

Rre/Mmè yo o Rategang,

THARISA MINERALS (PTY) LTD

TSHOBOKANYO YA PEGO YA TLHATHOBO YA DITLAMORAGO MO TIKOLOGONG YA POROJEKE E E AKANYEDITSWENG YA GO ATOLOSA MABOLOKELo A MATLAPA A A LATLHILWENG KWA MOEPONG WA THARISA

1. MATSENO

Tshobokanyo eno e na le dintlhatshobokanyo tsa Pego ya Tlhatlho ya Ditlamorago mo Tikologong e e kwadilweng le e e phasaladitsweng gore e sekasekiwe le go akgelwa ka yone jaaka karolo ya tsamaiso ya Tshekatsheko le Tlhatlho ya Ditlamorago mo Tikologong [Scoping and Environmental Impact Assessment (S&EIA)] e e dirwang mo tsamaisong ya Taolo ya Tikologo kwa Moepong wa Tharisa.

Tharisa Minerals (Pty) Ltd (Tharisa) ke moepo wa khuti e e bulegileng o o tlhagisang selekanyo se segolo sa tshipi ya *chrome* le polatinamo (PGMs). Moepo o ntse o dira fa e sale ka 2008. Moepo wa khuti e e bulegileng o mo polasing ya 342 JQ le Elandsdrift 467 JQ, borwa jwa Toropo ya Marikana, mo Porofenseng ya Bokone Bophirima.

Tiro ya moepo e dirwa mo dikarolong tse pedi tsa moepo, e leng East Mine le West Mine, go dirisiwa mekgwa e e tlwaelegileng ya dilori tsa mekwatla e e bulegileng le digarawe. Dikarolo tse pedi tsa moepo di arogantswe ke Noka e e elelang ka metlha ya Sterkstroom le D1325 (Marikana Road). Maje a a latlhilweng a a tswang mo mafelong a dikhuti tse di bulegileng a a kokoannwa mo Mafelong a Maje a a Latlhilweng [Waste Rock Dumps (WRDs)] mme go setse go buseditwe maje mangwe mo khuting kwa East Mine. Dikago tsa konokono tsa moepo di akaretsa ditsela tsa dikoloi tse dikgolo, diepiwa tse di iseng di tlaolwe, khompholekese ya khonsentereitara, diepiwa tse di farologaneng tse di kokoantsweng, mmu o o fa godimo o o kokoantsweng, di-WRD, Dikago Tsa Bobolokelo Jwa Manya [Tailings Storage Facilities (TSFs)] le dikago tsa tshegetso tse di jaaka diofisi, dikago tsa madirelo, matlo a go apolelwang mo go one le dikago tsa taolo ya go tsena le go tswa moepong.

Tharisa e na le Ditaolo Tsa Tikologo (EAs) le laesense e e latelang:

- Tetla ya go Epa [Mining Right (MR)] (Nomoro ya Referense: 358 MR) e e ntshitsweng ke Lefapha la Diminerale le Maatla [Department of Minerals and Energy (DME)] (le jaanong le bidiwang Lefapha la Metswedi ya Diminerale le Maatla [Department of Mineral Resources and Energy (DMRE)]) ka 19 Lwetse 2008 mme ya fetolwa ka Phukwi 2011;
- Thulaganyo ya Tsamaiso ya Tikologo [Environmental Management Programme (EMPr)] e e dumeletsweng (Nomoro ya Referense: NW 30/5/1/2/3/2/1/358EM) e e ntshitsweng ke DME (e jaanong e bidiwang DMRE) ka 19 Lwetse 2008;
- EA (Nomoro ya Referense: NWP/EIA/159/2007) e e ntshitsweng ke Lefapha la Bokone Bophirima la Temothuo, Tshomarelo ya Tlhago le Tikologo [Northwest Department of Agriculture, Conservation and Environment (DACE)] (le jaanong le bidiwang Lefapha la Bokone Bophirima la Tlhabololo ya Ikonomi, Tikologo, Tshomarelo ya Tlhago le Bojanala [North West Department of Economic Development, Environment, Conservation and Tourism (DEDECT)] ka 23 Diphlane 2009;
- EA (Nomoro ya Referense: 14/12/16/3/3/2/408) e e ntshitsweng ke Lefapha la Merero ya Tikologo ka 15 Ngwanatsele 2012;

- EA (Nomoro ya Referense: NWP/EIA/50/2011) e e ntshitsweng ke DACE ya Bokone Bophirima (le jaanong le bidiwang DEDECT) ka 29 Moranang 2015;
- Mametlelelo ya Tlhatlhobo ya Ditlamorago mo Tikologong [Environmental Impact Assessment (EIA)] le EMPr (Nomoro ya Referense: NW/30/5/1/2/3/2/1/358EM) e e ntshitsweng ke Lefapha la Metswedi ya Diminerale [Department of Mineral Resources (DMR)] (le jaanong le bidiwang DMRE) ka 24 Seetebosigo 2015;
- Mametlelelo ya EIA le EMPr (Nomoro ya Referense: NW/30/5/1/2/3/2/1/358EM) e e ntshitsweng ke DMR (le jaanong le bidiwang DMRE) ka 14 Phatwe 2020 – Lefelo la go Phepafatsa Metsi a a Leswe;
- Mametlelelo ya EIA le EMPr (Nomoro ya Referense: NW/30/5/1/2/3/2/1/358EM) e e ntshitsweng ke DMR (le jaanong le bidiwang DMRE) ka 08 Phatwe 2021 – go oketsa bogolo jwa bobolokelo wa Leokwane & Matlakala;
- Karolo 24G EA (Nomoro ya Referense: NW/30/5/1/2/3/2/1/358EM) e e ntshitsweng ke DMRE ka 10 PHATWE 2021; le
- Laesense e e Kopanetsweng ya Tiriso ya Metsi e e fetotsweng [Integrated Water Use Licence (IWUL)] ((Nomoro ya Laesense 03/A21K/ABCGIJ/1468) e e ntshitsweng ke Lefapha la Metsi le Kgeleloleswe [Department of Water and Sanitation (DWS)] ka Ngwanatsele 2020.

Jaaka karolo ya thulaganyo ya moepo e e tsweleng, Tharisa e lemogile gore go tlhokega mabolokelo a a oketsegileng a maje a a latlhweng mo lefelong leno (le le bidiwang Porojeke e e Akanyeditsweng). Malebana le seno, Tharisa e dira kopo go Lefapha la Metswedi ya Diminerale le Maatla (DMRE) ya EA e e kopanetsweng le go tlhabolola EMPr ya ga jaana ya moepo. Ditiro tse di latelang ke tsone tse jaanong di akanyeditsweng:

- Go atolosa WRD ya Far West e e setseng e le teng le e e setseng e dumeletswe ka selekanyo sa lefelo la 109 ha. Lefelo le le atolositsweng le tla bidiwa West Above Ground (OG) WRD. Dikarolo tsa West OG WRD le tla nna mo mafelong a dikhuti di tladitsweng kwa West Pit; le
- Go tlhomiwa ga lefelo la maje a a latlhweng (le le bidiwang East OG WRD) mo dikarolong tsa dikhuti tse di tladitsweng tsa East Pit. East OG WRD e e akanyeditsweng e tla akaretsa lefelo le le fopholediwang go nna 72 ha.

2. TSHOBOKANYO YA DIPATLAFALO TSA TETLA LE TSAMAIISO YA TIKOLOGO

Porojeke e e Akanyeditsweng e tla tlhoka EA e e kopanetsweng gammogo le mametlelelo ya EMPr ya ga jaana ya Tharisa. Porojeke e e Akanyeditsweng e akaretsa lenaane la ditiro tse di ka fa tlase ga Melawana ya EIA ya Molao wa Bosetšhaba wa Tsamaiso ya Tikologo [National Environmental Management Act (NEMA)], 2014 (e e gatisitsweng mo Molaong wa Kitsiso ya Puso [Government Notice Regulation (GNR)] 982 wa 4 Sedimonthole 2014, jaaka o fetotswe), (o jaanong o tla bidiwang Melawana ya EIA, 2014 (jaaaka e fetotswe)), le ditiro tsa tsamaiso ya matlakala tse di kwadisitsweng ka fa tlase ga Molao wa Bosetšhaba wa Tsamaiso ya Matlakala mo Tikologong (National Environmental Management Waste Act), 59 wa 2008 (NEM:WA). Mo melawaneng e mebedi ya EIA, 2014 (jaaka e fetotswe) le ya NEM:WA, ditiro tse di kwadisitsweng di thibeletswe go tswelela go fitlha tetla e e kwadilweng e bonwa go tswa kwa bolaoding jo bo tshwanelegang, jo mo lekgetlong leno e leng ofisi ya Porofense ya Bokone Bophirima ya DMRE. Porojeke e tlhoka EA e e kopanetsweng go ya ka Karolo 24 ya NEMA le Karolo 45 ya NEM:WA e e tswang kwa ofising ya Porofense ya Bokone Bophirima ya DMRE. Go ya ka Karolo 102 ya Molao wa Tlhabolola ya Diminerale le Didirisiwa tsa Petroliamo [Mineral and Petroleum Resources Development Act (MPRDA)], EMPr e ka se fetolwe kgotsa ya farologangwa kwantle ga tumelelo e e kwadilweng ya Tona ya Metswedi ya Diminerale.

MPRDA, NEMA le NEM:WA di batla gore modira kopo a romele dipego tse di maleba tsa tikologo tse di tlhokegang go ya ka NEMA. Melawana ya EIA, 2014 (jaaka o fetotswe) e e boletsweng phatlhalatsa go ya ka NEMA e ile ya tlhalosa tsamaiso ya tlhatlhobo le dipatlafalo tsa go bega mo maamong a e leng gore tetla e a tlhokega. Pele ga gore Porojeke e e Akanyeditsweng e tsengewe tirisong, dilo tse di latelang di a tlhokega:

- Mametelelo ya EMPr go ya ka Karolo 102 ya MPRDA go tswa go Lefapha la Metswedi ya Diminerale le Maatla (DMRE);
- EA go ya ka NEMA mo ditirong tse di mo Kitsisong ya Lenaane 1 (GNR 983 wa 2014) le Kitsiso ya Lenanne 3 (GNR 985 wa 2014), jaaka o fetotswe, go tswa go DMRE. Melawana ya EIA e e latelwang ke Molao wa Kitsiso ya Puso (GNR) 982 wa 4 Sedimonthole 2014, jaaka o fetotswe.
- Laesense ya Tsamaiso ya Matlakala go ya ka Molao wa Bosetšhaba wa Tsamaiso ya Tikologo: Matlakala, 59 wa 2008 (NEM:WA) ya ditiro tsa matlakala tse di mo Karolo B (GNR 921 wa 2013), jaaka o fetotswe.

Tsamaiso ya Tshekatsheko le Tlhatlhobo ya Ditlamorago mo Tikologong (S&EIA) e a tlokega go itsise ka Porojeke e e Akanyeditsweng le gore go fitlhelelwe dipatlafalo tse di kwadilweng fa godimo.

Mo godimo ga moo, Porojeke e e Akanyeditsweng e tlhoka gape le tetla e e tswang kwa Lefapheng la Metsi le Kgeleloleswe (DWS) ya ditiriso tse di rileng tsa metsi tse di ka fa Karolo 21 ya NWA. Pego eno ga e bue ka dipatlafalo tsa tsamaiso ya laesense ya tiriso ya metsi. Seno se tla nna karolo ya tsamaiso e e farologaneng ya DWS.

SLR Consulting (South Africa) (Pty) Ltd (SLR), ke setheo se se ikemetseng sa Badiredi ba Tlhatlhobo ya Tikologo [Environmental Assessment Practitioners (EAPs)], e e tlhomilweng ke Tharisa go laola tsamaiso ya S&EIA ya Porojeke e e Akanyeditsweng.

Tsamaiso eno ya S&EIA ga e bue ka dipatlafalo tsa melaotheo ya boitekanelo le pabalesego mo tirong.

3. DIPOROJEKE TSE DINGWE

Molelwane wa Tetla ya go Epa wa Tharisa o na le mathata a a rileng a sebaka ka ntlha ya dikago tse di setseng di le gone. Gape Moepo wa Tharisa o dikologilwe ke dikhamapani tse dingwe tsa meepo (Western Platinum Mine, Marikana Platinum Mine le Samancor) mo molelwaneng wa Bophirima, Bokone le wa Botlhaba wa lefelo la Tetla ya go Epa la Tharisa. Tsela ya N4 le morafe o o dirang temothuo mo Buffelspoort o mo Borwa jwa Moepo wa Tharisa. Ka jalo, lefelo la di-WRD tse di oketsegileng le ikaegile ka sebaka se se leng gone mo teng ga lefelo la tetla ya go epa.

E le go fokotsa dikgoreletsi mo porojekeng eno, dikarolo tsa lefelo la porojeke eno e tla bo e le mafelo a a neng a na le dikgoreletsi mo nakong e e fetileng le kwa dikarolong tsa dikhuti tse di tladitsweng. Go a utlwala go bo gore go ka se nne le mafelo a mangwe a Porojeke e e Akanyeditsweng a e leng gore a tla akanyediwa (kgotsa mo e leng gore go a kgonega gone).

Thekenoloji/mokgwa o mongwe o o latelang o ile wa akanyediwa jaaka karolo ya Porojeke e e Akanyeditsweng. Yone e akaretsa dilo tse di latelang:

- Go isa maje a a latlhlilweng kwa lefelong le le farologaneng: Go epa mo khuting e e bulegileng go akaretsa segolobogolo go tlosa mmu o o fa godimo le maje a a khurumeditseng diminerale, go boriwa le go thuntshiwa ga manya, le go rwala maje a a latlhiwang ka dilori tse dikgolo. Go tlwaelegile gore go tsamaisiwa ga maje a a latlhlilweng go dirwe ka makgetlo a le mantsi mme go tlhokega gore a tsamaisiwe ka dilori tse dintsi kgwedi le kgwedi. Go fokotsa makgetlo a maje a latlhlilweng a tsamaisiwa ka one go felela ka koketsego mo tlhagisong mme go fokotsa ditshenyegelo tsa go dira tiro eo. Sebaka se Porojeke e e Akanyeditsweng se leng gone gaufi le dikhuti tse di bulegileng go dira gore tlhagiso ya tiro e oketsege, go fokotsa ditshenyegelo tsa dipalangwa gammogo le ditlamorago tsa modumo le pharakano tse di bakiwang ke go tsamaisa maje a a latlhlilweng;
- Ditsela tse dingwe tsa go epa (go epa ka fa tlase ga lefatshe): Go epa kafa tlase ga lefatshe go a dirwa go ntsha manya go tswa mo tlase ga boalo jwa lefatshe ka tsela e e babalesegileng, e e sa jeng madi a mantsi le ka tsela e go nna le matlakala a mannye ka mo go ka kgonegang ka teng. Go a utlwala gore epiwe kafa tlase ga lefatshe fa e le gore manya a a epiwang a kwa tengteng ga lefatshe go na le go a epa ka khuti e e bulegileng. Tharisa ga e ise e fitlhelele bogolo jwa maje a go batlwang

gore a epiwe kafa tlase ga lefatshe, ka jalo go epa kafa tlase ga lefatshe jaaka tsela e nngwe ya go epa, ga go ise go bonwe fa go ka kgonega; le

- Go tlatsa dikhuti tse di bulegileng ka maje a a latlhlweng: Tharisa e neilwe tetla ya go tlatsa bontlhannngwe jwa dikhuti tse di bulegileng ka maje a a latlhlweng, seno se ntse se dirwa ka nako e le nngwe le tiro ya go epa. Go tlatsa dikhuti tse di bulegileng ka maje a a latlhlweng kwa moepong wa Tharisa go setse go dirilwe ka botlalo.

Go a ultwala gore go na mokgwa/thekenoloji e nngwe e go akantshiwang gore e dirisiwe mo Porojekeng e e Akanyeditsweng.

4. GO NNA LE SEABE GA SETŠHABA GO GO SETSENG GO DIRILWE GO FITLHA GOMPIENO

Tsamaiso ya go nna le seabe ga setšhaba go simolotswe ka 2021. Go nna le seabe ga setšhaba go go setseng go dirilwe go fitlha gompiano go ne go tlhomile mogopolo mo go lemogeng Batsayakarolo ba ba Kgatlhegang Le ba Ba Amegang [Interested and Affected Parties (I&AP)] le go itsise di-I&AP ka Porojeke e e Akanyeditsweng. Go itsise di-I&AP ka Porojeke e e Akanyeditsweng go dirilwe ka go anamisa didirisiwa tsa go abelana ka tshedimisetso (dipapatso, dikitsiso kwa saeteng, dipampitshana tsa papatso, le ditokumente tsa tshedimisetso ya lemorago [background information document (BID)]) le ka go dikopano tsa batho ba ba rileng le tsa batho botlhe. Di-I&AP di tla tswelela di nna le seabe mo tirong yotlhe ya tsamaiso ya taolo ya tikologo.

Pego eno ya Tshokatsheko e ile ya phasalatswa gore go akgelwe ka yone ka malatsi a le 30 go tloga ka 18 Motsheganong go ya go 17 Seetebosigo 2022 e le gore Batsayakarolo ba ba Kgatlhegang Le ba Ba Nang le Seabe (I&APs) ba newe tshono ya go akgela ka karolo epe fela ya porojeke le ka se se fitlhetsweng mo tsamaisong ya S&EIA go fitlha ga jaana. Tshobokanyo e e seng ya botegeniki e ile ya abelwa di-I&AP ka Seesemane, Seburu, Setswana le Se-Xhosa. Dikhopi tsa pego e e feletseng le Tshobokanyo e e Seng ya Botegeniki [Non-Technical Summary (NTS)] e ile yan ne teng mo webosaeteng ya SLR (mo <https://www.slrconsulting.com/en/public-documents/tharisa>) le mo webosaeteng ya SLR e e sa tlhokeng data (at <https://slrpublicdocs.datafree.co/public-documents/tharisa>). Dikhopi tsa eleketoroniki (tse di tlang ka mokgwa wa *compact disk*) tsa pego di teng mo SLR. Dikakgelo tsotlhe tse di amogetsweng ka nako ya tsamaiso ya tshokatsheko mmogo le ditsibogo di akareditswe mo Tafole 8 2. Pego eno e e tlhabolotsweng ya Tshokatsheko e ile ya abelwa DMRE ka maikaelelo a go dira ditshwetso.

5. TSHONO YA GO AKGELA KA PEGO YA EIA

Tshono ya go akgela ka Pego ya EIA

Mokwalo ono wa EIA le wa EMPr o tla nna teng ka malatsi a le 30 gore e sekasekiwe le go akgelwa ka yone go tloga ka 26 Diphallane 2022 go ya go 25 Ngwanatsele 2022. Dikhopi tsa pego di tla nna teng mo webosaeteng ya SLR le mo mafelong a a latelang a batho botlhe:

- <https://www.slrconsulting.com/en/public-documents/public-documents/Tharisa-WRD> and Data-free website: <https://slrpublicdocs.datafree.co/en/public-documents/Tharisa-WRD>
- Dikhopi tsa pego di tla nna teng ka mokgwa wa eleketoroniki mo CD, fa di kopiwa.
- Ditshobokanyo tsa pego di ile tsa romelwa ka imeili go di-I&AP ba ba ikwadisitseng le balaodi. Mo godimo ga moo, di-I&AP di ile tsa itsisiwe ka SMS fa pego e ne le teng go ka sekasekiwa.

6. THUTABOTSHELO YA MOTHEO YA DITLAMORAGO MO TIKOLOGONG TSE DI BAKWANG KE POROJEKE E E AKANYEDITSWENG

JEOLoji YA SELEGAE

Tharisa Mine e mo borwa Bophirima jwa BIC mo karolong ya Marikana. Karolo ya Marikana e arogantswe mo karolong ya Brits go ya botlhaba jwa Wolhulteroskop le karolo e e elang kwa godimo ya Rustenburg go ya Bophirima jwa Spruitfontein e e elang kwa tlase (bona Setshwantsho 10 2). Bogolo jwa manya a go batliwang gore a ntshiwe ke Dileiyara tsa *Chromitite* (MG1 –MG4) mo Setlhopheng Se se Mo Magareng [Middle Group (MG)]. Dileiyara tsa MG *Chromitite* a mo godimo ga polasi 342 JQ go ela botlhaba – Bophirima mme go wela ka didikirii di ka nna 12-15 go ya bokone. Go ela kwa Bophirima jwa maje a a fa godimo, gantsi dileiyara tseo di nna tshesane, di palamela le go feta, mo go fetoga ka iketlo go ela bokone bophirima - borwa-botlhaba. Karolo yotlhe ya MG e tlhabolotswe mo bokimeng jwa mmatota jwa dimetara di le 47 kwa botlhaba jwa karolo ya 342 JQ mme e nna tshesane dimetara di le 25 go ela Bophirima gaufi le Spruitfontein e e elang kwa tlase.

POPEGOYA TIKOLOGO

Ka kakaretso, lefelo le le dikologileng Moepo wa Tharisa le na le dipoa tse di sephaphati ka mekgokolosa e e bonolo (1%) go ela bokone. Thaba ya Magaliesberg e bokgakala jo e ka nnang 2 km go ela borwa jwa moepo. Ditlhoa tsa karolo eno mo Thabeng ya Magaliesberg di bogodimo jo bo ka nnang 1 400 mamsl.

Popego ya tlhologo e e dikologileng Moepo wa Tharisa gaufiufi e dirilwe thata ke ditiro le dilo tse di latelang):

- Ditiro tsa moepo tse di amanang le Marikana Platinum Mine e e bapileng go ya bophirima, Western Platinum Mine go ya bokone le Samancor Western Chrome Mine go ya botlhaba.
- Ditiro tse di dirwang ke morafe tse di amanang le morafe wa Bokamoso (o o leng kwa botlhaba jwa Far East WRD).
- Noka e e elelang ka metlha ya Sterkstroom, e e mo magareng ga East Mine le West Mine, e e elelang ntlheng ya bokone go bapa le D1325 (Marikana Road).
- Tsela ya N4 e e mo borwa go tswa fela mo Moepong wa Tharisa gammogo le ditiro tsa temothuo.

Lefelo la Porojeke e e akanyeditsweng le le amanang le East OG WRD le West OG WRD, le ile la fetolwa ka ntlha ya ditiro tse di amanang le go epa mo khuting e e bulegileng mo moepong wa West le East. Popego ya tlhologo e e amanang le West OG WRD e ile ya kgorelediwa le go fetolwa ka ntlha ya ditiro tse di setseng di dirwa tsa moepo tse di amanang le West Mine gammogo le ditiro tse di dirwang ke merafe (segolobogolo wa Maditlhokwa).

TLELAEMETE

Lefelo leno le itemogela dithemperetšha tse di mogote ka selemo, tse di fitlhang go 36.4°C ka kgwedi ya Diphlane. Dithemperetšha tsa mariga tsone di kwa tlase go sekae ka kgwedi ya Motsheganong le Phukwi. Pula e botlhokwa mo dithutopatlisisong tsa kgotlelo ya moya e re ka e le yone tsela e e dirang thata ya go tlosa kgotlelo ya loapi le lerole le le dutseng lobaka lo loleele. Dikgwedi tse pula e nang thata ka tsone ke Diphlane go ya go Moranang. Palogotlhe ya pula e e nang ngwaga le ngwaga mo lefelong la Porojeke ke magareng ga 873 mm le 939 mm.

Palogare ya diphefo ke tse segologobogolo tse di tswang kwa borwa go ya bokone, mme go nna le maemo a a ritibetse nako e e kana ka 7.6%. Diphefo tsa motshegare gantsi di tswa kwa bokone, magareng ga bokone-bophirima go ya go bokone-botlhaba ka maemo a a ritibetseng a a kana ka 5.1%. Fa e le bosigo, diphefo di sutela borwa le borwa-borwa Bophirima ka diphefo tse di fokotsegileng go tswa kwa karolong ya borwa-botlhaba. Makgetlo a go nnang le maemo a a ritibetseng bosigo ka one a oketsega go ya go 10.3%.

Ka paka ya selemo, diphefo di a fetofetoga mo bontsing jwa dintlheng tsa go fofa mme bontsi jwa diphefo di tswa kwa karolong ya bokone-botlhaba. Diphefo di sutela borwa ka letlhabula, mme bontsi e le diphefo tsa borwa ka paka ya mariga. Ka paka ya dikgakologo, diphefo tsa bokone di a oketsega mme bontsi jwa diphefo di tswa kwa bokone go ya bokone-botlhaba.

BOLENG JWA MOYA

Mafelo a a tlabolotsweng go nna a baagi, a a gaufi le Moepo wa Tharisa le lefelo la Porojeke e e Akanyeditsweng, ke a morafe wa Maditlhokwa le Lapologang, le toropo ya Marikana e e bokgala jo bo ka nnang 1.5 km bokone jwa molelwane wa ditshwanelo tsa go epa. Dipolasi tsa batho ba le tsone di dikologile lefelo la porojeke.

Ditiro tsa go epa le go ntsha dikungo, go lema le tiriso ya lefatshe la baagi go a direga mo tikologong eno. Mefuta eno ya go tiriso ya lefatshe e tsenya letsogo mo kgotlelong ya moya ka digase tse di tswang mo dikoloing, mesi ya ditukisi, dilo tse di fisiwang le metswedi e e farologaneng ya lerole le le tswang kwa ntle. Dipalangwa tse di rwalang tse di ntshang moya o o kgotlelang, o o tswang mo dikagong tse di kwa ntle tse diteleele le go tswa mo dilong tse di fisiwang kwa dinageng tse di kwa bokone jwa Aforika Borwa, di ile tsa lemogiwa di tsenya letsogo mo kgotleng e e sa bonaleng mo teng ga mololwane wa Aforika Borwa (Andreae, et al., 1996; Garstang, Tyson, Swap, & Edwards, 1996; Piketh, Annegarn, & Kneen, 1996).

Moepo wa Tharisa o na le thulaganyo e e beyang leitlho lerole mo moyeng mme o tsaya disampole tsa NO₂ le SO₂. gangwe le gape. Tshedimosetso e e sekasikiwang ya boleng jwa moya e lekanyeditswe go tloga ka Ferikgong go ya go Mopitlwe 2021 le go tswa go Ferikgong go ya go Mopitlwe 2022. NO₂ le SO₂ di a sekiriniwa tsoopedi kgatlhanong le National Ambient Air Quality Standards (NAAQS) mme lerole mo moyeng le sekiriniwa kgatlhanong le National Dust Control Regulations (NDCR).

Go tshwanetse ga elwa tlhoko gore ditlathobho tseno di akaretsa digase tsotlhe mo tikologong, e seng fela mo moepong.

BOKGONI JWA MMU LE JWA LEFATSHE

Lefelo lotlhe la bodirelo la East Above Ground WRD le mo karolong e e kgoreleditsweng ka ntlha ya ditiro tse di tse di ntseng di tswela tsa go epa mo khuting e e bulegileng le go latlha maje a a latlhweng. Mme bontlhannwe jo bo rileng jwa lefelo la bodirelo la West Above Ground WRD le lone le ile la kgorelediwa ka ntlha ya ditiro tse di tshwanang tsa go epa. Mofuta wa mmu o o amanang le mafelo a a kgoreleditsweng o ile wa bidiwa mofuta wa mmu wa Witbank fa mefelo a go epilweng mo go one mo go se nang mmu a ile a bidiwa mofuta wa mmu wa Cullinan. Dikarolo tse di setseng tse di nang le mmu wa tlholego mo teng ga lefelo la bodirelo la West Above Ground le ile la bidiwa mofuta wa mmu wa Acardia (mmu o montsho).

Mofuta wa mmu wa Witbank o tsewa e le wa boleng jo bo kwa tlase jwa go o dirisetsa temothuo ka ntlha ya gore mmu oo o ile wa kgorelediwa ke ditiro tsa batho.

DITSHEDI TSA MEFUTAFUTA

Lefelo le le tlhatlhibwang le mo teng ka mefuta e mebedi ya dimela, e leng Marikana Thornveld kwa botlhaba le Moot Plains Bushveld kwa botlhaba, ka mafoko a mangwe, mefuta ya tshupiso ya dimela. Ka kakaretso, lefelo le le mo teng ga lefelo le le tlhatlhibwang le ile la tlhalosiwa ka mafelo a a fetogileng (ka ntlha ya ditiro tsa go epa) a mo go one dimela tse di farologaneng di teng go tswa go tse go lebegang di sa tlhole di le teng go ya go palo e e kwa tlase. Fa dimela di le teng, gantsi ke dimela tse di tswang kwa ntle le tse di sa tshwanelang go nna teng [*alien and invasive plant* (AIP)] le/kgotsa dimela tsa ntlha tsa kwa ntle tse di nnang gone mo mafelong a a kgoreleditsweng. Go akantswe ka diphetogo tse di diregang mo teng ga lefelo le le tlhatlhibwang ka ntlha ya ditiro tsa go epa, go nna teng ga dimela tsa tlholego¹ di ile tsa bolelwa di seyo.

¹ **Tlhaloso ya NEMA ya dimela tsa tlholego:** "Dimela tsa tlholego: go buiwa ka dimela tsa dijalo tsa tlholego tse di itlhagelang mo lefelong le le rileng ka tlholego fela, go sa kgathalesese selekanyo sa tlhaselo ya dimela tse e seng tsa tlholego le mo e leng gore mmu o o fa godimo o ile wa kgorelediwa ka tsela e e kafa molaong mo dingwageng di le 10 tse di fetileng.

METSI A A MO BOALONG

Noka e e elelang ka metlha ya Sterkstroom e e elelang go tswa kwa Letamong la the Buffelspoort, borwa jwa tsela ya N4, go kgabaganya ditiro tsa moepo, magareng ga mafelo a go epa a East le West. Dinoka tse pedi tse di elelang ka metlha tse go sa itsiweng maina a tsone kwa Brakspruit di simolola kwa bokone-bophirima jwa moepo mme e na le mesele mo letlhakoreng la Bophirima jwa lefelo la Tshwanelo ya go Epa. Tiro ya go epa mo khuting ya Bophirima e dirilwe mo diphororong tsa dinoka tseno. Lefelo la go epa la botlhaba le na le mesele e mebedi e e dirang noka go ya Maretlwane. Go epa kwa East Pit go dirilwe mo teng ga diphororo tsa mesele eno. Mo khutlong e e mo borwa botlhaba jwa moepo, noka ya Elandsdriftspruit e e simololang kwa borwa jwa moepo, e wela mo teng ga lefelo la bodirelo la TSF 2. Go kgaogannwa ga noka eno go ile ga akareditwa mo pegong ya EIA le ya EMP e e dumeletsweng (Metago, 2008).

Ga go na di-WRD dipe tse di akanyeditweng tse di tllileng go kgabaganya mesele e e elelang ka metlha le e e sa elelang ka metlha kwa Moepong wa Tharisa. Malebana le seno, East OG WRD e e ka nnang bokgakala jwa 260 m go tswa kwa Sterkstroom le West OG WRD e e ka nnang bokgakala jwa 267 m Borwa jwa dinoka tsa Brakspruit.

Metsi a a tswang mo Nokeng ya Sterkstroom a dirisiwa ke merafe e e gaufi go dira ditiro tsa mo gae tse di jaaka go tlhatswa le go tlhapa, go nosa diphologolo le go nosetsa dijalo. Mosele wa go nosetsa o elela go tswa bokone go ya borwa, go bapa le molelwane o o mo botlhaba jwa TSF1. Ga go na batho bape ba ba dirisang mosele ono wa go nosetsa go ela kwa tlase ga TSF.

TIKOLOGO YA METSI A A SE NANG LETSWAI

Lefelo le ile la simolola go tthatlhabiwa ka 26 Moranang 2022 go ela bowelong jwa paka ya dipula tsa selemo go tshotlhomisa Seemo sa Tikologo sa Tikologo ya metsi a a se nang letswai ya bogolo jwa 500 m mo teng ga lefelo le le tthatlhabiwang. Di-WRD tse di akanyeditweng di mo teng ga mafelo a a setseng a le teng a a kgoreleditsweng (tiro ya go epa mo khuting e e bulegileng), mme ka jalo ga go na tikologo ya metsi a a se nang letswai a a leng teng ka tthatlhalo mo teng ga lefelo le le tthatlhabiwang. Le fa go ntse jalo, mekgatšha e mebedi e e kwa tlase ga Ditsobotla e mo bokone jwa West Above Ground WRD e e akanyeditweng, le bokgakala jo bo fopholediwang go nna 1 km go ya Nokeng ya Sterkstroom River e bokgakala jo bo ka nnang 235 m bophirima jwa East Above Ground WRD.

Ditsobotla di ile tsa tthatlhabiwa ke SAS (2013) mo nakong e e fetileng mme e ile ya fitlhela gore di fetogile go sekanenyana ka nako eo; le fa go ntse jalo, bothokgami jwa tikologo ya ditsobotla bo ile jwa fokotsega mme ka nako ya fa go dirwa tthatlhobo eno ka Motsheganong 2022, go ile ga fitlhelwa tse di fetogileng thata (mekgatšha e e kaetsweng e e kwa tlase mo ditsobotleng) le tse di fetogileng ka tsela e e masisi (mekgatšha e e sa kaelwang e e kwa tlase mo ditsobotleng).

Noka ya Sterkstroom e ile ya tthatlhabiwa ke SAS (2013) mo nakong e e fetileng le ke The Biodiversity Company (TBC). Ka nako fa ditthatlhobo tsotlhe di ne di dirwa, go akaretsa le tthatlhobo eno, noka e ne e tsewa e fetotswe go sekae. Dipholo tsa ditthatlhobo di sobokantswe mo tafoleng e e fa tlase:

METSI A A Kafa TLASE GA LEFATSHE

Moepo wa Tharisa o mo godimo fela ga mafika a a fa godimo a a ntshang metsi le mafika a a thubegileng a a mo teng ga lefatshe a a ntshang metsi. Mafika a a fa godimo a farologane fela thata ka bokima go tloga go dimetara di le 3 go ya go dimetara tse di fetang 30, go ikaegile ka dikutu tsa mesima ya metsi le bosupi jwa boteng jwa mesima ya metsi. Mafika a a thubegileng a a mo teng ga lefatshe a bonala ka go sutlhelela go go kwa tlase thata ga metsi, dikopanyi/dikarolo tse di thubegileng tse di sa kopaneng sentle le mesele ya mafika (a a ka itirang mafika a a thibelang kgelelo ya metsi a a kafa tlase ga lefatshe).

Bontsi jwa metsi a a kafa tlase ga lefatshe a mo kgaolong e e dirisiwang ka mokgwa wa didiba tse batho. Bontsi jwa metsi a didiba a dirisetswa ditiro tsa mo gae le tsa temothuo (go nosa diruiwa le go nosetsa dimela). Mafika a a fa godimo a a ntshang metsi, gammogo le mafika a a seretse a a bapileng Noka ya Sterkstroom, a thusa ka kabelo ya metsi a didiba a a dirisetswang go nosetsa le mo gae mo kgaolong yotlhe (SLR, 2014). Didiba (didiba tsa merafe/batho ba bangwe) tse di mo teng ga lefelo la Tshwanelo ya go Epa ya Tharisa di dirisetswa ditiro tsa mo gae le tsa temothuo (go nosa diruiwa le go nosetsa dimela).

MODUMO

Moepo wa Tharisa Mine o mo kgaolong e mo go yone go itsegeng gore e setse e amilwe ke modumo wa ditiro tsa madirelo le ikonomi, o fa nako e ntse e tsamaya, o ile wa felela ka koketsego ya modumo o o bakwang ke pharakano mo tseleng le modumo o o bakwang ke ditiro tse dikgolo tsa moepo. Modumo wa pharakano mo tseleng o tswa mo tseleng ya N4 le ditsela tse dingwe tse di potlana, tse di jaaka D1325 magareng ga Buffelspoort le Marikana. Tsela ya N4 e ntsha modumo o montsi. E ama batho ba ba nnang bokgakala jwa dikolometara di le 1.2 le yone mo matlhakoreng oomabedi a tsela ka tsela e e kgolo, mme modumo wa teng o ne o utlwala sentle mo lefelong le le tthatlhobiwang. Mo godimo ga moo, modumo o o tswang mo meepong o ama merafe e e dikologileng meepe.

TEBEGO

E re ka go na le meepe, temothuo, lefatshe le le bulegileng le merafe, tseno tsothle di dira tebego ya lefelo le le tthatlhobiwang. Le akaretsa ditiriso tse di farologaneng tsa lefatshe tse di tlwalegileng mo kgaolong eno, mo go felelang ka go re lefelo leo le se ka la bonala le le lentle, ka ntlha ya diphetogo tse dikgolo le go senngwa ga dilwana tsa lone tsa tlhologo. Lefelo leno jaanong le le bega le le bokoa e bile le farologane.

Porojeke e e Akanyeditsweng e mo lefelong le go tsewang le na le boleng jo bo kwa tlase jwa metswedi ya tebego. Tlhabololo ya di-WRD mo teng ga MRA le go bapa le ditiro tsa moepo, go tlile go baka diphetogo tse dikgolo mo go tse di setseng di le gone mo tebegong ya lefelo.

METSWEDI YA NGWAOBOSWA/SETSO LE DIFOSILE

Go ya ka go nna bokoa jwa difosile tsa SAHRIS, lefelo le le akanyeditsweng gore le tlhabololwe le fa godimo ga magweregwere a go se nang difosile tse di bokoa. Ka jalo, ga go bonale go ka direga gore go tlhomiwa ga bobolokelo jo bo akanyeditsweng jwa maje a a latlhilweng go ame ngwaoboswa e e rileng ya difosile mme ga go na ditlhatlhobo tse dingwe tsa ngwaoboswa ya difosile e e kgothaleditsweng.

Mo tthatlhobong e e dirilweng ke Pistorius (2009) mo Moepong wa Tharisa, go ile ga lemogiwa metswedi e e latelang ya ngwaoboswa e e setseng e le teng mo teng ga lefelo la moepo: Mafelo a bonno a dipota tsa matlapa a a tswang kwa Bowelong jwa Motlha wa go Thulwa ga Tshipi; Dikago tsa hisitori tse di jaaka matlo a dipolasi le dikago tse di kwa ntle mo polasing, dikago tsa temothuo le Sekolo sa van Rensburg (se jaanong se bidiwang Retief Primary School); Bobotlana mabitla a le maratara gammogo le bokao jwa ngwaoboswa jo bo jaaka didirisiwa tsa temothuo tsa bogologolo le tse di latlhilweng.

Ga go na mafelo ape ano a go lebeletsweng gore a amiwe ke tlhamo e e akanyeditsweng ya lefelo la bobolokelo jwa maje a a latlhilweng.

LOAGO LE IKONOMI

Moepo wa Tharisa o mo Masepaleng wa Kgaolo wa Bojanala le Masepala wa Selegae wa Rustenburg mo Porofenseng ya Bokone Bophirima. Ditoropo tsa semmuso tse di gaufi le moepo ke toropo ya Marikana, e e leng bokgakala jo bo ka nna 4 km bophirima le Mooinooi e e bokgakala jo bo ka nna 6 km borwa botlhaba jwa Moepo wa Tharisa. Merafe e mennye e e jaaka motse wa Lapologang (480 m borwa jwa West Pit), Mmaditlhokwa/Silver City (bokone jwa West Pit) le Buffelspoort (450 m borwa jwa N4) e gaufi thata le moepo. Ditlhopha tse dingwe tsa baagi ba lefatshe/baipei le tsone di teng mo tikologong eo ka kakaretso.

Masepala wa Kgaolo o ka tlhalosiwa thata go re ke wa magae o o nang le palo e e kwa tlase ya baagi ba ba dirang gore kabelo ya ditirelo tsa motheo e ture le gore e nne bokete go e dira. Go fopholediwa gore kgaolo e na le mefuta e e latelang ya mafelo a bodulo: e e siameng thata - 19.24%, e e siameng – 50.05%, ya baipei- 29.45%, ya setsho- 0.58% le mefuta e mengwe ya bodulo - 0.67%. Masepala wa Selegae one o na le palo e e kwa godimo ya malapa a e leng a baipei, fa go bapisiwa le bommasepala ba bangwe ba selegae. Mo teng ga Masepala wa Selegae, go fopholediwa gore malapa a a fitlhang go 30% a nna mo mafelong a baipei.

TIRISO YA LEFATSHE

Go ya ka se se etsweng tlhoko fa go ne go tlhatlhabiwa lefelo, tsela e kgolo thata e lefatshe le dirisiwa ka yone mo lefelong la bodirelo la WRD e e akanyeditsweng ke ditiro tse di amanang le go epa. Ga go na ditiro tsa temothuo tse di ile tsa lemogiwa mo dikarolong tse di gaufi le mafelo a bodirelo.

7. TLHATLHOBO YA DITLAMORAGO

Lenaane la ditlamorago tse di botlhokwa tse di ka nnang gone di tlhalositswe mo tafoleng e e fa fatshe. Selekanyo sa dikotsi tse di ka salelang morago ga tsamaiso kgotsa taolo, go go amanang le Porojeke e e Akanyeditsweng, le gone go fopholeditswe. Dintlha ka botlalo tsa ditlamorago di teng mo Mametlelo E.

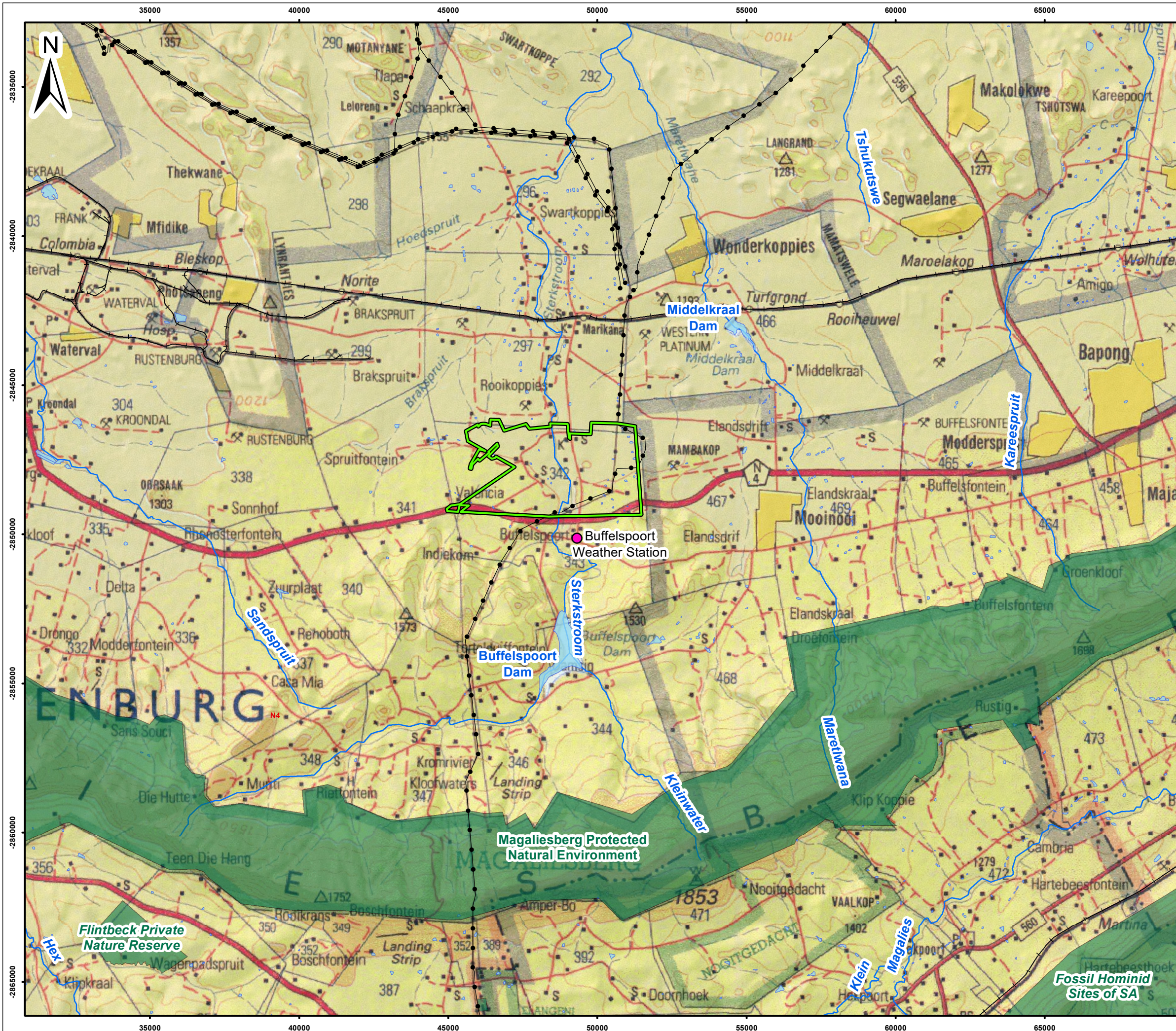
TIRO	DITLAMORGAO TSE DI KA NNANG GONE	BOTLHOKWA fa go sa laolwe	BOTLHOKWA fa go laolwa
Go tlhomiwa ga maje a a latlhilweng a a buseditsweng mo dikarolong tsa East Pit (East OG WRD le West OG WRD).	Tatlhegelo kgotsa go opafadiwa ga metswedi ya diminerale	Magareng	Kwa Tlase
Go tlhomiwa ga maje a a latlhilweng a a buseditsweng mo dikarolong tsa East Pit (East OG WRD le West OG WRD).	Bogolo jwa PM10 jwa letsatsi le letsatsi jwa boalo jo bo kafa godimo [ground level concentrations (GLCs)], ka dikgato tse di setseng di le teng tsa taolo, ga bo tsamaisane le NAAQS mo karolong ya Morafe wa Maditlhokwa le go ela kwa bokone-botlhaba jwa molelwane wa ditshwanelo tsa go epa, mme gone ga go na di-AQSR dipe fela. Palogare ya ngwaga le ngwaga ya di-GLC di tsamaisana le NAAQS mo di-AQSR tsotlhe, kwantle ga Morafe wa Maditlhokwa. Bogolo jwa PM2.5 jwa letsatsi le letsatsi jwa boalo jo bo kafa godimo [ground level concentrations (GLCs)], ka dikgato tse di setseng di le teng tsa taolo, ga bo tsamaisane le NAAQS mo karolong e e kwa bokone-botlhaba jwa molelwane wa ditshwanelo tsa go epa (e e akaretsang bogolo jwa WRD), mme ga go na di-AQSR dipe fela. Palo e e fetang palogare ya ngwaga le ngwaga ya di-GLC di tsamaisana le NAAQS mo di-AQSR tsotlh.	Kwa Godimo	Magareng
Go tlhomiwa ga maje a a latlhilweng a a buseditsweng mo dikarolong tsa East Pit (East OG WRD le West OG WRD).	PM10 ya di-GLC ya letsatsi le letsatsi, ya ditiro tse di sa laolwang, go ka direga gore e fete NAAQS ka bokgakala jo bo fitlhang go 3.5 km go tswa mo molelwaneng wa ditshwanelo tsa go epa mo letlhakoreng la botlhaba, le mo e ka nnang 1 km go ya Bophirima le bokone. PM _{2.5} ya di-GLC ya letsatsi le letsatsi, ya ditiro tse di sa laolwang, go ka direga gore e fete NAAQS ka bokgakala jwa dimetara di le mmalwa kwa ntle ga molelwane wa ditshwanelo tsa go epa	Kwa Godimo	Magareng
Go tlhomiwa ga maje a a latlhilweng a a buseditsweng mo	Mmu o o Kitlaneng	Magareng	Kwa Tlase Thata

dikarolong tsa East Pit (East OG WRD le West OG WRD).			
Go tlhomiwa ga maje a a latlhilweng a a buseditsweng mo dikarolong tsa East Pit (East OG WRD le West OG WRD).	Go Ama Boleng Jwa Metsi - Fa e le gore ga go na dikgato tsa go laola kgotlelo, ditlamorago tse di ka nnang teng di ka lebelelwa gore di nne kwa godimo	Kwa Godimo	Kwa Tlase
Go tlhomiwa ga maje a a latlhilweng a a buseditsweng mo dikarolong tsa East Pit (East OG WRD le West OG WRD).	Go kgotlelwa ga dithulaganyo tsa metsi a a kafa tlase ga lefatshe	Kwa Tlase	Kwa Tlase Thata
Go tlhomiwa ga maje a a latlhilweng a a buseditsweng mo dikarolong tsa East Pit (East OG WRD le West OG WRD).	Go ntshiwa ga metsi mo tlase ga lefatshe le tatlhegelo ya dikungo tsa didiba tsa di-I & AP tse di gaufi le ditlhabololo tsa moepo (Borwa jwa West Pit) ka ntlha ya kamego e kgolo ya ZOI	Kwa Godimo	Kwa Tlase
Go tlhomiwa ga maje a a latlhilweng a a buseditsweng mo dikarolong tsa East Pit (East OG WRD le West OG WRD).	Go ntshiwa ga metsi mo tlase ga lefatshe le tatlhegelo ya dikungo tsa didiba tse di elelang tsa ditlhabololo tsa moepo (lefelo la Baipei la Marikana) ka ntlha ya kamego e kgolo ya ZOI	Kwa Godimo	Kwa Tlase
Go tlhomiwa ga maje a a latlhilweng a a buseditsweng mo dikarolong tsa East Pit (East OG WRD le West OG WRD).	Go fetoga ga selekanyo sa metsi mo Sterkstroom ka ntlha ya phetogo ya selekanyo sa metsi a a kafa tlase ga lefatshe mo khuting e e bulegileng mo East le West Pit.	Kwa Godimo	Kwa Tlase
Go tlhomiwa ga maje a a latlhilweng a a buseditsweng mo dikarolong tsa East Pit (East OG WRD le West OG WRD).	Go nna teng ga dikgokaganyo tsa haeteroniki gareng ga East Pit le Kafa Tlase ga Lefatshe kwa Samancor le go dutla ga metsi a a kafa tlase ga lefatshe mo East Pit.	Magareng	Kwa Tlase Thata
Go tlhomiwa ga maje a a latlhilweng a a buseditsweng mo dikarolong tsa East Pit (East OG WRD le West OG WRD).	Kgotlelo ya metsi a a kafa tlase ga lefatshe le a a mo boalong jwa lefatshe ka ntlha ya go tsamaya ga Naetereite e e tswang kwa dikagong tsa moepo tse ga jaana le tse disha tsa disalela.	Magareng	Kwa Tlase
Go tlhomiwa ga maje a a latlhilweng a a buseditsweng mo dikarolong tsa East Pit (East OG WRD le West OG WRD).	Tatlhegelo ya malomo a tlhologo le a mefutafuta	Magareng	Kwa Tlase
Go tlhomiwa ga maje a a latlhilweng a a buseditsweng mo dikarolong tsa East Pit (East OG WRD le West OG WRD).	Tatlhegelo ya lefelo la bonno le ya ditshedi tsa mefutafuta mo Lefelong le le Fetogileng	Magareng	Kwa Tlase Thata
Go tlhomiwa ga maje a a latlhilweng a a buseditsweng mo dikarolong tsa East Pit (East OG WRD le West OG WRD).	Tatlhegelo ya lefelo la bonno la diphologolo le ditshedi tsa mefutafuta	Magareng	Kwa Tlase
Go tlhomiwa ga maje a a latlhilweng a a buseditsweng mo	Tatlhegelo ya lefelo la bonno la diphologolo le ditshedi tsa mefutafuta	Magareng	Kwa Tlase Thata

dikarolong tsa East Pit (East OG WRD le West OG WRD).			
Go tlhomiwa ga maje a a latlhilweng a a buseditsweng mo dikarolong tsa East Pit (East OG WRD le West OG WRD).	Go akantshwa gore ditlamorago tse di bonalang tsa modumo wa legato la go aga mo di-NSR tse di gaufi di nne mo magareng (kwantle ga go laolwa). Ka ntlha ya go nna gaufi ga di-NSR (go tsewa gore ga go na di-NSR tse di fudusitsweng), ga go lebege gore go ka nna le phokotsego e e bonalang kwantle ga gore merafe ya Mmaditlhokwa le Lapologang e fudusiwe.	Magareng	Magareng
Go tlhomiwa ga maje a a latlhilweng a a buseditsweng mo dikarolong tsa East Pit (East OG WRD le West OG WRD).	Go akantshwa gore ditlamorago tse di bonalang tsa legato la tiro mo di-NSR tse di gaufi di kwa godimo.	Kwa Godimo (H)	Magareng
Go tlhomiwa ga maje a a latlhilweng a a buseditsweng mo dikarolong tsa East Pit (East OG WRD le West OG WRD).	Go akantshwa gore ditlamorago tsa go tswalwa le go fedisa legato la modumo mo di-NSR tse di gaufi (go tsewa gore ga go na di-NSR tse di fudusitsweng) di nne mo magareng.	Magareng	Magareng
Ditiro tsotlhe tse di akaretsang bothapi le go dirisiwa ga didirisiwa le ditirelo	Go dirisiwa ga dilwana le ditirelo tsa selegae, bathapiwa le borakonteraka go tla godisa dikgwebo mme go tlhame ditshono tsa dikgwebo.	Magareng +	Magareng +

8. DIKGATO TSA GO LAOLA

Lenaane le le feletseng la dikgato tsa go laola ditlamorago tse go builweng ka tsone fa godimo di teng mo EMPr.



Legend

- Tharisa Mining Right Area
- National Roads
- Regional Roads
- Power Line
- Railway
- Rivers
- Dams
- South African Protected Areas (2020)

0 2 4 Kilometers

Scale: 1 : 125 000 @ A3

Projection: Transverse Mercator

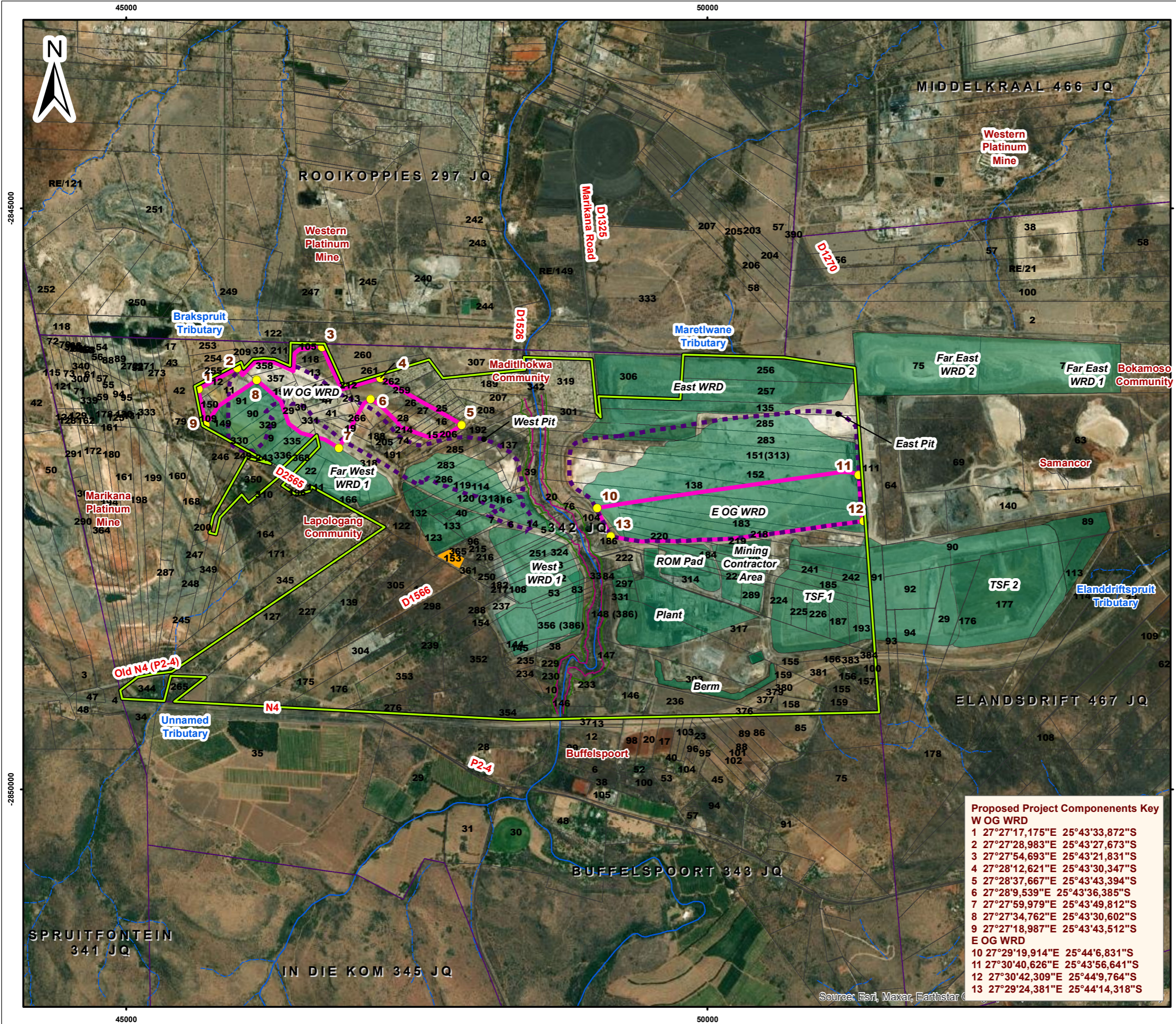
Datum: Hartebeeshoek, Lo27

THARISA MINERALS (Pty) Ltd

Regional Setting



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- Legend**
- Tharisa Mining Right Area
 - Final Pit Extent
 - Proposed Project Components
 - Mining and Related Areas
 - School and Graveyard
 - Farm Boundaries
 - Farm Portion Boundaries
 - Rivers - Perennial
 - - - Rivers - Non-Perennial
 - 1:100 Floodlines
 - Regional Maximum Floodlines

0 500 1000
Meters
Scale: 1 : 31 500 @ A3
Projection: Transverse Mercator
Datum: Hartebeeshoek, Lo27

THARISA MINERALS (Pty) Ltd

Local Setting

Proposed Project Components Key

W OG WRD	1	2	3	4	5	6	7	8	9	
	27°27'17,175"E	25°43'33,872"S	27°27'28,983"E	25°43'27,673"S	27°27'54,693"E	25°43'21,831"S	27°28'12,621"E	25°43'30,347"S	27°28'37,667"E	25°43'43,394"S
	27°28'9,539"E	25°43'36,385"S	27°27'59,979"E	25°43'49,812"S	27°27'34,762"E	25°43'30,602"S	27°27'18,987"E	25°43'43,512"S		
EOG WRD	10	11	12	13						
	27°29'19,914"E	25°44'6,831"S	27°30'40,626"E	25°43'56,641"S	27°30'42,309"E	25°44'9,764"S	27°29'24,381"E	25°44'14,318"S		



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TSHOBOKANYO YA PEGO YA DITLAMORAGO MO TIKOLOGONG YA POROJEKE E E AKANYEDITSWENG YA GO ATOLOSA MABOLOKELO A MATLAPA A A LATLHILWENG KWA MOEPONG WA THARISA

DIPHALANE 2022

DINTLHA TSA MOTSAKAROLO YO O KGATLHEGANG LE YO O AMEGANG	LETLHA	
LEINA		
MOKGATLHO/KHAMPANI		
ATERESE YA POSO		
	KHOUTU YA POSO	
NOMORO YA MOGALA		
ATERESE YA IMEILI		
TSWEETSWE NKWADISENG JAAKA MOTSAKAROLO YO O KGATLHEGANG LE YO O AMEGANG (I&AP) GORE KE KGONE GO AMOGELA TSHEDIMOSETSO LE DIKITSISO TSE DI OKETSEGILENG KA NAKO YA TSAMAISO YA TAOLO YA TIKOLOGO	EE	NNYAA
O KA RATA GORE O NEWE DIKITSISO JANG?	IMEILI	
	POSO	
	SMS	

TSWEETSWE KWALA DIKAKGELo LE DIPOTSO TSA GAGO FANO (tweetswe dirisa pampiri e nngwe fa o batla go dira jalo)

TSWEETSWE AKARETSA BADIRI KA NNA/DITSALA/BAAGELANI BA BA LATELANG JAAKA DI-I&AP TSA POROJEKE ENO:

Tweetswe romela diforomo tse di tladitsweng go:
Moikgolaganyi wa SLR: Chané Coetsee
Imeili: ccoetsee@slrconsulting.com

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Fa o neelana ka tshedimosetso ya gago ya botho gore o kwadisiwe jaaka I&AP ya porojeke eno, mme o naya SLR tumelelo ya go laola tshedimosetso ya gago go ya ka Molao wa Tshireletso ya Tshedimosetso ya Botho, Molao 4 wa 2013. Seno se akaretsa; go boloka le go dirisa Tshedimosetso ya gago ya Botho jaaka karolo ya lenaane la tshedimosetso la go ikgolaganya mo ESIA eno le/kgotsa tse dingwe, go phasalatsa lenaane la tshedimosetso go batho ba bangwe ba ba neilweng tetla ke modira kopo ka maikaelelo a semolao, le go akaretsa ditlhaeletsano dipe fela mo Dipegong tsa ESIA. O ka kopa gore Tshedimosetso ya gago ya Botho e phimolwe mo lenaaneng la tshedimosetso la Porojeke kgotsa dikakgelo di ntshiwe mo Dipegong tsa ESIA ka nako epe fela ka go ikgolaganya le SLR.

RE LBOGELA GO NNA LE SEABE GA GAGO!!!