



WA SCHOOL OF MINES: MINERALS, ENERGY AND CHEMICAL ENGINEERING

**FILTER CARTRIDGE TEST AND OPTIMISATION FOR DOMESTIC
& COMMERCIAL WATER QUALITY MONITORING**

Laboratory Experiment Report

16th February 2024

EXECUTIVE SUMMARY

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II. INTRODUCTION

The first part of the paper discusses the importance of the research and the objectives of the study. It also provides a brief overview of the methodology used in the study. The second part of the paper presents the results of the study and discusses the implications of the findings. The third part of the paper concludes the study and provides some final thoughts on the research.

The study was conducted using a mixed-methods approach, combining quantitative and qualitative data. The quantitative data was collected through a survey of 100 participants, while the qualitative data was collected through interviews with 10 participants. The results of the study show that there is a significant relationship between the variables being studied.



Figure 1: A large black padlock icon is centered over a blurred background of laboratory glassware, including test tubes and beakers.

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ENVIRONMENTAL SCIENCE

5.1 Experimenting

The experimenting is designed to help you understand the concepts of the experiment.



Figure 5.1: Schematic diagram of the experiment.

The experiment is designed to help you understand the concepts of the experiment. The experiment is designed to help you understand the concepts of the experiment. The experiment is designed to help you understand the concepts of the experiment. The experiment is designed to help you understand the concepts of the experiment.



Figure 5.2: Test tubes containing samples.



Figure 1. A person in a white lab coat.

The following text is extremely blurry and illegible. It appears to be a paragraph of text, possibly a description of a procedure or a study, but the content cannot be discerned due to the low resolution and blurring.



Figure 2. A padlock icon.

Category	Item	Description
Category 1	Item 1.1	Description of item 1.1
	Item 1.2	Description of item 1.2
Category 2	Item 2.1	Description of item 2.1
	Item 2.2	Description of item 2.2

Figure 10.10: A photograph of a laboratory setup for measuring the thermal conductivity of a material. The setup includes a heat source, a sample, and a heat sink, with thermocouples and a data logger connected to the system.



Figure 10.10: A photograph of a laboratory setup for measuring the thermal conductivity of a material.

5.3 Thermal conductivity

The thermal conductivity of a material is a measure of its ability to conduct heat. It is defined as the amount of heat that flows through a unit area of the material in a unit time, when a unit temperature gradient is applied across it. The thermal conductivity of a material is denoted by the symbol k .



Figure 10.11: A photograph of three power station cooling towers.

5.25 Käynnistyksen prosessit

Käynnistyksen prosessit ovat keskeisiä osa-alueita, jotka vaikuttavat yrityksen toimintaan ja menestykseen. Ne sisältävät kaikki toimet, jotka on suoritettava ennen yrityksen virallista aloitusta. Käynnistyksen prosessit voidaan jakaa kahteen pääkategoriaan: sisäisiin ja ulkoisiin prosesseihin. Sisäiset prosessit koskevat yrityksen toimintaa ja hallintaa, kun taas ulkoiset prosessit koskevat yrityksen suhteita ulkoisiin osapuoliin.

5.26 Strategian analyysi

Strategian analyysi on prosessi, jossa yrityksen nykyistä strategiaa tarkastellaan ja arvioidaan sen toimivuutta ja soveltuvuutta muuttuviin olosuhteisiin. Strategian analyysin avulla voidaan tunnistaa voimakkaita alueita ja heikompia alueita, jotka vaativat korjaavia toimenpiteitä. Strategian analyysin avulla voidaan myös tunnistaa uusia mahdollisuuksia ja riskejä, jotka voivat vaikuttaa yrityksen tulevaisuuteen.

Taulukko 5.1: Yrityksen sisäiset prosessit

Käynnistyksen prosessi	Prosessin kuvaus (Käynnistyksen vaiheet)
Käynnistyksen suunnittelu	Yrityksen toimintasuunnitelman laatiminen
Käynnistyksen toteutus	Yrityksen toimintasuunnitelman toteuttaminen
Käynnistyksen seuranta	Yrityksen toimintasuunnitelman seuranta ja arviointi
Käynnistyksen arviointi	Yrityksen toimintasuunnitelman arviointi ja korjaavien toimenpiteiden toteuttaminen
Käynnistyksen lopetus	Yrityksen toimintasuunnitelman lopettaminen
Käynnistyksen uudelleenarviointi	Yrityksen toimintasuunnitelman uudelleenarviointi ja korjaavien toimenpiteiden toteuttaminen
Käynnistyksen dokumentointi	Yrityksen toimintasuunnitelman dokumentointi
Käynnistyksen viestintä	Yrityksen toimintasuunnitelman viestittäminen
Käynnistyksen koulutus	Yrityksen toimintasuunnitelman kouluttaminen
Käynnistyksen seuranta	Yrityksen toimintasuunnitelman seuranta ja arviointi
Käynnistyksen arviointi	Yrityksen toimintasuunnitelman arviointi ja korjaavien toimenpiteiden toteuttaminen
Käynnistyksen lopetus	Yrityksen toimintasuunnitelman lopettaminen
Käynnistyksen uudelleenarviointi	Yrityksen toimintasuunnitelman uudelleenarviointi ja korjaavien toimenpiteiden toteuttaminen
Käynnistyksen dokumentointi	Yrityksen toimintasuunnitelman dokumentointi
Käynnistyksen viestintä	Yrityksen toimintasuunnitelman viestittäminen
Käynnistyksen koulutus	Yrityksen toimintasuunnitelman kouluttaminen

100	100
1000	1000
1000	1000
100	100



ENVIRONMENTAL AND ENGAGEMENT

5.1 Water usage from tap water

Water usage from tap water is measured in litres per person per day (lppd). The data is presented in the following table, showing the average water usage for each country in the region. The data is presented in two columns: the first column shows the average water usage in litres per person per day, and the second column shows the average water usage in litres per person per day.



The data is presented in two columns: the first column shows the average water usage in litres per person per day, and the second column shows the average water usage in litres per person per day. The data is presented in two columns: the first column shows the average water usage in litres per person per day, and the second column shows the average water usage in litres per person per day.

5.2 Water usage from rainwater

Water usage from rainwater is measured in litres per person per day (lppd). The data is presented in the following table, showing the average water usage for each country in the region. The data is presented in two columns: the first column shows the average water usage in litres per person per day, and the second column shows the average water usage in litres per person per day.

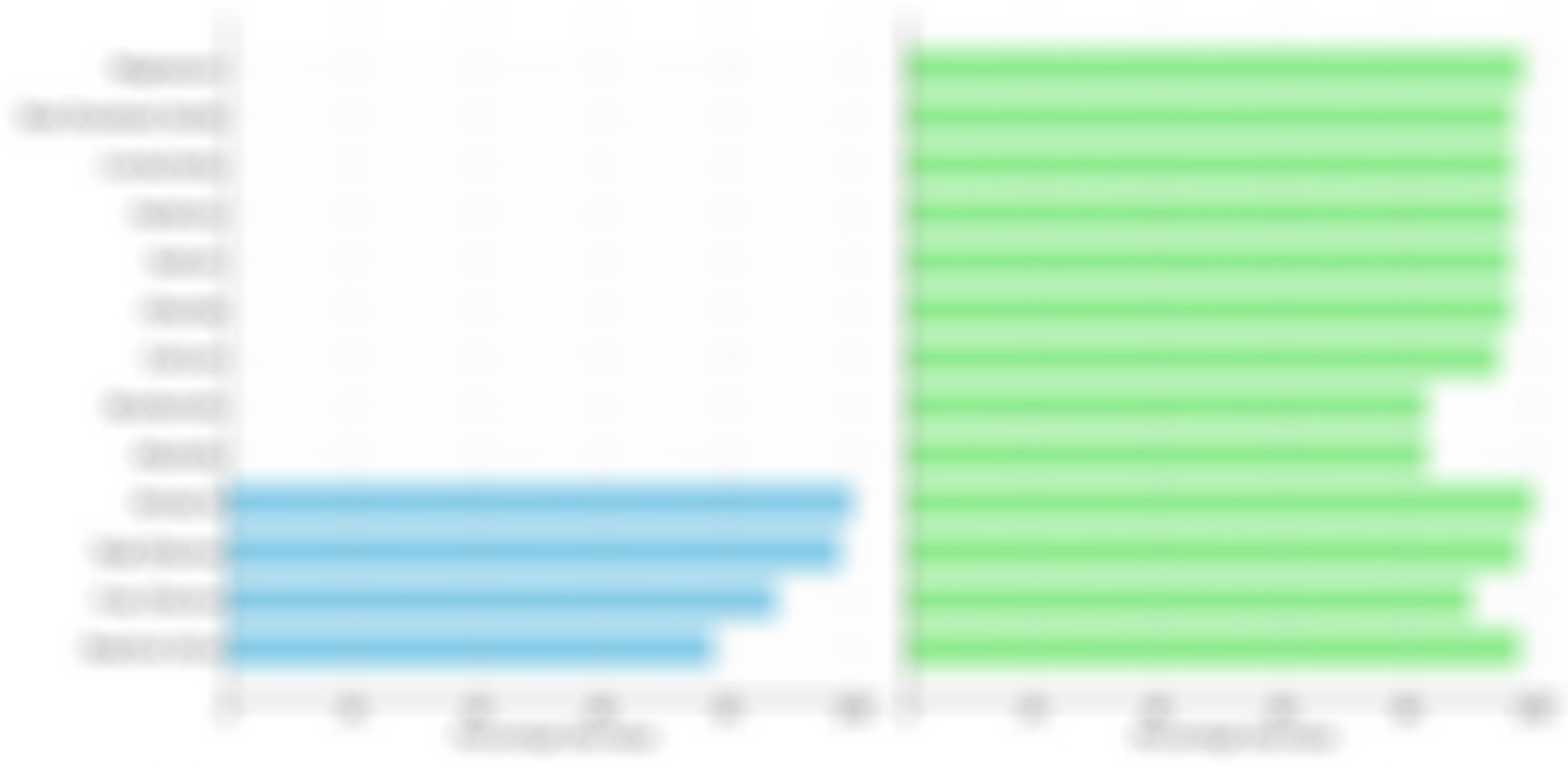


Figure 10: Comparison of the performance of the proposed method with the existing methods in terms of the accuracy of the results.

5.2.2.2. Comparison of the performance of the proposed method with the existing methods in terms of the accuracy of the results.



Figure 11: Comparison of the performance of the proposed method with the existing methods in terms of the accuracy of the results.

The proposed method is compared with the existing methods in terms of the accuracy of the results. The results show that the proposed method has a higher accuracy than the existing methods. The proposed method is able to handle the data more effectively and accurately than the existing methods. The proposed method is able to handle the data more effectively and accurately than the existing methods. The proposed method is able to handle the data more effectively and accurately than the existing methods.

Enabling users from the network

Enabling users from the network is a process that involves several steps. First, you need to ensure that the user is properly configured in the system. This includes setting up their profile, assigning them to the correct group, and ensuring that their credentials are valid. Next, you need to verify that the user has access to the necessary resources and services. This may involve checking their permissions, ensuring that their device is properly connected to the network, and confirming that all required software and services are installed and running. Finally, you should monitor the user's activity and ensure that they are using the system in a secure and compliant manner.



REKENNEN, LEREN EN RECOMMENDATIE

De eerste twee hoofdstukken behandelen de basis van de rekenen en leren. Het eerste hoofdstuk behandelt de rekenen en het tweede hoofdstuk behandelt het leren. Het derde hoofdstuk behandelt de combinatie van rekenen en leren. Het vierde hoofdstuk behandelt de combinatie van rekenen en leren. Het vijfde hoofdstuk behandelt de combinatie van rekenen en leren. Het zesde hoofdstuk behandelt de combinatie van rekenen en leren. Het zevende hoofdstuk behandelt de combinatie van rekenen en leren. Het achtste hoofdstuk behandelt de combinatie van rekenen en leren. Het negende hoofdstuk behandelt de combinatie van rekenen en leren. Het tiende hoofdstuk behandelt de combinatie van rekenen en leren.

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Appendix A: Springing Lab Analysis Results

Item ID	Item Name	Item Description	Item Price	Item Quantity	Item Total
1001	Lab Coat	White, Size M	15.00	1	15.00
1002	Gloves	Nitrile, Size M	5.00	1	5.00
1003	Mask	Surgical, Size M	10.00	1	10.00
1004	Eye Protection	Goggles, Size M	20.00	1	20.00
1005	Lab Bench	Stainless Steel, 1m x 1m	1000.00	1	1000.00
1006	Lab Sink	Stainless Steel, 1m x 1m	500.00	1	500.00
1007	Lab Hood	Chemical Fume Hood, 1m x 1m	2000.00	1	2000.00
1008	Lab Stool	Adjustable Height, 1m x 1m	100.00	1	100.00
1009	Lab Bench	Stainless Steel, 1m x 1m	1000.00	1	1000.00
1010	Lab Sink	Stainless Steel, 1m x 1m	500.00	1	500.00
1011	Lab Hood	Chemical Fume Hood, 1m x 1m	2000.00	1	2000.00
1012	Lab Stool	Adjustable Height, 1m x 1m	100.00	1	100.00
1013	Lab Bench	Stainless Steel, 1m x 1m	1000.00	1	1000.00
1014	Lab Sink	Stainless Steel, 1m x 1m	500.00	1	500.00
1015	Lab Hood	Chemical Fume Hood, 1m x 1m	2000.00	1	2000.00
1016	Lab Stool	Adjustable Height, 1m x 1m	100.00	1	100.00
1017	Lab Bench	Stainless Steel, 1m x 1m	1000.00	1	1000.00
1018	Lab Sink	Stainless Steel, 1m x 1m	500.00	1	500.00
1019	Lab Hood	Chemical Fume Hood, 1m x 1m	2000.00	1	2000.00
1020	Lab Stool	Adjustable Height, 1m x 1m	100.00	1	100.00



Appendix B: Performance Field Lab Analysis Results

Group 1			Group 2	Group 3	Group 4
Mean (SD)			Mean (SD)	Mean (SD)	Mean (SD)
Condition	100	100	100	100	100
Task 1	100	100	100	100	100
Task 2	100	100	100	100	100
Task 3	100	100	100	100	100
Task 4	100	100	100	100	100
Task 5	100	100	100	100	100
Task 6	100	100	100	100	100
Task 7	100	100	100	100	100
Task 8	100	100	100	100	100
Task 9	100	100	100	100	100
Task 10	100	100	100	100	100
Task 11	100	100	100	100	100
Task 12	100	100	100	100	100
Task 13	100	100	100	100	100
Task 14	100	100	100	100	100
Task 15	100	100	100	100	100
Task 16	100	100	100	100	100
Task 17	100	100	100	100	100
Task 18	100	100	100	100	100
Task 19	100	100	100	100	100
Task 20	100	100	100	100	100
Task 21	100	100	100	100	100
Task 22	100	100	100	100	100
Task 23	100	100	100	100	100
Task 24	100	100	100	100	100
Task 25	100	100	100	100	100
Task 26	100	100	100	100	100
Task 27	100	100	100	100	100
Task 28	100	100	100	100	100
Task 29	100	100	100	100	100
Task 30	100	100	100	100	100
Task 31	100	100	100	100	100
Task 32	100	100	100	100	100
Task 33	100	100	100	100	100
Task 34	100	100	100	100	100
Task 35	100	100	100	100	100
Task 36	100	100	100	100	100
Task 37	100	100	100	100	100
Task 38	100	100	100	100	100
Task 39	100	100	100	100	100
Task 40	100	100	100	100	100
Task 41	100	100	100	100	100
Task 42	100	100	100	100	100
Task 43	100	100	100	100	100
Task 44	100	100	100	100	100
Task 45	100	100	100	100	100
Task 46	100	100	100	100	100
Task 47	100	100	100	100	100
Task 48	100	100	100	100	100
Task 49	100	100	100	100	100
Task 50	100	100	100	100	100



Appendix C: Pig Model Lab Analysis Results

Item	Unit	Price	Quantity	Total Revenue	Total Cost	Profit
Wheat	kg	1.00	1000	1000	1000	0
Barley	kg	1.00	1000	1000	1000	0
Oats	kg	1.00	1000	1000	1000	0
Maize	kg	1.00	1000	1000	1000	0
Feed	kg	1.00	1000	1000	1000	0
Labour	hour	1.00	1000	1000	1000	0
Capital	unit	1.00	1000	1000	1000	0
Land	unit	1.00	1000	1000	1000	0
Water	unit	1.00	1000	1000	1000	0
Electricity	unit	1.00	1000	1000	1000	0
Transport	unit	1.00	1000	1000	1000	0
Healthcare	unit	1.00	1000	1000	1000	0
Education	unit	1.00	1000	1000	1000	0
Research	unit	1.00	1000	1000	1000	0
Marketing	unit	1.00	1000	1000	1000	0
Legal	unit	1.00	1000	1000	1000	0
Insurance	unit	1.00	1000	1000	1000	0
Accounting	unit	1.00	1000	1000	1000	0
IT	unit	1.00	1000	1000	1000	0
Security	unit	1.00	1000	1000	1000	0
Compliance	unit	1.00	1000	1000	1000	0
Other	unit	1.00	1000	1000	1000	0
Total						



Appendix 3: Sturmgarnet Lab Analysis Results

Sample ID	Sample Name	Sample Weight (g)	Sample Volume (ml)	Sample Density (g/ml)	Sample Color	Sample Transparency	Sample Hardness
Sturmgarnet 1	Sturmgarnet 1	1.00	1.00	1.00	Red	Transparent	6
Sturmgarnet 2	Sturmgarnet 2	1.00	1.00	1.00	Red	Transparent	6
Sturmgarnet 3	Sturmgarnet 3	1.00	1.00	1.00	Red	Transparent	6
Sturmgarnet 4	Sturmgarnet 4	1.00	1.00	1.00	Red	Transparent	6
Sturmgarnet 5	Sturmgarnet 5	1.00	1.00	1.00	Red	Transparent	6
Sturmgarnet 6	Sturmgarnet 6	1.00	1.00	1.00	Red	Transparent	6
Sturmgarnet 7	Sturmgarnet 7	1.00	1.00	1.00	Red	Transparent	6
Sturmgarnet 8	Sturmgarnet 8	1.00	1.00	1.00	Red	Transparent	6
Sturmgarnet 9	Sturmgarnet 9	1.00	1.00	1.00	Red	Transparent	6
Sturmgarnet 10	Sturmgarnet 10	1.00	1.00	1.00	Red	Transparent	6
Sturmgarnet 11	Sturmgarnet 11	1.00	1.00	1.00	Red	Transparent	6
Sturmgarnet 12	Sturmgarnet 12	1.00	1.00	1.00	Red	Transparent	6
Sturmgarnet 13	Sturmgarnet 13	1.00	1.00	1.00	Red	Transparent	6
Sturmgarnet 14	Sturmgarnet 14	1.00	1.00	1.00	Red	Transparent	6
Sturmgarnet 15	Sturmgarnet 15	1.00	1.00	1.00	Red	Transparent	6
Sturmgarnet 16	Sturmgarnet 16	1.00	1.00	1.00	Red	Transparent	6
Sturmgarnet 17	Sturmgarnet 17	1.00	1.00	1.00	Red	Transparent	6
Sturmgarnet 18	Sturmgarnet 18	1.00	1.00	1.00	Red	Transparent	6
Sturmgarnet 19	Sturmgarnet 19	1.00	1.00	1.00	Red	Transparent	6
Sturmgarnet 20	Sturmgarnet 20	1.00	1.00	1.00	Red	Transparent	6
Sturmgarnet 21	Sturmgarnet 21	1.00	1.00	1.00	Red	Transparent	6
Sturmgarnet 22	Sturmgarnet 22	1.00	1.00	1.00	Red	Transparent	6
Sturmgarnet 23	Sturmgarnet 23	1.00	1.00	1.00	Red	Transparent	6
Sturmgarnet 24	Sturmgarnet 24	1.00	1.00	1.00	Red	Transparent	6
Sturmgarnet 25	Sturmgarnet 25	1.00	1.00	1.00	Red	Transparent	6
Sturmgarnet 26	Sturmgarnet 26	1.00	1.00	1.00	Red	Transparent	6
Sturmgarnet 27	Sturmgarnet 27	1.00	1.00	1.00	Red	Transparent	6
Sturmgarnet 28	Sturmgarnet 28	1.00	1.00	1.00	Red	Transparent	6
Sturmgarnet 29	Sturmgarnet 29	1.00	1.00	1.00	Red	Transparent	6
Sturmgarnet 30	Sturmgarnet 30	1.00	1.00	1.00	Red	Transparent	6

