

UNIVERSITY OF CANTERBURY & FRONTIERS ABROAD

APPENDIX

Geo-Conservation and Geo-Tourism

Panama Rock – Banks Peninsula

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10/13/2014



Appendix A: Photos

This appendix contains all the photos that will be used to analyse the historical progress of the Panama Rock Reserve. The photo sections are listed below by page

Photos

1952-1975 Historical Aerial Photos of Panama Rock

Page

3

2014 Photo Monitoring of Panama Rock

5

1952-1975 Historical Aerial Photos of Panama Rock



Figure 1. Aerial Photo of Panama Rock Reserve taken in 1952.



Figure 2. Aerial Photo of Panama Rock Reserve taken in 1966.



Figure 3. Aerial photo of Panama Rock Reserve taken in 1970.



Figure 4. Aerial photo Panama Rock Reserve taken in 1975.

2014 Photo Monitoring of Panama Rock



Figure 1. Taken from Panama Road looking up to Panama Rock.



Figure 2. Taken from grass area looking into 4WD path up to lodge.



Figure 3, 4, and 5. Macrocarpa off side of 4WD road up to lodge at elevation 343 meters.



Figure 6. Right side of Panama Rock from elevation 383 meters.



Figure 7. Landslip above lodge on face of Panama Rock.



Figure 8. Landslip above lodge on face of Panama Rock.



Figure 9. Landslip above lodge on face of Panama Rock.



Figure 10. Right side of Panama Rock at elevation 534 meters.



Figure 11. Right side of Panama Rock facing Stones Rock at elevation 534 meters.



Figure 12. Right side of Panama Rock facing south into valley.



Figure 13. Left side of lodge (elevation 345) facing left side of Panama Rock.



Figure 14. Left side of lodge (elevation 345) facing left side of Panama Rock.



Figure 15. Left side of lodge (elevation 345) facing left side of Panama Rock.



Figure 16. Off side of 4WD road up to lodge at elevation 337.



Figure 17. Off side of 4WD road up to lodge at elevation 337.



Figure 18. Panama Rock from Panama Road.



Figure 19. Stones Rock from Panama Road.



Figure 20. Stones Rock from Panama Road.



Figure 21. Top of the ridge of Panama Rock facing left side of Panama Rock at elevation 532 meters.

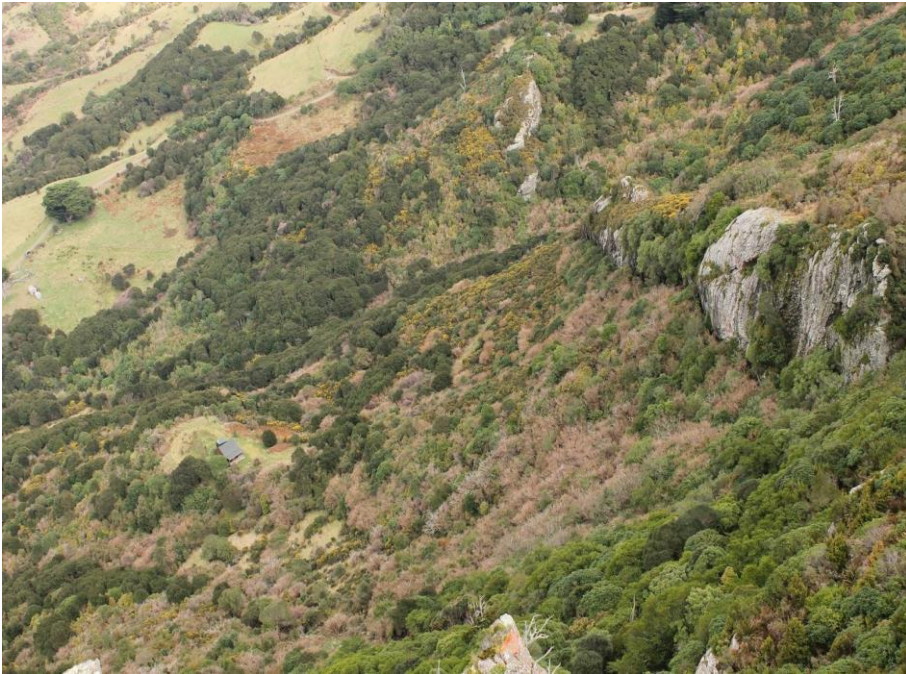


Figure 22. On top of Panama Rock facing down into valley at elevation 609 meters. Figure 23. On top of Panama Rock facing down into valley at elevation 609 meters.



Figure 24. Top of Panama Rock facing right side of Panama Rock.



Figure 25. Top of Panama Rock facing down into valley.



Figure 26. Top of Panama Rock facing down into valley.



Figure 27. Vegetation cover underneath macrocarpa off 4WD road (elevation 343 meters).

Appendix B: Forms

This appendix contains forms for photo point monitoring. The forms are listed below by page number and their use.

<u>Form</u>	<u>Page</u>
Camera Location and Photo Points	19
Sampling Site Description (Vegetation & Topography Description)	20
Photographic Site Description and Location	22

CAMERA LOCATION AND PHOTO POINTS

Date: _____ Camera Location: _____

Area: _____ Unit: _____ Observer: _____

GPS: _____ Slope and Aspect and Position: _____

Photo point: _____

Compass bearing: _____ Distance: _____

Comments:

Photo point: _____

Compass bearing: _____ Distance: _____

Comments:

SAMPLING SITE DESCRIPTION

Date: _____

Photo point: _____

Vegetation Description (ie. plant ID, type, :

Topography Description (ie. flat, undulating, steep, rough):

Photo point: _____

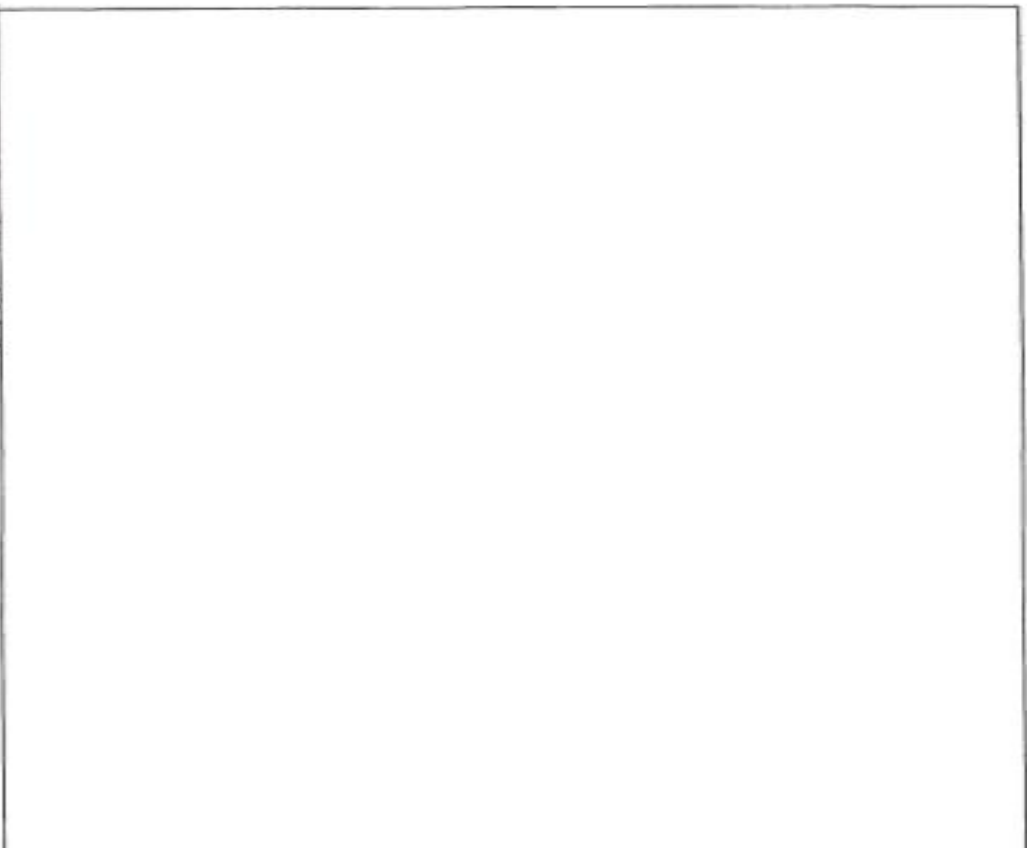
Vegetation Description (ie. plant ID, type, :

Topography Description (ie. flat, undulating, steep, rough):

PHOTOGRAPHIC SITE DESCRIPTION AND LOCATION

Date _____ Area _____
Unit _____ Observer _____
No. of Camera locations: _____ No. of Photo points: _____
Plant community _____
Location: T. _____ R. _____ Sec. _____
Location description _____
Photo purpose: _____
Discussion: _____

MAP



Appendix C: Panama Rock Completed Photo Monitoring Forms

This appendix contains all of the forms that have been completed in August 2014. Future photo monitoring points will be based off of this information.

<u>Form</u>	<u>Page</u>
Panama Rock Photo Points and Compass Bearings	24
Panama Rock: Photographic Description and Location for 27 Photo Points	26
Panama Rock: Sampling Site Description	33
Panama Rock: Photo Information	38

Date	Photo Label	E	N	Elevation (m)	Bearing (°)	Comments
17082014	1A17082014	1602838	5155810.9	325	2	bearing noted taken facing witness stump (1)
16082014	1B16082014	1602857	5155901	326	320	to witness stump (2)
16082014	1C16082014	1602919	5155978.9	343	316	
16082014	1D16082015	1602919	5155978.9	343	96.5	
16082014	1E16082014	1602919	5155978.9	343	332.5	
16082014	2A16082014	1602919	5155978.9		56	
16082014	1F16082014	1603298.9	5155975.4	383	2	bearing noted taken facing witness stump (1)
16082014	1G16082014	1603234.7	5156250	444	52.5	
16082014	1H16082014	1603234.7	5156250	444	330	
16082014	1I16082014	1603234.7	5156250	444	40	
16082014	1J16082014	1603621.5	5156394	534	292	
16082014	1K16082014	1603611	5156392.3	535	68.5	
16082014	1L16082014	1603614.4	5156395.1	535	128.5	
17082014	1M17082014	1603090.7	5156128.6	345	290	
17082014	1N17082014	1603090.7	5156128.6	345	278.5	
17082014	1O17082014	1603090.7	5156128.6	345	336.5	
17082014	1P17082014	1602980.4	5156023.4	337	344.5	
17082014	1Q17082014	1602980.4	5156023.4	337	330	
17082014	1R17082014	1603008.2	5155632.3	270	368.5	

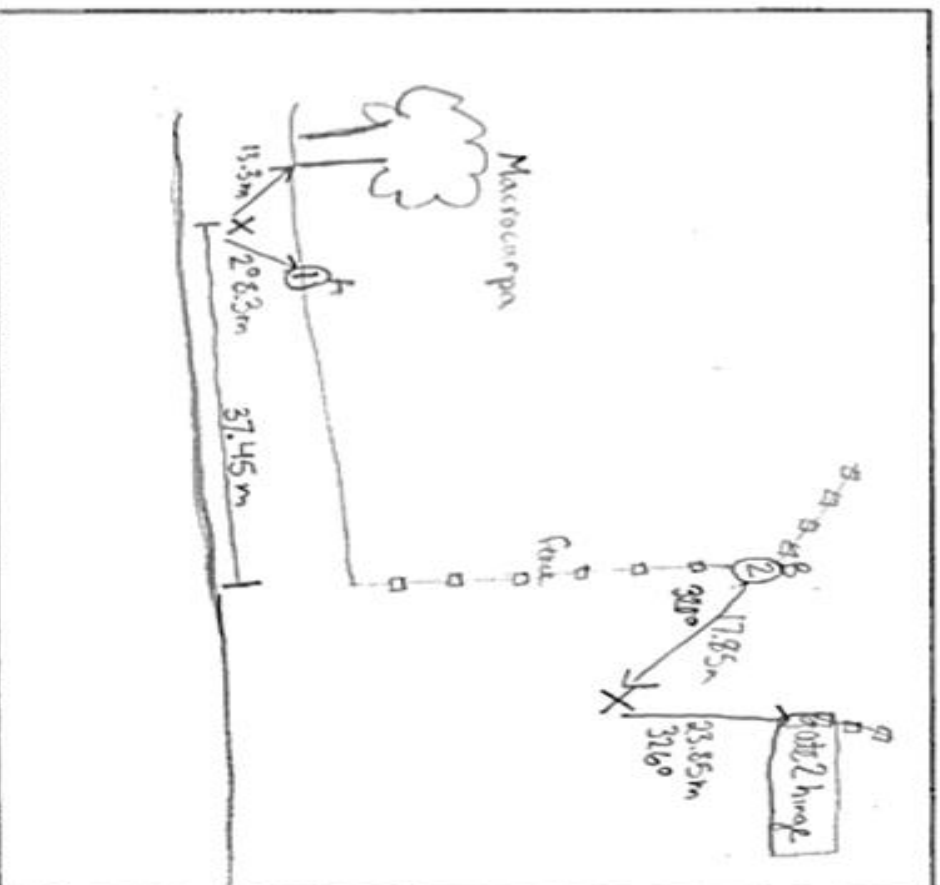
17082014	1S17082014	1603008.2	5155632.3	270	52	
17082014	1T17082014	1603008.2	5155632.3	270	70	
17082014	1U17082014	1603008.9	5156525.7	532	88.5	bearing taken to centre of photo
17082014	1V17082014	1603403.9	5156369.6	609	192	bearing taken to centre of photo
17082014	1W17082014	1603403.9	5156369.6	609	264	bearing taken from camera to house
17082014	1X17082014	1603403.9	5156369.6	609	306	bearing taken to centre of photo
17082014	1Y17082014	1603403.9	5156369.6	609	172	bearing taken to centre of photo
17082014	1Z17082014	1603403.9	5156369.6	609	152	bearing taken to centre of photo

Figure 1. Panama Rock Photo Points

PHOTOGRAPHIC SITE DESCRIPTION AND LOCATION

Date 1/26/14 Area Rocky Pinnacles
 Unit Thomson Peak Observer Oliver W + Sam D
 No. of Camera locations: 2 No. of Photo points: 2, 1B, 1B, 2014 + 1B, 20R2014
 Plant community 088 types grassland, 1b fir/grassland
 Location: T R Sec
 Location description
 Photo purpose: 10/16/2014 (from 1st witness rock from road + photo)
 Discussion:

MAP



Use BACK OF SHEET FOR ADDITIONAL DETAILS.

X = camera location
 h = witness stone/waterfall
 h: photo point

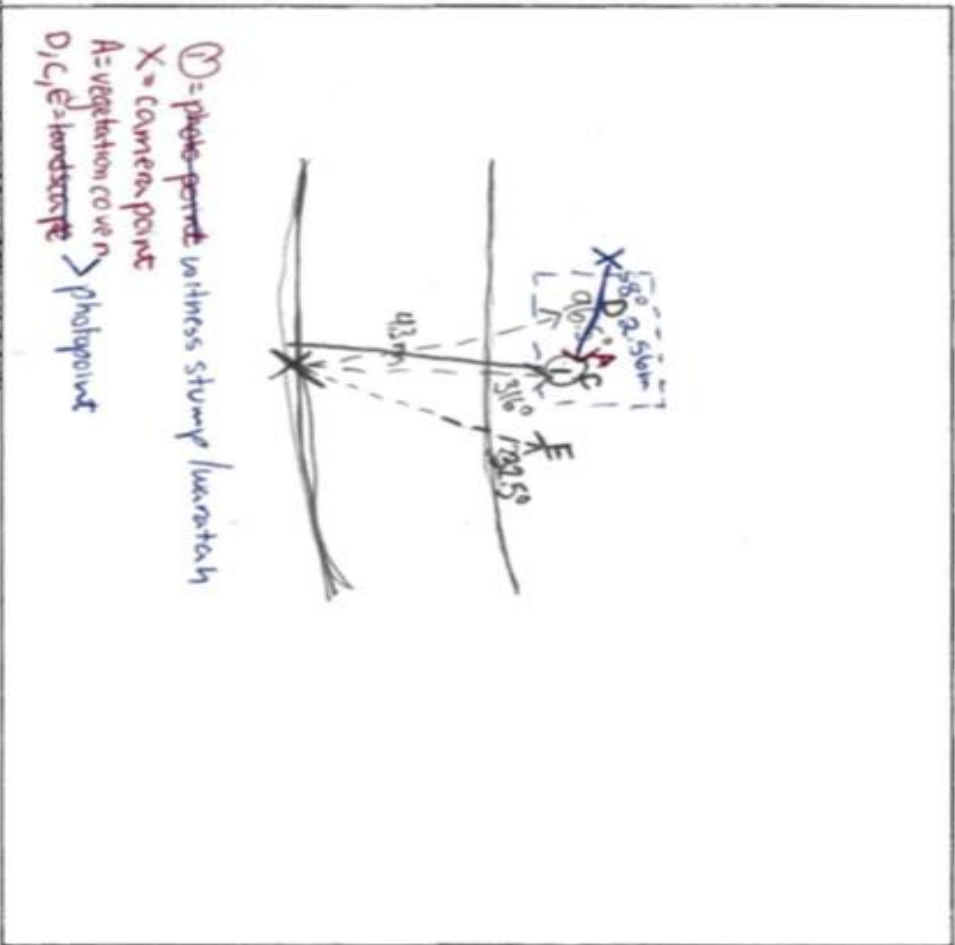
PHOTOGRAPHIC SITE DESCRIPTION AND LOCATION

Date 10/8/2014 Area BANKS PENINSULA
 Unit DIAMOND RACK Observer: OLIVER N + SHAYD
 No. of Camera locations: 2 No. of Photo points: 4
 Plant community _____
 Location: T. _____ R. _____ Sec. _____
 Location description _____

Photo purpose: landscape photo of macrocarpa invasion off of 4WD track

Discussion: _____

MAP



IC-E16082014

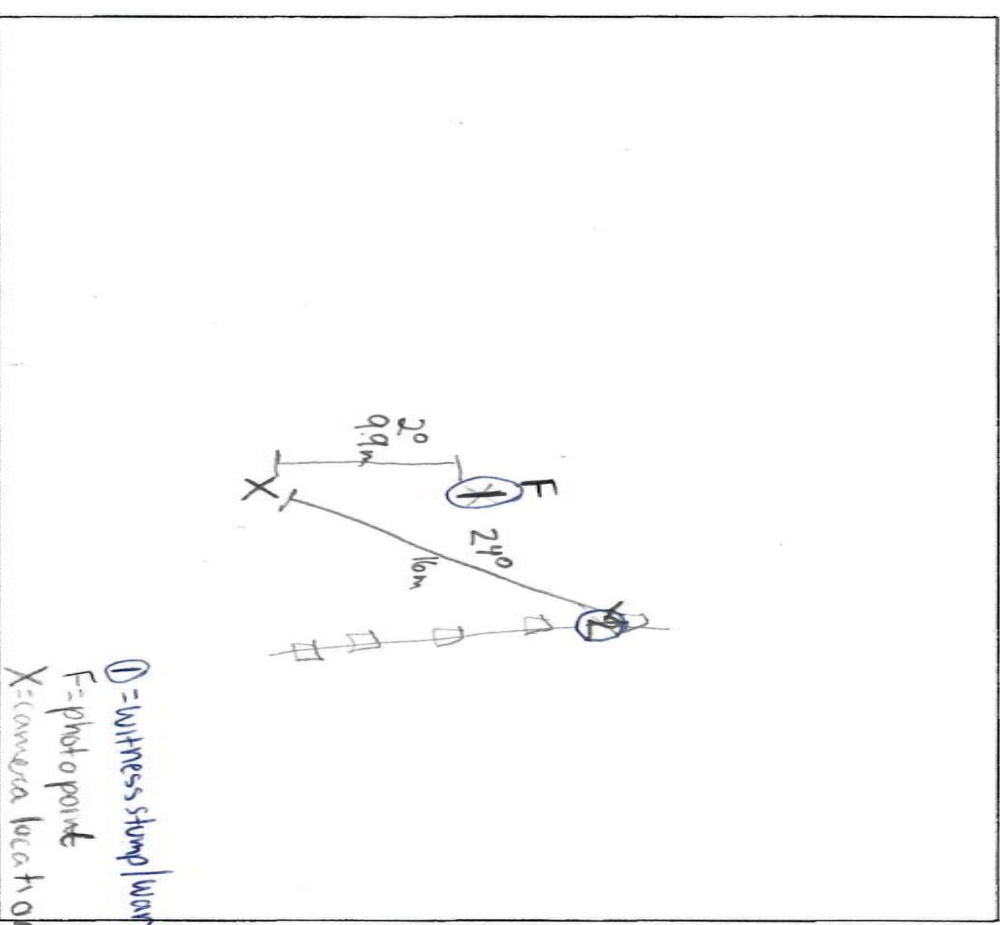
PHOTOGRAPHIC SITE DESCRIPTION AND LOCATION

Date _____ Area _____
 Unit _____ Observer: _____
 No. of Camera locations: _____ No. of Photo points: _____
 Plant community _____
 Location: T. _____ R. _____ Sec. _____
 Location description _____

Photo purpose: landscape of both PP

Discussion: _____

MAP



Use back of sheet for additional details.

WPO67

1F16082014

PHOTOGRAPHIC SITE DESCRIPTION AND LOCATION

Date 1/10/14 Area PERKINMAN PENINSULA
Unit DELBERT CREEK Observer _____
No. of Camera locations: 1 No. of Photo points: 3
Plant community _____
Location: T. _____ R. _____ Sec. _____
Location description _____

Photo purpose: landscape of landscape

Discussion: _____

MAP



Use back of sheet for additional details.

15HT16082014

PHOTOGRAPHIC SITE DESCRIPTION AND LOCATION

Date 16/08/2014 Area Between Panama Road & "Stones"

Unit _____ Observer _____

No. of Camera locations: 3 No. of Photo points: 3

Plant community _____

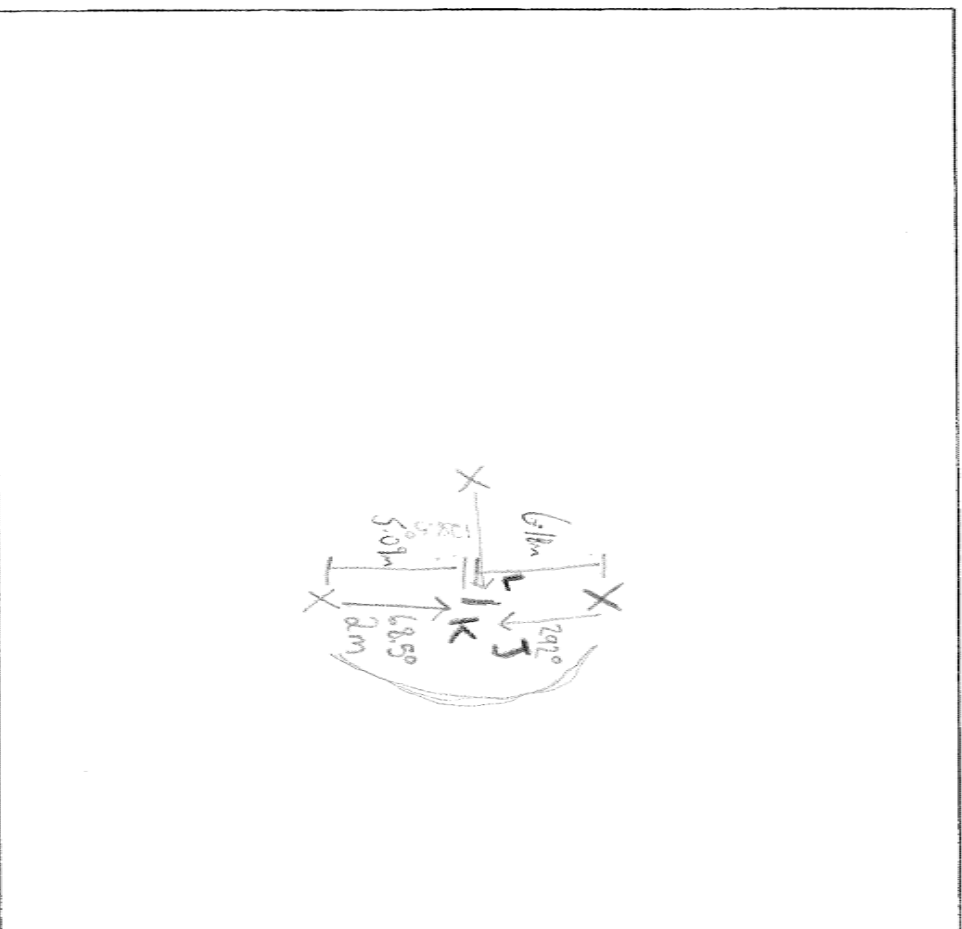
Location: T. _____ R. _____ Sec. _____

Location description _____

Photo purpose: _____

Discussion: _____

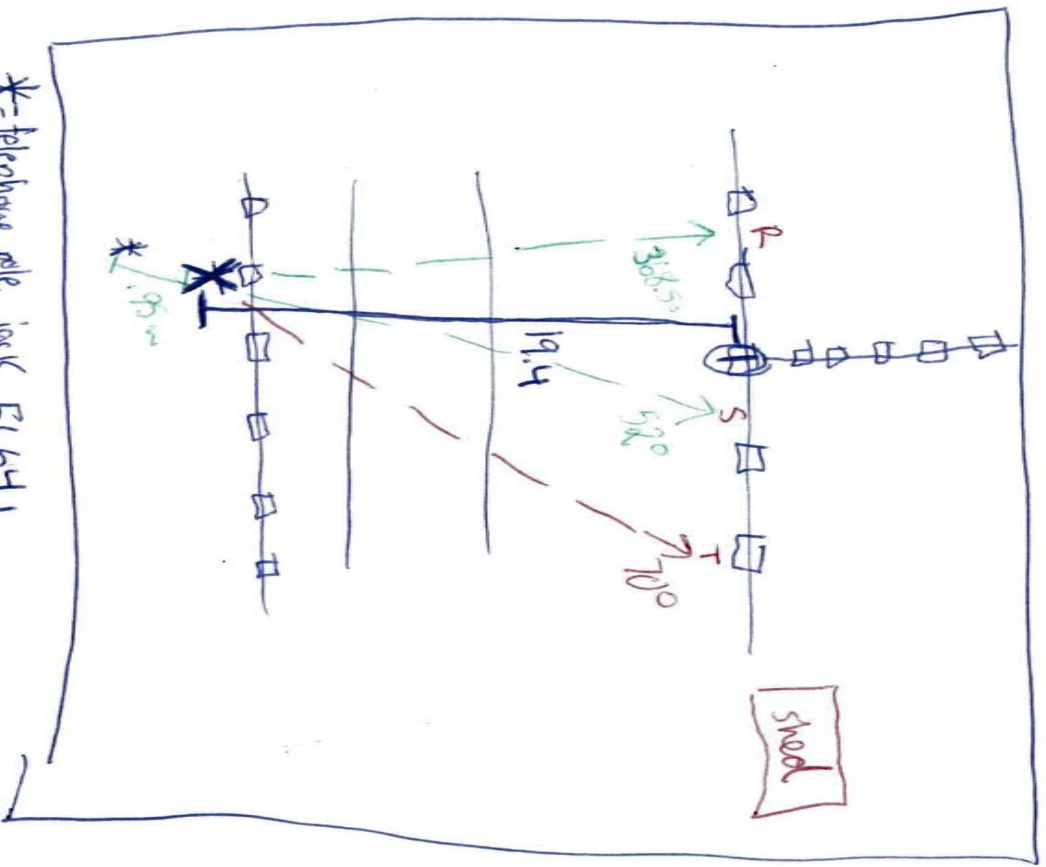
MAP



Use back of sheet for additional details.

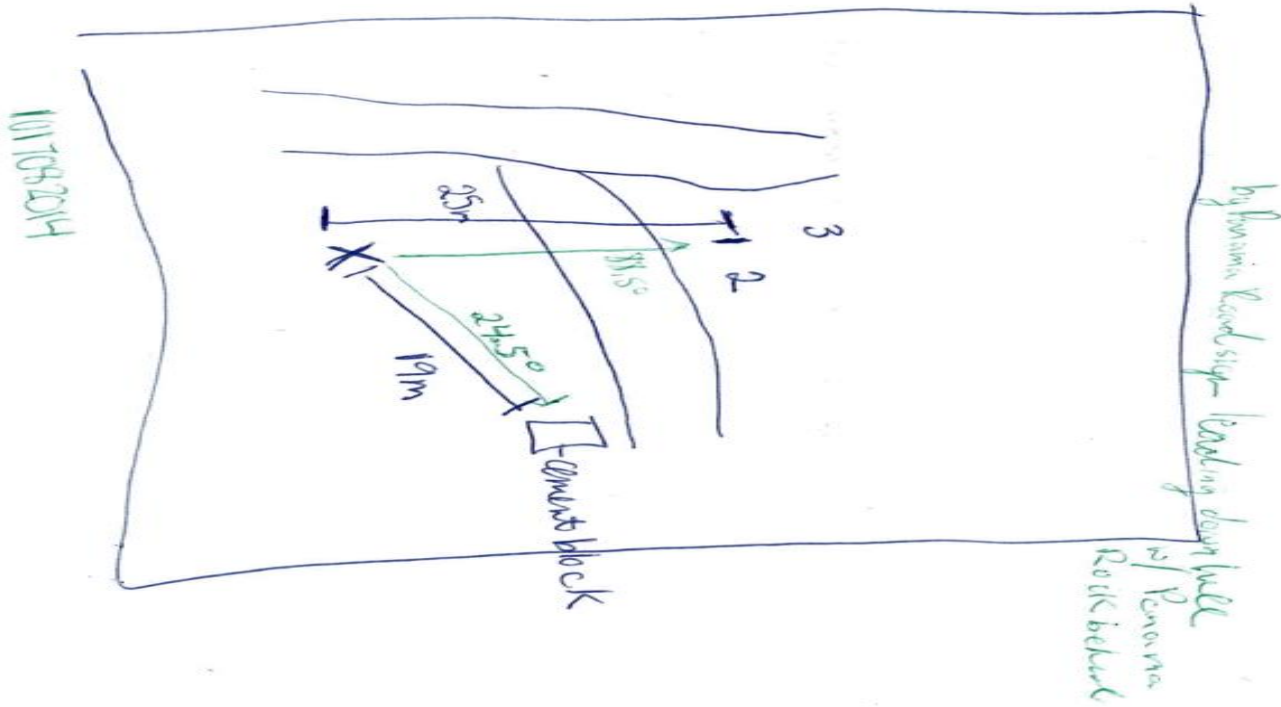
1J-L16082014

road by staves
 shud ~~the~~ potential
 can park motor



* telephone pole jack EL641

IKS, I 1708ZD14



SAMPLING SITE DESCRIPTIONDate: 16/08/2014Photo point: MAOSUR6 B/A

Vegetation Description (ie. plant ID, type,):

Mixed grassy forest. Most vegetation not visible in area. 16th species
 are lanwood, kamoka, tree grass grass in foreground

Topography Description (ie. flat, undulating, steep, rough):

ZONE OF UNDYULATING TOPOGRAPHY OF mixed RELIEF (colluvium). Rapid rise in
 topography in NW corner with steep clumps of uniform sedge scrub
 (covered in vegetation). Steep slopes in early hours of photo with formation
 of a Sharna sided gully with basin bounded outcrop to NE.

Photo point: 16/8/2014 - 16^E
2A16082014

Vegetation Description (ie. plant ID, type,):

Macaranga, kamoka, 5-finger, Haradito, lanwood, treefern
baby manuka, baby red beech, baby black beech

Topography Description (ie. flat, undulating, steep, rough):

to. Remnant area on edge of mud track. Thick forest on bank w/ 2m high
lucina logs on to mud covering, continually rising topography.
Topography rises at a low angle ($\approx 25^\circ$).

SAMPLING SITE DESCRIPTION

Date: 16/08/14

Photo point: 1516082014

Vegetation Description (ie. plant ID, type, :

Dominant grass & Berberis in foreground, forest in mid-ground

& Names

All title of Vegetation

Topography Description (ie. flat, undulating, steep, rough):

Foreground consists on forest & steeply grassed and wooded
with forest of pines. Two cliffs to right stand with bushes
Next to the NW. Shale rockface? covered with cliffs.

Photo point 15-116082014 - landscape

Vegetation Description (ie. plant ID, type, :

Vegetation cover, grass, grass fern
with a lot of moss and algae

Topography Description (ie. flat, undulating, steep, rough):

Vegetation cover of the site. Grass weaselt ridge in foreground
with undulating bank terrain. Shales borders foreground
from surface. Large canyon mouth directly in foreground
and rocky undulating terrain

SAMPLING SITE DESCRIPTION

Date: 16/08/2014

Photo point: 15/16/08/2014

Vegetation Description (ie. plant ID, type, :

Topography Description (ie. flat, undulating, steep, rough):

Mid slope of stony waste rock receptacle (waste) Roubly cliff
face at top of cliff, above hummocky vegetation in mid ground
just on rock SW.

Photo point: 1K/16/08/2014

Vegetation Description (ie. plant ID, type, :

Topography Description (ie. flat, undulating, steep, rough):

Mid slope of stony waste rock receptacle Roubly cliff in NW

SAMPLING SITE DESCRIPTION

Date: _____

MND

Photo point: _____

117082014

Vegetation Description (ie. plant ID, type):

all types mainly herb: grass Kanuka fuchsia albatross
grass in four quadrants

Topography Description (ie. flat, undulating, steep, rough):

Photo point: _____

117082014

Vegetation Description (ie. plant ID, type):

OPEN FLOOR OF KANUKA STAND KANUKA < 10m - DOMINANT SPECIES
SOME WHITE BIRD AND HOROPITO.

FLOR LOVER JUVENILE FIVE STAR, JUVENILE LAURELWOOD

FERNS, (OPPOSOMA ?? (PUNAKATE))

LOW GRASS ON TRACK EDGE 73m FROM TRACK EDGE

Topography Description (ie. flat, undulating, steep, rough):

EDGE OF TRACK (VERTICAL - UPSLOPE EDGE OF LEFTHAND) (VIEW IN TRACK
GENTLY SLOPING ABOVE TRACK TO STEEPY DIPPING ON DOWNSLOPE SIDE
TRACK EDGE ~ 1m HIGH

Sampling Site Description

1R5, T17082014

Vegetation

Along side: GRASS or SPARSE GRASSHERBS
PROXIMA: 20865

GREEN: KANUKA DOMINANT - some MYRTLES: VERY THIN QUERCUS (LOW)
LARGE MYRTLECANES

PROXIMA - HILL - INTERMEDIATELY DISTANT WITH SPARSE LOW KANUKA
UPPER SLOPE - SABLE RISER 100% SABLE DOMINANT ON TOP

Topography

* PROXIMA/UPPER SLOPE - VIEW TO WEST SIDE

PROXIMA/UPPER: GRASS - SPARSE TO ABSENT SLOPES GRASS GRASS, PROXIMA
LARGE SABLE SLOPES TOWARDS WEST

BACKWARD: SOME SPARSELY - COMMON BUT. SOME SLOPES GRASS PROXIMA RAIL
AND CLIPPY TO THE EAST (TRICHODIA PLOTS OUTSIDE FAR WESTWARD))

1U17082014

Vegetation

Road side grass dominant.

Lower NW side of Papanoa native shrub

Western face heken with grass in rocky section

Southwest face grass and Sable dominated - some low overgrown native shrub.

Topography

Steep cliff faces of Papanoa Peak. Steep slopes beneath

Road benches 1st slope - but steep on both sides - Rough steep.

Camera Information

Camera Model: Canon EOS Rebel T3
Shooting Mode: Manual Exposure
Metering Mode: Evaluative Metering
Lens: EF-S18-55mm f/3.5-5.6 IS II

Weather Conditions

16082014: cloudy during the morning, progressively sunnier as the day progressed
 17082014: sunny throughout the day

Photo Information

1A17082014
 Shutter Speed: 1/1100
 Aperture: 9.0
 ISO: 100
 Focal Length: 18.0 mm
 Time: 1:50pm

1F16082014
 Shutter Speed: 1/800
 Aperture: 9.0
 ISO: 800
 Focal Length: 18.0 mm
 Time: 3:03pm

1B16082014
 Shutter Speed: 1/125
 Aperture: 7.1
 ISO: 160
 Focal Length: 27.0 mm
 Time: 11:27am

2A16082014
 Shutter Speed: 1/320
 Aperture: 9.0
 ISO: 3200
 Focal Length: 18.0 mm
 Time: 1:00pm

1C16082014
 Shutter Speed: 1/800
 Aperture: 9.0
 ISO: 3200
 Focal Length: 18.0 mm
 Time: 12:21pm

1G16082014
 Shutter Speed: 1/800
 Aperture: 9.0
 ISO: 3200
 Focal Length: 18.0 mm
 Time: 4:08pm

1D16082014
 Shutter Speed: 1/800
 Aperture: 9.0
 ISO: 3200
 Focal Length: 18.0 mm
 Time: 12:22pm

1H16082014
 Shutter Speed: 1/200
 Aperture: 9.0
 ISO: 2000
 Focal Length: 18.0 mm
 Time: 4:06pm

1E16082014
 Shutter Speed: 1/800
 Aperture: 9.0
 ISO: 3200
 Focal Length: 18.0 mm
 Time: 12:23pm

1I16082014
 Shutter Speed: 1/250
 Aperture: 9.0
 ISO: 1250
 Focal Length: 18.0 mm
 Time: 4:11pm

1J16082014
Shutter Speed: 1/5
Aperture: 22.0
ISO: 100
Focal Length: 18.0 mm
Time: 5:25 pm

1Q17082014
Shutter Speed: 1/80
Aperture: 5.6
ISO: 1600
Focal Length: 27.0 mm
Time: 10:03 pm

1K16082014
Shutter Speed: 1/800
Aperture: 9.0
ISO: 800
Focal Length: 18.0 mm
Time: 5:05 pm

1R17082014
Shutter Speed: 1/80
Aperture: 10.0
ISO: 125
Focal Length: 18.0 mm
Time: 10:32 am

1L16082014
Shutter Speed: 1/5
Aperture: 22.0
ISO: 160
Focal Length: 18.0 mm
Time: 5:25 pm

1S17082014
Shutter Speed: 1/80
Aperture: 10.0
ISO: 100
Focal Length: 18.0 mm
Time: 10:34 am

1M17082014
Shutter Speed: 1/800
Aperture: 9.0
ISO: 3200
Focal Length: 18.0 mm
Time: 8:59 am

1T17082014
Shutter Speed: 1/250
Aperture: 9.0
ISO: 125
Focal Length: 18.0 mm
Time: 10:38 am

1N17082014
Shutter Speed: 1/800
Aperture: 9.0
ISO: 3200
Focal Length: 18.0 mm
Time: 9:02 am

1U17082014
Shutter Speed: 1/125
Aperture: 9.0
ISO: 100
Focal Length: 20.0 mm
Time: 10:53 am

1O17082014
Shutter Speed: 1/800
Aperture: 9.0
ISO: 3200
Focal Length: 18.0 mm
Time: 9:03 am

1V17082014
Shutter Speed: 1/100
Aperture: 9.0
ISO: 160
Focal Length: 32.0 mm
Time: 11:21 am

1P17082014
Shutter Speed: 1/80
Aperture: 5.6
ISO: 2000
Focal Length: 27.0 mm
Time: 9:59 am

1W17082014
Shutter Speed: 1/100
Aperture: 9.0
ISO: 250
Focal Length: 18.0 mm
Time: 11:26 am

1X17082014

Shutter Speed: 1/100

Aperture: 9.0

ISO: 160

Focal Length: 18.0 mm

Time: 11:27 am

1Y17082014

Shutter Speed: 1/100

Aperture: 9.0

ISO: 160

Focal Length: 30.0 mm

Time: 11:31 am

1Z17082014

Shutter Speed: 1/100

Aperture: 9.0

ISO: 160

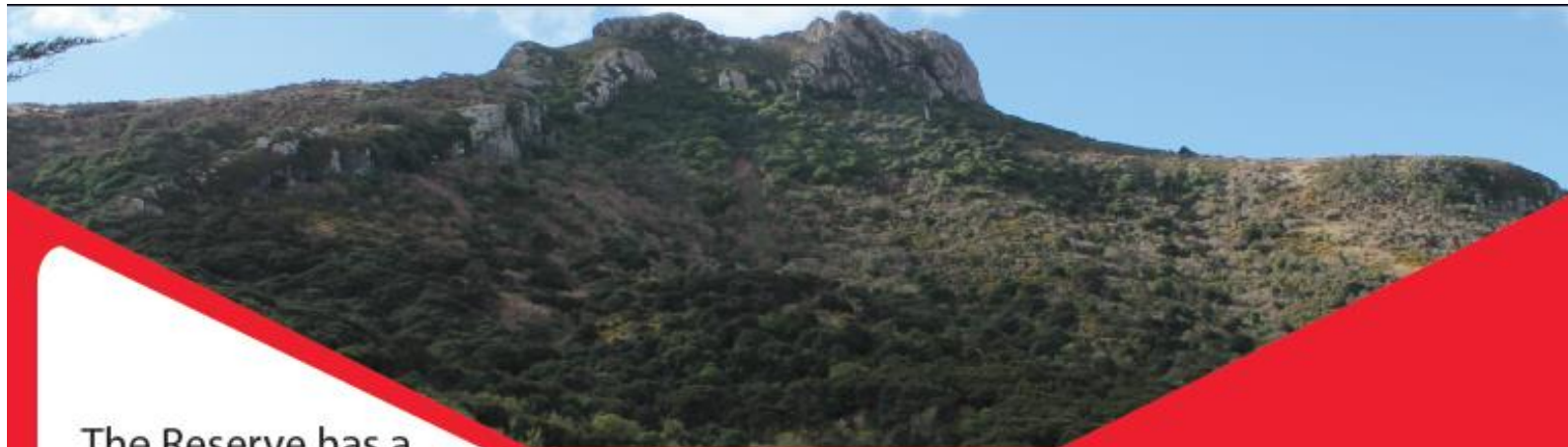
Focal Length: 30.0 mm

Time: 11:32 am

Appendix D: Pamphlet

This appendix contains the pamphlet created for the Panama Rock Reserve to be placed at entrance areas. This is a basic outline that can be changed.

<u>Interpretative Material</u>	<u>Page</u>
Pamphlet Outside	42
Pamphlet Inside	43



The Reserve has a wide variety of activities including:

climbing

mountain biking

scenic walking paths

tramping
and much more!

Welcome to the
Panama
Rock Reserve

To Donate
Contact
at

PANAMA ROCK RESERVE

Panama Rock Reserve

Site Entry Track



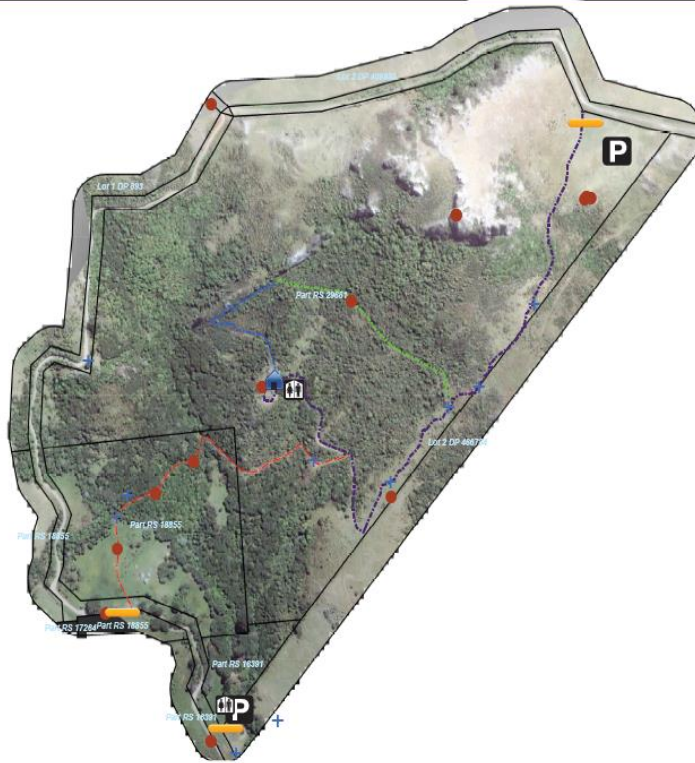
Keller's Peak Track



Hut-Dyke Track



Potential connecting Track



+ Sign Postings

Gate

Hut

P Carpark

Toilet



The site may contain poisonous plants like ongaonga. Wear proper clothing and footwear.

Disclaimer

Appendix E: Shows full extent of JLT acquired land, with the Northwest region being the focus for this report, and the other sections being ideal for the continuation of further investigation.

