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The politics of visibility in a mined landscape: the image as interface

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Fig. 1 *Re-Mining Dump 20*, photograph by Jason Larkin, 2012

(Reproduced with permission by J.Larkin)

Trucks transport sand from Dump 20, once one of the largest in the world, to trains that deliver the sand to the processing plant 4 kilometers away where any remaining gold is extracted. Gold 1 has been reclaiming the dump for 6 years and has removed 17 million tons of waste. Rehabilitation of the land, earmarked for public open space, is scheduled to begin in 2018 (Kardas-Nelson, 2013).



Figs. 2 a, b, c, d, e, f Jason Larkin

Selected images from *Tales from the city of gold* 2013 (clockwise beginning at top left)

2a *Pressurised Water*. Krugersdorp. 2013

2b *Neutralised AMD* (acid mine drainage). Randfontein. 2012

2c *Final Weeks of a Mine Dump*. Boksburg. 2010

2d *Daniel and the Hunting Dogs*. Selby, Johannesburg. 2012

2e *RDP Housing*. Riverlea, Johannesburg. 2012

2f *Admi Recycles off a Rubbish Dump, on a Mine Dump*. Turffontein. 2010

https://www.google.co.za/search?q=jason+larkin+photographer&rlz=1C2AVSX_enZA410&biw=790&bih=490&tbm=isch&tbo=u&source=univ&sa=X&ei=10Y1VJaPCc7e7Ab6jID4DA&ved=0CCwQsAQ

Accessed 08/10/2014

Larkin, J. 2013. *Tales from the City of Gold*. Heidelberg Berlin: Kehrer.



Fig.3 Jeanette Unite

Headgear: Gold Shaft. 2008. Drawing on archival cotton rag paper with artist-made pastels and mixed media. http://asai.co.za/wp-content/gallery/jeannette-unite-gallery/JeanetteUnite11.jpg

Accessed 09/03/2015



Fig.4 Lynda Ballen

Strata 2012. Part of the *Concerning Preciousness* exhibition for David Krut Projects, Johannesburg.

http://davidkrutprojects.com/cms/wp-content/uploads/2012/09/Ballen-Strata-2012-Ink-and-glitter-drawing-on-reconstituted-pigmented-handcrafted-paper-laminated-over-twine-LR.jpg

Accessed 09/03/2015



Fig.5 Dillon Marsh.

Nababeep South mine 2014, 302,791.65 tonnes copper extracted. Digitally manipulated image.

http://dillonmarsh.com/copper03.html

Accessed 05/03/2015



Fig. 6 Ilan Godfrey

Gathering dirty coal, disused Mashala Mine, Extension Six, Ermelo, Mpumalanga. 2011

Image from the *Legacy of the Mine*. https://www.google.co.za/search?q=ilan+godfrey+legacy+of+the+mine&rlz=1C2AVSX

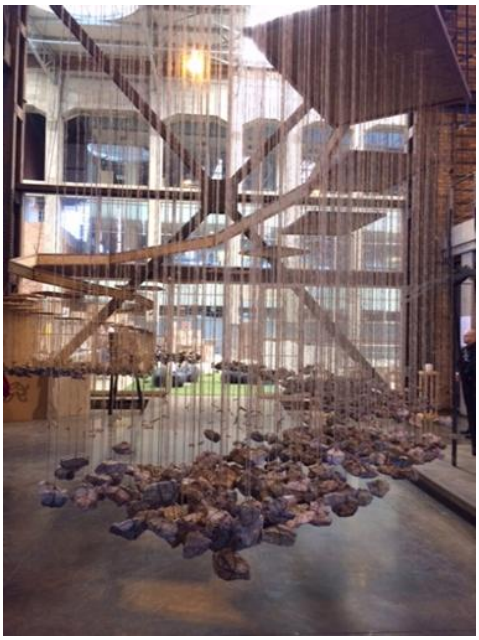
Accessed 19/02/2015

The term "dirty coal" may be a colloquial term for discard coal: - unrecovered coal which is mixed or contaminated by overburden or else washed coal that does not meet quality specification for the local or international markets (Ford. Pers. Comm. 2015). Godfrey in this instance uses emotive language in the caption which overlays the way in which this image is read.



Fig 7. Neville Petersen

Surface to Air. 2014. One of a series of digital aerial photographs of mining activities around tailings dams. On show at the Lovell Gallery stand, Johannesburg Turbine Art Fair 2014. http://npphoto.wozaonline.co.za/ Accessed 09/03/2015





Figs. 8a & 8b Stephanie Schoeman *Golden Mean. The Course between Extremes*. 2014

Stone and string installation at the Johannesburg Turbine Art Fair (Lovell Gallery). All the stones were located from mining dumpsites around Johannesburg, the debris left-over from gold mining processes which serves as a reminder of the origins of this city. Photographed by L.Hess. 2014.





Fig. 9a & 9b. J. Henry Fair.

9a. *Expectoration.* Bauxite waste from aluminum processing. Darrow L.A. 2005

9b. *Cover-up.* Hydro-seeding after mountain top removal around Kayford Mountains, WV. 2005

https://www.google.co.za/search?q=henry+fair+photographer&rlz=1C2AVSX_enZA410&b

Accessed 31/10/2014



Fig. 10a Edward Burtynsky



Fig. 10b Edward Burtynsky

10a *Alberta Oil Sands* # 2, 2002

10b *Mines #19, Westar Open Pit Coal Mine, Sparwood, British Columbia*. 1985

https://www.google.co.za/search?q=edward+burtynsky+alberta+oil+sands&rlz=

Accessed 05/01/2015



Fig. 11a David Maisel



Fig. 11b David Maisel

11a. *American Mine* (Carlin, Nevada 13), 2007

11b. *The Lake Project 17*, 2002

https://www.google.co.za/search?q=david+maisel+black+maps&rlz=1C2AVSX_enZA

Accessed 28/01/2015



Fig.12 Nicolas Poussin

Landscape with Pyramus and Thisbe. 1651

https://www.google.co.za/search?q=landscape+Poussin&rlz=1C2AVSX_enZA410&b

Accessed 27/01/2015



Fig.13 Pompeii Mural

Garden Fresco at the end wall of the Villa Livia. 30 – 20 BC

https://pastperfectpresenttense.wordpress.com/2009/10/21/kathryn-neale-pompeii-frescoes/

Accessed 23/01/2015


THREE VERTICAL SHAFTS, OF WHICH THE FIRST, A, DOES NOT REACH THE TUNNEL; THE SECOND, B, REACHES THE TUNNEL; TO THE THIRD, C, THE TUNNEL HAS NOT YET BEEN DRIVEN. D—TUNNEL.

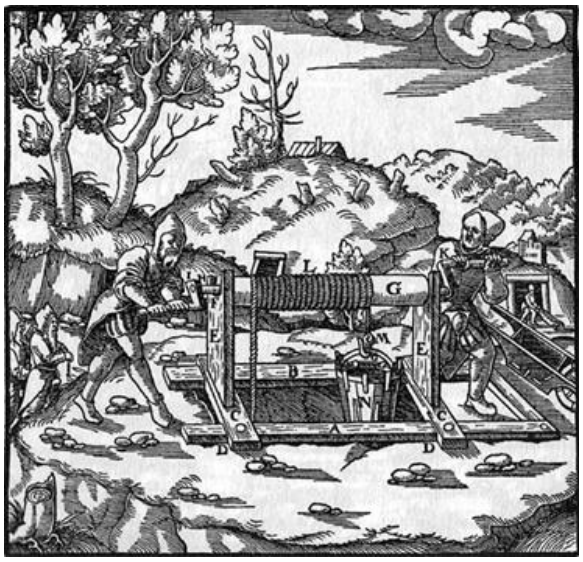


Fig. 14

Illustrations from Georgius Agricola's De Re Metallica, 1556. This was the first publication on mining and metallurgy. Based on field research and observation, it offered technical drawings as a complement to the text, illustrating various specialized techniques in mining practices of the time. It remains one of the most respected scientific classics of all time.

https://www.google.co.za/search?q=de+re+metallica&rlz=1C1AVSX_enZA410ZA41

http://store.doverpublications.com/0486600068.html#sthash.qEUADi69.dpuf Accessed 02/01/2015

X

The New Topographics

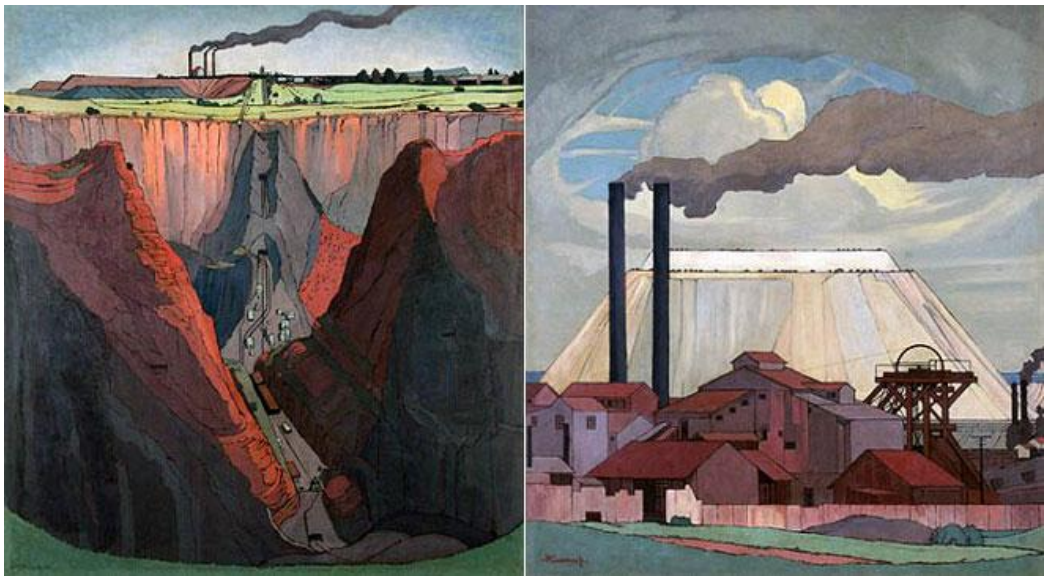

Fig.15 Frank Gohlke. *Grain elevator and lightning flash, Lamesa, Texas*, 1975, Gelatin silver print

http://arttattler.com/archivefrankgohlke.html Accessed 28/01/2015

The term "New Topographics" was coined by William Jenkins who curated of a group show of American landscape photography at George Eastman House in Rochester, New York in 1975. Titled “Photographs of a Man-Altered Landscape” the exhibition featured mainly black and white prints of urban, suburban and industrial sites, which taken collectively advanced an aesthetic of the mundane. Participating US photographers were Frank Gohlke, Robert Adams, Stephen Shore, Lewis Baltz and Nicholas Nixon. Also included in the exhibition were the American images taken by European photographers, Bernd and Hilla Becher. The *New Topographics* exhibition presented a cohesive theme that, with a growing unease, reflected on the ever increasing urbanization and industrialization eroding America’s natural landscape, and which made a politically contemporary statement for its time. Seen as a reaction to the stereotype images of a pristine idealized landscape that glorified the natural and the elemental, the New Topographics exhibition signified a turning point which elevated the banal or what was becoming ‘everyday’ in landscape representation (Sean O'Hagan: 2010).



Fig 16 Hilla Becher. *Pennsylvania Pit Heads* 1974
http://www.theguardian.com/artanddesign/2010/feb/08/new-topographics-photographs-american-landscapes Accessed 14/10/2014



Figs. 17a and 17b

J.H.Pierneef. Two of the panels from a series of thirty-two depicting landscapes of different parts of South Africa commissioned by the South African Railways in 1929. Displayed in the concourse of the then new Johannesburg Park Station, they were unveiled in 1932.

http://i.imgur.com/ho82P.jpg Accessed 10/11/2014



Fig 18. Maud Sumner (1902-1985)

Mine dumps at Sunrise. Oil on canvas, 50 x 75 cm http://www.contemporary-african-art.com/south-african-modernists.html#sthash.ipRpoEGe.dpbs Accessed 02/01/2015



Fig. 19a William Kentridge

Rand Mines Ledger 126. 1999. Etching on a ledger page of 1913.

http://davidkrutprojects.com/cms/wp-content/uploads/2012/09/kent-rand-mines.jpg

Accessed 10/11/2014

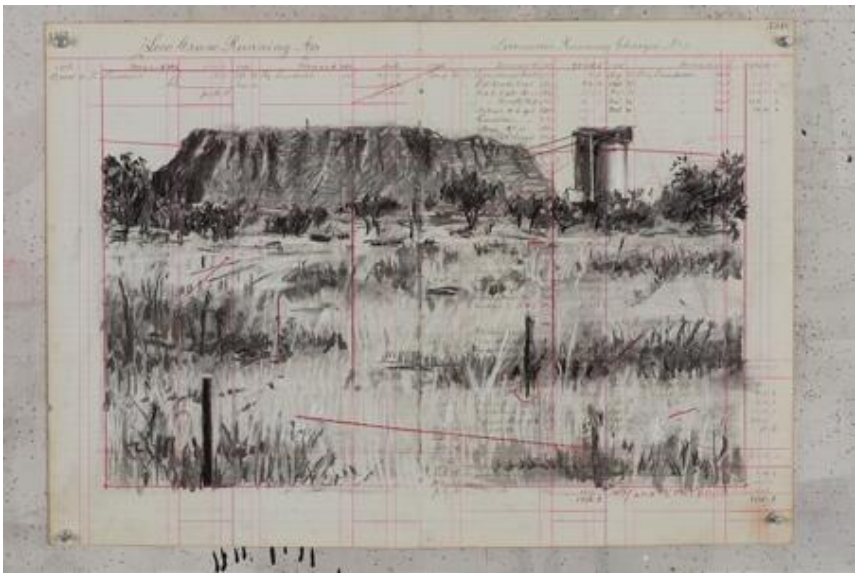


Fig. 19b. William Kentridge

17 km from Rustenburg (51) 2013. Charcoal, pastel and coloured pencil on ledger book paper from the Central Administration Mine Cash Book 1906. 47 x 66cm.

http://www.goodman-gallery.com/artists/williamkentridge _Accessed 02/01/2015



Fig. 20 Alan Crump

Mine Dump and Slimes Pool . 1990. Watercolour.

http://issuu.com/designinformation/docs/alan_crump_book Accessed 28/12/2014



Fig 21. Clive van den Berg

Underneath III, 2013. Oil on canvas. 200 x 150 cm included in the exhibition, Land Throws up a Ghost , Goodman Gallery

http://www.goodman-gallery.com/exhibitions/345

Accessed. 15/01/2015.



Fig. 22 Timothy 'O Sullivan

The Shoshane Falls photographed in 1868. 'O Sullivan served as photographer for the Clarence King transcontinental expedition to conduct a geological survey of the American interior.

http://www.nelson-atkins.org/images/exhibitions/OSullivan.jpg accessed 22/03/2015

Topographical conglomerate maps and landscapes



Fig. 23a Jacob van der Croos

Views of The Hague, with Twenty Scenes in the Neighbourhood. 1661-63



Fig. 23b Claes Jansz Visccher

Antwerpen . 1650

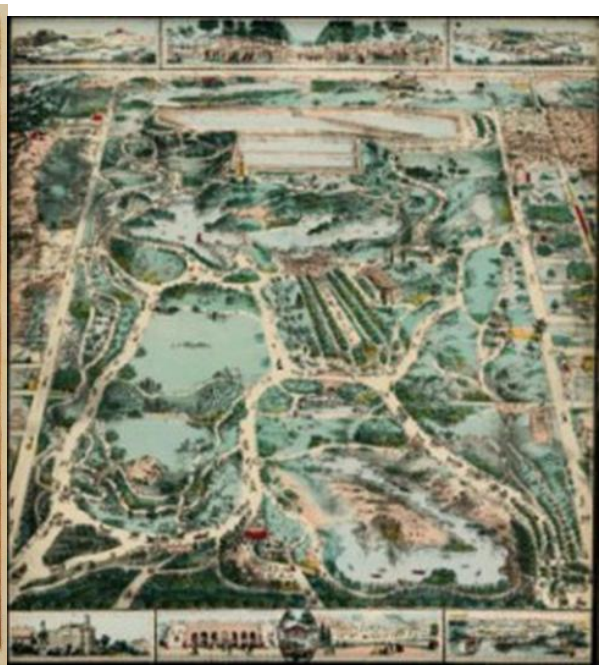


Fig. 23c John Bachman

View of Central Park. 1863

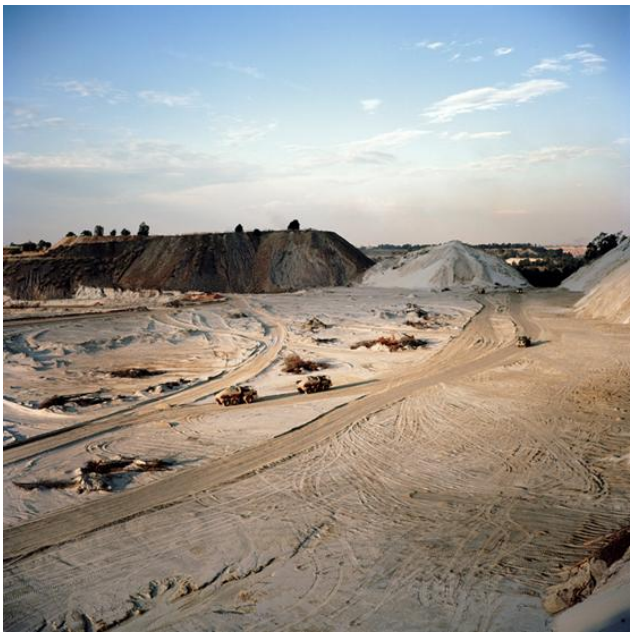
https://sheridancoleman.wordpress.com/studio-2/topographical-conglomerates/

Accessed 28/01/2015

APPENDIX

Re-Visiting Dump 20, 15 December 2014. A Photographic Journal by L.Hess

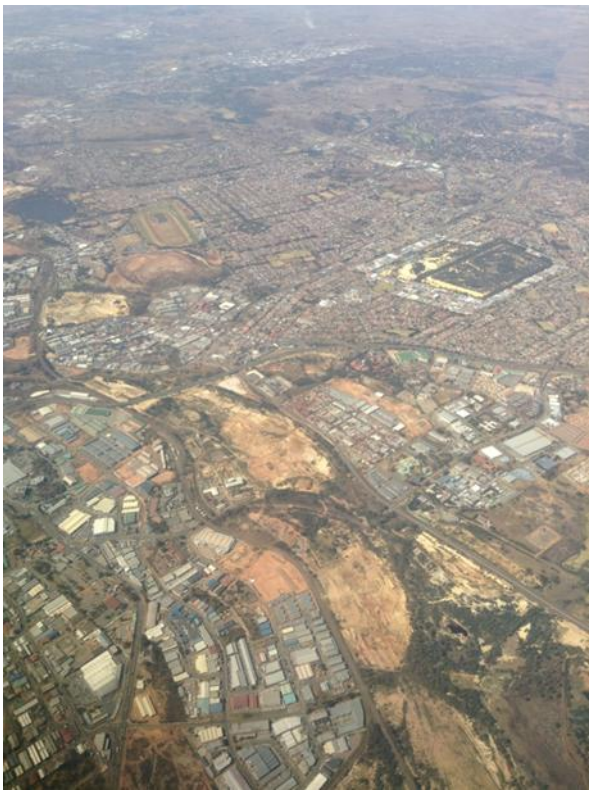
I have not attempted any analysis, merely mentioning what I saw and was told. An analysis would connect the images and comments to a much deeper narrative, but the reader can draw his/her own conclusions. I simply want to acknowledge that for an 'outsider' the opportunity to visit the site was a singular experience.



Jason Larkin *Re-Mining Dump 20,* 2012



Linda Hess *Re-visiting Dump 20,* 2014





Aerial photographs of Johannesburg , 2014, showing mine dumps still in situ and areas where mine dumps have been removed. To get an idea of the magnitude of these dumps, see the image on the right with the FNB stadium to the left of the tailings dam. (All phtotgraphs by L. Hess unless otherwise stated)

Panel 1 Panel 2 Panel 3 Panel 4



New Map of the Witwatersrand Goldfields. Compiled by Wood and Ortlepp. Johannesburg 1898.

Photgraphed by Janus Boshoff, 2015.



New Map of the Witwatersrand Goldfields. (Detail. Panels 2 & 3) Compiled by Wood and Ortlepp. Johannesburg 1898. Clearly the east-west axis of the gold reef is visible by the greater detail and information provided on the map. What is intriguing though is that every surface area represented on the map has been surveyed, fragmented, named and demarcated by boundaries, delineating farms; not vacant, unpossessed land, but belonging to white farmers.

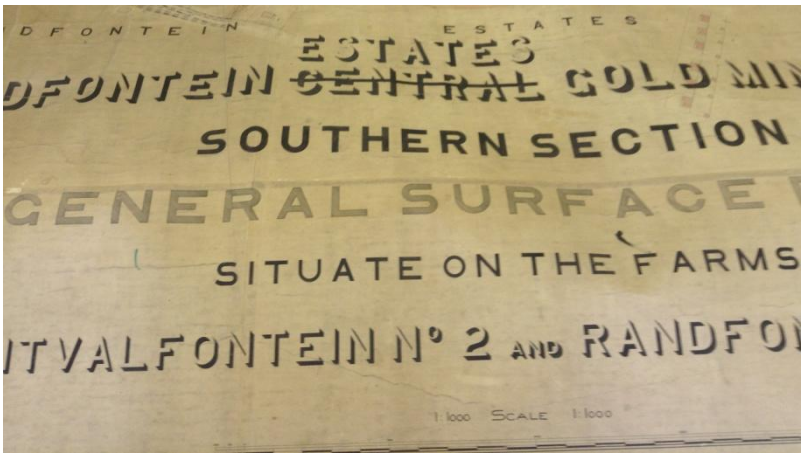
The next image is a section from Panel 1 showing the location of Randfontein Estates, the area where Dump 20 is situated. The Randfontein Estates Gold Mine was situated on the farms Uitvalfontein and Waterval and was founded in 1889

Photographed by Janus Boshoff, 2015

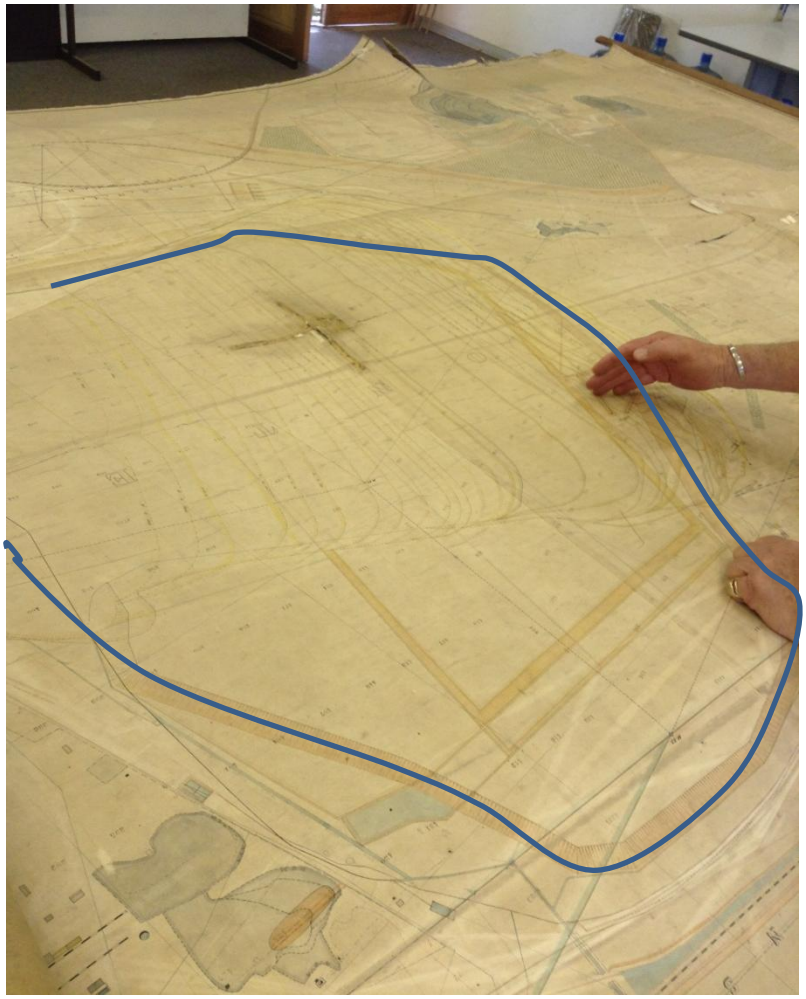


New Map of the Witwatersrand Goldfields. (Detail)

Photographed by Janus Boshoff, 2015

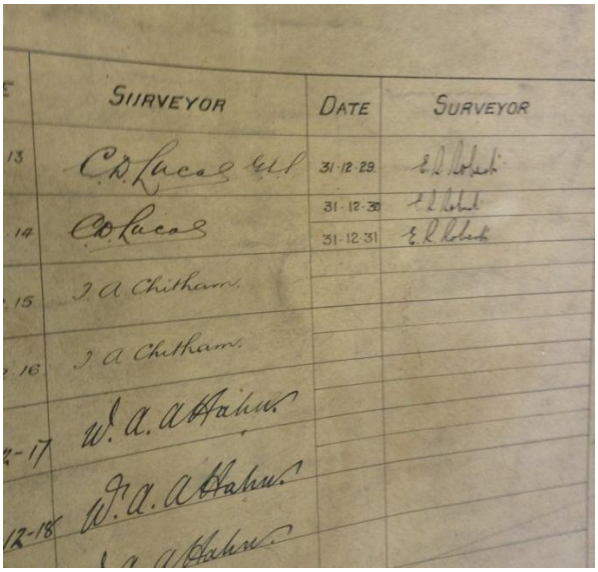


An old map of Randfontein Estates, hand-drafted by cartographers recorded mining activities over successive years, including the formation of Dump 20 (outlined).

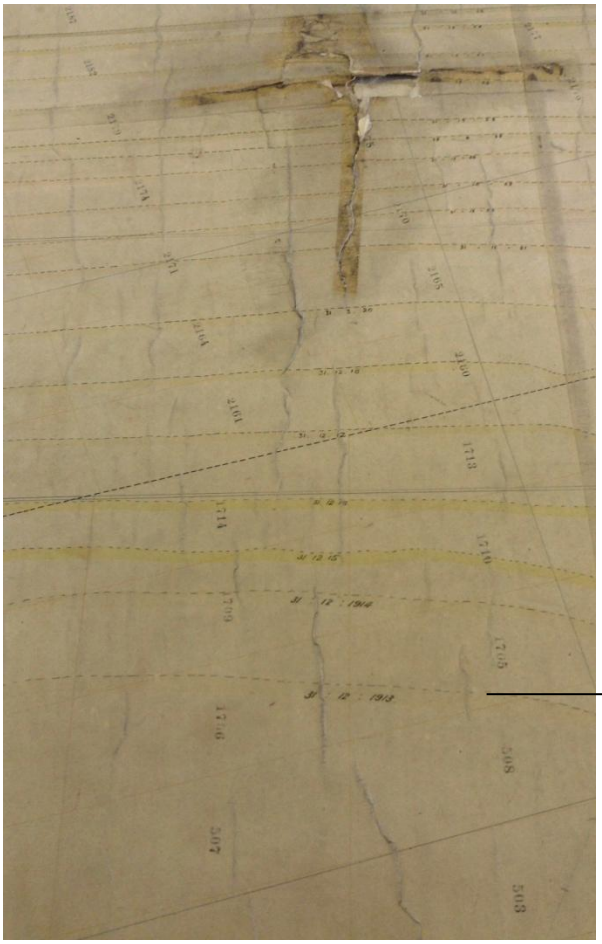


XXI

The details below show information entered and signed off by mine surveyors and dates back to 1913 when the tailings dump (now known as Dump 20) began.



	SURVEYOR	DATE	SURVEYOR
13	C.D. Lucas	31-12-29	E.R. Robert
14	C.D. Lucas	31-12-30	E.R. Robert
		31-12-31	E.R. Robert
15	J. A. Chitham		
16	J. A. Chitham		
2-17	W. A. A. Hahn		
12-18	W. A. A. Hahn		



This survey line dated 1913 shows the first layer of the tailings dam. It is read as a contour map with successive layers indicated by the parallel lines, dated and increasing in elevation.

An expanded view of Dump 20



A guided tour of the site

Dump 20 is a tailings dam that is in the process of being recycled. It is located on Randfontein Estates just on the periphery of the town, Randfontein.

I visited the site on 15 December 2014, accompanied by Andrè du Plessis, Surface Operations Manager for this section of the mine which is currently owned by *Sibanye Gold.* When Jason Larkin photographed this site in 2012, the mine was owned by a company called *Gold 1*, and he liaised with the CEO at the time, Dick Plaistowe, who is currently Senior Vice President of Metallurgy & Surface Operations at *Sibanye Gold*. Ownership of the mine and dumps has changed a number of time during the course of operations which date back to 1889.



This is the site from which Larkin photographed his image. I refer to it as "Larkin's hill". I was unable to climb to the top of this sand dump because the sand is so loose and soft. I managed to get a third of the way up and the going was extremely difficult. The difference in elevation is obvious when comparing his image with mine. Looking north /north-east from this elevation one can easily recognise the site from Larkin's photograph even though it has changed considerably since he took the photograph. And seen below (right) is the view from the exposed pit looking back to "Larkin's hill".





Hydraulic mining uses highly pressurised jets of recycled water to slough away the tailings, reducing it to slimes which flows downhill towards a catchment area where it is sucked up and pumped to the processing plant a few kilometers away for the residual gold to be extracted.





Recycling of the mine dumps is machine-intensive. Notice how few people work on site now compared with the past when thousands of workers were required to extract gold from underground. Andrè Du Plessis told me that in current operations they employ 13 workers per shift to operate this site. On a 3-cycle shift per 24 hours that translates to 39 employees to keep an operation this size running! That does not include plant operators, security or maintenance staff or contractors, only the production team.











Once the gold has been extracted from the slimes, the waste is pumped back to the site and deposited in the old opencast pit. The old pit is currently filled with water that rises up from below indicating the current level of the underground water table. Because of a combination of oxygen and exposure to metalliferous substances and Sulphur in the exposed rock and residual waste, the water has become acidic, noticeable by its colour.






Sections of dumps which have not yet been removed exhibit colours not normally seen in exposed earth, indicating residual sulphides and oxides in the dumps that turn water acidic. The rich deep reds and ochres appear seductively beautiful, camouflaging the toxic dangers lurking there. During the summer months dams of water collect in the numerous pits on site. The rainy season helps with dust suppression, but the smell of Sulphur permeates the air, sticking to one's skin and impregnating one's clothes.

The pipes that convey the slimes to and from the processing plant are made of very thick rubber compounds because metal pipes are unsuitable. Metal easily corrodes when in contact with acidic material.









Management has elected to keep this old headgear as a heritage marker for what was known as “Vent Shaft” and it is one of the oldest headgears on the mine. Headgears, once plentiful in Johannesburg’s southern regions, were a common sight. But they too have been disappearing, often dismantled for scrap metal. Headgears no longer servicing shafts of disused mines are best removed for safety reasons and the shafts sealed.







The headgear at No.8 Shaft dates back to the 1940s. Today it is fenced off and used exclusively for drawing samples of rising underground water. Next to the shaft is the water-testing station and laboratory. A water-treatment plant operates close by where water is pumped up from underground and copious amounts of lime (alkaline) are added to bring the acid levels down. Once treated the water is pumped to a holding dam for the heavy metals to precipitate out, before the water is allowed back into the fresh water system that flows into streams and rivers, ultimately flowing into the Olifants and Limpopo rivers. Re-cycled water is also used in the hydraulic mining operations.





Heavy metals precipitate out of the treated water, coagulate, forming interesting fungal-type encrustations along the banks.



XXX



On the 26 February 2015, I was afforded the opportunity to once again visit Dump 20. The speed with which the landscape had changed since my visit 2 months prior was astounding. “Larkin’s hill” is visible in the background but the area in the foreground has been hydraulically mined and is now being further excavated by back-hoe machines. According to old maps of the area, Dump 20 was originally located over a wetland. Now, just over a hundred years later, the land is being recovered. Environmentally there is a positive side to the negative devastation and violence done to the wetlands in that the clay nature of the wetland helped prevent much toxic seepage from the tailings into the underground water system over the past century. Now that the area is about to be exposed after all this time, the intention

of mine management is to re-establish the wetland as part of the rehabilitation process. At this stage it is not known if that will be fully possible. Of course *Sibanye Gold* is one of the bigger mining consortiums with sufficient funds to budget a large-scale rehabilitation programme. Their aim is to restore the land by 1918. Smaller mining companies, although bound by law, often do not have sufficient funds to rehabilitate mined areas sufficiently, even if legally pursued. Hence, sites sometimes become abandoned or partially restored, resulting in the conviction that mining operations are irresponsibly conducted. The truth is always complex with the interests of multiple stakeholders implicated in a number of historical legacies and future decisions.









Mariette Liefferink, CEO of the FSE, is most concerned, not only with the effect irresponsible mining has on the environment, but more importantly with the way people's lives are negatively impacted: such as a human settlement built directly on top of a partially removed tailings dump, or an abandoned recycling project that now, partly exposed, continuously releases dust into the surrounding area just outside Krugersdorp. Not only are humans affected, natural forms like grasses struggle to survive in what feels like an alien environment.

Conglomerate Maps for “Mining Stories”



Key for reading “Mining Stories”



Mining Story #1



Mining Story #2



Mining Story #3

Note: Panel 14. (See key) Tombstones below the trees commemorate the deaths underground of a team of miners caught in a rockfall many years ago. Rescue workers were unable to retrieve their bodies, so the tombstones above ground approximate the position underground where the accident took place.



Mining Story #4

Note: Panels 13 & 14 (see key) are artefacts presented to the mine by indentured Chinese workers before they were re-patriated to China. Like encoded symbols on a map, the Chinese characters in panel 13 are the names of the Chinese miners who worked on the mine for a contracted period of 3 years, during the period 1904 - 1910.