APPENDIX C: BORROW PIT INVESTIGATION

Target ID		
T2	864 m3	m3
T5	835 m3	m3
T10	3141 m3	m3
T12	5130 m3	m3
T26	8245 m3	m3
T33	954 m3	m3
T38	4013 m3	m3
T40	8037 m3	m3
T45	9353 m3	m3
T51	18468 m3	18468 m3
T55	3686 m3	m3
T56	5130 m3	m3
T57	2504 m3	m3
T58	26460 m3	26460 m3
T62	69120 m3	69120 m3
T63	6480 m3	m3
T65	15390 m3	15390 m3
T68	1823 m3	m3
T69	4104 m3	m3
T70	18225 m3	18225 m3
T76	2462 m3	m3
T77	118195 m3	118195 m3
T81 and T82	1159095 m3	1159095 m3
T87	211200 m3	211200 m3
T93	11696 m3	11696 m3
T94	7268 m3	m3
T99	21375 m3	21375 m3
T100	1265 m3	m3
T101	17496 m3	17496 m3
T103	1012 m3	m3
T104	1625 m3	m3
T105	570 m3	m3
T106	10356 m3	10356 m3
T107	5220 m3	m3
T108	5848 m3	m3
T109	1758 m3	m3
T110	605 m3	m3
T111	38475 m3	38475 m3
T112	11040 m3	11040 m3
T113	32400 m3	32400 m3
T114	15390 m3	15390 m3
Total volume	1886313	1794382
Number borrow pits	41	16

EVALUATION OF POTENTIAL BORROW PIT

THE GEOTECHNICAL HUB

PROJECT NAME	Lesotho Border Road
PROJECT NUMBER	TGH091
LOCATION	T2

SUMMARY OF INVESTIGATION DATA		
Test pit number	**T2TP1**	
Test pit location	28° 36' 38.79" S	28° 29' 11.61" E
Total depth	4 m	
Depth of spoil/overburden	0.2 m	
Expected development depth	4 m	(estimated form existing borrow pit profile)
Desription of suitable material	Highly weathered, very closely jointed, medium hard rock dolerite.	
Material classification (Colto)	Pending - CBR taken at 1,5 to 3,0 m depth	
Test pit number		
Test pit location		
Total depth		
Depth of spoil/overburden		
Expected development depth		
Desription of suitable material		
Material classification (Colto)		
Test pit number		
Test pit location		
Total depth		
Depth of spoil/overburden		
Expected development depth		
Desription of suitable material		
Material classification (Colto)		

ESTIMATION OF MATERIAL QUANTITY		Notes
Length of dyke	50 m	
Width of dyke	4 m	
Footprint area of dyke or sill	200 m2	
Depth of spoil/overburden	0.2 m	
Expected development depth	5 m	
Maximum volume of material avaliable	960 m3	
Correction factor for corestones or oversize material	0.1	
Correction factor for topography	0	
Other correction factor	0	
Expected total volume of suitable materials	864 m3	

Plan view of potential borrow pit target area

View of existing borrow pit area

EVALUATION OF POTENTIAL BORROW PIT

THE GEOTECHNICAL HUB

PROJECT NAME	Lesotho Border Road
PROJECT NUMBER	TGH091
LOCATION	T5

SUMMARY OF INVESTIGATION DATA		
Test pit number	**T5TP1**	
Test pit location	28° 36' 56.92" S	28° 27' 19.29" E
Total depth	5 m	
Depth of spoil/overburden	0.2 m	
Expected development depth	6 m	(estimated form existing borrow pit profile)
Desription of suitable material	Moderately weathered, closely jointed, medium hard rock dolerite with soft rock zones	
Material classification (Colto)	Material not tested	
Test pit number		
Test pit location		
Total depth		
Depth of spoil/overburden		
Expected development depth		
Desription of suitable material		
Material classification (Colto)		
Test pit number		
Test pit location		
Total depth		
Depth of spoil/overburden		
Expected development depth		
Desription of suitable material		
Material classification (Colto)		

ESTIMATION OF MATERIAL QUANTITY		Notes
Length of dyke	30 m	
Width of dyke	6 m	
Footprint area of dyke or sill	180 m2	
Depth of spoil/overburden	0.2 m	
Expected development depth	6 m	
Maximum volume of material avaliable	1044 m3	
Correction factor for corestones or oversize material	0	
Correction factor for topography	0.2	Steep sloping topography of the site
Other correction factor	0	
Expected total volume of suitable materials	835 m3	

Plan view of potential borrow pit target area

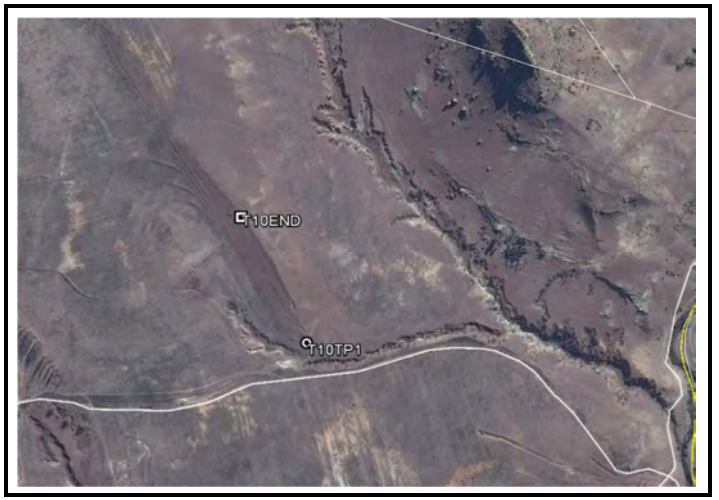
View of potential borrow pit target area

EVALUATION OF POTENTIAL BORROW PIT

PROJECT NAME	Lesotho Border Road
PROJECT NUMBER	TGH091
LOCATION	T10

SUMMARY OF INVESTIGATION DATA		
Test pit number	**T10TP1**	
Test pit location	28° 38' 57.45" S	28° 22' 46.74" E
Total depth	1.7 m	
Depth of spoil/overburden	0.1 m	
Expected development depth	3 m	(estimated form deeply weathered profile)
Desription of suitable material	Highly weathered, very closely jointed, very soft rock, dolerite	
Material classification (Colto)	Pending - CBR taken at 0,1 to 1,7 m depth	
Test pit number		
Test pit location		
Total depth		
Depth of spoil/overburden		
Expected development depth		
Desription of suitable material		
Material classification (Colto)		
Test pit number		
Test pit location		
Total depth		
Depth of spoil/overburden		
Expected development depth		
Desription of suitable material		
Material classification (Colto)		

ESTIMATION OF MATERIAL QUANTITY		Notes
Length of dyke	300 m	
Width of dyke	4 m	
Footprint area of dyke or sill	1200 m2	
Depth of spoil/overburden	0.1 m	
Expected development depth	3 m	
Maximum volume of material avaliable	3480 m3	
Correction factor for corestones or oversize material	0.05	
Correction factor for topography	0	
Other correction factor	0.05	Small section of the potential target already developed
Expected total volume of suitable materials	3141 m3	



Plan view of potential borrow pit target area


View of potential borrow pit target area

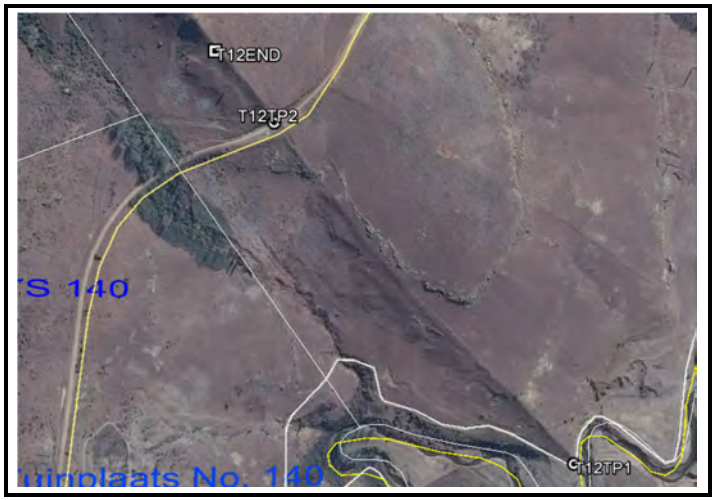
EVALUATION OF POTENTIAL BORROW PIT

THE GEOTECHNICAL HUB

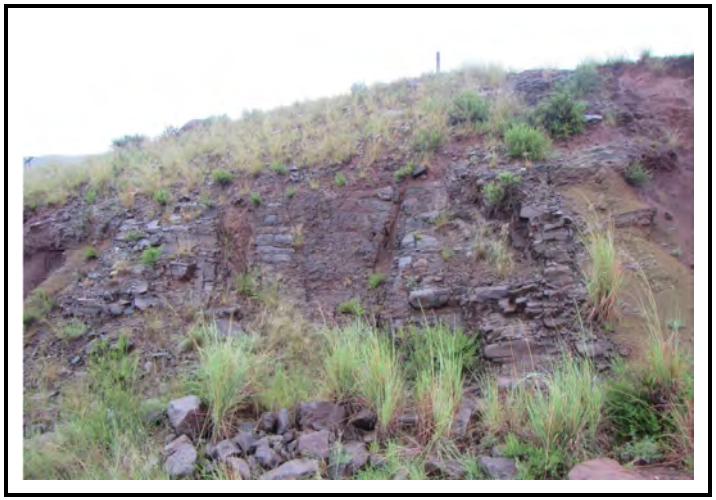
PROJECT NAME	Lesotho Border Road
PROJECT NUMBER	TGH091
LOCATION	T12

SUMMARY OF INVESTIGATION DATA		
Test pit number	**T12TP1**	
Test pit location	28° 39' 56.62" S	28° 22' 13.16" E
Total depth	4 m	
Depth of spoil/overburden	0.2 m	
Expected development depth	4 m	(estimated form existing road cutting)
Desription of suitable material	Moderately weathered, closely jointed, hard rock dolerite with soft rock zones	
Material classification (Colto)	Material not tested	
Test pit number	**T2TP2**	
Test pit location	28° 39' 36.90" S	28° 21' 53.08" E
Total depth	3 m	
Depth of spoil/overburden	0.2 m	
Expected development depth	4 m	
Desription of suitable material	Moderately weathered, very closely jointed, medium hard rock dolerite with soft rock zones	
Material classification (Colto)	Pending - CBR taken at 1,5 to 3,0 m depth	
Test pit number		
Test pit location		
Total depth		
Depth of spoil/overburden		
Expected development depth		
Desription of suitable material		
Material classification (Colto)		

ESTIMATION OF MATERIAL QUANTITY		Notes
Length of dyke	150 m	
Width of dyke	10 m	
Footprint area of dyke or sill	1500 m2	
Depth of spoil/overburden	0.2 m	
Expected development depth	4 m	
Maximum volume of material avaliable	5700 m3	
Correction factor for corestones or oversize material	0.1	
Correction factor for topography	0	
Other correction factor	0	
Expected total volume of suitable materials	5130 m3	



Plan view of potential borrow pit target area



View of potential borrow pit target area

EVALUATION OF POTENTIAL BORROW PIT

PROJECT NAME	Lesotho Border Road
PROJECT NUMBER	TGH091
LOCATION	T26

SUMMARY OF INVESTIGATION DATA		
Test pit number	**T26TP1**	
Test pit location	28° 46' 47.92" S	28° 5' 23.92" E
Total depth	1.2 m	
Depth of spoil/overburden	0 m	
Expected development depth	5 m	(estimated form existing borrow pit profile)
Desription of suitable material	Residual dolerite fill comprising gravelly sand	
Material classification (Colto)	Pending - CBR taken at 0 to 1 m depth	
Test pit number	**T26TP2**	
Test pit location	28° 46' 53.76" S	28° 5' 20.32" E
Total depth	1.5 m	
Depth of spoil/overburden	0.3 m	
Expected development depth	5 m	(estimated form deeply weathered profile)
Desription of suitable material	Highly weathered, very closely jointed, very soft rock, dolerite with occasional cobble and boulder size, hard rock, corestones	
Material classification (Colto)	Pending - CBR taken at 0,3 to 1,5 m depth	
Test pit number		
Test pit location		
Total depth		
Depth of spoil/overburden		
Expected development depth		
Desription of suitable material		
Material classification (Colto)		

ESTIMATION OF MATERIAL QUANTITY		Notes
Length of dyke	170 m	
Width of dyke	10 m	
Footprint area of dyke or sill	1700 m2	
Depth of spoil/overburden	0.2 m	
Expected development depth	5 m	
Maximum volume of material avaliable	8245 m3	
Correction factor for corestones or oversize material	0	
Correction factor for topography	0	
Other correction factor	0	
Expected total volume of suitable materials	8245 m3	

Plan view of potential borrow pit target area

View of existing borrow pit area

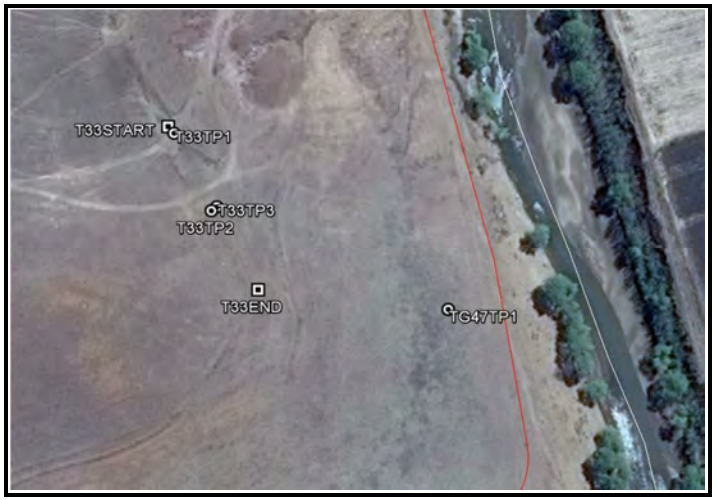
EVALUATION OF POTENTIAL BORROW PIT

THE GEOTECHNICAL HUB

PROJECT NAME	Lesotho Border Road
PROJECT NUMBER	TGH091
LOCATION	T33

SUMMARY OF INVESTIGATION DATA		
Test pit number	**T33TP1**	
Test pit location	28°51'0.31"S	27°56'9.97"E
Total depth	1.7 m	
Depth of spoil/overburden	0.5 m	
Expected development depth	3 m	(estimated form deeply weathered profile)
Desription of suitable material	Residual dolerite comprising dolerite corestones with a minor matrix of gravelly sand	
Material classification (Colto)	Material not tested	
Test pit number	**T33TP2**	
Test pit location	28°51'1.59"S	27°56'10.66"E
Total depth		
Depth of spoil/overburden		
Expected development depth		
Desription of suitable material	Mudrock encountered outside dyke footprint	
Material classification (Colto)	Material not tested	
Test pit number	**T33TP3**	
Test pit location	28°51'1.53"S	27°56'10.76"E
Total depth	1.2 m	
Depth of spoil/overburden	0.2 m	
Expected development depth	3 m	(estimated form deeply weathered profile)
Desription of suitable material	Highly weathered, closely jointed, soft rock dolerite	
Material classification (Colto)	Pending - CBR taken at 0,2 to 1,2 m depth	

ESTIMATION OF MATERIAL QUANTITY		Notes
Length of dyke	90 m	
Width of dyke	5 m	
Footprint area of dyke or sill	450 m2	
Depth of spoil/overburden	0.4 m	
Expected development depth	3 m	
Maximum volume of material avaliable	1193 m3	
Correction factor for corestones or oversize material	0.2	
Correction factor for topography	0	
Other correction factor	0	
Expected total volume of suitable materials	954 m3	



Plan view of potential borrow pit target area

View of potential borrow pit target area

EVALUATION OF POTENTIAL BORROW PIT

PROJECT NAME	Lesotho Border Road
PROJECT NUMBER	TGH091
LOCATION	T38

SUMMARY OF INVESTIGATION DATA		
Test pit number	**T38TP1**	
Test pit location	S29 14 33.2	E27 31 21.9
Total depth	2.2 m	
Depth of spoil/overburden	0.2 m	
Expected development depth	5 m	(estimated form deeply weathered profile)
Desription of suitable material	Highly weathered, very soft rock dolerite with scattered corestones	
Material classification (Colto)	Pending - CBR taken at 0,4 to 2,2 m depth	
Test pit number	**T38TP2**	
Test pit location	S29 14 32.6	E27 31 23.5
Total depth	1.2 m	
Depth of spoil/overburden		
Expected development depth		
Desription of suitable material	Sandstone encountered outside dyke footprint	
Material classification (Colto)	Material not tested	
Test pit number	**T38TP3**	
Test pit location	S29 14 34.3	E27 31 18.0
Total depth	1.8 m	
Depth of spoil/overburden	1.1 m	
Expected development depth	5 m	(estimated form deeply weathered profile)
Desription of suitable material	Highly weathered, very closely jointed, very soft rock dolerite	
Material classification (Colto)	Material not tested	

ESTIMATION OF MATERIAL QUANTITY		Notes
Length of dyke	205 m	
Width of dyke	5 m	
Footprint area of dyke or sill	1025 m2	
Depth of spoil/overburden	0.7 m	
Expected development depth	5 m	
Maximum volume of material avaliable	4459 m3	
Correction factor for corestones or oversize material	0.1	
Correction factor for topography	0	
Other correction factor	0	
Expected total volume of suitable materials	4013 m3	

Plan view of potential borrow pit target area


View of potential borrow pit target area - note steep slope

EVALUATION OF POTENTIAL BORROW PIT

THE GEOTECHNICAL HUB

PROJECT NAME	Lesotho Border Road
PROJECT NUMBER	TGH091
LOCATION	T40

SUMMARY OF INVESTIGATION DATA		
Test pit number	**T40TP1**	
Test pit location	29° 5'36.58"S	27°38'52.79"E
Total depth	1.8 m	
Depth of spoil/overburden	0.3 m	
Expected development depth	5 m	(estimated form deeply weathered profile)
Desription of suitable material	Highly weathered, very soft rock dolerite with scattered corestones	
Material classification (Colto)	Pending	
Test pit number	**T40TP2**	
Test pit location	S29 14 32.6	E27 31 23.5
Total depth	2.3 m	
Depth of spoil/overburden	0.3 m	
Expected development depth	5 m	(estimated form deeply weathered profile)
Desription of suitable material	Highly weathered, very soft rock dolerite with scattered corestones	
Material classification (Colto)	Material not tested	
Test pit number		
Test pit location		
Total depth		
Depth of spoil/overburden		
Expected development depth		
Desription of suitable material		
Material classification (Colto)		

ESTIMATION OF MATERIAL QUANTITY		Notes
Length of dyke	180 m	
Width of dyke	10 m	
Footprint area of dyke or sill	1800 m2	
Depth of spoil/overburden	0.3 m	
Expected development depth	5 m	
Maximum volume of material avaliable	8460 m3	
Correction factor for corestones or oversize material	0.05	
Correction factor for topography	0	Sloping topography of the site
Other correction factor	0	Small section of the potential target already developed
Expected total volume of suitable materials	8037 m3	

Plan view of potential borrow pit target area

View of potential borrow pit target area

EVALUATION OF POTENTIAL BORROW PIT

PROJECT NAME	Lesotho Border Road
PROJECT NUMBER	TGH091
LOCATION	T45

SUMMARY OF INVESTIGATION DATA		
Test pit number	**T45TP1**	
Test pit location	29°14'33.17"S	27°31'21.87"E
Total depth	2,3 m	
Depth of spoil/overburden	0 m	
Expected development depth	5 m	(estimated form deeply weathered profile)
Desription of suitable material	Highly weathered, very soft rock dolerite with clayey sand infill in joints	
Material classification (Colto)	Pending	
Test pit number	**T45TP2**	
Test pit location	29°14'32.63"S	27°31'23.46"E
Total depth	1.2 m	
Depth of spoil/overburden	0.8 m	
Expected development depth	5 m	(estimated form deeply weathered profile)
Desription of suitable material	Highly weathered, closely jointed, soft rock dolerite	
Material classification (Colto)	Material not tested	
Test pit number	**T45TP3**	
Test pit location	29°14'34.27"S	27°31'18.04"E
Total depth	2 m	
Depth of spoil/overburden	0 m	
Expected development depth	5 m	(estimated form deeply weathered profile)
Desription of suitable material	Highly weathered, very closely jointed, very soft rock dolerite	
Material classification (Colto)	Pending	

ESTIMATION OF MATERIAL QUANTITY		Notes
Length of dyke	325 m	
Width of dyke	8 m	
Footprint area of dyke or sill	2600 m2	
Depth of spoil/overburden	0.3 m	
Expected development depth	5 m	
Maximum volume of material avaliable	12307 m3	
Correction factor for corestones or oversize material	0	
Correction factor for topography	0.2	Sloping topography of the site
Other correction factor	0.05	Small section of the potential target already developed
Expected total volume of suitable materials	9353 m3	

Plan view of potential borrow pit target area

View of potential borrow pit target area - note proximity of existing structure

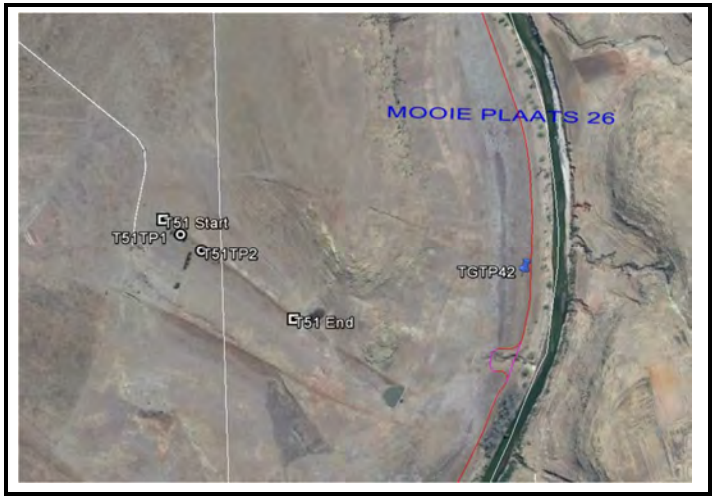
EVALUATION OF POTENTIAL BORROW PIT

THE GEOTECHNICAL HUB

PROJECT NAME	Lesotho Border Road
PROJECT NUMBER	TGH091
LOCATION	T50

SUMMARY OF INVESTIGATION DATA		
Test pit number	**T50TP1**	
Test pit location	29°21'46.40"S	27°25'39.55"E
Total depth	2 m	
Depth of spoil/overburden	0.2 m	
Expected development depth	5 m	(estimated form deeply weathered profile)
Desription of suitable material	Highly weathered, very soft rock dolerite	
Material classification (Colto)	Pending - CBR taken at 0 to 2,3 m depth	
Test pit number	**T50TP2**	
Test pit location	29°21'47.79"S	27°25'41.62"E
Total depth	2.3 m	
Depth of spoil/overburden	0.2 m	
Expected development depth	5 m	(estimated form deeply weathered profile)
Desription of suitable material	Highly weathered, closely jointed, soft rock dolerite	
Material classification (Colto)	Material not tested	

ESTIMATION OF MATERIAL QUANTITY		Notes
Length of dyke	450 m	
Width of dyke	9 m	
Footprint area of dyke or sill	4050 m2	
Depth of spoil/overburden	0.2 m	
Expected development depth	5 m	
Maximum volume of material avaliable	19440 m3	
Correction factor for corestones or oversize material	0.05	
Correction factor for topography	0	
Other correction factor	0	
Expected total volume of suitable materials	18468 m3	



Plan view of potential borrow pit target area

View of potential borrow pit target area - looking down the dyke footprint

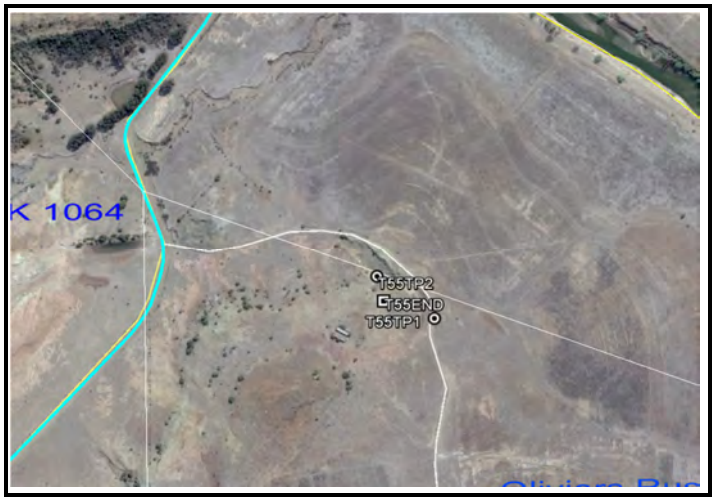
EVALUATION OF POTENTIAL BORROW PIT

THE GEOTECHNICAL HUB

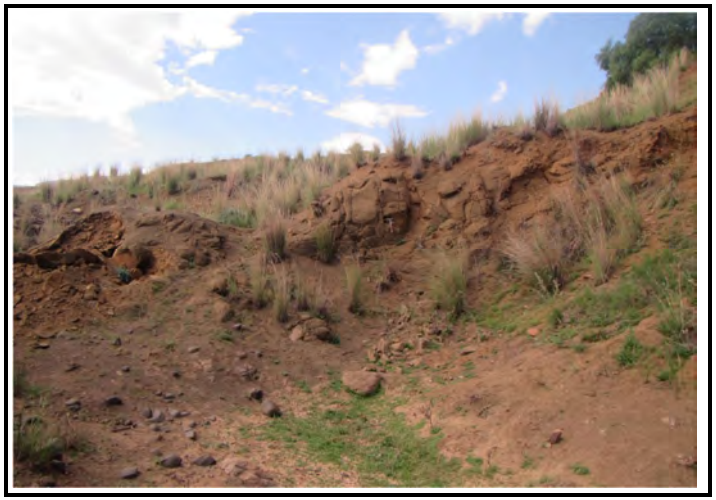
PROJECT NAME	Lesotho Border Road
PROJECT NUMBER	TGH091
LOCATION	T55

SUMMARY OF INVESTIGATION DATA		
Test pit number	**T55TP1**	
Test pit location	29° 23' 18.20" S	27° 24' 52.04" E
Total depth	1.2 m	
Depth of spoil/overburden	0 m	
Expected development depth	0 m	
Desription of suitable material	Completely weathered mudrock comprising silty clay	
Material classification (Colto)	Material not tested	
Test pit number	**T55TP2**	
Test pit location	29° 23' 15.75" S	27° 24' 48.27" E
Total depth	5 m	
Depth of spoil/overburden	0.3 m	
Expected development depth	5 m	(estimated form existing borrow pit profile)
Desription of suitable material	Highly weathered, closely jointed, very soft rock dolerite with corestones	
Material classification (Colto)	Pending - CBR taken at 3,0 to 4,0 m depth	
Test pit number		
Test pit location		
Total depth		
Depth of spoil/overburden		
Expected development depth		
Desription of suitable material		
Material classification (Colto)		

ESTIMATION OF MATERIAL QUANTITY		Notes
Length of dyke	40 m	
Width of dyke	20 m	
Footprint area of dyke or sill	800 m2	
Depth of spoil/overburden	0.2 m	
Expected development depth	5 m	
Maximum volume of material avaliable	3880 m3	
Correction factor for corestones or oversize material	0.05	
Correction factor for topography	0	
Other correction factor	0	
Expected total volume of suitable materials	3686 m3	



Plan view of potential borrow pit target area



View of potential borrow pit target area

EVALUATION OF POTENTIAL BORROW PIT

THE GEOTECHNICAL HUB

PROJECT NAME	Lesotho Border Road
PROJECT NUMBER	TGH091
LOCATION	T56

SUMMARY OF INVESTIGATION DATA		
Test pit number	**T56TP1**	
Test pit location	29° 24' 3.47" S	27° 25' 21.15" E
Total depth	2.5 m	
Depth of spoil/overburden	0.4 m	
Expected development depth	4 m	(estimated form deeply weathered profile)
Desription of suitable material	Highly weathered, very closely jointed, medium hard rock dolerite	
Material classification (Colto)	Material not tested	
Test pit number	**T56TP2**	
Test pit location	29° 24' 4.16" S	27° 25' 22.00" E
Total depth	1 m	
Depth of spoil/overburden	0.4 m	
Expected development depth	4 m	(estimated form deeply weathered profile)
Desription of suitable material	Highly weathered, very closely jointed, medium hard rock dolerite with very soft rock zones	
Material classification (Colto)	Pending - CBR taken at 0,4 to 1,0 m depth	
Test pit number		
Test pit location		
Total depth		
Depth of spoil/overburden		
Expected development depth		
Desription of suitable material		
Material classification (Colto)		

ESTIMATION OF MATERIAL QUANTITY		Notes
Length of dyke	300 m	
Width of dyke	5 m	
Footprint area of dyke or sill	1500 m2	
Depth of spoil/overburden	0.4 m	
Expected development depth	4 m	
Maximum volume of material avaliable	5400 m3	
Correction factor for corestones or oversize material	0	
Correction factor for topography	0	
Other correction factor	0.05	Small section of the potential target already developed
Expected total volume of suitable materials	5130 m3	

Plan view of potential borrow pit target area

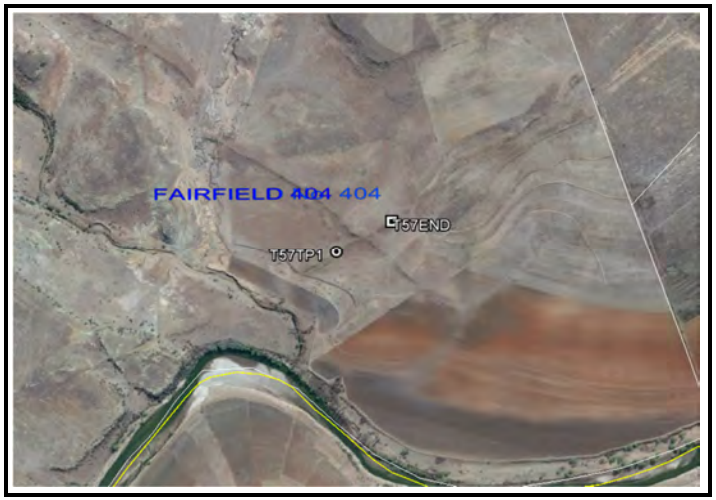
View of potential borrow pit target area

EVALUATION OF POTENTIAL BORROW PIT

PROJECT NAME	Lesotho Border Road
PROJECT NUMBER	TGH091
LOCATION	T57

SUMMARY OF INVESTIGATION DATA		
Test pit number	**T57TP1**	
Test pit location	29° 24' 28.98" S	27° 23' 58.30" E
Total depth	2 m	
Depth of spoil/overburden	0.3 m	
Expected development depth	4 m	(estimated form deeply weathered profile)
Desription of suitable material	Highly weathered, very closely jointed, medium hard rock dolerite with very soft rock zones	
Material classification (Colto)	Pending - CBR taken at 0,3 to 2,0 m depth	
Test pit number		
Test pit location		
Total depth		
Depth of spoil/overburden		
Expected development depth		
Desription of suitable material		
Material classification (Colto)		
Test pit number		
Test pit location		
Total depth		
Depth of spoil/overburden		
Expected development depth		
Desription of suitable material		
Material classification (Colto)		

ESTIMATION OF MATERIAL QUANTITY		Notes
Length of dyke	150 m	
Width of dyke	5 m	
Footprint area of dyke or sill	750 m2	
Depth of spoil/overburden	0.3 m	
Expected development depth	4 m	
Maximum volume of material avaliable	2775 m3	
Correction factor for corestones or oversize material	0.05	
Correction factor for topography	0.05	
Other correction factor	0	
Expected total volume of suitable materials	2504 m3	



Plan view of potential borrow pit target area

View of potential borrow pit target area

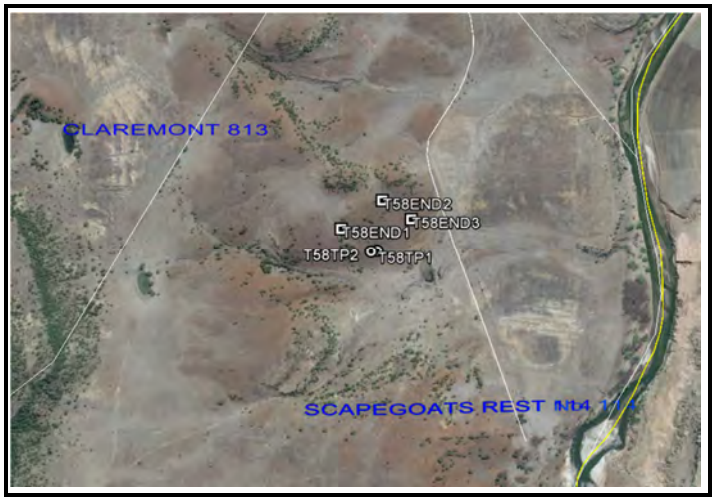
EVALUATION OF POTENTIAL BORROW PIT

THE GEOTECHNICAL HUB

PROJECT NAME	Lesotho Border Road
PROJECT NUMBER	TGH091
LOCATION	T58

SUMMARY OF INVESTIGATION DATA		
Test pit number	**T58TP1**	
Test pit location	29° 25' 13.04" S	27° 23' 3.38" E
Total depth	2.1 m	
Depth of spoil/overburden	0.3 m	
Expected development depth	0 m	
Desription of suitable material	Residual mudrock comprising silty clay	
Material classification (Colto)	Material not tested	
Test pit number	**T58TP2**	
Test pit location	29° 25' 13.11" S	27° 23' 2.76" E
Total depth	2.6 m	
Depth of spoil/overburden	0.8 m	
Expected development depth	3 m	(estimated form deeply weathered profile)
Desription of suitable material	Residual dolerite comprising silty clay with corestones	
Material classification (Colto)	Pending - CBR taken at 0,8 to 2,5 m depth	
Test pit number		
Test pit location		
Total depth		
Depth of spoil/overburden		
Expected development depth		
Desription of suitable material		
Material classification (Colto)		

ESTIMATION OF MATERIAL QUANTITY		Notes
Length of dyke	135 m	
Width of dyke	100 m	
Footprint area of dyke or sill	13500 m2	
Depth of spoil/overburden	0.6 m	
Expected development depth	3 m	
Maximum volume of material avaliable	33075 m3	
Correction factor for corestones or oversize material	0	
Correction factor for topography	0.2	Sloping topography of the site
Other correction factor	0	
Expected total volume of suitable materials	26460 m3	



Plan view of potential borrow pit target area

View of potential borrow pit target area

EVALUATION OF POTENTIAL BORROW PIT

PROJECT NAME	Lesotho Border Road
PROJECT NUMBER	TGH091
LOCATION	T62

SUMMARY OF INVESTIGATION DATA		
Test pit number	**T62TP1**	
Test pit location	29° 26' 28.07" S	27° 21' 32.72" E
Total depth	1.1 m	
Depth of spoil/overburden	0.5 m	
Expected development depth	4 m	(estimated form deeply weathered profile)
Desription of suitable material	Residual dolerite comprising gravelly sandy clay with core stones	
Material classification (Colto)	Pending - CBR taken at 0,5 to 1,1 m depth	
Test pit number	**T62TP2**	
Test pit location	29° 26' 33.55" S	27° 22' 22.22" E
Total depth	1.7 m	
Depth of spoil/overburden	0.3 m	
Expected development depth	4 m	(estimated form deeply weathered profile)
Desription of suitable material	Residual dolerite comprising gravelly sandy clay with core stones	
Material classification (Colto)	Pending - CBR taken at 0,3 to 1,7 m depth	
Test pit number		
Test pit location		
Total depth		
Depth of spoil/overburden		
Expected development depth		
Desription of suitable material		
Material classification (Colto)		

ESTIMATION OF MATERIAL QUANTITY		Notes
Length of dyke	200 m	
Width of dyke	120 m	
Footprint area of dyke or sill	24000 m2	
Depth of spoil/overburden	0.4 m	
Expected development depth	4 m	
Maximum volume of material avaliable	86400 m3	
Correction factor for corestones or oversize material	0.2	
Correction factor for topography	0	
Other correction factor	0	
Expected total volume of suitable materials	69120 m3	

Plan view of potential borrow pit target area

View of potential borrow pit target area

EVALUATION OF POTENTIAL BORROW PIT

THE GEOTECHNICAL HUB

PROJECT NAME	Lesotho Border Road
PROJECT NUMBER	TGH091
LOCATION	T63

SUMMARY OF INVESTIGATION DATA		
Test pit number	**T63TP1**	
Test pit location	29° 28' 8.47" S	27° 19' 11.73" E
Total depth	1.5 m	
Depth of spoil/overburden	0.2 m	
Expected development depth	5 m	(estimated form existing borrow pit profile)
Desription of suitable material	Highly weathered, very closely jointed, medium hard rock dolerite with very soft rock zones	
Material classification (Colto)	Pending - CBR taken at 0 to 1,5 m depth	
Test pit number		
Test pit location		
Total depth		
Depth of spoil/overburden		
Expected development depth		
Desription of suitable material		
Material classification (Colto)		
Test pit number		
Test pit location		
Total depth		
Depth of spoil/overburden		
Expected development depth		
Desription of suitable material		
Material classification (Colto)		

ESTIMATION OF MATERIAL QUANTITY		Notes
Length of dyke	300 m	
Width of dyke	5 m	
Footprint area of dyke or sill	1500 m2	
Depth of spoil/overburden	0.2 m	
Expected development depth	5 m	
Maximum volume of material avaliable	7200 m3	
Correction factor for corestones or oversize material	0.1	
Correction factor for topography	0	
Other correction factor	0	
Expected total volume of suitable materials	6480 m3	

Plan view of potential borrow pit target area

View of potential borrow pit target area

EVALUATION OF POTENTIAL BORROW PIT

THE GEOTECHNICAL HUB

PROJECT NAME	Lesotho Border Road
PROJECT NUMBER	TGH091
LOCATION	T65

SUMMARY OF INVESTIGATION DATA		
Test pit number	**T65TP1**	
Test pit location	29° 28' 57.76" S	27° 19' 30.84" E
Total depth	2.5 m	
Depth of spoil/overburden	0.3 m	
Expected development depth	6 m	(estimated form deeply weathered profile)
Desription of suitable material	Highly weathered, very closely jointed, very soft rock dolerite with with corestones	
Material classification (Colto)	Pending - CBR taken at 0,3 to 2,5 m depth	
Test pit number		
Test pit location		
Total depth		
Depth of spoil/overburden		
Expected development depth		
Desription of suitable material		
Material classification (Colto)		
Test pit number		
Test pit location		
Total depth		
Depth of spoil/overburden		
Expected development depth		
Desription of suitable material		
Material classification (Colto)		

ESTIMATION OF MATERIAL QUANTITY		Notes
Length of dyke	300 m	
Width of dyke	10 m	
Footprint area of dyke or sill	3000 m2	
Depth of spoil/overburden	0.3 m	
Expected development depth	6 m	
Maximum volume of material avaliable	17100 m3	
Correction factor for corestones or oversize material	0.1	
Correction factor for topography	0	
Other correction factor	0	
Expected total volume of suitable materials	15390 m3	

Plan view of potential borrow pit target area

View of potential borrow pit target area

EVALUATION OF POTENTIAL BORROW PIT

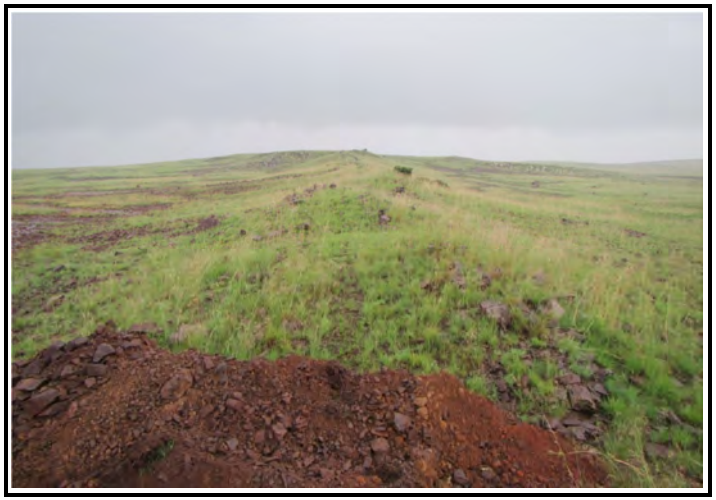
THE GEOTECHNICAL HUB

PROJECT NAME	Lesotho Border Road
PROJECT NUMBER	TGH091
LOCATION	T68

SUMMARY OF INVESTIGATION DATA		
Test pit number	**T68TP1**	
Test pit location	29° 32' 52.63" S	27° 14' 26.33" E
Total depth	1 m	
Depth of spoil/overburden	0.3 m	
Expected development depth	3 m	(estimated form deeply weathered profile)
Desription of suitable material	Highly weathered, closely jointed, medium hard rock dolerite with very soft rock zones	
Material classification (Colto)	Material not tested	
Test pit number		
Test pit location		
Total depth		
Depth of spoil/overburden		
Expected development depth		
Desription of suitable material		
Material classification (Colto)		
Test pit number		
Test pit location		
Total depth		
Depth of spoil/overburden		
Expected development depth		
Desription of suitable material		
Material classification (Colto)		

ESTIMATION OF MATERIAL QUANTITY		Notes
Length of dyke	250 m	
Width of dyke	3 m	
Footprint area of dyke or sill	750 m2	
Depth of spoil/overburden	0.3 m	
Expected development depth	3 m	
Maximum volume of material avaliable	2025 m3	
Correction factor for corestones or oversize material	0.1	
Correction factor for topography	0	
Other correction factor	0	
Expected total volume of suitable materials	1823 m3	

Plan view of potential borrow pit target area



View of potential borrow pit target area

EVALUATION OF POTENTIAL BORROW PIT

THE GEOTECHNICAL HUB

PROJECT NAME	Lesotho Border Road
PROJECT NUMBER	TGH091
LOCATION	T69

SUMMARY OF INVESTIGATION DATA		
Test pit number	**T69TP1**	
Test pit location	29° 31' 37.66" S	27° 16' 57.28" E
Total depth	1.5 m	
Depth of spoil/overburden	0 m	
Expected development depth	4 m	(estimated form road cutting profile)
Desription of suitable material	Moderately weathered, closely jointed, medium hard rock dolerite with soft rock zones	
Material classification (Colto)	Material not tested	
Test pit number		
Test pit location		
Total depth		
Depth of spoil/overburden		
Expected development depth		
Desription of suitable material		
Material classification (Colto)		
Test pit number		
Test pit location		
Total depth		
Depth of spoil/overburden		
Expected development depth		
Desription of suitable material		
Material classification (Colto)		

ESTIMATION OF MATERIAL QUANTITY		Notes
Length of dyke	300 m	
Width of dyke	4 m	
Footprint area of dyke or sill	1200 m2	
Depth of spoil/overburden	0.0 m	
Expected development depth	4 m	
Maximum volume of material avaliable	4800 m3	
Correction factor for corestones or oversize material	0.1	
Correction factor for topography	0	
Other correction factor	0.05	Some building ruins located on dyke
Expected total volume of suitable materials	4104 m3	

Plan view of potential borrow pit target area

View of potential borrow pit target area

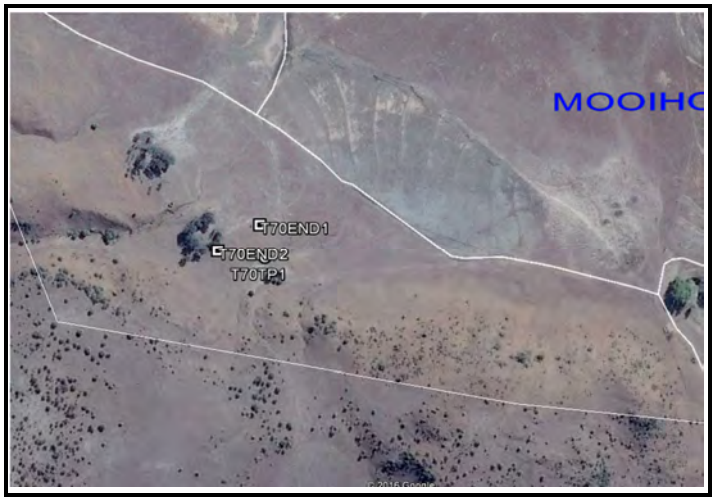
EVALUATION OF POTENTIAL BORROW PIT

THE GEOTECHNICAL HUB

PROJECT NAME	Lesotho Border Road
PROJECT NUMBER	TGH091
LOCATION	T70

SUMMARY OF INVESTIGATION DATA		
Test pit number	**T70TP1**	
Test pit location	29° 32' 39.11" S	27° 12' 43.91" E
Total depth	1.2 m	
Depth of spoil/overburden	0.5 m	
Expected development depth	5 m	(estimated form deeply weathered profile)
Desription of suitable material	Highly weathered, closely jointed, medium hard rock dolerite with very soft rock zones	
Material classification (Colto)	Pending - CBR taken at 0,5 to 1,2 m depth	
Test pit number		
Test pit location		
Total depth		
Depth of spoil/overburden		
Expected development depth		
Desription of suitable material		
Material classification (Colto)		
Test pit number		
Test pit location		
Total depth		
Depth of spoil/overburden		
Expected development depth		
Desription of suitable material		
Material classification (Colto)		

ESTIMATION OF MATERIAL QUANTITY		Notes
Length of dyke	100 m	
Width of dyke	50 m	
Footprint area of dyke or sill	5000 m2	
Depth of spoil/overburden	0.5 m	
Expected development depth	5 m	
Maximum volume of material avaliable	22500 m3	
Correction factor for corestones or oversize material	0.1	
Correction factor for topography	0.1	Sloping topography of the site
Other correction factor	0	
Expected total volume of suitable materials	18225 m3	



Plan view of potential borrow pit target area

View of potential borrow pit target area

EVALUATION OF POTENTIAL BORROW PIT

THE GEOTECHNICAL HUB

PROJECT NAME	Lesotho Border Road
PROJECT NUMBER	TGH091
LOCATION	T76

SUMMARY OF INVESTIGATION DATA		
Test pit number	**T76TP1**	
Test pit location	29° 36' 26.86" S	27° 03' 9.23" E
Total depth	1 m	
Depth of spoil/overburden	0.2 m	
Expected development depth	4 m	(estimated form deeply weathered profile)
Desription of suitable material	Highly weathered, very closely jointed, medium hard rock dolerite with very soft rock zones	
Material classification (Colto)	Pending - CBR taken at 0,2 to 1,0 m depth	
Test pit number		
Test pit location		
Total depth		
Depth of spoil/overburden		
Expected development depth		
Desription of suitable material		
Material classification (Colto)		
Test pit number		
Test pit location		
Total depth		
Depth of spoil/overburden		
Expected development depth		
Desription of suitable material		
Material classification (Colto)		

ESTIMATION OF MATERIAL QUANTITY		Notes
Length of dyke	100 m	
Width of dyke	8 m	
Footprint area of dyke or sill	800 m2	
Depth of spoil/overburden	0.2 m	
Expected development depth	4 m	
Maximum volume of material avaliable	3040 m3	
Correction factor for corestones or oversize material	0.1	
Correction factor for topography	0	
Other correction factor	0.1	Small section of the potential target already developed
Expected total volume of suitable materials	2462 m3	

Plan view of potential borrow pit target area

View of potential borrow pit target area

EVALUATION OF POTENTIAL BORROW PIT

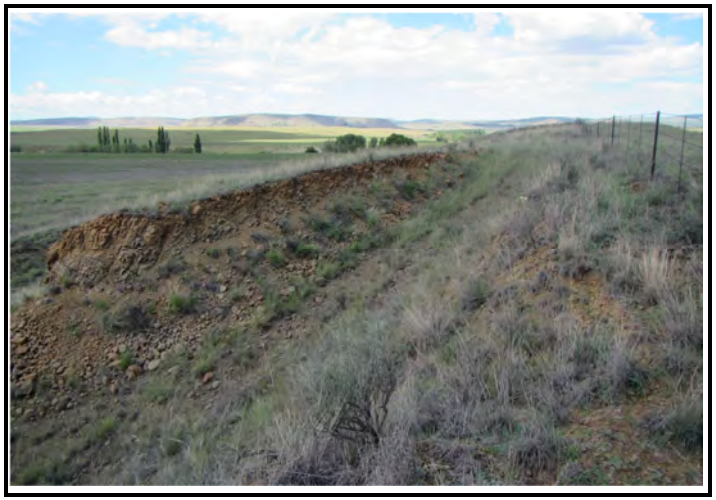
THE GEOTECHNICAL HUB

PROJECT NAME	Lesotho Border Road
PROJECT NUMBER	TGH091
LOCATION	T77

SUMMARY OF INVESTIGATION DATA		
Test pit number	**T77TP1**	
Test pit location	29° 36' 47.58" S	27° 00' 53.24" E
Total depth	2 m	
Depth of spoil/overburden	0.1 m	
Expected development depth	4 m	(estimated form existing borrow pit profile)
Desription of suitable material	Highly weathered, closely jointed, soft rock dolerite with very soft rock zones	
Material classification (Colto)	Pending - CBR taken at 0,1 to 2,0 m depth	
Test pit number	**T77TP2**	
Test pit location	29° 37' 28.07" S	27° 01' 5.88" E
Total depth	4 m	
Depth of spoil/overburden	0.3 m	
Expected development depth	4 m	(estimated form existing borrow pit profile)
Desription of suitable material	Highly weathered, closely jointed, soft rock dolerite with very soft rock zones	
Material classification (Colto)	Pending - CBR taken at 3,0 to 4,0 m depth	
Test pit number		
Test pit location		
Total depth		
Depth of spoil/overburden		
Expected development depth		
Desription of suitable material		
Material classification (Colto)		

ESTIMATION OF MATERIAL QUANTITY		Notes
Length of dyke	1600 m	
Width of dyke	30 m	
Footprint area of dyke or sill	48000 m2	
Depth of spoil/overburden	0.2 m	
Expected development depth	4 m	
Maximum volume of material avaliable	182400 m3	
Correction factor for corestones or oversize material	0.1	
Correction factor for topography	0.2	
Other correction factor	0.1	Small section of the potential target already developed
Expected total volume of suitable materials	118195 m3	

Plan view of potential borrow pit target area



View of potential borrow pit target area

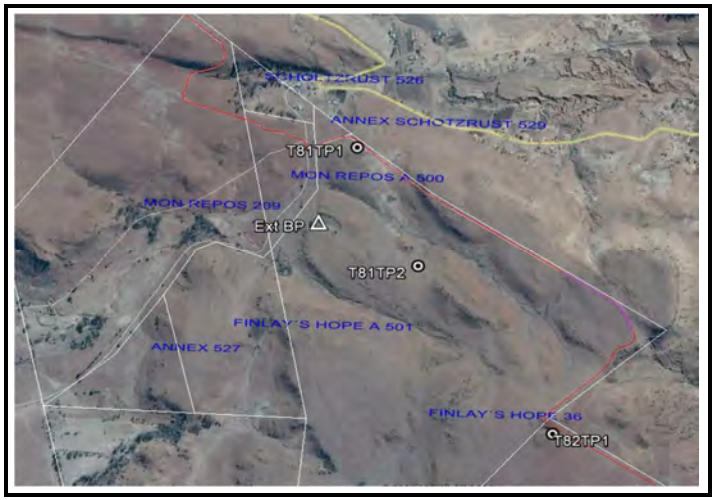
EVALUATION OF POTENTIAL BORROW PIT

THE GEOTECHNICAL HUB

PROJECT NAME	Lesotho Border Road
PROJECT NUMBER	TGH091
LOCATION	T81 and T82

SUMMARY OF INVESTIGATION DATA		
Test pit number	**T81TP1**	
Test pit location	29°42'45.64"S	27° 4'30.62"E
Total depth	1.8 m	
Depth of spoil/overburden	0.3 m	
Expected development depth	3 m	(estimated form deeply weathered profile)
Desription of suitable material	Residual dolerite comprising sandy fine and medium gravel (sugar dolerite)	
Material classification (Colto)	Pending - CBR taken at 0,3 to 1,8 m depth	
Test pit number	**T81TP2**	
Test pit location	29°43'1.96"S	27° 4'40.12"E
Total depth	2.2 m	
Depth of spoil/overburden	0.4 m	
Expected development depth	3 m	(estimated form deeply weathered profile)
Desription of suitable material	Highly weathered, very closely jointed, soft rock dolerite	
Material classification (Colto)	Pending - CBR taken at 0,4 to 2,0 m depth	
Test pit number	**T82TP1**	
Test pit location	29°43'24.87"S	27° 5'0.67"E
Total depth	2.3 m	
Depth of spoil/overburden	0 m	
Expected development depth	3 m	(estimated form deeply weathered profile)
Desription of suitable material	Residual dolerite comprising sandy gravel (weathered dolerite)	
Material classification (Colto)	Pending	

ESTIMATION OF MATERIAL QUANTITY		Notes
Length of dolerite sill	1400 m	
Width of dolerite sill	700 m	
Footprint area of dyke or sill	980000 m2	
Depth of spoil/overburden	0.2 m	
Expected development depth	3 m	
Maximum volume of material avaliable	2711333 m3	
Correction factor for corestones or oversize material	0.1	
Correction factor for topography	0.5	Sloping topography of the site
Other correction factor	0.05	Small section of the potential target already developed
Expected total volume of suitable materials	1159095 m3	



Plan view of potential borrow pit target area

View of potential borrow pit target area

EVALUATION OF POTENTIAL BORROW PIT

PROJECT NAME	Lesotho Border Road
PROJECT NUMBER	TGH091
LOCATION	T87

SUMMARY OF INVESTIGATION DATA		
Test pit number	**T87TP1**	
Test pit location	30°18'25.29"S	27°22'38.18"E
Total depth	1.9 m	
Depth of spoil/overburden	0 m	
Expected development depth	4 m	(estimated form deeply weathered profile)
Desription of suitable material	Residual dolerite comprising sandy fine and medium gravel (sugar dolerite)	
Material classification (Colto)	Pending - CBR taken at 0,3 to 1,8 m depth	
Test pit number	**T87TP2**	
Test pit location	30°18'31.69"S	27°22'39.31"E
Total depth	1.2 m	
Depth of spoil/overburden	0.1 m	
Expected development depth	2 m	(estimated form deeply weathered profile)
Desription of suitable material	Highly weathered, very closely jointed, soft rock dolerite	
Material classification (Colto)	Pending - CBR taken at 0,4 to 2,0 m depth	
Test pit number	**T87TP3**	
Test pit location	30°18'34.66"S	27°22'39.23"E
Total depth	1.5 m	
Depth of spoil/overburden	0.1 m	
Expected development depth	3 m	(estimated form deeply weathered profile)
Desription of suitable material	Residual dolerite comprising sandy gravel (weathered dolerite)	
Material classification (Colto)	Pending	

ESTIMATION OF MATERIAL QUANTITY		Notes
Length of dolerite sill	m	
Width of dolerite sill	m	
Footprint area of dyke or sill	100000 m2	
Depth of spoil/overburden	0.1 m	
Expected development depth	3 m	
Maximum volume of material avaliable	293333 m3	
Correction factor for corestones or oversize material	0.1	
Correction factor for topography	0.2	Sloping topography of the site
Other correction factor	0	
Expected total volume of suitable materials	211200 m3	

Plan view of potential borrow pit target area

View of potential borrow pit target area - extensive dolerite sill

EVALUATION OF POTENTIAL BORROW PIT

THE GEOTECHNICAL HUB

PROJECT NAME	Lesotho Border Road
PROJECT NUMBER	TGH091
LOCATION	T93

SUMMARY OF INVESTIGATION DATA		
Test pit number	**T93TP1**	
Test pit location	28°47'1.41"S	28° 5'30.55"E
Total depth	2 m	
Depth of spoil/overburden	0.2 m	
Expected development depth	5 m	(estimated form deeply weathered profile)
Desription of suitable material	Highly weathered, very soft rock dolerite with soft rock corestones	
Material classification (Colto)	Pending - CBR taken at 0,2 to 2,0 m depth	
Test pit number	**T93TP2**	
Test pit location	28°47'12.38"S	28° 5'27.32"E
Total depth	1.2 m	
Depth of spoil/overburden	0.8 m	
Expected development depth	5 m	(estimated form deeply weathered profile)
Desription of suitable material	Highly weathered, closely jointed, soft rock dolerite	
Material classification (Colto)	Pending - CBR taken at 0,2 to 2,3 m depth	
Test pit number		
Test pit location		
Total depth		
Depth of spoil/overburden		
Expected development depth		
Desription of suitable material		
Material classification (Colto)		

ESTIMATION OF MATERIAL QUANTITY		Notes
Length of dyke	400 m	
Width of dyke	8 m	
Footprint area of dyke or sill	3200 m2	
Depth of spoil/overburden	0.5 m	
Expected development depth	5 m	
Maximum volume of material avaliable	14400 m3	
Correction factor for corestones or oversize material	0.05	
Correction factor for topography	0.1	Undulating topography of the site
Other correction factor	0.05	Small section of the potential target already developed
Expected total volume of suitable materials	11696 m3	

Plan view of potential borrow pit target area

View of trench (15 m long) excavted in potential borrow pit target area to deterine width of dyke

EVALUATION OF POTENTIAL BORROW PIT

PROJECT NAME	Lesotho Border Road
PROJECT NUMBER	TGH091
LOCATION	T94

SUMMARY OF INVESTIGATION DATA		
Test pit number	**T45TP1**	
Test pit location	28°44'5.51"S	28° 8'10.32"E
Total depth	0.6 m	
Depth of spoil/overburden	0 m	
Expected development depth	5 m	(estimated form deeply weathered profile in existing borrow area)
Desription of suitable material	Slightly weathered, medium hard rock dolerite with minor sand infill in joints	
Material classification (Colto)	Material not tested	
Test pit number	**T45TP2**	
Test pit location	28°44'7.05"S	28° 8'8.99"E
Total depth	1.3 m	
Depth of spoil/overburden	0.5 m	
Expected development depth	5 m	(estimated form deeply weathered profile)
Desription of suitable material	Highly weathered, closely jointed, soft rock dolerite	
Material classification (Colto)	Pending - CBR taken at 0,2 to 2,0 m depth	
Test pit number		
Test pit location		
Total depth		
Depth of spoil/overburden		
Expected development depth		
Desription of suitable material		
Material classification (Colto)		

ESTIMATION OF MATERIAL QUANTITY		Notes
Length of dyke	170 m	
Width of dyke	9 m	
Footprint area of dyke or sill	1530 m2	
Depth of spoil/overburden	0.3 m	
Expected development depth	5 m	
Maximum volume of material avaliable	7268 m3	
Correction factor for corestones or oversize material	0	
Correction factor for topography	0	
Other correction factor	0	
Expected total volume of suitable materials	7268 m3	

Plan view of potential borrow pit target area

View of potential borrow pit target area - note existing borrow area in background

EVALUATION OF POTENTIAL BORROW PIT

PROJECT NAME	Lesotho Border Road
PROJECT NUMBER	TGH091
LOCATION	T45

SUMMARY OF INVESTIGATION DATA		
Test pit number	**T45TP1**	
Test pit location		
Total depth	2.1 m	
Depth of spoil/overburden	0 m	
Expected development depth	5 m	(estimated form deeply weathered profile)
Desription of suitable material	Highly weathered, soft rock dolerite	
Material classification (Colto)	Pending - CBR taken at 0,3 to 2,0 m depth	
Test pit number		
Test pit location		
Total depth		
Depth of spoil/overburden		
Expected development depth		
Desription of suitable material		
Material classification (Colto)		
Test pit number		
Test pit location		
Total depth		
Depth of spoil/overburden		
Expected development depth		
Desription of suitable material		
Material classification (Colto)		

ESTIMATION OF MATERIAL QUANTITY		Notes
Length of dyke	125 m	
Width of dyke	60 m	
Footprint area of dyke or sill	7500 m2	
Depth of spoil/overburden	0.0 m	
Expected development depth	3 m	
Maximum volume of material avaliable	22500 m3	
Correction factor for corestones or oversize material	0.1	
Correction factor for topography	0.1	Sloping topography of the site
Other correction factor	0.05	Small section of the potential target already developed
Expected total volume of suitable materials	17314 m3	

Plan view of potential borrow pit target area

View of existing borrow pit excavation showing deep weathering

EVALUATION OF POTENTIAL BORROW PIT

THE GEOTECHNICAL HUB

PROJECT NAME	Lesotho Border Road
PROJECT NUMBER	TGH091
LOCATION	T99

SUMMARY OF INVESTIGATION DATA		
Test pit number	**T99TP1**	
Test pit location	29°53'52.18"S	27°10'21.76"E
Total depth	2 m	
Depth of spoil/overburden	0 m	
Expected development depth	10 m	(estimated form deeply weathered profile)
Desription of suitable material	Highly weathered, closely jointed, soft rock dolerite	
Material classification (Colto)	Pending - CBR taken at 0 to 2 m depth	
Test pit number		
Test pit location		
Total depth		
Depth of spoil/overburden		
Expected development depth		
Desription of suitable material		
Material classification (Colto)		
Test pit number		
Test pit location		
Total depth		
Depth of spoil/overburden		
Expected development depth		
Desription of suitable material		
Material classification (Colto)		

ESTIMATION OF MATERIAL QUANTITY		Notes
Length of dolerite dyke	100 m	
Width of dolerite dyke	15 m	
Footprint area of dyke or sill	1500 m2	
Depth of spoil/overburden	0.0 m	
Expected development depth	15 m	
Maximum volume of material avaliable	22500 m3	
Correction factor for corestones or oversize material	0.05	
Correction factor for topography	0	Sloping topography of the site
Other correction factor	0	Small section of the potential target already developed
Expected total volume of suitable materials	21375 m3	

Plan view of potential borrow pit target area

View of potential borrow pit target area - note existing borrows

EVALUATION OF POTENTIAL BORROW PIT

PROJECT NAME	Lesotho Border Road
PROJECT NUMBER	TGH091
LOCATION	T100

SUMMARY OF INVESTIGATION DATA		
Test pit number	**T100TP1**	
Test pit location	28° 42' 0.59" S	28° 21' 4.87" E
Total depth	2 m	
Depth of spoil/overburden	0.3 m	
Expected development depth	4 m	(estimated form deeply weathered profile)
Desription of suitable material	Highly weathered, very closely jointed, soft rock dolerite with very soft rock zones	
Material classification (Colto)	Pending - CBR taken at 1,6 to 2,0 m depth	
Test pit number		
Test pit location		
Total depth		
Depth of spoil/overburden		
Expected development depth		
Desription of suitable material		
Material classification (Colto)		
Test pit number		
Test pit location		
Total depth		
Depth of spoil/overburden		
Expected development depth		
Desription of suitable material		
Material classification (Colto)		

ESTIMATION OF MATERIAL QUANTITY		Notes
Length of dyke	120 m	
Width of dyke	3 m	
Footprint area of dyke or sill	360 m2	
Depth of spoil/overburden	0.3 m	
Expected development depth	4 m	
Maximum volume of material avaliable	1332 m3	
Correction factor for corestones or oversize material	0.05	
Correction factor for topography	0	
Other correction factor	0	
Expected total volume of suitable materials	1265 m3	

Plan view of potential borrow pit target area

Typical view of potential borrow pit target area

EVALUATION OF POTENTIAL BORROW PIT

THE GEOTECHNICAL HUB

PROJECT NAME	Lesotho Border Road
PROJECT NUMBER	TGH091
LOCATION	T101

SUMMARY OF INVESTIGATION DATA		
Test pit number	**T101TP1**	
Test pit location	28° 41' 45.59" S	28° 21' 17.22" E
Total depth	2 m	
Depth of spoil/overburden	0.4 m	
Expected development depth	4 m	(estimated form deeply weathered profile)
Desription of suitable material	Highly weathered, very closely jointed, soft rock dolerite with very soft rock zones	
Material classification (Colto)	Pending - CBR taken at 0,4 to 2,0 m depth	
Test pit number	**T101TP2**	
Test pit location	28° 41' 43.96" S	28° 21' 17.93" E
Total depth	1,5 m	
Depth of spoil/overburden	0,4 m	
Expected development depth	4 m	(estimated form deeply weathered profile)
Desription of suitable material	Highly weathered, closely jointed, medium hard rock dolerite with very soft rock zones	
Material classification (Colto)	Material not tested	
Test pit number		
Test pit location		
Total depth		
Depth of spoil/overburden		
Expected development depth		
Desription of suitable material		
Material classification (Colto)		

ESTIMATION OF MATERIAL QUANTITY		Notes
Length of dyke	100 m	
Width of dyke	60 m	
Footprint area of dyke or sill	6000 m2	
Depth of spoil/overburden	0.4 m	
Expected development depth	4 m	
Maximum volume of material avaliable	21600 m3	
Correction factor for corestones or oversize material	0.1	
Correction factor for topography	0.1	Sloping topography of the site
Other correction factor	0	
Expected total volume of suitable materials	17496 m3	

Plan view of potential borrow pit target area

Typical view of potential borrow pit target area - note proximity of existing structure

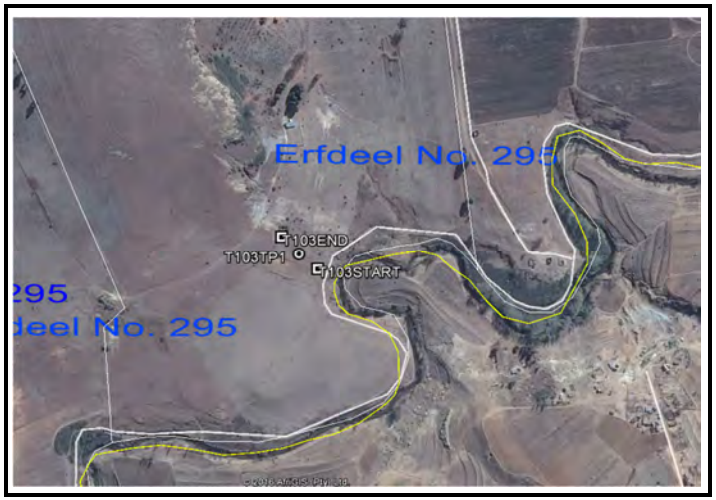
EVALUATION OF POTENTIAL BORROW PIT

THE GEOTECHNICAL HUB

PROJECT NAME	Lesotho Border Road
PROJECT NUMBER	TGH091
LOCATION	T103

SUMMARY OF INVESTIGATION DATA		
Test pit number	**T103TP1**	
Test pit location	28° 41' 7.88" S	28° 21' 46.42" E
Total depth	1.6 m	
Depth of spoil/overburden	0.3 m	
Expected development depth	4 m	(estimated form deeply weathered profile)
Desription of suitable material	Highly weathered, very closely jointed, soft rock dolerite with corestones	
Material classification (Colto)	Pending - CBR taken at 0,3 to 1.6 m depth	
Test pit number		
Test pit location		
Total depth		
Depth of spoil/overburden		
Expected development depth		
Desription of suitable material		
Material classification (Colto)		
Test pit number		
Test pit location		
Total depth		
Depth of spoil/overburden		
Expected development depth		
Desription of suitable material		
Material classification (Colto)		

ESTIMATION OF MATERIAL QUANTITY		Notes
Length of dyke	80 m	
Width of dyke	4 m	
Footprint area of dyke or sill	320 m2	
Depth of spoil/overburden	0.3 m	
Expected development depth	4 m	
Maximum volume of material avaliable	1184 m3	
Correction factor for corestones or oversize material	0.05	
Correction factor for topography	0	
Other correction factor	0.1	Small section of the potential target already developed
Expected total volume of suitable materials	1012 m3	



Plan view of potential borrow pit target area

View of potential borrow pit target area

EVALUATION OF POTENTIAL BORROW PIT

PROJECT NAME	Lesotho Border Road
PROJECT NUMBER	TGH091
LOCATION	T104

SUMMARY OF INVESTIGATION DATA		
Test pit number	**T104TP1**	
Test pit location	28° 39' 29.66" S	28° 22' 45.06" E
Total depth	1.2 m	
Depth of spoil/overburden	0.2 m	
Expected development depth	4 m	(estimated form deeply weathered profile)
Desription of suitable material	Highly weathered, closely jointed, medium hard rock dolerite with very soft rock zones	
Material classification (Colto)	Pending - CBR taken at 0,2 to 1,2 m depth	
Test pit number		
Test pit location		
Total depth		
Depth of spoil/overburden		
Expected development depth		
Desription of suitable material		
Material classification (Colto)		
Test pit number		
Test pit location		
Total depth		
Depth of spoil/overburden		
Expected development depth		
Desription of suitable material		
Material classification (Colto)		

ESTIMATION OF MATERIAL QUANTITY		Notes
Length of dyke	150 m	
Width of dyke	3 m	
Footprint area of dyke or sill	450 m2	
Depth of spoil/overburden	0.2 m	
Expected development depth	4 m	
Maximum volume of material avaliable	1710 m3	
Correction factor for corestones or oversize material	0.05	
Correction factor for topography	0	
Other correction factor	0	
Expected total volume of suitable materials	1625 m3	

Plan view of potential borrow pit target area

View of potential borrow pit target area

EVALUATION OF POTENTIAL BORROW PIT

THE GEOTECHNICAL HUB

PROJECT NAME	Lesotho Border Road
PROJECT NUMBER	TGH091
LOCATION	T105

SUMMARY OF INVESTIGATION DATA		
Test pit number	**T105TP1**	
Test pit location	28° 39' 21.24" S	28° 23' 5.38" E
Total depth	1.5 m	
Depth of spoil/overburden	0 m	
Expected development depth	3 m	(estimated form existing borrow pit profile)
Desription of suitable material	Highly weathered, very closely jointed, medium hard rock dolerite.	
Material classification (Colto)	Material not tested	
Test pit number		
Test pit location		
Total depth		
Depth of spoil/overburden		
Expected development depth		
Desription of suitable material		
Material classification (Colto)		
Test pit number		
Test pit location		
Total depth		
Depth of spoil/overburden		
Expected development depth		
Desription of suitable material		
Material classification (Colto)		

ESTIMATION OF MATERIAL QUANTITY		Notes
Length of dyke	50 m	
Width of dyke	4 m	
Footprint area of dyke or sill	200 m2	
Depth of spoil/overburden	0.0 m	
Expected development depth	3 m	
Maximum volume of material avaliable	600 m3	
Correction factor for corestones or oversize material	0	
Correction factor for topography	0	
Other correction factor	0.05	Small section of the potential target already developed
Expected total volume of suitable materials	570 m3	

Plan view of potential borrow pit target area

View of potential borrow pit target area

EVALUATION OF POTENTIAL BORROW PIT

THE GEOTECHNICAL HUB

PROJECT NAME	Lesotho Border Road
PROJECT NUMBER	TGH091
LOCATION	T106

SUMMARY OF INVESTIGATION DATA		
Test pit number	**T106TP1**	
Test pit location	28° 38' 53.40" S	28° 23' 14.03" E
Total depth	2,3 m	
Depth of spoil/overburden	1 m	
Expected development depth	4 m	(estimated form deeply weathered profile)
Desription of suitable material	Highly weathered, very closely jointed, very soft rock dolerite	
Material classification (Colto)	Pending - CBR taken at 1,0 to 2,3 m depth	
Test pit number		
Test pit location		
Total depth		
Depth of spoil/overburden		
Expected development depth		
Desription of suitable material		
Material classification (Colto)		
Test pit number		
Test pit location		
Total depth		
Depth of spoil/overburden		
Expected development depth		
Desription of suitable material		
Material classification (Colto)		

ESTIMATION OF MATERIAL QUANTITY		
Length of dyke	85 m	
Width of dyke	45 m	
Footprint area of dyke or sill	3825 m2	
Depth of spoil/overburden	1.0 m	
Expected development depth	4 m	
Maximum volume of material avaliable	11475 m3	
Correction factor for corestones or oversize material	0.05	
Correction factor for topography	0.05	
Other correction factor	0	
Expected total volume of suitable materials	10356 m3	

Plan view of potential borrow pit target area

View of potential borrow pit target area

EVALUATION OF POTENTIAL BORROW PIT

THE GEOTECHNICAL HUB

PROJECT NAME	Lesotho Border Road
PROJECT NUMBER	TGH091
LOCATION	T107

SUMMARY OF INVESTIGATION DATA		
Test pit number	**T107TP1**	
Test pit location	28° 37' 37.02" S	28° 24' 6.20" E
Total depth	1.5 m	
Depth of spoil/overburden	0.2 m	
Expected development depth	6 m	(estimated form existing borrowpit profile)
Desription of suitable material	Highly weathered, very closely jointed, soft rock dolerite with corestones	
Material classification (Colto)	Pending - CBR taken at 0,2 to 1,5 m depth	
Test pit number		
Test pit location		
Total depth		
Depth of spoil/overburden		
Expected development depth		
Desription of suitable material		
Material classification (Colto)		
Test pit number		
Test pit location		
Total depth		
Depth of spoil/overburden		
Expected development depth		
Desription of suitable material		
Material classification (Colto)		

ESTIMATION OF MATERIAL QUANTITY		Notes
Length of dyke	100 m	
Width of dyke	10 m	
Footprint area of dyke or sill	1000 m2	
Depth of spoil/overburden	0.2 m	
Expected development depth	6 m	
Maximum volume of material avaliable	5800 m3	
Correction factor for corestones or oversize material	0	
Correction factor for topography	0.1	Sloping topography of the site
Other correction factor	0	
Expected total volume of suitable materials	5220 m3	

Plan view of potential borrow pit target area

View of potential borrow pit target area

EVALUATION OF POTENTIAL BORROW PIT

PROJECT NAME	Lesotho Border Road
PROJECT NUMBER	TGH091
LOCATION	T108

SUMMARY OF INVESTIGATION DATA		
Test pit number	**T108TP1**	
Test pit location	28° 36' 20.94" S	28° 28' 10.68" E
Total depth	1.5 m	
Depth of spoil/overburden	0.3 m	
Expected development depth	3 m	(estimated form existing borro pit profile)
Desription of suitable material	Talus material comprising gravelly clayey sand with cobbles and boulders	
Material classification (Colto)	Pending - CBR taken at 0,3 to 1,5 m depth	
Test pit number		
Test pit location		
Total depth		
Depth of spoil/overburden		
Expected development depth		
Desription of suitable material		
Material classification (Colto)		
Test pit number		
Test pit location		
Total depth		
Depth of spoil/overburden		
Expected development depth		
Desription of suitable material		
Material classification (Colto)		

ESTIMATION OF MATERIAL QUANTITY		Notes
Length of deposit	40 m	
Width of deposit	60 m	
Footprint area of deposit	2400 m2	
Depth of spoil/overburden	0.3 m	
Expected development depth	3 m	
Maximum volume of material avaliable	6480 m3	
Correction factor for corestones or oversize material	0.05	
Correction factor for topography	0.05	
Other correction factor	0	
Expected total volume of suitable materials	5848 m3	

Plan view of potential borrow pit target area

View of potential borrow pit target area

EVALUATION OF POTENTIAL BORROW PIT

PROJECT NAME	Lesotho Border Road
PROJECT NUMBER	TGH091
LOCATION	T109

SUMMARY OF INVESTIGATION DATA		
Test pit number	**T109TP1**	
Test pit location	28° 42' 34.25" S	28° 11' 46.86" E
Total depth	1.7 m	
Depth of spoil/overburden	0.3 m	
Expected development depth	4 m	(estimated form deeply weathered profile)
Desription of suitable material	Highly weathered, very closely jointed, soft rock dolerite with corestones	
Material classification (Colto)	Pending - CBR taken at 0,3 to 1,7 m depth	
Test pit number		
Test pit location		
Total depth		
Depth of spoil/overburden		
Expected development depth		
Desription of suitable material		
Material classification (Colto)		
Test pit number		
Test pit location		
Total depth		
Depth of spoil/overburden		
Expected development depth		
Desription of suitable material		
Material classification (Colto)		

ESTIMATION OF MATERIAL QUANTITY		Notes
Length of dyke	100 m	
Width of dyke	5 m	
Footprint area of dyke or sill	500 m2	
Depth of spoil/overburden	0.3 m	
Expected development depth	4 m	
Maximum volume of material avaliable	1850 m3	
Correction factor for corestones or oversize material	0.05	
Correction factor for topography	0	
Other correction factor	0	
Expected total volume of suitable materials	1758 m3	

Plan view of potential borrow pit target area

View of potential borrow pit target area

EVALUATION OF POTENTIAL BORROW PIT

THE GEOTECHNICAL HUB

PROJECT NAME	Lesotho Border Road
PROJECT NUMBER	TGH091
LOCATION	T110

SUMMARY OF INVESTIGATION DATA		
Test pit number	**T110TP1**	
Test pit location	28° 41' 52.02" S	28° 10' 57.61" E
Total depth	1.5 m	
Depth of spoil/overburden	0.2 m	
Expected development depth	3 m	(estimated form cutting face profile)
Desription of suitable material	Highly weathered, very closely jointed, medium hard rock dolerite.	
Material classification (Colto)	Material not tested	
Test pit number		
Test pit location		
Total depth		
Depth of spoil/overburden		
Expected development depth		
Desription of suitable material		
Material classification (Colto)		
Test pit number		
Test pit location		
Total depth		
Depth of spoil/overburden		
Expected development depth		
Desription of suitable material		
Material classification (Colto)		

ESTIMATION OF MATERIAL QUANTITY		Notes
Length of dyke	60 m	
Width of dyke	4 m	
Footprint area of dyke or sill	240 m2	
Depth of spoil/overburden	0.2 m	
Expected development depth	3 m	
Maximum volume of material avaliable	672 m3	
Correction factor for corestones or oversize material	0.1	
Correction factor for topography	0	
Other correction factor	0	
Expected total volume of suitable materials	605 m3	

Plan view of potential borrow pit target area

View of potential borrow pit target area

EVALUATION OF POTENTIAL BORROW PIT

THE GEOTECHNICAL HUB

PROJECT NAME	Lesotho Border Road
PROJECT NUMBER	TGH091
LOCATION	T111

SUMMARY OF INVESTIGATION DATA		
Test pit number	**T111TP1**	
Test pit location	29° 25' 53.95" S	27° 19' 58.80" E
Total depth	6 m	
Depth of spoil/overburden	0.3 m	
Expected development depth	6 m	(estimated form existing borrow pit profile)
Desription of suitable material	Highly weathered, closely jointed, very soft rock dolerite with corestones	
Material classification (Colto)	Pending - CBR taken at 2,0 to 3,0 m depth	
Test pit number		
Test pit location		
Total depth		
Depth of spoil/overburden		
Expected development depth		
Desription of suitable material		
Material classification (Colto)		
Test pit number		
Test pit location		
Total depth		
Depth of spoil/overburden		
Expected development depth		
Desription of suitable material		
Material classification (Colto)		

ESTIMATION OF MATERIAL QUANTITY		Notes
Length of dyke	100 m	
Width of dyke	75 m	
Footprint area of dyke or sill	7500 m2	
Depth of spoil/overburden	0.3 m	
Expected development depth	6 m	
Maximum volume of material avaliable	42750 m3	
Correction factor for corestones or oversize material	0.1	
Correction factor for topography	0	
Other correction factor	0	
Expected total volume of suitable materials	38475 m3	

Plan view of potential borrow pit target area

View of potential borrow pit target area

EVALUATION OF POTENTIAL BORROW PIT

THE GEOTECHNICAL HUB

PROJECT NAME	Lesotho Border Road
PROJECT NUMBER	TGH091
LOCATION	T112

SUMMARY OF INVESTIGATION DATA		
Test pit number	**T112TP1**	
Test pit location	29° 31' 31.96" S	27° 15' 55.15" E
Total depth	2.5 m	
Depth of spoil/overburden	0.2 m	
Expected development depth	2.5 m	(estimated form existing borrow pit profile)
Desription of suitable material	Completely weathered conglomerate comprising gravelly clayey sand with cobbles	
Material classification (Colto)	Pending - CBR taken at 2,0 to 3,0 m depth	
Test pit number		
Test pit location		
Total depth		
Depth of spoil/overburden		
Expected development depth		
Desription of suitable material		
Material classification (Colto)		
Test pit number		
Test pit location		
Total depth		
Depth of spoil/overburden		
Expected development depth		
Desription of suitable material		
Material classification (Colto)		

ESTIMATION OF MATERIAL QUANTITY		Notes
Length of dyke	120 m	
Width of dyke	50 m	
Footprint area of dyke or sill	6000 m2	
Depth of spoil/overburden	0.2 m	
Expected development depth	2.5 m	
Maximum volume of material avaliable	13800 m3	
Correction factor for corestones or oversize material	0	
Correction factor for topography	0	
Other correction factor	0.2	Variation in thickness of deposit
Expected total volume of suitable materials	11040 m3	

Plan view of potential borrow pit target area

View of potential borrow pit target area

EVALUATION OF POTENTIAL BORROW PIT

THE GEOTECHNICAL HUB

PROJECT NAME	Lesotho Border Road
PROJECT NUMBER	TGH091
LOCATION	T113

SUMMARY OF INVESTIGATION DATA		
Test pit number	**T113TP1**	
Test pit location	29° 33' 49.84" S	27° 05' 44.42" E
Total depth	4 m	
Depth of spoil/overburden	0.4 m	
Expected development depth	4 m	(estimated form Existing borrow pit profile)
Desription of suitable material	Highly weathered, closely jointed, very soft rock dolerite with corestones	
Material classification (Colto)	Pending - CBR taken at 2,0 to 3,0 m depth	
Test pit number		
Test pit location		
Total depth		
Depth of spoil/overburden		
Expected development depth		
Desription of suitable material		
Material classification (Colto)		
Test pit number		
Test pit location		
Total depth		
Depth of spoil/overburden		
Expected development depth		
Desription of suitable material		
Material classification (Colto)		

ESTIMATION OF MATERIAL QUANTITY		Notes
Length of dyke	100 m	
Width of dyke	100 m	
Footprint area of dyke or sill	10000 m2	
Depth of spoil/overburden	0.4 m	
Expected development depth	4 m	
Maximum volume of material avaliable	36000 m3	
Correction factor for corestones or oversize material	0.1	
Correction factor for topography	0	
Other correction factor	0	
Expected total volume of suitable materials	32400 m3	

Plan view of potential borrow pit target area

View of potential borrow pit target area

EVALUATION OF POTENTIAL BORROW PIT

THE GEOTECHNICAL HUB

PROJECT NAME	Lesotho Border Road
PROJECT NUMBER	TGH091
LOCATION	T114

SUMMARY OF INVESTIGATION DATA		
Test pit number	**T114TP1**	
Test pit location	29° 35' 53.39" S	27° 06' 17.81" E
Total depth	2 m	
Depth of spoil/overburden	0.2 m	
Expected development depth	4 m	(estimated form road cutting profile)
Desription of suitable material	Highly weathered, very closely jointed, soft rock dolerite with corestones	
Material classification (Colto)	Pending - CBR taken at 0,2 to 2,0 m depth	
Test pit number		
Test pit location		
Total depth		
Depth of spoil/overburden		
Expected development depth		
Desription of suitable material		
Material classification (Colto)		
Test pit number		
Test pit location		
Total depth		
Depth of spoil/overburden		
Expected development depth		
Desription of suitable material		
Material classification (Colto)		

ESTIMATION OF MATERIAL QUANTITY		Notes
Length of dyke	100 m	
Width of dyke	50 m	
Footprint area of dyke or sill	5000 m2	
Depth of spoil/overburden	0.2 m	
Expected development depth	4 m	
Maximum volume of material avaliable	19000 m3	
Correction factor for corestones or oversize material	0.1	
Correction factor for topography	0.1	
Other correction factor	0	
Expected total volume of suitable materials	15390 m3	

Plan view of potential borrow pit target area

View of potential borrow pit target area