

**WESTGATE-TARLTON-KROMDRAAI TPL: REVISED GEOTECHNICAL ANALYSIS AND RANKING OF ROUTES**

**WESTGATE-TARLTON TPL – CORRIDOR 1 (A-B-X-C-D-E)**

Distance (K.m)	Geology	Soils	Groundwater /Seepage	Rating	Founding	Rating	Excavatavability	Rating	Sub-Total Rating	Adjusted Rating
0-6.5	Wits & BRQ	Shallow bedrock	Deep	1	Good	1	Poor	3	5	1.7
6.5-7.3	Dolomite	Aeolian & chert rubble	Deep	1	Poor	3	Fair	2	6	0.25
7.3-8.8	Wits & BRQ	Shallow bedrock	Deep	1	Good	1	Poor	3	5	0.39
8.8-15.8	Dolomite	Chert rubble	Deep	1	Poor	3	Fair	2	6	2.18
15.8-18.3	dolomite	Shallow chert	Deep	1	Good	1	Poor	3	5	0.65
18.3-19.3	dolomite	Chert rubble	Deep	1	Poor	3	Fair	2	6	0.31
1=good	2=fair								33	5.48

3=poor

**WESTGATE-TARLTON TPL – CORRIDOR 2 (A-B-Y-C-D-E)**

Distance (K.m)	Geology	Soils	Groundwater /Seepage	Rating	Founding	Rating	Excavatavability	Rating	Sub-Total Rating	Adjusted Rating
0-6.0	Wits & BRQ	Shallow bedrock	Deep	1	Good	1	Poor	3	5	1.73
6.0-7.0	Dolomite	Aeolian & chert rubble	Deep	1	Poor	3	Fair	2	6	0.35
7.0-10.7	Wits & BRQ	Shallow bedrock	Deep	1	Good	1	Poor	3	5	1.07
10.7-14.7	Dolomite	Chert rubble	Deep	1	Poor	3	Fair	2	6	1.39
14.7-16.5	dolomite	Shallow chert	Deep	1	Good	1	Poor	3	5	0.52
16.5-17.3	dolomite	Chert rubble	Deep	1	Poor	3	Fair	2	6	0.28
1=good	2=fair								33	5.34

3=poor

**WESTGATE-TARLTON TPL – CORRIDOR 3 (A-B-Y-X-C-D-E)**

Distance (K.m)	Geology	Soils	Groundwater /Seepage	Rating	Founding	Rating	Excavatability	Rating	Sub-Total Rating	Adjusted Rating
0-6.25	Wits & BRQ	Shallow bedrock	Deep	1	Good	1	Poor	3	5	1.62
6.25-7.25	Dolomite	Aeolian & chert rubble	Deep	1	Poor	3	Fair	2	6	0.31
7.25-8.8	Wits & BRQ	Shallow bedrock	Deep	1	Good	1	Poor	3	5	0.40
8.8-15.8	Dolomite	Chert rubble	Deep	1	Poor	3	Fair	2	6	2.18
15.8-18.3	Dolomite	Shallow chert	Deep	1	Good	1	Poor	3	5	0.65
18.3-19.3	Dolomite	Chert rubble	Deep	1	Poor	3	Fair	2	6	0.31
1=good	2=fair								33	5.47

3=poor

**WESTGATE-TARLTON TPL – CORRIDOR 7 (A-B-X-L-J-K-D-E)**

Distance (K.m)	Geology	Soils	Groundwater /Seepage	Rating	Founding	Rating	Excavatability	Rating	Sub-Total Rating	Adjusted Rating
0-6.5	Wits & BRQ	Shallow bedrock	Deep	1	Good	1	Poor	3	5	1.92
6.5-7.3	Dolomite	Aeolian & chert rubble	Deep	1	Poor	3	Fair	2	6	0.28
7.3-8.8	Wits & BRQ	Shallow bedrock	Deep	1	Good	1	Poor	3	5	0.44
8.8-13.0	Dolomite	Chert rubble	Deep	1	Poor	3	Fair	2	6	1.49
13.0-16.5	Dolomite	Shallow chert	Deep	1	Good	1	Poor	3	5	1.04
16.5-16.9	Dolomite	Chert rubble	Deep	1	Poor	3	Fair	2	6	0.14
1=good	2=fair								33	5.31

3=poor

**WESTGATE-TARLTON TPL – CORRIDOR 8a (A-B-M-E)**

Distance (K.m)	Geology	Soils	Groundwater /Seepage	Rating	Founding	Rating	Excavatability	Rating	Sub-Total Rating	Adjusted Rating
0-6.25	Wits & BRQ	Shallow bedrock	Deep	1	Good	1	Poor	3	5	2.19
6.25-7.25	Dolomite	Aeolian & chert rubble	Deep	1	Poor	3	Fair	2	6	0.42
7.25-10.75	Wits & BRQ	Shallow bedrock	Deep	1	Good	1	Poor	3	5	1.22
10.75-14.25	Dolomite	Chert rubble	Deep	1	Poor	3	Fair	2	6	1.47
1=good	2=fair								22	5.30

3=poor

### WESTGATE-TARLTON TPL – CORRIDOR 8b (L-C-M)

Distance (K.m)	Geology	Soils	Groundwater /Seepage	Rating	Founding	Rating	Excavatability	Rating	Sub-Total Rating	Adjusted Rating
0-6.5	Wits & BRQ	Shallow bedrock	Deep	1	Good	1	Poor	3	5	2.17
6.5-7.3	Dolomite	Aeolian & chert rubble	Deep	1	Poor	3	Fair	2	6	0.32
7.3-8.8	Wits & BRQ	Shallow bedrock	Deep	1	Good	1	Poor	3	5	0.50
8.8-15.00	Dolomite	Chert rubble	Deep	1	Poor	3	Fair	2	6	2.48
1=good	2=fair								22	5.47
			3=poor							

### WESTGATE-TARLTON SECTION TPL – SUMMARY AND CONCLUSIONS OF CORRIDORS

Corridor option	Distance (Km)	Sub-Total Rating	Adjusted Rating	Ranking
8a	14.25	22	5.30	1
7	16.9	33	5.31	2
2	17.3	33	5.34	3
3 and 8b	19.3 and 15.0	33 and 22	5.47	=4
1	19.3	33	5.48	6

**TARLTON-KROMDRAAI TPL – CORRIDOR 4 and 7b (E-F-I-G)**

Distance (K.m)	Geology	Soils	Groundwater /Seepage	Rating	Founding	Rating	Excavatability	Rating	Sub-Total Rating	Adjusted Rating
0-4.0	dolomite	Sand and chert rubble	Deep	1	Poor	3	Fair	2	6	2.29
4.0-6.0	dolomite	Shallow bedrock	Deep	1	Good	1	Poor	3	5	0.95
6.0-10.5	dolomite	Karoo cover	Deep	1	Fair	2	Good	1	4	1.7
									15	4.9

**TARLTON-KROMDRAAI TPL – CORRIDOR 5 (E-F-FG-G)**

Distance (K.m)	Geology	Soils	Groundwater /Seepage	Rating	Founding	Rating	Excavatability	Rating	Sub-Total Rating	Adjusted Rating
0-4.0	dolomite	Sand and chert rubble	Deep	1	Poor	3	Fair	2	6	2.18
4.0-11.0	dolomite	Shallow bedrock	Deep	1	Good	1	Poor	3	5	3.18
									11	5.36

**TARLTON-KROMDRAAI TPL – CORRIDOR 6 (E-D-K-H-I-G)**

Distance (K.m)	Geology	Soils	Groundwater /Seepage	Rating	Founding	Rating	Excavatability	Rating	Sub-Total Rating	Adjusted Rating
0-0.8	dolomite	Sand & chert rubble	Deep	1	poor	3	Fair	2	6	0.55
0.8-3.1	dolomite	Chert ridge	Deep	1	Good	1	Poor	3	5	1.33
3.1-8.0	dolomite	Sand & chert rubble	Deep	1	poor	3	Fair	2	6	3.4
8.0-8.6	dolomite	Outcrop	Deep	1	good	1	Poor	3	5	0.35
									15	5.03

**TARLTON-KROMDRAAI TPL – CORRIDOR 8a (E-D-K-J-I-G)**

Distance (K.m)	Geology	Soils	Groundwater /Seepage	Rating	Founding	Rating	Excavatability	Rating	Sub-Total Rating	Adjusted Rating
0-0.8	dolomite	Sand & chert rubble	Deep	1	poor	3	Fair	2	6	0.65
0.8-3.7	dolomite	Chert ridge	Deep	1	Good	1	Poor	3	5	2.0
3.7-6.8	Dolomite	Sand & chert rubble	Deep	1	poor	3	Good	1	5	2.1
6.8-7.4	dolomite	Outcrop	Deep	1	good	1	Poor	3	5	0.41
									15	5.16

**TARLTON-KROMDRAAI TPL – SUMMARY AND CONCLUSIONS OF CORRIDORS**

<b>Corridor option</b>	<b>Distance (Km)</b>	<b>Sub-Total Rating</b>	<b>Adjusted Rating</b>	<b>Ranking</b>
4 and 7b	10.5	15	4.93	=1
6	8.6	15	5.03	3
8a	7.4	15	5.16	4
5	11.0	11	5.36	5