

**Provincial Best Performer**

Maluti-a-Phofung Local Municipality is the best performing municipality in Free State Province:

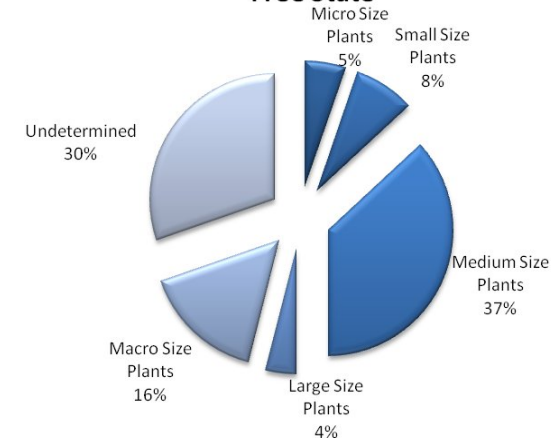
- ✓ 88.94% Municipal Blue Drop Score



**Introduction**

Water services delivery is performed by twenty (20) Water Services Authorities in Free State via 76 drinking water supply systems. Bloem Water and Sedibeng Water Boards are the main Water Services Provider in the Free State that abstract, treat and supply drinking water to municipal networks via a number of bulk water schemes.

**Distribution of Water Supply systems in Free State**



A total design capacity of 219 is available for drinking water supply in Free State Province, distributed across 76 supply systems. Operational data is not available for all systems, but the average operating capacity appears to resort between 69 and 81% is utilised. This result in an average output volume (final water) of 165 Ml/day.

	MICRO SIZE <0.5 Mℓ/day	SMALL SIZE 0.5-2 Mℓ/day	MEDIUM SIZE 2-10 Mℓ/day	LARGE SIZE <10-25 Mℓ/day	MACRO SIZE >25 Mℓ/day	Undetermined	Total
No of Water Supply Systems	4	6	28	3	12	23	76
System Design Volume (Mℓ/day)	1.2	7.2	6.3	36.9	166.9	NI	218.5
Average Operating Capacity (%)	80.0	81.1	72.4	79.0	69.0	NI	75.3
Output volume (Mℓ/day)	3.2	5.9	4.5	29.2	115.2	NI	164.5

N/A = Not Applicable  
NI = No Information

## Provincial Blue Drop Analysis

Analysis of the Blue Drop assessments and site inspection results indicate that performance vary from excellent to very poor. A positive finding is the increased number of systems assessed, based on a **100% assessment coverage** of municipalities during the 2010/11 Blue Drop Certification.

BLUE DROP COMPARATIVE ANALYSIS				
Performance Category	2009	2010	2011	Performance trend
<b>Incentive-based indicators</b>				
Number of municipalities assessed	11 (of 17) (65%)	17 (of 17) (100%)	20 (of 20) (100%)	↑
Number of water systems assessed	26	58	76	↑
Number of Blue Drop scores ≥50%	7 (26.92%)	13 (22.41%)	29 (38.18%)	↑
Number of Blue Drop scores <50%	19 (70.37%)	45 (77.58%)	47 (61.82%)	↑
Number of Blue Drop awards	1	2	3	↑
PROVINCIAL BLUE DROP SCORE	40.03%	48.5%	64.10%	N/A

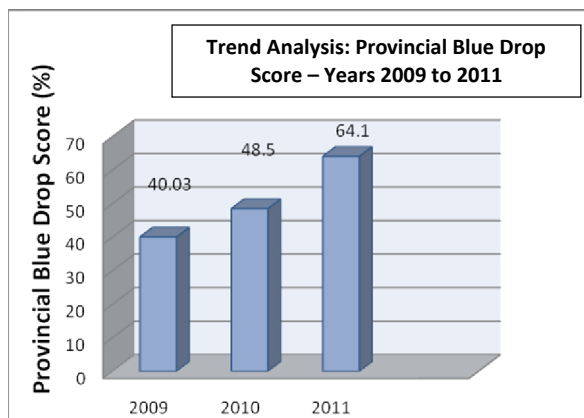
N/A = Not applied

↑ = improvement, ↓ = digress, → = no change

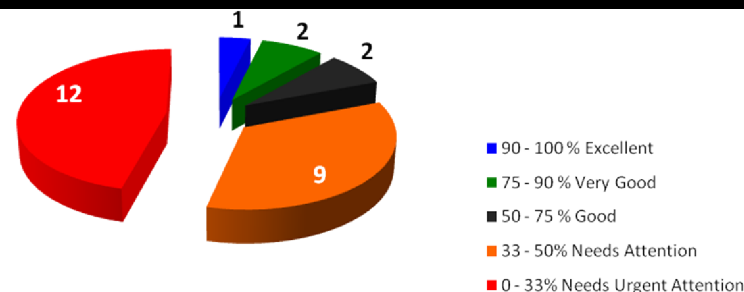
The 100% assessment coverage serves to affirmation the continued commitment by Free State municipalities and the local Water Boards to provide reliable and uninterrupted water supply to consumers. Through the Blue Drop process, municipalities are renewing their operational baselines and reprioritise their plans with the primary objective of raising the current performance status in terms of municipal drinking water quality management.

The trends analysis indicates that Free State is succeeding to continue along an upward improvement trend which started in 2009 and is still evident. The provincial scores increased from 40.0 (2009) to 48.5 (2010) to 64.1% in 2011.

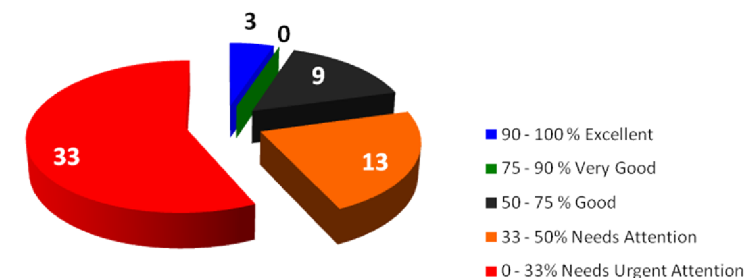
The attainment of Blue Drop awards still largely evades the Province, with 3 awards awarded in 2011 following the 2 Blue Drop certificates in 2010. A positive trend is observed in the increased number of systems that achieved >50% Blue Drop scores (increase of 13 to 29 systems). However, the majority of systems still score below 50% and this is not a commendable position for Free State municipalities. As result, the Provincial Blue Drop Score of 64.1% places Free State amongst the least impressive performers on a national scale.



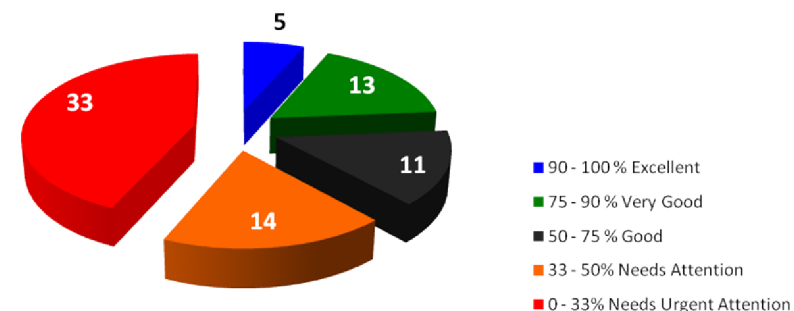
## Blue Drop Assessment Results 2009



## Blue Drop Assessment Results 2010



## Blue Drop Assessment Results 2011



When comparing 2011 Blue Drop results with 2009 and 2010, the following trends are observed:

- ✓ 76 systems are assessed in 2011 compare to only 26 (2009) and 58 (2010)
- ✓ 3 systems achieved Blue Drop Certification, compared to 2 (2010) and 1 (2009)
- ✓ 61.8% systems scored between 0-50% in 2011, which shows an encouraging improvement from the 79% (2010) of sub-standard performers in the province
- ✗ 23.7% of all systems are now in excellent and very good state (2011) compared to 5% in 2010.

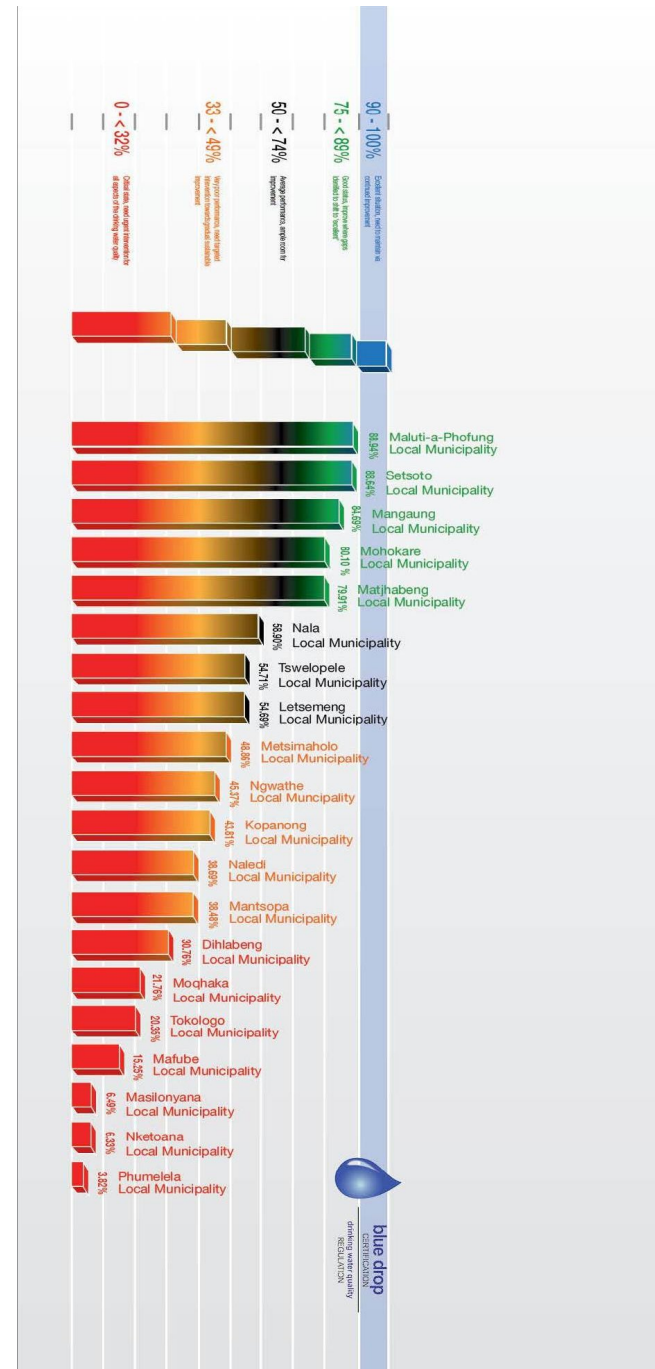
Readers need to be mindful that Blue Drop Certification follows a regulation strategy that facilitates **gradual and sustainable improvement**.... Thereby, Blue Drop requirements become more stringent with every assessment cycle. Municipalities who merely 'maintained' their water on same levels year in and out, is likely to achieve reduced Blue Drop scores, whilst municipalities that drive 'continuous' improvement, are likely to be awarded with improved Blue Drop scores with each assessment cycle. The positive trend in the Free State performance is therefore highly encouraging, despite the relatively low Provincial Score of 64.1%. It can be expected that the Province will improve further along this positive trend and municipalities should commence with early preparations for the 2011 assessment cycle.

### Conclusion

The Blue Drop results for 2011 indicate that municipal drinking water quality management in Free State vary from very good to very poor, as indicated in the Provincial Performance Log. The overall business of drinking water supply and quality management is overall not satisfactory, however positive trends are observed and monitored along various performance parameters for the Province as a whole. Until the non-compliant gaps are addressed and verified with the upcoming Blue drop assessments, the Free State remain in one of the lower performance positions on the national log.

Three Blue Drop Certificates are awarded in Free State:

- ◆ **2 Blue Drops** : Maluti-a-Phofung Local Municipality
- ◆ **1 Blue Drop** : Setsoto Local Municipality



Municipal Blue Drop Score 2011: **30.76%**

Performance Area	Systems	Bethlehem	Clarens	Fouriesburg
Water Safety Planning Process & Incident Response Management		38	38	38
Process Control, Maintenance & Management Skills		83	13	53
Monitoring Programme		30	30	28
Credibility of Sample Analyses		72	72	65
Submission of Results		0	0	0
Drinking Water Quality Compliance		20	20	20
Performance Publication		20	20	20
Asset Management		20	20	20
Bonus Scores		0	0	0
Penalties		0	0	0
<b>Blue Drop Score (2011)</b>		<b>31.49% (↑)</b>	<b>24.49% (↑)</b>	<b>27.88% (↑)</b>
Blue Drop Score (2010)		04.88%	04.88%	04.88%
System Design Supply Capacity (ML/d)		40	NI	NI
System Operational Capacity		NI	NI	NI
Population Served by System		101 000	11 100	12 000
Ave. Daily Consumption per Capita (l)		-	-	-
Microbiological Compliance(12 months)		95.15% (9 months)	22.03% (9 months)	71.13% (8 months)
Chemical Compliance(12 months)		100.00% (6 months)	100.00% (4 months)	100.00% (1 month)
Performance Area	Systems	Paul Roux	Rosendal	
Water Safety Planning Process & Incident Response Management		38	38	
Process Control, Maintenance & Management Skills		3	13	
Monitoring Programme		30	30	
Credibility of Sample Analyses		63	65	
Submission of Results		0	0	
Drinking Water Quality Compliance		20	20	
Performance Publication		20	20	
Asset Management		20	20	
Bonus Scores		0	0	
Penalties		0	0	
<b>Blue Drop Score (2011)</b>		<b>23.01% (↑)</b>	<b>24.10% (↑)</b>	
Blue Drop Score (2010)		04.88%	04.88%	
System Design Supply Capacity (ML/d)		NI	NI	
System Operational Capacity		NI	NI	
Population Served by System		6 800	5 000	
Ave. Daily Consumption per Capita (l)		-	-	
Microbiological Compliance(12 months)		80.33% (9 months)	76.39% (9 months)	
Chemical Compliance(12 months)		No data	No data	

**Regulatory Impression:**

Subsequent to the 2010 assessment, Dihlabeng was to improve information and actual drinking water quality (DWQ) data submission on the Blue Drop System (BDS). Little information was again available to the Department of Water Affairs in 2011 to access the performance of the municipality. Although DWA noted the suspension of staff, as well as the unfortunate death of Mr Andre Sassenberg appointed to address the shortcomings, the importance of providing consumers with safe water infers that no valid excuse exists for providing people with water that poses a risk to public health. DWA is however confident that the "new staff" delegated to improve the situation will furnish the Department with information within 60 days to confirm processes are being put in place to ensure continuous supplies of safe drinking water.

Amongst other, DWA requires proof that a full SANS 241 (South African Standard for Drinking Water) analyses had been done on all the water supplies. Also outstanding is adequate information to access asset management, operational and maintenance practices at the treatment plants, as well as proof of performance publication.

**Findings**

1. In 2010, the DWA acknowledged the risk assessment done by the Dihlabeng Local Municipality on the catchment, treatment works and distribution networks. Dihlabeng is encouraged to further develop the site-specific water safety plans, funds should be made available to implement the findings. Dedicated budget will serve as proof of management commitment.
2. In general, monitoring of drinking water quality appears poor and not aligned to the findings of the risk assessment. Data submissions in all the systems were for less than 12 months, the municipality furthermore omitted to provide all the required information to verify the credibility of the actual DWQ data.
3. Drinking water provided in all the water supply systems were of unacceptable microbiological quality. Consumers are at risk of infection, water within the Clarens system is particularly poor. Disinfection needs to improve. Free available chlorine should be at measurable concentrations at the points of use to safeguard against water quality deterioration in the distribution networks.
4. Although excellent chemical compliance were noted in the Bethlehem, Clarens and Fouriesburg systems, the water was not evaluated against all the chemical health determinands listed in SANS 241. Dihlabeng should improve overall chemical monitoring.
5. Process control is non-compliant with Regulation 2834 at most of the treatment plants. The WSA should ensure opportunities to improve the capacity of the appointed staff.

Municipal Blue Drop Score 2011: **43.81%**

Performance Area	Systems	Bethulie <sup>a</sup>	Edenburg <sup>a</sup>	Gariep <sup>a</sup>	Philippolis <sup>a</sup>
Water Safety Planning Process & Incident Response Management		17	30	17	17
Process Control, Maintenance & Management Skills		65	33	35	45
Monitoring Programme		53	30	55	44
Credibility of Sample Analyses		57	53	58	56
Submission of Results		100	100	100	100
Drinking Water Quality Compliance		85	20	85	85
Performance Publication		0	0	0	0
Asset Management		8	8	8	8
Bonus Scores		0	0	0	0
Penalties		0.3	0	0.3	0.3
<b>Blue Drop Score (2011)</b>		<b>48.89% (↓)</b>	<b>25.54% (→)</b>	<b>46.17% (↓)</b>	<b>45.93% (↓)</b>
Blue Drop Score (2010)		58.13%	NA	71.00%	53.50%
System Design Supply Capacity (ML/d)		4	160	2.7	1.2
System Operational Capacity		38%	81%	48%	50%
Population Served by System		15 000	8 000	6 000	8 000
Ave. Daily Consumption per Capita (l)		101	>500	216	75
Microbiological Compliance(12 months)		100% (11 months)	91.89%	100.00%	100.00%
Chemical Compliance(12 months)		100.00%	100% (9 months)	100% (10 months)	100% (10 months)
Performance Area	Systems	Reddersburg <sup>a</sup>	Springfontein <sup>a</sup>	Trompsburg <sup>a</sup>	
Water Safety Planning Process & Incident Response Management		30	17	17	
Process Control, Maintenance & Management Skills		43	65	65	
Monitoring Programme		30	44	44	
Credibility of Sample Analyses		53	49	49	
Submission of Results		100	100	100	
Drinking Water Quality Compliance		20	85	85	
Performance Publication		0	0	0	
Asset Management		8	8	8	
Bonus Scores		0	0	0	
Penalties		0	0.3	0.3	
<b>Blue Drop Score (2011)</b>		<b>26.54% (→)</b>	<b>41.59% (↓)</b>	<b>47.59% (↓)</b>	
Blue Drop Score (2010)		NA	58.13%	58.13%	
System Design Supply Capacity (ML/d)		160	4	4	
System Operational Capacity		81%	38%	38%	
Population Served by System		8 000	8 000	8 000	
Ave. Daily Consumption per Capita (l)		>500	190	190	
Microbiological Compliance(12 months)		93.83%	96.81%	97.67	
Chemical Compliance(12 months)		100.00% (9 months)	100.00% (8 months)	100.00% (11 months)	

### Regulatory Impression:

Although the Department notes a general decrease in the overall drinking water quality (DWQ) management performance of the Koponong Local Municipality as indicated by the 2011 Blue Drop score, the increase in registered supply systems imply that the DWA could perform a more focussed, system specific assessment. This allowed for improved identification of problem areas.

KoponongLocalMunicipality presented little information for the 2011 assessment. DWA regards this failure of the municipality to provide information during, or after the assessment as promised, as indicator of poor commitment by the WSA to comply with the requirements of good DWQ management. Information provided by Bloem Water as bulk supplier equates most of the score awarded to the municipality per criterion.

### Findings

- While the municipality again provided little data to confirm minimum monitoring of DWQ within the distribution networks, Bloem Water provided significantly more microbiological data on the final water at the treatment plants. DWQ at the treatment plants confirmed that the bulk water meets the requirements of the South African national standard for drinking water (SANS 241). Data on certain chemical health determinands was also available this assessment cycle to access the chemical quality of the final water. DWA however still encourages the WSP to test the final water at least once a year for all the determinands listed in SANS 241, while the WSA thereafter maintain risk defined monitoring programmes within the distribution networks.
- Water in the Edenburg and Reddersburg supply systems posed an unacceptable risk to public health due to microbiological non-compliances. Disinfection also needs to improve in the Springfontein and Trompsburg systems to prevent that the water deteriorates to the point that it also poses a risk of infection. Management action and commitment is needed to immediately address the unacceptable situation.
- DWA requires proof that the municipality addressed the failures, comprehensive monitoring furthermore needs to be maintained to confirm that the drinking water remains safe for human consumption at the points of use. A collaborative effort should ensure that the water safety plan developed by the WSP for the catchment and treatment plants extends to the distribution networks.
- DWA notes the continuous improvement of the water safety plan presented by Bloem Water. The WSP is encouraged to keep the document "alive", confirming identification of all hazards, verifying the efficacy of control measures against objective evidence, while also stating firm deadlines for management actions.
- Bloem Water should link all process control staff to treatment plants on the Blue Drop System (BDS), while also making plant specific asset management information available.

Municipal Blue Drop Score 2011: **54.69%**

Performance Area	Systems	Jacobsdal	Koffiefontein	Luckhoff
Water Safety Planning Process & Incident Response Management		49	49	49
Process Control, Maintenance & Management Skills		30	40	60
Monitoring Programme		62	66	59
Credibility of Sample Analyses		93	93	93
Submission of Results		100	100	100
Drinking Water Quality Compliance		100	20	20
Performance Publication		40	40	40
Asset Management		12	12	6
Bonus Scores		8.6	11.3	11.3
Penalties		0	0	0
<b>Blue Drop Score (2011)</b>		<b>70.51%(↑)</b>	<b>50.65%(↑)</b>	<b>51.00%(↑)</b>
Blue Drop Score (2010)		42.50%	42.50%	42.50%
System Design Supply Capacity (ML/d)		3.1	6	0.3
System Operational Capacity		NI	NI	NI
Population Served by System		8 102	13 224	6 042
Ave. Daily Consumption per Capita (l)		-	-	-
Microbiological Compliance(12 months)		98.31%	79.10%	91.04%
Chemical Compliance(12 months)		100.00%	100.00%	100.00%
Performance Area	Systems	Oppermangronde	Petrusburg	
Water Safety Planning Process & Incident Response Management		49	49	
Process Control, Maintenance & Management Skills		60	50	
Monitoring Programme		62	59	
Credibility of Sample Analyses		93	93	
Submission of Results		100	100	
Drinking Water Quality Compliance		20	20	
Performance Publication		40	40	
Asset Management		6	6	
Bonus Scores		11.3	11.3	
Penalties		0	0	
<b>Blue Drop Score (2011)</b>		<b>51.30%(↑)</b>	<b>50.00%(↑)</b>	
Blue Drop Score (2010)		42.50%	42.50%	
System Design Supply Capacity (ML/d)		0.3	0.3	
System Operational Capacity		NI	NI	
Population Served by System		NI	8 164	
Ave. Daily Consumption per Capita (l)		-	-	
Microbiological Compliance(12 months)		80.00%	87.32%	
Chemical Compliance(12 months)		100.00%	100.00%	

**Regulatory Impression:**

Although the Municipality showed improved overall drinking water quality (DWQ) management performance in all the supply systems, water supplied in all the systems except Koffiefontein was evaluated of unacceptable microbiological quality. Water supplied to residents in Luckhoff, Jacobsdal, Oppermangronde and Petrusburg (boreholes) poses a risk of infection to consumers.

LetsemengLocalMunicipality should improve disinfection procedures at all the treatment plants (including the boreholes), free available chlorine monitoring within the distribution networks should thereafter be maintained at a much higher frequency to confirm continuous treatment efficacy. Letsemeng has to provide the Department with information within 60 days to confirm that the microbiological water quality non-compliances had been addressed, municipal management should take accountability for providing residents within their area of jurisdiction with safe water supplies. Failure to do so could result in serious health effects and even loss of human life.

Asset management is reported poor since the municipality presented very little information. DWA however notes that the municipality still awaits process audit reports and an asset register from their service provider. The municipality should ensure receipt of the reports, more importantly, findings should be addressed and control measures implemented.

**Findings**

1. The WSA is encouraged to maintain the registered microbiological and chemical compliance monitoring programmes for all the supply systems, care should however be taken to ensure the monitoring of all risks.
2. The general water safety plan presented for the entire area of supply should be confirmed specific enough to cater for system specific risks. In particular, risks which could affect water quality and ultimately compliance of the drinking water against the South African national standard for drinking water (SANS 241) should be clearly noted. Operational monitoring should also improve to not only include turbidity.
3. Management should support implementation of the water safety plan by allocating dedicated budget.
4. No information was provided to verify maintenance work. Letsemeng should verify that the staff component is competent and adequate for the entire area of supply. Work outsourced should also be shown completed by competent service providers.

Municipal Blue Drop Score 2011: **15.25%**

Performance Area	Systems	Tweeling	Frankfort / Cornelia	Villiers
Water Safety Planning Process & Incident Response Management		18	18	18
Process Control, Maintenance & Management Skills		45	45	45
Monitoring Programme		34	34	34
Credibility of Sample Analyses		5	5	5
Submission of Results		0	0	0
Drinking Water Quality Compliance		0	0	0
Performance Publication		0	0	0
Asset Management		30	30	30
Bonus Scores		0	0	0
Penalties		0	0	0
<b>Blue Drop Score (2011)</b>		<b>15.25% (↑)</b>	<b>15.25% (↑)</b>	<b>15.25% (↑)</b>
Blue Drop Score (2010)		10.63%	10.63%	10.63%
System Design Supply Capacity (ML/d)		2.5	9.6	5.5
System Operational Capacity		NI	NI	NI
Population Served by System		10 000	54 000	32 000
Ave. Daily Consumption per Capita (l)		-	-	-
Microbiological Compliance(12 months)		No data	No data	No data
Chemical Compliance(12 months)		No data	No data	No data

**Regulatory Impression:**

Albeit the municipality provided the DWA in person with more information than what has been loaded on the regulatory system (BDS), drinking water quality (DWQ) management practices were still evaluated poor since the information verified little implementation of best practices and compliance with various legal requirements. Mafube presented no water safety plan, indicating only a recent appointment of a service provider. Alarmingly, no data was also available to access the quality of drinking water to residents. DWA however noted various water quality failures in the past and that the data for 1 month on BDS had been removed just prior to the 2011 assessment. Conservatively, DWA has to regard the water of unacceptable quality.

Asset management was evaluated poor. The DWA Blue Drop assessment team however acknowledge being aware that the Regional DWA office in collaboration with Sedibeng Water is in process of completing technical treatment plant audits, while also updating the municipal asset register. The DWA encourage continuous involvement of the municipality in such support projects, reminding the municipality that while processes are being completed to assist them, DWQ monitoring and submission of data should commence immediately to verify that consumers receive safe drinking water.

Municipal Blue Drop Score 2011: **88.94%**

Performance Area	Systems	Qwa Qwa <sup>a</sup> (Makwane WTW)	Harrismith <sup>a</sup>	Qwa Qwa <sup>a</sup> (Fika-Patso WTW)
Water Safety Planning Process & Incident Response Management		89	89	89
Process Control, Maintenance & Management Skills		100	89	89
Monitoring Programme		84	100	80
Credibility of Sample Analyses		100	84	84
Submission of Results		100	100	100
Drinking Water Quality Compliance		100	100	100
Performance Publication		100	100	73
Asset Management		93	93	93
Bonus Scores		0.2	0.2	1.2
Penalties		0	0	0.2
<b>Blue Drop Score (2011)</b>		<b>95.74%(↑)</b>	<b>95.74%(↑)</b>	<b>86.54%(↑)</b>
Blue Drop Score (2010)		67.00%	65.00%	65.75%
System Design Supply Capacity (ML/d)		6.5	9.6	46
System Operational Capacity		86%	89%	83%
Population Served by System		16 460	45 460	312 742
Ave. Daily Consumption per Capita (l)		339	188	122
Microbiological Compliance(12 months)		100.00%	99.42%	98.70%
Chemical Compliance(12 months)		100.00%	96.49%	100.00%

**Regulatory Impression:**

The DWA notes with pleasure that Maluti-a-PhofungLocalMunicipality (WSA), supported by Map Water (WSP), addressed the microbiological water quality non-compliances that prevented the WSA and WSP attaining Blue Drop status the previous assessment cycle. Blue Drop Status is awarded to 2 of the 3 registered supply systems. Some improvement of the disinfection process at the Patso water treatment works to ensure that the good drinking water is classified as excellent, could result in another Blue Drop.

The municipality and Map Water is encouraged to maintain all procedures to ensure continuous supply of safe water, maintaining the monitoring programmes which provides evidence to the public that the drinking water complies with the South African national standard for drinking water (SANS 241).

**Technical Findings:**

**Fika Patso Water Treatment Works**

- The WSA and WSP should confirm on-site availability of all documentation pertaining operation and maintenance, display of the R2834 classification certificate required.
- Turbidity monitoring of the raw water needs to remain, noting that the plant currently has no filtration process, provision should be made to remove turbidity if the final water becomes aesthetically unacceptable.

**Makwane Water Treatment Works**

- Since the plant operates currently with only one pump, 100% standby-time for chemical dosing is unachievable. DWA however noted that the WSA and WSP ordered a second pump.

Municipal Blue Drop Score 2011: **84.69%**

Performance Area	Systems	Mangaung East (Maselspoort)	Mangaung West <sup>a</sup> (Welbedacht)	Botschabelo / Thaba Nchu <sup>a</sup> (Rustfontein)
Water Safety Planning Process & Incident Response Management		77	66	64
Process Control, Maintenance & Management Skills		60	78	60
Monitoring Programme		77	76	71
Credibility of Sample Analyses		95	100	100
Submission of Results		100	100	100
Drinking Water Quality Compliance		100	93	93
Performance Publication		100	50	0
Asset Management		43	92	65
Bonus Scores		4.2	4.1	6.7
Penalties		0	0.2	0.2
<b>Blue Drop Score (2011)</b>		<b>85.56% (↓)</b>	<b>85.90% (↓)</b>	<b>76.90% (↓)</b>
Blue Drop Score (2010)		95.05%	95.04%	91.77%
System Design Supply Capacity (ML/d)		145	160	118
System Operational Capacity		53%	81%	49%
Population Served by System		350 000	349 000	175 000
Ave. Daily Consumption per Capita (l)		219	371	330
Microbiological Compliance(12 months)		99.30%	99.72%	99.71%
Chemical Compliance(12 months)		100.00%	96.80%	99.80%

**Regulatory Impression:**

Regrettably, MangaungLocalMunicipality and its service provider Bloem Water, failed to provide sufficient information to maintain Blue Drop certification status. DWA couldn't again acknowledge excellence performance since the municipality failed to address shortcomings in the water safety plan prepared in collaboration with DWA prior the 2010 soccer world cup, O&M manuals at all the treatment plants were furthermore evaluated to not address all aspects of operation / maintenance. Other areas of concern include availability and competency of process control staff, while asset management at the Maselspoort and Rustfontein treatment plants requires improvement.

The WSA is encouraged to maintain the excellent quality of water to Mangaung East, efforts should however ensue with Bloem Water to address the fluoride failures reported within other areas of the municipality. Data is available to confirm that the final bulk water from the Welbedacht and Rustfontein treatment plants complied with the South African standard for drinking water (SANS 241), the deterioration of the quality in the distribution network should thus be investigated as part of the water safety planning process noted to be in review this financial year. It is important to note that the municipality and service provider should ensure continuous review of the water safety planning process, the unfortunate inability of the WSA / WSP to address shortcomings / risks highlighted by the DWA assessor team during the 2010 Blue Drop assessment, most probably resulted in the municipality not again achieving Blue Drop certification.

Municipal Blue Drop Score 2011: **38.48%**

Performance Area	Systems	Excelsior <sup>a</sup>	Hobhouse	Ladybrand
Water Safety Planning Process & Incident Response Management		57	50	50
Process Control, Maintenance & Management Skills		25	25	55
Monitoring Programme		74	53	51
Credibility of Sample Analyses		66	68	71
Submission of Results		100	50	50
Drinking Water Quality Compliance		53	10	60
Performance Publication		0	0	0
Asset Management		39	39	39
Bonus Scores		0	0	0
Penalties		0.1	0	0.3
<b>Blue Drop Score (2011)</b>		<b>48.25% (↑)</b>	<b>30.10% (↑)</b>	<b>48.08% (↑)</b>
Blue Drop Score (2010)		24.25%	26.50%	28.50%
System Design Supply Capacity (ML/d)		7.5	NI	NI
System Operational Capacity		NI	NI	NI
Population Served by System		14 871	5 000	34 394
Ave. Daily Consumption per Capita (l)		-	-	-
Microbiological Compliance(12 months)		95.85%	66.67% (11 months)	97.40%
Chemical Compliance(12 months)		100.00%	No data	No data

Performance Area	Systems	Thaba Phatchoa	Tweespruit
Water Safety Planning Process & Incident Response Management		50	50
Process Control, Maintenance & Management Skills		25	25
Monitoring Programme		51	43
Credibility of Sample Analyses		66	66
Submission of Results		20	20
Drinking Water Quality Compliance		55	10
Performance Publication		0	0
Asset Management		39	39
Bonus Scores		0	0
Penalties		0.6	0
<b>Blue Drop Score (2011)</b>		<b>41.61% (↑)</b>	<b>27.53% (↑)</b>
Blue Drop Score (2010)		24.25%	25.00%
System Design Supply Capacity (ML/d)		10.5	7.5
System Operational Capacity		NI	NI
Population Served by System		1 160	5 881
Ave. Daily Consumption per Capita (l)		-	-
Microbiological Compliance(12 months)		97.44% (10 months)	81.40% (10 months)
Chemical Compliance(12 months)		100.00% (1 month)	No data



### Regulatory Impression:

Subsequent to the 2010 assessment, DWA notes that the municipality improved on some aspects of their drinking water quality (DWQ) management procedures (i.e. asset management). Unacceptable microbiological water qualities in the Hobhouse and Tweespruit water supply systems however render all the improvements meaningless if consumers receive water that poses a risk of infection. Information needs to be submitted to the DWA within 60 days to confirm address of the microbiological water quality non-compliances. Municipal management should be aware that failing to comply could result in serious health effects, even death.

The DWA Blue Drop assessment team noted that Mantsopa, in collaboration with the DWA Regional office, developed a water safety plan for the entire area of supply. The municipality is encouraged to continuously ensure that the plan addresses all the potential risks, catering also for system specific risks. Management support is essential for implementation, budget needs to be available to implement and monitor control measures.

Operational and compliance monitoring was evaluated far below the frequencies registered by the municipality on the Blue Drop System (BDS). Mantsopa has to improve their monitoring, taking care to also regularly monitor the control measures that needs to be put in place to address the microbiological failures. The general lack of monitoring for chemical health determinands, in particular the non-compliance to test for a full SANS 241 analysis at least once a year in all the supply systems, reveal serious shortcomings in the risk assessment process followed by the municipality. The municipality must provide data to confirm that the drinking water contains no determinands which could result in serious, irreversible human health effects following prolonged exposure.

### Findings

1. It was noted that the DWA Regional office will assist the municipality to develop operational and maintenance procedures for all the treatment plants. The municipality should own the process to ensure effective operation of the plants by municipal staff following finalisation of the manuals.
2. Mantsopa needs to provide all the required information on BDS to ensure credibility of the DWQ data. BDS data credibility implies that the municipality supplied DWA with all the information needed to confirm the accuracy of the result. This implies amongst others, date of analyses, laboratory performing the analyses and method used to obtain the result.
3. Although legally required to do so, Mantsopa provided no proof of publication on DWQ performance. Constituents have a right to information depicting the services being rendered by the municipality. Part of this communication, which will also prove implementation of the incident management protocol, would be publication of boil water notices.

Municipal Blue Drop Score 2011: **06.49%**

Performance Area	Systems	Brandfort	Soutpan	Theunissen
Water Safety Planning Process & Incident Response Management		4	4	4
Process Control, Maintenance & Management Skills		16	11	21
Monitoring Programme		14	14	19
Credibility of Sample Analyses		5	5	5
Submission of Results		0	0	0
Drinking Water Quality Compliance		0	0	0
Performance Publication		0	0	0
Asset Management		0	0	15
Bonus Scores		0	0	0
Penalties		0	0	0
<b>Blue Drop Score (2011)</b>		<b>03.88% (↓)</b>	<b>03.38% (↓)</b>	<b>07.08% (↑)</b>
Blue Drop Score (2010)		07.00%	07.00%	07.00%
System Design Supply Capacity (MI/d)		5.4	1.032	10.8
System Operational Capacity		NI	NI	74%
Population Served by System		15 000	505	30 394
Ave. Daily Consumption per Capita (l)		-	-	263
Microbiological Compliance(12 months)		No data	No data	No data
Chemical Compliance(12 months)		No data	No data	No data
Performance Area	Systems	Verkeerdevlei	Winburg	
Water Safety Planning Process & Incident Response Management		4	4	
Process Control, Maintenance & Management Skills		11	26	
Monitoring Programme		19	34	
Credibility of Sample Analyses		5	5	
Submission of Results		0	0	
Drinking Water Quality Compliance		0	0	
Performance Publication		0	0	
Asset Management		4	15	
Bonus Scores		0	0	
Penalties		0	0	
<b>Blue Drop Score (2011)</b>		<b>04.43% (↑)</b>	<b>09.08% (↑)</b>	
Blue Drop Score (2010)		03.00%	07.00%	
System Design Supply Capacity (MI/d)		NI	4.6	
System Operational Capacity		NI	NI	
Population Served by System		4 800	19 000	
Ave. Daily Consumption per Capita (l)		-	-	
Microbiological Compliance(12 months)		No data	No data	
Chemical Compliance(12 months)		No data	No data	

### Regulatory Impression:

From a regulatory point of view, drinking water quality (DWQ) management services by the Masilonyana Local Municipality present a high risk situation to public health. The Department of Water Affairs expresses a zero confidence level in the municipality's ability to render safe and sustainable drinking water. The situation demands the attention of the municipal administration and governance, the Regulator trusts that the poor performance against the Blue Drop evaluations will motivate the municipality to rectify the non-compliances without further hesitation or excuse.

Due to the lack of DWQ monitoring, the Department conservatively assumes that the required DWQ compliance with the South African national standard for drinking water (SANS 241) was not achieved. The significance of the potential risks can however not be determined without data. The municipality is required to give special attention to implement an adequate monitoring programme and to adjust process control according to the findings of continuous compliance and operational monitoring. It is furthermore required that municipal management provides leadership in the turn-around of this municipal service. Other aspect to improve includes maintenance and asset management.

The WSA can't expect support from the DWA Regional office or Sedibeng Water to result in positive change if the municipality takes no responsibility for their duties. Accountability of the function remains with the municipality, it therefore remains the duty of Masilonyana to improve on their service delivery.

Noting the continuation of the poor performance since the first assessment of the municipality in 2010, the situation is now classified dire.

Municipal Blue Drop Score 2011: **79.91%**

Performance Area	Systems	Allanridge <sup>a</sup>	Hennenman <sup>a</sup>	Odendaalsrus <sup>a</sup>
Water Safety Planning Process & Incident Response Management		78	78	78
Process Control, Maintenance & Management Skills		95	95	95
Monitoring Programme		44	44	42
Credibility of Sample Analyses		99	99	99
Submission of Results		100	100	100
Drinking Water Quality Compliance		78	85	85
Performance Publication		75	75	75
Asset Management		58	58	58
Bonus Scores		4	3.6	3.7
Penalties		0.2	0.3	0.3
<b>Blue Drop Score (2011)</b>		<b>78.87% (↑)</b>	<b>80.78% (↑)</b>	<b>80.59% (↑)</b>
Blue Drop Score (2010)		NA	47.25%	47.25%
System Design Supply Capacity (MI/d)		360	NI	NI
System Operational Capacity		45%	NI	NI
Population Served by System		23 440	32 140	60 839
Ave. Daily Consumption per Capita (l)		-	-	-l
Microbiological Compliance(12 months)		99.71%	99.81%	99.81%
Chemical Compliance(12 months)		99.79%	99.86%	99.86%
Performance Area	Systems	Ventersburg <sup>a</sup>	Virginia <sup>a</sup>	Welkom <sup>a</sup>
Water Safety Planning Process & Incident Response Management		78	78	78
Process Control, Maintenance & Management Skills		95	95	95
Monitoring Programme		44	44	42
Credibility of Sample Analyses		99	99	99
Submission of Results		100	100	100
Drinking Water Quality Compliance		85	85	85
Performance Publication		75	75	75
Asset Management		58	50	50
Bonus Scores		3.6	3.8	3.8
Penalties		0.3	0.3	0.3
<b>Blue Drop Score (2011)</b>		<b>80.81% (↑)</b>	<b>79.80% (↑)</b>	<b>79.63% (↑)</b>
Blue Drop Score (2010)		47.25%	47.25%	47.25%
System Design Supply Capacity (MI/d)		NI	120	NI
System Operational Capacity		NI	55%	NI
Population Served by System		28 884	85 110	196 731
Ave. Daily Consumption per Capita (l)		-	>500	-
Microbiological Compliance(12 months)		99.81%	99.81%	99.81%
Chemical Compliance(12 months)		99.86%	99.86%	99.86%

### Regulatory Impression:

The Department commends the performance of Matjhabeng Local Municipality, assisted by Sedibeng Water (WSP), during this Blue Drop assessment period. Although effort should still ensue to ensure that all information becomes available on the Blue Drop System (BDS), the municipal officials were truly well prepared for the confirmation assessment. The increase in registered supply systems further imply that the DWA could perform a more focussed, system specific assessment which allows for improved identification of problem areas.

The improved compliance - and distribution network operational monitoring implemented by Matjhabeng towards the end of the assessment cycle, shown to still continue in 2011, are testimony that the WSA could with the appropriate resources and support from municipal management, effect further positive turn-around in their drinking water quality (DWQ) management performance. Dedicated continuation of the monitoring will improve 2012 Blue Drop scores. The Department now expects the Municipality to also prioritise implementation of an Incident Management Protocol while efforts continue to implement the findings of the Water Safety Plan. The further revised Water Safety Plan and related documents presented by Sedibeng Water are evidence of living documents and DWQ management practices, DWA applauds the WSP.

### Findings

1. Drinking water quality in all the supply systems was evaluated of excellent microbiological and chemical quality. A marginal penalty was however applied for insufficient DWQ data submission from Matjhabeng. The performance of the municipality can improve on submission of evidence of risk-based monitoring which includes free available chlorine at points of use.
2. Acknowledging that wastewater management still presents significant challenges, Matjhabeng must maintain the improved monitoring programmes to ensure that sufficient evidence is available to the public to confirm safe water at points of use. In an effort to regain consumer confidence, DWA also encourages the WSA to improve performance publication following the availability of more defensible DWQ data.

Municipal Blue Drop Score 2011: **48.86%**

Performance Area	Sasolburg <sup>a</sup>	Orangeville	Deneysville
Water Safety Planning Process & Incident Response Management	59	22	22
Process Control, Maintenance & Management Skills	100	40	24
Monitoring Programme	30	46	58
Credibility of Sample Analyses	0	40	40
Submission of Results	0	100	100
Drinking Water Quality Compliance	0	85	85
Performance Publication	25	25	25
Asset Management	80	75	75
Bonus Scores	6.8	0	0
Penalties	0	0.3	0.3
<b>Blue Drop Score (2011)</b>	<b>43.06% (-&gt;)</b>	<b>58.10% (-&gt;)</b>	<b>57.68% (-&gt;)</b>
Blue Drop Score (2010)	NA	NA	NA
System Design Supply Capacity (ML/d)	1.8	2.6	5.2
System Operational Capacity	56%	81%	99%
Population Served by System	90 000	6 018	24 490
Ave. Daily Consumption per Capita (l)	<50	349	210
Microbiological Compliance(12 months)	No data	100.00% (10 months)	100.00% (11 months)
Chemical Compliance(12 months)	No data	100.00%	100.00%

### Regulatory Impression:

This was a first assessment of the drinking water quality (DWQ) management business of Metsimaholo. It was noted that even though the performance is not up to standard, reasonable scores obtained in the Orangeville and Deneysville systems were mainly due to relatively good performance in the disciplines of DWQ compliance, submission of data and asset management. On the negative, a full SANS 241 analyses had not yet been done on all the supply systems to confirm the adequacy of monitoring only E. coli, sulfate and fluoride. Although data suggested excellent water quality, the Department applied a marginal penalty until such time of submission of evidence of supply system risk analyses.

Performance assessment in the Sasolburg system presented some difficulties. Although Rand Water provides an equal commendable service to all municipalities, the Sasolburg Blue Drop score only partially reflects the work generally done by Rand Water. As seen in the report card, no data was available on the Blue Drop System (BDS) from Rand Water (nor the WSA) to evaluate the water quality. The WSA and WSP should therefore ensure submission of final water quality data to the Department. Until such time that Metsimaholo also takes responsibility for their functions as WSA within the supply system, DWA will continue to publish the performance as unsatisfactory.

Evidence of a water safety plan, clearly stating roles and responsibilities, timeframes to implement management actions, and budget as proof of municipal management commitment are some of the other aspects of DWQ management that needs to be addressed by the WSA as a matter of urgency. Attention is also required to improve process control, the credibility of DWQ data, while attempts to improve compliance monitoring further include submission of 12 months of microbiological water quality monitoring data.

Municipal Blue Drop Score 2011: **80.10%**

Performance Area	Systems	Rouxville	Smithfield	Zaston
Water Safety Planning Process & Incident Response Management		86	85	85
Process Control, Maintenance & Management Skills		70	60	70
Monitoring Programme		75	75	75
Credibility of Sample Analyses		62	61	59
Submission of Results		100	100	100
Drinking Water Quality Compliance		93	93	93
Performance Publication		75	75	75
Asset Management		45	45	45
Bonus Scores		3.1	3.2	3.1
Penalties		0.1	0.1	0.1
<b>Blue Drop Score (2011)</b>		<b>80.38% (↑)</b>	<b>79.47% (↑)</b>	<b>80.28% (↑)</b>
Blue Drop Score (2010)		54.38%	54.38%	30.38%
System Design Supply Capacity (ML/d)		2.88	2.16	3.024
System Operational Capacity		NI	NI	NI
Population Served by System		10 000	10 000	18 000
Ave. Daily Consumption per Capita (l)		NI	NI	NI
Microbiological Compliance(12 months)		99.10%	98.70%	97.22%
Chemical Compliance(12 months)		100.00% (11 months)	100.00% (11 months)	100.00% (11 months)

#### Regulatory Impression:

Overall, MohokareLocalMunicipality showed a marked improvement in managing drinking water quality (DWQ) services within its area of jurisdiction. While DWQ data showed excellent water quality in all the supply systems, DWA applied a marginal penalty until such time that evidence confirms compliance monitoring for E. coli and Aluminium only provides sufficient information to confirm the suitability of drinking water within the Mohokare municipality.

While DWA encourages the municipality to maintain monitoring against the microbiological monitoring programmes registered per supply system, the WSA should ensure submission of data for a full SANS 241 analyses per supply system as reported to have been done during the risk assessment. Thereafter, Mohokare should improve compliance with implementation of the system specific chemical monitoring programmes. Disinfection should remain a high priority risk area requiring continuous monitoring and improvement, while the municipality also investigate overall turbidity failures as this could affect future acceptability.

On the positive, the Department congratulates the municipality for developing a water safety plan and improving DWQ performance publication to the public. Efforts should remain to improve on processes already underway, simultaneously strengthening attempts to improve staff competency and asset management. Consumers could be placed at risk if the municipality fails to maintain safe drinking water quality with plants not managed at optimum operation efficacy.

Municipal Blue Drop Score 2011: **21.76%**

Performance Area	Systems	Kroonstad	Viljoenskroon	Steynsrus
Water Safety Planning Process & Incident Response Management		0	0	0
Process Control, Maintenance & Management Skills		23	23	23
Monitoring Programme		33	36	36
Credibility of Sample Analyses		84	72	69
Submission of Results		0	0	0
Drinking Water Quality Compliance		30	70	20
Performance Publication		10	10	10
Asset Management		8	0	0
Bonus Scores		0	0	0
Penalties		0.3	0.3	0
<b>Blue Drop Score (2011)</b>		<b>20.91% (-&gt;)</b>	<b>31.51% (-&gt;)</b>	<b>16.35% (-&gt;)</b>
Blue Drop Score (2010)		NA	NA	NA
System Design Supply Capacity (ML/d)		60	6.6	2.5
System Operational Capacity		67%	76%	NI
Population Served by System		155 000	60 000	30 000
Ave. Daily Consumption per Capita (l)		259	84	-
Microbiological Compliance(12 months)		97.50% (2 months)	100.00% (2 months)	80.00% (2 months)
Chemical Compliance(12 months)		100.00% (2 months)	100.00% (2 months)	100.00% (2 months)

#### Regulatory Impression:

The MoqhakaLocalMunicipality performed disappointing and below expectation during their first Blue Drop assessment. The municipality were not prepared for the assessment and data for only 2 months appear on the Blue Drop System (BDS). Drinking water quality (DWQ) management practices are not effectively managed and the expectations of the regulatory programme are largely not being met.

A SANS 241 (South African standard for drinking water) analyses on the Viljoenskroon and Steynsrus water at least once a year provides information to maintain continuous risk-based monitoring, the same information is not available for the larger Kroonstad water supply system. Frequent microbiological failures in Steynsrus and Kroonstad render the water unsafe for human consumption. This is due to ineffective disinfection as further confirmed by the low residual chlorine levels. The municipality is required to give attention to improve this component of water treatment since it significantly affects the ability of the municipality to provide safe water.

The situation in Moqhaka is considered critical from a regulatory view and holds high risk to public health. The situation demands the attention of the municipal administration and governance, the Regulator trusts that the poor performance against the Blue Drop evaluations will motivate the municipality to rectify the non-compliances without further hesitation or excuse.

## Findings

1. Sedibeng Water has been appointed by the DWA Regional Office to assist Moqhaka improve their DWQ management practices. It was reported that a water safety plan will be developed in 2011, draft Operation & Maintenance manuals were also submitted for evaluation. Moqhaka must take ownership for implementation of the processes if they want to see positive change.
2. Process control and operation needs to receive attention to ensure compliance to the regulated drinking water quality standards. Furthermore, training opportunities, asset management, financial data and planning information is notably absent or insufficient.

## Technical Findings:

Both plants were found in a dilapidated condition and in a state of total collapse. Urgent maintenance work must be done. The works' areas are very untidy, water quality monitoring equipment is in a poor condition and not properly calibrated.

### Kroonstad water treatment works

- On the day of the site inspection, 9 February 2011, turbidity of the Kroonstad final water was above 20 NTU for most of the day.

Water Services Authority:	<b>Nala Local Municipality</b>
Water Services Providers:	<b>Sedibeng Water<sup>a</sup></b>

Municipal Blue Drop Score 2011: **58.90%**

Performance Area	Systems	Bothaville <sup>a</sup>
Water Safety Planning Process & Incident Response Management		49
Process Control, Maintenance & Management Skills		88
Monitoring Programme		71
Credibility of Sample Analyses		89
Submission of Results		100
Drinking Water Quality Compliance		20
Performance Publication		50
Asset Management		75
Bonus Scores		4.1
Penalties		0
<b>Blue Drop Score (2011)</b>		<b>58.90%(↓)</b>
Blue Drop Score (2010)		63.56%
System Design Supply Capacity (ML/d)		360
System Operational Capacity		46%
Population Served by System		106 000
Ave. Daily Consumption per Capita (l)		>500
Microbiological Compliance(12 months)		94.59%
Chemical Compliance(12 months)		100.00%

## Regulatory Impression:

DWA continues to regard the performance of NalaLocalMunicipality unsatisfactory since the municipality provided no real evidence to support that they strengthened their role and are taking responsibility for the provision of safe drinking water. The situation demands the attention of the municipal administration and governance, the Regulator trusts that the poor performance against the Blue Drop evaluations will motivate the municipality to take accountability for their functions as Water Services Authority. The most concerning factor is the water that poses a risk of infection to consumers.

The gaps in the current performance of Nala reach into all aspects of drinking water quality (DWQ) service delivery, it is difficult to find but one requirement that is on par with good practice. If not for the performance of Sedibeng Water also reflected in the score, the report card would have portrayed a dismal picture.

To make matters worse, DWA already requested Nala to address the factors again found unsatisfactory. These include the municipality taking responsibility for monitoring at the point of use within the distribution network, to develop and implement a water safety plan, a DWQ incident management protocol with failure response management, as well as publication of DWQ performance to the public.

Municipal Blue Drop Score 2011: **38.69%**

Performance Area	Systems	Dewetsdorp <sup>a</sup>	Vanstadensrus	Wepener <sup>a</sup>
Water Safety Planning Process & Incident Response Management		30	0	30
Process Control, Maintenance & Management Skills		33	10	33
Monitoring Programme		32	7	32
Credibility of Sample Analyses		20	15	15
Submission of Results		100	0	85
Drinking Water Quality Compliance		78	10	78
Performance Publication		0	0	0
Asset Management		8	0	8
Bonus Scores		0	0	0
Penalties		0.3	0	0.3
<b>Blue Drop Score (2011)</b>		<b>43.59% (↓)</b>	<b>05.38% (-&gt;)</b>	<b>43.35% (↓)</b>
Blue Drop Score (2010)		47.50%	N/A	47.50%
System Design Supply Capacity (ML/d)		160	NI	160
System Operational Capacity		95%	NI	95%
Population Served by System		10 000	3 725	15 000
Ave. Daily Consumption per Capita (l)		>500	-	>500
Microbiological Compliance(12 months)		98.99%	66.67% (1 month)	100.00%
Chemical Compliance(12 months)		100.00% (10 months)	No data	96.55% (10 months)

**Regulatory Impression:**

The Naledi Local Municipality performed unsatisfactory during the 2011 Blue Drop assessment inferring that drinking water quality (DWQ) is still not being managed according to the expectations of the regulatory programme. The dismal Blue Drop score of the Vanstadensrus supply system indicates that the municipality does not have the most basic systems, processes and resources in place to efficiently fulfil the municipal service function. Failure of the municipality to attend the confirmation assessment after they provided little information on the Blue Drop System (BDS), further infers poor commitment to improve.

Consumers within Vanstadensrus are at risk of contracting water-related diseases. The situation warrants the immediate attention of municipal management, information should be provided to DWA within 30 days to confirm improved disinfection as control measure. Naledi should also provide DWA with actions plans to improve all aspects of their DWQ management performance, this includes commitment to maintain DWQ monitoring for chemical and microbiological water quality in all the supply systems for 12 months.

Information provided by Bloem Water to access the quality of drinking water in the Dewetsdorp and Wepener systems, along with other information on process control, asset management, etcetera, mostly constitutes the score awarded to the Dewetsdorp and Wepener systems.

Municipal Blue Drop Score 2011: **45.37%**

Performance Area	Systems	Edenville	Heilbron <sup>a</sup>	Koppies
Water Safety Planning Process & Incident Response Management		18	59	18
Process Control, Maintenance & Management Skills		55	95	65
Monitoring Programme		38	45	38
Credibility of Sample Analyses		63	57	65
Submission of Results		0	100	50
Drinking Water Quality Compliance		10	70	10
Performance Publication		25	25	25
Asset Management		0	80	0
Bonus Scores		3.4	2.3	0
Penalties		0	0.3	0
<b>Blue Drop Score (2011)</b>		<b>23.89%(↑)</b>	<b>68.45%(↑)</b>	<b>24.11%(↑)</b>
Blue Drop Score (2010)		16.38%	48.16%	20.38%
System Design Supply Capacity (ML/d)		NI	0.3	NI
System Operational Capacity		NI	NI	NI
Population Served by System		6 392	NI	11 741
Ave. Daily Consumption per Capita (l)		-	-	-
Microbiological Compliance(12 months)		No data	98.75%	No data
Chemical Compliance(12 months)		100.00% (9 months)	92.80%	98.66% (11 months)

Performance Area	Systems	Parys	Vredefort
Water Safety Planning Process & Incident Response Management		18	18
Process Control, Maintenance & Management Skills		68	68
Monitoring Programme		38	38
Credibility of Sample Analyses		65	65
Submission of Results		50	50
Drinking Water Quality Compliance		50	55
Performance Publication		25	25
Asset Management		0	0
Bonus Scores		1.7	0
Penalties		0.3	0.3
<b>Blue Drop Score (2011)</b>		<b>39.55%(↑)</b>	<b>37.86%(↑)</b>
Blue Drop Score (2010)		21.88%	18.38%
System Design Supply Capacity (ML/d)		NI	NI
System Operational Capacity		NI	NI
Population Served by System		48 759	12 061
Ave. Daily Consumption per Capita (l)		-	-
Microbiological Compliance(12 months)		100.00% (2 months)	100.00% (1 month)
Chemical Compliance(12 months)		98.46% (11 months)	100.00% (11 months)

### Regulatory Impression:

Overall, the NgwatheLocalMunicipality showed improvement in Blue Drop scores for all 5 systems when compared to the 2010 results. Areas of concern in clear view, however, include the failure of the municipality to maintain comprehensive microbiological water quality monitoring in almost all the supply systems (for 12 months).

While not specific per supply system, actual drinking water quality (DWQ) in 2010 posed a risk of infection to consumers. Conservatively, the Department has to assume that the required compliance was again not achieved in the systems not monitored (Edenville and Koppies). Lack of 12 months of data furthermore prevents DWA from fully acknowledging the excellent microbiological water quality in the Parys and Vredefort systems. The municipality must improve this component of their performance since it significantly affects the ability of the municipality to confirm safe drinking water.

DWA noted that the WSA appointed a service provider to develop a water safety plan for the entire area of supply. Effort should now ensure completion and implementation of the process which already started in 2010 with risk identification by the municipality. Roles and responsibilities should be clearly stated, control measures linked to each risk, while management shows support for implementation by availing budget. As already stated, the failure of the municipality to maintain monitoring for 12 months, together with proof that comprehensive risk-based monitoring occurs requires urgent attention. Only a full SANS 241 analyses in all the supply systems will provide the minimum information to confirm adequacy of the chemical monitoring programmes.

Further gaps comprise non-compliance with Regulation 2834 (all treatment systems should be classified and process control staff should be shown adequate / competent to maintain processes), insufficient information to access competency of maintenance personnel and poor DWQ performance publication.

Apart from the excellent asset management practices of Rand Water in the Heilbron supply system, asset management as a function of DWQ management appears to be non-existent at any of the systems maintained by the municipality. Consumers could be placed at risk if the municipality fails to maintain safe drinking water quality with plants not managed at optimum operation efficacy.

### Findings

1. Repeated copper and fluoride non-compliances with the South African standard for drinking water (SANS 241) in the Heilbron system, renders the water unsuitable for human consumption. Water quality at the Rand Water treatment plant complies with the standard, it is therefore suspected that the deterioration occurred within the distribution network. The situation warrants an investigation and immediate resolve of the problem.

Municipal Blue Drop Score 2011: **06.33%**

Performance Area	Systems	Arlington	Lindley	Petrus Steyn	Reitz
Water Safety Planning Process & Incident Response Management		0	0	0	0
Process Control, Maintenance & Management Skills		10	0	10	10
Monitoring Programme		18	20	20	18
Credibility of Sample Analyses		16	15	18	10
Submission of Results		0	0	0	0
Drinking Water Quality Compliance		5	25	5	5
Performance Publication		0	0	0	0
Asset Management		0	0	0	0
Bonus Scores		0	0	0	0
Penalties		0	0	0	0
<b>Blue Drop Score (2011)</b>		<b>05.04% (↓)</b>	<b>10.22% (↓)</b>	<b>05.31% (↓)</b>	<b>04.77% (↓)</b>
Blue Drop Score (2010)		17.25%	14.25%	14.25%	22.50%
System Design Supply Capacity (ML/d)		NI	NI	NI	NI
System Operational Capacity		NI	NI	NI	NI
Population Served by System		10 000	10 000	10 000	10 000
Ave. Daily Consumption per Capita (l)		-	-	-	-
Microbiological Compliance(12 months)		<b>71.43% (2 months)</b>	<b>100% (3 months)</b>	<b>85.71% (3 months)</b>	<b>92.86% (3 months)</b>
Chemical Compliance(12 months)		<b>No data</b>	<b>No data</b>	<b>No data</b>	<b>No data</b>

### Regulatory Impression:

The absence of NketoanaLocalMunicipality during the 2011 Blue Drop evaluations, together with the lack of information on the Blue Drop System (BDS), shows that the municipality did little to improve drinking water quality (DWQ) management practices. Compared with the 2010 evaluations, the 2011 performance infer that the municipality is less capable of providing safe drinking water to residents within its jurisdiction.

Of the 4 supply systems registered, drinking water in only Lindley complied with the microbiological requirements stipulated in SANS 241 (the South African standard for drinking water). DWA has however little confidence in the compliance since it was calculated against data for 4 months only. Data on BDS furthermore showed that residents in the remainder of the supply systems received water of an unacceptable microbiological quality. The water poses an unacceptable health risk of infection. No information was available to access the chemical quality of the drinking water.

The municipality has to urgently provide the Department with the required information to access the actual quality of drinking water supplied in the various supply systems. According to section 62 of the Water Services Act (Act 108 of 1997), Nketoana furthermore has to make available all other information required by the Minister of Water Affairs to access the DWQ management performance of the municipality.

Findings of the Blue Drop assessment demand the urgent attention of municipal management and governance to ensure turnaround of this unacceptable situation. People are at risk.

Municipal Blue Drop Score 2011: **03.82%**

Performance Area	Systems	Memel	Vrede	Warden
Water Safety Planning Process & Incident Response Management		0	0	0
Process Control, Maintenance & Management Skills		10	10	10
Monitoring Programme		13	0	0
Credibility of Sample Analyses		66	0	0
Submission of Results		0	0	0
Drinking Water Quality Compliance		13	0	0
Performance Publication		0	0	0
Asset Management		0	0	0
Bonus Scores		0	0	0
Penalties		0	0	0
<b>Blue Drop Score (2011)</b>		<b>09.46% (-&gt;)</b>	<b>01.00% (-&gt;)</b>	<b>01.00% (-&gt;)</b>
Blue Drop Score (2010)		NA	NA	NA
System Design Supply Capacity (ML/d)		NI	NI	NI
System Operational Capacity		NI	NI	NI
Population Served by System		15 000	20 000	15 000
Ave. Daily Consumption per Capita (l)		-	-	-
Microbiological Compliance(12 months)		100.00% (1 month)	No data	No data
Chemical Compliance(12 months)		100.00% (1 month)	No data	No data

**Regulatory Impression:**

PhumelelaLocalMunicipality supplies water to 53 855 residents. Even though it is a legal requirement to provide the Department with information according to section 62 of the Water Services Act (Act 108 of 1998), Phumelela submitted results for only one sample analysed within the Memel water supply system. While this clearly indicates that the municipality does not comply with the legal requirement to monitor the quality of drinking water supplies within its area of jurisdiction, it also means the municipality is guilty of not providing the Minister of Water Affairs with the required information to regulate.

DWA expresses real concern since the quality of the drinking water supplies within all the supply systems cannot be determined from only one sample. Phumelela has to provide the Department with information within 30 days to confirm that the microbiological and chemical quality of water supplied within all the supply systems comply with the South African drinking water standard (SANS 241). The situation demands the urgent attention of municipal management and governance to ensure turnaround of this unacceptable situation. People could be at risk.

The Department furthermore received no information to evaluate the effectiveness of asset management, process control at the treatment plants or the availability of an incident management protocol. Along with the data on DWQ, the municipality also has to provide the other outstanding information required to access the performance of the WSA.

Municipal Blue Drop Score 2011: **88.64%**

Performance Area	Systems	Clocolan	Ficksburg	Marquard	Senekal
Water Safety Planning Process & Incident Response Management		81	81	81	81
Process Control, Maintenance & Management Skills		80	80	40	40
Monitoring Programme		100	99	99	96
Credibility of Sample Analyses		83	83	83	83
Submission of Results		100	100	100	100
Drinking Water Quality Compliance		100	100	100	20
Performance Publication		100	100	100	100
Asset Management		85	96	93	93
Bonus Scores		2	1.6	2.8	8.9
Penalties		0	0	0	0
<b>Blue Drop Score (2011)</b>		<b>94.11%(↑)</b>	<b>95.20%(↑)</b>	<b>91.89%(↑)</b>	<b>73.80%(↑)</b>
Blue Drop Score (2010)		34.13%	37.38%	24.38%	35.13%
System Design Supply Capacity (ML/d)		5.95	15.6	3.16	3.3
System Operational Capacity		13%	83%	41%	85%
Population Served by System		23 180	51 568	21 386	34 181
Ave. Daily Consumption per Capita (l)		<50	250	61	82
Microbiological Compliance(12 months)		100.00%	100.00%	97.78%	93.85% (11 months)
Chemical Compliance(12 months)		100.00%	100.00%	100.00%	99.02%

**Regulatory Impression:**

DWA applauded SetsotoLocalMunicipality last year for commencing an improved monitoring programme, encouraging the municipality at the same time to ensure the submission of a stipulated 12 months' of data. Compliance with these requirements, together with other improvements in the approach of the municipality towards drinking water quality (DWQ) management, confirmed to DWA that the municipality have sufficient procedures in place to continuously provide safe drinking water to residents within its area of jurisdiction.

Of the 4 supply systems registered, Blue Drop status is awarded for the DWQ management practices maintained in the Ficksburg water supply system. Another 2 supply systems, Clocolan and Marquard can with some improvement to particularly asset management and maintenance also attain Blue Drop status. Although DWA acknowledge that access to formal water supply needs to improve within the municipality to ensure that all residents receive potable water within an acceptable distance, residents should be aware that Blue Drop evaluations focuses on assessing the quality of service associated with the formal supply. The Blue Drop status awarded to Ficksburg therefore recognises that the municipality provided consumers with drinking water of excellent quality and that the municipality has processes in place to maintain the safe water quality.

**Findings**

1. Setsoto developed a water safety plan for their area of supply, findings of the risk assessment had been used to align control measures and improve monitoring,



management support and allocation of budget is further proof of commitment towards improved DWQ management.

2. DWQ in the Senekal water supply system was evaluated of poor microbiological quality. The water poses an unacceptable risk to consumers. The municipality should apply the principles of the water safety planning process to ensure that adequate control measures are put in place to provide safe water. DWA requires confirmation within 30 days that the microbiological non-compliances had been addressed.
3. The municipality furthermore provided proof of a generic DWQ failure response plan which provides guidelines and protocols to effectively manage non-compliance incidents. The municipality should implement the protocol to ensure that required boil water notices are issued if the microbiological water quality failures continue in the Senekal supply system.
4. DWQ performance publication to the public improved to the extent that the municipality provided proof that publication occurs in more than one media.
5. Good asset management practices were noted and evidence was provided that funds had been allocated to refurbish the various treatment plants.

Municipal Blue Drop Score 2011: **20.35%**

Performance Area	Systems	Boshof	Dealesville	Hetzogville
Water Safety Planning Process & Incident Response Management		<b>20</b>	<b>20</b>	<b>20</b>
Process Control, Maintenance & Management Skills		<b>70</b>	<b>30</b>	<b>30</b>
Monitoring Programme		<b>5</b>	<b>5</b>	<b>5</b>
Credibility of Sample Analyses		<b>5</b>	<b>5</b>	<b>5</b>
Submission of Results		<b>0</b>	<b>0</b>	<b>0</b>
Drinking Water Quality Compliance		<b>0</b>	<b>0</b>	<b>0</b>
Performance Publication		<b>0</b>	<b>0</b>	<b>0</b>
Asset Management		<b>62</b>	<b>62</b>	<b>62</b>
Bonus Scores		2.8	2.8	2.8
Penalties		0	0	0
<b>Blue Drop Score (2011)</b>		<b>22.85%(↑)</b>	<b>18.85%(↑)</b>	<b>18.85%(↑)</b>
Blue Drop Score (2010)		11.75%	11.75%	11.75%
System Design Supply Capacity (ML/d)		1.2	0.9	1.1
System Operational Capacity		100%	100%	100%
Population Served by System		<b>22 429</b>	<b>6 505</b>	<b>7 268</b>
Ave. Daily Consumption per Capita (l)		<50	<50	<50
Microbiological Compliance(12 months)		<b>No data</b>	<b>No data</b>	<b>No data</b>
Chemical Compliance(12 months)		<b>No data</b>	<b>No data</b>	<b>No data</b>

**Regulatory Impression:**

DWA notes with concern that the municipality showed little improvement of drinking water quality (DWQ) management practices since the 2010 assessment. Last year the Department reported various microbiological and chemical non-compliances against the South African national standard (SANS 241), alarmingly no information on the actual DWQ within any of the supply systems had since been submitted to verify that the municipality commenced with effective treatment, including disinfection to ensure safe drinking water. Conservatively, the Department has to assume that drinking water within all 3 supply systems continue to pose a significant risk to public health.

The lack of information on all aspects of the DWQ management business, with the exception of some information on asset management, indicates that the most basic systems, processes and resources are not in place to efficiently fulfil this municipal service function. To make matters worse, the DWA Regional office in collaboration with Sedibeng Water initiated processes to assist the municipality. The lack of co-operation and commitment by Tokologo, consequently forced the Department to allocate the funds to a more responsive LocalMunicipality. This implies that the lack of processes results from poor municipal staff commitment. It must also be mentioned that the Department was quite surprised to note that the municipal representatives reported during the confirmation assessment that Sedibeng Water was still in the process of assisting them while it had been reported to DWA that Sedibeng terminated the support due to municipal non-commitment.

Municipal management, accountable for basic service delivery, must therefore provide leadership in the turn-around of this unwanted situation.

Municipal Blue Drop Score 2011: **54.71%**

Performance Area	Systems	Bultfontein	Hoopstad
Water Safety Planning Process & Incident Response Management		48	48
Process Control, Maintenance & Management Skills		25	25
Monitoring Programme		46	46
Credibility of Sample Analyses		96	96
Submission of Results		0	0
Drinking Water Quality Compliance		85	20
Performance Publication		40	40
Asset Management		66	66
Bonus Scores		3.8	4.5
Penalties		0.3	0
<b>Blue Drop Score (2011)</b>		<b>62.10%(↑)</b>	<b>43.35%(↑)</b>
Blue Drop Score (2010)		49.88%	49.88%
System Design Supply Capacity (ML/d)		6	3.9
System Operational Capacity		83%	100%
Population Served by System		46 000	32 000
Ave. Daily Consumption per Capita (l)		108	<50
Microbiological Compliance(12 months)		98.21% (6 months)	93.75% (6 months)
Chemical Compliance(12 months)		97.87% (2 months)	100.00% (2 months)

#### Regulatory Impression:

The Department is encouraged to note that the municipality commenced with developing a water safety plan for the entire area of supply. Tswelopele should maintain effort to implement findings of the risk assessment, confirming commitment from management to maintain the microbiological and chemical compliance monitoring programmes followed since July 2010. A concerted effort is also needed to ensure that the municipality provides on the Blue Drop System (BDS) information required by the Minister of Water Affairs to regulate drinking water quality (DWQ) management performance (Section 62 of the Water Services Act, Act 108 of 1997). DWA noted that the municipality continues to make hard copy information available during the assessments that are not available on the BDS.

DWQ in the Hoopstad water supply system was evaluated of unacceptable microbiological quality. The water poses a risk of infection to consumers. Disinfection as the last barrier to provide safe drinking water within the Hoopstad treatment system was shown to be unreliable (41.9% compliance for free available chlorine). Tswelopele must urgently optimise treatment at Hoopstad, also addressing the even lower disinfection compliance at the Bultfontein plant before the microbiological water quality is also compromised. DWA should be provided with information within 30 days to confirm address of the microbiological non-compliances within Hoopstad.

#### Findings

1. Little information was provided to access the operational monitoring programmes maintained at both the Hoopstad and Bultfontein treatment facilities. Tswelopele should

register the programmes on BDS, loading log-sheets as proof that findings of the operational monitoring are used to optimise treatment.

2. DWA was provided no information related to the operational and maintenance procedures (manuals) maintained at the plants. Considering the risks to human health posed by unsafe drinking water, procedures to maintain optimum treatment should be available at all times. Tswelopele should also ensure availability of adequate, skilled process control staff. As per requirement of Regulation 2834, staff should be classified and linked to the respective plants on BDS.
3. Although the Bultfontein supply was evaluated of excellent chemical quality, DWA noted a cadmium failure which the municipality neglected to follow-up with further sampling. Tswelopele should investigate the risk. If non-compliances continue, Tswelopele should increase the monitoring of cadmium while they also investigate treatment options.