IN THE WATER TRIBUNAL
HELD AT PRETORIA

APPEAL NO: WT 03/17/MP

In the appeal of:

ENDANGERED WILDLIFE TRUST	**FIRST APPELLANT**
FEDERATION FOR A SUSTAINABLE ENVIRONMENT	**SECOND APPELLANT**
MPUMALANGA LANDBOU/ AGRICULTURE	**THIRD APPELLANT**

AND

DIRECTOR-GENERAL, DEPARTMENT OF WATER AND SANITATION	**FIRST RESPONDENT**
ATHA-AFRICA VENTURES (PTY) LTD	**SECOND RESPONDENT**

APPEAL DECISION

DATES HEARD: 26 March 2018; 24-26 July 2018; 23-26 October 2018, and 5 December 2018.

DATE OF DECISION: 22 May 2019.

APPEARANCES

Panel:
Prof. T. Murombo – Additional Member (Chair).
Ms. L. Mbanjwa – Deputy Chairperson.
Mr. F. Zondagh – Additional Member.

For 1st and 2nd Appellants: Adv. P. Kennedy with Adv. Du Toit instructed by Ms. C. Horsfield of the Centre for Environmental Rights (CER).

For 3rd Appellants: No appearance.

For 1st Respondent: Adv. K. Moroka SC with Adv. M. Mathapuna – instructed by the State Attorney, Pretoria.

For 2nd Respondent: Adv. M. Oosthuizen with Adv. J. Rust – instructed by Mr. F. Joubert of GF Joubert Attorneys.

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INTRODUCTION AND FACTS OF THE APPEAL

1. This is an appeal by the First to Third Appellants against a decision by the First Respondent to issue a Water Use License (hereafter 'WUL') (Ref: WUL05/W51A/ACFGIJ/4726) to the Second Respondent. The WUL was issued on 7 July 2016. The WUL authorizes the second respondent to conduct specified water use activities associated with coal mining at Yzermyn underground coal mine, situated outside Wakkerstroom, in the Gert Sibande District Municipality, Mpumalanga Province, Republic of South Africa. The original appeal was lodged on 15 December 2016 and amplified a year later on 1 December 2017.

2. The First and Second Appellants are civil society non-profit environmental organisations. The Third Appellants are the provincial affiliates of AgriSA in the province. They host 35 Farmers' Associations across Mpumalanga promoting farmers interests.

3. The proposed Yzermyn Coal Mine will cover the farms Goedgevonden 95 HT; Portion 1 of Kromhoek 93 HT; Remainder of Kromhoek 93 HT; Portion 1 of Yzermyn 96 HT; and Zoetfontein 94 HT. Both the underground mine and the surface infrastructure corresponds to several water bodies including streams, rivers, springs, and wetlands of various limnology. Among them are channelled valley wetlands, which are valley-bottom wetlands with river channels running through them; and seep wetlands, which are on sloping land dominated by the unidirectional movement of water.

4. The area covered by the farms is not a pristine environment in the strict sense of the word. It has been previously disturbed by various anthropogenic activities ranging from crop cultivation, other forms of agriculture, tourism, and historical mining.

5. The appeal was first set down for hearing for on 13 to 15 November 2017. The Notice of Set Down had been issued by the Registrar of the Tribunal on 27 October 2017 (14 days' notice). The Appellants remonstrated against the 14 days' notice which fell short of the 21 days prescribed by the Rules of the Water Tribunal. However, it was the Appellants that had been putting considerable pressure on the Chairperson of the Tribunal to set down the appeal as a matter of urgency. On 23 November 2017 the Appellants again requested the Register to set the appeal down for hearing as a matter of urgency. They suggested dates in February 2018. The Registrar issued the second Notice of Set Down on 1 March 2018 for 26 to 28 March 2018. Soon thereafter on 5 March 2018 the Appellants objected to the 26 to 28 March 2018. The Panel set on 28 March 2018 to hear arguments on the postponement application as every other party to the appeal was ready to proceed. A separate ruling was issued after that hearing in which we dismissed the application for postponement and struck the matter off the roster of pending cases.

6. Reverting to the facts of the appeal, the WUL granted to the Second Respondent authorized the water uses listed below subject to conditions as contemplated by section 21 of the National Water Act (hereafter 'the NWA') read with the specific Annexures containing the special conditions.[1] The authorized water uses were:

> section 21(a)- taking water from a water resource;
> section 21(c)- impeding or diverting the flow of water in a watercourse;
> section 21(f)- discharging waste or water containing waste into a water resource through a pipe, canal, sewer or the conduit;
> section 21 (g)- disposing of waste in a manner which may detrimentally impact on a water resource;
> section 21(i) -altering the bed, banks course or characteristics of a watercourse; and
> section 21(j)- removing, discharging or disposing of water found underground.[2]

7. The water uses in specific detail entail the following:

7.1. impeding or diverting the flow of water in a watercourse (section 21(c) of the NWA) and altering the bed, banks, course or characteristics of a watercourse (section 21(i) of the NWA) pursuant to the construction and operation of the mine and associated infrastructure, including, amongst others:

7.1.1. the construction and operation of underground mining activities and voids on various wetland systems on farms comprising the underground mining area;

7.1.2. the partial destruction of a wetland system on Yzermyn 96 HT: Portion 1 (the surface infrastructure area) pursuant to the construction and operation of a pollution control dam ("PCD") system;

[1] File Number 2, p1365-1415 complete Water Use Licence.
[2] File Number 2, p1365-1366 authorised water uses.

7.1.3. the construction and operation of surface infrastructure within 500 metres of various wetland systems on Yzermyn 96 HT: Portion 127 (the surface infrastructure area);

7.1.4. the construction and operation of borehole pipelines through various wetland systems on Yzermyn 96 HT, Yzermyn 96 HT: Portion 1, Kromhoek 93 HT, Goedgevonden 95 HT and Vaalbank 74 HT;

7.1.5. the construction and operation of various berms (artificial ridges or embankments),canals, pipelines and clean- and dirty-water flo-drains (drainage systems) through and/or within 500 metres of various wetland systems on Yzermyn 96 HT: Portion 1 (the surface infrastructure area); and

7.1.6. the construction and operation of two access roads through and/or within 500 metres of various wetland systems on Yzermyn 96 HT: Portion 1 (the surface infrastructure area);

7.2. discharging waste or water containing waste into a water resource through a pipe, canal, sewer or other conduit (section 21(f) of the NWA) and disposing of waste in a manner which may detrimentally impact on a water resource (section 21(g) of the NWA) (both of these related to wetlands in the surface infrastructure area), including:

7.2.1. discharging water containing waste (treated to a specified quality) into a wetland system;

7.2.2. disposing and storing contaminated water in a PCD on a wetland system;

7.2.3. the construction and operation of a sewage treatment plant on a wetland system;

7.2.4. the construction and operation of a wastewater treatment plant within 500 metres of various wetland systems; and

7.2.5. the use of PCD-process water for dust suppression on roads within the mining area within 500 metres of various wetland systems; and

7.3. removing, discharging or disposing of water found underground (section 21(j) of the NWA), in particular pumping out groundwater flowing into the adit and underground workings situated on various wetland systems on farms comprising the underground mining area.

8. The appeal to the Water Tribunal is made in terms of section 148(1)(f) of the NWA. We shall return to the grounds of appeal later on after disposing of the preliminary issues of our jurisdiction and whether the Appellants have the requisite standing. In order to have locus standi to lodge an appeal in the said section, each Appellant should demonstrate that they lodged an objection to the water use licence application ('hereafter WULA') timeously before the decision was made by the First Respondent on 7 July 2016 t to approve the WULA.

9. The First Appellant first indicated its opposition to the WULA by letter dated 30 September 2015. This letter by the First Appellant constitutes a bare statement of opposition with no articulation of the basis on which they objected to the WULA. The First Appellant purported to substantiate their objection by a second letter dated 16 August 2016, a month after the WUL had been granted. In that letter the First Appellant acknowledge (without prompting) that their objection was late. In particular they state that:

> "The EWT notes this objection is late, however the EWT notes the decision taken in the *Escarpment Environment Protection Group and Another v Department of Water Affairs and Others; In Re:*

Escarpment Environment Protection Group and Another v Department of Water and Others (A666/11, 4333/12, 4334/12) [2013 ZAGPPHC 505 (20 November 2013 (*'EEPG'*)which held that "a written objection submitted after the specified date but in good time to be dealt with during the decision making process must be taken into account." The EWT therefore respectfully submits this objection be taken into account.

9.1. The decision on the WULA having been made on 7 July 2016, this attempt to object was unequivocally out of time and not even supported by the *EEPG* case relied on. Upon hearing submissions, we however ruled that the First Appellant should be heard on the basis of the bare opposition letter of 30 September 2015.[3] We note that it took the First Appellants from 30 September 2015 to 16 August 2016 to submit substantive grounds of objection to the WULA. In the meantime, though it is recorded that all the Appellants were aware of the WULA and were part of eight civil society organisations that on 1 April 2015 appealed against the granting of the mining rights.[4] We note this to dispel any view that any of the Appellants could have been unaware that a WULA was being lodged with the First Respondent.

10. The Second Appellant wrote a letter of objection to the WULA on 27 June 2016,[5] some 10 days before the First Respondent granted the WUL on 7 July 2016. This letter was sent by email dated 27 June 2016 addressed to 'Mokone Manahano' 'for the attention of the Director General.' The First

[3] File Number 5, (Exhibit 1) p2469.
[4] File Number 5, (Exhibit 3) p2486.
[5] File Number 5, (Exhibit 2) p2470 to 2480.

Respondent categorically stated that this letter was not received by the then Acting Director-General and they are not aware who Mokone Manahano is. The Second Appellant submitted that this letter of objection was lodged timeously consistent with the decision in *EEPG*. We ruled indeed that the Second Appellant's letter was submitted on time, assuming it was addressed to the correct recipient. We have previously ruled that any objection submitted before the decision on the WULA is made which raises substantive basis for objection should be regarded as a valid objection.[6] Therefore we accepted that the Second Appellant had the necessary standing to lodge the appeal to the Tribunal.

11. The Third Appellant, through its presentative Robert Davel, wrote a letter commenting, rather raising several concerns regarding the WULA on 19 August 2015. This letter was detailed and was submitted during the public participation process conducted by the Second Respondent. The Second Respondent included the Third Appellant's comments and concerns in the public participation report and responded to all the concerns raised.[7] A specific letter addressing the comments and concerns of the Third Appellant was send by email from the Second Respondent dated 26 August 2015. We therefore ruled that the Third Appellant was properly before the Tribunal and had been diligent in participating in the decision-making process.

[6] See *Werda Handel & Anor v Director-General, Department of Water and Sanitation & Tshedza Mining (Pty) Ltd* Case No. WT25/03/2015 para 45-48.
[7] File Number 5, (Exhibit 3) p2485 to 2493.

12. The Second Respondent had appointed consultants to conduct the public participation process from 19 June to 20 August 2015.[8] This period was subsequently extended to 30 August 2015.[9] Only the Third Appellant actually submitted substantive objections to the WULA on 19 August 2015. These objections are recorded and were responded to by the Second Respondent as part of the public participation process.[10]

GROUNDS OF APPEAL

13. The Appellants articulate seven grounds of appeal which are elaborated on below.[11] Taken together, these grounds of appeal raise the complex question of how public authorities charged with stewardship over the country's natural resources should execute their mandate. *In casu*, at issue are water resources, the coal that lie in the belly of the earth, the flora and fauna that beautify the landscape, nourished by the rivers, rivulates, and wetlands in the area. Unflustered, all these natural resources and ecological processes that sustain them happen in harmonious equilibrium which the law and legal principles, superimposed by humans, purport to mimic and expect regulatory agencies to replicate. Alas, the mere process of living entails us disturbing this natural order in order to sustain life and livelihoods. Achieving the anticipated balance is not an elementary

[8] Notice of public participation is at p4186 Atha Record Vol. 9.
[9] File Number 3, p1962 and 2149 para 6 of Second Respondent opposing papers.
[10] See File Number 5, (Exhibit 3) p2481 to 2493, specifically at p2481,2485 to 2493.
[11] File Number 1 p1 to 59 read with File Number 2 p1299 to 1364.

uncomplicated process. This imbroglio is summarized in the Environmental and Social Impact Assessment Report where, pondering over the *'No Go Alternative'* the report laments that:

> "It is understood that a mineable coal resource exists within the target area, however there is concern pertaining to the sensitivities of the site and potential cumulative impacts that may result with the implementation of the project. The continuation of agriculture will not provide the level of growth to the area that mining may offer, such as increased employment of residents in the area, greater economic input allowing development of the towns and surrounding areas, and greater socio-economic stability in the area. However, the no-go option will potentially preserve conservation important habitats, fauna and flora species and may promote the growth of tourism in the region. It is understood that the employment opportunities (initially 15 years) will benefit previously disadvantaged communities, however, may impact on the surrounding environment to the limited extent that could leave lasting environmental degradation."[12]

This forlorn sentiment is closed off by the statement that perchance proper mitigation measures, appropriate environmental management plans and post-closure reclamation or rehabilitation plans[13] could ameliorate the pernicious impacts of development on the environment. This requires striking a fine balance between sustainably using our water resources while allowing the least environmentally invasive development activities.

14. The combined original and amplified Grounds of Appeal in the Appellants' Notice of Appeal (as amplified) were as follows:

[12] File Number 1, p241-242.
[13] File Number 1, p241-242.

14.1. the First Respondent's failure to "take into account the likely effects of the proposed water uses associated with the proposed mine on the water resource and on other water users as required in terms of section 27(1)(f) of the Act, and to give effect to the efficient and beneficial use of water in the public interest, as required in terms of section 27(1)(c) of the Act;

14.2. the failure by the First Respondent to authorize two water uses associated with the closure of the mine, namely the discharging of water containing waste into a water resource (section 21((f) of the Act), and disposing of waste in a manner which may detrimentally impact on a water resource (section 21(g) of the Act);

14.3. the failure by the First Respondent to apply the 'precautionary' environmental management principle in section 2(4)(a)(vii) of the NEMA as required in terms of section 2(1) of NEMA;

14.4. the granting of an exemption by the DG in terms of regulation 4(b) of Government Notice 704 in respect of water uses associated with the mine, as being unjustifiable;

14.5. the failure by the First Respondent to consider the true socio-economic impact of the water uses, if authorized, as required in terms of section 27(1)(d) of the Act;

14.6. the failure by the First Respondent to give effect to the right to procedural fairness of administrative action in terms of section 3 and 4 of the PAJA and section 33 of the Constitution; and

14.7. the failure by the First Respondent to consider material and relevant information pertaining to the strategic importance of the water use.[14]

15. There are three broad issues that stand out for determination based on these grounds of appeal. These three broad issues suggest that the Yzermyn Mine is going to have several environmental impacts, namely:

15.1. First, the design and method of mining will lead to dewatering of the mine shafts. This is a process in which water is pumped out of the shafts during the operational phase of an underground mine. It is claimed that this dewatering process will lead to a drawdown of groundwater levels thereby impacting water bodies (wetlands, springs and rivers) that are ground-fed or recharged. This will also alter the hydrology of the area.

16. Second, the possibility of decanting or contaminated water that will fill the mine voids post-mining is a major concern. There is a dispute between the parties on the extent to which mining will 'daylight' leading to

[14] File Number 2, p 1303 to 1364, read with File Number 1, p6 to 59.

contaminated water decanting at a different point that that predicted. Second Respondent's claim that their studies show that the two coal seams to be mined lie in a deeper aquifer, which is separated from a shallower weathered aquifer by a semi-permeable dolerite sill. This claimed limited connectivity between the two underground water bodies could mean that the underground fed water bodies rely on the shallow aquifer which will not be impacted by the mining taking place in the deeper Karoo aquifer.[15]

16.1. Once mining stops, water is likely to fill the voids left behind and eventually cause the underground levels to rebound and decant onto the surface. Depending on the presence of pyrite, this decant could become acidic and lead to acid mine draining ('AMD') contaminating both underground and surface water. This will materialise once dewatering stops, and naturally the mine voids fill up. It is estimated that it will take 45-60 years post-closure of the voids to fill up.

16.2. On this issue (decant) there is a dispute as whether sufficient provision is made for a water treatment plant to address this challenge post-closure. This includes whether there is financial provision to deal with this long-term impact. The WUL imposes an

[15] File Number 3, p1717 to 1718; p2146 to 2147. Delta-H Numerical Ground Water Model Report (2014).

obligation on the Second Respondent to develop a plan to manage this problem five years before the end of mining.

16.3. Third, the Appellants argue that these impacts lead to violations of section 24 of the Constitution and granting a WUL in this area which is regarded as a Strategic Water Sources Area (hereafter 'SWSA') and a sensitive environment which is also protected under the National Environmental Management: Protected Areas Act (57 of 2003) is an affront to the precautionary and other principles in the National Environmental Management Act (107 of 1998). While the Appellants, consistent with section 24 of the Constitution, acknowledge the need for justifiable ecologically sustainable socio-economic development, they posit that the economic opportunities offered by the proposed mine pale in significance when juxtaposed to the environmental costs of approving the water usage. The Respondents think and argue otherwise.

16.4. The Second Respondent after several specialist studies proposed numerous mitigation measures for the identified environmental impacts which the First Respondent accepted as adequate and included as conditions of the WUL. The Appellants' case is that the mitigation measures proposed by the Second Respondent and deemed acceptable by the First Respondent are inadequate to address the anticipated environmental impacts in this sensitive

environment. The inadequacy of the mitigation measures argument is substantiated by expert evidence controverting the expert studies submitted by the Second Respondent in its WULA.

16.5. At the outset we note the repeated submission by the Appellants that the existing laws and policies do not prohibit all mining in areas that are as environmentally sensitive as the location of the Yzermyn Coal Mine. A submission on behalf of the Appellants was that "We are not saying that as a matter of law this is a no-go area currently."[16] However, they argue that the sensitivity of the area urges greater caution and heightened scrutiny before such activities are authorised.[17]

HISTORY CONTEXT

17. The complexity of this matter both substantively and procedurally makes it necessary for us to outline the chronology of processes and procedures as that has a bearing on our findings at the end.

18. The Second Respondent (Atha Africa) acquired coal prospecting rights to an area of 8 360 hectares located 58 kilometres southwest of Piet Retief, 13 kilometres southwest of Dirkkiesdorp and 21 kilometres northeast of Wakkerstroom in Mpumalanga. The rights acquired by the Second

[16] Record of Proceedings Vol. 7 p990.
[17] Record of Proceedings Vol. 3 p417, 427 (Le Maitre's evidence); Vol. 4 p553 (Colvin's evidence); Vol. 7 p990 and Appellants Head of Arguments para 19.

Respondent were previously held by BHP Billiton, Ingwe Colliery and Bunengi Mining in that order. The Second Respondent acquired equity in Bonengi Mining in 2011 thereby assuming the ownership of the prospecting rights. These rights had been granted in terms of section 17 (1) of the Minerals and Petroleum Resources Development Act (28 of 2002)(hereafter 'the MPRDA'). The prospecting area covered 12 farms that are privately owned. After an initial exploration process, a second exploration phase took place from July to November 2013.

19. Subsequent to the exploration, the Second Respondent applied for a mining right only in respect of five farms. The main land uses on these farms include agriculture, conservation, grassland areas, cultivated land, forestry areas, vacant land with rivers and wetlands. All the farms lie in the high-altitude grassland biome located in the Wakkerstroom/Luneburg Grassland Threatened Ecosystem. The mine was to use the bord and pillar method with underground drilling and blasting, accessed through two incline shafts or adits. The surface infrastructure was initially to cover over 50 hectares, but it was reduced to approximately 22.4 hectares and is located just outside of the proposed underground mining area on Portion 1 of Yzermyn 96 HT. The proposed underground coal mining area is extensive and is approximately 1 200 hectares. Yzermyn Coal Mine will have the potential to produce 2.2 million tons of coal per annum, with an estimated life of mine (LoM) of approximately 15 years.

20. The Second Respondent applied for a mining right on 19 March 2013 and it was granted on 19 September 2013. It applied for an Environmental Authorisation 9 January 2014, being revised in accordance with a Department of Environmental Affairs letter dated 16 May 2014. After receiving this letter and having to conduct further studies, the Second Respondent appointed EcoPartners to replace WSP. Substantial changes were made to the mine design, layout and surface footprint after the revised studies by EcoPartners.

21. Initially the WSP Environmental (Pty) Ltd conducted the social and environmental impact assessment (ESIA) for the Second Respondent. WSP produced several specialist reports. These included:

    21.1. WSP: Proposed Yzermyn Underground Coal Mine- Hydrological Assessment (16 August 2013).[18]

    21.2. WSP: Specialist Study Socio-Economic Assessment (19 August 2013).[19]

    21.3. Biodiversity Baseline and Impact Assessment (produced together with Natural Scientific Services ('NSS') (September 2013). This report contains seven section namely, B) Floral Assessment, C) Faunal Assessment, D) Aquatic Assessment, E) Wetland Assessment, F) Sensitivity Assessment and G) Impact Assessment.[20]

    21.4. WSP: Geohydrology Impact Assessment (3 September 2013).[21]

[18] Atha Record Vol. 3 p1140 to 1222.
[19] Vol 12 p5487 to 5549.
[20] Atha Record Vol. 7 p3156 to 3458.
[21] Atha Record Vol. 10 p4432 to 4522.

22. Besides WSP, the Second Respondent also enlisted the services of Scientific Aquatic Services (Pty) Ltd ('SAS') who conducted almost similar specialist studies. SAS produced a report containing a Faunal, Floral and Wetland Ecological Assessment and Environmental Assessment and Authorisation for the proposed discard dump as part of the Yzermyn Underground Coal project (February 2013).[22] The initial SAS reports were revised in February 2014.[23] SAS also produced a Wetland Ecological Assessment in June 2014 which was revised in May 2015.[24]

23. XMP Consulting (Pty) Ltd conducted an economic Review of South African Coal Mining Industry for the Second Respondent in October 2013.[25]

24. On 9 January 2014 the First Respondent wrote a letter to the Department of Mineral Resources in terms of section 40 of the MPRDA indicating that it did not support the mining development given several concerns which first needed to be addressed by the Second Respondent. This letter is what led to the revision of the specialist studies by SAS referred to above.

25. The Second Respondent appointed Kara Nawa Environmental Solutions to collate and compile the WULA which was then submitted on 10 March 2014. On 3 April 2014 the Second Respondent had a pre-application

[22] Atha Record Vol. 7 p2927-2965; p3005 to 3066, p3067 to 3109.
[23] File Number 2, p965 to 1088.
[24] Atha Record Vol. 3p1246 to 1369.
[25] Extracts at File Number 3, p1906 to 1917. (Full report at Atha Record Vol. 15 p6634 to 6681)

meeting with the First Respondent representatives. The First Respondent thereafter addressed a letter to the Second Respondent dated 10 April 2014 wherein the Second Respondent was advised that the WULA was incomplete and several documents and studies had either to be submitted or to be revised.[26]

26. Between April 2014 and March 2015 the Second Respondent commissioned further studies or revision of existing studies. These include the SAS Revised reports,[27] APAC Fina Report on Phase 1 HIA for the Proposed Yzermyn Underground Coal Mine (July 2014),[28] EcoPartners: Water Use Research – Downstream Water Usage Report (1 August 2014),[29] and the Delta-H Yzermyn Underground Coal Mine – Numerical Groundwater Model Report (1 August 2014),[30] Workshop on Evaluation for Best Environmental Option (1 September 2014), SimX Consulting: Yzermyn Water Balance Simulation Model (ver.0.8d) Technical Report (5 February 2015), Mindset Mining Consultants: Detailed Surface Water Management Plan (February 2015).

27. The Second Respondent then compiled its Integrated Water and Waste Management Plan for Yzermyn Underground Coal Mine ('IWWMP') in March 2015 with regulator driven revisions being made in August 2015.

[26] Atha Record Vol. 8 p3600-3601.
[27] Atha Record Vol. 3 p1246 to 1479.
[28] Atha Record Vol. 7 p2870 to 2926.
[29] Atha Record Vol. 3 p1481 to 1550.
[30] Atha Record Vol. 3 p1552 to 1636.

28. A revised WULA was submitted on 18 March 2015[31] based on the new studies and design modification consequent upon the feedback and directions from the First Respondent. In response to this second submission, the First Respondent's case manager responsible for the WULA reviewed the WULA and wrote to the Second Respondent on 22 April 2015. This six-page letter contains extensive and incisive comments about missing data, contradictory statements about the mine design and water uses – 18 comments were made in relation to the Bio-Mite Wastewater Treatment Plant, section 21(c) and (i) NWA uses (Pollution Control Dam, adit and platform and impacts on wetlands), wetlands study was incomplete and needed summer data. Issues were raised regarding the overburden stockpiles, onsite sewage storage, water treatment brine crystal storage, impacts of access roads and conveyors, lining of discard dumps and stockpiles on site, SANBI offset guidelines, exactness of siting of activities, water balance report, property zoning delineation of sensitive areas, the need for geotechnical studies. The Environmental Authorisation Record of Decision was required and the IWWMP among other queries raised.[32]

29. Quite relevant to this appeal is that in the said letter of 22 April 2015, the First Respondent, in terms of section 41(2) NWA, explicitly directed the Second Respondent that:

[31] Atha Record Vol. 8 p3547.
[32] Atha Record Vol.8 p 3602 to 3607.

> "Although a Public Participation process was carried out, it was not specific on water use activities as per the NWA. This Department requires that an advert be placed in one newspaper in one language and a period of 60 days for public participation be given in terms of section 40(4) of the NWA."

It was also noted that "Financial provision has not been included, please submit." In addition to the Record of Decision for Environmental Authorisation, and the Environmental Management Plan, the Second Respondent was also directed to submit the Mining Permit, Mining Right and a signed Social and Labour Plan with the WULA.[33] The Second Respondent was given 30 days to rectify all the queries. However, on 19 May 2015 Second Respondent requested for an extension to enable it to meaningfully address the queries raised and comply with the directives.

30. The Third Appellant noted in its comments that on 1 April 2015 a coalition of eight civil society organisations including the Centre for Environmental Rights (First and Second Appellants' Attorneys of record), Association for Water and Rural Development, Earth Life Africa- Johannesburg, Federation for a Sustainable Environment, Ground Work, the Mining and Environmental Justice Alliance Sa (MEJCON) and the Bench Marks Foundation and Endangered Wildlife Trust (EWT) all launched an appeal against the Minister of Minerals against the granting of the mining right to the Second Respondent. Curiously none of them except the Third Appellant appears to have taken an interest in the revised final WULA

[33] Atha Record Vol. 8 p3606.

which had just been submitted on 18 March 2015. Comments on the WULA were invited on 19 June 2015 and similarly only the Third Respondent took an interest and submitted detailed comments.

31. On 12 May 2015 the First Respondent's officer undertook a field site visit in the presence of the Environment Assessment Practitioner ('EAP') to inspect the affected wetland areas. During the visit the officers advised the Second Respondent to pay attention to the concerns raised in their feedback letters.

32. By letter dated 29 May 2015, the First Respondent , through the Acting CEO of the Pongola-uMzimkhulu CMA, gave the Second Respondent until 24 July 2015 to comply with its directives and address queries raised on the WULA. In the said letter emphasis was again placed on the need for a 60-day public participation process. The letter concludes by stating, among other things, that "Due to substantial amount of critical information missing in the application, this Office cannot provide a meaningful technical assessment of the application. This application is regarded as incomplete."

33. The Second Respondent, through its consultants Savannah Environmental (Pty) Ltd published a "*Notice of Public Participation Process in Terms of*

Section 41 (4)[34] *of the National Water Act (Act 36 of 1998) in Support of a Water Use Licence Application for the Yzermyn Underground Coal Mine (DWS Ref No: 16/2/7/W51/Yzermyn)*" in the Volkrust Recorder, Excelsior Nuus/News, Khanyisa Weekly-Gert Sibande all on 19 June 2015. This notice gave the public from 19 June 2015 to 20 August 2015 to participate in the process by submitting comments by email, fax or post. The notices were published in Afrikaans, English and isiZulu.[35]

34. The above notice was accompanied with a display of the draft IWWMP for the 60-day period. By letter dated 22 June 2015 the First Respondent extended the period for submission of revisions by Second Respondent to 30 August 2015.[36] In the meantime the Second Respondent also submitted a "*Motivation for No Provincial Road Wetland Survey and Offset Requirements*."[37]

35. On 25 August 2015 the First Respondent's, Head Office officials, the Catchment Management Agency ('CMA') and the EAP again visited the

[34] Section 41(4) provides that: "A responsible authority may, at any stage of the application process, require the applicant-

(a) to give suitable notice in newspapers and other media-
  (i) describing the licence applied for;
  (ii) stating that written objections may be lodged against the application before a specified date, which must be not less than 60 days after the last publication of the notice;
  (iii) giving an address where written objections must be lodged; and
  (iii) containing such other particulars as the responsible authority may require;

(b) to take such other steps as it may direct to bring the application to the attention of relevant organs of state, interested persons and the general public; and

(c) to satisfy the responsible authority that *the interests of any other person having an interest in the land will not be adversely affected*."

[35] Atha Record Vol. 8 p3614 to 3619.
[36] Atha Record Vol. 8 p3633 to 3634.
[37] Atha Record Vol. 6 p2248 to 2250.

project site to discuss and direct further action on the wetlands, ground water issues and water quality concerns.

36. On 27 August 2015 the revised IWWMP and WULA were submitted to the First Respondent. These revised submissions addressed the concerns raised by the First Respondent during field visits of 12 May and 25 August 2015 as well as comments received from the public during June to 20 August 2015. The accompanying letter also explained how the Second Respondent had addressed each of the queries raised by the First Respondent. It included several annexures. Among these was the Mindset Mining: Yzermyn Mining Project Design Assumptions and Operational Procedures.[38]

37. On 30 September 2015 the First Appellant send the one-page letter which stated that it opposed the WULA.

38. Between September 2015 and April 2016, there were several exchanges between the First and Second Respondents, whilst the latter obtained most of the required confirmations from the local municipality, for example the waste management, zoning and sewage treatment confirmations.

[38] Atha Record Vol. 5 p2033 to 2064. This report, based on hydrological model simulations, summarises the design assumptions and operational procedures for the proposed Surface Water Management Plan (SWMP) for the planned Yzermyn Mine Project.

39. On 10 November 2015 SAS issued a Confirmation of Detailed Wetland Assessment and Delineation based on revisions on the work done by the NSS from 15 to 17 July 2013 and its own verification done in August 2014, and a detailed delineation and mapping exercise done by SAS on 7 November 2014.

40. In 20 April 2016, the First Respondent advised the Second Respondent that its WULA had met all the formal requirements and had progressed to the Application Phase, presumably where it would be subjected to internal technical evaluation by the First Respondent's own specialists with a view to preparing a Record of Recommendations ('ROR').[39]

41. On 27 June 2016 the Second Appellant wrote its letter of objection referred to above which the First Respondent denies ever having received.

42. The ROR was compiled by Ms H Aboobaker on 5 July 2016. The Reserve Determination was requested on 26 October 2015 and completed on 3 May 2016 for groundwater and 1 July 2016 for surface water. The Acting Director-general approved the WULA on 7 July 2016.

43. Throughout the period February 2013 to June 2016 the First and Second Appellants did not participate in the WULA process. Their attorneys of

[39] The ROR is in File Number 2 p1416 to 1467.

record, the Centre of Environmental Rights, also did not participate or submit comments to the First or Second Respondent during June to August 2015 or at any time before the WUL was granted on 7 July 2016.

44. On 15 December 2016 the Centre for Environmental Rights on behalf of First and Second Appellants lodged a Notice of Appeal with Grounds of Appeal against the decision of the First Respondent to grant a WUL to the Second Respondent.

45. It is clear from the record that while the Centre for Environmental Rights purports to act solely as attorneys for the Appellants, they were in fact also involved as interested and affected parties in the WULA process.

46. As noted above apart from the letters of objection written in September 2015, June 2016 and August 2016, the First and Second Appellants did not submit any further substantive comments to the Respondents. The Centre for Environmental Rights state in both the original and amplified Grounds of Appeal that:

    46.1. "The Centre for Environmental Rights obtained the public participation WULA documents from Savannah Environmental (Pty) Ltd, the public participation consultant appointed by Atha [Second Respondent] in respect of the WULA, on 3 August 2015.[40]

[40] File Number 1 p57 (Original Notice of Appeal) and File Number 2 p1358 (amplified Notice of Appeal).

46.2. Documents submitted by the Second Respondent after 3 August 2015 do not go to the core of the grounds of appeal or the WULA itself. These are in fact a letter from First to Second Respondent (26 October 2015),[41] a reply to that letter (10 November 2015)[42] and motivation letter for not having to do a wetland offset (Originally written in May 2015),[43] a final Table identifying risks and mitigation measures (Table-5-7).[44] The two letters are part of a series which the decision-maker exchanged with the WUL applicant in an iterative administrative process. The contents are either directives, queries, or requests for further information or clarifications of technical reports already submitted and that were part of the public participation process. Nothing revolves around this administrative back and forth which warrants a claim that they should have gone back to the public with these letters or clarifications of technical reports. Otherwise the public participation process will go on *ad infinitum*.

46.3. Despite being in possession of all the original technical and specialist studies displayed for public comments (19 June 2015) and available from Savannah Environmental (Pty) Ltd, the Appellants' and their attorneys only purport to note the appeal in December 2016 about six months after the granting of the WUL. On 18 November 2016, a year later, and before lodging the appeal, they commissioned

[41] File Number 3. p1784 to 1788.
[42] File Number 3. p1789 to 1795.
[43] Atha Record Vol. 6 p2248 to 2250.
[44] File Number 3 p1799.

various experts to review the Second Respondent's technical reports which they had access to on 3 August 2015.

46.4. In particular in August 2016, a month after the WUL was granted Ingrid Dennis of the North-West University reports that

> "Catherine Horsfield of the Centre for Environmental Rights NPC approach[ed] the Centre for Water Sciences and management at the North-West University to conduct a review of the specific groundwater documents related to the impacts of the proposed Yzermyn Colliery near Wakkerstroom in Mpumalanga."

46.5. Similarly, GCS Water and Environmental (Pty) Ltd was requested by the CER

> "to assist them with the review of the Integrated Water Use Licence Application (WULA), Yzermyn Integrated Water Use License (IWUL) *issued* and the associated specialist studies pertaining to the IWUL *issued* to Atha-Africa Ventures (Pty) Ltd (Atha) in respect of their proposed Yzermyn underground coal mine…"

46.6. The Appellants attorneys, CER, had the material documents submitted in support of the WULA from 3 August 2015, or they were at least aware of the WULA by August 2015. A year after the WULA came to their attention, the CER launched a Promotion of Access to Information Act request on 13 July 2016. This was addressed to the First Respondent. This was to seek access to WULA documents submitted after 3 August 2015. On the record, and at the hearing there is no evidence of any further engagements between CER (the Appellants' attorneys) *qua* interested and affected parties, who had

access to WULA documents during the public participation period on 3 August 2015 and Savannah Environmental ('the EAP').

46.7. However, they commissioned specialist studies in 2016 after the WUL was granted. The specialist review studies were not placed before the First Respondent when they decided on the WULA. Neither these specialist studies, nor the Appellants and CER existing studies were provided to the Second Respondent's environmental consultants and EAPs prior to July 2018 when the appeal was heard.[45] There is no reason or evidence adduced to explain why these specialist counter studies commissioned by the Appellants' attorneys, were not done in August 2015 so that they could inform and be considered by the decision-maker. Some documents co-authored by the CER itself and other civil society organisation which the CER had been using in its advocacy work, had to be introduced after an application by the Appellants to reopen their case in October 2018, when they were published in 2011. This was before Second Respondent applied for any rights to mine. This is relevant when we address some of the

[45] Exhibit 15 p2779 at p2780. This refers especially to the evidence led by Christine Colvin on the WWF-SA 'Coal and Water Features in South Africa: The case for protecting headwaters in the Enkangala Grasslands' published in 2011, the National Water Strategy of June 2013 (p2883). The WWF-SA report, of which so much was made in evidence was available to the Appellants (the report acknowledges the participation of Koos Pretorius of Foundation for Sustainable Environment, Melissa Fourie of the CER). In the same vein new evidence was introduced such as the draft 'Identification, Delineation and Importance of the Strategic Water Source Areas of South Africa, Lesotho, and Swaziland for Surface Water and Groundwater, Final Integrated Report' WRC Report No. xxxxx prepared by David Le Maitre (Appellants expert witness), Helen Seyler, Martin Holland, Lindie Smith-Adao, Jeane Nel, Ashton Maherry and Kai Witthuser (Second Respondent's expert witness) in March 2018. (File Number 5, (Exhibit 8) p2645 to 2667)This was a Water Research Commission (WRC) Project K5/2431 conducted by the CSIR and Delta-H. At the time of hearing it was still a draft report not publicly available and could not have been before the decision makers in July 2016.

grounds of appeal below and the purposes of the NWA appeal procedure.

47. Bear in mind that the public participation period advertised by the Second Respondent ran from 19 June to 30 August 2015.

48. Nearly a year later on 1 December 2017 the Appellants amplified their Grounds of Appeal, substantially changing several of their arguments and abandoning some that had become indefensible after their specialist reviews.

APPROACH TO THE EVIDENCE

49. We firstly summarise all the evidence led by all the parties in support of their respective cases anchored on the three broad issues in dispute but extending to all relevant factors as required by sections 2 and 27 (1) of the NWA. Thereafter, we address and analyse the grounds of appeal in the context of that evidence, ruling on each as we proceed. While the grounds of appeal guide the Tribunal, we state at the outset that the nature of Tribunal proceedings is now well settled as being a hearing *de novo*. We have previously elaborated our understanding of that characterization of the proceedings. In particular, we restate[46] that the

[46] See *Werda Handel & Anor v Director-General, Department of Water and Sanitation & Tshedza Mining (Pty) Ltd* Case No. WT25/03/2015.

decision appealed against does not immediately become irrelevant merely because we hear appeals afresh.

50. We further reiterate that the appeal procedure in terms of section 148 of the NWA is not provided as a mere platform to have a second decision on a WULA. In other words, the appeal procedure is not for disgruntled objectors to have a different decision regardless of the merits and genuineness of their grounds of disgruntlement. Therefore, the decision appealed against is the starting point for the Tribunal which then has the mandate to admit new and further evidence and decide the matter anew - should it conclude that the grounds of appeal vitiate the decision appealed against. This is especially the case where an Appellant's appeal is largely based on claims that the Responsible Authority failed to do something in its decision-making processes.

SUMMARY OF EVIDENCE ADDUCED BY THE PARTIES.

51. The Appellants called three expert witness only. Firstly, the evidence of Andrew Johnstone, based on the GSC Review of the Second Respondent's specialist reports was led. Then the evidence of David Le Maître of the Council for Scientific and Industrial Research ('CSIR')and Christine Colvin of the WWF-SA on the Water Features Report.

52. The First Respondent called one witness, being the case officer who prepared the Record of Recommendations ('ROR') on the basis of which the WUL was granted. The Second Respondent called four expert witnesses including the leader of a community group from the target area.

53. The evidence we summarise here is extensive, having been led over seven (7) days contained in, the record of documents before us consisted of Appellants' five volumes (File Number 1 to 5 – 3 008 pages) and Second Respondent's documents (submitted as part of the WULA) in nine volumes adding up to 4 265 pages (Atha Record Volume 1 to 9). The Record of Proceedings consisted of 1 051 pages, the Heads of Argument extend to 262 pages, while record of closing arguments, cover 175 pages. The point we are making is that these summaries are, of necessity, very high-level synopsis of what we regard as the relevant aspects of witness testimonies. Detailed evidence is available in the record of proceedings.

FIRST & SECOND APPELLANTS' WITNESSES

ANDREW JOHNSTONE

54. Andrew Johnstone is a hydrogeologist with 36 years' experience in water and environmental consulting in the mining, industrial, waste, oil and agricultural sectors in Africa. He is the Director of GCS Water and Environmental Consultants (hereafter 'GCS') who the CER commissioned

to conduct a review of the Second Respondent's WULA and its supporting documents. GCS produced its first report on 18 November 2016 entitled *'IWULA, IWUL and Specialist Investigation Review of the Yzermyn Colliery Mpumalanga'*. This report was later revised, and an updated version produced on 1 December 2017. From the record, Andrew Johnstone did not personally author the GCS Reports. The authors listed in both versions of the reports are Alvar Koning, Brendon Bredenkamp, Karen King and Kate Langlands, and Andrew Johnstone is listed as 'Document Reviewer' and 'Director' of GCS. Alvar George Koning[47] and Karen King[48] both submitted affidavits confirming the statements in the Appellants' Grounds of Appeal and Amplified Grounds of Appeal in so far as they draw from the GCS Reviews. Both were not called to testify to the contents of the GCS Review, that task being left to Andrew Johnstone.

55. The GCS review set out to do the following a) Review all documents relevant to the hydrogeological component; b) Review wetland reports associated with the WULA and the WUL, c)review hydrological reports, d) review the WULA and the WUL.

56. The purpose of the GCS Reviews is self-evident from the reports. The reports state that,

[47] File Number 5, Exhibit 10, p2669-2670. Koning is an ecologist with a claimed 16 years' experience in environmental sciences field focusing on baseline and environmental impact assessment desktop and field surveys on aquatic ecology, delineation and assessment of wetlands.

[48] File Number 5, Exhibit 11 p2671-2673. King is a professional hydrologist and soil scientist with a claimed 13 years' experience in engineering hydrology and soil science fields in United Kingdom and South Africa. She specialises in mining and development hydrology, surface water availability studies water resources management, wetland delineation by soils and related risk management.

"This report serves to detail the findings of the review undertaken and to highlight areas of concern. The CER requested that the following be specifically undertaken as part of the review:

- GCS to fully and properly assess the environmental impacts of Atha's (and its specialists') model of the mine. GCS was however not required to devise a groundwater model of the mine that would be better e.g. mine layout/operations/mitigation measures that would be less environmentally harmful, a proper monitoring plan, etc.

- GCS to pick up on and highlight any big gaps, inaccurate information, key uncertainties, things that make no sense or have been overlooked, mitigation measures and/or monitoring provisions that are inadequate or unacceptably vague (i.e. cannot be measured, audited or enforced), contradictions/ inconsistencies between specialists, etc.

- GCS to focus on the GN704 exemptions issue with regards to the Hydrology Section.

The GCS review report summarises the findings as follows;

"From the findings detailed in sections 5.1, 5.2 and 5.3, it is evident that several aspects of the specialist investigations need additional investigation (refer to Section 6 for a summary of the findings). The specialist reports compiled for the proposed mining activities have not identified all impacts associated with the planned mine and as a result, the IWUL does not contain sufficient license conditions in order to ensure that the impact of the mine will be able to be mitigated to an acceptable standard. It is not possible to provide proper license conditions without the identification of all impacts and an understanding of the interconnection of the various water resources (geohydrology, hydrology and wetlands)."[49]

57. Among many reports, the GCS review processes included review of the official documents submitted by the Second Respondent in support of it

[49] File Number 3, p1643-1644.

WULA and other reports commissioned by the CER in support of the appeal. Not all these documents served or were available to the decision maker on 7 July 2016.

58. In chief,[50] Andrew Johnstone testified that the geology of the area where Yzermyn Mine is located is characterized by a continuous rock formation. He disputed the assumption by Delta -H of the existence of a semi-permeable dolorite sill between the deeper aquifer (where the Alfred and Dundas coal seams lie and the shallow weathered aquifer that potentially feed seep wetlands and some springs. This testimony was based on his analysis of borehole data from exploration boreholes sunk by the Second Respondent during prospecting.[51] Of thirty-eight exploration boreholes in the area that is going to be mined, only twelve had intersected dolerite above the coal seams, and the depths at which the boreholes intersected dolerite varied.

59. His testimony explained the bord and pillar method and criticized this method as being detrimental to underground water. In particular his evidence was that the mine design and use of this method will lead to dewatering which can impact the underground water levels (water table) and thereby the availability of water to recharge some surface water bodies.

[50] We are indebted to Adv. Kennedy, this summary of Mr Johnstone's evidence in chief (para 56- 65) are extracts from Appellants Heads of Argument excluding his opinion thereon often in footnotes.
[51] Record of Proceedings Vol.2 p132 to p133, Record of Proceedings File 5 p2586.

60. He further averred that given the disturbance of the underground water, the mine incline shafts have to be continuously dewatered (water pumped out) during the operation of the mine and after the mining for a very long time. This could be upwards of 45 years post-mining, during which period the water table will rebound. He testified that the groundwater level would be drawn down to the base (floor) of the Dundas seam.[52] This is because of the permeability between the upper weathered and lower fractured aquifers and because of the length of time that mining will take place, namely over 15 years plus 45 years for rebound to the decant level. Consequently, any springs, wetlands and base flow to streams and rivers which are fed by groundwater will be affected because they will no longer be fed by groundwater.[53]

61. He stated that the area is characterised by high value wetland ecosystems for which a high degree of scrutiny was called for. In developing its models Delta-H, for the Second Respondent, had used Class 1 confidence level of analysis – based on the Australian '*Model Confidence Level Classification- Characteristics and Indicators*' standard which is internationally accepted, and the only standard used to classify these types of models. He testified that given the sensitivity of the

[52] Record of Proceedings Vol. 2 p149, (The coal seam floor cf p. 151 line 11) and Record of Proceedings Vol. 5 p2599 to 2602.
[53] Record of Proceedings Vol. 2 p151 line 21 to p152 line 5 and Record of Proceedings Vol. 5 p2603.

environment on which Yzermyn was planned , a Class 2 or 3 level of analysis should have been used.

62. He provided further evidence that the reports prepared in support of the WULA and the WUL conditions were not sufficient to mitigate the identified potential impacts of the mining on water resources. Mr Johnstone testified that the (current, pre-mining) groundwater level in the area intended to be under-mined coincides in places with groundwater dependent ecosystems, which are fed by groundwater.[54] This includes the Mawandlane River which, in turn, feeds the Assegai River.[55]

63. In relation to decant, Mr Johnstone suggested that the area in which the mine would decant if left uncontrolled would not be the adit, as suggested by Delta-H, but instead a river system in the north-western underground mine area. This assumes 'daylighting' where a seam is mined until to the point where it opens up to the surface.

63.1. The only mitigation measure which could be implemented to prevent uncontrolled decant in this area would be to continuously pump water out of the underground mine voids to maintain the water level below the decant level and then to treat this water in a water treatment plant. Both pumping and treatment would need to

[54] Record of Proceedings Vol. 2 p135 to 136, read with p137.
[55] Record of Proceedings Vol. 2 p137 and p160 to 161.

continue indefinitely. If pumping were to stop, decant would occur at the decant point identified by Mr Johnstone.[56]

63.2. The adit will be 1 496 mamsl (metres above mean sea level). The shallowest surface elevation above the underground mine workings will be 1 458 to 1 468 metres above mean sea level (which is lower than the adit). The floor of the Alfred coal seam will be less than 10 metres below surface in this area.

63.3. After the mine closes, the mine void will fill up with water and the groundwater level will rebound to this decant elevation (being approximately 1460 metres above mean sea level) and will decant onto surface at that level.[57] Mr Johnstone testified that the decant point corresponds with channelled valley bottom wetlands with Category A present ecological state, which according to Atha's wetlands expert, could mean that they are natural and unmodified.[58]

63.4. Mr Johnstone testified that once the groundwater level rebounds to the decant level, and even more so, if the groundwater level were to be maintained below the decant level (by dewatering), a significant part of the mine void would remain unflooded. This area

[56] Record of Proceedings Vol. 3 p330 to 336.
[57] Record of Proceedings Vol. 2 p154.
[58] Record of Proceedings Vol. 2 p176 and Record of Proceedings Vol. 5 p2618 (See SAS 2015). assessment Record of Proceedings Vol. 2 p1046 and 1041).

would have the potential to generate poor quality leachate and AMD indefinitely.[59]

63.5. As regards the quality of the decant Mr Johnstone testified that sulphides are found in coal bearing strata.[60] These sulphide minerals (especially pyrite or "fool's gold") come into contact with water and oxygen during mining. They oxidise through several chemical reaction pathways to form sulphuric acid and iron. This in turn leaches metals from the rock formations it comes into contact with. This process leads to elevated concentrations of metals and salts (mostly sulphates) in the water and a decline in pH (acidification). Mr Johnstone explained that the quality of decant varies between mining areas and depends on a range of things including how much the mine is exposed to oxygen, whether the floor or the roof is exposed, and where pyrite occurs. But data from a range of coal mines in the Kwa-Zulu Natal coalfield within 150 km of the mine which have mined the same coal seams (Alfred and Dundas) show possible AMD in decant water.[61]

63.6. Mr Johnstone claimed that the decant water quality (if left untreated) would not comply with the water quality limits specified in the water

[59] Record of Proceedings Vol. 2 p161, p181, p183; Record of Proceedings Vol. 5 p46-47.
[60] Record of Proceedings Vol. 2 p178 lines 3-10; Record of Proceedings Vol. 5 p2621.
[61] Record of Proceedings Vol. 2 p177; and p177 to p178.

use licence.[62] Mr Johnstone emphasised that because the GCS assumed decant point is in the river system in the north-western portion of the underground mine area and not the adit, Atha would need to pump water continuously out of the underground mine voids to maintain water levels below the decant point. This water would need to be treated in a water treatment plant until water quality stabilises to a level where decant can be allowed.[63] Mr Johnstone guessed at one point that this might be at least 20 years (post-closure).[64]

63.7. Mr Johnstone confirmed the findings of the GCS review regarding further problems with the water treatment plant as a mitigation measure, including that the impact of discharge of treated water into the wetlands is not known.[65] Mr Johnstone reiterated that the volume of water to be treated in the water treatment plant is also not known because of the large inflow range in the Delta-H report.[66]

63.8. Atha's approach as regards a water treatment plant post-closure is that the water treatment plant which has been authorised for the operational phase can be adapted for use for the treatment of

[62] Record of Proceedings Vol. 2 p180 line 19 to p181 line 2 and Record of Proceedings Vol. 5 p2624.
[63] Record of Proceedings Vol. 2 p194.
[64] Record of Proceedings Vol. 2 p195.
[65] Record of Proceedings Vol. 3 p1653, 1666, 1667 and 1674; Record of Proceedings Vol. 2 p191; p193.
[66] Record of Proceedings Vol. 2 p192 and 195; Record of Proceedings Vol. 3 p296. Table 8.2 in the Delta H report (Atha Record Vol. 3 p1607 to 1608.)

decant 45 years after closure. Mr Johnstone testified however that one cannot simply use the same water treatment plant as was used in the operational phase (whether modular or otherwise) because it will take 45 years for decant to begin. During that time, the water treatment plant would be left standing and would need to be recommissioned again.[67]

64. Commenting on the use of grouting as a mitigation measure to reduce dewatering, Mr Johnstone stated that the efficacy of grouting as a mitigation measure in the proposed mine has not been assessed or simulated by Delta H. It is therefore not known whether it might be effective or what impacts of its own it might have.[68]

64.1. Mr Johnstone confirmed the findings of his GCS Review that grouting is very seldom used in coal mines due to safety risks arising from uncontrolled water inrushes. Grouting can lead to the build-up of pore pressures with consequent underground rock stability issues. It can result in sudden inrushes which can lead to an unsafe mining environment.[69]

64.2. Thirdly, he testified that grouting is a large operational expense and it is usually too expensive to grout the whole of the underground

[67] Record of Proceedings Vol. 3 p294 to 295.
[68] Record of Proceedings Vol. 3 p.1696.
[69] Record of Proceedings Vol. 3 p1696.

workings. The GCS Review report pointed out that in any event, (perhaps because of the lack of attention given to it in the water use licence application), grouting has not been included as an express condition of the water use licence.[70] Mr Johnstone confirmed that it is difficult to grout excessive inflows in coals mines because grouting creates groundwater heads (or a build-up of pressure) outside the mine void which leads to a health and safety risk should the grouting fail. It is therefore not usually done in coal mines. The modus operandi is instead to dewater the mine by pumping and to avoid creating barriers to groundwater inflow. He also testified that it is usually too expensive to grout the mine effectively.[71]

65. In cross examination Mr Johnstone confirmed some of the GCS Review findings awhile also making concessions on several aspects.

65.1. Mr Johnstone agreed with the conceptualisation of three aquifer systems.[72] He stood by his testimony that the shallow weathered aquifer and the deep fractured aquifer are hydraulically connected, so that water is able to move between them.[73] There is no zone of unsaturation between the shallow weathered aquifer and the deep fractured aquifer system. This is one continuous water body and the

[70] Record of Proceedings Vol. 3 p1696.
[71] Record of Proceedings Vol. 2 p186.
[72] File Number 5 p2576.
[73] Record of Proceedings Vol. 2 p124.

difference between the two aquifer systems is the degree of permeability which characterises them.[74]

65.2. He further confirmed that Delta-H's numerical model had assumed limited connectivity between the shallow weathered and deep fractured aquifers and that this had resulted in the cone of dewatering being far more pronounced in the actually mined, deep fractured aquifer than in the shallow weathered aquifer.[75] The absence of a continuous semi-permeable dolerite sill between the upper weathered and lower fractured aquifers means that there is a greater hydraulic connection between the two aquifers than was modelled by Delta-H. The effect of this is that the simulated drawdown cone in the upper weathered aquifer is likely to be larger than was predicted by Delta-H, and the impact on the aquifer and the wetlands associated with the aquifer would be greater.[76]

65.3. Mr Johnstone testified that there would certainly be areas where horizontal permeability is greater than vertical permeability, as for instance along bedding planes. But in areas where there is fracturing or faulting,[77]that would give rise to vertical permeability.[78]

[74] Record of Proceedings Vol. 2 p124.
[75] Record of Proceedings Vol. 2 p125 to 128; and File Number 5 p2577-2582.
[76] Record of Proceedings Vol. 2 p134 to 135.
[77] File Number 3 p1562; Atha Record Vol. 3 p1570.
[78] Record of Proceedings Vol. 2 p216, He also testified that shale is permeable (Record of Proceedings Vol. 2 p222.

65.4. When it was put to Mr Johnstone in cross-examination that the specialists all agree that there is some permeability between the shallow weathered and the deep fractured aquifers, and that what is in dispute is a question of degree, he qualified his evidence that the degree of permeability becomes less important the longer the period of dewatering. At the end of a period of dewatering of 60 years (15 years of mining plus, after cessation of mining, 45 years for groundwater levels to recover to the decant level), the upper weathered aquifer will have been completely dewatered even if the upper and lower aquifers were separated by very impermeable rock.[79]

65.5. Under cross-examination, it was put to Mr Johnstone that the fact that "Faults" are also listed in Table 7.1 is an "indication that that [Delta-H] provided for fractures in the dolerite sill".[80] But Mr Johnstone pointed out that the permeability assigned to the faults by Delta-H is in fact lower than the permeability assigned to the aquifer, which means that the faults were not modelled to transmit water vertically downwards.[81] This despite Delta-H's conceptual model of the deeper fractured aquifer being that "groundwater flow is governed by secondary porosities like faults, fractures, joints, bedding planes or

[79] Record of Proceedings Vol 2. p238 to 239.
[80] Record of Proceedings Vol. 2 p. 249.
[81] Record of Proceedings Vol. 3 p322. Atha Record Vol. 3 p1603.

other geological contacts, while the rock matrix itself is considered impermeable".[82]

65.6. In relation to dewatering and dependence of some wetlands and rivers on underground water, he conceded that even based on his presentation, none of the surface water bodies actually depended on ground water recharge except perhaps one river, the Mawandlane. However, he also conceded that even the Mawandlane river relied mainly on rain runoff than groundwater recharge. Mr Johnstone eventually did say that "what actually happens there is that we do not know for instance what that spring – why that spring is created. It could be a dolerite sill it could be a zone of permeability. We do not have enough information on there. This qualified or raised doubts on most of the evidence which assumed that surface water bodies relied heavily on groundwater.[83]

65.7. In cross-examination Mr Johnstone also conceded that there could be two water tables underground, as opposed to one contiguous underground water level. This inexplicably despite the absence of a dolerite sill, as he claimed in chief. It could be due to a clay layer of low permeability.

[82] Delta H in Atha Record Vol. 3 p1570.
[83] Record of Proceedings Vol 2. 146-147

65.8. On the issue of whether a Class 2 or 3 confidence should have been modelled rather than Class 1. Mr Johnstone insisted that a Class 3 model was possible with more data and studies. It was put to him that such data and information to increase the confidence level could only come from some actual physical mining activities as per the Indicators in the Standards Document. In other word Class 2 or 3 assumed a year to five years of mining activities to collect enough time series data. Despite this being clearly stated in the Model Confidence Level Classification[84] Mr Johnstone insisted that Class 3 calibration did not require any mining activity. Such a high level would be used in construction such as for nuclear power plants. In cross examination Mr Johnstone's evidence was demonstrated to be unrealistic and later on unequivocally controverted by Dr Witthüser.

65.9. Mr Johnstone's evidence relating to the mitigation measures and the post-closure treatment plant was subjected to field-based evidence led by the Second Respondent. This is important given that Mr Johnstone conceded that the GCS Review was essentially a desktop review of the field based reports prepared and submitted by the Second Respondent in support of the WULA. While he visited the area, he admitted that GCS did not do any ground-truthing or field studies of their own. The GCS focused on 'pocking holes' in the specialist reports prepared by Second Respondent's.

[84] Model Confidence p2642.

65.10. Consequently, there are visible contradictions, baseless assumptions, and gaps in Mr Johnstone's evidence. In one breath he stated that underground mining requires dewatering which will affect groundwater fed springs and wetlands. In another, he agreed, and his presentation model showed no real connection between most of the rivers, wetlands, and springs to the underground water.

65.11. Mr Johnstone also testified that the Delta-H model was flawed because it used a *steady state* and did not attempt *transient state* model. Confronted with the evidence that the steady state is the one that provides the worst-case scenario, Mr Johnstone could not maintain his view that the steady state was the wrong state to use for the model.

65.12. Mr Johnstone also crucially admitted that, upon his visit to the area he could not comment on whether the wetlands were previously disturbed because he was not a wetlands expert. Nevertheless, some of his evidence and the GCS reviews purported to provide expert comments on the state of the wetlands and the impacts of the mining on same. This puts the veracity of his testimony on wetlands into question.

65.13. Upon being presented with the evidence of pre-existing adits, some of which are 4 metres wide and could not have possibly been artisanal mining, Mr Johnstone's evidence that historical mining was small -scale artisanal was controverted. He visited two of the over 14 adits. Under cross-examination he conceded that water in the historical adits did not show connection with underground water. However, to his credit, no one presented conclusive evidence on the state and possible cause of the state of the water in the historical adits.

65.14. Under cross-examination by the First Respondent, Mr Johnstone admitted that his testimony and expertise would have been useful had it been presented to the First Respondent in July 2016. However , it was now presented as *ex post facto* analysis and there was no explanation why the Appellants did not provide his expert review during the public participation process so that the First Respondent could have taken his comments and opinion into account. In other words, the First Respondent put it to Mr Johnstone that the GCS reviews and his testimony have the benefit of hindsight.

65.15. Mr Johnstone also agreed that several conditions in the WUL address the problems the GCS review has identified, albeit, he challenged the adequacy of some of the licence conditions. For instance, lack of specific financial provision, and lack of a reclamation or

rehabilitation plan post-mining to deal with decant and post-closure water treatment.

65.16. Upon further questioning regarding the point of decant and whether any miner can pursue a seam until daylighting, Mr Johnson responded that he did not know if the Second Respondent would mine the seams to daylight at the point of decant that he had assumed.

65.17. Upon being asked whether treatment of decant would be sufficient as a mitigation measure, Mr Johnstone agreed that it is possible but highlighted that no clear provision is made for post-closure water treatment plant for the long duration that the mine is likely to decant.

LE MAÎTRE

66. Dr Le Maître is a principal researcher at the Council for Scientific and Industrial Research ('CSIR') in Stellenbosch. His expertise is in ecosystem services assessment and mapping, particularly the linkages between biodiversity, ecosystem services and land-use, focusing on ecohydrology and water resources. He has more than 28 years' experience in his field.

67. He was called in chief to testify on the strategic importance of the Enkangala as a Strategic Water Source Area ('SWSA'). He was part of the

team of researchers who authored the report commissioned by the Water Research Commission ('WRC') in April 2015 entitled *"Identification, Delineation and Importance of the Strategic Water Source Areas of South Africa, Lesotho and Swaziland for Surface Water and Groundwater',* dated March 2018.

68. This technical and voluminous 278-page report aimed to develop an integrated method to identify and delineate the SWSAs for surface and for groundwater; to link the SWSAs and their associated water resources to key benefit flows; and to identify key pressures and recommended management and protection options for the SWSAs.

69. The enigma of the report at issue is that it was a 3-year project initiated by the WRC and implemented by the CSIR (represented by Dr LE Maître who is a witness for the Appellants) and Delta-H Water Systems Modelling (represented by Dr Witthüser who is the lead witness for the Second Respondent in this appeal). Delta-H prepared the specialists reports for the Second Respondent's WULA. It was an intriguing paradox that the two experts therefore appeared on the different sides of this appeal presenting completely different expert evidence. Perhaps this not only confirms the complexity of the issues raised by this appeal, but also at another level the inexactness of scientific evidence as an instrument to guide environmental decision-making.

70. Dr Le Maître gave evidence that one of the drivers of the SWSA project was the

> "issue of the poor state of the rivers in the country and the need to conserve the rivers, and particularly the headwaters of the rivers. The other concern is that as a country we are clearly having water problems. The summer rainfall area has experienced water problems, the winter rainfall area is still experiencing severe water problems, and we need to find ways to protect what water we have and ensure that we maintain the quality and quantity of that water."[85]

The specific report in issue here investigated the spatial overlap between SWSA and coal deposits in South Africa at a national level. It was not a report for any specific localised ecosystem.

70.1. In this regard some coal fields overlap 100 per cent with SWSA. This was the case with Ermelo coal fields. The nearby Bellengeich overlapped to the extent of 42 per cent. The Utrecht coal field of which the Alfred and Dundas forms part, are in the Enkangala Drakensberg SWSA. The SWSA in this area overlaps to the extent of 15 per cent with underlying Utrecht coal field. The Yzermyn Mine footprint is only a tiny part of the Utrecht coal fields.[86] The remainder of the 15 per cent of the coal deposit lie outside the SWSA.

71. He provided evidence that two tributaries of the Asseggai River start in the area partly covered by the Yzermyn Mine and they form part of the headwaters of this important river. These are the Mkusaze River which goes

[85] Record of Proceedings Vol. 3 p407.
[86] Record of Proceedings Vol. 3 p406.

up to the northwest and the Mawandlane River. Headwaters of a river system are parts of a river that produce most of the water in the river. He stated that 10 per cent of the country's surface land supplies 50 per cent of the national water needs.

72. In the 2013 version of the SWSA study the Yzermin Mine footprint fell within the Enkangala Drakensberg SWSA.[87] It remains part of the SWSA in this 2018 draft report. Strategic Water Source Areas form part of the 2013 National Water Resource Strategy, which is a statutorily prescribed instrument.[88]

73. Under cross examination Dr Le Maître stated that the fact that any area falls within a SWSA does not, and cannot, *per se* prohibit mining activities in the area. Part of the outputs of the SWSA project are guidelines for the management and implementation of mine water usage in SWSA which assumes the permissibility of mining in such areas.[89] These guidelines are recommendations on how people should treat water resources in SWSAs.

73.1. At the date of this hearing these guidelines are not yet published, but they have been proposed. Similarly, the main SWSA report itself although finalized in March 2018, it has not yet been approved and published by the WRC.[90] Everything remain in draft form, which draft

[87] Record of Proceedings Vol. 3 p412, and see the map at Record of Proceedings Vol. 5 p. 2668 (This formed part of the amplified appeal File Number 2 p1317 para 29.13.
[88] Record of Proceedings Vol. 3 p412; File Number 5 p2883-2903. (p2888) read with Section 7 NWA.
[89] Record of Proceedings Vol. 3 p417.
[90] Record of Proceedings Vol. 3 p418.

were not before the First Respondent.[91] Even the First Respondent's Draft National Water and Sanitation Master Plan of 13 November 2017 which makes references to SWSAs is still a draft document.

73.2. It is important to highlight at this stage that as of today 26 July 2018 the reports and studies which Appellants' expert witness testified to regarding the strategic importance of the water in the area covered by the Yzermyn Coal Mine are draft documents. They are neither in the public domain, nor legally binding as section 27 (1) NWA relevant factors to be considered by the responsible authority deciding today on a WULA. Critically, we also note, for the record, that the SWSA reports and the draft reports were not before the decision-makers or any of the parties in July 2016 when the decision on the WUL being appealed against was made. The probative value and relevance of these national level studies and reports for a micro-level project-based decision is therefore put into serious doubt.[92]

73.3. On the specific question of whether coal mining is necessarily incompatible with the SWSA Report, Dr Le Maître responded that "It is not incompatible, no. It is not recommended, but it is not incompatible. And indeed, certain forms of coal mining which [do]

[91] Record of Proceedings Vol. 3 p425.

[92] We note this given the emphasis by Appellants' counsel of the decision of the court in *MEC for Agriculture, Conservation, Environment and Land Affairs, Gauteng v Sasol Oil and Another* [2006] 2 All SA 17 (SCA) para 19. This only applies to valid and final policy documents developed for the purpose of guiding decision makers with sufficient specificity. This is not the case with the SWSA Reports and other national strategic reports that could guide national policy making but cannot guide specific decision-making at a project level basis.

not lead to extensive acid mine drainage could be compatible."[93] His view on this was unquestioned.

73.4. Dr Le Maître also agreed, in response to a question, that there may be an inflow of 5.7 litres per day into the Assegai tributaries which amounts to 180 000 cubes per year, which represents 0.13% of the mean annual runoff for this quaternary catchment. He conceded that quantitatively this is an insignificant inflow, but he emphasized that qualitatively it could have deleterious impact on the receiving water resource.[94] This can be mitigated with appropriate and effective water treatment measures.[95]

73.5. As to whether the report is a strategic national study which may not provide guidance on localised decision-making, Dr Le Maître responded that the data used was at micro-level of 1.8 by 1.8 kilometres. However, he categorically stated that the intent of the study and report is to provide a national context and recommendations.[96] He also noted that the runoff data used was based on a model and not the actual observed run-off.[97]

74. At the end of Dr LE Maître's evidence the Appellants' counsel closed the First and Second Appellants' case. The Third Appellants was not

[93] Record of Proceedings Vol.3 p417.
[94] Record of Proceedings Vol. 3 p421 (he states, "It sounds like [a] small amount, but the main problem with the mining is not the quantity of the water as much as the quality of it, and the quality can still have a very substantial effect even though it is a small proportion of the impact.")
[95] Record of Proceedings Vol. 3 p 422.
[96] Record of Proceedings Vol. 3 p428.
[97] Record of Proceedings Vol. 3 p430.

represented and led no evidence as a result. The hearing was adjourned to October 2018.

75. When we resumed the hearings on 23 October 2018, the Appellant had secured the services of Adv P Kennedy and the Appellants applied to re-open the First and Second Appellants' case in order to call one more expert witness. The Respondents opposed the application given that the evidence sought to be led was not new and should have been available to the Appellants as early as 2011. The parties addressed extended arguments on this issue at the end whereof we ruled that the Appellants can reopen their case and lead the evidence of Christine Colvin. We accepted that no prejudice would be suffered by the Respondents, and indeed in their submission Respondents' did not demonstrate any prejudice that would be suffered. Intending to have a full ventilation of the issues we allowed the evidence of Ms Colvin.

75.1. We noted however, with a degree of perturbation, that the WWF-SA entitled '*Cal and Water Futures: The case for protecting headwaters in the Enkangala Grasslands*' ('WWF-SA Coal and Water Futures Report')[98] report published in 2011 which Ms Colvin would testify to acknowledges the participation of Melissa Fourie, the Director of the CER, First and Second Appellants attorneys.[99] The WWF-SA Coal and

[98] File Number 5, (Exhibit 15) p 2779.
[99] File Number 5, (Exhibit 15) p 2780.('We would like to thank the following participants who either *contributed to the report* via individual discussions with the authors or *attended workshops* held by WWF-SA…") (our emphasis).

Water Futures Report was also referenced, on 6 September 2013, by the CER in a submission to the Portfolio Committee on Mineral Resources. Then on 15 September 2014, in May 2016 and 5 October 2016 the Appellants attorneys, CER, made various references to this report in their advocacy work. To allege that they only realised the relevance of this report on 26 July 2018 when we adjourned was somewhat indefensible.

75.2. In their application to reopen their case the Appellants through CER, stated that they realised the relevance of the 2011 WWF-SA Coal and Water Futures Report towards the end of our first hearing on 26 July 2018. Nevertheless, the application to reopen the case and the report itself was made three months later on 12 October 2018, a mere six days before we resumed this hearing on 23 October 2018. This delay and the clear evidence that the Appellants' attorneys were aware of the existence of the WWF-SA Coal and Water Futures Report show that Appellants could have reasonably obtained and led the evidence before closing their case.

75.3. More crucially, there was no single explanation as to why the Appellants and their attorney CER (*qua* interested and affected person) did not submit this report to the Second Respondent in August 2015 during the WULA public participation process. Similarly , the report was never submitted to the First Respondent in order for it

to be considered when a decision was made on the WULA in July 2016. Had it not been for the Respondents' failure to demonstrate prejudice, and our view that the report may have some relevant factors,[100] we would certainly not have allowed the Appellants to reopen their case. We also noted that Adv Kennedy had become the principal counsel for the Appellants in October 2018 and may have shone some light on the relevance of the report.

CHRISTINE COLVIN

76. Ms Colvin is a Freshwater Programme Manager at the World-Wide Fund for Nature (WWF) South Africa ('WWF-SA'). She is a hydrogeologist with extensive technical background. Much of her work over the last 25 years has dealt with policies and strategies that look at integrated water resource management, particularly the sustainable use of all water resources with a focus on South Africa. She has not operated at the site-specific level that a typical geohydrological consultant would work. She has spent more of her time at the policy and research level.[101]

77. Ms Colvin was called to testify to the WWF-SA Coal and Water Futures Report. Herself, Angus Burns together with Dr Klaudia Schachtscheneider and Ashton Maherry of the CSIR, and Dr Martin de Wit of De Wit Sustainable Options are the authors of this report.

[100] See Record of Proceedings Vol. 4 p467-468 (for detailed reasons for the ruling).
[101] Record of Proceedings Vol. 4 p472.

78. In chief Ms Colvin stated that the purpose of the report was to highlight a clash of interests in the Enkangala Project Area, landscape – an area within the grasslands biome that occurs in a high rainfall, high lying part of the country, which is the source of some of our major rivers but also partly underlain by substantial coal reserves.[102] The WWF-SA Coal and Water Futures Report aimed to provide an overview perspective on decisions that were being made around water use and mining in that area. It also aimed to inform those decisions by providing a review of the experience in South Africa with the impacts of coal mining. This review was in the context of what transpired in another catchment area, the Olifants catchment. The report also reviewed the then current planning processes that were very focused on-site level decisions, and oblivious to the more strategic regional or country considerations. We note that impact assessments in South Africa re still project-based and the country has not fully embraced strategic impact assessment.

79. In her evidence Ms Colvin stressed that site level decision-making and planning had led to trade-offs around where to mine and to issue water use licenses. In certain areas this potentially compromises future generations and national water security. This was from a cumulative impact perspective. The purpose was to start bringing the whole picture together, with more of a national perspective and particularly for coal mining that has a history of causing a lot of water pollution in South Africa.

[102] For the full testimony see Record of Proceedings Vol. 4 p473 *et seq*.

She then commented on South Africa's energy policy and commitments to transition from coal-based power to renewable energy.

80. She continued that the report highlights that despite having good policies South Africa has been left with a legacy of poorly managed coal mines and the Olifants catchment is an area that has more than 100 years of coal mining and has a number of abandoned and derelict mines which are a particular concern for the sector as a whole, but particularly for coal and gold mining. It draws attention to the fact that the coal mining, along with gold mining, also causes acid mine drainage, which results in water impacts *where the mines are poorly managed without proper mine-closure plans*. An example is given where there is an abandoned underground mine that started decanting 44 years after it was abandoned. [103]

81. She further attested that in the Enkangala Grasslands, generally the water quality is fairly good and within acceptable limits, albeit there are sporadic pollution incidents. This is relative to an area the Olifants catchment, with a longer history of coal mining where the water quality has deteriorated significantly.[104]

82. In chief, Ms Colvin stated with certitude that the WWF-SA Coal and Water Futures Report is not site specific and it does not deal specifically

[103] File Number 5, p2838. (The example of the Middleberg Steam Coal Mine which operated from 1908 until 1947, and then started decanting into the Blesbokspruit and Brugspruit from 1990 onwards.)
[104] Record of Proceedings Vol. 4 p476.

with this particular site for the Yzermyn Coal Mine or the specific issues raised for instance in relation to proposed mitigation measures.[105] Nevertheless, from a risk point of view, environmental water management point of view, what happens on the proposed mining site could add to cumulative impacts, and that such risks are higher in the high water yield, SWSAs.[106] Lessons have been learned from the impacts of coal mining in other parts of the country that show that downstream water users have been negatively impacted by poor water quality and poor water management in the headwaters. Thus, decision-making around the right to mine and the right to use water for mines needs to keep in mind the fact that these are SWSAs.[107]

83. In summary, the WWF-SA Coal and Water Futures Report recommended a different approach, at a strategic level, on where and how coal mining takes place bearing in mind the impacts on SWSAs and sensitive environments. The WWF-SA Coal and Water Futures Report however also acknowledged that in 2009 coal sales amounted to R65 billion, the highest value commodity for that year – surpassing platinum and gold. It also notes that coal accounts for 92 per cent of South Africa's electricity generation and

[105] Record of Proceedings Vol. 4 p478
[106] Record of Proceedings Vol. 4 p479.
[107] Record of Proceedings Vol. 4 p480

acknowledged the importance of energy security for sustainable economic development. This, whilst , bemoaning the major contribution of coal to greenhouse gas emissions and air pollution and consequent climate change.[108] In the Enkangala area agriculture is recorded as having an employment impact of 164 059 compared to mining with 1 611 jobs, then in 2011.[109]

84. The report contains three major recommendations – namely *Mitigate, Manage and Monitor* and enforce – emphasising, for the purposes of this appeal that, "South Africa has to strike consensus on a just balance between the necessity of coal mining and the need to protect the environment and social well-being."[110] All these are recommendations which are neither policy nor law in terms of the current water and environmental laws of South Africa. Since 2011 when the report was published the recommendations do not seem to have translated into law that can guide site level decision-making. The government has not yet bought into the proposed no go areas for mining in law or policy.[111] Ms Colvin testified that the report, as such , has not been presented to the government but she stated that it is known to relevant government departments and could have influenced the inclusion of SWSAs in the 2013 National

[108] File Number 5, p2793 to 2794.
[109] File Number 5, p2795.
[110] File Number 5, p2784.
[111] Record of Proceedings Vol. 5 p519-520

Water Strategy. This is the case with the draft policies such as the 2013 *Draft National Water and Sanitation Master Plan*.[112]

85. Whilst this evidence may be relevant, to the extent that it has informed government policy on SWSAs, it is regrettable that despite being available, it was never brought to the attention of the Respondents when it mattered most in 2015 to 2016. It is now, in hindsight, being placed before us with the expectation that our *de novo* jurisdiction allows such.

86. Under cross examination Ms Colvin stated the following:

86.1. She did not know how the Witbank and Vryheid coalfields compare in terms of the one being largely mined through open cast while the other is underground. They have different environmental impacts with open cast more prone to causing AMD compared to underground mining.[113]

86.2. No agreement has as yet been reached among Department of Water and Sanitation; Environmental Affairs and Mineral Resources regarding the restriction of mining in critical water source areas.[114] Spatial Plans and Integrated Development Plans ('SDFs' and 'IDPs') are not yet fully developed at the municipal level to implement

[112] Record of Proceedings Vol. 5 p516 -517, see p525 (Gazetted for public comment in 2013 and still out for comment at the time of hearing in 2018.)
[113] Record of Proceedings Vol. 5 p530.
[114] Record of Proceedings Vol. 5 p531-532.

some of the recommendations of the report.

86.3. She acknowledged that coal remains a strategic energy source in South Africa, with the current Integrated Resource Plan ('IRP') forecasting 60 per cent of new coal build.

86.4. That the Yzermyn Coal Mine footprint was 0,0014 per cent of the Enkangala study area - which is a very small area. Ms Colvin noted that it is a question of scale.[115]

86.5. She conceded that the report does not record that there is existing pollution from existing mines in the area.

86.6. She agreed that despite the recommendations of the study for no go areas, the current legal and policy position is that no such areas have been declared and mining of any mineral is not prohibited in the target area. Ms Colvin also confirmed that no legislation has been enacted to reflect SWSAs, beyond mention in the 2013 National Water Strategy.

86.7. Ms Colvin accepted that her report remained a national macro-level strategic report which did not focus on the project level

[115] Record of Proceedings Vol. 5 p539.

information[116] and studies on the basis of which currently at law decisions on WULAs are made.

86.8. Upon a question from the panel in relation to part 6.2.3 of the report which explains current sources of pollution in the Enkangala Area, Ms Colvin stated that major sources of pollution are currently agriculture, a tannery and large scale irrigation in the Pongolapoort Dam which has resulted in seasonal return flows of saline and nutrient enriched water to the Pongola river.[117] She noted that these activities, though polluting, they represent manageable types of pollution, which could be worsened by additional coal mining.

86.9. She accepted that she did not consider the WUL granted by the First Respondent at all. She was not aware of its contents and conditions as she was merely providing a context. She conceded there was no law preventing the First Respondent from issuing the WUL. Her view was that while there is no law prohibiting mining in SWSAs, it is hydrologically inappropriate.

[116] Record of Proceedings Vol. 5 p529.
[117] Record of Proceedings Vol. 5 p541-542 read with File Number 5, p2842 (Page 52 WWF-SA Water Futures Report).

FIRST RESPONDENT'S WITNESSES

HASINA ABOOBAKER

87. Ms Aboobaker is an Environmental Officer, Specialised Production, in the Water Use Licensing Department of the First Respondents. She joined the department in 2014 and has experience as a Case Officer for many WULAs. She is not herself a geohydrology specialist but relies on internal specialist units that actually assess and evaluate applications.

88. In her evidence she detailed the process that a water use licence application goes through with the First Respondent.

89. Once an applicant has applied and its supporting documents submitted, it is sent to four (4) specialised units for review and evaluation. These are a)Civil Engineering b) Geohydrology, c)Resource Directed Measures (Reserves)- Surface and Groundwater, and d) In-Stream Use.[118] These units assess and evaluate an application and provide feedback, comments, queries or questions to the Case Officer who in turn communicates with the applicant in an iterative process to get more information, issue directives, address other technical comments. The Case Officer verifies if the WULA complies with the formal requirements and the technical requirements. This includes ensuring that the applicant has conducted a public participation process and addressed public comments received during such a process.

[118] Record of Proceedings Vol. 5 p602.

90. Once the specialists are all satisfied with the WULA and that any potential impacts have been addressed with proper mitigation measures and that the requirements of the NWA (section 2, 40, 41, and 27), the NEMA and section 24 of the Constitution have been met, they send the WULA and the comments to the Regional Office. Once, there a Draft ROR is prepared which is send to the Water Use Authorising Assessment and Advisory Committee ('WUAAAC'). The WUAAAC considers and evaluates the WULA and makes a recommendation either for approval or rejection of the application. In the meantime, the reserve is determined by the Resource Directed Measures unit (if it is not already determined). She then explained the concept of the reserve. The WUAAC recommendation is then send to the Head Office for final evaluation and approval by the Responsible Authority. The Responsible Authority may or may not ask for more information from the applicant.

91. She then focused on the specific WUL subject of the appeal. She explained the water uses authorised as reflected in the WUL.[119] She confirmed that a WUL is almost always issued subject to several conditions.

92. With regards to the allegation that water treatment plant and post-

[119] File Number 2, p1365.

closure uses have not been authorised, she responded that the WUL includes section 21 (f) and 21 (g) uses in Clause 2.[120]

93. In cross examination, Ms Aboobaker responded as follows:

93.1. She explained the purpose of the two-year review period in the WUL. She stated that it was to ensure compliance with licence conditions by the user through review of monitoring data and reports.

93.2. She confirmed that the WUL issued to the Second Respondent is not just for operational phase water uses, but also for post-closure activities covered by the authorized water uses.

93.3. Upon being asked to explain who raised the concerns in the letter addressed to the Second Respondent dated 26 October 2015, she explained she would write the letter based on questions raised by the specialised technical units. This letter raised concerns regarding dewatering impacts, lack of mitigation measures, discharge to wetland, water treatment plant and the estimated capacity of 8 861m^3/annum and financial provision therefor.[121] Appellants disagreed that the capacity of 8 861m^3/annum could cover the operational and post-closure volumes.[122]

[120] File Number 2, p1365.
[121] Record of Proceedings Vol. 5 p644; 651-
[122] Record of Proceedings Vol. 5 p653.

93.4. The Second Respondent responded to these queries either with additional information or explanations. If an issue was not pursued further, Ms Aboobaker stated that it means herself and the respective specialised unit would have been satisfied with the response or further information submitted.[123] Whether or not she should have been satisfied is a matter counsel decided to leave to the us to decide eventually.

93.5. On the issue of why there was no financial budgetary provision for post-closure water treatment and rehabilitation, or compliance with other licence conditions Ms Aboobaker stated,

> "Not prior to the issuance of the licence we do not ask for that type of budgetary provision. Before the licence the only budgetary provision we ask for is in terms of should there be any for example *pollution incident* or *emergency incident* you must have enough funds to stop, clean up and rehabilitate. So that is what we ask for. *Once the licence* is issued it is issued with *the condition then that the licensee must have enough funds to do that*. So, we are not asking at that point for proof of it." [124]

93.6. Beyond the general standard condition that applicant must make financial provision for emergencies and pollution incidences, Ms Aboobaker admitted that there is no way for the First Respondent to secure actual financial guarantees or ways of knowing whether in fact a licensee has provided

[123] Record of Proceedings Vol. 5 p640-642.
[124] Record of Proceedings Vol. 5, P657.

financial provision.[125]Mitigation measures and conditions are imposed without any corelative conditions for funding such measures or estimation of what levels of funding would be required. She however, highlighted, that for mine water usage, the First Respondent assumes that the Department of Mineral Resources would have secured financial guarantees for post-mining rehabilitation which includes addressing impacts on water resources.

93.7. Ms Aboobaker testified that the letter they received from CER (5 September 2015) which is noted in the WUL was not an objection, as such, but a letter wherein CER advised the First Respondent that they were wasting resources by considering the WULA as, in their view, the whole process was fatally flawed. She confirmed that at the time she dealt with the Second Respondent's WULA, she did not receive any specialist reports or review studies from the Appellants or their attorneys seeking to challenge or dispute information and findings in the WULA.[126]

93.8. The witness further responded to a question regarding the precautionary principle by stating that the WULA would include the ROD for Environmental Authorisation which requires

[125] Record of Proceedings Vol. 5 p658-661 read with p692.
[126] Record of Proceedings Vol. 5 p668.

and details the principles of environmental management and how they have been considered.[127] The ROD is considered as part and parcel of the supporting documents for the WULA.

93.9. Similarly, she attested that the exemption granted in terms of GN704 is granted on the recommendation of her office in consultation with their specialised units, namely Geohydrology and In-stream Use, who found that would be fine for the department to grant that exemption.[128]

93.10. The witness further stated that she did a section 27 NWA analysis and herself and specialists are guided by the National Water Strategy and all relevant legislations and policies as they evaluate and assess every WULA.[129]

SECOND RESPONDENT'S WITNESSES

THABISO MOSES NENE

94. Mr Nene claimed to be a representative of the Dr Pixley Ka Isaka Seme Municipality community that live in the area where the Yzermyn Coal Mine is proposed. It has a population of around 85 000. He stated that he was representing the community based on the number of meetings

[127] Record of Proceedings Vol. 5 p669.
[128] Record of Proceedings Vol. 5 p670.
[129] Record of Proceedings Vol. 5 p670-671.

that the community held, and they nominated him to be the leading person who speaks on their behalf and pass their resolutions to any legal platform or any government department as the case may be.[130]

95. He related the socio-economic situation in most of the local areas around the proposed mine. Unemployment was high, most people relied on social grants for livelihoods and many were farm workers. The majority languished at home. A few were teachers and nurses. A breadwinner supports around ten family members. Average income per household were about R1 800 and workers earned between R600 and R1 000 supplemented by 80kg's of mealie meal.

96. He testified that the local community looked to the proposed Yzermyn Mine with hope for better jobs and a pathway out of the prevalent poverty. The communities in the sphere of influence of the mine included Plattekop, Amersfoort, Dr Pixley Ka Isaka Seme Municipality, Mkhondo, Mabola, Dirkkiesdorp and Kwangema.[131]

97. He further averred that neither the Appellants, nor any other civil society organisation had ever approached them with a view to assist them engage with the proposed economic development activity. On the contrary it was he through , the Community Voice who had recently contacted the Appellants' attorney the CER and EWT to attempt to

[130]Record of Proceedings Vol. 4 p570.
[131] Record of Proceedings Vol. 4 p573.

organise a meeting. He confirmed that the community members participated in the public participation process both for the mining right application, the environmental authorisation and the WULA process. This participation was mainly through community outreach and consultation meeting in Wakkerstroom and Volksrust.[132]

98. Under cross examined Mr Nene gave the following evidence:

98.1. He confirmed that he was, in addition to being the community representative, also employed on a consultancy part-time basis as a community consultant by the Second Respondent in February 2018.[133] In both capacities he had had some exchange both private and public with the CER, Appellants' attorneys (*qua* interested and affected person) during the process of the various authorisations the Second Respondent was applying for. Evidence was provided of somewhat soured exchanges between him and the CER in attempts to get to a meeting of sorts to understand each other's perspective about the proposed mine.[134]

98.2. He confirmed that the community had pinned hopes on the possibility of local procurement, jobs and services to be provided by the Second Respondent.[135] He stated that even 200-300 jobs would make a big difference in the community. However, the

[132] Record of Proceedings Vol. 4 p575.
[133] Record of Proceedings Vol. 5 P708.
[134] Record of Proceedings Vol. 5 p 750.
[135] Record of Proceedings Vol. 5 p715.

documents submitted by the Second Respondent showed that only about 70 jobs will be created during the construction phase of the mine.[136] Most of the specialised skills jobs will be filled by outsiders as there were low-levels of skills in the community. Mr Nene somewhat disputed the claim of lack of skills stating that there was some skilled community members who were at home due to lack of job opportunities in the farms.

98.3. He confirmed that the community had widely criticised the CER and Appellants as organisations that were pursuing an agenda to stop development and jobs coming to the local community.[137] In particular he stated that,

> "One of the reasons is that in that area where I reside there has been the narrative that the main cause of the hindering of this development has been CER and with the number of news articles that have been published, our community felt very strong that the reason why we have not seen the development taking place, it has been because of [these] eight NGOs."[138]

98.4. Mr Nene emphasized that the community was aggrieved that someone in Cape Town was opposing development in Wakkerstroom or Volksrust, when they had no practical understanding of the socio-economic situation of the local communities. He persisted with his publicly made opinion that the community viewed the CER and associated civil society

[136] Record of Proceedings Vol. 5 p722.
[137] Record of Proceedings Vol5. P752.
[138] Record of Proceedings Vol.5 p 755.

organisation as being anti-poor, anti-black and simply opposed to any coal mining using their funds to pursue this agenda through the courts. He noted for instance that in the same areas there was Loskop Mine which conducted open cast coal mining in a protected area but alleged that none of the civil society organisations had raised any concerns about their operations.[139] Upon questioning, he conceded that the CER has a right to purse their mission and objectives in accordance with the Constitution.

PRAVEER TRIPATHI

99. The Second Respondent called Mr Tripathi, the Senior Vice President of Atha-Africa Ventures (Pty) Ltd. He testified that the Second Respondent is originally an Indian registered mining concern. They came to South Africa in 2011 after an investment conference in India at which the government of South Africa was seeking investments. He stated the Second Respondent had paid US$40 million for the equity in Bonengi and that the entire process to commission specialist studies to secure the necessary authorisations and permits had cost the Second Respondent US$61 million. Over three years the company had expended over US$700 million in relation to the proposed Yzermyn Coal Mine.

[139] Record of Proceedings Vol. 5 p771 -774..

100. He testified that the Yzermin Coal Mine will create 500 direct jobs and 400 were skilled and semi-skilled. The coal from the proposed mine would be trade at the domestic and international minerals markets. Among other things, they had approached Eskom with a view to negotiating uptake agreements.

101. Under cross-examination Mr Tripathi gave the following evidence:

101.1. In response to a question whether the Second Respondent had done sufficient due diligence before acquiring an interest in the mining rights, he stated that they had done thorough due diligence and there were no issues until the declaration of the Mabola Protected Area in 2014. This declaration was made after Second Respondent had applied for and been granted a mining right. He revealed that the entire narrative changed when eight civil society organisations came to oppose the mining although Second Respondent was part of the process for the declaration of the protected area in good faith.

101.2. It was pointed out to him that before Second Respondent acquired equity in Bonengi, the latter had been advised of the environmental sensitivity of the proposed mining area. Mr Tripathi stated that they were aware, but the information provided and on the basis on which they did their due diligence was generalised

national reports that would not prevent mining anywhere if read as decision-making guidelines. He responded thus;

> "They did disclose [to] us and the letter[140] or whatever was contained in that letter was so generic that these kinds of sensitivities would be in any area unless you, even if you go and mine in Kalahari Desert, you will have that kind of sensitivities."

101.3. He further noted that the area had been under a prospecting right for over 20 years despite the claimed sensitivity.[141] In addition there are big mines within a 20-25-kilometre radius of the proposed mine. These include Kangra, Aviemore and Kiepersol that have been mining for many years. He added that the declaration of the Mabola Protected Environment was done after consultation which included the Second Respondent, civil society organisations, Mpumalanga Tourism and Parks Authority ('MTPA'), and World-Wide Fund for Nature ('WWF') among others. These consultations had indicated that mining and environmental protection could co-exist. However, once declared, the civil society organisations changed the whole narrative towards a total blockage of any mining in the area.[142]

[140] This referred to a letter dated 22 June 2011 by the WWF to Bonengi, which the Appellants' counsel referred to for the first time on 24 October 2018. The Appellants had not provided this letter to any decision maker since 2013 when applications for various authorisations were made. The letter was not part of the appeal record and only referred to in cross-examination of the Second Respondent's witness. The WWF itself is not a part to this appeal. We noted our disquiet with this approach by the Appellants of springing up documents which they had all along which were neither provided during the public participation process nor submitted with their appeal papers. The Rule which allows us to hear new evidence is not carte blanche to bring surprises when diligence entreat otherwise. See Record of Proceedings Vol. 5 p786 for our views on this.
[141] Record of Proceedings Vol. 5 p782.
[142] Record of Proceedings Vol. 5 p783.

101.4. His evidence remained that their due diligence did not show any major red flags, in the context of mining activities already taking place in the area and their engagement with the regulators and provincial environmental authorities in the area.

SECOND RESPONDENT'S EXPERT WITNESSES

The Second Respondent called three expert witnesses, in addition to Messrs Nene and Triphati.

PETER JOHANNES SMIT

102. He is an environmental assessment practitioner practising in Namibia and South Africa. He has 16 years of mining environmental management. His involvement in this matter was that he was part of the team that conducted the environmental studies and compiled the documents for the WULA.

103. He stated that he had visited the proposed site at least ten (10) times during both wet and dry seasons. During his visits he had observed that the proposed mine site – specifically Yzermyn Farm Portion 1 target area for surface infrastructure – was previously disturbed by farming (crop cultivation). He observed on-going cattle and goat ranching. He also noted frequent burning of the grasslands – possibly to allow grass regrowth.[143]

[143] Record of Proceedings Vol. 6 p789-801.

104. Mr Smit testified that he also observed evidence of previous mining activities in the target area. In total, he observed 16 adits that he personally visited. It is difficult to estimate the depth of the adits, but they were 50 to 100 metres in extent. The adits width ranged from 4 to 5 metres, and more than 2 metres high. His view, which differed from that of Mr Johnstone, was that the evidence shows something more than small scale mining. His opinion was that the mining was fairly large scale by the standards used then.[144]

105. He stated that as the environmental practitioner he had reviewed all the specialist reports prepared for the proposed mine and collated the information into the WULA. Based on his observations, none of the wetlands in the target area were of international or national importance.[145]

106. In relation to the water treatment plant, Mr Smit testified that the mine design as submitted is quite different from the original designs. On the basis of continues studies, he had realised that there was going to be shortage of water to supply the mine during operational phase. A water treatment plant could therefore assist to treat dewatering water for reuse by the mine.

[144] Record of Proceedings Vol. 6 p844.
[145] Record of Proceedings Vol.6 p803.

107. Secondly, he also noted that the specialist reports predicted that the mine will likely decant after closure. Therefore, the water treatment would be necessary to treat the decant post-mining. Given the unpredictable and variable volumes of possible decant, he stated that they decided to design a modularised water treatment plant whose capacity can be up-scaled or downscaled depending on the water volumes to be treated. It is only after mining commences – with monitoring data and records – that one could determine with any degree of certainty the possible volumes of water to be dewatered and future decant. He stated that the use of modularised water treatment plants is now common practice in mines and the units are commonly available at reasonable cost.[146]

108. In cross examination Mr Smit stated that any disturbance of the wetlands by the surface infrastructure will not be irreversible. Evidence of historical disturbance demonstrated that the wetlands could rebound.

109. He conceded that the disturbance of wetlands by farming would be different compared to disturbance by mining activities. This could affect the degree and extent of the capacity of the wetlands to rebound.

110. He maintained that pre-mining it is not possible to design post-mining water treatment regime with any degree of certainty due to lack of

[146] Record of Proceedings Vol. 6 p804.

specific information. Specific monitoring and geotechnical data are required from actual mining which would then be used by engineers to continuously design and adapt the modular water treatment plant. This monitoring and refinement of design happens during the life of the mine (operational phase), otherwise comparable data from similar mines has to be used.

111. It was pointed out to him that Mr Johnstone, for the Appellants, disagrees and believes that "there is no reason why a site-specific monitoring and geochemical data could not have been obtained prior to the water use licence process."[147] Mr Smit responded such data would be based on assumptions used when one does geochemical modelling. Such modelling and the software used cannot give one an accurate figure on the water volumes. That is why they had used data from a close-by existing mine with similar geological formations – rather than using modelling results.

112. It was common cause that there is groundwater on the proposed mining site and that a degree of contamination will occur as the mine is dewatered.

113. It was common cause that post-mining there mine voids will fill with water up to a point of equilibrium where the decant flow will be fairly

[147] Record of Proceedings Vol. 6 p814.

constant and predictable. Mr Smit agreed that decant will happen for a long time and treatment may need to continue constantly until there is less oxygen (as voids fill) and the need for treatment becomes reduced and eventually eliminated.[148]

114. He agreed that the voids could be filled through active measures or passively from natural rain and recharge. Active flooding would be expensive and was not considered an option. Natural flooding would take 45 – 55 years. At this stage of pre-mining authorisation, one could not estimate with certainly how the voids will naturally fill. He stated that things could change including possible climate change driven floods that could quicken filling of the voids.

115. Under pressure, he maintained a different view to that of Mr Johnstone, by stating that post-mining decant is not likely to be dangerous based on his observations of the water quality in the existing historical adits. In particular he explained that,

> "So the risk of really saline or bad quality water coming out, we believe is probably not that bad and over a time you might have a slight period of active treatment and there may be passive treatment through means of constructed wetlands and would most probably be able to handle what is coming out of those mines…
>
> It is not a lot of water. The flows that are quoted are much lower that many of the other mines that I have been involved in that are using treatment as [a possible] closure

[148] Record of Proceedings Vol. 6 p817.

> solution. So it is not a very expensive solution for this specific to the site."[149]

However, he conceded that no one knew at this stage whether the water quality in the existing adits was due to the underlying geological formations. Such lack of knowledge is not absolute, and he clarified that,

> "We roughly do not know. So there is a measure of uncertainty in what we know. It is not like we do not know at all. So I would assume that within what we know and what we have seen happening on other sites and managing physically these things on mines myself for the last 16 years, I believe that can be done without a major risk."[150]

116. He concluded his evidence in cross-examination by stating that a WUL is a living document whose conditions are reviewed and adapted based on monitoring data and information provided by a mining operation.[151] He could not comment on whether there was sufficient financial provision to deal with post-mining water treatment issues. He noted that current environmental problems were caused by old mining technology which has changed with Coaltech 2020 introducing better methods to manage risks of pollution.[152] However, this is also subject to the mine being properly managed and licence conditions being complied with.

[149] Record of Proceedings Vol. 6 p827.
[150] Record of Proceedings Vol. 6 p829.
[151] Record of Proceedings Vol. 6 p833-834.
[152] Record of Proceedings Vol. 6 p 839.

117. In re-examination he confirmed that the WUL contained several conditions that impose monitoring, quarterly and annual independent audits, reporting and data gathering conditions consistent with the recommendations they had made in the WULA.[153] Five (5) years prior to closure activities a rehabilitation plan for decommissioning would be finalised based on the data gathered during the life of the mine.

FREDERIK STEFANUS BOTHA (FANIE BOTHA)

118. Dr Botha is a hydro-geologist with extensive experience managing the geological design and planning of mines. He was not part of the teams that compiled the specialist reports submitted as part of the WULA. His evidence was mainly aimed at equivocating Mr Johnstone's evidence on whether the proposed mine will 'daylight' and thereby change the point of decant from that used to make the decision on the WULA. He was also called to testify about his expert opinion on the historical mining and its impact on the water in the target area.

119. He testified that in modern underground mining there is continuous management of the process and there may be design changes to manage risks including possible rock falls and control of

[153] Record of Proceedings Vol. 6 p845-853.

groundwater. This means that the groundwater model will be updated on an on-going basis during the operational phase of a mine. It is never straightforward that the plan presented for authorisations will be implemented to the letter because as mining starts it is possible to discover the need to make adaptations.

120. The core of his evidence was that no one does 'daylight' mining anymore given the risk to miners of rock falls. The closer to the surface a shaft is, the more fractures and instabilities are encountered. Therefore, a huge part of rock is left to hold the roof together.[154] In his view the evidence of Mr Johnstone regarding daylight was incorrect and out of sync with current mining practices. He gave examples of several mines in the area and other parts of the country to demonstrate that no-one does 'daylight' mining anymore.

121. Because there will be no daylighting, it is incorrect to state, as Mr Johnstone did that decant will happen on the point of 'daylighting'. Rather any decant will have to come out through the adit as per the hydrogeological modelling done by Delta-H.

122. Dr Botha also stated in evidence that he visited a few of the historical adits. His opinion was that they were not small-scale but

[154] Record of Proceedings Vol. 6 p859-861.

large-scale type of mining by the standards by which mining was done years ago. He stated that the miner would drive mules/donkey and carts into these adits to haul ore out.[155]

123. He confirmed that he took water samples from the existing adits and compared the water to the ambient water in downstream. The water from the adits is consistent with the background water. There was no indication of acid mine drainage in the vicinity. He stated that the proposed mitigation measures are adequate, and that Mr Johnstone had made comparable mine management measures for other mines in the same area like Aviemore.[156] He further, in response, to questions from the panel, confirmed that grouting is a method that remains current to manage underground water ingress. He also confirmed that cover drilling can be used to manage water ingress and understand rock mechanics which informs the mining process. Cementation can be used when one encounters 'fall zones' that release water.

124. There was no cross-examination and Dr Botha's evidence were not contested.

STEPHEN VAN STADEN

125. Mr van Staden is a wetland ecologist who prepared the wetland studies for the proposed Yzermyn Coal Mine. He is the co-author of

[155] Record of Proceedings Vol. 6 p864.
[156] Record of Proceedings Vol. 6 p867 et seq.

the Scientific Aquatic Services (SAS) reports.[157] His evidence in chief was that he visited the proposed mining area on several occasions and undertook field studies. This included visits in May 2014, November 2014 and May 2015.

126. He confirmed the contents and findings of the SAS Reports in relation to the state of the wetlands, flora and fauna in the target area. He confirmed that they conducted the wetlands health assessment. The level of detail undertaken during the assessment was regarded as adequate and he disputed the necessity of doing anything beyond a Level 1 assessment as suggested by Mr Johnstone in the GCS Review. He highlighted that whether one uses a Level 1 or 2 assessment, becomes irrelevant in view of the findings in the SAS Reports. Once a finding was made that the wetlands are sensitive no point would be served by doing detailed assessments.[158]

127. He testified that any decant will not significantly impact the wetlands given the proposed mitigation measures and the limited permeability between the lower aquifer (where mining will take place) and the upper aquifer which feeds some of the wetlands.[159]

[157] File Number 2, p 965 – 1088, SAS Report: 'Faunal, floral and wetland ecological assessment as part of the environmental assessment and authorisation process for a proposed discard dump as part of the Yzermyn mining project, Mpumalanga Province.' February 2013, updated 2014 and revised in May 2015. Full reports at Atha Record Vol. 3 p1246 – 1479.
[158] Record of Proceedings Vol. 6 p955.
[159] Record of Proceedings Vol.6 p956.

128. Under cross-examination by the First Respondent counsel, he testified that the underground mine is unlikely to extensively impact wetlands in the vicinity. However, there will be some impact on the wetlands. For example, the site infrastructure will partially destroy some wetlands, which are already disturbed. In terms of the spatial scale of impacts, going as far as the Assegai river the impact will not be noticed and the Heyshope dam will completely be unaffected. This impact will not be significant. In his opinion the proposed measures to mitigate such insignificant impacts are adequate and reasonable.

129. There was no cross-examination by the Appellants counsel.

KAI WITTHÜSER

130. Dr Witthüser is a specialist hydrogeologist with extensive international and national experience. His consulting firm Delta- H specialises in Water Systems Modelling. In addition to undertaking the hydrogeological modelling for Yzermyn Coal Mine, Dr Witthüser was also part of the authors of the CSIR SWSA Report together with Dr Le Maître who testified for the Appellants in this appeal.

131. His evidence in chief was that when he got involved in the Yzermyn project, WSP Consulting had already undertaken a Geohydrological Impact Assessment for the Second Respondent. However, he was brought it to redo the assessments based on various concerns. He stated that WSP

had used a mathematically flawed two-dimensional Finite Difference Modelling Package (Modflow) model which gave the wrong results.[160] The model is incapable of simulating unsaturated groundwater flow and thus could not simulate two overlying aquifer systems evident from the boreholes. Otherwise the borehole baseline data gathered by WSP was excellent. He denied the interpretation of the borehole data by Mr Johnstone indicating that beyond one year the boreholes show different levels of water (multi-aquifer system).

132. He testified that he used the Finite Element Model (three dimensional (3D)) called Spring which is used in Germany coal mines and nuclear underground storage projects.[161]

133. He explained the methods used and the findings of the Delta-H report. He testified that based on analysis of boreholes in the area and other sampling, there were two water tables and two aquifers separated by a semi-permeable dolerite layer. He explained in detail theories of hydrogeologic conductivity, Darcy's Law on the flow of underground water through porous and impervious media. He explained the rock formations in the target area and how the aquifers may have formed focusing on their geohydrological qualities. He concluded that,

> "[there] is a limited connectivity between this weathered aquifer and the deeper fractured aquifer based on observed water levels and in other areas we do have hydraulic tests for these dolerite dykes in different settings

[160] Record of Proceedings Vol. 6 p880-882.
[161] Record of Proceedings Vol. 6 p886.

based on known values. So *it is a limited interconnectivity, otherwise there would not be two water levels*, there would be a single water level, a single aquifer, but this is not the case based on our measurements."[162]

134. He further explained the use of the 'steady state' solution for the model as the one that produces conservative worst-case scenario results. He categorically stated that the 'transient' model, as suggested by Mr Johnstone was not scientifically better.

135. The groundwater quality was good except in the deeper fractured Karoo aquifer which had more concentrates of sodium and chloride or increased salinity. The upper weathered aquifer had typically clean water due to high recharge rates from rainfall. Data from the boreholes is accurate because it also includes upstream pollution which would migrate to boreholes. This includes four (4) historical adits upstream of the boreholes.

136. Surface water consist of rivers, streams and springs. He explained that most of the springs are hydrogeology contact springs meaning they are ground-fed from the upper weathered aquifer, and not the lower aquifer where the coal seams lie.[163] Other springs like most of the wetlands are rainfed from rainfall and interflow (water movements in shallow soil zones). His reports concluded that dewatering may impact groundwater dependent ecosystems in the zone. For example, this could be a borehole

[162] Record of Proceedings Vol. 6 p915. (our emphasis)
[163] Record of Proceedings Vol. 6 p900.

around the area. They also simulated catchment wide flow disruptions as a result of the mining. The result was that of the baseflow contribution of 450 to 1 000 litres per second, the mine will cause a loss of 5.7 litres unless this 5.7 is discharged back into the surface water.[164]

137. He also stated that to get better information they took discard samples from Kiepersol underground mine, a mine with similar geology. These samples were used to do typical acid rock drainage (AMD) potential tests. This geochemical analysis feed information into the model. The results showed acidity (Potentially Acid Generating- PAG), but that acid was neutralised by neutralising material such as calcites which were also present. He emphasised, nevertheless, that all coal mining sites should be treated as PAG. He stated,

> "Yes, following *the precautionary principle* and considering that various coal and discard qualities might be stockpiled or deposited simultaneously, all stockpile coal and discard material should be treated as potentially acid generated with an *expected acidic leachate quality*."[165]

As a result of leachate tests, they recommended that the discard dump be removed from the mine design and consequently eliminated the need for a wash plant as well.

138. Regarding the rate and quality of the decant from the mine, it would be about six litres per second based on samples from the closed Hlobane mine in the same area. He denied that any better accurate data on the

[164] Record of Proceedings Vol. 6 p923-924.
[165] Record of Proceedings Vol. 6 p904.(our emphasis)

rate of decant could be obtained at this stage. He stated that geochemically what Mr Johnstone suggested is impossible.

139. When asked to explain why he used a Class 1 Classification instead of Class 2 or 3 as suggested by Mr Johnstone, Dr Witthüser responded that modelling is based on data available and the indicators in the Australian Model Classification documents, which is the only international standard. Because models are mathematical representations of reality, they always have uncertainties. It is not possible to model every fracture in the geology of any area. In a greenfield development Class 2 or 3 are scientifically and mathematically impossible to achieve. This is because as per the indicators in the guideline, those levels require some actual physical mining to have taken place.

140. For example, Class 3 indicators are based on a mine that is already half developed or five (5) years of actual observed mine water levels. He stated that, "in a Greenfield site you cannot simulate the stress imposed by the mine because the mine is not yet there. So, this is the first key indicator which prohibits, which makes it impossible to develop a class 3 model."[166] He noted that through his entire career he has never come across a model which achieved Class 3 level of confidence for a greenfield project because it is scientifically

[166] Record of Proceedings Vol. 6 p943-944..

impossible and can never be achieved.[167] This unequivocally dispels the conclusions of the GCS Review and Mr Johnstone's testimony. Dr Witthüser emphasised that one does not set out to do a model at a particular level, rather the model results are interpreted, and they inform what class the model should be placed in.

141. The gist of his evidence, which is expanded in the Delta-H report is that there are essentially two aquifers in the target area, with two water tables. The proposed coal mining will take place in seams that lie in the lower aquifer. He predicted dewatering, post-mining decant and the proposed mitigation measures are based on sound scientific modelling using best practice methods and standards. He stated that GCS Review is based on unscientific and unrealistic expectations, far removed from reality – especially in relation to the rigour of the model. He concluded that a Class 1 confidence model does not imply that it is less rigorous, but the classification relates to the data available.

142. In cross-examination Dr Witthüser gave the following evidence:

142.1. With regard to Class 1 or 3 model confidence. He maintained that for a 15 year mine, one would need to have mined for seven (7) years and collected data in order to meet the Class 3 level.[168] Class 2 level confidence assumes five (5) years of actual mine data.[169] It is

[167] Record of Proceedings Vol. 6 p944.
[168] Record of Proceedings Vol. 7 p971.
[169] Record of Proceedings Vol. 7 p973.

therefore not practically possible to do this stringent modelling in a greenfield project (where there is no previous development.) A modeller does not choose a class, but the modelling results determine the class.

142.2. On the use of a steady, instead of a transient, state model for water flows. Dr Witthüser insisted that whether steady or transient state was used it would not change the level of confidence. It would only show the seasonality of the system without changing the reliability of the predictions. Given the absence of some data, a transient state model would have been difficult to implement. For example, there is limited seasonal groundwater measurement for the catchment area.[170]

142.3. He also explained in cross-examination that the containment transport model was only used to deal with the discard dump which was later removed from the plans. The model could not be used for the whole mine because, while possible, it is mathematically challenging and leads to unstable results in practice.[171]

ANALYSIS AND FINDINGS

[170] Record of Proceedings Vol. 7 p976-980.
[171] Record of Proceedings Vol. 7 p981-982.

143. In the context of the above high-level summary of the evidence led by the parties, we now turn to address the grounds of appeal, and the arguments submitted by the parties in relation thereto. We make findings in relation to the grounds of appeal *seriatim* and also apply our minds to the factors in section 27 (1) of the NWA as read with section 2 of the NWA and the constitutional framework in section 24 of the Constitution as well as principles of environmental management in section 2(2) of the National Environmental Management Act ('NEMA').

THE LEGAL FRAMEWORK

144. We considered the issues raised by this appeal in the context of our legal obligations as administrators of the NWA. In terms of section 2 of the NWA we have an obligation,

> "…to ensure that the nation's water resources are protected, used, developed, conserved, managed and controlled in ways which take into account amongst other factors-
> *(a)* meeting the basic human needs of present and future generations;
> *(b)* promoting equitable access to water;
> (c) redressing the results of past racial and gender discrimination;
> (d) promoting the efficient, sustainable and beneficial use of water in the public interests;
> (e) facilitating social and economic development;
> *(f)* providing for growing demand for water use;
> (g) protecting aquatic and associated ecosystems and their biological diversity;
> (h) reducing and preventing pollution and degradation of water resources;
> (i) meeting international obligations;

(j) promoting dam safety;
(k) managing floods and droughts,"

145. Any use of water in South Africa should happen within the confines of the permissible uses defined in sections 21 and 22 of the NWA. Therefore, apart from Schedule 1 uses, existing lawful uses, and use under general authorisations – authority to use water must be applied for, and granted in terms of section 40 to 42 of the NWA.

146. In considering and granting a licence to use water, the responsible authority, and this Tribunal are further guided by the provisions of section 27 of the NWA. Section 27 (1) provides that,

"Considerations for issue of general authorisations and licences
(1) In issuing a general authorisation or licence a responsible authority must take into account *all relevant factors, including*-
(a) existing lawful water uses;
(b) the need to redress the results of past racial and gender discrimination;
(c) efficient and beneficial use of water in the public interest;
(d) the socio-economic impact-
(i) of the water use or uses if authorised; or
(ii) of the failure to authorise the water use or uses;
(e) any catchment management strategy applicable to the relevant water resource;
(f) the likely effect of the water use to be authorised on the water resource and on other water users;
(g) the class and the resource quality objectives of the water resource;
(h) investments already made and to be made by the water user in respect of the water use in question;

(i) the strategic importance of the water use to be authorised;
(j) the quality of water in the water resource which may be required for the Reserve and for meeting international obligations; and
(k) the probable duration of any undertaking for which a water use is to be authorised."

What section 27 (1) entails and the approach to the balancing exercise we are called upon to exercise has been elaborated in several court judgments.[172] In particular in *Makhanya* the Supreme Court of Appeal held that,

> The Constitutional Court has previously had occasion to address administrative decision-making where the official is faced with a number of considerations of which racial redress is one. Much like the situation facing the court in *Bato Star*, section 27(1)(b)contains a wide number of objectives and principles. Some of them may be in conflict with one another, as they cannot all be fully achieved simultaneously. There may also be many different ways in which each of the objectives stand to be achieved. The section does not give clear guidance on how the balance an official must strike is to be achieved in doing the counterweighing exercise that is required. As opposed to the legislative scheme before the court in *Bato Star*, there is no indication in the Act that section 27(1)(b) is to be regarded as in any way more important than the other factors.
>
> As to the section 27(1)(b) requirement itself, our courts recognise that, at least where there is no express legislative provision to the contrary, transformation such as that envisioned in the section can be achieved in a myriad of ways.[173]

[172] *Makhanya NO and Another v Goede Wellington Boerdery (Pty) Ltd* [2013] 1 All SA 526 (SCA)
Guguletto Family Trust v Chief Director: Water Use, Department of Water Affairs & Forestry and another unreported Case A566/10 (GNP) (25 October 2011).
[173] *Makhanya* para 33-34 (footnotes omitted).

147. This framework in the NWA is premised upon and informed by the Constitution of South Africa, to the extent that the NWA is legislation enacted to implement the state's obligation to promote the rights encapsulated in section 24 and 27. We are therefore cognisant of the need to promote the right to an environment not harmful to health and wellbeing. This right is provided by the Constitution as follows,

> "Everyone has the right
>
> (a) to an environment that is not harmful to their health or well-being; and
>
> (b) to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that—
>
> (i) prevent pollution and ecological degradation;
>
> (ii) promote conservation; and
>
> (iii) secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development."

148. Securing an environment not harmful to health and well-being and the need to prevent pollution or environmental degradation must concomitantly be harmonised with the duty to promote "justifiable economic and social development." This harmonisation should happen in a broader context of 'ecological sustainability.'[174] Again section 24 and what it entails in practice has been ably articulated by the Constitutional

[174] Section 24 (a) and (b) of the Constitution; see also Humby, Tracy 'The right to development-in-environment and its ecological and developmental thresholds.' (2016) 32 *South African Journal on Human Rights* 219, 247 arguing that ("the current approach to the nature of the obligations imposed by s 24 should move away from the notion that the right is bifurcated along the lines of negative and positive duties, towards a conception of the right as integrated, multi-dimensional, and delimited by ecological and developmental thresholds.")

Court. We associate with the sentiments expressed in the *Fuel Retailers* case (which also dealt with potential pollution of an underground aquifer by a proposed fuel station); that,

> "What is immediately apparent from section 24 is the explicit recognition of the obligation to promote justifiable "economic and social development". Economic and social development is essential to the well-being of human beings.[175] This Court has recognised that socio-economic rights that are set out in the Constitution are indeed vital to the enjoyment of other human rights guaranteed in the Constitution. But development cannot subsist upon a deteriorating environmental base. Unlimited development is detrimental to the environment and the destruction of the environment is detrimental to development. Promotion of development requires the protection of the environment. Yet the environment cannot be protected if development does not pay attention to the costs of environmental destruction. The environment and development are thus inexorably linked."[176]

149. Citing the report of the World Commission on Environment and Development (WCED), *Our Common Future* the classical definer of the principle of 'sustainable development' the court adopted the following extract therefrom,

> "[E]nvironmental stresses and patterns of economic development are linked one to another. Thus agricultural policies may lie at the root of land, water, and forest degradation. Energy policies are associated with the global greenhouse effect, with acidification, and with deforestation for fuelwood in many developing nations. *These stresses all threaten economic development*. Thus economics and ecology must be completely integrated in decision making and lawmaking

[175] (Original footnote) where the court cited the *Declaration on the Right to Development* adopted by General Assembly Resolution 41/128 of 4 December 1986, Article 1 of which asserts that "[t]he right to development is an inalienable human right". The Preamble describes development as "a comprehensive economic, social, cultural and political process, which aims at the constant improvement of the well-being of the entire population".
[176] Para 44; other footnotes omitted.

> processes *not just to protect the environment*, but also *to protect and promote development.* Economy is not just about the production of wealth, and ecology is not just about the protection of nature; they are both equally relevant for improving the lot of humankind."[177]

The court continued to elaborate that this Constitutional provision, "envisages that environmental considerations will be balanced with socio-economic considerations through the ideal of sustainable development… Sustainable development and sustainable use and exploitation of natural resources are at the core of the protection of the environment."[178]

150. In coming to these conclusions, the Constitutional Court was reconfirming what the court had established in 1999 in the *Save the Vaal Environment* case. There, where the court was concerned with the granting of a mining right, it was concluded that,

> "What has to be ensured when application is made for the issuing of a mining licence is that development which meets present needs will take place without compromising the ability of future generations to meet their own needs (the criterion proposed in the *Brundtland Report*: *World Commission on Environment and Development, 'Our Common Future'* Oxford University Press 1987). Our Constitution, by including environmental rights as fundamental, justiciable human rights, by necessary implication requires that environmental considerations be accorded appropriate recognition and respect in the administrative processes in our country. Together with the

[177] Report of the World Commission on Environment and Development: *Our Common Future* (Brundtland Report) Chapter 1 at para 42. *(Our emphasis).*
[178] Para 45. See further *BP Southern Africa (Pty) Ltd v MEC for Agriculture, Conservation, Environment and Land Affairs* 2004 (5) SA 124 (W), *MEC for Agriculture, Conservation, Environment and Land Affairs v Sasol Oil (Pty) Ltd and another* 2006 (5) SA 483 (SCA), and earlier on *Director: Mineral Development, Gauteng Region, and another v Save the Vaal Environment and others* 1999 (2) SA 709 (SCA).

> change in the ideological climate must also come a change in our legal and administrative approach to environmental concerns."[179]

151. Our extended contextualisation of the Constitutional framework and the principle of sustainable development is necessary given the central points of contention in this appeal. It has also been necessary to dispel any notion that there is no "right to development" in the Constitution. We affirm our firm belief that the Constitution in protecting the right to an environment not harmful health and well-being, equally, and in the same section confirmed the right to socio-economic development that is sustainable. However, the courts have also emphasised the need for an integrated approach which does not parochially pursue the developmental agenda or fanatically pursue environmentalism.

152. We also set out upfront that our decision-making in terms of the NWA is informed and grounded in the principles of environmental management in section 2 (4) of the NEMA. The NWA is a specific environmental management act ('SEMA') whose interpretation and implementation must be guided by the NEMA principles. Section 2(1)(c)of the NEMA expressly states that the principles shall "serve as guidelines by reference to which any organ of state must exercise any function when taking any decision in terms of this Act or any statutory provision concerning the protection of the environment." We also highlight that section 2(2) of the

[179] *Director: Mineral Development, Gauteng Region, and another v Save the Vaal Environment and others* 1999 (2) SA 709 (SCA) 719B-D.

NEMA states that "Environmental management *must place people and their needs at the forefront of its concern*, and serve their physical, psychological, developmental, cultural and social interests equitably." Obviously, these needs extent to both social and economic needs and environmental integrity.

153. The foundational principle in NEMA is the principle of sustainable development which section 2(4) (a) elaborates in over eight principles. Among these eight components of sustainable development is the what is known as 'the precautionary principle'. In the NEMA it is stated in section 2(4)(a)(vii) as follows,

> "Sustainable development requires the consideration of all relevant factors including the following:…
>
> > that a risk-averse and cautious approach is applied, which takes into account the limits of current knowledge about the consequences of decisions and actions;"

We mention this principle specifically because it is one of the particular bases on which the First Respondent's decision is impugned. Confusion abounds internationally and nationally regarding, not only the import of this principle, but also more seriously its practical application in any given case.[180] We return to this when we deal with that ground of appeal.

[180] Peel, Jacqueline *The precautionary principle in practice: environmental decision-making and scientific uncertainty*. (Federation Press, 2005) p34; Trouwborst, Arie 'The precautionary principle in general international law: Combating the Babylonian confusion.' (2007) 16 *Review of European Community & International Environmental Law* 185-195; Resnik, David B 'Is the precautionary principle unscientific?' (2003) 34 *Studies in History and Philosophy of Science Part C: Studies in History and Philosophy of Biological and Biomedical Sciences* 329-344.

154. The NEMA principles read in the context of section 24 of the Constitution and section 2 and 27(1) of the NWA all exhort us to take a measured, balanced, and nearly objective an approach to adjudicating this appeal.

155. We also wish to record that the Promotion of administrative Justice Act (PAJA) guides our decision making and also our interpretation of the decision appealed against. The notion that the Tribunal cannot interpret or apply the PAJA in hearing appeals is misplaced. In exercising our 'wide appeal'[181] jurisdiction in terms of section 148 of the NWA, we are bound to consider the extent to which any preceding administrative action is consistent with the prescripts of the PAJA.[182] Thus for instance, an appeal which alleges that the Responsible Authority issued a directive without giving a person reasonable notice, or failed to take relevant factors into account, or took irrelevant factors into account, or was biased falls squarely within PAJA but would be heard and determined by the Tribunal.

RULINGS ON THE GROUNDS OF APPEAL

The grounds of appeal have been stated fully in para 13 above.

156. The first ground of appeal is that the First Respondent failed to take into account factors in section 27(1)(c) and 27(1)(f) of the NWA. Section

[181] See *Tikly v Johannes NO* 1963 (2) SA 588 (T) for the nature of this wide appeal. See also *Oosgrens Landgoed (Pty) Ltd v Director-General, Water and Sanitation and Others* WT05/10/2010 p33-35.
[182] The PAJA, in section 1, defines 'tribunal' as "any independent and impartial tribunal established by national legislation for the purpose of judicially reviewing an administrative action in terms of this Act." We have also ruled that the word 'appeal' in section 148 of the NWA connotes an appeal in the wide sense to include elements of a review.

27(1)(c) of the NWA calls upon the responsible authority and indeed the Tribunal to consider the "efficient and beneficial use of water in the public interest."

156.1. The basis on which it is claimed that the First Respondent failed to consider this factor is that the First Respondent did not have sufficient information and data on the risks and consequences of granting the WUL. It is submitted that no careful attention was paid to the impacts of dewatering and that the specialists reports by Delta-H (and WSP before them) wrongly modelled two separate aquifers and the existence of an impermeable dolerite sill. It is further claimed that the underground mining will significantly affect the availability of water for surface ecosystem needs.[183]

156.2. It is further alleged that the WULA supporting documents and specialist studies had major gaps in information in relation to cumulative impacts, the likelihood and extent of groundwater contamination, likely decant volumes, post-mining water contamination and measures to mitigate that by way of a water treatment plant. Based on the GCS Review and Mr Johnstone's evidence it is argued that the treatment plant used as a basis for the WULA is inadequate and probably a different plant should be required for post-mining purposes.

[183] File Number 2, p22-44.

156.3. It is therefore contented that the First Respondent failed to consider how the information gaps, and the decision to issue a WUL will impact the water resource and other water users, especially downstream water users.

156.4. The evidence led by Dr Witthüser and Dr Botha and the detailed Delta-H and SAS Reports indicate that scientifically sound methods were used to conduct the wetland, hydrogeological studies.[184] The findings are scientifically defendable and the recommendations, some of which are negative were considered by the First Respondent. This led to several conditions in the WUL requiring the Second Respondent to take measures to prevent pollution, monitor underground water pollution[185] and report thereon.[186] The evidence of Dr Botha was clear and uncontroverted that impacts on the surrounding rivers and wetlands will not be as significant as reported in the GCS review. Thus, for instance the Assegai river will not be impacted and by the time the water riches the Heyshope dam – no impacts will be noticed.

[184] Paras 113 and 125 *et seq* above.
[185] File Number 2, p1406 (Clause 6 and 7) including Condition 8.4 which requires Second Respondent to "develop long-term mitigation measures for Acid Mine Drainage (AMD) that will include passive systems must be investigated and reported upon within 12 months of issuance of this licence." This clause aligns with the need for actual data to model appropriately the amounts of decant and the proportionate intervention required post-closure as per Dr Witthuser's testimony.
[186] File Number 2, p1395, 1396.

156.5. The evidence of Dr Witthüser and the findings of the Delta-H report indicated the existence of two water tables and two aquifers - both of which cannot exist without some degree of impermeability in the geological formations. In addition we note that no evidence was led demonstrating, on the basis of actual empirical studies, that there are heightened levels of AMD from closed mines in the same area or the historical adits close proximity to the site of the Yzermyn Coal Mine.[187]

156.6. The critique of the Delta-H studies by GCS was demonstrated to be scientifically unsound in many respects ranging from the geohydrological characteristics of the area, the use of Class 1 or 2-3 of the *Australian Modell Classification Guidelines,* and the incorrect suggestion that the mining will 'daylight'[188] leading to an unintended point of decant. The evidence of Dr Botha flatly debunked this daylighting proposition.

156.7. While impliedly conceding that factually, practically and scientifically it was impossible to use a model based on Class 2 or 3 level of confidence, the Appellants persisted that given the environmental sensitivity of the area, the First Respondent should not have relied on studies produced from modelling that yielded a Class

[187] Record of Proceedings Vol. 6 p863-865.
[188] Record of Proceedings Vol 2. p155 (*cf* Dr Botha evidence at Record of Proceedings Vol. 6 p857-862).

1 confidence level.[189] The basis of the insistence on the scientifically unsubstantiated proposition was never established by evidence.

156.8. The Second Respondent led expert evidence on the prediction of decant and the proposed mitigation measures in the form of the modularized water treatment plant. The claim by GCS and Appellants' expert that there is no provision for a water treatment plant post-mining was clearly unfounded. Provision for the plant was made, but what is admittedly lacking is the financial provision[190] for the operation of that plant and any costs attendant on upscaling the plant that may become necessary depending on the volumes of decant. We deal with this issue at length at the end of this decision.

156.9. Beyond providing evidence that the area where mining is environmentally sensitive, which the Respondents acknowledged, the Appellants did not adduce evidence or provide information of what other beneficial uses in the public interest will be jeopardised by the authorized water uses. The ecosystem or environmental needs *per se* are not enough in the context of other factors in section 27(1) to lead to the conclusion that the approved water use is not beneficial uses. No other water users in the vicinity or downstream were called to testify on how any pollution or contamination will affect their own beneficial use of the water resources. Neither the

[189] Record of Proceedings Vol. 7 p986-989.
[190] File Number 2, p1412.

subsistence farmers nor any community member involved in other activities that rely on the same water source provided testimony – written or oral – on the prejudice that would be suffered as a result of the approved water uses. The Appellants relied predominantly on the argument that the area is an environmentally sensitive and a strategic water source area.

156.10. We therefore find that this ground of appeal has not been substantiated. On the basis of information available to the First Respondent in July 2016, the responsible authority took into consideration section 27(1)(c) and (f) of the NWA and imposed appropriate conditions to address the adverse impacts of the authorised water uses. From an administrative law perspective, the decision that was taken was reasonable, fair and rational on the documents and reports available.

156.11. The additional information placed before us on the sensitivity of the area,[191] the predicted impacts whether of dewatering, decant and seepage lead us to conclude that these impacts are manageable. The totality of the information before us point to the proposed water uses being efficient and beneficial, that would be not the case if we do not authorise the water uses.

[191] Most of this evidence was preliminary, based on on-going national studies such as the CSIR SWSA Study commissioned by the WRC (still in draft form in March 2018). The evidence of Ms Colvin and the WWF-SA Coal and Water Futures report of (2011) was very high level and lack specificity to the proposed mining site. It was not helpful as a decision-making guideline.

157. The second ground of appeal advanced by the Appellants was that the First Respondent failed to authorize two (2) water uses for post-mining activities. These are, firstly, the discharge of water containing waste into a water source (section 21(f) of the NWA) and the disposal of waste in a manner which may detrimentally impact on a water resource (section 21(g)).

157.1. The Appellants argued that the WUL is valid for 15 years in tandem with the life of the proposed mine. They argue further, but incorrectly, that the NWA does not make provision for the "renewal or extension" of a WUL, therefore any post-mining impacts and activities that involve water uses have not been authorised.

157.2. The First Respondent submitted, through the evidence of the case officer, that in fact the WUL does authorize section 21(f)[192] and (g) uses. Although these uses are authorised for construction and operational phases, they will be applicable until a closure certificate is issued for the mine. For example, a water user who is dewatering a mine shaft will not immediately stop such pumping on the day the WUL expires. The evidence led before us demonstrates that no one at this stage has data or accurate information on the nature and volumes of water to be treated and disposed of post-closure.

[192] File Number 2, p 1365 read with p1397.

157.3. However, the WUL contains conditions requiring the Second Respondent to prepare a closure plan five (5) years prior to the end of mining wherein details of such volumes and flows will become clear and can guide appropriate conditions. It was stated that the Second Respondent would have to apply for amendments[193] of the WUL to implement closure operations. The WUL provides of review of its conditions after every two (2) years. The evidence of the First Respondent was that such a review includes continuous reflection on the licence conditions in the context of monitoring data and reports. It could lead to variation of conditions or imposition of new conditions, as the case maybe.

157.4. Contrary to the Appellants' submissions,[194] section 52 of the NWA expressly provide for "earlier renewal or amendment" of a WUL. This is particularly apposite in the case before us where, five years prior to decommissioning of the mine, a final closure plan should be prepared. Water uses for such a closure plan can be included in terms of section 52. We therefore find that this ground of appeal is unfounded.

[193] In terms of section 49 and 52 of the NWA.
[194] See Para 189 of the Appellants Heads of Arguments (arguing that "The NWA *does not make provision for the renewal or extension of licenses*. The result is that the post-closure impacts of the mine are not governed by the present water use licence." (our emphasis).

158. The third ground of appeal was that there was a failure to apply the 'precautionary' environmental management principle of the NEMA. The precautionary principle is found in section 2(4)(a)(vii) of the NEMA , among many other principles of environmental management.

158.1. The thrust of the Appellants' argument is that this principle assumes significance given the 'fundamental deficiencies in the specialist studies which form the backbone of [Second Respondent's] WULA.'[195] In detail the Appellants submit that the greater impacts of the proposed colliery are the dewatering of groundwater aquifers and decant of contaminated groundwater water as well as AMD [Acid Mine Drainage].

158.2. Furthermore, so the Appellants argued, the Delta-H groundwater assessment were flawed as shown by their own ex *post facto* reviews by GCS. The argument goes on to claim that the *Australian Groundwater Model Guidelines* Class 2 or 3 should have been achieved, and that Class 1 model is low confidence and therefore less rigorous. According to the GCS Review,

> Based on these statements [in the IWWMP and ESIAR] and the results of the specialist studies it is evident that the area on and surrounding the proposed mining activity is a <u>moderate to high value groundwater dependant ecosystem</u>. In light of this, a Class 3 model with a high level of confidence is

[195] If the alleged deficiencies are not proved this ground of appeal falls away.

> required before a decision may be taken which will affect the resource…
>
> The Delta h (2014) report does not assess the groundwater impacts with sufficient certainty and therefore is unable to determine the reduction in catchment surface water run-off."[196]

Having considered the evidence of Dr Witthüser on the interpretation and application of the *Australian Groundwater Modelling Guideline* (which is the only accepted international standard used to model groundwater flows), as well as noting that GCS Review was entirely based on a desktop review of selected aspects of the Delta-H Reports, these arguments are bereft of scientific substance on this aspect. Not in so many words, counsel for the Appellants seemed to concede the factual and scientific in-exactitude of the GCS approach and conclusions.[197]

158.3. It is common cause that the Yzermyn Coal Mine will certainly result is a degree of contamination of groundwater and indeed surface water. The parties contested the degree of such contamination and what would be sufficient mitigating measures.

[196] File Number 3, p1665 (GCS Review p25).

[197] Record of Proceedings Vol. 7 p988-999, where in response to a panel member's question whether he accepted that a Class 3 level model was impossible, Appellants' counsel responded that, "Whether or not I have accepted the factual basis of the witness ***will be apparent from the record in that I have not cross-examined him on those specific factual issues*** and you will be able to read into that what should be read into that. I am not proposing to argue the matter now." (our emphasis)

158.4. As noted above, the precautionary principle, is simple to understand in theory but complicated to apply in practice. Our courts have applied it in a few cases. In *Fuel Retailers* the Constitutional court did opine that regulators should insist on precautionary measures to guard against groundwater contamination. This is more so in context where there is scientific uncertainty about the future impact of the development.[198] Recently, in the case of *WWF South Africa v Minister of Agriculture, Forestry and Fisheries and others (South African Small-Scale Fisheries Collective as amicus curiae)* [2018] 4 All SA 889 (WCC), Rogers J attempted the most comprehensive application of the precautionary principle to a real case.

158.5. The *WWF* case concerned the determination of the total allowance catch (TAC) for rock lobster for fishing season 2017/2018. The determination by the Minister had historically been informed by the reports of a scientific working group ("SWG") which provided the Minister with current scientific data on the state of the resource. The decision-maker made a determination which flew in the face of clear scientific evidence produced by the SWG. Even though the scientific evidence was for the previous year, it was the most current. The decision-maker had no scientific basis to depart from the SWG's

[198] *Fuel Retailers* para 98 (where the court stated that "This principle is applicable where, due to unavailable scientific knowledge, there is uncertainty as to the future impact of the proposed development. Water is a precious commodity; it is a natural resource that must be protected for the benefit of present and future generations.")

recommendations. Attempts to use socio-economic exceptions to justify the decision were not defensible.[199]

158.6. The judge explained the precautionary principle and its role in the implementation of the Marine Living Resources Act (18 of 1998).[200] Citing Preston CJ in the Australian case of *Telstra Corporation Limited v Hornsby Shire Council*, 228 [2006] NSWLEC 133, Rogers J explained that,

> "the principle finds application where two conditions are satisfied, namely that the proposed activity poses a *"threat of serious or irreversible environmental damage"* and the "*existence of scientific uncertainty as to the environmental damage*". If these conditions are met, the principle is activated and there is a "shifting of an evidentiary burden of showing that this threat does not, in fact, exist or is negligible". Furthermore, prudence suggests that "some margin for error should be retained" until all consequences of the activity are known. Potential errors are "weighted in favour of environmental protection", the object being "to safeguard the ecological space or environmental room for manoeuvre".[201]

Accordingly, to apply the precautionary principle in the current appeal it has to be demonstrated that the proposed colliery poses a "threat of serious or irreversible environmental damage" and secondly that there is "scientific uncertainty as to the environmental damage." Commenting on these two requirement Glazewski and Plit add that

[199] *WWF* para 53-55.
[200] *WWF* para 110-107.
[201] *WWF South Africa v Minister of Agriculture, Forestry and Fisheries and others (South African Small-Scale Fisheries Collective as amicus curiae)* [2018] 4 All SA 889 (WCC), para 104 .

Preston CJ regarded them as conditions precedent for the application of the principle. [202]

158.7. Furthermore, the authors note that the court emphasized that the "principle embraces proportionality in that measures *should not go beyond what is needed*, and that the principle 'does not necessarily prohibit development.'"[203] These recent elucidations of the precautionary principle point towards an approach that seeks balance and not a "'zero risk' standard."[204]

158.8. Coal mining in South Africa is a centuries old industry and the methods, impacts, and environmental dynamics around this activity are generally known and well-established.[205] In the context of this appeal the scientific evidence submitted by various experts both for Appellants and the Respondents clearly demonstrates a clear understanding of the potential risks to water resources of coal mining. If there is anything that is uncertain it is the volume and quality of decant post-mining. This is uncertain only because of lack of mine data which can be obtained once mining commences and the mine plans and post-closure rehabilitation plans are designed. With respect, these are not issues on which scientific knowledge is

[202] Glazewski, Jan, and Lisa Plit 'Towards the application of the precautionary principle in South African law." (2015) 26 *Stellenbosch Law Review* 190-219, p214.
[203] Glazewski, Jan, and Lisa Plit, p215. (our emphasis).
[204] Glazewski, Jan, and Lisa Plit, p214.
[205] In the sense of "unavailable scientific knowledge" as conceptualised by the court in *Fuel Retailers*, para 98.

limited or uncertain. We know that some of the environmental impacts may be irreversible, for instance the loss of a wetland.

158.9. Unlike coal mining, in *WWF* Rodgers J was confronted with an area where there is real scientific uncertainty. In this respect Peel comments that,

> "in an environmental context such as fisheries management, predictions about stock levels and the impacts of fishing on the marine environment are often riddled with uncertainties because of a lack of information about the species concerned, as well as a paucity of 'baseline' data regarding indicators of environmental health."[206]

This appeal thus exemplifies the approach to the precautionary principle where "precaution has provided a legal language for expressing political differences in risk attitude and regulatory approach in the face of the common problem of scientific uncertainty."[207] There is no substantiated limit of current scientific knowledge on the basis of which the principle can find application. Catastrophizing coal mine decant and AMD does not of itself provide the level of uncertainty the precautionary principle envisages. Such impacts must to be carefully considered from a sustainability perspective in the context of the socio-economic imperatives of South Africa.

[206] Peel, Jacqueline 'Precaution-A Matter of Principle, Approach or Process' (2004) 5 *Melb. J. Int'l L.* 483, p497.
[207] Peel, Jacqueline. *Melb. J. Int'l L.* p485.

158.10. The possibility of a high risk of post-closure water contamination does not translate to uncertainty about the scientific nature of that contamination and the methods to contain the problem.[208] In the words of *Cameron et al*,

> 'If both the probability of accidental pollution and the magnitude of the consequences of that pollution are known, the standards would be relatively unprecautionary, precisely because the level of uncertainty involved is relatively low. High risks do not necessarily entail high levels of uncertainty. However, if the probability and magnitude are relatively unknown, because, for instance, it is not known what cause and effect relationships are involved, or exactly what the nature of the involved causal relationships is, then the standards would be precautionary because of the relative uncertainties involved.'[209]

There is uncertainty on whether the proposed mitigation measures are adequate and the volume of any decant, but even then, the Respondents provided information and evidence to demonstrate that the mitigation measures are technically sufficient, under the current state of information (which will improve with availability of actual mining monitoring data.) Scientifically, the environmental effects of any decant are generally known and certain – which is precisely why the Appellants are seeking stringent mitigation measures.

[208] Record of Proceedings Vol. 8 p1081.
[209] Cameron, J, Wade-Gery W & Abouchan J 'Precautionary principle and future generations.' in Agius, Emmanuel, and Salvino Busuttil *Future generations and international law*. (Routledge, 2013) 93, p101.

158.11. Our view is also that the precautionary principle should be considered together with other principles in section 2(4) of the NEMA, especially the principles of sustainable development. The principle does not require unequivocal scientific certainty before any affirmative decisions are taken, otherwise no development activity would be authorised. Indeed, the Appellants themselves repeatedly emphasized that their case was not that "*as a matter of law there is an absolute prohibition on the authorisation such as this ever being granted.*"[210] The perception of risk and uncertainty advanced by the Appellants are grounded in the GCS Review findings and other expert reviews, which have been demonstrated in evidence to be shallow and lacking by way of ground-truthing. Equally, however, the Respondents' scientific evidence does not, and cannot, provide absolute levels of comfort - the threshold is what risk is tolerable and whether reasonable measures are in place to manage the identified impacts.

158.12. We thus conclude that on the basis of evidence adduced and the reports before us, the First Respondent considered the precautionary principle. This is despite our view that the condition precedents for it to be triggered as per Rogers J in *WWF* are not sufficiently laid out on the facts. Our decision is further premised on our own analysis and consideration of the precautionary principle

[210] Record of Proceedings Vol. 8 p1061, 1087,

which leads us to the decision that applying it does not inform a negative decision on the WULA.

159. The fourth ground of appeal is that the First Respondent erred in granting an exemption in terms of Government Notice 704.[211] The WUL shows that the First Respondent exempted the Second Respondent from the requirements of regulation 4(b)[212] of the *Regulations on Use of Water for Mining and Related Activities Aimed at the Protection of Water Resources'* GN704 in GG20119 published on 4 June 1999. The basis of Appellants' contention is that the measures proposed to address any impacts caused by the mining within 100 metres of a wetland are inadequate. They argue that grouting is seldom used in coal mines due to safety risks. This is amplified by arguments based on the GCS Review that decant and post-closure contamination will have devastating impacts on wetlands.

159.1. The foundation of the opposition to the granting of the exemption is premised on GCS Review findings which we have indicated to be flawed scientifically as demonstrated by the expert witnesses for the Second Respondents. Without the exemption, the Second Respondent will simply not be able to do any mining at all. Thus,

[211] File Number 2, p 1443 (The exemption as captured in the WUL).
[212] Reg 4 (b) of GN704 provides that, "No person in control of a mine or activity may—
(*b*) except in relation to a matter contemplated in regulation 10, carry on any underground or opencast mining, prospecting or any other operation or activity under or within the 1:50 year flood-line or within a horizontal distance of 100 metres from any watercourse or estuary, whichever is the greatest;"

regulation 3 empowers the Minister to grant exemption in certain cases.[213] The evidence of Ms Aboobaker was that, based on input from the *Geohydrology* and *In-stream Use* specialist units, she recommended the granting of the exemption.[214] Beyond the bald claim, no information was placed before us to demonstrate why the granting of the exemption was unjustified. Having ourselves, ruled that the mitigation measured for mining within 100 metres of a wetland are adequate, it follows that the First Respondent did not err in granting the exemption.

159.2. We there find that the granting of the exemption was necessary to enable the Second Respondents to execute the activities for which the WUL was granted.

160. The fifth ground of appeal was that First Respondent failed to consider the socio-economic impact of the water uses, if authorized, as required by section 27(1)(d) of the NWA. The appellants submit that the WULA and its supporting documents, does not "report objectively and fully on the possible effects of the proposed colliery on people living in the area, with the consequence that the DG was not in a position to consider the actual socio-economic impact of the water uses, if authorized.." The Appellants further support this ground with submission that the Second Respondent is

[213] Regulation 3 on Exemptions provides that "The Minister may in writing authorise an exemption from the requirements of regulations 4, … on his or her own initiative or on application, subject to such conditions as the Minister may determine."
[214] Record of Proceedings Vol. 5 p670.

not going to create any significant number of jobs for the community. They noted that there are eight households in the target area that are 'low-income families of between eight and thirty people living in each homestead." Most of the people work on surrounding farms deriving 'limited income' from farm jobs and government social grants. It is also claimed that "several subsistence farmers have also made their home on the proposed mine site, which has good to excellent grazing capacity." [215]

160.1. It is further alleged that the IWWMP and EIAR (Environmental Impact Assessment Reports)

> "do not assess with any precision what the likelihood of the loss of this livelihood is, or what the likelihood of loss of agricultural income and resources in the larger area may be should the mine have any adverse impact on the water sources used by commercial and subsistence farmers in the area."

Part of these arguments are based on the *ex post facto* reviews commissioned by the Appellants and conducted by Susie Brownlie in August 2016.[216] This information was not placed before the First Respondent or the Second Respondent's consultants (EAP) in 2015 as they considered public comments. The Appellants had the social labour plans and other public participation documents on 3 August 2015, but only conducted studies in August and November 2016, a year later, after the First Respondent had decided on the WULA on 7 July 2016.

[215] File Number 2, p1354.
[216] File Number 2, p1568.

160.2. We hold that the First Respondent did not fail to consider the socio-economic implications of granting the WUL. We proceed to demonstrate why, even as we consider this appeal, no evidence or information has been placed before us by the Appellants to demonstrate the negative socio-economic impacts of the granting of the WULA.

160.3. The Appellants make claims about impacts on farmers and communities living in the area where the proposed mine will be located. They have not called a single witness or submitted documents from the farmers or local communities documenting their livelihoods, how they depend on the wetlands, and water resources in the area, and how that will be disturbed by the proposed mine. A representative of the Third Appellant, for whom there was no appearance, set in the gallery and submitted no testimony.[217] The only member of the local community who appeared before us was Mr Nene called by the Second Respondent whose evidence went unchallenged.

160.4. In a letter dated 22 June 2018 the CER, Appellants' attorneys stated that ,

> "For clarity, the Centre for Environmental Rights *are not the attorneys for any communities in or around the proposed*

[217] Record of Proceedings, Vol. 1 p33.

> *mining area*, and we have never suggested that we are. We also *do not represent any landowners in the area*. The CER represents eight non-profit, public interest organisations who believe that the long-term defence of protected areas, strategic water source areas, and biodiversity in this area is in the public interest…
>
> We and our clients are non-profit organisations working to realise people's Constitutional environmental rights to clean air, clean water and health, and sustainable, decent jobs. *We defend the rights of all interested and affected parties*, *particularly local people*, to be consulted on new developments, and to benefit equitably from them. We believe everyone is entitled to accurate information, so that when they decide whether to support or resist a new development, they do so on the basis of the facts."[218]

160.5. Indeed consistent with the national and regional scale focus of their intervention, counsel for the Appellants conceded that they had not brought any evidence from the local communities or farmers.[219] He stated in closing submissions that,

> "What our main thrust in relation to the effect, the prejudicial effect on or the danger to water resources is directed at is not so much the subsistence farmers as *the wider interests of water resources in the country as a whole*. *That is our main focus*."[220]

We note that, contrary to the approach suggested by the court in *Fuel Retailers*, the Appellants appear pre-occupied with the environmental impacts of the proposed mine based on national level, strategic reports to almost the exclusion of

[218] Our emphasis, this letter was produced as part of File Number 5.
[219] Record of Proceedings Vol. 8 p1074.
[220] Record of Proceedings Vol. 8 p1074. (our emphasis).

the social and economic aspects of sustainable development. While the environment and ecological sustainability are foundational to the notion of sustainable development – the NWA, NEMA and the Constitution require us to take an approach which integrates all these aspects without subjective linear focus on any one. Most of the Appellants evidence and information provided to us dealt with the environmental sensitivity of the area (GCS Review and MR Johnstone's testimony)and as a strategic water source area (SWSA) (Dr Le Maître's evidence), national studies by the CSIR and WWF-SA (Ms Colvin's evidence.)

160.6. There is a glaring lack of local site-specific level information from the Appellants relating to the socio-economic impacts (positive and negative) that the proposed mine can bring, or what the alternatives should the WUL not be granted. Section 27(1)(d) of the NWA requires us to consider, not only the socio-economic impact of authorising of the water uses (i), but also of failure to authorise the uses (ii). The Appellants address only 27(1)(d)(i) and are silent about (ii). The Respondents provided evidence and information on both. They proffered evidence and information on the potential social and economic benefits of the mine, while acknowledging its environmental impacts (for which they have advanced mitigation measures). The local

community member who claimed to represent over 90 000 community members stated that any amount of jobs from the mining company would be better than farm jobs that have kept them impoverished.[221] Mr Triphati testified on the potential of the mine to earn foreign currency from exports, to provide energy security by supplying coal to the local energy industry and certainly through normal taxes payable to the government.

160.7. Mr Nene's evidence confirms the Appellants' submission that the target mining area is characterised by low-income poor families who earn low wages supplemented with bags of mealie meal from farmers. It is an indictment on the current socio-economic order that the local community remain largely poverty-stricken in the midst of the very activities of farming that the Appellants claim to be providing sustainable livelihoods.

160.8. Section 27(1)(f) of the NWA requires us to also consider the effect of authorizing the water use on the resource itself and other users. Sufficient detailed reports were provided on the impacts of the water uses on the wetlands, underground water, springs and aquifers in the mine site. The reserve determination is a measure of assurance that there will be sufficient water for ecological needs after granting

[221] Record of Proceedings Vol. 5 p719,

of the WUL. Most of the documented comments from the public raised concern with impacts of the mining on the surrounding environment. No other water users raised alarm about their own opportunity to use the same water resources.

160.9. We find that based on the information available to us and building upon the decision of the First Respondent to issue the WUL, there will be a positive socio-economic impact on the local community. The accepted estimate of 70 jobs during construction, 576 jobs during the operational phase[222] can make a substantial difference to the livelihoods of a community that has evidently not been enriched by the current water uses and commercial farming in the area. The Second Respondent also undertook to provide other social amenities and capacity building initiatives as part of the social labour plan.

161. The sixth ground of appeal is that the Respondent's failed to give effect to procedurally fair administrative action in terms of section 33 of the Constitution and section 3 and 4 of the PAJA. While the Appellants counsel indicated in the closing submissions that they were not persisting with this ground of appeal, we note the following for the record:

[222] Record of Proceedings Vol. 5 P726

161.1. That the Second Respondent conducted a public participation process in terms of section 41(4) of the NWA from 19 June to 20 August 2015. This was on the direction of the First Respondent.

161.2. The Appellants all registered as interested and affected parties. The Appellants' attorney also seems to have participated as such, acknowledging that they received the WULA documents from the Second Respondent's environmental consultants on 3 August 2015.

161.3. Between 3 August 2015 and 13 July 2016 the is no evidence that the Appellants took some action to participate in the WULA process by way of submitting their own specialist studies reviewing the Second Respondent's documents. There is also no indication that they submitted any substantive written comments apart from the letters of objection from the First and Second Appellant.

161.4. On 13 July 2016 the CER launched a PAIA application for documents submitted by the Second Respondent after 3 August 2015. Specifically, these documents are revisions of reports as directed by the First Respondent, a motivation letter of why wetland offsetting was not possible, the final table of mitigation measures and application forms for a section 21(g) water use (pollution control dam.)

161.5. After July 2016, the CER, presumable acting with the Appellants , commissioned studies to review the Second Respondent's specialist

reports in August and November 2016 respectively. In the meantime the WUL had been issued in July 2016.

161.6. Based on the submission in the grounds of appeal, and documents in support thereof there was no basis for the claim that the Respondents had infringed the right to the Appellants to a fair administrative action. Opportunities and platforms for participation were provided, yet it does not appear that the Appellants made effective use of those platforms to air their views and objection to the granting of the WUL.

162. The seventh ground of appeal was that the First Respondent failed to consider "the strategic importance of the water uses to be authorized" as required by section 27(1)(i) of the NWA. In detail the allegation on this ground is that enabling coal mining by granting the WUL was not strategic. Statistics are provided on the importance of coal globally and nationally in the provision of energy. Statistics are further provided on the potential exports from the proposed mine as well as allegations that the quality of the coal to be mined is poor. It is averred that the mine size is small relative to other mines in the area.

162.1. This ground of appeal is further bolstered by reference to section 2 (4)(a)(v) of the NEMA - which is the principle that "the use and exploitation of non-renewable natural resources must be responsible and equitable." We did not receive information supporting the

alleged inequity of using water to enable exploitation of the coal resources in this area.

162.2. Beyond these vague submissions, no substantial arguments are addressed, and no evidence was provided on why it was not strategic for the water uses authorised in the WUL to be so authorized. Section 27(1)(i) of the NWA must be read together with section 27(1)(h) and (k) of the Act. Whether a water use is strategic does not depend only on the strategic economic importance of the activity they enabled. In this appeal we heard of the huge amounts of investments already sunk by the Second Respondent in pursuit of this project. The Appellants say very little about section 27 (1)(h) which is a very relevant factor to be considered by the responsible authority and the Tribunal. The life of the proposed mine is 15 years which is relatively short compared to other large-scale coal mining operations in the country. The short life of the mine entails that the water uses authorised will cease after those 15 years, except for post-mining closure activities.[223]

163. The Appellants added an eighth ground of appeal midway through the hearing when it was realised that the Second Respondent had not obtained the consent of the owners of farm Zoetfontein 94 HT as required

[223] File Number 2, p 1361, read with File Number 1, p6 to 59.

by section 24 of the NWA.[224] The Appellants argued that the consent of every landowner is required where mining will take place under such land. Indeed, they further explain that such consent required, or alternatively, if it cannot be obtained or is withheld, the decision-maker may still grant the WUL "if there is a good reason to do so". The Appellants interpret "good reason" to mean "good public reason."[225] The issue emerged from the evidence of the First Respondent's witness, the case officer. Upon being asked if the consent of the owners of Zoetfontein was obtained she responded that at the time of making the decision on the WULA, such consent was not presented. She then made a recommendation in the ROR that mining will not commence until the Second Respondent obtains the consent of the landowner concerned.[226] The consent is usually given in the form of the DWS902 form or a signed 'Agreement to Apply for a Water Use.'

163.1. On 2 July 2015, during the public participation process, the Second Respondent addressed a letter to one Mr BP Greyling, who appears to the owner of Zoetfoentein through a company Imfuyo (Pty) Ltd.[227] The letter informed the landowner of the process that was underway, namely that the Second Respondent was applying for a WUL and that the law required them to consult and obtain his

[224] Section 24 of the NWA states that, "A licence may be granted to use water found underground on land not owned by the applicant if the owner of the land consents or if there is good reason to do so."
[225] Appellants Heads of Arguments para 201.
[226] File Number 2 p1456.
[227] Atha Record Vol. 9 pp. 4253 to 4256 and pp. 4261 to 4263

consent. The letter proposed and invited the landowner to a meeting to discuss the issue and any possible mutually beneficial arrangements that could be concluded in relation to the matter. The water uses that will impact farm Zoetfontein are section 21(c) and (i) occasioned by the underground mining and voids under the farm. Otherwise, there will be no physical surface activities on the farm in question.

163.2. Subsequent to this letter, the Second Respondent wrote two further emails to the landowner seeking a meeting or the landowner's response otherwise. In an email dated 17 July 2015, the Second Respondent states that

> "You may remember our last discussion of 3rd July where you had requested me to send the full email pack to Helene; this was duly done.
>
> I followed up last week and she indicated that she had left the copies for you to look at; I have called you a couple of times to try fix a meeting, however was not able to chat directly.
>
> I understand you have a very busy schedule, as noted from *the previous engagements* when we had finally managed to get an agreement signed off for your farms Access & Drilling Contract back in 2013."[228]

163.3. There is no evidence of any responses by the landowner to these letters and emails. As a consequence of the non-responsiveness of

[228] It appears from this correspondence that the Second Respondent had some contact with the landowner prior and during the WULA public participation process.

the landowner, the Second Respondent wrote a letter to the First Respondent on 27 August 2015 in which it is stated that,

> "In the meanwhile we have approached the two adjacent Farmers for obtaining signatures, namely Mr O Malan and Mr BP Greyling for their farms Yzermyn Remaining Portion and Zoetfontein respectively. These farms become relevant taking into consideration the 500m adjacent area and are not directly impacted by underground mining. The correspondence of the same has been submitted to respective attorneys for sign off.
>
> We would further like to reiterate that we have exhausted all possible means to obtain their signatures. Copies of email interactions and a note from our legal Council (sic), Mr F Joubert are enclosed here with for your kind perusal and necessary reference."

What emerges is that, despite making initial contact and discussing the issue, the landowner of Zoetfontein went silent for unexplained reasons. He was not called to testify by any of the parties, he is not one of the appellants, and there is no information to indicate whether he in fact withheld his consent or waived the right created for his benefit under section 24 of the NWA.

163.4. In the context of a labour matter which concerned the right of an employee to be consulted during retrenchment (section 189 (3) Labour Relations Act the court held that

> "The applicant's obstinance therefore left the respondent with no option but to affect her retrenchment. Her persistent *refusal to participate in the consultation process clearly frustrated that process, and in effect, it should be concluded that she waived her rights in that respect*. She

> can therefore not run to this court and complain about non-compliance with the provisions of section 189, when she had in fact turned her back on the very process envisaged in terms of those provisions.
>
> In the light of her refusal to either engage the respondent in the consultation process, and further unreasonably refusing to even consider the offer of an alternative position which would have slightly varied her original terms and conditions of employment, it follows that her retrenchment cannot be construed to be either procedurally or substantively unfair, nor can she be entitled to any relief in that regards.[229]

It is established law however that a waiver of rights should not be easily implied. That a person in whose favour a right is created has not enforced it does not necessarily mean s/he has abandoned the right.

163.5. Section 24 of the NWA is a provision enacted for the benefit of affected landowners on whose land a third party wants to use water. This provision therefore creates a private right that can be exercised by the landowner, with a caveat that the right is not absolute. The responsible authority can override that right if there is a good reason to dispense with the consent of the landowner. This section should be read together with section 41(4) of the NWA which provides for the public participation process. In other words, the process of obtaining the consent is normally part and parcel of the landowner participating in the licence application process.

[229] *Jarvis v Airports Company South Africa* (JS 941/12) [2015] ZALCJHB 84 (4 March 2015), para 36-37.

163.6. However, Mr Greyling never lodged an appeal, and he did not instruct the Appellants to protect his private land rights created by section 24 of the NWA. There is no evidence that he is unable to protect his own rights.[230] In fact, it was an afterthought for the Appellants to include this as an additional ground of appeal. This is unlike the case in *Baleni and others v Minister of Mineral Resources and others* 2019 (2) SA 453 (GP) where the community affected had informal rights protected by specific legislation and the community itself approached the courts for a remedy. In our case we remain alert to the fact that this issue is about landowner's consent to the use of water under his land, as opposed to the consent to mining to take place on or under his land which are dealt with separately under the mining legislation.

163.7. We find that section 24 is only one of many factors that we must consider before we grant or refuse the WUL. On its own section 24 cannot be a decisive basis to take the decision on a WULA. Having considered the other factors as detailed above, and keeping in mind the section 27(1) factors discussed in this decision, we believe that there are good reasons to dispense with the owner of Zoetfontein's consent. The socio-economic considerations, together with our assessment of the impacts on the wetlands on this, and

[230] As required by section 32 (1) of the NEMA assuming his right have anything to do with environmental protection- which the Appellants have focused on in the other grounds of appeal.

other affected properties entails that these are good reasons to dispense with the consent.

Other relevant considerations

164. The Appellants argued that the First Respondent failed to consider national policies, guidelines, strategic documents and reports that could have informed a decision not to grant the WUL. The case of *Sasol v MEC for Agriculture, Conservation, Environment and Land Affairs, Gauteng v Sasol Oil and Another* [2006] 2 All SA 17 (SCA) para 19 was cited in support of the requirement for decision makers to consider such guidelines.

164.1. We note that almost all the documents alleged to contain guidelines to be followed by us, and the First Respondent before us, are in fact not as specific as the guidelines at issue in the *Sasol* case. The National Water Strategy was clearly considered by the First Respondent and we have presently considered its aims, vision, and strategic goals, in making the above findings and decisions on the grounds of appeal. It provides the broad framework within which we implement section 2 and 27 (1) of the NWA. The reports of SWSAs, *WWF-SA Coal and Water Futures* report are general research documents that cannot guide a project-level decision-making process.

164.2. It was argued by the Appellants that,

> "It is clear from these provisions that the National Water Strategy, which is statutorily prescribed by Parliament, envisages the formal legal protection of SWSAs *in future*. This is a *process which has already been started*."[231]

A decision over a WULA is a specific decision that the First Respondent took and that we are taking now in 2018. It should be considered on the basis of existing law, relevant government policy and any government guidelines. Research documents allegedly under consideration for incorporation into policy in the future are clearly irrelevant.[232]

164.3. We were further exhorted to consider the CSIR Report on Strategic Water Source Areas (SWSA). The submission was made thus,

> "It is respectfully submitted that it would not be reasonable for the Water Tribunal to dismiss without good reason, the results of a thorough and detailed project which was conducted by a government research entity (the CSIR) to identify the specific areas in South Africa which are important from a water security point of view, and which has been taken up into national policy."[233]

A research report produced by the CSIR is not a government policy. As a matter of fact, there many reports produced by the CSIR which often the government does not necessarily agree with. Until the recommendations of such reports are formally incorporated into

[231] Record of Proceedings, Vol. 3 p417,
[232] See Record of Proceedings Vol. 5 p560 (where Ms Colvin admits that adoption of the recommendations of her studies is still being considered. Even the National Water Strategy is still a draft out for comments since 2013.)
[233] Appellants' Heads of Argument, para 159.

approved policy, it would be a misdirection for us to base a decision on them.

164.4. It was further argued, in relation to the proposal for 'no-go' areas, that the government is in the process of implementing some of the recommendations of the 2011 WWF-SA report.[234] Ms Colvin admitted that, as yet, there is no law or policy that implements this noble recommendation for 'no-go' areas. While acknowledging that various government departments could be considering such a policy in the future, the reality regrettably, is that it is not part of law or policy now as we decide this appeal. Such a national policy fermentation process is irrelevant to the question whether or not the Second Respondent should be granted a license in 2018.

The adequacy of mitigation measures

165. Considerable evidence and arguments were addressed towards the contested adequacy of the measures proposed to mitigate the identified impacts of the mine on water resources. Similarly, contestation was high over whether there is sufficient financial provision for post-mining closure and rehabilitation activities.

165.1. Based on a consideration of the proposed mitigation measures, as revised on various occasions when concerns were raised by the First

234

Respondent, we conclude that the Second Respondent have proposed mitigation measures that are reasonable, and technically adequate to deal with the impacts of dewatering, decant, and management of waste water from the mine. The evidence led by the Respondents and the conditions imposed in the WUL together lead us to believe that, consistent with the principles in section 2(4) of the NEMA and section 2 and 27(1) of the NWA, the measures are technically adequate. As noted above, the precautionary principle does not require the imposition of unreasonable measures that are not needed. However, the technical adequacy of the mitigation measures is not the end of the matter, the overall sufficiency thereof must include adequate financial provision to implement those technically sound measures. We address the adequacy of financial provision later in the decision from para 166 below.

165.2. The planned water treatment plant to be used during the operation phase is sufficient, especially given the modularised design of the plant. This makes the plant flexible and adaptable to changes in the volumes of water to be treated, as well as future technological advances.[235] This Mr Johnstone agreed with and confirmed that a modularised plant is a reasonable solution.[236]

[235] See uncontested testimony of Mr Smit – Record of Proceedings Vol. 6 p804.
[236] Record of Proceedings Vol. 3 p299-300.

165.3. We note the concern that the WUL conditions and mitigation measures may not be effective due to alleged poor governance and lack of effective enforcement. This is an irrelevant factor for us in this moment, because an applicant should not be prejudiced by internal government deficiencies which the Appellants should address through other processes and fora. Indeed, lack of resources and poor enforcement of environmental legislation can be a serious obstacle to sustainable management of natural resources – but it is not *per se* a reason to deny a licence. Nevertheless, in order to effectively implement the mitigation measures and ensure compliance with the conditions aimed at addressing post-closure water treatment operations, the Second Respondent has to provide some form of financial guarantee.

Financial provision for post-closure plan

166. The First Respondent provided evidence that it is something they do not require. In particular, Clause 14 of the WUL provides under 'Budgetary Provisions' that

> "The water user must ensure that there is a budget sufficient to complete and maintain the water use and for successful implementation of the rehabilitation programme.
>
> The Department may at any stage of the process request proof of budgetary provision."

Considered in isolation, this response may demonstrate the insufficient attention to the need for financial provision for post-closure water treatment and related rehabilitation costs. However, the legal regime for the impacts of mining is not governed by the NWA only, the MPRDA and the NEMA contain synchronised provisions that are relevant to this issue.

166.1. The Second Respondent argued that the adequacy of financial provision must be determined in the context of the multiplicity of laws that regulate mining activities. In this regard, the Second Respondent correctly submitted that,

> "We have already referred in passing to the multi-permitting approach of the South African law in terms of which any mining project. such as the Yzermyn Underground Coal Mine, had to comply separately and cumulatively with the requirements of separate legislative instruments under the auspices and administration of different governmental departments and this is the context in which the concern with financial provision has to be considered."[237]

166.2. The MPRDA[238] read together with the NEMA[239] contain provisions that now entrust the Department of Mineral Resources with responsibility for financial provisioning for post-closure rehabilitation. The Minister of

[237] Second Respondents Heads of Arguments, Para 155, submission continue on this aspect to Para 160.

[238] Section 43 of the MPRDA on the Issuing of a closure certificate. Provides that (1) The holder of a prospecting right, mining right, retention permit, mining permit, or previous holder of an old order right or previous owner of works that has ceased to exist, remains responsible for any environmental liability, pollution, ecological degradation, *the pumping and treatment of extraneous water*, compliance to the conditions of the environmental authorisation and the management and sustainable closure thereof, until the Minister has issued a closure certificate in terms of this Act to the holder or owner concerned. (our emphasis).

[239] Section 24P (5) of the NEMA provides that "The requirement to maintain and retain the financial provision contemplated in this section remains in force notwithstanding the issuing of a closure certificate by the Minister responsible for mineral resources in terms of the Mineral and Petroleum Resources Development Act, 2002 to the holder or owner concerned and the Minister responsible for mineral resources may retain such portion of the financial provision as may be required to rehabilitate the closed mining or prospecting operation in respect of latent, residual or any other environmental impacts, *including the pumping of polluted or extraneous water, for a prescribed period*." (our emphasis).

Environmental Affairs promulgated regulations[240] to operationalise section 24P of the NEMA in November 2015. Financial provisioning explicitly falls within the purview of these regulations. Regulation 5 provides that,

> "5. Scope of financial provision. An applicant or holder of right or permit must make financial provision for
> (a) rehabilitation and remediation;
> (b) decommissioning and closure activities at the end of prospecting, exploration, mining or production operations; and
> (c) remediation and management of latent or residual environmental impacts which may become known in future, *including the pumping and treatment of polluted or extraneous water.*"

It is clear that "the pumping and treatment of polluted or extraneous water"[241] is purposively aimed at addressing the financial concerns raised by the Appellants. Any other interpretation would return the regulatory framework to a time when it was fragmented and chaotic for effective compliance.

166.3. Indeed, Mr Johnstone for the Appellants confirmed that the critical aspect is that there must be some financial provisions, "[w]hether it says with the Department of Minerals and Energy or the Department

[240] Regulations pertaining to the Financial Provision for Prospecting, Exploration, Mining or Production Operations GNR.1147 in *Government Gazette* No. 39425 published on 20 November 2015 as last amended by General Notice 991 in *Government Gazette* No. 41921 published on 21 September 2018.
[241] We interpret this literally and the word 'extraneous' to mean other impacts on water that need remediation, although, not directly caused by or related to the mining activity. This would cover impacts on a river ecosystem, wetlands, decant and its treatment, and related impacts on water resources.

of Water Affairs does not matter. The financial provision should contain a sum for potential water treatment in it."[242]

167. The integration of environmental authorisation processes under the MPRDA and the NEMA, albeit imperfect, was intended to prevent the situation at hand in this appeal. While the creation of an integrated authorisation regime between the MPRDA and the NEMA seems to exclude authorisations and permits required under the NWA, section 30 of the NWA[243] (as a specific environmental management Act) must be read together with, and in the context of the regime established by the MPRDA and the NEMA on financial provisioning.

167.1. Be that as it may, section 30 of the NWA is quite broad and not subjected to any other legislation. The First Respondent is bound constitutionally to act in terms of section 30 regardless of any financial provision that has been imposed on a miner under the NEMA and MPRDA. Yet there is an internal qualification that the

[242] Record of Proceedings Vol. 3 p300.

[243] Section 30 entitled 'Security by applicant' provides that:

(1) A responsible authority may, *if it is necessary* for the protection of the water resource or property, require the applicant to give security in respect of any obligation or *potential obligation* arising from a licence to be issued under this Act.

(2) The security referred to in subsection (1) may include any of the following:

(i) A letter of credit from a bank;
(ii) a surety or a bank guarantee;
(iii) a bond;
(iv) an insurance policy; or
(v) any other appropriate form of security.

(3) The responsible authority must determine the *type, extent and duration of any security required*.

(4) The duration of the security may extend *beyond the time period specified in the licence in question*.

(5) If the responsible authority requires security in the form of an insurance policy, it may require that it be jointly insured under or be a beneficiary of the insurance policy and where appropriate, the responsible authority must be regarded as having an insurable interest in the subject matter of the insurance policy.

(6) A person may apply in writing to the responsible authority to have any security given by that person in terms of this section amended or discharged at any time, which application may not be unreasonably refused."

Responsible Authority acts thereunder, "*if it is necessary* for the protection of the water resource or property." This legal position could create difficulties for a miner who has to provide for financial security or guarantees under the various legal regimes for the same purpose. However, it is clear that section 30 is applicable, if the First Respondent concludes that *it is necessary* to use it. If, for instance, there is sufficient financial provision under section 24P of the NEMA, it may not be necessary for the First Respondent to act in terms of section 30.

167.2. The regulatory interaction of section 43 of the MPRDA, section 24P of the NEMA and the NEMA Financial Provisioning regulations, read with section 30 of the NWA is complex. We remain alert to the legislative design where the NEMA is framework legislation upon which specific environmental management acts, of which the NWA is one, draw normative direction. Viewed from this perspective, section 30 of the NWA is an integral appendage of the financial provisioning sections in the NEMA (section 24P) to be relied on "if it is necessary".

167.3. In this context, it is understandable why the First Respondent's case officer testified that they have not asked for proof of the budget required in terms of the WUL.[244] The legal framework provides room for the First Respondent to rely on financial provisioning made by

[244] Record of Proceedings Vol. 5, p656-658.

the Departments of Mineral Resources and Environmental Affairs. This, only to the extent that it covers all the predicted water management costs. It is not correct for the Appellants to argue that "that Atha [Second Respondent] has also *not made any financial provision* in the MPRDA process."[245] There is on record a Closure and Rehabilitation Plan and a budget which is part of the record.[246] The plan provides that

> "Properly located and equipped boreholes will be monitored to determine the effects on groundwater of the area. Water elevation readings will be taken monthly, and chemical analyses of water samples will be done quarterly. Surface water samples will be taken for analysis from collection points, decant points and nearby water courses, to determine the pollution effect of the rehabilitated mine on surface water."[247]

168. A reasonable approach, in view of the scope of section 30 of the NWA, is for the First Respondent to assess whether the provision made under NEMA and the MPRDA sufficiently provides for post-closure water contamination management. If it does not, as it seems not to, the First Respondent is empowered to act in terms of section 30 and require additional financial provision. This process by itself is not, however, a

[245] See Appellants Heads of Arguments para 136 (our emphasis). Similarly, in para 137 Appellants, argue that the provision for 'Water Management' does not include water treatment, ignoring the last part of Component 13 which we recite in footnote 243 below. While the model, then predicated no decant, there was a realization that the predictive decant modelling *will need to be recalibrated during mining*. We know that the final Delta-H model did predict decant and therefore direct action under section 30 of the NWA.

[246] File Number 5, p2679, The current provision of only R5 757 031,00 under the MPRDA provides under Component 13 for *Water Management*. It states that "The Master Rate developed by the DMR is considered to be over-conservative and too generic to be applied in the case of Yzermyn where *the predictive modelling suggests that mine decant will not occur*. An allowance has been made of monitoring of surface water and groundwater for a period of three years, with management measures estimated at R 120 000. This cost estimate *will need to readjusted during the Life of Mine as real data on groundwater level and water quality is obtained* and *the predictive decant modelling can be properly calibrated*." (our emphasis noting that the final studies in fact predicted some decant will occur). Appellants Head of Arguments para 136-138 show the inadequacy of the financial provision.

[247] Atha Record Vol. 1 p797.

condition precedent to the issuance of WUL. Indeed section 30 is discretionary but coupled with a legal duty to act where the facts indicate that it is necessary to act in terms thereof.

169. The current financial provision[248] submitted by the Second Respondent must be reviewed and in tandem with the periodical review of the WUL, the First Respondent should consider *if it is necessary* to require additional security under section 30 of the NWA. The WUL clauses on budgetary provisions may therefore be adequate, when read together with other relevant factors, including the extent of the provision made under the MPRDA and the NEMA referred to above.

169.1. Should the financial provisioning still be perceived to be inadequate then, *a fortiori*, the Appellants should address that with the Ministers responsible for determining and setting the financial provision in terms of section 24P of the NEMA read with the Financial Provisioning Regulations. International good practice dictates that regulators should insist on specific and realisable financial security instruments for post-mining reclamation and rehabilitation of the impacted environment. Such financial provision must be reviewed regularly and continuously to adjust for mine monitoring data, inflation, and other financial variables.[249]

[248] As per File Number 5, p 2678.
[249] Reg 11 of Regulations pertaining to the Financial Provision for Prospecting, Exploration, Mining or Production Operations GNR.1147 in *Government Gazette* No. 39425 of 20 November 2015.

170. Having considered all the factors listed in section 27 of the NWA, section 2 of the NEMA, section 24 of the Constitution and the submissions made by the parties through their witnesses; and closing submission, we arrived at the following decision.

ORDER

171. That the appeal be and is hereby dismissed.

172. That the Water Use Licence (Ref: WUL05/W51A/ACFGIJ/4726) be and is hereby confirmed subject to the following additional conditions:

172.1. The Second Respondent shall provide to the First Respondent in terms of Clause 14.1 of the Water Use Licence, proof of financial provision made in terms of legislation, other than the National Water Act 36 of 1998.

172.2. The First Respondent shall, within 60 days of this judgment and before commencement of mining, review the adequacy of the budgetary provision provided in terms of para 172.1 hereof and Exhibit 12 of the record; and if necessary, require the Second Respondent to provide further financial security in accordance with section 30 of the National Water Act (36 of 1998).

172.3. The two-year review of the Water Use Licence required in terms of Clause 4.1 of the license shall include a focused review by the First Respondent of the adequacy of financial or budgetary provision made for post-closure water treatment and remediation consistent with prescribed monitoring and auditing reports on the possible future impacts.

HANDED DOWN AT PRETORIA ON THIS 22nd DAY OF MAY 2019

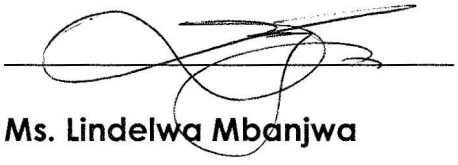
Prof. Tumai Murombo

Additional Member of the Tribunal (Panel Chair)

Mr. Ferdinand Zondagh

Additional Member of the Tribunal

I agree, and it is so ordered.



Ms. Lindelwa Mbanjwa

Deputy Chairperson of the Tribunal

I agree, and it is so ordered.