



Intelligent development and protection of environmental resources

BLOEMFONTEIN

PO Box 32998 Fichardt Park 9317
E-Mail: ghtfs@ghtglobal.com
Cell: +27 (0) 82 652 2992
<http://www.ghtglobal.com>
Tel: 086 143 6724
Fax: 086 679 9806

PORT ELIZABETH

PO Box 28536 Sunridge Park 6008
E-Mail: ghtec@ghtglobal.com
Cell: +27 (0) 82 656 6996

AMERSFOORT

PO Box 26 Amersfoort 2490
E-Mail: ghtmp@ghtglobal.com
Cell: +27 (0) 83 468 2750

COMPANY PROFILE



GHT CONSULTING SCIENTISTS

Intelligent development and protection of environmental resources

GHT specialises in the provision of a wide range of geological, geophysical, and hydrological services by developing multi-disciplinary strategies for the detection, responsible utilisation, management and protection of water.

1. ABOUT US

Fresh water is one of the world's most valuable resources, and one of South Africa's scarcest. Managing this vital element in a responsible manner is not negotiable. This is GHT Consulting Scientists' prime directive: to develop multi-disciplinary strategies for the detection, responsible utilisation, management and protection of water.

Geo-Hydro Technologies (GHT) provides clients with access to a group of scientists with experience in fields such as Geology, Geohydrology, Mathematics and Environmental Management. Bringing together unique yet complementary skills has been the fire in the GHT engine since the company's inception in 1990. Managing directors Louis van Niekerk and Dirk Rudolph met as first-year Geology students and quickly realised the value of synergy. More than two decades and about 1 500 projects later, they've managed to perfect the art of putting together a team with diverse backgrounds to bring about inventive solutions.

Today, GHT boasts scientists with qualifications in various related scientific disciplines that enable the company to be innovative and adaptable to the demands of any specific situation. Time and experience have added a unique dynamic to GHT Consulting Scientists, with a specific focus on surface- and groundwater. The company applies models and techniques specifically developed for and adapted to detecting and managing groundwater as well as surface water supplies. Protecting this valuable natural resource from pollution and contamination by industrial activity is another key focus area.

GHT Consulting Scientists pride themselves on their ingenuity and problem-solving ability. Working in the field often requires scientists to be able to think outside the box in order to obtain optimum results. GHT Consulting Scientists are dedicated to providing clients with useful, dependable information and solutions with the ultimate aim of being warriors for water.

1.2. VISION

GHT Consulting Scientists' vision is to be a leader in the development of multi-disciplinary strategies for the detection, responsible utilisation, management and protection of water.

1.3. MISSION

GHT Consulting Scientists' mission is to apply scientific knowledge to provide solutions to clients' needs in an ethical and professional manner. The company utilises its unique ability to combine teams from diverse backgrounds to manage projects in an innovative manner.

2. VALUES

2.2. Responsibility

Given the focus of our actions, GHT Consulting Scientists approach all actions and decisions with complete awareness of the responsibility of working with and managing a scarce resource.

2.3. Professionalism

GHT Consulting Scientists is a scientific consultancy whose members are all registered members of local and international professional associations, and adhere to the requirements set out by these associations in order to maintain the highest possible standards of the various professions and the scientific community in general.

2.4. Commitment

Clients' interests are taken to heart and projects are managed in such a way as to obtain maximum results within the expected parameters. GHT is dedicated to safe, intelligent development and protection of water resources.

GHT is a professional organisation that operates according to the Code of Ethics laid down by the South African Council for Natural Scientists. Membership is an assurance that a scientist subscribes to the above code of ethics on professional status. In the exercise of our Profession as Consulting Scientists we act in the legitimate interest of our Client.

2.5. Independence

GHT is committed to the advancements of the ideals of science. Clients can be assured of independent advice focused solely on solving specific needs. Confidentiality is completely assured.

3. SOCIAL RESPONSIBILITY AND COMMUNITY INVOLVEMENT

Access to clean water is a basic human right. Therefore, GHT's primary goal – responsible, intelligent management of water resources – is also the company's primary social responsibility. By doing our jobs well, we improve the living standards of the communities we operate in.

GHT is committed to an equitable and just South Africa, and has a firm grasp of the important issues facing our country. GHT has the experience and expertise to solve water-related problems cost-effectively, and to ensure community participation in the development process. In addition, GHT continuously invests in the tertiary education of students from previously disadvantaged communities. This investment adds momentum to the cycle of improving communities.

4. SERVICES

GHT has the resources to develop multi-disciplinary approach strategies for the detection, responsible utilisation, management and protection of one of South Africa's most valued natural resources - water.

The company specialises in the provision of a wide range of geological, geophysical, and hydrological services, including mineral exploration and deposit evaluation, pollution investigations, groundwater modelling, environmental studies at power generation facilities and mine sites, bulk and rural water supply development, and rehabilitation, environmental assessment, and management programme, reports, and industrial facilities and the registration of landfill sites are some of the services provided.

GHT provides a wide range of specialist consulting services to clients involved in the following fields:

4.1. Aquifer Hydraulics

- Analysis of hydraulic test data including slug-, packer- & pumping test data;
- De-watering Assessments of mines & large scale excavations;
- Groundwater flow assessments including rates & directions;
- Infiltration / Leach tempo from contamination sources (above & below ground);
- Saturated & unsaturated flow (including multi-phase);
- Time dependant evaluations.

4.2. Aquifer Management

- Management of groundwater resources;
- Rural or urban water supply project management;
- Borehole and aquifer tests supervision and assessment of test data. Determine long-term sustainable yields (irrigation, drinking water, etc.);
- Drilling supervision and borehole design and construction.

4.3. Modelling

- Groundwater Flow Modelling;
- Groundwater Fate & Transport Modelling.

4.4. Aquifer Hydrochemistry

4.4.1. Contamination Assessments

- Infiltration / Leach quality from contamination sources (above & below ground);
- Soil, surface- & groundwater contamination;
- Saturated & unsaturated contaminant movement (including multi-phase);
- Site characterization & assessment;
- Time dependant evaluations & modelling;
- Pollution plume modelling;
- Monitoring.

4.4.2. Remediation System Design & Implementation

- Monitored natural attenuation;
- Active manipulation & remediation (pump & treat, permeable reactive barriers, etc.).

4.4.3. Risk Assessment

- Calculation of remedial targets based on risk profiles;
- Considering risk to human health & environment.

4.4.4. Hydrocarbon Pollution Studies

- Gas phase pollution detection;
- Pollution plume modelling;
- Spillage quantification;
- Rehabilitation / Remediation;
- Monitoring.

4.5. Surface- & Groundwater Monitoring

- Design and implementation of monitoring systems;
- Routine monitoring, reporting & recommendations

4.6. Geophysical Investigations**4.6.1. Geophysical Groundwater Exploration**

- Assessment of the geometry and aerial extent of aquifers using a variety of geophysical techniques;
- Borehole siting and selection.

4.6.2. Geophysical-Mineral Exploration

- Palaeochannel detection;
- Kimberlite exploration;
- Base metal exploration.

4.7. Geographical Information Systems

- Data Analysis & Interpretation;
- Presentation of data;
- Database management;
- Integrated locality maps.

4.8. Regulatory requirements

- Groundwater inputs to Water Permits, WUL, EIAs & EMPRs;
- Integration with ISO 14000 systems;
- Environmental auditing;
- Waste disposal sites registration;
- Compiling Water Use Licence Applications.

4.9. Training

- All aspects listed above;
- Tailored to specific needs.

5. PERSONNEL

Members of GHT have been involved with a diverse range of projects in South Africa, Namibia, Zimbabwe, and Australia, some of which are mentioned in the resumes of our members.

No.	NAME	GENDER	POSITION	DEGREE	EXPERIENCE	SPECIALISATION
1	Louis Jacobus van Niekerk	Male	Managing Director, Senior Scientists	M.Sc: Geohydrology	26 Years	Project Management, Surface & Groundwater hydrology & Geochemistry
2	Dirk Cornelius Rudolph	Male	Director, Senior Scientists	M.Sc: Geohydrology	26 Years	Project Management, Groundwater hydrology & Aquifer mechanics
3	Shaun Staats	Male	Associate, Senior Scientists	M.Sc: Geohydrology	25 Years	Project Management, Groundwater hydrology, Numerical modelling & Computer Science
4	Jacobus Johannes H Hough	Male	Associate, Senior Scientists	M.Sc: Geohydrology	15 Years	Project Management, Groundwater hydrology, Aquifer mechanics & Waste Site / Sewage Plant Investigations
5	Adrie van Wyk	Female	Senior Scientists	Ph.D Geohydrology	13 Years	Project Management, Water monitoring systems, Intergrated water and waste management plan, Water use license application
6	Alré Groenewald	Female	Senior Scientists	Hons. Geohydrology	10 Years	Project Management, Groundwater hydrology & Water monitoring systems
7	Dirk Crafford Moolman	Male	Scientists	M.Sc: Geohydrology	7 Years	Groundwater hydrology, Soil Science & Aquifer Vulnerability Determination
8	Yolanda Louise Kotze	Female	Scientists	M.Sc: Geohydrology	13 Years	Environmental Science
9	Mohau Chrisjan Makhanya	Male	Junior Scientists	Hons. Geohydrology	5 Years	Groundwater hydrology & Water monitoring systems
10	Lee-Anne Dreyer	Female	Junior Scientists	B.ART.ET.Science TRP M.Sc: Environmental Management	5 Years	Environmental Science, Town and Regional planning
11	Ibart Janse van Rensburg	Male	Junior Scientists	B.Sc Environmental Sciences	1 Years	Environmental Science
12	Marius Smit	Male	Senior Technician	N.Dip.	11 Years	Data Base, GIS & Field Expert
13	Joseph Marthinus Steyn	Male	Financial & Project Manager	B.Accounting SAIPA	8 Years	Financial & Project Management
14	Francis Roodt	Female	Senior Admin Officer	Admin	40 Years	Business and financial administrator
15	Hendrina Johanna Ras	Female	Admin Officer	Admin	6 Years	Business administrator, SHE Representative and Safety Officer
16	Ishmael Boy Mokoena	Male	Field Assistant		20 Years	Driver & Field work
17	Selatiele Simon Makekeng	Male	Field Assistant		5 Years	Field work
18	Dire Piet Moreng	Male	Field Assistant		4 Years	Field work

6. EXPERIENCE AND PROJECTS COMPLETED IN THE LAST TWENTY-FOUR MONTHS

GHT CONSULTING PROJECTS LAST TWO YEARS

<u>Projects</u>	<u>Date</u>	<u>Value</u>
<u>Eskom Tutuka Power Station</u>		
<u>Ilse Coop</u>		
<u>Tel: 017 - 749 9410</u>		
1552(S1-737) Groundwater Monitoring Phase 44	17-Mar-14	R 196 716.77
1627(S1-797) Groundwater Monitoring Phase 45	13-Jan-15	R 296 400.00
1644(S1-810) Groundwater Monitoring Phase 46	24-Mar-15	R 299 565.68
1645(S1-811) Aquatic Bio-Monitoring	24-Mar-15	R 71 755.45
1690(S1-843) Groundwater Monitoring Phase 47	27-Jul-15	R 249 459.57
1711(S1-859) Groundwater Monitoring Phase 48	06-Oct-15	R 280 461.43
1721(S1-869) Aquatic Bio-Monitoring	26-Oct-15	R 78 218.25
1747(S1-890) Groundwater Monitoring Phase 49	16-Feb-16	R 249 460.28
1737(S1-882) Water Monitoring Protocol Update	17-Feb-16	R 130 199.40
1738(S1-883) 2015 Model Update	17-Mar-16	R 167 359.27
1758(S1-897) Groundwater Monitoring Phase 50	17-Mar-16	R 321 740.72
<u>Eskom Hendrina Power Station</u>		
<u>Stephina Mthethwa</u>		
<u>Tel: 013 - 296 3490</u>		
1551(S1-736) Groundwater Monitoring Phase 62	12-Mar-14	R 242 034.54
1568(S1-752) Groundwater Monitoring Phase 63	05-Jun-14	R 271 708.74
1592(S1-772) Groundwater Monitoring Phase 64	01-Sep-14	R 288 793.92
1623(S1-794) Groundwater Monitoring Phase 65	03-Dec-14	R 196 534.86
1646(S1-812) Groundwater Monitoring Phase 66	24-Mar-15	R 242 034.54
1685(S1-841) Groundwater Monitoring Phase 67 and Hydrocensus	08-Jul-15	R 361 645.62
1697(S1-848) Groundwater Monitoring Phase 68	14-Sep-15	R 288 793.92
1730(S1-876) Groundwater Monitoring Phase 69	25-Nov-15	R 304 807.50
1755(S1-894) Groundwater Monitoring Phase 70	14-Mar-16	R 242 034.54
<u>Eskom Majuba Power Station</u>		
<u>Nonhlanhla Mnisi</u>		
<u>Tel: 083 516 8635</u>		
1547(S1-732) Routine Monitoring Phase 42	04-Feb-14	R 216 172.16
1570(S1-754) Routine Monitoring Phase 43	06-Jun-14	R 288 857.73
1577(S1-759) Majuba Pollution Plume Model Update 2014	11-Jul-14	R 164 258.90
1581(S1-761) Routine Monitoring Phase 44	23-Jul-14	R 229 433.03
1619(S1-790) Routine Monitoring Phase 45	27-Nov-14	R 257 275.23
1638(S1-806) Routine Monitoring Phase 46	10-Mar-15	R 221 034.22
1670(S1-829) Routine Monitoring Phase 47	04-Jun-15	R 279 417.69
1692(S1-844) Routine Monitoring Phase 48	11-Aug-15	R 229 753.81
1720(S1-868) Drilling of Boreholes	26-Oct-15	R 190 584.17
1722(S1-870) Routine Monitoring Phase 49	28-Oct-15	R 267 424.49
1726(S1-873) Pollution Plume Model Update	25-Nov-15	R 170 955.24
1743(S1-887) Routine Monitoring Phase 50	21-Jan-16	R 229 753.81
1759(S1-898) Routine Monitoring Phase 51	29-Mar-16	R 291 903.45
<u>Eskom Matla Power Station</u>		
<u>Maria Majake</u>		
<u>017 - 612 6532</u>		
1553(S1-738) Water Monitoring System Maintenance	27-Mar-14	R 276 837.22
1573(S1-755) Monitoring Phase 66	09-Jul-14	R 216 026.50
1598(S1-776) Hydrobase Data	15-Oct-14	R 32 813.76
1618(S1-789) Monitoring Phase 67	11-Dec-14	R 216 026.50
1694(S1-846) Monitoring Phase 68	25-Aug-15	R 219 746.88
1735(S1-881) Monitoring Phase 69	25-Nov-15	R 225 486.52
<u>Bigen Africa Services (Pty) Ltd</u>		
<u>Gerda van der Merwe</u>		
<u>Tel: 087 741 3434</u>		
1736(S2-436) Borehole Optimisation and Augmentation Project Bloemfontein Area	27-Nov-15	R 310 060.62

Eskom Kriel Power Station**Tshepo Makhurana****Tel: 017 - 615 2947****Khuliso Rasimphi****Tel: 017 - 615 2634**

1565(S1-749) Routine Monitoring Phase 74 and Upgrade of Boreholes	09-Jun-14	R	905 270.75
1574(S1-756) Routine Monitoring Phase 75 and Bio-Monitoring	09-Jul-14	R	275 108.03
1584(S1-764) Geophysical Investigation	18-Aug-14	R	142 757.89
1585(S1-765) Hydrocarbon and Bacteriological Monitoring	21-Aug-14	R	256 868.43
1582(S1-762) Wetland Delineation - WULA	29-Aug-14	R	104 717.55
1583(S1-763) Aquifer Parameter Determination - WULA	29-Aug-14	R	113 748.68
1590(S1-769) Preliminaries and Generals - WULA	29-Aug-14	R	39 787.58
1591(S1-770) Survey of Existing Dams - WULA	29-Aug-14	R	158 099.76
1597(S1-775) Routine Monitoring Phase 76	15-Oct-14	R	227 525.76
1604(S1-778) Bio-Monitoring	11-Nov-14	R	117 939.53
1611(S1-782) Monitoring Plan and Sampling Procedures	27-Nov-14	R	95 065.74
1617(S1-788) Monitoring Plan - WULA	27-Nov-14	R	29 689.19
1616(S1-787) Hydrocensus - WULA	09-Dec-14	R	197 536.44
1610(S1-781) Purging of Boreholes and EC Profiling	11-Dec-14	R	75 181.18
1612(S1-783) Data and Reports	11-Dec-14	R	82 613.52
1615(S1-786) Routine Monitoring Phase 77	11-Dec-14	R	157 168.49
1614(S1-785) Monitoring Review Workshop	24-Feb-15	R	33 616.32
1613(S1-784) Sewage Plant Audit	21-Apr-15	R	42 325.92
1659(S1-823) Routine Monitoring Phase 78	30-Apr-15	R	238 750.51
1665(S1-828) Biomonitoring	30-Apr-15	R	123 757.96
1681(S1-838) Routine Monitoring Phase 79	07-Jul-15	R	164 922.24
1682(S1-839) Maintenance	07-Jul-15	R	30 390.50
1683(S1-840) Purging	07-Jul-15	R	39 882.18
1702(S1-853) EC Profiling	21-Sep-15	R	39 007.97
1703(S1-854) Hydro Census Update	21-Sep-15	R	74 269.51
1707(S1-857) Routine Monitoring Phase 80	01-Oct-15	R	238 750.51
1715(S1-863) Sewage Plant Audit	19-Oct-15	R	44 414.02
1716(S1-864) Biomonitoring	19-Oct-15	R	123 757.96
1717(S1-865) Risk Assessment	19-Oct-15	R	65 727.27
1718(S1-866) Stormwater Management Plan	19-Oct-15	R	108 950.14
1723(S1-871) 3D Groundwater Model	12-Nov-15	R	129 313.14
1724(S1-872) Numerical Model - WULA	12-Nov-15	R	149 875.23
1732(S1-878) Routine Monitoring Phase 81	25-Nov-15	R	164 922.24
1733(S1-879) As Built Designs of Existing Dams - Engineers Drawings	02-Feb-16	R	125 250.89
1734(S1-880) Compiling of a Water Balance	08-Mar-16	R	60 170.96

Eskom Matimba Power Station**Tebogo Kubyane****Tel: 071 526 9372**

1544(S1-729) Stage Capacity Curves	20-Jan-14	R	58 309.46
1546(S1-731) Routine Monitoring Phase 68	27-Jan-14	R	117 833.82
1550(S1-735) Routine Monitoring Phase 69	03-Mar-14	R	120 015.78
1555(S1-740) Investigate Source of Contamination at Borehole B38	28-Mar-14	R	214 377.91
1575(S1-757) Matimba Pollution Plume Model Update 2013	11-Jul-14	R	63 656.46
1576(S1-758) Routine Monitoring Phase 70	11-Jul-14	R	120 015.78
1578(S1-760) Presentation 2013	11-Jul-14	R	9 525.84
1586(S1-766) Routine Monitoring Phase 71	22-Aug-14	R	130 924.44
1621(S1-792) Routine Monitoring Phase 72	27-Nov-14	R	129 618.00
1641(S1-808) Classification of Aquifer Vulnerability and Risk	16-Mar-15	R	140 422.92
1654(S1-819) Numerical Model 2014	30-Mar-15	R	70 022.22
1657(S1-822) Routine Monitoring Phase 73	08-Apr-15	R	132 017.70
1661(S1-825) Presentation 2014	22-Apr-15	R	10 477.74
1680(S1-837) Routine Monitoring Phase 74	07-Jul-15	R	132 017.70
1700(S1-851) Routine Monitoring Phase 75	16-Sep-15	R	144 017.34
1728(S1-874) Plume Model 2015	23-Nov-15	R	77 037.78
1729(S1-875) Routine Monitoring Phase 76	23-Nov-15	R	124 489.09

Eskom Komarti Power Station**Thabo Magashwa****Tel: 013 - 295 9583**

1564(S1-748) Routine Monitoring Ph 52	26-May-14	R	157 029.30
1620(S1-791) Routine Monitoring Ph 53	27-Nov-14	R	185 135.43
1704(S1-855) Routine Monitoring Phase 54	22-Sep-15	R	226 275.39

Eskom Kendal Power Station**Mulalo Tshipetane****Tel: 082 695 6866**

1562(S1-746) Update Existing Groudwater Model	16-Apr-14	R	87 414.93
1563(S1-747) Phase 66 Routine Monitoring	15-May-14	R	439 674.39
1587(S1-767) Groundwater Monitoring Phase 67	22-Aug-14	R	224 901.62
1628(S1-798) Groundwater Monitoring Phase 68	26-Jan-15	R	220 183.28
1629(S1-799) Groundwater Monitoring Phase 69	26-Jan-15	R	265 498.19
1631(S1-800) Biomonitoring	30-Jan-15	R	65 488.73
1650(S1-815) Groundwater Monitoring Phase 70	30-Mar-15	R	208 407.11
1651(S1-816) Maintenance	30-Mar-15	R	27 578.53
1652(S1-817) Bio-Monitoring	30-Mar-15	R	65 488.73
1653(S1-918) Audit Sewage Plant	30-Mar-15	R	29 274.06
1660(S1-824) Development of Surface and Groundwater Quality Management Plan	22-Apr-15	R	119 895.90
1671(S1-830) Drilling of Monitoring Boreholes	04-Jun-15	R	313 159.92
1676(S1-833) Groundwater Monitoring Phase 71	07-Jul-15	R	274 847.86
1677(S1-834) Health and Safety / PPE	07-Jul-15	R	22 526.40
1678(S1-835) Consolidation of Water Quality Reports	07-Jul-15	R	144 145.02
1679(S1-836) Groundwater Modelling	07-Jul-15	R	117 981.68
1701(S1-852) Groundwater Monitoring Phase 72	16-Sep-15	R	235 201.77
1713(S1-861) Biomonitoring	12-Oct-15	R	70 618.30
1714(S1-862) Sampling Protocol	12-Oct-15	R	63 631.82
1741(S1-885) Groundwater Monitoring Phase 73	20-Jan-16	R	270 099.20
1742(S1-886) Risk Assessment	20-Jan-16	R	195 487.50
1748(S1-891) Numerical Model	17-Feb-16	R	121 480.58
1750(S1-892) Groundwater Monitoring Phase 74	25-Feb-16	R	224 731.14
1754(S1-893) Hydrocensus Study	08-Mar-16	R	135 925.28

Eskom Lethabo Power Station**Gretta Mathebe****Tel: 016 - 457 5078**

1545(S1-730) Groundwater Monitoring Phase 52	24-Jan-14	R	65 563.28
1548(S1-733) Groundwater Monitoring Phase 53	19-Feb-14	R	83 152.00
1567(S1-751) Groundwater Monitoring Phase 54	03-Jun-14	R	64 201.10
1588(S1-768) Groundwater Monitoring Phase 55	25-Aug-14	R	153 175.87
1622(S1-793) Groundwater Monitoring Phase 56, EC Profiling, Toxicity & Hydrocarbon	10-Dec-14	R	404 468.37
1625(S1-796) Numerical Model	10-Dec-14	R	91 977.48
1636(S1-804) Groundwater Monitoring Phase 57	24-Feb-15	R	83 152.00
1637(S1-805) Groundwater Monitoring Phase 57 Additional Chemical Analyses	24-Feb-15	R	43 619.25
1672(S1-831) Groundwater Routine Monitoring, Additional Chemical Analyses and Hydrocensus	05-Jun-15	R	206 731.21
1712(S1-860) Water Sampling	13-Oct-15	R	33 731.46
1739(S1-884) Groundwater Sampling Analysis	14-Jan-16	R	33 220.97

Eskom Duvha Power Station**Simthandile Mpondo****Tel: 084 206 9774**

1543(S1-728) Routine Monitoring Phase 60	20-Jan-14	R	138 647.99
1558(S1-742) Routine Monitoring Phase 61	01-Apr-14	R	156 183.09
1635(S1-803) Routine Monitoring Phase 62	17-Feb-15	R	169 456.00
1656(S1-821) Groundwater Pollution Plume Model	31-Mar-15	R	202 399.94

Eskom Camden Power Station**Thabiso Mpongo****Tel: 083 522 2979**

1549(S1-734) Routine Monitoring Phase 56	20-Feb-14	R	116 390.24
1559(S1-743) Drilling of Boreholes, Maintenance and Decommissioning	27-Mar-14	R	658 791.77
1560(S1-744) Routine Monitoring Phase 57	27-Mar-14	R	205 990.85
1561(S1-745) Bio Monitoring	27-Mar-14	R	74 243.05
1566(S1-750) 3D Groundwater Model	09-Jun-14	R	123 233.54
1594(S1-774) Shooting Range EIA	09-Sep-14	R	224 988.12
1601(S1-777) Routine Monitoring Phase 58	27-Oct-14	R	175 266.26
1606(S1-780) Bio Monitoring	13-Nov-14	R	74 243.05
1634(S1-802) Routine Monitoring Phase 59	09-Feb-15	R	205 990.85
1643(S1-809) Purging of 27 Monitoring Boreholes	09-Feb-15	R	45 668.02
1655(S1-820) Geophysical Siting, Drilling, Testing and Construction of Boreholes	09-Feb-15	R	184 985.45
1663(S1-826) Routine Monitoring Phase 60 and EC Profiling	24-Apr-15	R	237 055.16
1664(S1-827) Biomonitoring	24-Apr-15	R	77 793.19
1674(S1-832) Heavy Metals Analyses	24-Apr-15	R	34 144.66
1709(S1-858) Routine Monitoring Phase 61 and Biomonitoring	02-Oct-15	R	293 634.08
1719(S1-867) Heavy Metals Analyses Phase 61	26-Oct-15	R	34 144.66
1744(S1-888) Routine Monitoring Phase 62, Heavy Metals Analyses and Maintenance	26-Jan-16	R	315 428.67
1745(S1-889) Purging of 27 Monitoring Boreholes	28-Jan-16	R	50 113.51
1757(S1-896) Geo-Chemical Study New Ash Dam	16-Mar-16	R	761 267.47
1760(S1-899) Routine Monitoring Phase 63, Heavy Metals Analyses Phase 63	31-Mar-16	R	898 892.61
1761(S1-900) Routine Monitoring Phase 64, Heavy Metals Analyses Phase 64	31-Mar-16	R	228 085.81
1762(S2-901) Hydrocensus Update	31-Mar-16	R	77 751.57

Hotazel Manganese Mines (Pty) Ltd**Sylvia Makoele****Tel: 079 891 2534**

1541(S2-393) WUL Audit	09-Jan-14	R	53 740.51
1542(S2-394) Routine Monitoring Phase 25	17-Jan-14	R	181 220.05
1556(S2-395) Routine Monitoring Phase 26	31-Mar-14	R	181 220.05
1572(S2-398) Routine Monitoring Phase 27	30-Jun-14	R	181 220.05
1599(S2-404) Routine Monitoring Phase 28	20-Oct-14	R	181 220.05
1626(S2-410) Routine Monitoring Phase 29	09-Jan-15	R	197 822.89
1658(S2-416) Routine Monitoring Phase 30	13-Apr-15	R	197 822.89
1675(S2-423) Routine Monitoring Phase 31	24-Jun-15	R	197 822.89
1708(S2-431) Routine Monitoring Phase 32	02-Oct-15	R	197 822.89
1740(S2-437) Routine Monitoring Phase 33	14-Jan-16	R	197 822.89

Bloemwater**Grant Isaacs****Tel: 082 817 0222**

1595(S2-402) Thaba Nchu Southern Area Villages Project	18-Sep-14	R	185 538.42
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Department of Rural Development and Agrarian Reform**Marius Nel**

1579(S2-399) Dunkeld Testing of Boreholes in the Joe Gqabi District	18-Jul-14	R	219 215.16
1580(S2-400) Pelgrimsrest Testing of Boreholes in the Joe Gqabi District	18-Jul-14	R	119 816.28
1710(S2-432) Testing of Boreholes Fonteinkloof Farm	06-Oct-15	R	173 578.65
1727(S2-435) Testing of Boreholes Fonteinkloof Farm	19-Nov-15	R	452 089.80

Department of Water Affairs and Sanitation**Ilse Viljoen****Tel: 041 - 501 0720**

1602(S2-406) Optimisation of Groundwater Supply Schemes Barkley East and Lady Grey	07-Nov-14	R	948 277.08
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Vuba Imagineers Consultants**Baliso F Vuba****Tel: 037 - 315 6596**

1639(S2-413) Mgwali North Water Supply Scheme	13-Mar-15	R	284 577.17
1687(S2-425) Mgwali North Water Supply Scheme	30-Jun-15	R	128 732.56

BVI Consulting Engineers**Walter Smith****Tel: 041 - 373 4343**

1609(S2-409) Graaff-Reinet Phase 1 Seasonal Monitoring of Surface and Groundwater Qualities of the Borehole Fields and Municipal Dam	08-Jan-15	R	400 334.94
1632(S2-412) Graaff-Reinet Phase 1 Seasonal Monitoring of Surface and Groundwater Qualities of the Borehole Fields and Municipal Dam	02-Feb-15	R	103 671.60
1642(S2-414) Graaff-Reinet Phase 2 Seasonal Monitoring of Surface and Groundwater Qualities of the Borehole Fields and Municipal Dam	18-Mar-15	R	400 334.94
1668(S2-420) Graaff-Reinet Phase 2 Seasonal Monitoring of Surface and Groundwater Qualities of the Borehole Fields and Municipal Dam	27-May-15	R	103 671.60
1673(S2-422) Graaff-Reinet Phase 3 Seasonal Monitoring of Surface and Groundwater Qualities of the Borehole Fields and Municipal Dam	10-Jun-15	R	400 334.94
1684(S2-424) Graaff-Reinet Phase 3 Seasonal Monitoring of Surface and Groundwater Qualities of the Borehole Fields and Municipal Dam	08-Jul-15	R	103 671.60
1695(S2-433) Graaff-Reinet Phase 4 Seasonal Monitoring of Surface and Groundwater Qualities of the Borehole Fields and Municipal Dam	26-Oct-15	R	103 671.60
1706(S2-430) Graaff-Reinet Phase 4 Seasonal Monitoring of Surface and Groundwater Qualities of the Borehole Fields and Municipal Dam	30-Sep-15	R	400 334.94

Engineering Solutions**Mario Beerwinkel****Tel: 082 723 0807**

1571(S2-397) Review of the Existing Geohydrological Data for Boshof Municipal Borehole	17-Jun-14	R	28 121.52
1589(S2-401) Geohydrological Study Dealesville Phase 2B Option	27-Aug-14	R	1 014 307.28
1596(S2-403) Geohydrological Study Dealesville Phase 2B Option	29-Sep-14	R	384 523.93
1600(S2-405) Geohydrological Study Dealesville Phase 2B Option	22-Oct-14	R	129 491.04
1666(S2-418) Groundwater Exploration in a 10km Radius Around Dealesville Commonage	30-Apr-15	R	497 418.48
1669(S2-421) Groundwater Exploration in a 10km Radius Around Dealesville Commonage	03-Jun-15	R	202 783.20

Geo Pollution Technologies**Van der Ahee Coetsee****Tel: 012 - 804 8120**

1603(S2-403) Optimisation of Groundwater Supply Scheme Hofmeyer	06-Mar-15	R	614 795.39
1662(S2-417) Optimisation of Groundwater Supply Scheme Hofmeyer	24-Apr-15	R	354 493.72
1752(S2-441) Optimisation of Groundwater Supply Scheme Hofmeyer	07-Mar-16	R	92 011.11

Proper Consulting Engineers CC**Jan Earle****Tel: 051 - 451 1721**

1569(S2-396) Putuma and Seaview Schools	05-Jun-14	R	288 264.96
1688(S2-426) Madibogo Traditional Council	30-May-15	R	41 152.86
1689(S2-427) ECIC Seaview and Putuma Schools	30-Jun-15	R	50 052.84

SMEC South Africa (Pty) Ltd**Rika Saayman****Tel: 053 - 832 5150**

1667(S2-419) Kimberley Landfill Site	12-May-15	R	316 247.40
1691(S2-428) Kimberley Landfill Site	06-Aug-15	R	302 544.60
1696(S2-429) Kimberley Landfill Site	26-Aug-15	R	254 932.73

UWP Consulting (Pty) Ltd**Jaap van Wyk****Tel: 048 - 881 3666**

1746(S2-438) Lady Grey Geohydrological Study	01-Feb-16	R	141 315.08
1749(S2-439) Lady Grey Geohydrological Study	19-Feb-16	R	592 823.14
1751(S2-440) Lady Grey Geohydrological Study	29-Feb-16	R	718 652.12
1753(S2-442) Lady Grey Geophysical Survey	03-Mar-16	R	68 779.62

7. FACILITIES AND EQUIPMENT

7.1. Facilities

GHT has the following equipment available for the duration of projects:

- International E-Mail networking
- Graphics and map reproduction facilities
- Aerial photo interpretation
- Computer facilities
 - Notepad PC's x 17
 - Desktop PC's x 4
 - Electronic data loggers
 - Colour printers (A3) x 2
 - General Software Packages
 - Microsoft Windows 10
 - Office 2016
 - SURFER for Windows
 - RESIXGL (DC soundings modelling)
 - AQTESOLV (Test-pumping data modelling)
 - AQUIFERTEST (Test-pumping data modelling)
 - FC Method (Test pump analysis for fractured rock)
 - Arc Info (GIS applications)
 - Map Info (GIS applications)
 - AQUABASE – Data base and Map Info package
 - HYDROCOM – Data base and CAD package
 - WISH – Data base functions and a wide variety of interpretative options
 - AQUAMOD – A two-dimensional finite element-modelling suite of programs, which includes interpolation and optimisation packages.
 - Visual Modflow – The industry standard three-dimensional finite difference-modelling programs.
 - MODFLOW (PMWIN) and AQUA-3D – Modelling of three-dimensional problems such as dewatering, inter-mine flow, determination of decant and interaction of different layers with groundwater contamination
 - FEFLOW - All-in-one groundwater modelling solution

7.2. Equipment and Vehicles

For the purpose of projects, the equipment and vehicles are listed below will be made available.

Equipment			
Type	Qty	Make/Model	Own/Hired
Auger drill	1	Stihl Auger	Own
Bailers and ropes	11	N/A	Own
Bait boat	1	N/A	Own
Cable winch	2	N/A	Own
Camera	1	Canon Power shot	Own
Camera	1	Casio	Own
Desktops	4	N/A	Own
Dip meters	7	N/A	Own
Dumpy Level	1	Pentax AP-128	Own
Electronic boat	1	Luanro	Own
Gas Probe	1	Multi RAE Gas Monitor PGM -54	Own
GPS	9	Garmin	Own
Hand Held EC/pH meters	4	Hanna	Own
Laptops x 17	17	N/A	Own
Magnetometer	2	Geotron Proton 5	Own
Projector	1	Acer X1161	Own
Sampling bottles and caps	~	Nampak	Own
Solnist	1	EC profiler	Own
Solnist	1	Down the hole level logger 3001 LT	Own
Surface sampler	3	N/A	Own
Topographical and geological maps		N/A	Own
Vechile recovery kits	5	N/A	Own

Vehicle		
Type	Made/Model	Engine capacity
Mitsubishi	Triton 4x4	3.2
Toyota	Land Cruiser 4x4	4
Nissan	NP300 2x4	2.5
Nissan	Navara 4x4	2.5
Challenger	Bundu Bash Trailer	N/A