	29	14	11	7,85714286	1	11	7,85714286	0,92436975
	30	14	11	7,85714286	1	11	7,85714286	0,92436975
	31	14	11	7,85714286	1	11	7,85714286	0,92436975
	32	14	11	7,85714286	1	11	7,85714286	0,92436975
	33	14	12	8,57142857	1	12	8,57142857	1,00840336
	34	14	11	7,85714286	1	11	7,85714286	0,92436975
	35	14	11	7,85714286	1	11	7,85714286	0,92436975
	36	14	11	7,85714286	1	11	7,85714286	0,92436975
	37	14	12	8,57142857	1	12	8,57142857	1,00840336
	38	14	12	8,57142857	1	12	8,57142857	1,00840336
	39	14	11	7,85714286	1	11	7,85714286	0,92436975
	40	14	12	8,57142857	1	12	8,57142857	1,00840336
	41	14	12	8,57142857	1	12	8,57142857	1,00840336
	42	14	12	8,57142857	1	12	8,57142857	1,00840336
	43	14	11	7,85714286	1	11	7,85714286	0,92436975
	44	14	11	7,85714286	1	11	7,85714286	0,92436975
	45	14	11	7,85714286	1	11	7,85714286	0,92436975
	46	14	11	7,85714286	1	11	7,85714286	0,92436975
	47	14	12	8,57142857	1	12	8,57142857	1,00840336
	48	14	12	8,57142857	1	12	8,57142857	1,00840336
	49	14	11	7,85714286	1	11	7,85714286	0,92436975
	50	14	12	8,57142857	1	12	8,57142857	1,00840336
51	12	10	8,33333333	1	10	8,33333333	0,98039216	
52	12	7	5,83333333	1	7	5,83333333	0,68627451	



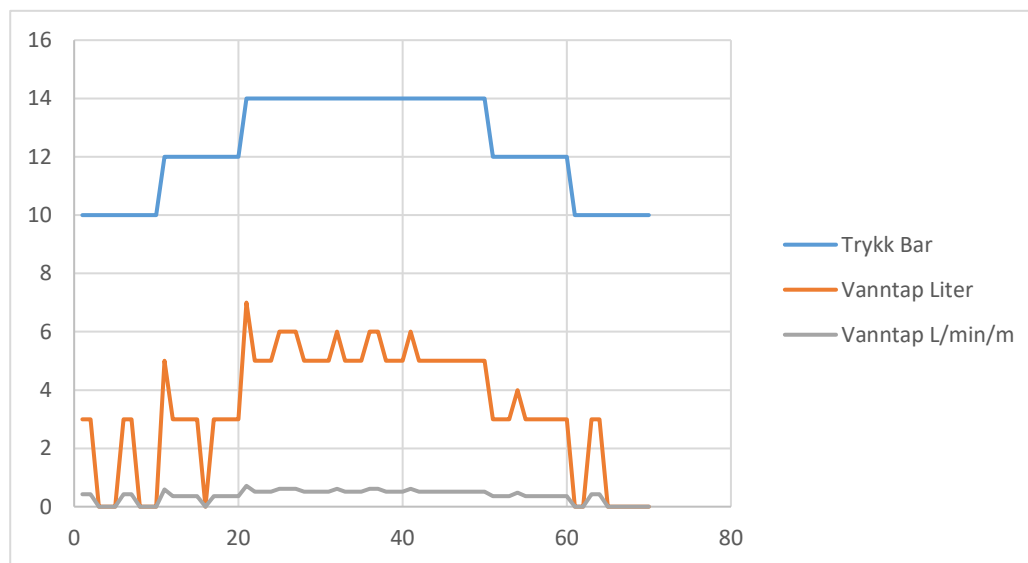
Trinn 4	53	12	8	6,66666667	1	8	6,66666667	0,78431373
	54	12	8	6,66666667	1	8	6,66666667	0,78431373
	55	12	7	5,83333333	1	7	5,83333333	0,68627451
	56	12	8	6,66666667	1	8	6,66666667	0,78431373
	57	12	8	6,66666667	1	8	6,66666667	0,78431373
	58	12	8	6,66666667	1	8	6,66666667	0,78431373
	59	12	7	5,83333333	1	7	5,83333333	0,68627451
	60	12	8	6,66666667	1	8	6,66666667	0,78431373
Trinn 5	61	10	4	4	1	4	4	0,47058824
	62	10	5	5	1	5	5	0,58823529
	63	10	5	5	1	5	5	0,58823529
	64	10	5	5	1	5	5	0,58823529
	65	10	6	6	1	6	6	0,70588235
	66	10	5	5	1	5	5	0,58823529
	67	10	5	5	1	5	5	0,58823529
	68	10	5	5	1	5	5	0,58823529
	69	10	5	5	1	5	5	0,58823529
	70	10	5	5	1	5	5	0,58823529



Rapport Vanntapsmåling 5 steps Lugeon								
Lokalitet:	Åknes							
Borehull:	KH-02-18							
Vannspeil:								
Dato								
Måleseksjon	Fra	138	Til	145	Lengde	7		
	Minutt	Trykk	Vannmengde		Tid	Vanntap pr min	Vanntap Mpa	Ved 0,98
			Målt	Korr for 0,98 Mpa (10kp/cm2)			Pr. seksjon	Pr. Lugeon
		[98 KPa] kPa/cm2	[l]	[l]	[Min]	[l/Min]	[l/Min]	[l/Min/m]
	1		2	3=(2/1)x10	4	5=2/4	6=3/4	7=6/m
Trinn 1	1	10	3	3	1	3	3	0,42857143
	2	10	3	3	1	3	3	0,42857143
	3	10	0	0	1	0	0	0
	4	10	0	0	1	0	0	0
	5	10	0	0	1	0	0	0
	6	10	3	3	1	3	3	0,42857143
	7	10	3	3	1	3	3	0,42857143
	8	10	0	0	1	0	0	0
	9	10	0	0	1	0	0	0
	10	10	0	0	1	0	0	0
Trinn 2	11	12	5	4,16666667	1	5	4,16666667	0,5952381
	12	12	3	2,5	1	3	2,5	0,35714286
	13	12	3	2,5	1	3	2,5	0,35714286
	14	12	3	2,5	1	3	2,5	0,35714286
	15	12	3	2,5	1	3	2,5	0,35714286
	16	12	0	0	1	0	0	0
	17	12	3	2,5	1	3	2,5	0,35714286
	18	12	3	2,5	1	3	2,5	0,35714286
	19	12	3	2,5	1	3	2,5	0,35714286

Trinn 3	20	12	3	2,5	1	3	2,5	0,35714286
	21	14	7	5	1	7	5	0,71428571
	22	14	5	3,57142857	1	5	3,57142857	0,51020408
	23	14	5	3,57142857	1	5	3,57142857	0,51020408
	24	14	5	3,57142857	1	5	3,57142857	0,51020408
	25	14	6	4,28571429	1	6	4,28571429	0,6122449
	26	14	6	4,28571429	1	6	4,28571429	0,6122449
	27	14	6	4,28571429	1	6	4,28571429	0,6122449
	28	14	5	3,57142857	1	5	3,57142857	0,51020408
	29	14	5	3,57142857	1	5	3,57142857	0,51020408
	30	14	5	3,57142857	1	5	3,57142857	0,51020408
	31	14	5	3,57142857	1	5	3,57142857	0,51020408
	32	14	6	4,28571429	1	6	4,28571429	0,6122449
	33	14	5	3,57142857	1	5	3,57142857	0,51020408
	34	14	5	3,57142857	1	5	3,57142857	0,51020408
	35	14	5	3,57142857	1	5	3,57142857	0,51020408
	36	14	6	4,28571429	1	6	4,28571429	0,6122449
	37	14	6	4,28571429	1	6	4,28571429	0,6122449
	38	14	5	3,57142857	1	5	3,57142857	0,51020408
	39	14	5	3,57142857	1	5	3,57142857	0,51020408
	40	14	5	3,57142857	1	5	3,57142857	0,51020408
	41	14	6	4,28571429	1	6	4,28571429	0,6122449
	42	14	5	3,57142857	1	5	3,57142857	0,51020408
	43	14	5	3,57142857	1	5	3,57142857	0,51020408
	44	14	5	3,57142857	1	5	3,57142857	0,51020408
	45	14	5	3,57142857	1	5	3,57142857	0,51020408
	46	14	5	3,57142857	1	5	3,57142857	0,51020408
	47	14	5	3,57142857	1	5	3,57142857	0,51020408
	48	14	5	3,57142857	1	5	3,57142857	0,51020408
	49	14	5	3,57142857	1	5	3,57142857	0,51020408
	50	14	5	3,57142857	1	5	3,57142857	0,51020408
	51	12	3	2,5	1	3	2,5	0,35714286
	52	12	3	2,5	1	3	2,5	0,35714286

Trinn 4	53	12	3	2,5	1	3	2,5	0,35714286
	54	12	4	3,33333333	1	4	3,33333333	0,47619048
	55	12	3	2,5	1	3	2,5	0,35714286
	56	12	3	2,5	1	3	2,5	0,35714286
	57	12	3	2,5	1	3	2,5	0,35714286
	58	12	3	2,5	1	3	2,5	0,35714286
	59	12	3	2,5	1	3	2,5	0,35714286
	60	12	3	2,5	1	3	2,5	0,35714286
Trinn 5	61	10	0	0	1	0	0	0
	62	10	0	0	1	0	0	0
	63	10	3	3	1	3	3	0,42857143
	64	10	3	3	1	3	3	0,42857143
	65	10	0	0	1	0	0	0
	66	10	0	0	1	0	0	0
	67	10	0	0	1	0	0	0
	68	10	0	0	1	0	0	0
	69	10	0	0	1	0	0	0
	70	10	0	0	1	0	0	0

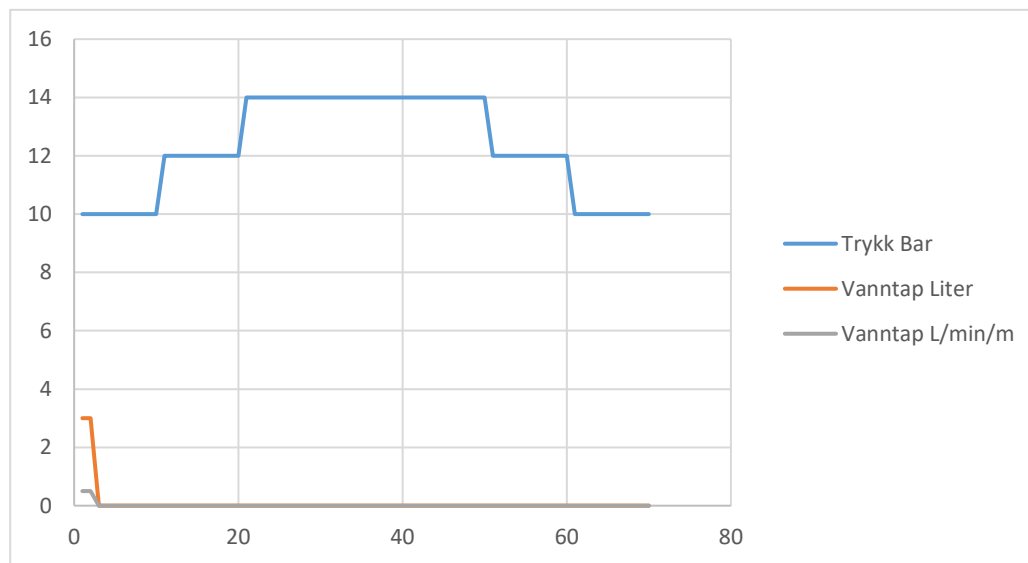


Rapport Vanntapsmåling 5 steps Lugeon								
Lokalitet:	Åknes							
Borehull:	KH-02-18							
Vannspeil:								
Dato								
Måleseksjon	Fra	148	Til	154	Lengde	6		
	Minutt	Trykk	Vannmengde		Tid	Vanntap pr min	Vanntap Mpa	Ved 0,98
			Målt	Korr for 0,98 Mpa (10kp/cm2)			Pr. seksjon	Pr. Lugeon
		[98 KPa] kPa/cm2	[l]	[l]	[Min]	[l/Min]	[l/Min]	[l/Min/m]
	1		2	3=(2/1)x10	4	5=2/4	6=3/4	7=6/m
Trinn 1	1	10	3	3	1	3	3	0,5
	2	10	3	3	1	3	3	0,5
	3	10	0	0	1	0	0	0
	4	10	0	0	1	0	0	0
	5	10	0	0	1	0	0	0
	6	10	0	0	1	0	0	0
	7	10	0	0	1	0	0	0
	8	10	0	0	1	0	0	0
	9	10	0	0	1	0	0	0
	10	10	0	0	1	0	0	0
Trinn 2	11	12	0	0	1	0	0	0
	12	12	0	0	1	0	0	0
	13	12	0	0	1	0	0	0
	14	12	0	0	1	0	0	0
	15	12	0	0	1	0	0	0
	16	12	0	0	1	0	0	0
	17	12	0	0	1	0	0	0
	18	12	0	0	1	0	0	0
	19	12	0	0	1	0	0	0

Trinn 3	20	12	0	0	1	0	0	0
	21	14	0	0	1	0	0	0
	22	14	0	0	1	0	0	0
	23	14	0	0	1	0	0	0
	24	14	0	0	1	0	0	0
	25	14	0	0	1	0	0	0
	26	14	0	0	1	0	0	0
	27	14	0	0	1	0	0	0
	28	14	0	0	1	0	0	0
	29	14	0	0	1	0	0	0
	30	14	0	0	1	0	0	0
	31	14	0	0	1	0	0	0
	32	14	0	0	1	0	0	0
	33	14	0	0	1	0	0	0
	34	14	0	0	1	0	0	0
	35	14	0	0	1	0	0	0
	36	14	0	0	1	0	0	0
	37	14	0	0	1	0	0	0
	38	14	0	0	1	0	0	0
	39	14	0	0	1	0	0	0
	40	14	0	0	1	0	0	0
	41	14	0	0	1	0	0	0
	42	14	0	0	1	0	0	0
	43	14	0	0	1	0	0	0
	44	14	0	0	1	0	0	0
	45	14	0	0	1	0	0	0
	46	14	0	0	1	0	0	0
	47	14	0	0	1	0	0	0
	48	14	0	0	1	0	0	0
	49	14	0	0	1	0	0	0
	50	14	0	0	1	0	0	0
51	12	0	0	1	0	0	0	
52	12	0	0	1	0	0	0	



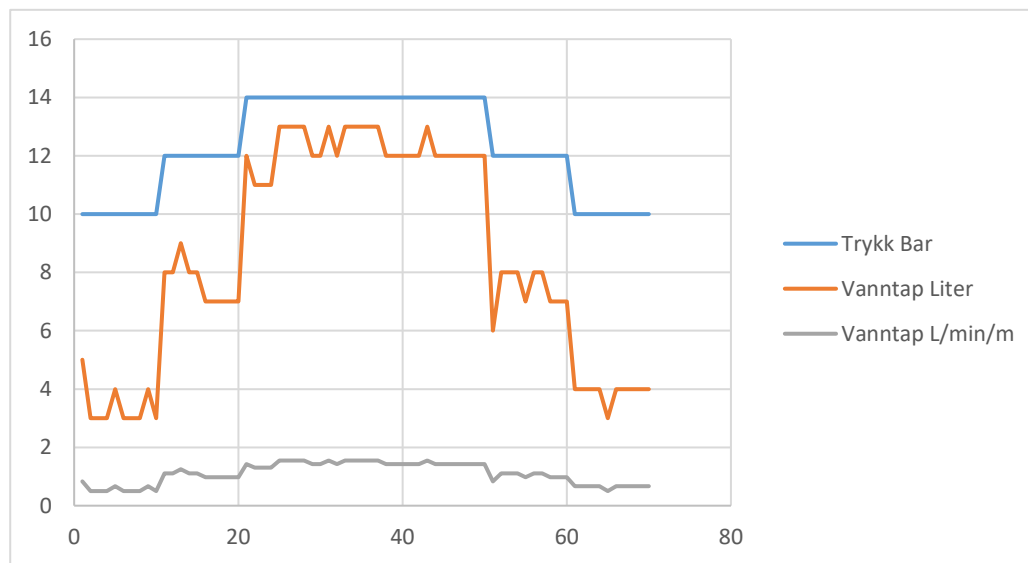
Trinn 4	53	12	0	0	1	0	0	0
	54	12	0	0	1	0	0	0
	55	12	0	0	1	0	0	0
	56	12	0	0	1	0	0	0
	57	12	0	0	1	0	0	0
	58	12	0	0	1	0	0	0
	59	12	0	0	1	0	0	0
	60	12	0	0	1	0	0	0
Trinn 5	61	10	0	0	1	0	0	0
	62	10	0	0	1	0	0	0
	63	10	0	0	1	0	0	0
	64	10	0	0	1	0	0	0
	65	10	0	0	1	0	0	0
	66	10	0	0	1	0	0	0
	67	10	0	0	1	0	0	0
	68	10	0	0	1	0	0	0
	69	10	0	0	1	0	0	0
	70	10	0	0	1	0	0	0



Rapport Vanntapsmåling 5 steps Lugeon								
Lokalitet:	Åknes							
Borehull:	KH-02-18							
Vannspeil:								
Dato								
Måleseksjon	Fra	154	Til	160	Lengde	6		
	Minutt	Trykk	Vannmengde		Tid	Vanntap pr min	Vanntap Mpa	Ved 0,98
			Målt	Korr for 0,98 Mpa (10kp/cm2)			Pr. seksjon	Pr. Lugeon
		[98 KPa] kPa/cm2	[l]	[l]	[Min]	[l/Min]	[l/Min]	[l/Min/m]
	1		2	3=(2/1)x10	4	5=2/4	6=3/4	7=6/m
Trinn 1	1	10	5	5	1	5	5	0,83333333
	2	10	3	3	1	3	3	0,5
	3	10	3	3	1	3	3	0,5
	4	10	3	3	1	3	3	0,5
	5	10	4	4	1	4	4	0,66666667
	6	10	3	3	1	3	3	0,5
	7	10	3	3	1	3	3	0,5
	8	10	3	3	1	3	3	0,5
	9	10	4	4	1	4	4	0,66666667
	10	10	3	3	1	3	3	0,5
Trinn 2	11	12	8	6,66666667	1	8	6,66666667	1,11111111
	12	12	8	6,66666667	1	8	6,66666667	1,11111111
	13	12	9	7,5	1	9	7,5	1,25
	14	12	8	6,66666667	1	8	6,66666667	1,11111111
	15	12	8	6,66666667	1	8	6,66666667	1,11111111
	16	12	7	5,83333333	1	7	5,83333333	0,97222222
	17	12	7	5,83333333	1	7	5,83333333	0,97222222
	18	12	7	5,83333333	1	7	5,83333333	0,97222222
	19	12	7	5,83333333	1	7	5,83333333	0,97222222

Trinn 3	20	12	7	5,83333333	1	7	5,83333333	0,97222222
	21	14	12	8,57142857	1	12	8,57142857	1,42857143
	22	14	11	7,85714286	1	11	7,85714286	1,30952381
	23	14	11	7,85714286	1	11	7,85714286	1,30952381
	24	14	11	7,85714286	1	11	7,85714286	1,30952381
	25	14	13	9,28571429	1	13	9,28571429	1,54761905
	26	14	13	9,28571429	1	13	9,28571429	1,54761905
	27	14	13	9,28571429	1	13	9,28571429	1,54761905
	28	14	13	9,28571429	1	13	9,28571429	1,54761905
	29	14	12	8,57142857	1	12	8,57142857	1,42857143
	30	14	12	8,57142857	1	12	8,57142857	1,42857143
	31	14	13	9,28571429	1	13	9,28571429	1,54761905
	32	14	12	8,57142857	1	12	8,57142857	1,42857143
	33	14	13	9,28571429	1	13	9,28571429	1,54761905
	34	14	13	9,28571429	1	13	9,28571429	1,54761905
	35	14	13	9,28571429	1	13	9,28571429	1,54761905
	36	14	13	9,28571429	1	13	9,28571429	1,54761905
	37	14	13	9,28571429	1	13	9,28571429	1,54761905
	38	14	12	8,57142857	1	12	8,57142857	1,42857143
	39	14	12	8,57142857	1	12	8,57142857	1,42857143
	40	14	12	8,57142857	1	12	8,57142857	1,42857143
	41	14	12	8,57142857	1	12	8,57142857	1,42857143
	42	14	12	8,57142857	1	12	8,57142857	1,42857143
	43	14	13	9,28571429	1	13	9,28571429	1,54761905
	44	14	12	8,57142857	1	12	8,57142857	1,42857143
	45	14	12	8,57142857	1	12	8,57142857	1,42857143
	46	14	12	8,57142857	1	12	8,57142857	1,42857143
	47	14	12	8,57142857	1	12	8,57142857	1,42857143
	48	14	12	8,57142857	1	12	8,57142857	1,42857143
	49	14	12	8,57142857	1	12	8,57142857	1,42857143
	50	14	12	8,57142857	1	12	8,57142857	1,42857143
51	12	6	5	1	6	5	0,83333333	
52	12	8	6,66666667	1	8	6,66666667	1,11111111	

Trinn 4	53	12	8	6,66666667	1	8	6,66666667	1,11111111
	54	12	8	6,66666667	1	8	6,66666667	1,11111111
	55	12	7	5,83333333	1	7	5,83333333	0,97222222
	56	12	8	6,66666667	1	8	6,66666667	1,11111111
	57	12	8	6,66666667	1	8	6,66666667	1,11111111
	58	12	7	5,83333333	1	7	5,83333333	0,97222222
	59	12	7	5,83333333	1	7	5,83333333	0,97222222
	60	12	7	5,83333333	1	7	5,83333333	0,97222222
Trinn 5	61	10	4	4	1	4	4	0,66666667
	62	10	4	4	1	4	4	0,66666667
	63	10	4	4	1	4	4	0,66666667
	64	10	4	4	1	4	4	0,66666667
	65	10	3	3	1	3	3	0,5
	66	10	4	4	1	4	4	0,66666667
	67	10	4	4	1	4	4	0,66666667
	68	10	4	4	1	4	4	0,66666667
	69	10	4	4	1	4	4	0,66666667
	70	10	4	4	1	4	4	0,66666667

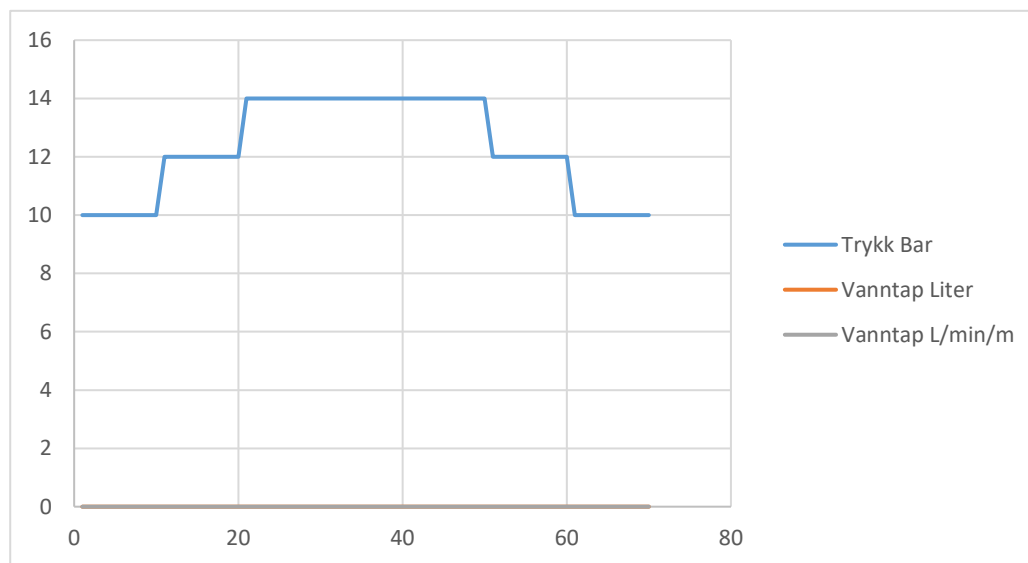


Rapport Vanntapsmåling 5 steps Lugeon								
Lokalitet:	Åknes							
Borehull:	KH-02-18							
Vannspeil:								
Dato								
Måleseksjon	Fra	160	Til	166	Lengde	6		
	Minutt	Trykk	Vannmengde		Tid	Vanntap pr min	Vanntap Mpa	Ved 0,98
			Målt	Korr for 0,98 Mpa (10kp/cm2)			Pr. seksjon	Pr. Lugeon
		[98 KPa] kPa/cm2	[l]	[l]	[Min]	[l/Min]	[l/Min]	[l/Min/m]
	1		2	3=(2/1)x10	4	5=2/4	6=3/4	7=6/m
Trinn 1	1	10	0	0	1	0	0	0
	2	10	0	0	1	0	0	0
	3	10	0	0	1	0	0	0
	4	10	0	0	1	0	0	0
	5	10	0	0	1	0	0	0
	6	10	0	0	1	0	0	0
	7	10	0	0	1	0	0	0
	8	10	0	0	1	0	0	0
	9	10	0	0	1	0	0	0
	10	10	0	0	1	0	0	0
Trinn 2	11	12	0	0	1	0	0	0
	12	12	0	0	1	0	0	0
	13	12	0	0	1	0	0	0
	14	12	0	0	1	0	0	0
	15	12	0	0	1	0	0	0
	16	12	0	0	1	0	0	0
	17	12	0	0	1	0	0	0
	18	12	0	0	1	0	0	0
	19	12	0	0	1	0	0	0

Trinn 3	20	12	0	0	1	0	0	0
	21	14	0	0	1	0	0	0
	22	14	0	0	1	0	0	0
	23	14	0	0	1	0	0	0
	24	14	0	0	1	0	0	0
	25	14	0	0	1	0	0	0
	26	14	0	0	1	0	0	0
	27	14	0	0	1	0	0	0
	28	14	0	0	1	0	0	0
	29	14	0	0	1	0	0	0
	30	14	0	0	1	0	0	0
	31	14	0	0	1	0	0	0
	32	14	0	0	1	0	0	0
	33	14	0	0	1	0	0	0
	34	14	0	0	1	0	0	0
	35	14	0	0	1	0	0	0
	36	14	0	0	1	0	0	0
	37	14	0	0	1	0	0	0
	38	14	0	0	1	0	0	0
	39	14	0	0	1	0	0	0
	40	14	0	0	1	0	0	0
	41	14	0	0	1	0	0	0
	42	14	0	0	1	0	0	0
	43	14	0	0	1	0	0	0
	44	14	0	0	1	0	0	0
	45	14	0	0	1	0	0	0
	46	14	0	0	1	0	0	0
	47	14	0	0	1	0	0	0
	48	14	0	0	1	0	0	0
	49	14	0	0	1	0	0	0
	50	14	0	0	1	0	0	0
51	12	0	0	1	0	0	0	
52	12	0	0	1	0	0	0	



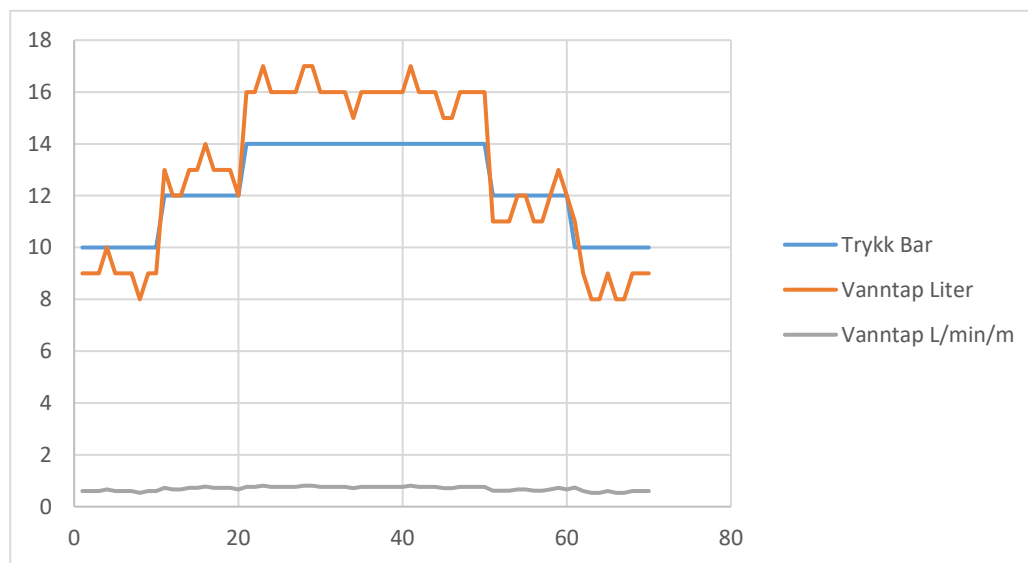
Trinn 4	53	12	0	0	1	0	0	0
	54	12	0	0	1	0	0	0
	55	12	0	0	1	0	0	0
	56	12	0	0	1	0	0	0
	57	12	0	0	1	0	0	0
	58	12	0	0	1	0	0	0
	59	12	0	0	1	0	0	0
	60	12	0	0	1	0	0	0
Trinn 5	61	10	0	0	1	0	0	0
	62	10	0	0	1	0	0	0
	63	10	0	0	1	0	0	0
	64	10	0	0	1	0	0	0
	65	10	0	0	1	0	0	0
	66	10	0	0	1	0	0	0
	67	10	0	0	1	0	0	0
	68	10	0	0	1	0	0	0
	69	10	0	0	1	0	0	0
	70	10	0	0	1	0	0	0



Rapport Vanntapsmåling 5 steps Lugeon								
Lokalitet:	Åknes							
Borehull:	KH-02-18							
Vannspeil:								
Dato								
Måleseksjon	Fra	185	Til	200	Lengde	15		
	Minutt	Trykk	Vannmengde		Tid	Vanntap pr min	Vanntap Mpa	Ved 0,98
			Målt	Korr for 0,98 Mpa (10kp/cm2)			Pr. seksjon	Pr. Lugeon
		[98 KPa] kPa/cm2	[l]	[l]	[Min]	[l/Min]	[l/Min]	[l/Min/m]
	1		2	3=(2/1)x10	4	5=2/4	6=3/4	7=6/m
Trinn 1	1	10	9	9	1	9	9	0,6
	2	10	9	9	1	9	9	0,6
	3	10	9	9	1	9	9	0,6
	4	10	10	10	1	10	10	0,66666667
	5	10	9	9	1	9	9	0,6
	6	10	9	9	1	9	9	0,6
	7	10	9	9	1	9	9	0,6
	8	10	8	8	1	8	8	0,53333333
	9	10	9	9	1	9	9	0,6
	10	10	9	9	1	9	9	0,6
Trinn 2	11	12	13	10,83333333	1	13	10,83333333	0,72222222
	12	12	12	10	1	12	10	0,66666667
	13	12	12	10	1	12	10	0,66666667
	14	12	13	10,83333333	1	13	10,83333333	0,72222222
	15	12	13	10,83333333	1	13	10,83333333	0,72222222
	16	12	14	11,66666667	1	14	11,66666667	0,77777778
	17	12	13	10,83333333	1	13	10,83333333	0,72222222
	18	12	13	10,83333333	1	13	10,83333333	0,72222222
	19	12	13	10,83333333	1	13	10,83333333	0,72222222

	20	12	12	10	1	12	10	0,66666667
Trinn 3	21	14	16	11,4285714	1	16	11,4285714	0,76190476
	22	14	16	11,4285714	1	16	11,4285714	0,76190476
	23	14	17	12,1428571	1	17	12,1428571	0,80952381
	24	14	16	11,4285714	1	16	11,4285714	0,76190476
	25	14	16	11,4285714	1	16	11,4285714	0,76190476
	26	14	16	11,4285714	1	16	11,4285714	0,76190476
	27	14	16	11,4285714	1	16	11,4285714	0,76190476
	28	14	17	12,1428571	1	17	12,1428571	0,80952381
	29	14	17	12,1428571	1	17	12,1428571	0,80952381
	30	14	16	11,4285714	1	16	11,4285714	0,76190476
	31	14	16	11,4285714	1	16	11,4285714	0,76190476
	32	14	16	11,4285714	1	16	11,4285714	0,76190476
	33	14	16	11,4285714	1	16	11,4285714	0,76190476
	34	14	15	10,7142857	1	15	10,7142857	0,71428571
	35	14	16	11,4285714	1	16	11,4285714	0,76190476
	36	14	16	11,4285714	1	16	11,4285714	0,76190476
	37	14	16	11,4285714	1	16	11,4285714	0,76190476
	38	14	16	11,4285714	1	16	11,4285714	0,76190476
	39	14	16	11,4285714	1	16	11,4285714	0,76190476
	40	14	16	11,4285714	1	16	11,4285714	0,76190476
	41	14	17	12,1428571	1	17	12,1428571	0,80952381
	42	14	16	11,4285714	1	16	11,4285714	0,76190476
	43	14	16	11,4285714	1	16	11,4285714	0,76190476
	44	14	16	11,4285714	1	16	11,4285714	0,76190476
	45	14	15	10,7142857	1	15	10,7142857	0,71428571
	46	14	15	10,7142857	1	15	10,7142857	0,71428571
	47	14	16	11,4285714	1	16	11,4285714	0,76190476
	48	14	16	11,4285714	1	16	11,4285714	0,76190476
	49	14	16	11,4285714	1	16	11,4285714	0,76190476
	50	14	16	11,4285714	1	16	11,4285714	0,76190476
	51	12	11	9,16666667	1	11	9,16666667	0,61111111
	52	12	11	9,16666667	1	11	9,16666667	0,61111111

Trinn 4	53	12	11	9,16666667	1	11	9,16666667	0,61111111
	54	12	12	10	1	12	10	0,66666667
	55	12	12	10	1	12	10	0,66666667
	56	12	11	9,16666667	1	11	9,16666667	0,61111111
	57	12	11	9,16666667	1	11	9,16666667	0,61111111
	58	12	12	10	1	12	10	0,66666667
	59	12	13	10,83333333	1	13	10,83333333	0,72222222
	60	12	12	10	1	12	10	0,66666667
Trinn 5	61	10	11	11	1	11	11	0,73333333
	62	10	9	9	1	9	9	0,6
	63	10	8	8	1	8	8	0,53333333
	64	10	8	8	1	8	8	0,53333333
	65	10	9	9	1	9	9	0,6
	66	10	8	8	1	8	8	0,53333333
	67	10	8	8	1	8	8	0,53333333
	68	10	9	9	1	9	9	0,6
	69	10	9	9	1	9	9	0,6
	70	10	9	9	1	9	9	0,6



<b>Dokumentinformasjon/Document information</b>		
<b>Dokumenttittel/Document title</b> Input to datareport on hydraulic investigations in boreholes 2017		<b>Dokumentnr./Document no.</b> 20180662-01-TN
<b>Dokumenttype/Type of document</b> Teknisk notat / Technical note	<b>Oppdragsgiver/Client</b> NVE	<b>Dato/Date</b> 2019-01-07
<b>Rettigheter til dokumentet iht kontrakt/ Proprietary rights to the document according to contract</b> NGI		<b>Rev.nr.&amp;dato/Rev.no.&amp;date</b> 1 / 2020-03-27
<b>Distribusjon/Distribution</b> BEGRENSET: Distribueres til oppdragsgiver og er tilgjengelig for NGIs ansatte / LIMITED: Distributed to client and available for NGI employees		
<b>Emneord/Keywords</b> Hydraulic testing, permeability, Lugeon		

<b>Stedfesting/Geographical information</b>	
<b>Land, fylke/Country</b> Norway, Møre og Romsdal	<b>Havområde/Offshore area</b>
<b>Kommune/Municipality</b> Stranda	<b>Feltnavn/Field name</b>
<b>Sted/Location</b> Åknes	<b>Sted/Location</b>
<b>Kartblad/Map</b> 1219-2 Geiranger	<b>Felt, blokknr./Field, Block No.</b>
<b>UTM-koordinater/UTM-coordinates</b> Zone: 32N East: 395716.4 North: 6895672.0	<b>Koordinater/Coordinates</b> Projection, datum: East: North:

<b>Dokumentkontroll/Document control</b>					
<b>Kvalitetssikring i henhold til/Quality assurance according to NS-EN ISO9001</b>					
Rev/ Rev.	Revisjonsgrunnlag/Reason for revision	Egenkontroll av/ Self review by:	Sidemanns- kontroll av/ Colleague review by:	Uavhengig kontroll av/ Independent review by:	Tverrfaglig kontroll av/ Interdisciplinary review by:
0	Original document	2019-01-07 Henrik Langeland	2019-01-07 Kristin Hilde Holmøy		
1	Including 2018 boreholes	2020-03-24 Henrik Langeland	2020-03-26 Kristin Hilde Holmøy		

<b>Dokument godkjent for utsendelse/ Document approved for release</b>	<b>Dato/Date</b> 27 March 2020	<b>Prosjektleder/Project Manager</b> Kristin Hilde Holmøy
--	-----------------------------------	--

2015-10-16, 043 n/e, rev.03

NGI (Norwegian Geotechnical Institute) is a leading international centre for research and consulting within the geosciences. NGI develops optimum solutions for society and offers expertise on the behaviour of soil, rock and snow and their interaction with the natural and built environment.

NGI works within the following sectors: Offshore energy – Building, Construction and Transportation – Natural Hazards – Environmental Engineering.

NGI is a private foundation with office and laboratories in Oslo, a branch office in Trondheim and daughter companies in Houston, Texas, USA and in Perth, Western Australia

[www.ngi.no](http://www.ngi.no)

NGI (Norges Geotekniske Institutt) er et internasjonalt ledende senter for forskning og rådgivning innen ingeniørrelaterte geofag. Vi tilbyr ekspertise om jord, berg og snø og deres påvirkning på miljøet, konstruksjoner og anlegg, og hvordan jord og berg kan benyttes som byggegrunn og byggemateriale.

Vi arbeider i følgende markeder: Offshore energi – Bygg, anlegg og samferdsel – Naturfare – Miljøteknologi.

NGI er en privat næringsdrivende stiftelse med kontor og laboratorier i Oslo, avdelingskontor i Trondheim og datterselskaper i Houston, Texas, USA og i Perth, Western Australia.

[www.ngi.no](http://www.ngi.no)

Neither the confidentiality nor the integrity of this document can be guaranteed following electronic transmission. The addressee should consider this risk and take full responsibility for use of this document.

This document shall not be used in parts, or for other purposes than the document was prepared for. The document shall not be copied, in parts or in whole, or be given to a third party without the owner's consent. No changes to the document shall be made without consent from NGI.

Ved elektronisk overføring kan ikke konfidensialiteten eller autentisiteten av dette dokumentet garanteres. Adressaten bør vurdere denne risikoen og ta fullt ansvar for bruk av dette dokumentet.

Dokumentet skal ikke benyttes i utdrag eller til andre formål enn det dokumentet omhandler. Dokumentet må ikke reproduseres eller leveres til tredjemann uten eiers samtykke. Dokumentet må ikke endres uten samtykke fra NGI.



