DO NOT SCALE

COMMERCIAL IN CONFIDENCE

NOTES:

1. DIMENSIONS ARE IN METRES UNLESS OTHERWISE STATED.
2. SURVEY MAPPING BASED ON ORDNANCE SURVEY MAPPING SERIES G893 (D.O.S. 260) SHEETS 3 AND 6, EDITION 2 O.S.D. 1990 AND TRITAN SURVEYS 2006.
3. CO-ORDINATES ARE TO ST HELENA LOCAL GRID.
4. PLANNING CRITERIA FOR THE PROPOSED HAUL ROAD ROUTE:
   - MAX. GRADIENT 1:7
   - FINAL PAVED ROAD WIDTH TO BE 6.0m
   - MIN. ROAD CENTRELINE RADIUS TO BE 10m

   ROUTE IS INDICATIVE, FINAL ALIGNMENT SUBJECT TO DETAILED DESIGN.
5. BOUNDARIES OF TERRAIN UNITS ARE APPROXIMATE. SEE HAUL ROAD TERRAIN EVALUATION FOR THE REFERENCE DESIGN JANUARY 2007 DOC REF. 5820.
6. FOR DETAILED SURVEY INFORMATION REFER TO TRITON SURVEY DATA.
7. REFER TO FABER MAUNSELL FOR DETAILS OF ECOLOGICAL AND HERITAGE CONSTRAINTS.

DOCUMENT REFERENCES

HAUL ROAD AND BULK FUEL INSTALLATION
RECORDS OF TRIAL PITS, EXPOSURES AND LABORATORY TESTING–
5035914/GTG.2004097/R027

TUXx — TERRAIN UNIT DESIGNATION AND BOUNDARY

TERRAIN UNIT BOUNDARY BEYOND AREA OF TRITAN SURVEY MAPPING

ROUTE OF PROPOSED HAUL ROAD REFER TO DRG. Nos. 5048976–CI–01–1100 TO 1106

EXP — NATURAL EXPOSURE BFI AREA

TP — BFI TRIAL PITS

TP — HAUL ROAD TRIAL PITS

100m 0 100m 200m 300m 400m 500m

Scale 1:5000

The terrain evaluation

Terrain evaluation is a technique for investigating ground conditions and earth surface processes (such as river erosion and landsliding) for geotechnical engineering and environmental purposes. Using the technique, the landscape and its underlying geology (the 'terrain') are divided into a series of contiguous map units. Each 'terrain unit' has a distinctive set of characteristics that are chosen to be of relevance to the problems at hand. Terrain units may be large or small, and they may be sub-divided as an aid to further understanding.

On the basis of a literature review and field reconnaissance, the following characteristics were used to define and describe terrain units along the approximately 200m wide corridor of the proposed Haul Road:

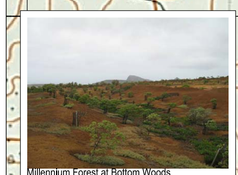
- Location; and the presence of existing developments (buildings, roads, etc)
- Geomorphology
- Surface drainage and groundwater
- Engineering geology
- Geotechnical engineering
- Foundation conditions for roads and buildings (evaluated on a scale of *good* to *very poor*)
  - Trafficability of unsurfaced roads (made of materials available within the terrain unit; evaluated on a scale of *good* to *very poor*)
  - Global stability of natural slopes
  - Fill materials (made of materials available within the terrain unit)
  - Minor fill slopes (as required for the haul road; made of materials available within the terrain unit)
  - Excavatability (for Haul Road and shallow foundations)
  - Minor cut slopes (as required for the haul road)
  - Drainage and erosion
  - Stream and gulley crossings
  - Rock-fall hazard

The terrain units are listed in Table 1 and details are provided in the Terrain Evaluation Report and the compilation of annotated photographs that accompanies the report. It is important to note that the terrain evaluation does not give a metre-by-metre assessment of a specific haul road alignment or alternative alignments. Rather, it provides information on the general characteristics of a broad corridor of ground that such alignments might traverse. The terrain evaluation is not made obsolete or invalidated if alignments are changed or alternatives are considered - the terrain unit descriptions describe the unit as a whole not a particular location within the unit.

Table 1. Terrain units and sub-units along the Haul Road corridor

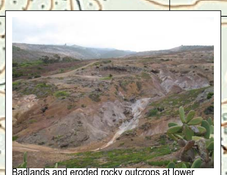
TERRAIN UNIT		TERRAIN SUB-UNIT		
Ref.	Name	Ref	Name	
TU1	Western Valleys	1a	Rupert's Valley bottom	
		1b	Rupert's Valley sides – lower slopes	
		1c	Rupert's and Banks Valley sides – upper (saprolite) slopes	
		1c*	Rupert's and Banks Valley sides – upper (saprolite) slopes (* used to designate severe gulleying)	
		1d	Banks Ridge (includes the Pipe Path)	
TU2	Upper Plains	2a	Plains	
		2b	North-western guts	
TU3	Fisher's Valley	3a	Badlands	
		3b	Bradley's (comprises both sides of Fisher's Valley)	
		3c	Cook's Bridge	
TU4	Prosperous Bay Plain	4a	South-western Lava Terraces	
		4b	Central Basin	These terrain sub-units are not considered here
		4c	Airport	

Millennium Forest at Bottom Woods (Terrain Unit 2a)



Badlands on side of Fisher's Valley (below Bottom Woods) (Terrain Unit 3a)

Badlands and eroded rocky outcrops at lower slopes of Fisher's Valley at Bradley's (Terrain Unit 3b)



Rocky outcrop at lower slopes of Fisher's Valley at Bradley's (Terrain Unit 3b)

Flood plain of Fisher's Valley at Cook's Bridge (Terrain Unit 3c)

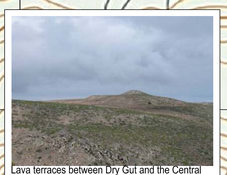
Lava terraces between Fisher's Valley and the Central Basin (Terrain Unit 4a)

Lava and ash layer in lava terraces between Fisher's Valley and the Central Basin (Terrain Unit 4a)

Lava terraces between Fisher's Valley and the Central Basin; airport site on skyline, with Central Basin in middle distance (Terrain Unit 4a)

Lava terrace at 'Bone Gulley' (Terrain Unit 4a)

Lava terraces between Dry Gut and the Central basin; 'Creeper Hill' on the skyline (Terrain Unit 4a)



Rev.	Description	By	Date	Chk'd	Auth
C	MINOR REVISIONS	KJS	22.5.07	TM	RDJ
B	TRIAL PIT LOCATIONS ADDED	BnH		TM	RDJ
A	NOTES UPDATED, MINOR REVS TO TU BOUNDARIES. ENVIRONMENTAL ROUTE CONSTRAINTS REMOVED	BnH	16.2.07	DTS	RDJ

Code	Purpose of issue	Rev	Date	Authorised
	Information	A	16.2.07	RDJ
	Preliminary	-	12.01.07	RDJ

Client: DFID

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Project: St Helena Reference Design

Title: HAUL ROAD
TERRAIN EVALUATION

Sheet 3 of 3

Scale at A1	Drawn	Checked	Authorised	Status
1:5000	WMS	DTS	RDJ	I
	Date JAN 07	Date 1.2.07	Date 12.01.07	

Drawing Number: 5048976 - CI - 01 - 1153

Rev: C

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May 23, 2007 – 9:48am