Appendices

Appendix A – Figures

Legend

- Dry cleaners
- Current service station
- Former service station
- Contaminated site
- Inferred former landfill extent
- Commercial planning zone
- Industrial planning zone

Roads
- Freeway
- Highway
- Major road
- Local road

- Train station

Railway
- Railway

Watercourses
- Drain/channel/other
- River
- Stream

Waterbodies
- Lake

- Watercourse
- Parks & reserves

Paper Size A4

0 135 270 540

Metres

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 55

N

North East Link Project
Environment Effects Statement (EES)

Job Number	31-35006
Revision	F
Date	28 Feb 2019

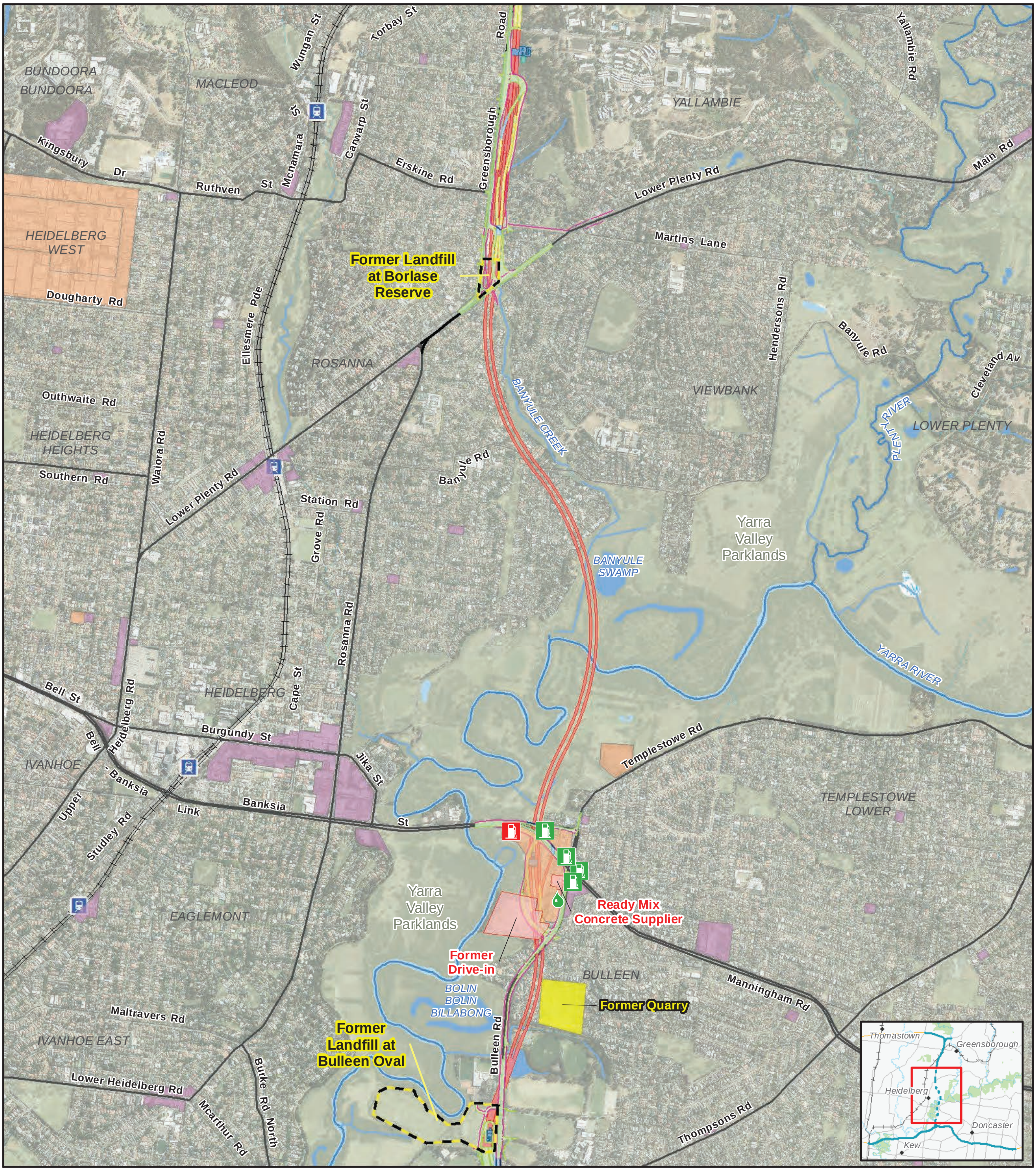
Contaminated Sites
M80 Ring Road to Northern Portal

Figure 1

Data source: CIP Imagery - DELWP - 2018 | Roads, waterways, parks, locality, planning zones - Vicmap - 2019. Created by:trighetti

180 Lonsdale Street Melbourne VIC 3000 Australia T 61 3 8687 8000 F 61 3 8687 8111 E melmail@ghd.com

G:\31\35006\GIS\Maps\Working\Specialist Submission\EES\Contaminated Land\Contaminated Sites\3135006_Contaminated_Sites_A4P_RevF.mxd



Legend

- Dry cleaners
- Current service station
- Former service station
- Contaminated site
- Former quarry
- Inferred former landfill extent
- Commercial planning zone
- Industrial planning zone
- Roads
  - Highway
  - Major road
  - Local road
- Train station
- Railway
  - Railway
- Watercourses
  - River
  - Stream
  - Drain/channel/other
- Waterbodies
  - Lake
  - Swamp
  - Watercourse
- Parks & reserves

Paper Size A4

0 180 360 720

Metres

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 55

N

North East Link Project
Environment Effects Statement (EES)

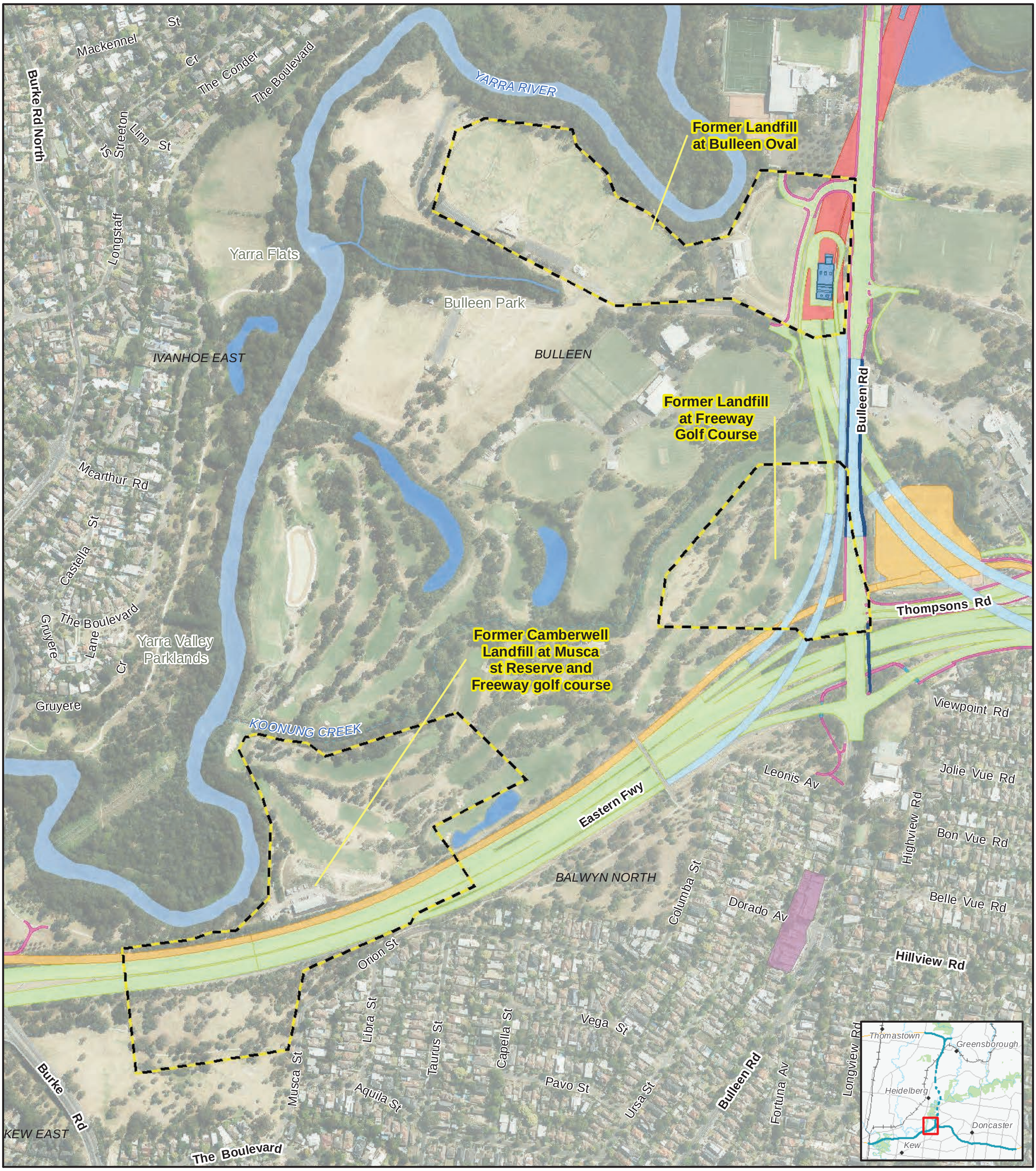
Job Number	31-35006
Revision	F
Date	28 Feb 2019

Contaminated Sites
Northern Portal to Southern Portal

Figure 2

Data source: CIP Imagery - DELWP - 2018 | Roads, waterways, parks, locality, planning zones - Vicmap - 2019. Created by:trighetti
G:\31\35006\GIS\Maps\Working\Specialist Submission\EES\Contaminated Land\Contaminated Sites\3135006_Contaminated_Sites_A4P_RevF.mxd

180 Lonsdale Street Melbourne VIC 3000 Australia T 61 3 8687 8000 F 61 3 8687 8111 E melmail@ghd.com



Legend

Inferred former landfill extent	Stream
Commercial planning zone	Drain or channel
Watercourse	Lake

Paper Size A4

0 50 100 200

Metres

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 55

N

NORTH EAST LINK PROJECT

North East Link Project
Environment Effects Statement (EES)

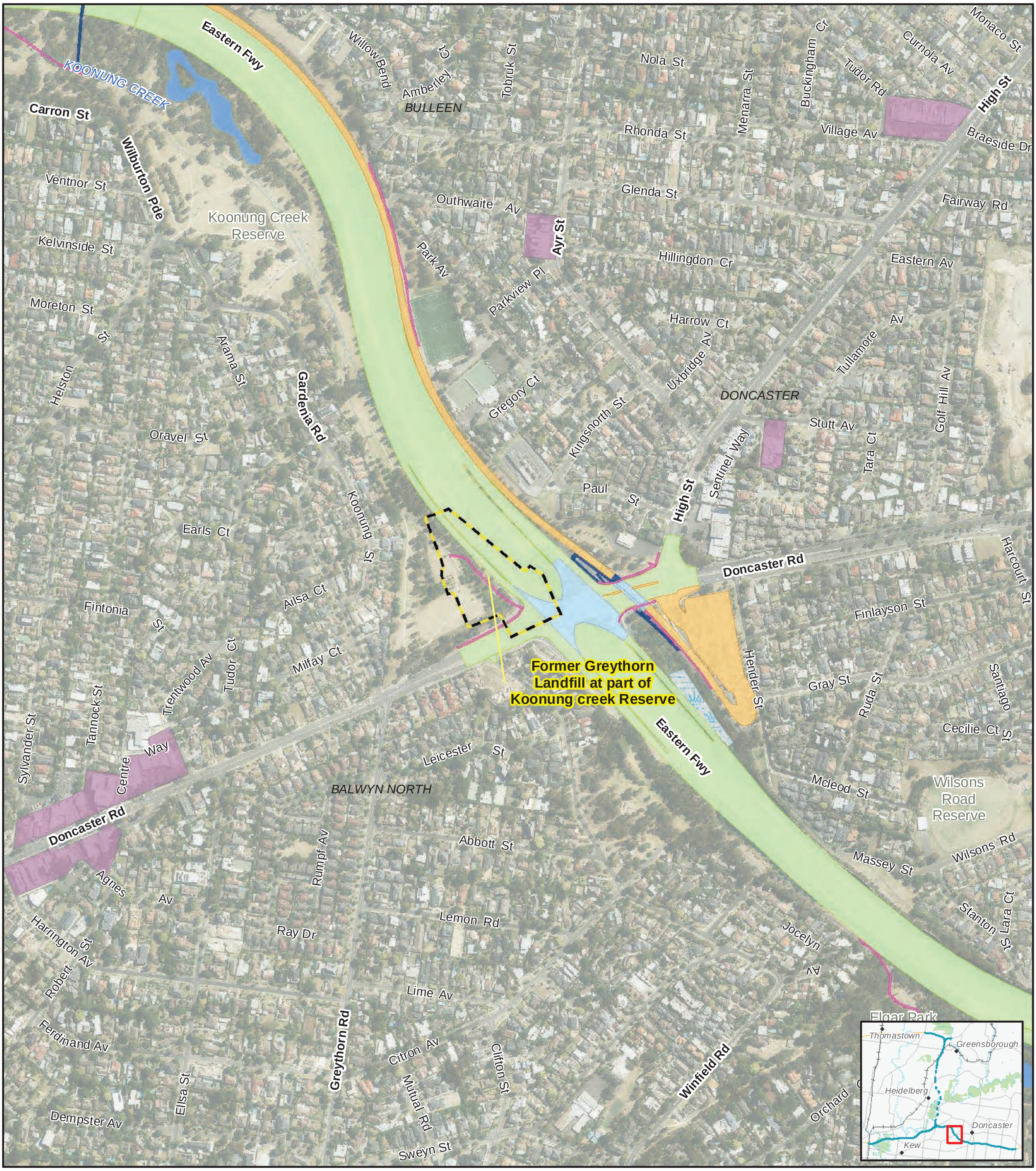
Job Number 31-35006
Revision F
Date 28 Feb 2019

Contaminated Sites
Eastern Freeway (West)

Figure 3

Data source: CIP Imagery - DELWP - 2018 | Roads, waterways, parks, locality, planning zones - Vicmap - 2019. Created by:trighetti
G:\31\35006\GIS\Maps\Working\Specialist Submission\EES\Contaminated Land\Contaminated Sites\3135006_Contaminated_Sites_A4P_RevF.mxd

180 Lonsdale Street Melbourne VIC 3000 Australia **T** 61 3 8687 8000 **F** 61 3 8687 8111 **E** melmail@ghd.com



Legend

- Inferred former landfill extent
- Drain or channel
- Swamp
- Commercial planning zone
- Lake

Paper Size A4

0 50 100 200

Metres

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 55

N

North East Link Project
Environment Effects Statement (EES)

Job Number	31-35006
Revision	F
Date	28 Feb 2019

Contaminated Sites
Eastern Freeway (East 1/2)

Figure 4

Data source: CIP Imagery - DELWP - 2018 | Roads, waterways, parks, locality, planning zones - Vicmap - 2019. Created by:trighetti

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Legend

- Inferred former landfill extent
- Commercial planning zone
- Stream
- Drain or channel
- Watercourse

Paper Size A4

0 50 100 200

Metres

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 55

N

North East Link Project
Environment Effects Statement (EES)

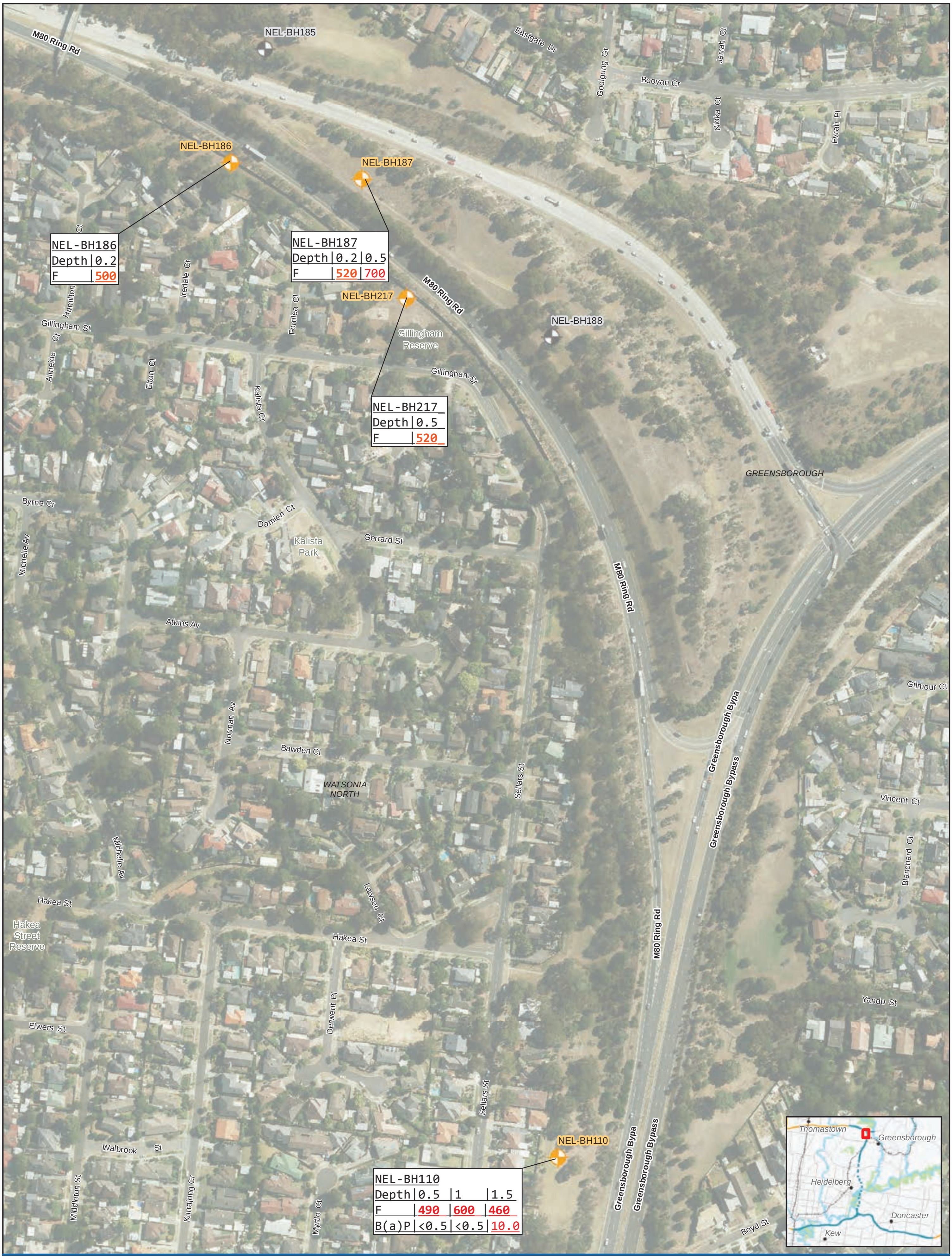
Job Number	31-35006
Revision	F
Date	28 Feb 2019

Contaminated Sites
Eastern Freeway (East 2/2)

Figure 5

Data source: CIP Imagery - DELWP - 2018 | Roads, waterways, parks, locality, planning zones - Vicmap - 2019. Created by:trighetti
G:\31\35006\GIS\Maps\Working\Specialist Submission\EES\Contaminated Land\Contaminated Sites\3135006_Contaminated_Sites_A4P_RevF.mxd

180 Lonsdale Street Melbourne VIC 3000 Australia **T** 61 3 8687 8000 **F** 61 3 8687 8111 **E** melmail@ghd.com



Paper Size A3

0 25 50 75 100

Meters

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 55

N

LEGEND

Sample Location

(No exceedances recorded)

139 - Cat A Exceedance
435 - Cat B Exceedance
181 - Cat C Exceedance

As - Arsenic
Cu - Copper
Pb - Lead
Ni - Nickel
Sn - Tin
Zn - Zinc
F - Fluoride

North East Link Project
Environment Effects Statement (EES)

Job Number	31-35006
Revision	I
Date	27 Feb 2019

Bore Locations and
Soil Bore Exceedances (mg/kg)

Figure 6

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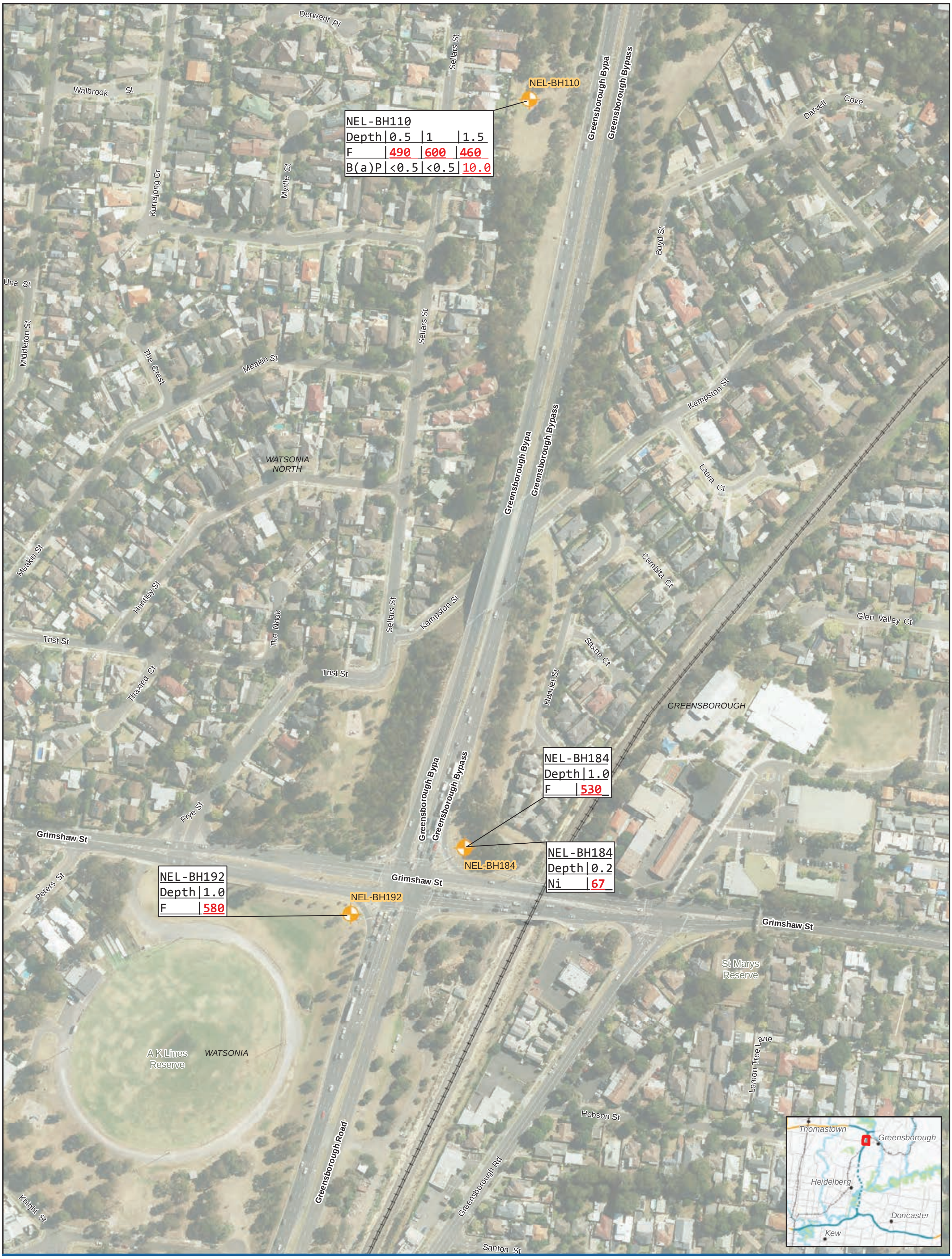
Data source: CIP Imagery - DELWP - 2018 | Roads, waterways, parks - Vicmap - 2018 | Survey data - GHD - 2018. Created by:trighetti



Paper Size A3

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Meters

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 55

N

LEGEND

Sample Location

(No exceedances recorded)

139 - Cat A Exceedance
435 - Cat B Exceedance
181 - Cat C Exceedance

As - Arsenic
Cu - Copper
Pb - Lead
Ni - Nickel
Sn - Tin
Zn - Zinc
F - Fluoride

NORTH EAST LINK PROJECT

North East Link Project
Environment Effects Statement (EES)

Job Number 31-35006
Revision I
Date 27 Feb 2019

Bore Locations and
Soil Bore Exceedances (mg/kg)

Figure 7

G:\31\35006\GIS\Maps\Working\Specialist Submission\EES\Contaminated Land\Soil_Bore_Exceedances\3135006_6_to_22_Soil_Bore_Exceedances_A3P_RevH.mxd Job Ref: 20180525C

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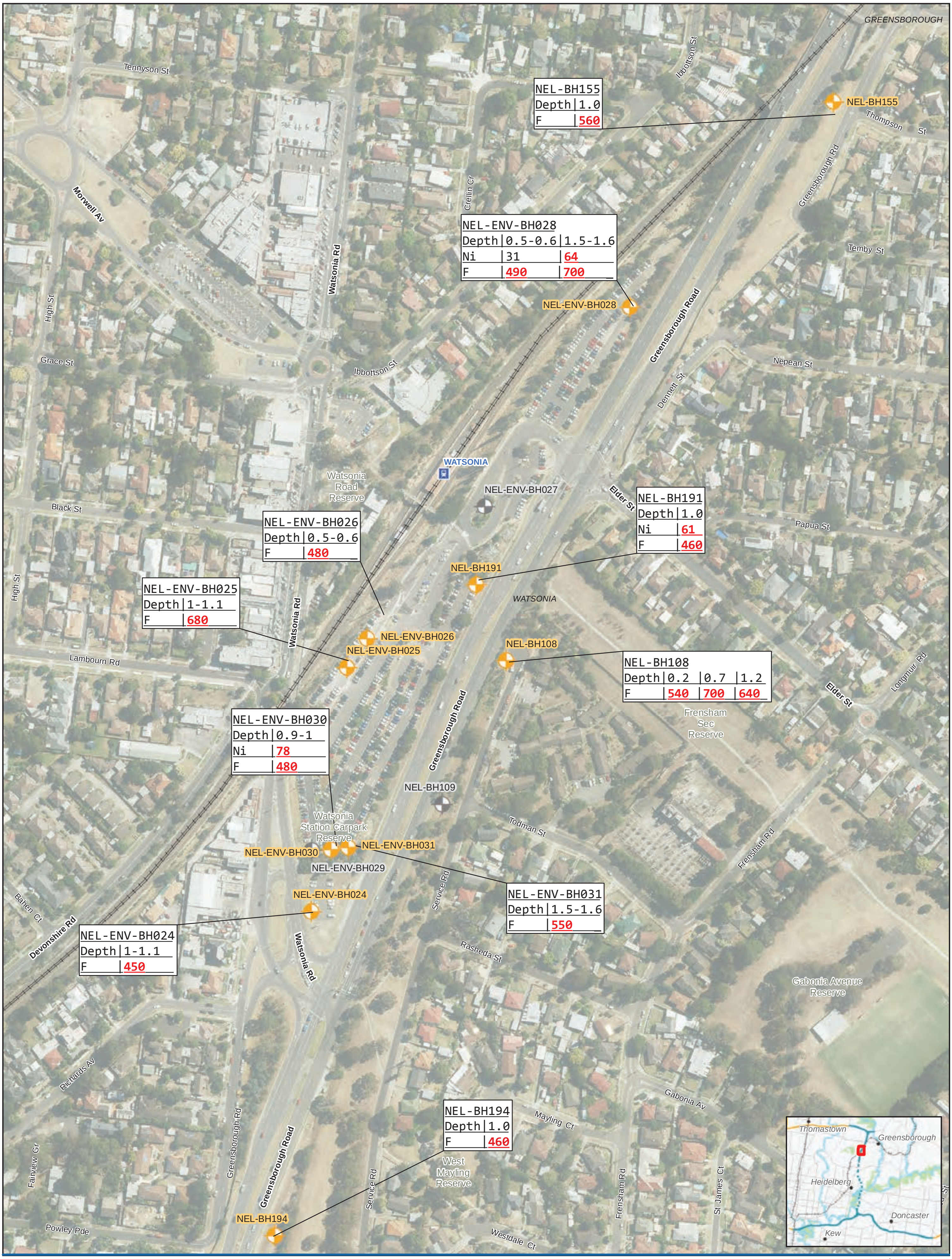
Data source: CIP Imagery - DELWP - 2018 | Roads, waterways, parks - Vicmap - 2018 | Survey data - GHD - 2018. Created by:trighetti



Paper Size A3

0 25 50 75 100

Meters

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 55

N

LEGEND

Sample Location

(No exceedances recorded)

139 - Cat A Exceedance
435 - Cat B Exceedance
181 - Cat C Exceedance

As - Arsenic
Cu - Copper
Pb - Lead
Ni - Nickel
Sn - Tin
Zn - Zinc
F - Fluoride

NORTH EAST LINK PROJECT

North East Link Project
Environment Effects Statement (EES)

Job Number 31-35006
Revision I
Date 27 Feb 2019

Bore Locations and
Soil Bore Exceedances (mg/kg)

Figure 8

G:\31\35006\GIS\Maps\Working\Specialist Submission\EES\Contaminated Land\Soil_Bore_Exceedances\3135006_6_to_22_Soil_Bore_Exceedances_A3P_RevH.mxd Job Ref: 20180525C 180 Lonsdale Street, Melbourne VIC 3000 Australia T 61 3 8687 8000 E melmail@ghd.com W www.ghd.com

Data source: CIP Imagery - DELWP - 2018 | Roads, waterways, parks - Vicmap - 2018 | Survey data - GHD - 2018. Created by:trighetti

Paper Size A3

0 25 50 75 100

Meters

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 55

N

LEGEND

Sample Location

(No exceedances recorded)

139 - Cat A Exceedance
435 - Cat B Exceedance
181 - Cat C Exceedance

As - Arsenic
Cu - Copper
Pb - Lead
Ni - Nickel
Sn - Tin
Zn - Zinc
F - Fluoride

NORTH EAST LINK PROJECT

North East Link Project
Environment Effects Statement (EES)

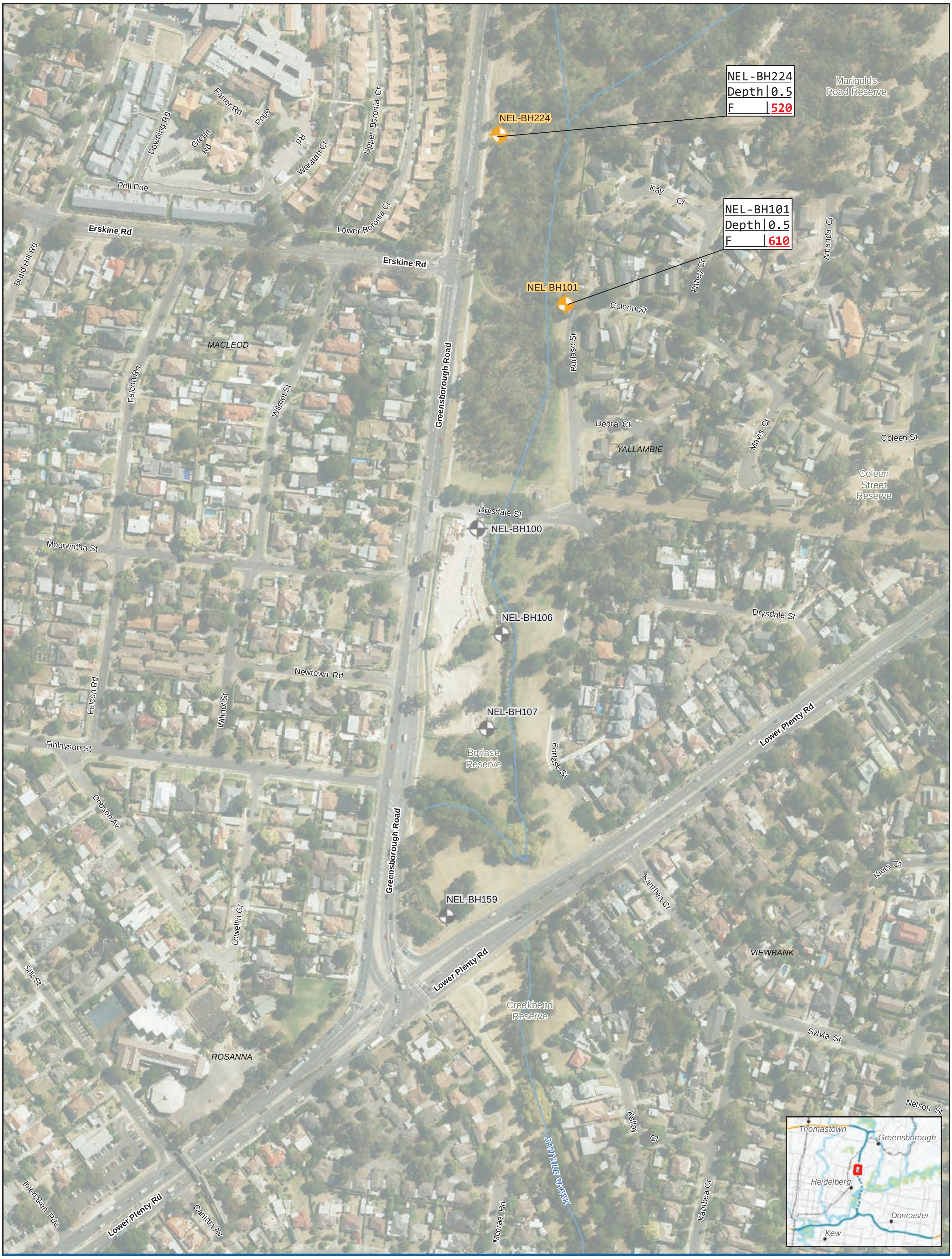
Job Number 31-35006
Revision I
Date 27 Feb 2019

Bore Locations and
Soil Bore Exceedances (mg/kg)

Figure 9

G:\31\35006\GIS\Maps\Working\Specialist Submission\EES\Contaminated Land\Soil_Bore_Exceedances\3135006_6_to_22_Soil_Bore_Exceedances_A3P_RevH.mxd Job Ref: 20180525C 180 Lonsdale Street, Melbourne VIC 3000 Australia T 61 3 8687 8000 E melmail@ghd.com W www.ghd.com

Data source: CIP Imagery - DELWP - 2018 | Roads, waterways, parks - Vicmap - 2018 | Survey data - GHD - 2018. Created by:trighetti



Paper Size A3

0 25 50 75 100

Meters

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 55

N

LEGEND

Sample Location

(No exceedances recorded)

139 - Cat A Exceedance
435 - Cat B Exceedance
181 - Cat C Exceedance

As - Arsenic
Cu - Copper
Pb - Lead
Ni - Nickel
Sn - Tin
Zn - Zinc
F - Fluoride

NORTH EAST LINK PROJECT

North East Link Project
Environment Effects Statement (EES)

Job Number	31-35006
Revision	I
Date	27 Feb 2019

Bore Locations and
Soil Bore Exceedances (mg/kg)

Figure 10

G:\31\35006\GIS\Maps\Working\Specialist Submission\EES\Contaminated Land\Soil_Bore_Exceedances\3135006_6_to_22_Soil_Bore_Exceedances_A3P_RevH.mxd Job Ref: 20180525C 180 Lonsdale Street, Melbourne VIC 3000 Australia T 61 3 8687 8000 E melmail@ghd.com W www.ghd.com

Data source: CIP Imagery - DELWP - 2018 | Roads, waterways, parks - Vicmap - 2018 | Survey data - GHD - 2018. Created by:trighetti

Paper Size A3

0 25 50 75 100

Meters

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 55

N

LEGEND

Sample Location

(No exceedances recorded)

139 - Cat A Exceedance
435 - Cat B Exceedance
181 - Cat C Exceedance

As - Arsenic
Cu - Copper
Pb - Lead
Ni - Nickel
Sn - Tin
Zn - Zinc
F - Fluoride

NORTH EAST LINK PROJECT

North East Link Project
Environment Effects Statement (EES)

Job Number 31-35006
Revision I
Date 27 Feb 2019

Bore Locations and
Soil Bore Exceedances (mg/kg)

Figure 11

G:\31\35006\GIS\Maps\Working\Specialist Submission\EES\Contaminated Land\Soil_Bore_Exceedances\3135006_6_to_22_Soil_Bore_Exceedances_A3P_RevH.mxd Job Ref: 20180525C 180 Lonsdale Street, Melbourne VIC 3000 Australia **T** 61 3 8687 8000 **E** melmail@ghd.com **W** www.ghd.com

Data source: CIP Imagery - DELWP - 2018 | Roads, waterways, parks - Vicmap - 2018 | Survey data - GHD - 2018. Created by:trighetti

Paper Size A3

0 25 50 75 100

Meters

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 55

N

LEGEND

Sample Location

(No exceedances recorded)

139 - Cat A Exceedance
435 - Cat B Exceedance
181 - Cat C Exceedance

As - Arsenic
Cu - Copper
Pb - Lead
Ni - Nickel
Sn - Tin
Zn - Zinc
F - Fluoride

North East Link Project
Environment Effects Statement (EES)

Job Number	31-35006
Revision	I
Date	27 Feb 2019

Bore Locations and
Soil Bore Exceedances (mg/kg)

Figure 12

G:\31\35006\GIS\Maps\Working\Specialist Submission\EES\Contaminated Land\Soil_Bore_Exceedances\3135006_6_to_22_Soil_Bore_Exceedances_A3P_RevH.mxd

Job Ref: 20180525C

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Data source: CIP Imagery - DELWP - 2018 | Roads, waterways, parks - Vicmap - 2018 | Survey data - GHD - 2018. Created by:trighetti

Paper Size A3

0 25 50 75 100

Meters

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 55

N

LEGEND

Sample Location

(No exceedances recorded)

139 - Cat A Exceedance
435 - Cat B Exceedance
181 - Cat C Exceedance

As - Arsenic
Cu - Copper
Pb - Lead
Ni - Nickel
Sn - Tin
Zn - Zinc
F - Fluoride

NORTH EAST LINK PROJECT

North East Link Project
Environment Effects Statement (EES)

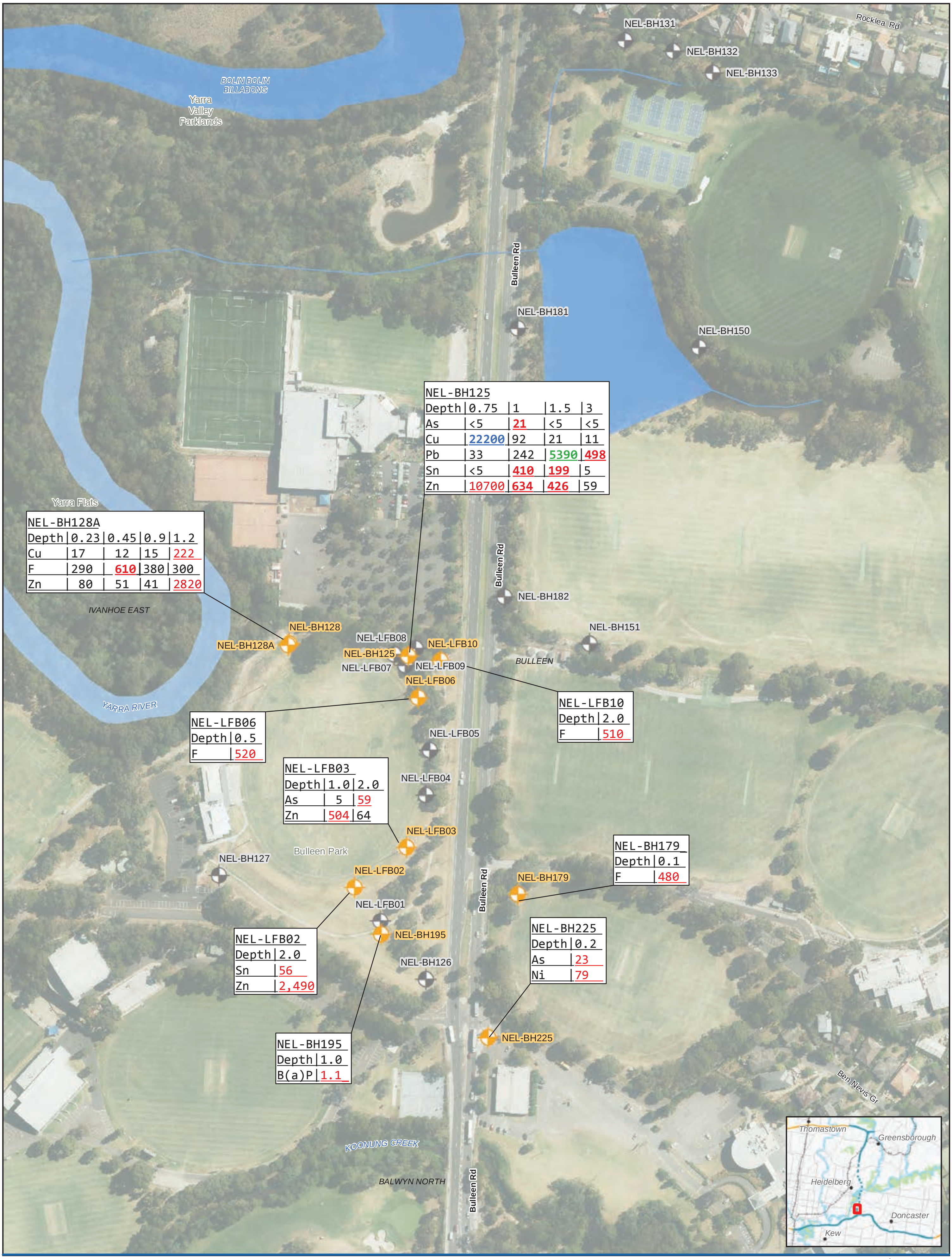
Job Number 31-35006
Revision I
Date 27 Feb 2019

Bore Locations and
Soil Bore Exceedances (mg/kg)

Figure 13

G:\31\35006\GIS\Maps\Working\Specialist Submission\EES\Contaminated Land\Soil_Bore_Exceedances\3135006_6_to_22_Soil_Bore_Exceedances_A3P_RevH.mxd Job Ref: 20180525C 180 Lonsdale Street, Melbourne VIC 3000 Australia **T** 61 3 8687 8000 **E** melmail@ghd.com **W** www.ghd.com

Data source: CIP Imagery - DELWP - 2018 | Roads, waterways, parks - Vicmap - 2018 | Survey data - GHD - 2018. Created by:trighetti



Paper Size A3

0 25 50 75 100

Meters

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 55

N

LEGEND

Sample Location

(No exceedances recorded)

139 - Cat A Exceedance
435 - Cat B Exceedance
181 - Cat C Exceedance

As - Arsenic
Cu - Copper
Pb - Lead
Ni - Nickel
Sn - Tin
Zn - Zinc
F - Fluoride

NORTH EAST LINK PROJECT

North East Link Project
Environment Effects Statement (EES)

Job Number 31-35006
Revision I
Date 27 Feb 2019

Bore Locations and
Soil Bore Exceedances (mg/kg)

Figure 14

G:\31\35006\GIS\Maps\Working\Specialist Submission\EES\Contaminated Land\Soil_Bore_Exceedances\3135006_6_to_22_Soil_Bore_Exceedances_A3P_RevH.mxd

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Data source: CIP Imagery - DELWP - 2018 | Roads, waterways, parks - Vicmap - 2018 | Survey data - GHD - 2018. Created by:trighetti

Paper Size A3

0 25 50 75 100

Meters

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 55

N

LEGEND

Sample Location

(No exceedances recorded)

139 - Cat A Exceedance
435 - Cat B Exceedance
181 - Cat C Exceedance

As - Arsenic
Cu - Copper
Pb - Lead
Ni - Nickel
Sn - Tin
Zn - Zinc
F - Fluoride

NORTH EAST LINK PROJECT

North East Link Project
Environment Effects Statement (EES)

Job Number 31-35006
Revision I
Date 27 Feb 2019

Bore Locations and
Soil Bore Exceedances (mg/kg)

Figure 15

G:\31\35006\GIS\Maps\Working\Specialist Submission\EES\Contaminated Land\Soil_Bore_Exceedances\3135006_6_to_22_Soil_Bore_Exceedances_A3P_RevH.mxd Job Ref: 20180525C 180 Lonsdale Street, Melbourne VIC 3000 Australia **T** 61 3 8687 8000 **E** melmail@ghd.com **W** www.ghd.com

Data source: CIP Imagery - DELWP - 2018 | Roads, waterways, parks - Vicmap - 2018 | Survey data - GHD - 2018. Created by:trighetti

Paper Size A3

0 25 50 75 100

Meters

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 55

N

LEGEND

Sample Location

(No exceedances recorded)

139 - Cat A Exceedance
435 - Cat B Exceedance
181 - Cat C Exceedance

As - Arsenic
Cu - Copper
Pb - Lead
Ni - Nickel
Sn - Tin
Zn - Zinc
F - Fluoride

NORTH EAST LINK PROJECT

North East Link Project
Environment Effects Statement (EES)

Job Number	31-35006
Revision	I
Date	27 Feb 2019

Bore Locations and
Soil Bore Exceedances (mg/kg)

Figure 16

G:\31\35006\GIS\Maps\Working\Specialist Submission\EES\Contaminated Land\Soil_Bore_Exceedances\3135006_6_to_22_Soil_Bore_Exceedances_A3P_RevH.mxd

Job Ref: 20180525C

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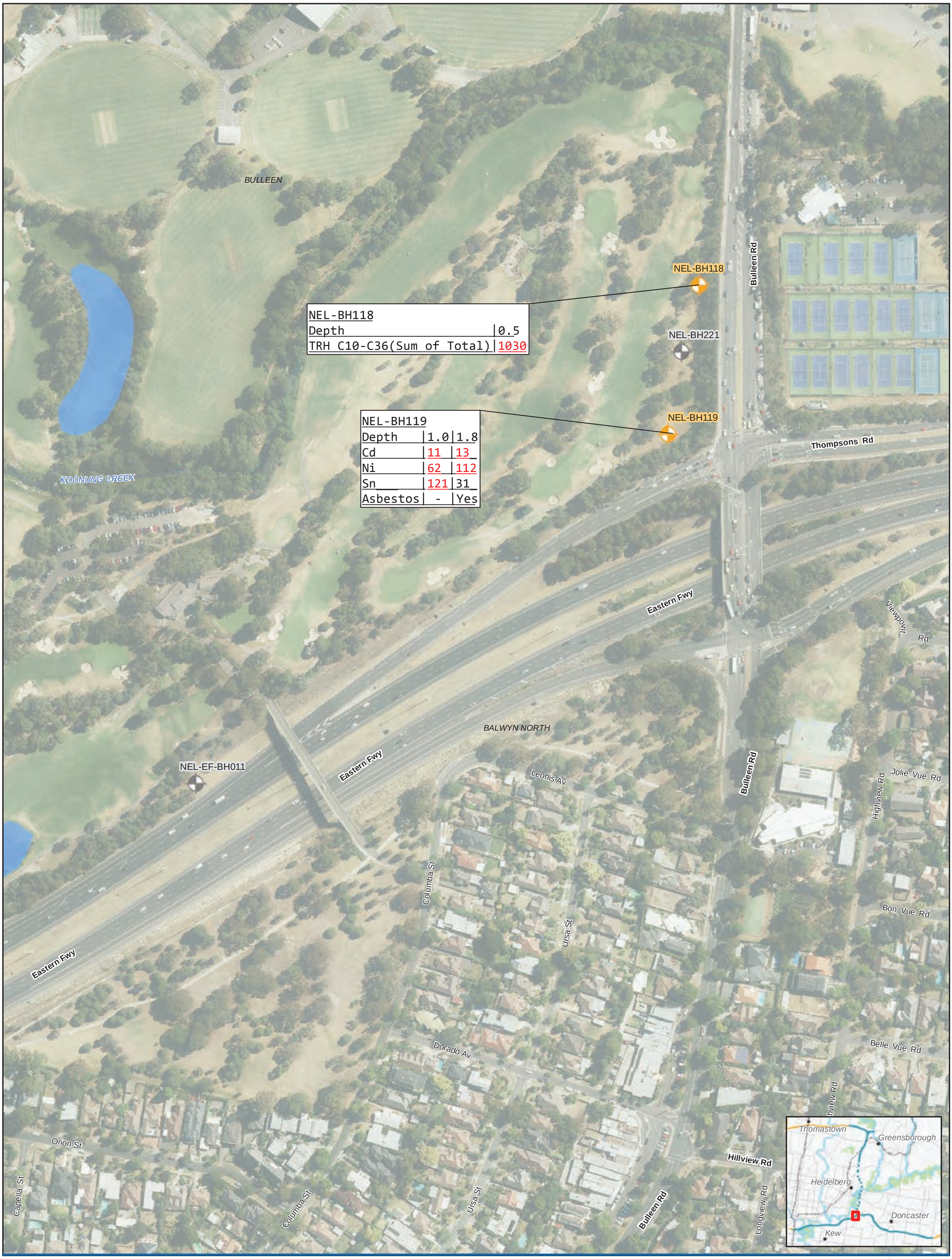
Data source: CIP Imagery - DELWP - 2018 | Roads, waterways, parks - Vicmap - 2018 | Survey data - GHD - 2018. Created by:trighetti



Paper Size A3

0 25 50 75 100

Meters

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 55

N

LEGEND

Sample Location

(No exceedances recorded)

139 - Cat A Exceedance
435 - Cat B Exceedance
181 - Cat C Exceedance

As - Arsenic
Cu - Copper
Pb - Lead
Ni - Nickel
Sn - Tin
Zn - Zinc
F - Fluoride

North East Link Project
Environment Effects Statement (EES)

Job Number 31-35006
Revision I
Date 28 Feb 2019

Bore Locations and
Soil Bore Exceedances (mg/kg)

Figure 17

G:\31\35006\GIS\Maps\Working\Specialist Submission\EES\Contaminated Land\Soil_Bore_Exceedances\3135006_6_to_22_Soil_Bore_Exceedances_A3P_RevJ.mxd Job Ref: 20180525C

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Data source: CIP Imagery - DELWP - 2018 | Roads, waterways, parks - Vicmap - 2018 | Survey data - GHD - 2018. Created by:trighetti

Paper Size A3

0 25 50 75 100

Meters

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 55

N

LEGEND

Sample Location

(No exceedances recorded)

139 - Cat A Exceedance
435 - Cat B Exceedance
181 - Cat C Exceedance

As - Arsenic
Cu - Copper
Pb - Lead
Ni - Nickel
Sn - Tin
Zn - Zinc
F - Fluoride

NORTH EAST LINK PROJECT

North East Link Project
Environment Effects Statement (EES)

Job Number 31-35006
Revision I
Date 27 Feb 2019

Bore Locations and
Soil Bore Exceedances (mg/kg)

Figure 18

G:\31\35006\GIS\Maps\Working\Specialist Submission\EES\Contaminated Land\Soil_Bore_Exceedances\3135006_6_to_22_Soil_Bore_Exceedances_A3P_RevH.mxd

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Data source: CIP Imagery - DELWP - 2018 | Roads, waterways, parks - Vicmap - 2018 | Survey data - GHD - 2018. Created by:trighetti

Paper Size A3

0 25 50 75 100

Meters

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 55

N

LEGEND

Sample Location

(No exceedances recorded)

139 - Cat A Exceedance
435 - Cat B Exceedance
181 - Cat C Exceedance

As - Arsenic
Cu - Copper
Pb - Lead
Ni - Nickel
Sn - Tin
Zn - Zinc
F - Fluoride

North East Link Project
Environment Effects Statement (EES)

Job Number 31-35006
Revision I
Date 27 Feb 2019

Bore Locations and
Soil Bore Exceedances (mg/kg)

Figure 19

G:\31\35006\GIS\Maps\Working\Specialist Submission\EES\Contaminated Land\Soil_Bore_Exceedances\3135006_6_to_22_Soil_Bore_Exceedances_A3P_RevH.mxd Job Ref: 20180525C 180 Lonsdale Street, Melbourne VIC 3000 Australia T 61 3 8687 8000 E melmail@ghd.com W www.ghd.com

Data source: CIP Imagery - DELWP - 2018 | Roads, waterways, parks - Vicmap - 2018 | Survey data - GHD - 2018. Created by:trighetti

Paper Size A3

0 25 50 75 100

Meters

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 55

N

LEGEND

Sample Location

(No exceedances recorded)

139 - Cat A Exceedance
435 - Cat B Exceedance
181 - Cat C Exceedance

As - Arsenic
Cu - Copper
Pb - Lead
Ni - Nickel
Sn - Tin
Zn - Zinc
F - Fluoride

NORTH EAST LINK PROJECT

North East Link Project
Environment Effects Statement (EES)

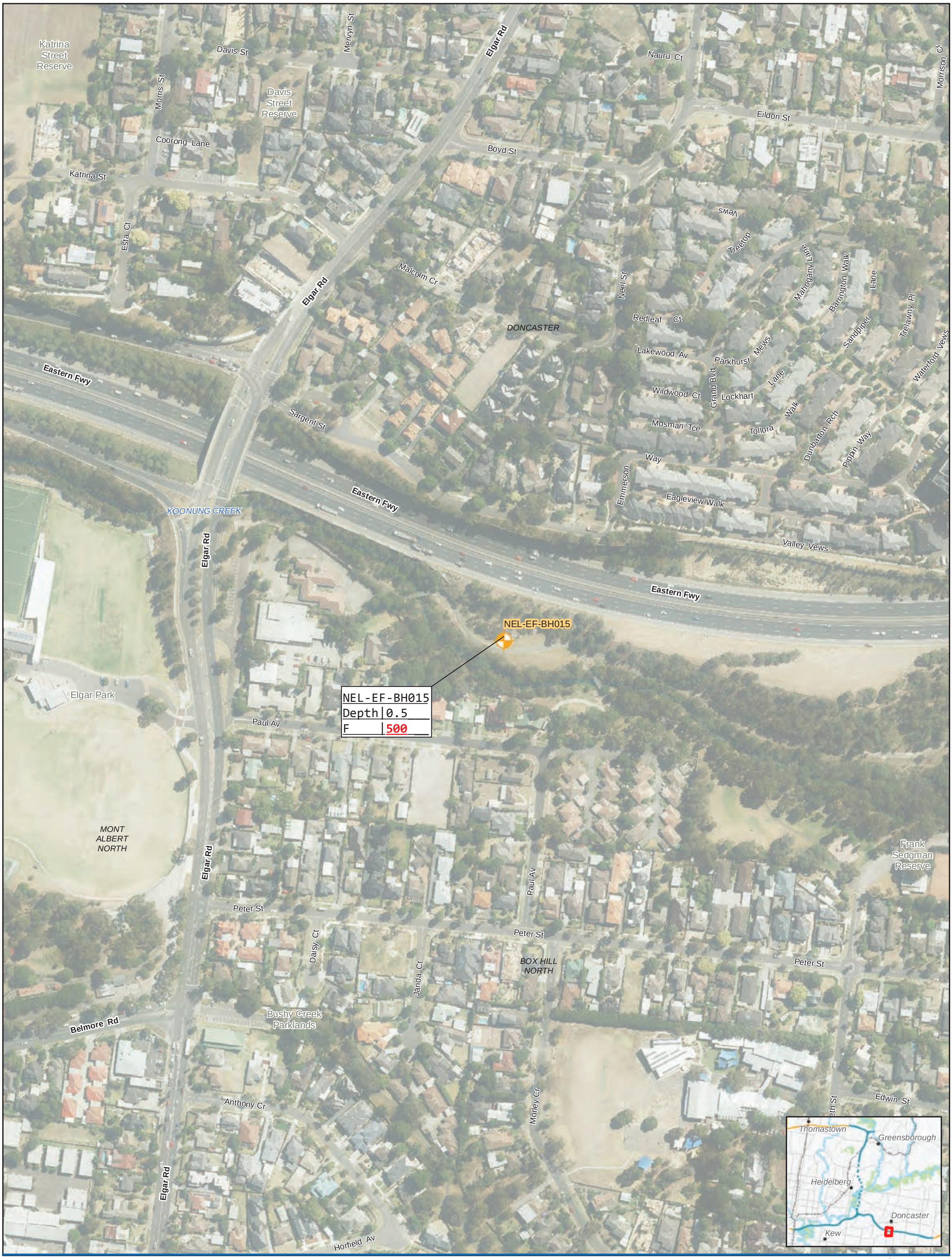
Job Number	31-35006
Revision	I
Date	28 Feb 2019

Bore Locations and
Soil Bore Exceedances (mg/kg)

Figure 20

G:\31\35006\GIS\Maps\Working\Specialist Submission\EES\Contaminated Land\Soil_Bore_Exceedances\3135006_6_to_22_Soil_Bore_Exceedances_A3P_RevJ.mxd Job Ref: 20180525C 180 Lonsdale Street, Melbourne VIC 3000 Australia T 61 3 8687 8000 E melmail@ghd.com W www.ghd.com

Data source: CIP Imagery - DELWP - 2018 | Roads, waterways, parks - Vicmap - 2018 | Survey data - GHD - 2018. Created by:trighetti



Paper Size A3

0 25 50 75 100

Meters

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 55

N

LEGEND

Sample Location

(No exceedances recorded)

139 - Cat A Exceedance
435 - Cat B Exceedance
181 - Cat C Exceedance

As - Arsenic
Cu - Copper
Pb - Lead
Ni - Nickel
Sn - Tin
Zn - Zinc
F - Fluoride

NORTH EAST LINK PROJECT

North East Link Project
Environment Effects Statement (EES)

Job Number	31-35006
Revision	I
Date	27 Feb 2019

Bore Locations and
Soil Bore Exceedances (mg/kg)

Figure 21

G:\31\35006\GIS\Maps\Working\Specialist Submission\EES\Contaminated Land\Soil_Bore_Exceedances\3135006_6_to_22_Soil_Bore_Exceedances_A3P_RevH.mxd

Job Ref: 20180525C

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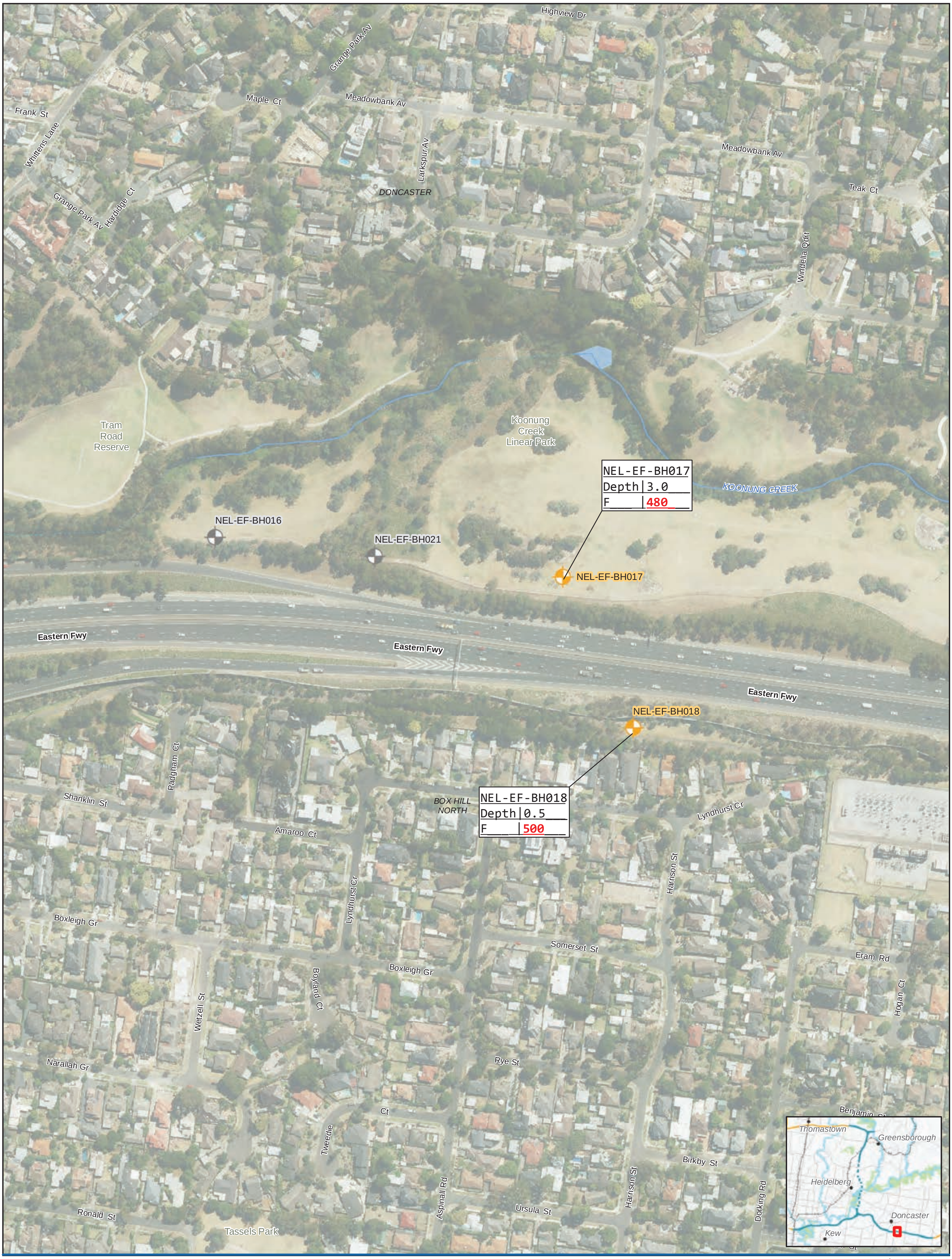
Data source: CIP Imagery - DELWP - 2018 | Roads, waterways, parks - Vicmap - 2018 | Survey data - GHD - 2018. Created by:trighetti



Paper Size A3

0 25 50 75 100

Meters

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 55

N

LEGEND

Sample Location

(No exceedances recorded)

139 - Cat A Exceedance
435 - Cat B Exceedance
181 - Cat C Exceedance

As - Arsenic
Cu - Copper
Pb - Lead
Ni - Nickel
Sn - Tin
Zn - Zinc
F - Fluoride

NORTH EAST LINK PROJECT

North East Link Project
Environment Effects Statement (EES)

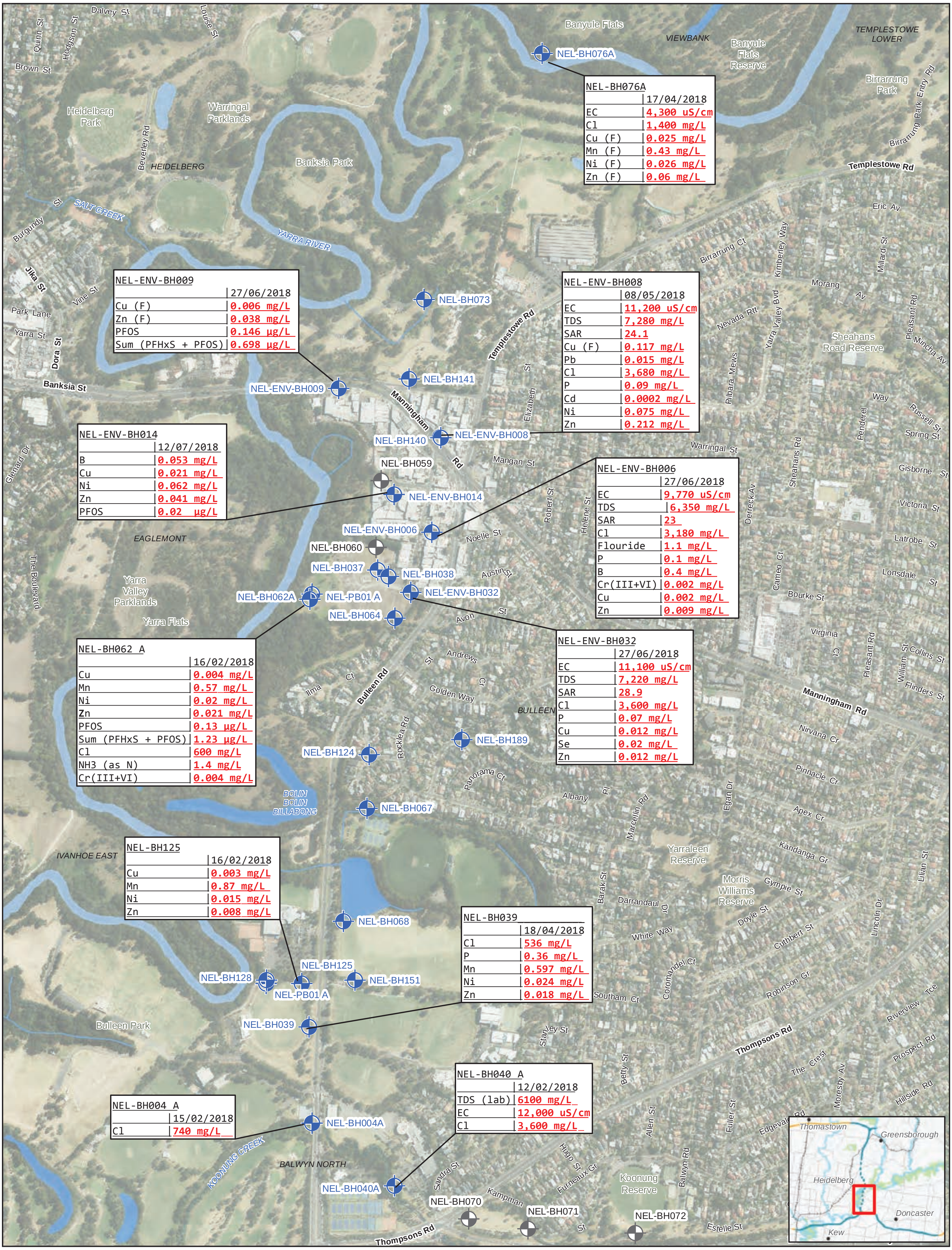
Job Number 31-35006
Revision I
Date 27 Feb 2019

Bore Locations and
Soil Bore Exceedances (mg/kg)

Figure 22

G:\31\35006\GIS\Maps\Working\Specialist Submission\EES\Contaminated Land\Soil_Bore_Exceedances\3135006_6_to_22_Soil_Bore_Exceedances_A3P_RevH.mxd Job Ref: 20180525C 180 Lonsdale Street, Melbourne VIC 3000 Australia **T** 61 3 8687 8000 **E** melmail@ghd.com **W** www.ghd.com

Data source: CIP Imagery - DELWP - 2018 | Roads, waterways, parks - Vicmap - 2018 | Survey data - GHD - 2018. Created by:trighetti



Paper Size A3

0 50 100 200 300

Metres

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 55

N

LEGEND

Ground Water Wells

Other Groundwater Wells

181 Adopted criteria exceedance

North East Link Project
Environment Effects Statement (EES)

Groundwater Well Locations and Shallow Groundwater Well Exceedances

Job Number 31-35006
Revision J
Date 28 Feb 2019

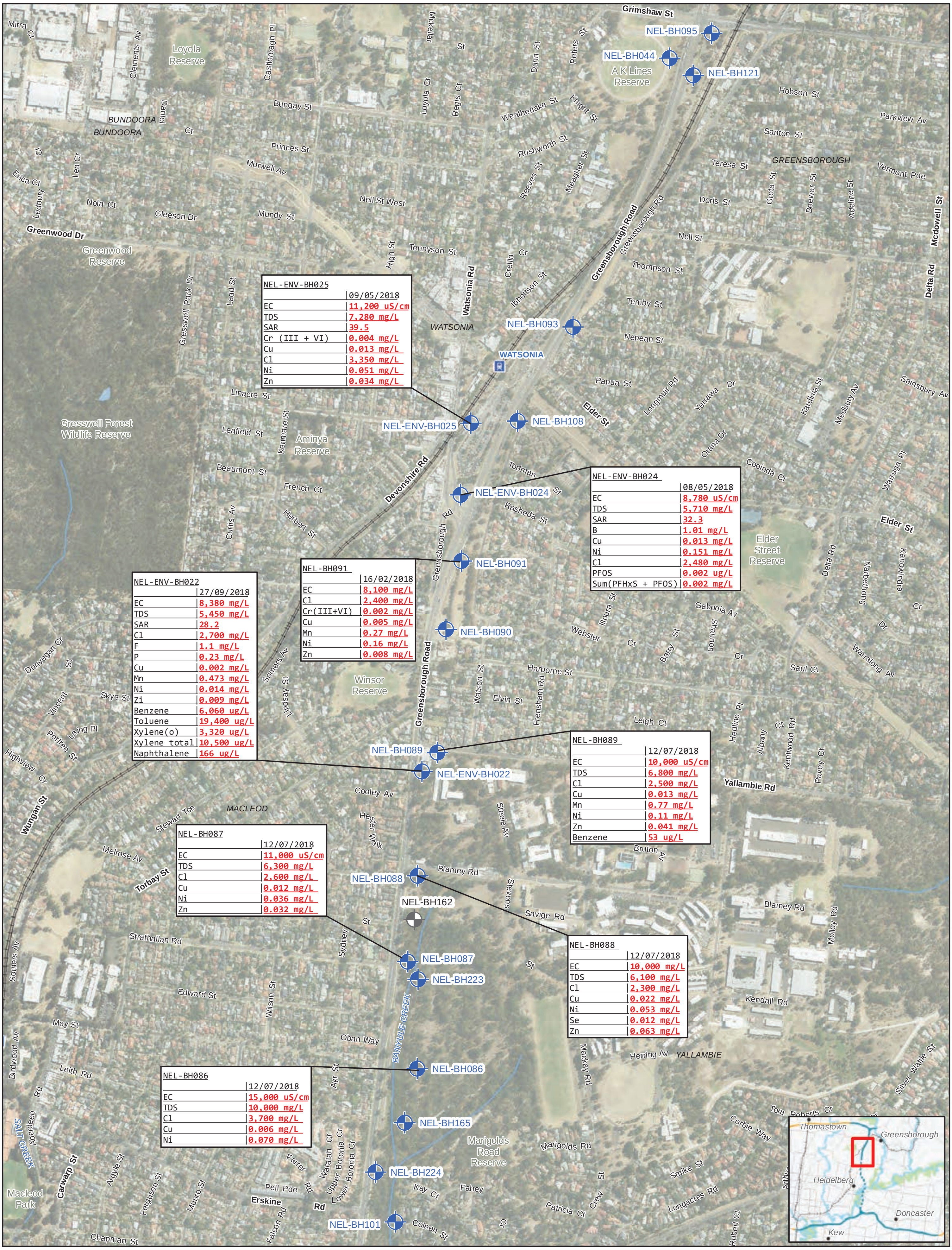
Figure 23

G:\31\35006\GIS\Maps\Working\Specialist Submission\EES\Contaminated Land\Groundwater_Wells\3135006_Groundwater_Wells_A3P_RevJ.mxd

Job Ref: 20180525C

180 Lonsdale Street, Melbourne VIC 3000 Australia T 61 3 8687 8000 E melmail@ghd.com W www.ghd.com

Data source: DELWP: CIP Imagery 2018; Aecom: Survey Data - GHD - 2018. Created by:trighetti



NEL-ENV-BH025	09/05/2018
EC	11,200 uS/cm
TDS	7,280 mg/L
SAR	39.5
Cr (III + VI)	0.004 mg/L
Cu	0.013 mg/L
Cl	3,350 mg/L
Ni	0.051 mg/L
Zn	0.034 mg/L

NEL-ENV-BH024	08/05/2018
EC	8,780 uS/cm
TDS	5,710 mg/L
SAR	32.3
B	1.01 mg/L
Cu	0.013 mg/L
Ni	0.151 mg/L
Cl	2,480 mg/L
PFOS	0.002 ug/L
Sum(PFHxS + PFOS)	0.002 ug/L

NEL-BH091	16/02/2018
EC	8,100 mg/L
Cl	2,400 mg/L
Cr(III+VI)	0.002 mg/L
Cu	0.005 mg/L
Mn	0.27 mg/L
Ni	0.16 mg/L
Zn	0.008 mg/L

NEL-ENV-BH022	27/09/2018
EC	8,380 mg/L
TDS	5,450 mg/L
SAR	28.2
Cl	2,700 mg/L
F	1.1 mg/L
P	0.23 mg/L
Cu	0.002 mg/L
Mn	0.473 mg/L
Ni	0.014 mg/L
Zi	0.009 mg/L
Benzene	6,060 ug/L
Toluene	19,400 ug/L
Xylene(o)	3,320 ug/L
Xylene total	10,500 ug/L
Naphthalene	166 ug/L

NEL-BH089	12/07/2018
EC	10,000 uS/cm
TDS	6,800 mg/L
Cl	2,500 mg/L
Cu	0.013 mg/L
Mn	0.77 mg/L
Ni	0.11 mg/L
Zn	0.041 mg/L
Benzene	53 ug/L

NEL-BH087	12/07/2018
EC	11,000 uS/cm
TDS	6,300 mg/L
Cl	2,600 mg/L
Cu	0.012 mg/L
Ni	0.036 mg/L
Zn	0.032 mg/L

NEL-BH088	12/07/2018
EC	10,000 mg/L
TDS	6,100 mg/L
Cl	2,300 mg/L
Cu	0.022 mg/L
Ni	0.053 mg/L
Se	0.012 mg/L
Zn	0.063 mg/L

NEL-BH086	12/07/2018
EC	15,000 uS/cm
TDS	10,000 mg/L
Cl	3,700 mg/L
Cu	0.006 mg/L
Ni	0.070 mg/L

Paper Size A3
0 50 100 200 300
Metres
Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 55

N

LEGEND
Ground Water Wells
Other Groundwater Wells
181 Adopted criteria exceedance

NORTH EAST LINK PROJECT

North East Link Project
Environment Effects Statement (EES)

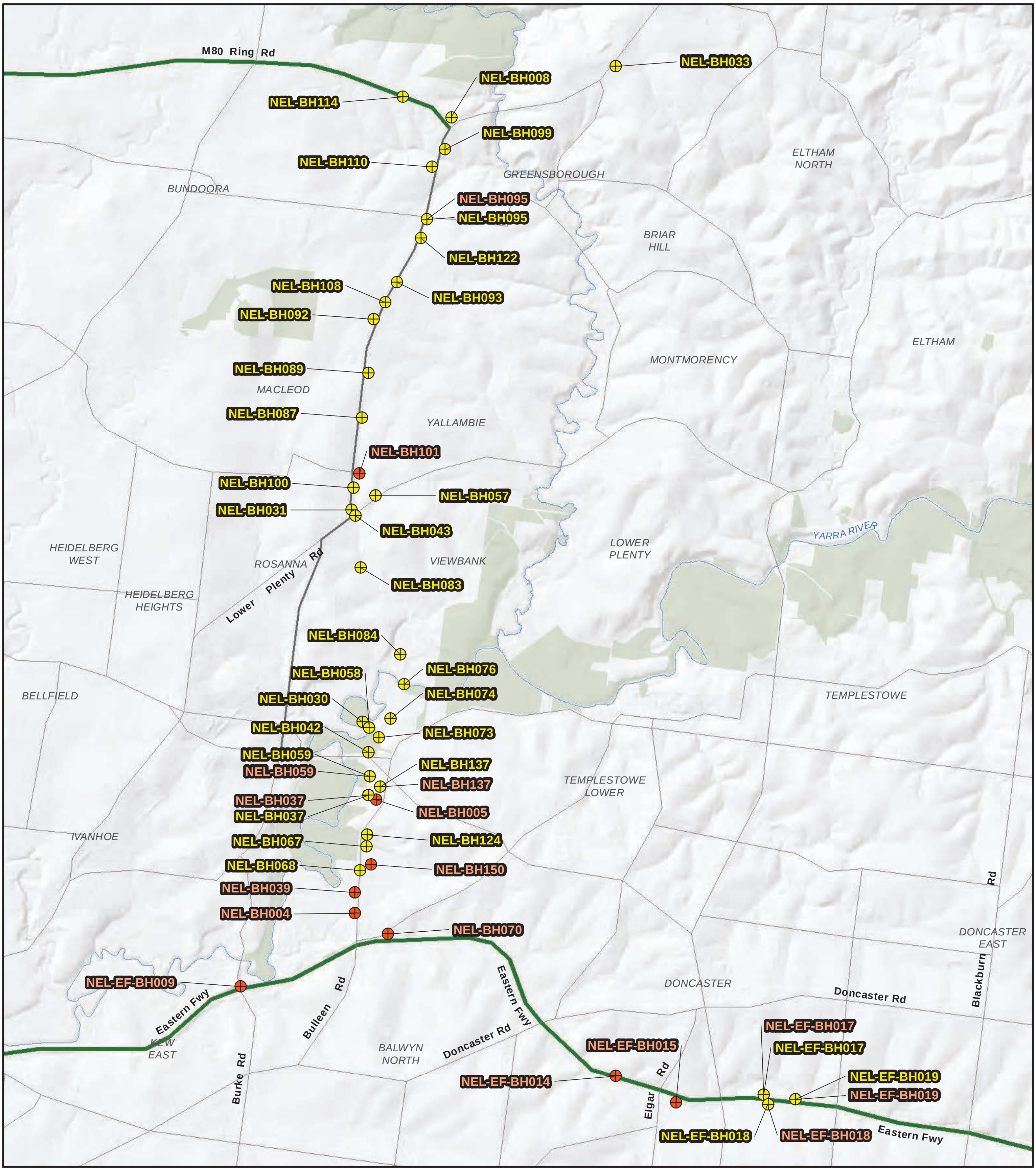
Groundwater Well Locations and Shallow Groundwater Well Exceedances

Job Number 31-35006
Revision J
Date 28 Feb 2019

Figure 24

G:\31\35006\GIS\Maps\Working\Specialist Submission\EES\Contaminated Land\Groundwater_Wells\3135006_Groundwater_Wells_A3P_RevJ.mxd Job Ref: 20180525C 180 Lonsdale Street, Melbourne VIC 3000 Australia T 61 3 8687 8000 E melmail@ghd.com W www.ghd.com

Data source: DELWP: CIP Imagery 2018; Aecom: Survey Data - GHD - 2018. Created by:trighetti



Legend

Acid Sulphate Soil Rock Samples (Depth Displayed)

- Rock
- Soil

Freeway
Highway
Major road
Parks & reserves

Watercourses

River

Paper Size A4

0 395 790 1,580

Metres

N

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 55

North East Link Project
Environment Effects Statement (EES)

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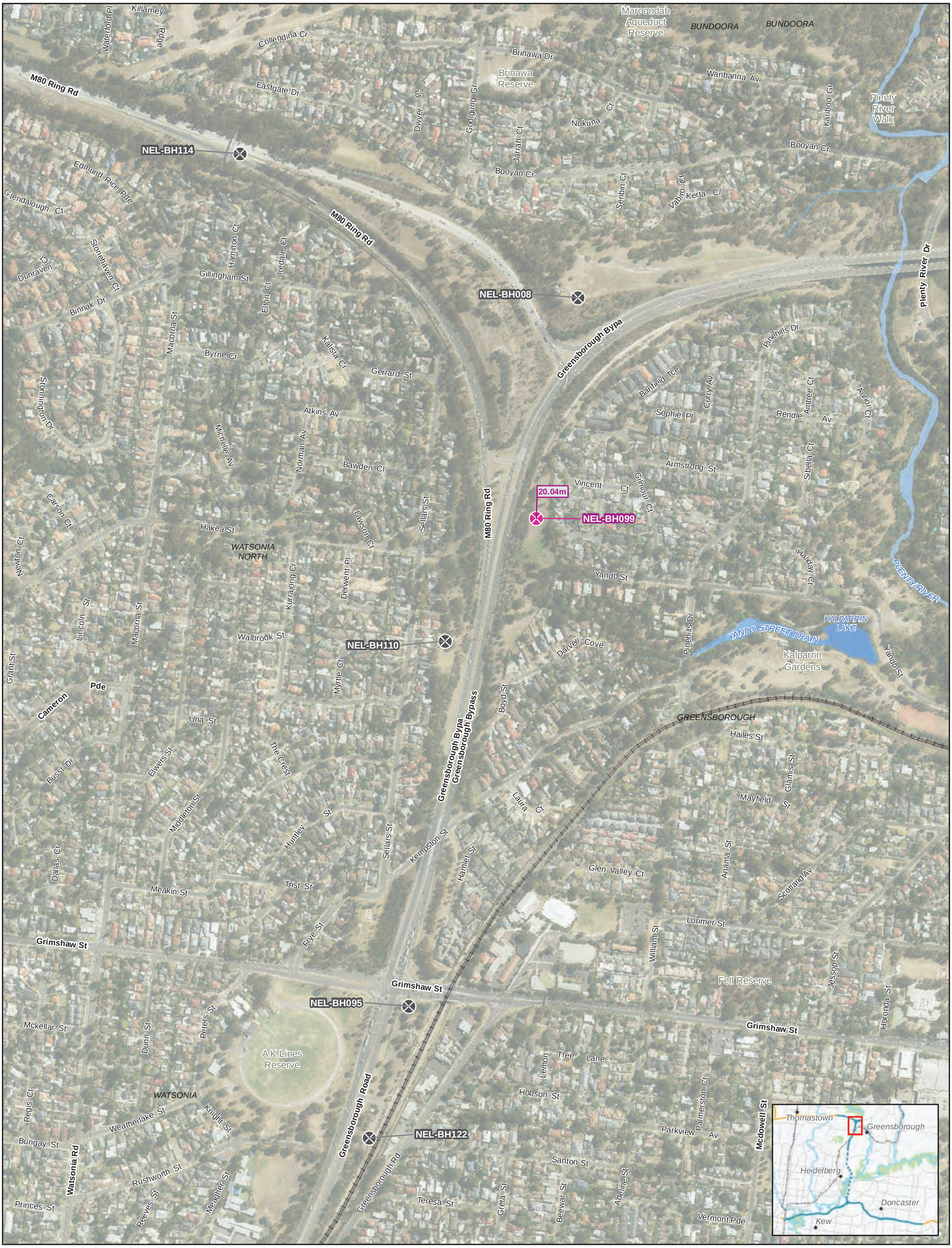
Date	27 Feb 2019

Acid Sulphate Soil/Rock Bores Overview

Figure 25

Data source: CIP Imagery - DELWP - 2018 | Roads, waterways, parks, locality, planning zones - Vicmap - 2019. Created by:trighetti
G:\31\35006\GIS\Maps\Working\Specialist Submission\EES\Contaminated Land\Acid Sulphate\3135006_Acid_Sulphate_Bores_A4P_RevB.mxd

180 Lonsdale Street Melbourne VIC 3000 Australia T 61 3 8687 8000 F 61 3 8687 8111 E melmail@ghd.com



Paper Size A3

0 70 140 210

Metres

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 55

N

LEGEND

Acid Sulphate Soil Rock Samples (Depth Displayed)

- Potentially Acid Forming
- Potential Acid Sulfate Soils
- Uncertainty
- No Acid Suplhate critieria exceedance/ indication

North East Link Project
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Job Number	31-35006
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Date	27 Feb 2019

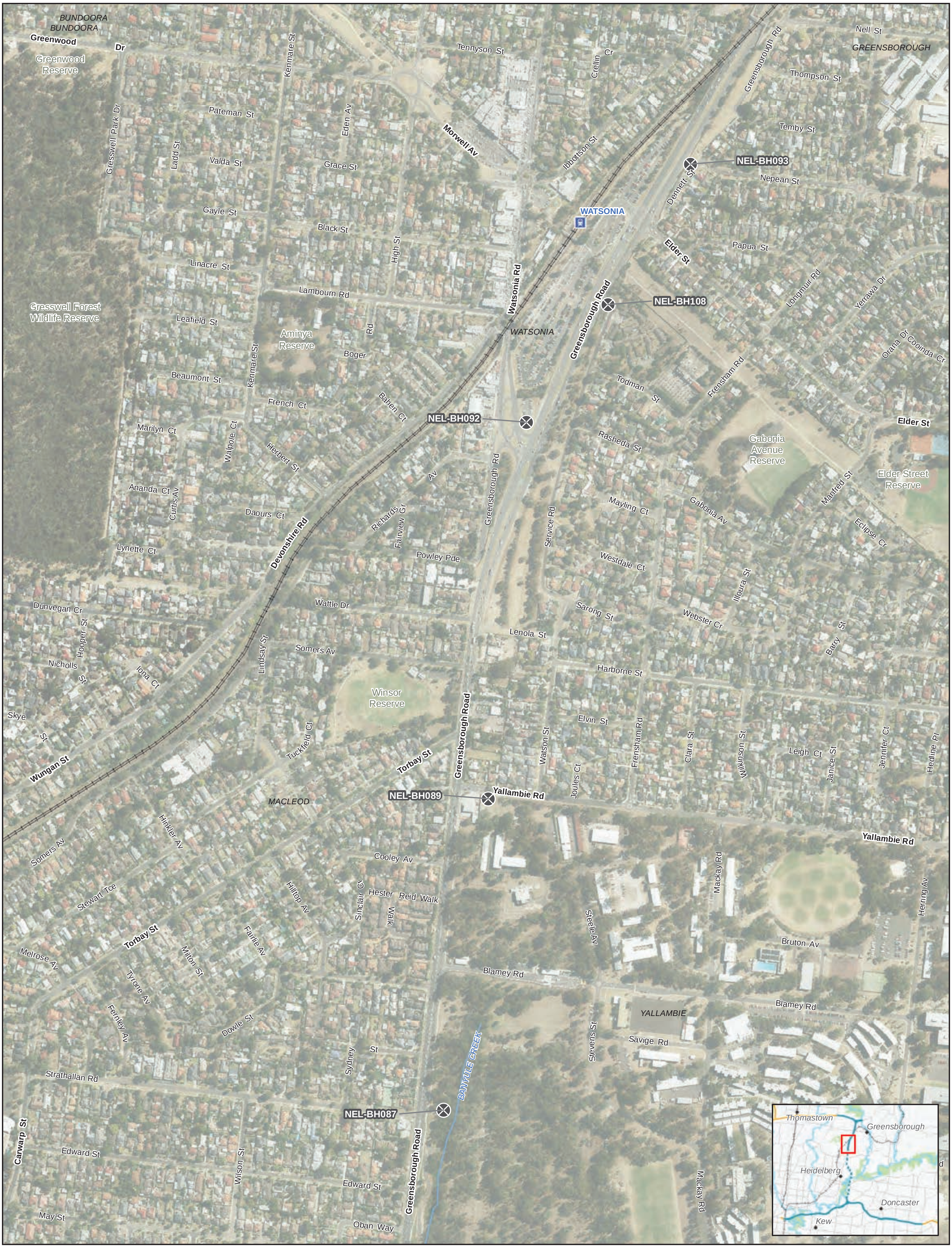
Acid Sulfate Soil and Rock

Figure 26

G:\31\35006\GIS\Maps\Working\Specialist Submission\EES\Contaminated Land\Acid Sulphate\3135006_Acid_Sulphate_Bores_Sample_Exceedances_A3LRevB.mxd

180 Lonsdale Street, Melbourne VIC 3000 Australia **T** 61 3 8687 8000 **E** melmail@ghd.com **W** www.ghd.com

Data Sources: CIP Imagery - Delwp - 2018 | Roads, watercourse, parks, localities - Vicmap - 2019



Paper Size A3

0 70 140 210

Metres

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 55

N

LEGEND

Acid Sulphate Soil Rock Samples (Depth Displayed)

- Potentially Acid Forming
- Potential Acid Sulfate Soils
- Uncertainty
- No Acid Suplhate critieria exceedance/ indication

North East Link Project
Environment Effects Statement (EES)

Job Number	31-35006
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Date	27 Feb 2019

Acid Sulfate Soil and Rock

Figure 27

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180 Lonsdale Street, Melbourne VIC 3000 Australia **T** 61 3 8687 8000 **E** melmail@ghd.com **W** www.ghd.com

Data Sources: CIP Imagery - Delwp - 2018 | Roads, watercourse, parks, localities - Vicmap - 2019

Paper Size A3

0 60 120 180

Metres

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 55

N

LEGEND

Acid Sulphate Soil Rock Samples (Depth Displayed)

- Potentially Acid Forming
- Potential Acid Sulfate Soils
- Uncertainty
- No Acid Suplhate critieria exceedance/ indication

North East Link Project
Environment Effects Statement (EES)

Job Number	31-35006
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Date	27 Feb 2019

Acid Sulfate Soil and Rock

Figure 28

G:\31\35006\GIS\Maps\Working\Specialist Submission\EES\Contaminated Land\Acid Sulphate\3135006_Acid_Sulphate_Bores_Sample_Exceedances_A3LRevB.mxd

180 Lonsdale Street, Melbourne VIC 3000 Australia **T** 61 3 8687 8000 **E** melmail@ghd.com **W** www.ghd.com

Data Sources: CIP Imagery - Delwp - 2018 | Roads, watercourse, parks, localities - Vicmap - 2019

Paper Size A3

0 50 100 150

Metres

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 55

N

LEGEND

Acid Sulphate Soil Rock Samples (Depth Displayed)

- Potentially Acid Forming
- Potential Acid Sulfate Soils
- Uncertainty
- No Acid Suplhate critieria exceedance/ indication

North East Link Project
Environment Effects Statement (EES)

Job Number	31-35006
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Date	27 Feb 2019

Acid Sulfate Soil and Rock

Figure 29

G:\31\35006\GIS\Maps\Working\Specialist Submission\EES\Contaminated Land\Acid Sulphate\3135006_Acid_Sulphate_Bores_Sample_Exceedances_A3LRevB.mxd

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Data Sources: CIP Imagery - Delwp - 2018 | Roads, watercourse, parks, localities - Vicmap - 2019

Paper Size A3

0 60 120 180

Metres

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 55

N

LEGEND

Acid Sulphate Soil Rock Samples (Depth Displayed)

- Potentially Acid Forming
- Potential Acid Sulfate Soils
- Uncertainty
- No Acid Suplhate critieria exceedance/ indication

NORTH EAST LINK PROJECT

North East Link Project
Environment Effects Statement (EES)

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Revision B
Date 27 Feb 2019

Acid Sulfate Soil and Rock

Figure 30

G:\31\35006\GIS\Maps\Working\Specialist Submission\EES\Contaminated Land\Acid Sulphate\3135006_Acid_Sulphate_Bores_Sample_Exceedances_A3LRevB.mxd

180 Lonsdale Street, Melbourne VIC 3000 Australia **T** 61 3 8687 8000 **E** melmail@ghd.com **W** www.ghd.com

Data Sources: CIP Imagery - Delwp - 2018 | Roads, watercourse, parks, localities - Vicmap - 2019

Paper Size A3

0 60 120 180

Metres

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 55

N

LEGEND

Acid Sulphate Soil Rock Samples (Depth Displayed)

- Potentially Acid Forming
- Potential Acid Sulfate Soils
- Uncertainty
- No Acid Suplhate critieria exceedance/ indication

North East Link Project
Environment Effects Statement (EES)

Job Number 31-35006
Revision B
Date 27 Feb 2019

Acid Sulfate Soil and Rock

Figure 31

G:\31\35006\GIS\Maps\Working\Specialist Submission\EES\Contaminated Land\Acid Sulphate\3135006_Acid_Sulphate_Bores_Sample_Exceedances_A3LRevB.mxd

180 Lonsdale Street, Melbourne VIC 3000 Australia T 61 3 8687 8000 E melmail@ghd.com W www.ghd.com

Data Sources: CIP Imagery - Delwp - 2018 | Roads, watercourse, parks, localities - Vicmap - 2019

Paper Size A3

0 60 120 180

Metres

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 55

N

LEGEND

Acid Sulphate Soil Rock Samples (Depth Displayed)

- Potentially Acid Forming
- Potential Acid Sulfate Soils
- Uncertainty
- No Acid Suplhate critieria exceedance/ indication

North East Link Project
Environment Effects Statement (EES)

Job Number	31-35006
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Date	27 Feb 2019

Acid Sulfate Soil and Rock

Figure 32

G:\31\35006\GIS\Maps\Working\Specialist Submission\EES\Contaminated Land\Acid Sulphate\3135006_Acid_Sulphate_Bores_Sample_Exceedances_A3LRevB.mxd

180 Lonsdale Street, Melbourne VIC 3000 Australia T 61 3 8687 8000 E melmail@ghd.com W www.ghd.com

Data Sources: CIP Imagery - Delwp - 2018 | Roads, watercourse, parks, localities - Vicmap - 2019

Paper Size A3

0 60 120 180

Metres

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 55

N

LEGEND

Acid Sulphate Soil Rock Samples (Depth Displayed)

- Potentially Acid Forming
- Potential Acid Sulfate Soils
- Uncertainty
- No Acid Suplhate critieria exceedance/ indication

North East Link Project
Environment Effects Statement (EES)

Job Number	31-35006
Revision	B
Date	27 Feb 2019

Acid Sulfate Soil and Rock

Figure 33

G:\31\35006\GIS\Maps\Working\Specialist Submission\EES\Contaminated Land\Acid Sulphate\3135006_Acid_Sulphate_Bores_Sample_Exceedances_A3LRevB.mxd

180 Lonsdale Street, Melbourne VIC 3000 Australia T 61 3 8687 8000 E melmail@ghd.com W www.ghd.com

Data Sources: CIP Imagery - Delwp - 2018 | Roads, watercourse, parks, localities - Vicmap - 2019

Paper Size A3

0 60 120 180

Metres

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 55

N

LEGEND

Acid Sulphate Soil Rock Samples (Depth Displayed)

- Potentially Acid Forming
- Potential Acid Sulfate Soils
- Uncertainty
- No Acid Suplhate critieria exceedance/ indication

NORTH EAST LINK PROJECT

North East Link Project
Environment Effects Statement (EES)

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Revision B
Date 27 Feb 2019

Acid Sulfate Soil and Rock

Figure 34

G:\31\35006\GIS\Maps\Working\Specialist Submission\EES\Contaminated Land\Acid Sulphate\3135006_Acid_Sulphate_Bores_Sample_Exceedances_A3LRevB.mxd

180 Lonsdale Street, Melbourne VIC 3000 Australia **T** 61 3 8687 8000 **E** melmail@ghd.com **W** www.ghd.com

Data Sources: CIP Imagery - Delwp - 2018 | Roads, watercourse, parks, localities - Vicmap - 2019

Appendix B – Historical aerial photographs

Available on request

Appendix C – Aerial photograph interpretation

Interpretation of aerial photographs

- Refer to Section 6.1.3 for further discussion

Review of historical aerial photographs: project boundary

Photograph	Observations
Date: 23 July 1946 & 2 October 1947 Photo: Ringwood 849A1B, Yan Yean 839C3B & 839C3D Source: Photo Mosaic, DELWP	Land uses within the project boundary and surrounding area include rural residential, farm, orchards, vacant land and Simpson Barracks (established in 1940). Two sites that may have been used for industrial activities were observed: at the corner of Bridge Road and Bulleen Road, and at Rocklea Road in Bulleen. It is unclear what activities occurred at the Bridge Road/Bulleen Road site but it appears likely to have been used for rural residential and not a commercial or industrial use. The Rocklea Road site appears to be a quarry and associated building with a large chimney (possible brickworks).

Review of historical aerial photographs: Watsonia Rail Area

Photograph	Observations
Date: 2 October 1947 Photo: Yan Yean 839C3B Source: Photo Mosaic, DELWP	The Hurstbridge rail line alignment (prior to duplication and upgrade) is present, while the majority of the surrounding areas are vacant. Commercial/industrial type structures are present at the existing Watsonia Road and Devonshire Road intersection.
Date: circa 1956 Source: SitePics	The surrounding area north and east of the existing Watsonia railway station appear unchanged from the 1947 aerial photograph. On the western side of Watsonia Road between Lambourn Road and Grace Street, several industrial/commercial properties have been developed, potentially including a wood yard. Land to the west beyond Watsonia Road is developed with residential properties.
Date: 12 April 1967 Source: SitePics	The area has been extensively developed with residential and commercial properties. A car yard is visible at 33 Richard Ave (residential units in 2018). A likely fuel service station is present at 345 Greensborough Road next to a car retailer (the same fuel service station structure was observed during a site visit in February 2018, although the site was no longer used as a fuel service station). A possible wood yard is present on the site of the existing BP fuel service station at the intersection of Watsonia Road and Grace Street. A carpark is visible adjacent to the Watsonia railway station followed by a fuel service station to the south, adjacent to the train line. The service station includes buildings that may represent a canopy, shopfront and workshop/carwash.
Date: 2 February 1976 Source: SitePics	The surrounding area appears unchanged from the 1967 aerial photograph. However, the wood yard in the 1967 aerial photograph at the intersection of Watsonia Road and Grace Street has been replaced in 2018 with what appears to be a fuel service station (BP service station site). A wood yard is located on the western side of the rail alignment (at the site of the existing wood yard) and a portion of the land opposite Watsonia railway station across Greensborough Road has been developed into a car park.
Date: 11 January 1984 Source: SitePics	The surrounding area appears unchanged from the 1976 aerial photograph. However, Watsonia railway station has been upgraded, the Hurstbridge rail line lowered and duplicated and the level crossing on Watsonia Road has been removed. The fuel service station located at the southern end of the Watsonia railway station carpark is no longer present.
Date: 25 March 1994 Source: SitePics	The surrounding area appears unchanged from the 1984 aerial photograph except the intersection of Greensborough Road and Watsonia Road has been upgraded; the existing Watsonia railway station car park is present (except the southern end of the car park which was added in 2017). The car yard present in the 1967 aerial photograph at 33 Richard Avenue has been demolished, and the area is vacant.
Date: 11 December 2005 Source: SitePics	Largely unchanged from the 1994 aerial photograph. Residential properties at 33 Richard Avenue are present.
Date: 23 January 2014 Source: SitePics	Largely unchanged from the 2005 aerial photograph.

Review of historical photographs: Yallambie – Simpson Barracks Area

Photograph	Observations
Date: 2 October 1947 Photo: Yan Yean 839C3D Source: Photo Mosaic, DELWP	Land uses along Greensborough Road include rural residential, schoolhouse, agricultural/grazing, orchards, vacant land and Simpson Barracks (established in 1940).
Date: 18 January 1951 Source: SitePics	The area appears largely unchanged from the 1947 aerial photograph. Land north of Yallambie Road has been developed, potentially with residential properties.
Date: 9 January 1966 Source: SitePics	The surrounding area has been extensively developed with residential properties. A fuel service station located on the intersection of Greensborough Road and Yallambie Road is present (fuel station site in 2018) and several residential sized structures are visible to the east of the service station (on Simpson Barracks land). There appears to be construction activity occurring at the schoolhouse (MacLeod Primary School) located on the western side of Greensborough Road.
Date: 17 February 1976 Source: SitePics	The area appears largely unchanged from the 1966 aerial photograph. Construction/extension of MacLeod Primary School site completed. Land located on the southern end of Simpson Barracks adjacent to the Greensborough Road and Drysdale Street intersection has been developed with residential properties.
Date: 11 January 1984 Source: SitePics	The area appears largely unchanged from the 1976 aerial photograph.
Date: 13 March 1990 Source: SitePics	The area appears largely unchanged from the 1984 aerial photograph.
Date: 11 December 2005 Source: SitePics	The area appears largely unchanged from the 1984 aerial photograph. Macleod Primary School had been demolished and replaced with residential properties.
Date: 23 January 2014 Source: SitePics	The area appears largely unchanged from the 2005 aerial photograph. The residential sized buildings located adjacent to the fuel service station on Yallambie Road have been demolished and the area is now vacant.

Review of historical photographs: Bulleen – Manningham Road and Bulleen Road area

Photograph	Observations
Date: 23 July 1946 Photo: Ringwood 849 AIB Source: Photo Mosaic, DELWP	Land in the vicinity of the Bulleen Road and Manningham Road intersection appears to be used primarily for agricultural purposes. Several farmhouse type structures are present in the area of the existing cul-de-sac on Kim Close. Large-scale soil disturbance and likely quarry is visible in what would become the Bulleen Road, Claremont Lane and Rocklea Road area in 2018. Land use is consistent with clay pit and brick works (chimney visible).
Date: circa 1956 Source: SitePics	The area has been further developed with residential properties and commercial/light industrial structures. However, most of the land remains vacant. The property, which in 2018 would be 22 Manningham Road W, has been developed with commercial/light industrial structures. Drums and containers can be seen placed on the eastern site boundary (information obtained from *The Age* dated 11 October 1967 indicated the site may be used for vegetable processing). There appears to be large amount of materials, likely to be timber, at 206 Bulleen Road.
Date: 11 March 1964 Source: SitePics	Land on the eastern side of Bulleen Road has been extensively developed with residential properties. The area between the existing Greenaway Street and Bulleen Road has been further developed with commercial/light industrial buildings. Construction activity also appears to be occurring near Manningham Road W, with vehicles scattered around the sites. A fuel service station is present at 14 Manningham Road W. The fuel service station present in 2018 on the north-west corner of Manningham Road and Bulleen Road is visible. Extensive soil disturbance is visible within the former drive in area, located at the southern end of the Bulleen Industrial Precinct.

Photograph	Observations
Date: 29 February 1972 Source: SitePics	Agricultural activities continue in the area between the existing Kim Close and Yarra River. The Bulleen Drive-in appears fully constructed. Barrels and containers visible in 1956 and 1964 aerial photographs (on what in 2018 would be the 22 Manningham Road W property) had been removed and the site now appears to be a car dealership. The site at 6 Manningham Road W (existing Bulleen Art & Garden) is developed and appears to be a plant nursery. Fuel service stations are visible at 14 Manningham Road W and 178 Bulleen Road. The service stations present in 2018 at 208 Bulleen Road, 17 Manningham Road and 39 Bridge Street are also present. The site at 26–28 Greenway Street appears to be used for supplying soils/concrete mixing (same as the existing land use). Unidentified stockpile of materials is visible at the existing 48, 50, 207, 209 and 235 Bulleen Roads, and at 20–22 Greenway Street. Likely quarry visible in the existing Bulleen Road, Claremont Lane and Rocklea Road area is no longer visible and the area has been developed for residential land use.
Date: 17 March 1984 Source: SitePics	Agricultural land use is no longer evident. The farmhouse type structures near the Yarra River present in the 1946 aerial photographs have been demolished and replaced with commercial/light industrial structures (the existing 2–7 Kim Close, Bulleen). The majority of the warehouse structures located along Manningham Road W appear to be similar to structures present in 2018, except 10 Manningham Road W. The fuel service station located at 14 Manningham Road W present in the 1964 and 1972 aerial photographs appears to be a car dealership. An unidentified stockpile of materials is visible at 10 Manningham Road (in 2018 Heidelberg Hire Service and Kendon Auto Electrical & Mechanical) and neighbouring 13 Kim Close (demolition materials, in 2018 Pace Demolitions). A stockpile of materials is also present on southern end of 26 Manningham Road W.
Date: 5 May 1994 Source: SitePics	The surrounding area appears unchanged from the 1984 aerial photograph. Commercial/industrial buildings present at 41–47 Greenway Street with materials placed in the yard behind the buildings. The Bulleen Drive-in no longer appears active.

Photograph	Observations
Date: 11 December 2005 Source: SitePics	The surrounding area appears unchanged from the 1994 aerial photograph except commercial/light industrial structures are present at 31–33 Greenway Street. 12–16 Greenway Street appears to be a wood yard. The stockpiled materials visible at 41–47 Greenway Street in the 1994 photograph have been removed. The fuel service station present on 178 Bulleen Road in 1972 and 1994 photographs had been demolished and replaced with a car park and residential-style building. 20 Manningham Road in the 1984 and 1994 photographs has been replaced by what appears to be a car wash.
Date: 23 January 2014 Source: SitePics	The surrounding area appears unchanged from the 2005 aerial photograph. Nursery operations extend to the rear of 10–24 Manningham Road W buildings.

Review of historical photographs – the Eastern Freeway

Photograph	Observations
Date: 1931 Source: LotSearch	There appears to be a mixture of residential and commercial/industrial structures near the future Eastern Freeway and Hoddle Street intersection. Commercial/light industrial structures are also present on the future Eastern Freeway southern boundary near Maugie Street. The former City of Melbourne Quarry is present at the corner of the existing Ramsden Street and Yambla Street. Structures associated with the former Venereal Disease Clinic are present north of the future Eastern Freeway at Yarra Bend Road. Large structures are on the southern side of the future freeway near Yarra Boulevard. It is not clear if these structures are associated with the Kew Asylum located further south. Other land uses within the remaining area surrounding the existing Eastern Freeway include farms, orchards, residential properties, farmhouses and vacant land.
Date: 1945 Source: LotSearch	The majority of the area surrounding the existing Eastern Freeway appears unchanged from the 1931 aerial photograph. However, the area between the existing Willow Grove and Belford Road, and Kilby Road near Glass Creek in Kew East has been developed with residential properties. There also appears to be a fill site at the existing Musca Street Reserve extending across the Eastern Freeway towards the Yarra River. A golf course is present on the La Trobe Golf Club site north of the Yarra River.
Date: 1951 Source: LotSearch	The majority of the area surrounding the existing Eastern Freeway appears unchanged from the 1945 aerial photograph. However, further residential development has occurred in the Willow Grove and Belford Road in Kew East area, and the Green Acres Golf Club is present.
Date: 1960 – 1962 Source: LotSearch	Land use surrounding the Eastern Freeway near Hoddle Street appears unchanged from the 1951 aerial photographs. The remaining area along the existing Eastern Freeway has been further developed with residential properties, including land adjacent to the existing The Boulevard and Old Burke Road where potentially fill material was observed in the 1945 and 1951 aerial photographs. Land disturbance is also observed north of the Yarra River bounded by Burke Road and The Boulevard. Ground disturbance is evident at the future Eastern Freeway near the Doncaster Road and High Street intersection in Balwyn North, and warehouses are present on the existing Joseph Street in Blackburn North.

Photograph	Observations
Date: 1968 Source: LotSearch	Land use surrounding the future Eastern Freeway near Hoddle Street appears unchanged from the 1960–1962 aerial photographs. The remaining area along the future Eastern Freeway has been further developed with residential properties. The Royal Talbot Centre and Guide Dog Centre in Kew are present north of the future freeway near Yarra Boulevard. A water dam adjacent to the existing Eastern Freeway located on Kew Golf course is present. The former City of Camberwell landfill is also visible east of Burke Road. Ground disturbance is visible on Burke Road, adjacent to the Kew Golf Club, potentially a sand/gravel supplier. Ground disturbance at the future Eastern Freeway near Doncaster Road and High Street intersection in Balwyn North that was evident in the 1960 aerial photograph is no longer evident. The existing substation at Tram Road, Box Hill North is visible. Ground disturbance is also observed on the existing Koonung Creek Linear Park and may represent a landfill area.
Date: 1974 – 1975 Source: LotSearch	Construction activities for the Eastern Freeway between Hoddle Street and Bulleen Road are evident. Commercial/industrial buildings located within the Eastern Freeway footprint are no longer present. The remaining area along the Eastern Freeway has been further developed with residential properties.
Date: 1978 – 1979 Source: LotSearch	The Eastern Freeway between Hoddle Street and Bulleen Road is completed. There appears to be a mound of spoil placed near the section of the Eastern Freeway that crosses the Yarra River near the Yarra Boulevard; bounded by Eastern Freeway (north) and the Yarra River (south). Construction activities for the Eastern Freeway are evident between Bulleen Road and Doncaster Road.
Date: 1984 – 1985 Source: LotSearch	The land use in the area surrounding the Eastern Freeway between Hoddle Street and Bulleen Road appears unchanged from the 1978–1979 aerial photographs. The Eastern Freeway between Bulleen Road and Doncaster Road is operating
Date: 1991 Source: LotSearch	Land use in the area surrounding the Eastern Freeway appears unchanged from the 1984–1985 aerial photographs.

Photograph	Observations
Date: 2000 – 2005 Source: LotSearch	The former Fairhaven Venereal Disease Clinic present in the 1931 aerial photograph, which later converted to HM Prison Fairlea is no longer evident and the area appears to be parkland. Land north of Willsmere Park has been further developed with residential properties. The Eastern Freeway between Doncaster Road and Springvale Road is operating. No major changes are observed for the remaining area of the Eastern Freeway.
Date: 2009 Source: LotSearch	Land use in the area surrounding the existing Eastern Freeway appears relatively unchanged from the 2000–2005 aerial photographs. An industrial building within the area bounded by Alexandra Parade E, Gray Street and Noone Street in Clifton Hill is not visible. Kilby Park Tree Farm in Kew East, and the Doncaster Park and Ride in Doncaster are evident.
Date: 2017 Source: LotSearch	The area surrounding the Eastern Freeway appears relatively unchanged from the 2009 aerial photographs. The area bounded by Alexandra Parade E, Gray Street and Noone Street in Clifton Hill is developed with residential properties.

Landfills

Review of historical photographs – former Camberwell landfill

Photograph	Observations
Date: 1960 Source: DELWP	The Camberwell landfill appears to be undeveloped, vacant land/open parkland. There is also vacant land/open parkland to the north, with the Yarra River approximately 100 metres north of the Camberwell landfill. Residential properties line the south, east and west of the Camberwell landfill, and parkland to the north.
Date: 1967 Source: DELWP	The majority of the Camberwell landfill appears to not be vegetated. This may be due to earthworks at the Camberwell landfill, dry vegetation or poor aerial image quality. Earthworks appear evident in the north-eastern area of the Camberwell landfill. The surrounding area remains largely unchanged from the 1960 aerial photograph.
Date: 1969 Source: DELWP	The south-western area of the Camberwell landfill appears to be mostly vegetated, with no evidence of earthworks. Earthworks are evident in the north-east of the landfill, where the current Freeway Public Golf Course is located (these are referred to as two separate landfills within this report due to their physical separation). The surrounding area remains largely unchanged from the 1967 aerial photograph.
Date: 1971 Source: DELWP	The majority of the Camberwell landfill and areas to the north are flooded from the Yarra River.
Date: 1972 Source: DELWP	Flood waters that were evident in the previous aerial photograph are no longer evident. The south-western area of Camberwell landfill appears to be undeveloped, vacant land/open parkland. Earthworks are evident in the north-east of the Camberwell landfill, where the current Freeway Public Golf Course is located. The remainder of Camberwell landfill appears largely unchanged.
Date: 1975 Source: DELWP	Construction of the Eastern Freeway is apparent, running east-west through the Camberwell landfill. Earthworks are evident on the south side of the freeway footprint in the current Muscat Street Reserve. Earthworks in the north-east area of the Camberwell landfill appear to have reduced, with part of the area revegetated.
Date: 1979 Source: DELWP	Construction of the Eastern Freeway appears complete. Earthworks do not appear to be occurring on the Camberwell landfill site, except possibly in a small area south of the Eastern Freeway, where revegetation has not occurred. The remainder of the Camberwell landfill is revegetated.
Date: 1982 Source: DELWP	The Camberwell landfill appears to be parkland/open space with no earthworks evident. The north-east area of the landfill is beginning to resemble a golf course. The surrounding area appears generally unchanged from the 1979 aerial photograph.

Photograph	Observations
Date: 1991 Source: DELWP	The surrounding area appears generally unchanged from the 1982 aerial photograph.
Date: 2000 Source: 2017 Google Inc.	The surrounding area appears generally unchanged from the 1991 aerial photograph.
Date: 2009 Source: 2017 Google Inc.	A building has been constructed just north of the Eastern Freeway on the golf course. Otherwise the surrounding area appears generally unchanged from the 2000 aerial photograph.
Date: 2017 Source: 2017 Google Inc.	The surrounding area appears generally unchanged from the 2009 aerial photograph.

Review of historical photographs – former Bulleen Park Landfill and Freeway Public Golf Course East Landfill

Photograph	Observations
Date: 1954 Source: DELWP	The area appears to be all vacant land. No buildings are evident, with only one building evident within proximity to the area.
Date: 1958 Source: DELWP	Evidence of vegetation removal/potential earthworks is evident in the west area of Bulleen Park where the western sports fields are currently located. The surrounding area remains largely vacant land.
Date: 1960 Source: DELWP	Earthworks are clearly evident on the western side of the Bulleen Park and the western sports fields area remains un-vegetated with potential earthworks occurring. There also appears to be a small pond on the eastern side of Bulleen Park. The future Freeway Public Golf Course area and surrounding area appears unchanged from the 1958 aerial photograph.
Date: 1962 Source: DELWP	A number of sporting ovals have been constructed to the south-west of Bulleen Park. Otherwise Bulleen Park and the surrounding area remain largely unchanged from the 1960 aerial photograph.
Date: 1963 Source: DELWP	The earthworks in the Bulleen Park area have increased to cover the north-western half of this area. Major earthworks are also evident across the Freeway Public Golf Course area. The surrounding area remains largely unchanged from the 1962 aerial photograph.
Date: 1967 Source: DELWP	The earthworks at Bulleen Park have decreased substantially, with much of the area revegetated. Part of the western edge of the Freeway Public Golf Course looks to still have earthworks occurring and is not revegetated. Earthworks are now apparent on the east area of the western sports fields at Bulleen Park. There are a few more buildings to the east of Bulleen Park, but otherwise the surrounding area remains largely unchanged from the 1963 aerial photograph.
Date: 1968 Source: DELWP	Earthworks continues in the western sports fields area of the Bulleen Park and on the western part of the Freeway Public Golf Course. Otherwise the area is largely unchanged from the 1967 aerial photograph.
Date: 1969 Source: DELWP	The western sports fields area has been revegetated with no earthworks apparent. Most of the Freeway Public Golf Course area has also been revegetated. Otherwise the area is largely unchanged from the 1968 aerial photograph.
Date: 1972 Source: DELWP	All areas of Bulleen Park are almost completely re-vegetated. Some additional sporting fields have been established to the east of Bulleen Park and the area to the north of the Bulleen Oval within the park is undergoing earthworks. Extensive earthworks are also apparent south of the western sporting fields. Otherwise the surrounding area is largely unchanged from the 1969 aerial photograph.

Photograph	Observations
Date: 1979 Source: DELWP	Bulleen Oval has been established in Bulleen Park. Evidence of the Freeway Public Golf Course holes is also apparent. A building has been built on the adjacent area to the north of Bulleen Oval. Otherwise the surrounding area is largely unchanged from the 1972 aerial photograph.
Date: 1991 Source: DELWP	Bulleen Park remains largely unchanged, except there is a building in the south-west of the Bulleen Oval in Bulleen Park and additional sports ovals have been established in the western sports fields area. A large area to the north-east of Bulleen Park across Bulleen Road looks to be flooded, as does the Yarra River to the north-west. Otherwise the surrounding area is largely unchanged from the 1979 aerial photograph.
Date: 2000 Source: Google Inc.	The area is largely unchanged from the 1991 aerial photograph, with the exception there is no evidence of flooding in the areas identified previously.
Date: 2009 Source: Google Inc.	Largely unchanged from the 2000 aerial photograph.
Date: 2017 Source: Google Inc.	Largely unchanged from the 2009 aerial photograph.

Review of historical photographs – former quarry located at the M80 Ring Road/Greensborough Bypass

Photograph	Observations
Date: 1931 Source: DELWP	The Greensborough quarry appears to be open space. There is little development in the surrounding areas.
Date: 1945 Source: DELWP	There appears to be some earthworks undertaken across the majority of the Greensborough quarry. The surrounding area appears generally unchanged.
Date: 1951 Source: DELWP	Earthworks are still evident in the same area of the Greensborough quarry. There is minimal development of the surrounding land.
Date: 1956 Source: DELWP	Earthworks at the Greensborough quarry have increased in area, with much of the vegetation removed. The surrounding area remains predominantly parkland/open space.
Date: 1962 Source: DELWP	The earthworks area appears to be partially revegetated. The surrounding area has more buildings established but is predominantly open space.
Date: 1968 Source: DELWP	More of the earthworks area appears to have been revegetated. Residential development is beginning in the south and to the south-east of the Greensborough quarry. Areas to the north and west of the quarry are largely unchanged from the 1962 aerial photograph.
Date: 1974 Source: DELWP	The earthworks area of the Greensborough quarry appear to be fully revegetated. Extensive residential development has occurred to the north, north-east and south-west.
Date: 1987 Source: DELWP	The Greensborough quarry is largely unchanged from the 1974 aerial photograph. Major earthworks are evident to the south and east of the quarry for the construction of the Eastern Freeway. Further residential development has occurred in the surrounding land.
Date: 1991 Source: DELWP	Earthworks to the south-east of the Greensborough quarry associated with the Easter Freeway construction appear to be slightly encroaching on the quarry, with some earthworks through the centre of the quarry. The construction of the Eastern Freeway looks complete. Otherwise the surrounding area appears largely unchanged from the 1987 aerial photograph.
Date: 2005 Source: 2017 Google Inc.	The M80 Metropolitan Ring Road has been constructed through the centre of the former Greensborough quarry. The area otherwise remains a vegetated open space, with residential development in surrounding areas.
Date: 2017 Source: 2017 Google Inc.	Largely unchanged from the 2004 aerial photograph.

Review of historical photographs – former landfill located at AK Lines Reserve

Photograph	Observations
Date: 1956 Source: DELWP	The future AK Lines Reserve site is open space. There are some, sparsely positioned, residential properties located to the west and north-east of the reserve. The areas to the south and east appear to be vacant land.
Date: 1960 Source: DELWP	Major earthworks are apparent at the reserve, particularly in the western area. Some buildings have been built in the north-west and south of the reserve. Residential development has occurred to the west, south-west and north-east of the reserve.
Date: 1962 Source: DELWP	Earthworks are evident across the entire reserve. The surrounding areas are largely unchanged from the 1960 aerial photograph.
Date: 1963 Source: DELWP	Earthworks continue at the reserve. The surrounding area appears unchanged from the 1962 aerial photograph.
Date: 1966 Source: DELWP	The reserve is being constructed into a sporting oval. The surrounding area appears unchanged from the 1963 aerial photograph, except there appears to be some construction immediately to the south.
Date: 1967 Source: DELWP	The reserve is now a sporting oval, with revegetation underway. The surrounding area appears unchanged from the 1963 aerial photograph, but the area to the south has also been constructed into an oval/sports field.
Date: 1979 Source: DELWP	The reserve is largely unchanged from the 1967 aerial photograph, with the exception of the removal of some buildings in the north-east of the reserve and some construction to the east, presumably for the construction of the Greensborough Bypass.
Date: 1987 Source: DELWP	Largely unchanged from the 1979 aerial photograph.
Date: 1991 Source: DELWP	Largely unchanged from the 1987 aerial photograph, with the exception that the Greensborough Bypass construction is complete.
Date: 2005 Source: Google Inc.	Largely unchanged from the 1991 aerial photograph.
Date: 2017 Source: Google Inc.	Largely unchanged from the 2005 aerial photograph.

Review of historical photographs – former landfill located at Borlase Reserve

Photograph	Observations
Date: 1951 Source: DELWP	The future Borlase Reserve appears to be vacant land/open green space. A few buildings are located to the south, and residential areas further to the south-west (approximately 500 metres). The remainder of the surrounding land appears to also be vacant land/farm land/open green space.
Date: 1954 Source: DELWP	There appears to be some sort of land-division north of the reserve. There also appears to be a circular road or other marking with some vegetation that extends across the western and northern border of the reserve. Residential buildings in the surrounding area have increased since the 1951 aerial photograph.
Date: 1962 Source: DELWP	Earthworks are evident in the south-western portion of the reserve indicating potential landfilling. The area has been extensively developed with residential and commercial properties to the east, south and west.
Date: 1966 Source: DELWP	Earthworks are still evident and appear to cover a large portion of the reserve indicating landfilling. Residential development has increased slightly in surrounding areas.
Date: 1972 Source: DELWP	The earthworks at the reserve appear to have ceased, with this area of the reserve revegetated. The surrounding area is largely unchanged from the 1966 aerial photograph.
Date: 1984 Source: DELWP	The reserve is largely unchanged from the 1972 aerial photograph, with the exception of residential development to the north-east, which was previously parkland/open green space.
Date: 1991 Source: DELWP	The reserve is largely unchanged from the 1983 aerial photograph, with the exception of some possible earthworks/clearing of vegetation to the north.
Date: 2000 Source: Google Inc.	The reserve has been revegetated. The surrounding area is largely unchanged from the 1991 aerial photograph.
Date: 2009 Source: Google Inc.	The buildings/structures to the north of the reserve have been removed. The surrounding area is largely unchanged from the 2000 aerial photograph.
Date: 2017 Source: Google Inc.	Largely unchanged from the 2009 aerial photograph.

Review of historical photographs – former Greythorn Landfill

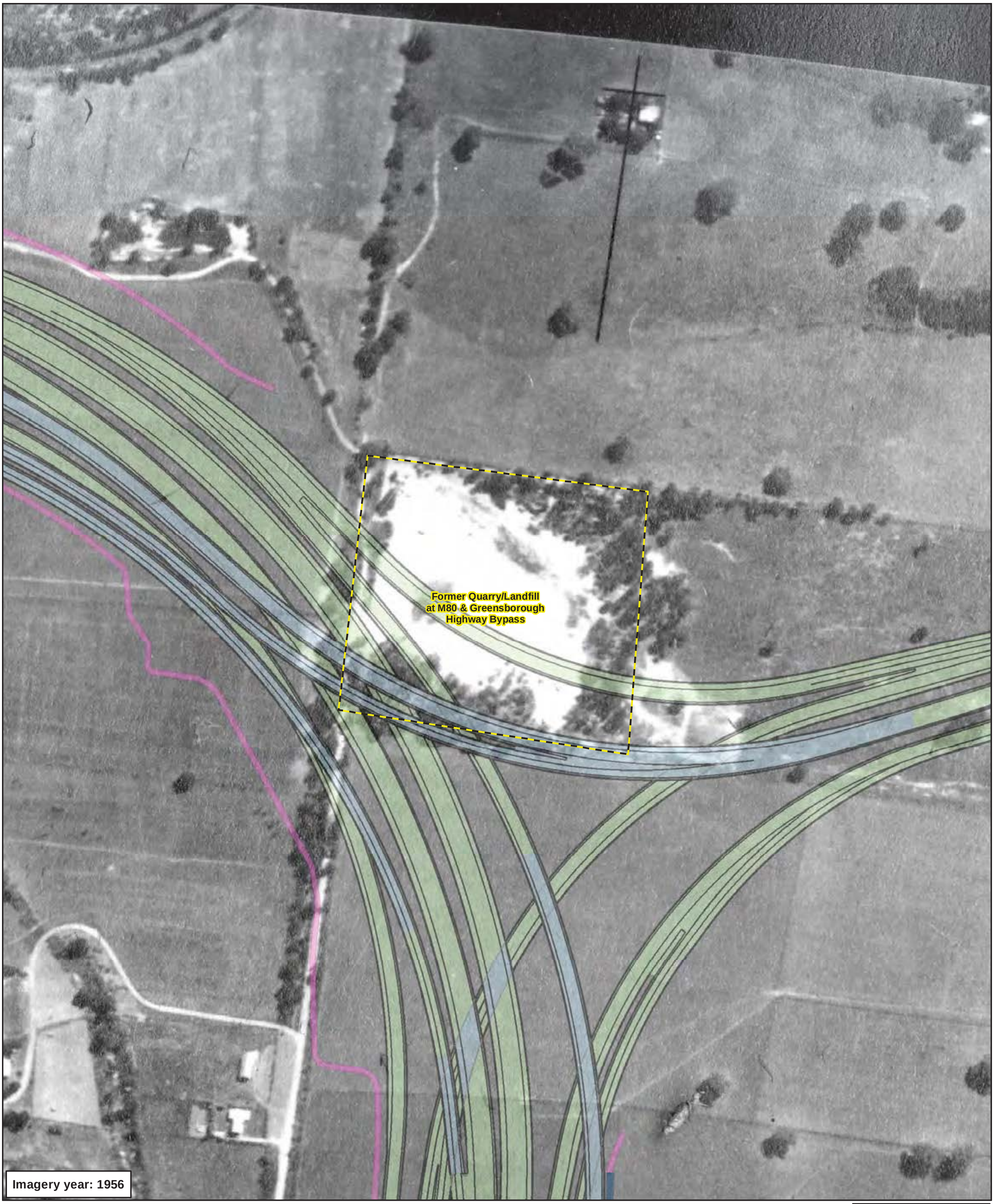
Photograph	Observations
Date: 1951 Source: DELWP	The area appears to be farmland or open green space. A dense line of vegetation, possibly a creek or river, runs to the north. The surrounding land appears to be predominantly vacant land, farmland or open green space.
Date: 1956 Source: DELWP	Earthworks are apparent but it is not believed to be associated with landfilling as the Greythorn Landfill operated in the late 1970s. There has been a lot of residential development in the vicinity of the site.
Date: 1960 Source: DELWP	Earthworks are still evident and new earthworks are also evident to the north-west. The surrounding area has been extensively developed with residential properties established in all directions.
Date: 1968 Source: DELWP	Most of the area has been revegetated, with only a small portion in the south which remained cleared. The surrounding area is largely unchanged from the 1967 aerial photograph.
Date: 1975 Source: DELWP	Vegetation around the river has been removed/cut back. The surrounding area appears unchanged from the 1967 aerial photograph.
Date: 1978 Source: DELWP	Major earthworks are apparent across the whole Greythorn Landfill. The surrounding area appears unchanged from the 1975 aerial photograph.
Date: 1979 Source: DELWP	Most of the cleared area identified in the 1978 aerial photograph has been revegetated. Areas to the north have been cleared presumably for the construction of the Eastern Freeway. Otherwise, the surrounding area appears unchanged from the 1978 aerial photograph.
Date: 1984 Source: DELWP	All earthworks have ceased and the Greythorn Landfill has been revegetated. The construction of the Eastern Freeway is complete. Koonung Creek no longer flows in this area. Otherwise, the surrounding area is largely unchanged from the 1979 aerial photograph.
Date: 1991 Source: DELWP	Largely unchanged from the 1987 aerial photograph.
Date: 2000 Source: Google Inc.	The Eastern Freeway has been extended south of Doncaster Road. Otherwise, the sire and surrounding area is largely unchanged from the 1991 aerial photograph.
Date: 2009 Source: Google Inc.	Largely unchanged from the 2000 aerial photograph.
Date: 2017 Source: Google Inc.	Largely unchanged from the 2009 aerial photograph.

Review of historical photographs – former quarry located near Rocklea Road and Yarraleen Place, Bulleen

Photograph	Observations
Date: 1931 Source: DELWP	The Bulleen quarry and the surrounding area is open space.
Date: 1951 Source: DELWP	Some earthworks are evident across the Bulleen quarry. There appears to be some buildings under construction to the west, across Bulleen Road. Otherwise, the surrounding land remains largely unchanged from the 1931 aerial photograph.
Date: 1954 Source: DELWP	Quarrying is evident, particularly in the eastern half of the Bulleen quarry. There appears to be some buildings on the western half of the quarry where earthworks previously were evident in the 1951 aerial photograph. The surrounding land remains largely unchanged from the 1951 aerial photograph.
Date: 1958 Source: DELWP	Quarrying is evident and extending to the south. The surrounding land remains largely unchanged from the 1954 aerial photograph.
Date: 1962 Source: DELWP	Quarrying is still evident extending to the south and east. The surrounding land remains largely unchanged from the 1958 aerial photograph.
Date: 1963 Source: DELWP	Quarrying is still evident extending to the south and east. The surrounding land use appears largely unchanged from the 1958 aerial photograph.
Date: 1967 Source: DELWP	Quarrying has ceased. The quarry buildings have been removed and the quarry appears to have been partially backfilled or contoured and revegetated. Residential roads have been constructed to the north.
Date: 1968 Source: DELWP	Residential roads are constructed over the former quarry area but the land remains vacant. A few residential properties are apparent to the north.
Date: 1972 Source: DELWP	Residential buildings have begun to be developed at the location of the former quarry.
Date: 1979 Source: DELWP	Residential properties are located over the entire area of the former quarry.
Date: 2000 Source: Google Inc.	Largely unchanged from the 1979 aerial photograph
Date: 2009 Source: Google Inc.	Largely unchanged from the 2000 aerial photograph.
Date: 2017 Source: Google Inc.	Largely unchanged from the 2009 aerial photograph.

Review of historical photographs – Koonung Creek Linear Park

Photograph	Observations
Date: 1951 Source: DELWP	The future Koonung Creek Linear Park appears to be vacant land with a section in the middle potentially used as farmland. There is minimal development in the areas surrounding the park.
Date: 1962 Source: DELWP	Unchanged from the 1951 aerial photograph. The surrounding area, particularly to the south, has been extensively developed.
Date: 1968 Source: DELWP	Major earth disturbance is evident across the park and may be due to landfilling. The surrounding area has continued to develop.
Date: 1975 Source: DELWP	The earthworks are complete and the park has mostly been revegetated. Residential development has continued to increase in the surrounding areas.
Date: 1978 Source: DELWP	The park appears fully revegetated. The surrounding area appears unchanged from the 1975 aerial photograph.
Date: 1984 Source: DELWP	Largely unchanged from the 1978 aerial photograph. There appears to be some earthworks immediately to the west. Otherwise, the surrounding area has remained largely unchanged from the 1978 aerial photograph.
Date: 1991 Source: DELWP	Largely unchanged from the 1984 aerial photograph. The earthworks previously noted to the west have ceased and this area has been revegetated. Otherwise, the surrounding area is remained largely unchanged from the 1984 aerial photograph.
Date: 2005 Source: Google Inc.	The Eastern Freeway has been built along the southern boundary of the park. Further residential buildings have been developed to the west of Tram Road. Otherwise, the park and surrounding area is largely unchanged from the 1991 aerial photograph.
Date: 2009 Source: Google Inc.	Largely unchanged from the 2005 aerial photograph.
Date: 2017 Source: Google Inc.	Largely unchanged from the 2009 aerial photograph.



LEGEND

Inferred former landfill extent

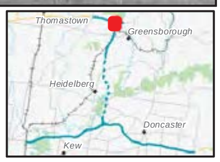
Proposed reference project

Shared use path overpass

Shared use path

Surface road

Elevated road, ramp or structure



Paper Size A3

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Metres

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 55

N

North East Link Project
Environment Effects Statement (EES)

Former Quarry/Landfill at M80 & Greensborough Highway Bypass

Contaminated sites and historical imagery

Job Number	31-35006
Revision	F
Date	28 Feb 2019

Figure 1

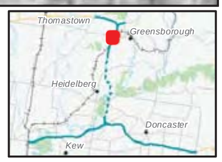
G:\31\35006\GIS\Maps\Working\Specialist Submission\EES\Contaminated Land\Historic_Landfill\3135006_Landfill_Historical_Images_A3L_RevF.mxd

180 Lonsdale Street, Melbourne VIC 3000 Australia T 61 3 8687 8000 E melmail@ghd.com W www.ghd.com

Data Sources: DELWP: Vicmap Topographic Mapping Program 2018, NELA Data 2018. Historical image file name: 1956_15_1177_53

LEGEND

Inferred former landfill extent	**Proposed reference project**	Shared use path underpass	Rail tunnel
	Shared use path overpass	Surface road	
	Shared use path	Elevated road, ramp or structure	



Paper Size A3

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Metres

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 55

N

North East Link Project
Environment Effects Statement (EES)

Job Number 31-35006
Revision F
Date 28 Feb 2019

Former Landfill at A K Line Reserve

Contaminated sites and historical imagery

Figure 2

G:\31\35006\GIS\Maps\Working\Specialist Submission\EES\Contaminated Land\Historic_Landfill\3135006_Landfill_Historical_Images_A3L_RevF.mxd

180 Lonsdale Street, Melbourne VIC 3000 Australia T 61 3 8687 8000 E melmail@ghd.com W www.ghd.com

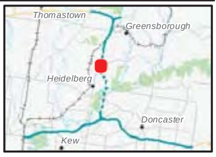
Data Sources: DELWP: Vicmap Topographic Mapping Program 2018, NELA Data 2018. Historical image file name: 1962_05_1524_19

LEGEND

- Inferred former landfill extent

Proposed reference project

- Shared use path overpass
- Shared use path
- Shared use path underpass
- Surface road
- Elevated road, ramp or structure
- Road in trench
- Underground tunnel



Paper Size A3
0 10 20 30
Metres

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 55

N

North East Link Project
Environment Effects Statement (EES)

Job Number	31-35006
Revision	F
Date	28 Feb 2019

Former Landfill at Borlase St Reserve

Contaminated sites and historical imagery

Figure 3

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180 Lonsdale Street, Melbourne VIC 3000 Australia T 61 3 8687 8000 E melmail@ghd.com W www.ghd.com

Data Sources: DELWP: Vicmap Topographic Mapping Program 2018, NELA Data 2018. Historical image file name: 1966_8_1904_23

LEGEND

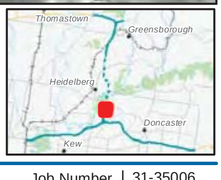
Inferred former landfill extent

Proposed reference project

Shared use path

Surface road

Underground tunnel



Paper Size A3

0 25 50 75

Metres

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 55

N

North East Link Project
Environment Effects Statement (EES)

Former Quarry at Rocklea Road, Bulleen

Contaminated sites and historical imagery

Job Number	31-35006
Revision	F
Date	28 Feb 2019

Figure 4

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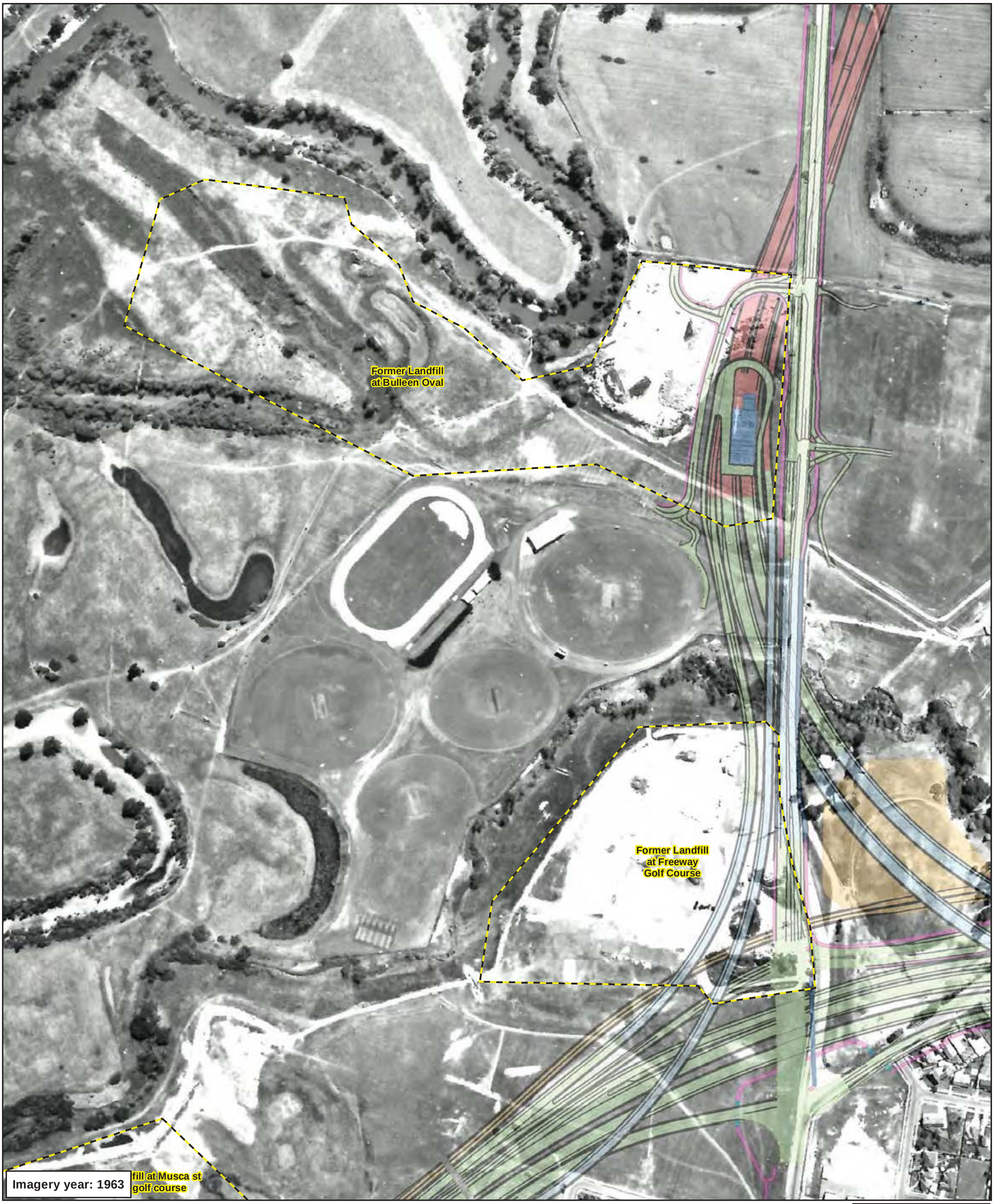
180 Lonsdale Street, Melbourne VIC 3000 Australia **T** 61 3 8687 8000 **E** melmail@ghd.com **W** www.ghd.com

Data Sources: DELWP: Vicmap Topographic Mapping Program 2018, NELA Data 2018. Historical image file name: 1963_10_1836_18



LEGEND

Inferred former landfill extent

Proposed reference project

Ventilation system

Shared use path overpass

Shared use path

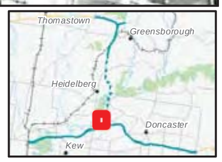
Shared use path underpass

Surface road

Public transport infrastructure upgrade

Elevated road, ramp or structure

Underground tunnel



Paper Size A3

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Metres

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 55

N

NORTH EAST LINK PROJECT

North East Link Project
Environment Effects Statement (EES)

Former Landfill at Bulleen Park
& Freeway Golf Course

Contaminated sites and historical imagery

Job Number	31-35006
Revision	F
Date	28 Feb 2019

Figure 5

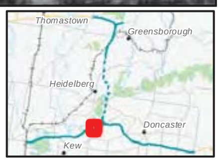
G:\31\35006\GIS\Maps\Working\Specialist Submission\EES\Contaminated Land\Historic_Landfill\3135006_Landfill_Historical_Images_A3L_RevF.mxd

180 Lonsdale Street, Melbourne VIC 3000 Australia **T** 61 3 8687 8000 **E** melmail@ghd.com **W** www.ghd.com

Data Sources: DELWP: Vicmap Topographic Mapping Program 2018, NELA Data 2018. Historical image file name: 1963_10_1836_182

LEGEND

- Inferred former landfill extent
- **Proposed reference project**
  - Surface road
- Public transport infrastructure upgrade



Paper Size A3

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Metres

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 55

N

North East Link Project
Environment Effects Statement (EES)

Former Camberwell Landfill at Musca St Reserve & Freeway Golf Course

Contaminated sites and historical imagery

Job Number	31-35006
Revision	F
Date	28 Feb 2019

Figure 6

G:\31\35006\GIS\Maps\Working\Specialist Submission\EES\Contaminated Land\Historic_Landfill\3135006_Landfill_Historical_Images_A3L_RevF.mxd

180 Lonsdale Street, Melbourne VIC 3000 Australia **T** 61 3 8687 8000 **E** melmail@ghd.com **W** www.ghd.com

Data Sources: DELWP: Vicmap Topographic Mapping Program 2018, NELA Data 2018. Historical image file name: 1975_33_2940_185

LEGEND

Inferred former landfill extent

Proposed reference project

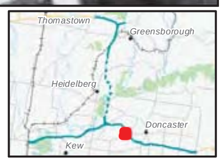
Shared use path overpass

Shared use path

Surface road

Public transport infrastructure upgrade

Elevated road, ramp or structure



Paper Size A3

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Metres

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 55

N

North East Link Project
Environment Effects Statement (EES)

Job Number 31-35006
Revision F
Date 28 Feb 2019

Former Greythorn Landfill

Contaminated sites and historical imagery

Figure 7

G:\31\35006\GIS\Maps\Working\Specialist Submission\EES\Contaminated Land\Historic_Landfill\3135006_Landfill_Historical_Images_A3L_RevF.mxd

180 Lonsdale Street, Melbourne VIC 3000 Australia T 61 3 8687 8000 E melmail@ghd.com W www.ghd.com

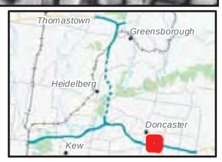
Data Sources: DELWP: Vicmap Topographic Mapping Program 2018, NELA Data 2018. Historical image file name: 1978_3_3226_112

LEGEND

- Inferred former landfill extent

Proposed reference project

- Shared use path overpass
- Shared use path
- Surface road
- Elevated road, ramp or structure



Paper Size A3
0 30 60 90
Metres

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 55

N

NORTH EAST LINK PROJECT

North East Link Project
Environment Effects Statement (EES)

Job Number 31-35006
Revision F
Date 28 Feb 2019

Former Landfill at Koonung Creek Linear Park
Contaminated sites and historical imagery

Figure 8

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Data Sources: DELWP: Vicmap Topographic Mapping Program 2018, NELA Data 2018. Historical image file name: 1968_20_2134_53

Appendix D – Historical certificates of title

Available on request

Appendix E – EPA audit sites

Appendix E - Statutory environmental audits in the vicinity of study area (refer to Section 7.1.5)

Location	CARMS No.	Audit Type	Outcome	Proximity to the Study Area
Simpson Barracks, Watsonia	17155-1	53X Certificate	The Auditor concluded that the condition of the land at the site is neither detrimental nor potentially detrimental to any beneficial use of the land at the site and issued as a Certificate of Environmental Audit.	0 m
Macleod Primary School (area 1, 2 & 3) – Cnr Greensborough Rd & Fairlie Ave, Macleod	35552-1, 35552-2, 35552-3	53X Certificate	The Auditor concluded that the condition of the land at the site is neither detrimental nor potentially detrimental to any beneficial use of the land at the site and issued as a Certificate of Environmental Audit.	40 m
Former Banyule High School – Buckingham Dr, Heidelberg	32032-1	53X Certificate	The Auditor concluded that the condition of the land at the site is neither detrimental nor potentially detrimental to any beneficial use of the land at the site and issued as a Certificate of Environmental Audit.	380 m
Cnr Bulleen Rd & Austin St, Bulleen	27621-2B	53X Statement	The Auditor issued a Statement of Audit for the front portion of the site, due to presence of residual of contamination. The Auditor concluded that the area is suitable for car park, commercial and residential uses.	40 m
	27621-2A	53X Certificate	The Auditor concluded that the condition of the land at the rear portion of the site is neither detrimental nor potentially detrimental to any beneficial use of the land at the site and issued as a Certificate of Environmental Audit.	70 m
233 Bulleen Rd, Bulleen	42804-1	53X Statement	The Auditor issued a Statement of Audit due to presence of an underground storage tank and localised hydrocarbon impacts exceeding sensitive land use guidelines. The Auditor concluded that the site is suitable for commercial or industrial use subject to conditions relating to maintaining a barrier between site occupants and contaminated soil. Any soils had to be disposed of appropriately in accordance with EPA guidelines.	0 m

Location	CARMS No.	Audit Type	Outcome	Proximity to the Study Area
163 - 175 Noone St, Clifton Hill	62848-2	53X Statement	The Auditor issued a Statement of Audit due to elevated concentrations of benzo(a)pyrene, lead, zinc and copper in soil; and hydrocarbons and chlorinated solvents in groundwater. Contamination and background conditions resulted in the groundwater quality precluding the majority of the beneficial uses of the relevant groundwater segment (Segment B) under State Environment Protection Policy (Groundwaters of Victoria). The Auditor concluded that the site is suitable for sensitive use (high density) or commercial use subject to the Conditions contained in the Statement of Environmental Audit.	75 m
204 Noone St, Clifton Hill	56350-1	53X Statement	The Auditor issued a Statement of Audit due to elevated concentrations of chlorinated hydrocarbon and nitrate exceeding the adopted guidelines. The Auditor concluded that the site is suitable for sensitive use (high density or other residential), commercial or industrial use subject to the Conditions contained in the Statement of Environmental Audit.	120 m
80 - 110 Trenerry Cr, Abbotsford	40369-3	53X Statement	The Auditor issued a Statement of Audit due to fill soil containing asbestos waste materials, heavy metal and organic contaminants at concentrations above the adopted guidelines The Auditor concluded that the site's South Zone was suitable for medium/high density residential use; and North Zone is suitable for medium/high density residential development, subject to the Conditions contained in the Statement of Environmental Audit.	250 m
2 Yambla St, Clifton Hill	72719-1	53X Statement	The Auditor issued a Statement of Audit due to heavy metals and PAHs concentrations in the soil above the relevant ecological and health-based criteria applicable for a residential - single dwelling land use.	240 m

Location	CARMS No.	Audit Type	Outcome	Proximity to the Study Area
Yarra Bend Road, Fairfield	31522 PA	53X Statement	The Auditor issued a Statement of Audit due to fill on site containing PAH and benzo(a) pyrene in soil at concentrations above the adopted investigation levels. The Auditor concluded that the site may be suitable for sensitive use (medium or high density), parkland/open space, commercial or industrial use subject to the Conditions contained in the Statement of Audit.	450m
19-21 Tram Rd, Doncaster	36175-3	53X Certificate	The Auditor concluded that the condition of the land at the site is neither detrimental nor potentially detrimental to any beneficial use of the land at the site and issued as a Certificate of Environmental Audit.	250 m
413 - 429 Doncaster Rd, Doncaster	35392-1	53X Statement	The Auditor issued a Statement of Audit due to soil presence of offsite contamination. The Auditor concluded that the site is suitable for the proposed residential use subject to the Conditions contained in the Statement of Audit.	320 m
Lots 1-5 & 7-51, Belmore Rd Parcel 2,Box Hill North	32855-2	53X Certificate	Auditor concluded that the condition of the land at the site is neither detrimental nor potentially detrimental to any beneficial use of the land at the site and issued as a Certificate of Environmental Audit.	390 m
Spencer St, Nunawading	57357-1	53X Certificate	Auditor concluded that the condition of the land at the site is neither detrimental nor potentially detrimental to any beneficial use of the land at the site and issued as a Certificate of Environmental Audit.	360 m

Appendix F – Borehole logs

Appendix **F** – Stratigraphic and Instrumentation Bore Logs

Summary of included borehole logs

Borehole IDs	
NEL-ENV-BH003	NEL-LFB08
NEL-ENV-BH005	NEL-LFB09
NEL-ENV-BH006	NEL-LFB10
NEL-ENV-BH008	
NEL-ENV-BH009	
NEL-ENV-BH011	
NEL-ENV-BH012	
NEL-ENV-BH014	
NEL-ENV-BH016	
NEL-ENV-BH017	
NEL-ENV-BH018	
NEL-ENV-BH022	
NEL-ENV-BH023	
NEL-ENV-BH024	
NEL-ENV-BH025	
NEL-ENV-BH026	
NEL-ENV-BH027	
NEL-ENV-BH028	
NEL-ENV-BH029	
NEL-ENV-BH030	
NEL-ENV-BH031	
NEL-ENV-BH032	
NEL-LFB01	
NEL-LFB02	
NEL-LFB03	
NEL-LFB04	
NEL-LFB05	
NEL-LFB06	
NEL-LFB07	

Geotechnical bore logs can be provided upon request.

GROUNDWATER MONITORING WELL

BOREHOLE No. NEL-ENV-BH003

Sheet 1 OF 1

Client: North East Link Project
Project: North East Link Project
Project No: 31350060910
Location: Kim Cl, Bulleen

Easting: 330925.1 m
Northing: 5818763.5 m
Reduced Level:
Inclination: -90° **Bearing:** N/A

Datum/Coord.System: MGA94
UTM Zone: 55
Driller: SWD
Drill Rig: Commachio 405

Start/End Date: 27/09/2018 / 27/09/2018
Installation Date: 27/09/2018
Logged By: JC
Checked By: LPS

DRILLING: Drilling & Casing	Water	Ground Water Levels	Depth (m)	Samples & Field Tests	MATERIAL: DEPTH (m)	Graphic Log	Classification Symbol	ROCK TYPE : Colour, Grain size, Structure (texture, fabric, mineral composition, hardness alteration, cementation, etc as applicable)	Moisture Condition	Consistency Relative Density	INSTALLATION: Monitoring Well Details	Components
AUGER					0.0			FILL; Sandy Clay, pale brown mottled orange, fine grained sand, with trace fine grained, angular basalt gravel, high plasticity	w≃PL	St		
								FILL; Gravelly Clay, pale brown and black, fine - medium grained, angular basalt and sandstone gravels, with fine - coarse grained angular sand, high plasticity	w > PL			
								Becoming pale brown and black mottled orange - orange brown				
								Becoming brown mottled pale brown and orange - brown. Angular sandstone gravels with brick and concrete fragments throughout				Cement bentonite grout backfill
								CLAY; brown and grey - brown mottled orange brown, trace fine - coarse grained sand, trace fine - coarse grained, subrounded - subangular gravel, moderate plasticity	w≃PL	VSt		50mm PN18 uPVC blank casing
												Bentonite seal
					5.0					VSt - H		
								Becoming brown, high plasticity				
								CLAY; grey - brown, high plasticity		S		
								CLAY; pale grey mottled orange - brown, moderate plasticity	w < PL	VSt - H		Gravel filter pack; 50mm PN18 uPVC machine slotted casing (0.4 mm aperture)

See GHD Standard Sheets for details of abbreviations & basis of descriptions.

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GROUNDWATER MONITORING WELL

BOREHOLE No. NEL-ENV-BH003

Sheet 1 OF 1

Client: North East Link Project
Project: North East Link Project
Project No: 31350060910
Location: Kim Cl, Bulleen

Easting: 330925.1 m
Northing: 5818763.5 m
Reduced Level:
Inclination: -90° **Bearing:** N/A

Datum/Coord.System: MGA94
UTM Zone: 55
Driller: SWD
Drill Rig: Commachio 405

Start/End Date: 27/09/2018 / 27/09/2018
Installation Date: 27/09/2018
Logged By: JC
Checked By: LPS

DRILLING					MATERIAL						INSTALLATION	
PROGRESS: DRILLING & CASING	PROGRESS: WATER	GROUND WATER LEVELS	Depth (m)	Samples & Field Tests	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	ROCK TYPE : Colour, Grain size, Structure (texture, fabric, mineral composition, hardness alteration, cementation, etc as applicable)	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	MONITORING WELL DETAILS	Components
AUGER								CLAY; pale grey mottled orange - brown, moderate plasticity *(continued)*	w < PL	VSt - H		
								BOREHOLE NEL-ENV-BH003 TERMINATED AT 9.00 m				
					10.0							
					15.0							

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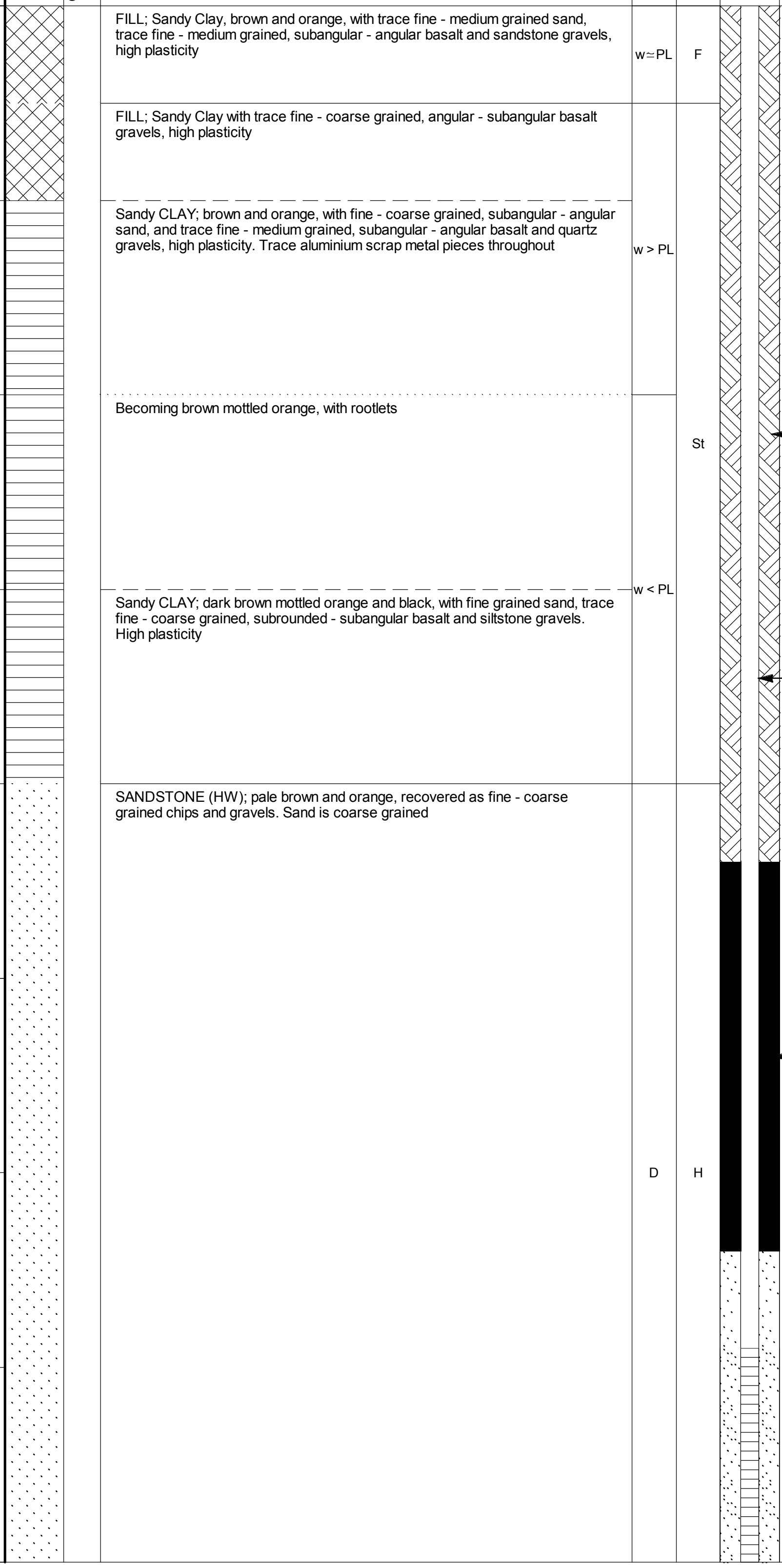
GROUNDWATER MONITORING WELL

BOREHOLE No. NEL-ENV-BH005

Sheet 1 OF 1

Client: North East Link Project	**Easting:** 330913.5 m	**Datum/Coord.System:** MGA94	**Start/End Date:** 1/10/2018 / 1/10/2018
Project: North East Link Project	**Northing:** 5818704.3 m	**UTM Zone:** 55	**Installation Date:** 1/10/2018
Project No: 31350060910	**Reduced Level:**	**Driller:** SWD	**Logged By:** JC
Location: Kim Cl, Bulleen	**Inclination:** -90° **Bearing:** N/A	**Drill Rig:** Commachio 405	**Checked By:** LPS

DRILLING: PROGRESS – DRILLING & CASING	WATER	GROUND WATER LEVELS	Depth (m)	Samples & Field Tests	MATERIAL: DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	ROCK TYPE : Colour, Grain size, Structure (texture, fabric, mineral composition, hardness alteration, cementation, etc as applicable)	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	INSTALLATION: MONITORING WELL DETAILS	Components
NDD					0.0			FILL; Sandy Clay, brown and orange, with trace fine - medium grained sand, trace fine - medium grained, subangular - angular basalt and sandstone gravels, high plasticity	w≃PL	F		
								FILL; Sandy Clay with trace fine - coarse grained, angular - subangular basalt gravels, high plasticity				
								Sandy CLAY; brown and orange, with fine - coarse grained, subangular - angular sand, and trace fine - medium grained, subangular - angular basalt and quartz gravels, high plasticity. Trace aluminium scrap metal pieces throughout	w > PL			
AUGER			2.00	ES				Becoming brown mottled orange, with rootlets		St		Cement bentonite grout backfill
								Sandy CLAY; dark brown mottled orange and black, with fine grained sand, trace fine - coarse grained, subrounded - subangular basalt and siltstone gravels. High plasticity	w < PL			50mm PN18 uPVC blank casing
								SANDSTONE (HW); pale brown and orange, recovered as fine - coarse grained chips and gravels. Sand is coarse grained				
					5.0							Bentonite seal
									D	H		



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GROUNDWATER MONITORING WELL

BOREHOLE No. NEL-ENV-BH005

Sheet 1 OF 1

Client: North East Link Project
Project: North East Link Project
Project No: 31350060910
Location: Kim Cl, Bulleen

Easting: 330913.5 m
Northing: 5818704.3 m
Reduced Level:
Inclination: -90° **Bearing:** N/A

Datum/Coord.System: MGA94
UTM Zone: 55
Driller: SWD
Drill Rig: Commachio 405

Start/End Date: 1/10/2018 / 1/10/2018
Installation Date: 1/10/2018
Logged By: JC
Checked By: LPS

DRILLING: PROGRESS – DRILLING & CASING	DRILLING: PROGRESS – WATER	DRILLING: GROUND WATER LEVELS	DRILLING: Depth (m)	DRILLING: Samples & Field Tests	MATERIAL: DEPTH (m)	MATERIAL: GRAPHIC LOG	MATERIAL: CLASSIFICATION SYMBOL	MATERIAL: ROCK TYPE : Colour, Grain size, Structure (texture, fabric, mineral composition, hardness alteration, cementation, etc as applicable)	MATERIAL: MOISTURE CONDITION	MATERIAL: CONSISTENCY RELATIVE DENSITY	INSTALLATION: MONITORING WELL DETAILS	INSTALLATION: Components
AUGER		▶			10.0			SANDSTONE (HW); pale brown and orange, recovered as fine - coarse grained chips and gravels. Sand is coarse grained *(continued)*	D	H		Gravel filter pack; 50mm PN18 uPVC machine slotted casing (0.4 mm aperture)
					15.0			BOREHOLE NEL-ENV-BH005 TERMINATED AT 11.90 m				

See GHD Standard Sheets for details of abbreviations & basis of descriptions.

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GROUNDWATER MONITORING WELL

BOREHOLE No. NEL-ENV-BH006

Sheet 1 OF 1

Client: North East Link Project
Project: North East Link Project
Project No: 31350060910
Location: Greenaway St, Bulleen

Easting: 331082.1 m
Northing: 5818694.7 m
Reduced Level:
Inclination: -90° **Bearing:** N/A

Datum/Coord.System: MGA94
UTM Zone: 55
Driller: SWD
Drill Rig: Commachio 405

Start/End Date: 15/03/2018 / 15/03/2018
Installation Date: 15/03/2018
Logged By: AS
Checked By: LPS

DRILLING & CASING	Depth (m)	Samples & Field Tests	DEPTH (m)	ROCK TYPE : Colour, Grain size, Structure (texture, fabric, mineral composition, hardness alteration, cementation, etc as applicable)	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	Components
HA (0.0–1.5)			0.0	NDD - Not logged			
AD/T (1.5–10.0)	2.00-2.45	SPT N=28		Silty CLAY; brown and yellow - brown	w < PL	VSt	Cement bentonite grout backfill
	3.50-3.95	SPT N=26		Becoming red - brown and yellow - brown			50mm PN18 uPVC blank casing
	5.00-5.45	SPT N=24	5.0				Bentonite seal
	6.50-6.95	SPT N=13		Becoming red - brown	w = PL	St	Gravel filter pack
	8.00-8.45	SPT N=13			w > PL		50mm PN18 uPVC machine slotted casing (0.4 mm aperture)
			10.0	BOREHOLE NEL-ENV-BH006 TERMINATED AT 10.00 m			

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GROUNDWATER MONITORING WELL

BOREHOLE No. NEL-ENV-BH006

Sheet 1 OF 1

Client: North East Link Project	**Easting:** 331082.1 m	**Datum/Coord.System:** MGA94	**Start/End Date:** 15/03/2018 / 15/03/2018
Project: North East Link Project	**Northing:** 5818694.7 m	**UTM Zone:** 55	**Installation Date:** 15/03/2018
Project No: 31350060910	**Reduced Level:**	**Driller:** SWD	**Logged By:** AS
Location: Greenaway St, Bulleen	**Inclination:** -90° **Bearing:** N/A	**Drill Rig:** Commachio 405	**Checked By:** LPS

DRILLING: PROGRESS – Drilling & Casing	DRILLING: PROGRESS – Water	Ground Water Levels	Depth (m)	Samples & Field Tests	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	ROCK TYPE : Colour, Grain size, Structure (texture, fabric, mineral composition, hardness alteration, cementation, etc as applicable)	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	MONITORING WELL DETAILS	Components
AUGER			8.00-8.45	SPT N=13				Becoming red - brown *(continued)*	w = PL w > PL	St		50mm PN18 uPVC machine slotted casing (0.4 mm aperture)
					10.0			BOREHOLE NEL-ENV-BH006 TERMINATED AT 10.00 m				
					15.0							

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GROUNDWATER MONITORING WELL

BOREHOLE No. NEL-ENV-BH008

Sheet 1 OF 1

Client: North East Link Project
Project: North East Link Project
Project No: 31350060910
Location: Greenaway St, Bulleen

Easting: 331103.4 m
Northing: 5818933.1 m
Reduced Level:
Inclination: -90° **Bearing:** N/A

Datum/Coord.System: MGA94
UTM Zone: 55
Driller: Terratest
Drill Rig: Commachio 305

Start/End Date: 09/03/2018 / 09/03/2018
Installation Date: 09/03/2018
Logged By: MLM
Checked By: LPS

Drilling & Casing	Depth (m)	Samples & Field Tests	ROCK TYPE : Colour, Grain size, Structure (texture, fabric, mineral composition, hardness alteration, cementation, etc as applicable)	Moisture Condition	Consistency Relative Density	Components
HA (0.0–1.4)			ASPHALT; Asphalt road surface			
			FILL; Sandy gravel, grey, fine - medium grained and subangular - subrounded, gravel from crushed rock	D	D	
			FILL; Silty sand, grey, fine grained, low plasticity silt	D	VD	
			CLAY; brown	w = PL	VSt	
AUGER (1.4–10.0)	1.50-1.95	SPT N=12	Sandy CLAY; grey mottled brown, fine - medium grained subrounded sand	w > PL / w < PL		Cement bentonite grout backfill
			Becoming brown streaked grey with mottled black, possible organics	w = PL	St	
	3.00-3.45	SPT N=14	Becoming very sandy			50mm PN18 uPVC blank casing
	4.50-4.95	SPT N=24	Becoming orange - brown mottled pale grey - mottled brown. Sand becoming finer with depth	w < PL	VSt	Bentonite seal
	6.00-6.45	U63	Becoming grey mottled orange brown			Gravel filter pack
	7.50-7.95	SPT N=4	Becoming brown mottled pale grey, minor fine sand, Plasticity increasing with moisture content	w > PL	S	50mm PN18 uPVC machine slotted casing (0.4 mm aperture)
			Becoming dark grey		F	
	9.00-9.45	SPT N=24	SILTSTONE (XW); pale orange - brown and grey, residual soil inferred as siltstone	w < PL	VSt	Gravel filter pack

Depth scale: 0.0, 5.0, 10.0 m. Groundwater level marked at approx. 7.0 m.

BOREHOLE NEL-ENV-BH008 TERMINATED AT 10.00 m

See GHD Standard Sheets for details of abbreviations & basis of descriptions.

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GROUNDWATER MONITORING WELL

BOREHOLE No. NEL-ENV-BH008

Sheet 1 OF 1

Client: North East Link Project
Project: North East Link Project
Project No: 31350060910
Location: Greenaway St, Bulleen

Easting: 331103.4 m
Northing: 5818933.1 m
Reduced Level:
Inclination: -90° **Bearing:** N/A

Datum/Coord.System: MGA94
UTM Zone: 55
Driller: Terratest
Drill Rig: Commachio 305

Start/End Date: 9/03/2018 / 9/03/2018
Installation Date: 9/03/2018
Logged By: MLM
Checked By: LPS

DRILLING & CASING (PROGRESS)	WATER (PROGRESS)	GROUND WATER LEVELS	Depth (m)	Samples & Field Tests	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	ROCK TYPE : Colour, Grain size, Structure (texture, fabric, mineral composition, hardness alteration, cementation, etc as applicable)	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	MONITORING WELL DETAILS	Components
AUGER								Becoming brown mottled pale grey, minor fine sand, Plasticity increasing with moisture content *(continued)*				50mm PN18 uPVC machine slotted casing (0.4 mm aperture)
								Becoming dark grey	w > PL	F		
			9.00-9.45	SPT N=24				SILTSTONE (XW); pale orange - brown and grey, residual soil inferred as siltstone	w < PL	VSt		Gravel filter pack
					10.0			BOREHOLE NEL-ENV-BH008 TERMINATED AT 10.00 m				
					15.0							

See GHD Standard Sheets for details of abbreviations & basis of descriptions.

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GROUNDWATER MONITORING WELL

BOREHOLE No. NEL-ENV-BH009
Sheet 1 OF 1

Client: North East Link Project
Project: North East Link Project
Project No: 31350060910
Location: Manningham Rd, Bulleen

Easting: 330848.5 m
Northing: 5819055.6 m
Reduced Level:
Inclination: -90° **Bearing:** N/A

Datum/Coord.System: MGA94
UTM Zone: 55
Driller: Star Drilling
Drill Rig: Geoprobe

Start/End Date: 01/06/2018 / 02/06/2018
Installation Date: 02/06/2018
Logged By: KA
Checked By: LPS

DRILLING & CASING	Depth (m)	Samples & Field Tests	DEPTH (m)	ROCK TYPE : Colour, Grain size, Structure (texture, fabric, mineral composition, hardness alteration, cementation, etc as applicable)	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	Components
HA			0.0	TOPSOIL; rootlets, loose organic material	D	L	
HA	0.50	ES PID = 0.0 ppm		FILL; Clay, brown, moderate plasticity, unconsolidated material with minor silt and sand	M	L	
HA	1.00	ES PID = 0.0 ppm					
HA	1.50	ES PID = 0.0 ppm		CLAY; brown - grey with orange sandy striations, moderate plasticity with minor silt and sand	M	F	Bentonite seal; 50mm PN18 uPVC blank casing
AD	2.00-2.45 2.00 2.00	SPT N=12 PID = 0.0 ppm ES		Silty CLAY; grey - orange, low plasticity	M	S	
AD	2.45-2.90 2.50	SPT N=23 PID = 0.0 ppm					Gravel filter pack
AD	3.80	ES PID = 0.0 ppm					
AD	4.00-4.45 4.00	N=17 SPT PID = 0.0 ppm					
AD	4.80	ES	5.0				50mm PN18 uPVC machine slotted casing (0.4 mm aperture)
AD	5.60-6.05 5.60	SPT N=37 PID = 0.0 ppm		SAND; grey - orange, medium grained, with minor silt, minor clay and minor angular gravel	W	D	
AD				SILTSTONE (XW); pale brown, residual soil inferred as siltstone	W	D	
				BOREHOLE NEL-ENV-BH009 TERMINATED AT 6.50 m			
			10.0				

Groundwater level marked at approximately 5.6 m.

See GHD Standard Sheets for details of abbreviations & basis of descriptions.

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ENGINEERING LOG

BOREHOLE No. NEL-ENV-BH011

Sheet 1 OF 1

Client: North East Link Project
Project: North East Link Project
Project No: 31350060910
Location: Kim Cl, Bulleen

Easting: 330982.7 m
Northing: 5818905.4 m
Reduced Level:
Inclination: -90° **Bearing:** N/A

Datum/Coord.System: MGA94
UTM Zone: 55
Driller: Star Drilling
Drill Rig: Geoprobe

Start Date: 27/06/2018
End Date: 27/06/2018
Logged By: KA
Checked By: LPS

DRILLING AND SAMPLING							MATERIAL					
Drilling & Casing	Water	Depth (m)	Samples & Field Tests	Recovered	RL (m)	Depth (m)	Graphic Log	Classification Symbol	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components ORIGIN	Moisture Condition	Consistency Relative Density	STRUCTURE & Other Observations
HA									TOPSOIL; Clay, dark brown minor silt, trace sand, gravel and rootlets, moderate plasticity	D	F - St	0.00: No odours or staining
		0.10	ES PID = 0.0 ppm						FILL; Clay, brown, minor silt and sand, trace gravel and angular rock fragments, low plasticity	M		0.10: Environmental sample
		0.50	ES PID = 0.0 ppm			0.5						0.50: Environmental sample
		1.00	ES PID = 0.0 ppm			1.0						1.00: Environmental sample
		1.50	ES PID = 0.0 ppm			1.5			BOREHOLE NEL-ENV-BH011 TERMINATED AT 1.50 m			1.50: Environmental sample
						2.0						
						2.5						
						3.0						
						3.5						
						4.0						
						4.5						
						5.0						
						5.5						

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ENGINEERING LOG

BOREHOLE No. NEL-ENV-BH012

Sheet 1 OF 1

Client: North East Link Project
Project: North East Link Project
Project No: 31350060910
Location: Greenaway St, Bulleen

Easting: 331076.8 m
Northing: 5818841.8 m
Reduced Level:
Inclination: -90° **Bearing:** N/A

Datum/Coord.System: MGA94
UTM Zone: 55
Driller: QEST
Drill Rig:

Start Date: 13/07/2018
End Date: 13/07/2018
Logged By: KA
Checked By: LPS

DRILLING AND SAMPLING							MATERIAL					
Drilling & Casing	Water	Depth (m)	Samples & Field Tests	Recovered	RL (m)	Depth (m)	Graphic Log	Classification Symbol	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components ORIGIN	Moisture Condition	Consistency Relative Density	STRUCTURE & Other Observations
HA									TOPSOIL			0.00: No odours or staining
		0.10	ES PID = 0.0 ppm									0.10: Environmental sample
									FILL; Clay, brown - orange, minor silt and sand, trace gravel and rootlets, moderate plasticity			
		0.50	ES PID = 0.0 ppm			0.5						0.50: Environmental sample
		1.00	ES PID = 0.0 ppm			1.0						1.00: Environmental sample
									SAND; orange, medium grained, trace silt and clay, compact			
		1.50	ES PID = 0.0 ppm			1.5			BOREHOLE NEL-ENV-BH012 TERMINATED AT 1.50 m			1.50: Environmental sample
						2.0						
						2.5						
						3.0						
						3.5						
						4.0						
						4.5						
						5.0						
						5.5						

AGS 3_1 RTA 1_1 LIB 06.1 GHD 1.14_NEL.GLB Log NEL NON-CORED BOREHOLE NEL-LFBORES.GPJ 27/Jul/2018 15:02

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GROUNDWATER MONITORING WELL

BOREHOLE No. NEL-ENV-BH014

Sheet 1 OF 1

Client: North East Link Project
Project: North East Link Project
Project No: 31350060910
Location: Kim Cl, Bulleen

Easting: 330987.6 m
Northing: 5818789.9 m
Reduced Level:
Inclination: -90° **Bearing:** N/A

Datum/Coord.System: MGA94
UTM Zone: 55
Driller: Terratest
Drill Rig: Commachio 305

Start/End Date: 13/06/2018 / 13/06/2018
Installation Date: 13/06/2018
Logged By: AS
Checked By: LPS

DRILLING & CASING	WATER	GROUND WATER LEVELS	Depth (m)	Samples & Field Tests	DEPTH (m)	ROCK TYPE : Colour, Grain size, Structure (texture, fabric, mineral composition, hardness alteration, cementation, etc as applicable)	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	Components
NDD					0.0	NDD - Not logged			
AUGER						Clayey SAND; brown, fine - coarse grained, subangular - subrounded, with high plasticity clay and trace fine angular sandstone (HW) gravels	M	D	
HQ3			1.60-2.05	SPT N=R		SANDSTONE (HW); red-brown and orange-brown with pale grey, minor clay and various incipient fractures			Cement bentonite grout backfill
						CORE LOSS			
						SANDSTONE (HW); red-brown and orange-brown with pale grey, minor clay and various incipient fractures			50mm PN18 uPVC blank casing
						CORE LOSS			Bentonite seal
					5.0	SANDSTONE (HW); red-brown and orange-brown with pale grey, minor clay and various incipient fractures			Gravel filter pack
						SANDSTONE (HW); red-brown and orange brown, angular - subangular sandstone fragments with hard clayey matrix, ferruginous, highly fractured			
						SILTSTONE (HW); pale cream - pink siltstone in clayey matrix, highly fractured			
						CORE LOSS			
						Sandy CLAY; pale grey - pale pink high plasticity, with discrete siltstone lenses up to 100mm thick	w = PL	F	50mm PN18 uPVC machine slotted casing (0.4 mm aperture)
						SILTSTONE (XW); cream - pink, highly fractured with clayey matrix			

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GROUNDWATER MONITORING WELL

BOREHOLE No. NEL-ENV-BH014

Sheet 1 OF 1

Client: North East Link Project
Project: North East Link Project
Project No: 31350060910
Location: Kim Cl, Bulleen

Easting: 330987.6 m
Northing: 5818789.9 m
Reduced Level:
Inclination: -90° **Bearing:** N/A

Datum/Coord.System: MGA94
UTM Zone: 55
Driller: Terratest
Drill Rig: Commachio 305

Start/End Date: 13/06/2018 / 13/06/2018
Installation Date: 13/06/2018
Logged By: AS
Checked By: LPS

DRILLING					MATERIAL						INSTALLATION	
PROGRESS: DRILLING & CASING	PROGRESS: WATER	GROUND WATER LEVELS	Depth (m)	Samples & Field Tests	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	ROCK TYPE : Colour, Grain size, Structure (texture, fabric, mineral composition, hardness alteration, cementation, etc as applicable)	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	MONITORING WELL DETAILS	Components
HQ3								SILTSTONE (XW); cream - pink, highly fractured with clayey matrix *(continued)*				
								Sandstone lenses present throughout				Gravel filter pack
								BOREHOLE NEL-ENV-BH014 TERMINATED AT 8.50 m				
					10.0							
					15.0							

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ENGINEERING LOG

BOREHOLE No. NEL-ENV-BH016

Sheet 1 OF 1

Client: North East Link Project
Project: North East Link Project
Project No: 31350060910
Location: Greenaway St, Bulleen

Easting: 331065.5 m
Northing: 5818785.2 m
Reduced Level:
Inclination: -90° **Bearing:** N/A

Datum/Coord.System: MGA94
UTM Zone: 55
Driller: QEST
Drill Rig:

Start Date: 13/07/2018
End Date: 13/07/2018
Logged By: KA
Checked By: LPS

DRILLING AND SAMPLING							MATERIAL					
Drilling & Casing	Water	Depth (m)	Samples & Field Tests	Recovered	RL (m)	Depth (m)	Graphic Log	Classification Symbol	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components ORIGIN	Moisture Condition	Consistency Relative Density	STRUCTURE & Other Observations
HA									TOPSOIL			0.00: No odours or staining
		0.10	ES PID = 0.0 ppm						FILL; Clay, orange - brown, minor sand and silt, trace gravel, rootlets and brick fragments, moderate plasticity			0.10: Environmental sample
		0.50	ES PID = 0.0 ppm			0.5						0.50: Environmental sample
		1.00	ES PID = 0.0 ppm			1.0			CLAY; Brown - orange, minor silt, trace sand, moderate plasticity			1.00: Environmental sample
		1.50	ES PID = 0.0 ppm			1.5			BOREHOLE NEL-ENV-BH016 TERMINATED AT 1.50 m			1.50: Environmental sample
						2.0						
						2.5						
						3.0						
						3.5						
						4.0						
						4.5						
						5.0						
						5.5						

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ENGINEERING LOG

BOREHOLE No. NEL-ENV-BH017

Sheet 1 OF 1

Client: North East Link Project
Project: North East Link Project
Project No: 31350060910
Location: Bulleen Rd, Bulleen

Easting: 331128.9 m
Northing: 5818673.4 m
Reduced Level:
Inclination: -90° **Bearing:** N/A

Datum/Coord.System: MGA94
UTM Zone: 55
Driller: QEST
Drill Rig:

Start Date: 01/06/2018
End Date: 01/06/2018
Logged By: KA
Checked By: LPS

DRILLING AND SAMPLING							MATERIAL					
Drilling & Casing	Water	Depth (m)	Samples & Field Tests	Recovered	*RL (m)*	Depth (m)	Graphic Log	Classification Symbol	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components ORIGIN	Moisture Condition	Consistency Relative Density	STRUCTURE & Other Observations
NDD									TOPSOIL; rootlets and organic material	D	L	0.00: No odour or staining
		0.10	ES PID = 0.0 ppm									0.10: Environmental sample
						0.5			FILL; Clay, low plasticity with trace silt, trace sand, trace gravel			
		0.60	ES PID = 0.0 ppm									0.60: Environmental sample
									BOREHOLE NEL-ENV-BH017 TERMINATED AT 0.70 m			
						1.0						
						1.5						
						2.0						
						2.5						
						3.0						
						3.5						
						4.0						
						4.5						
						5.0						
						5.5						

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ENGINEERING LOG

BOREHOLE No. NEL-ENV-BH018

Sheet 1 OF 1

Client: North East Link Project
Project: North East Link Project
Project No: 31350060910
Location: Greenaway St, Bulleen

Easting: 331040.3 m
Northing: 5818656.1 m
Reduced Level:
Inclination: -90° **Bearing:** N/A

Datum/Coord.System: MGA94
UTM Zone: 55
Driller: QEST
Drill Rig:

Start Date: 13/07/2018
End Date: 13/07/2018
Logged By: KA
Checked By: LPS

Drilling & Casing	Water	Depth (m)	Samples & Field Tests	Recovered	RL (m)	Depth (m)	Graphic Log	Classification Symbol	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components ORIGIN	Moisture Condition	Consistency Relative Density	STRUCTURE & Other Observations
HA									TOPSOIL			0.00: No odours or staining
		0.10	ES PID = 0.0 ppm									0.10: Environmental sample
									FILL; Clay, orange - brown, minor sand and silt, trace gravel, rootlets and brick fragments, moderate plasticity			
		0.50	ES PID = 0.0 ppm			0.5						0.50: Environmental sample
		1.00	ES PID = 0.0 ppm			1.0			CLAY; Orange - brown, minor silt, trace sand, mdoerate plasticity			1.00: Environmental sample
		1.50	ES PID = 0.0 ppm			1.5			BOREHOLE NEL-ENV-BH018 TERMINATED AT 1.50 m			1.50: Environmental sample
						2.0						
						2.5						
						3.0						
						3.5						
						4.0						
						4.5						
						5.0						
						5.5						

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GROUNDWATER MONITORING WELL

BOREHOLE No. NEL-ENV-BH022

Sheet 1 OF 1

Client: North East Link Project	**Easting:** 330901.0 m	**Datum/Coord.System:** MGA94	**Start/End Date:** 12/06/2018 / 12/06/2018
Project: North East Link Project	**Northing:** 5823508.2 m	**UTM Zone:** 55	**Installation Date:** 12/06/2018
Project No: 31350060910	**Reduced Level:**	**Driller:** Star Drilling	**Logged By:** AT
Location: Simpson Barracks, Yallambie	**Inclination:** -90° **Bearing:** N/A	**Drill Rig:** Geoprobe	**Checked By:** LPS

DRILLING & CASING	WATER	GROUND WATER LEVELS	Depth (m)	Samples & Field Tests	DEPTH (m)	ROCK TYPE : Colour, Grain size, Structure (texture, fabric, mineral composition, hardness alteration, cementation, etc as applicable)	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	Components
HA					0.0	FILL; Topsoil, sandy clay, grey, fine grained sand, rootlets			
			0.20	ES PID = 8.0 ppm		Sandy CLAY; brown mottled orange - brown, fine grained sand, rootlets	w < PL	F - St	
			0.50	ES PID = 1.9 ppm					
			1.00	ES PID = 1.8 ppm		Becoming orange - brown mottled pale grey			
AUGER			1.50	ES PID = 0.8 ppm		CLAY; orange - brown mottled pale grey, minor resdiual soil inferred as extremely weathered siltstone	w < PL	H	
			2.50-2.63	SPT N=R		SILTSTONE (XW); Residual soil inferred as siltstone. Pale purple - grey-orange-brown, with indistinct laminae, iron staining			
						Laminar bedding dipping at 30°			
						Clayey SILT; pale grey mottled pale purple, minor fine grained, subangular-angular extremely weathered siltstone gravel	w < PL	VSt	
						SILTSTONE (XW); Residual soil inferred as siltstone. Pale purple - grey-orange-brown, with indistinct laminae dipping at 30°, iron staining			
						Clayey SILT; pale purple mottled orange-brown, minor angular-subangular extremely weathered siltstone gravel	w < PL	VSt	
WB					5.0	SILTSTONE (XW); Resdiual soil inferred as siltstone. Pale purple - orange brown, laminae indistinct			
						Becoming highly weathered, partially healed joints at 70°-80°, likely quartz infill			
						Highly weathered, fewer joints throughout			Cement bentonite grout backfill
						More frequent curved veins			
						SILTSTONE (MW-HW); pale purple-orange brown, laminae dipping at 10°-15°, with trace sandstone. Sandstone is fine grained, very thinly bedded dipping at 10°-15°			50mm PN18 uPVC blank casing
						SANDSTONE (MW-HW); red - red brown, fine grained, indistinct bedding with possible mica flecks			
						SILTSTONE (MW-HW); pale purple-orange brown, laminae dipping at 10°-15°, with trace sandstone. Sandstone is fine grained, very thinly bedded dipping at 10°-15°			
						SANDSTONE (MW-HW); pale purple - orange brown, fine - medium grained, indistinct bedding			
					10.0				

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GROUNDWATER MONITORING WELL

BOREHOLE No. NEL-ENV-BH022

Sheet 1 OF 1

Client: North East Link Project	**Easting:** 330901.0 m	**Datum/Coord.System:** MGA94	**Start/End Date:** 12/06/2018 / 12/06/2018
Project: North East Link Project	**Northing:** 5823508.2 m	**UTM Zone:** 55	**Installation Date:** 12/06/2018
Project No: 31350060910	**Reduced Level:**	**Driller:** Star Drilling	**Logged By:** AT
Location: Simpson Barracks, Yallambie	**Inclination:** -90° **Bearing:** N/A	**Drill Rig:** Geoprobe	**Checked By:** LPS

DRILLING					MATERIAL						INSTALLATION	
PROGRESS: DRILLING & CASING	PROGRESS: WATER	GROUND WATER LEVELS	Depth (m)	Samples & Field Tests	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	ROCK TYPE : Colour, Grain size, Structure (texture, fabric, mineral composition, hardness alteration, cementation, etc as applicable)	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	MONITORING WELL DETAILS	Components
WB					10.0			SILTSTONE (MW-HW); pale yellow grey - brown, thinly bedded at 20°, interbedded with trace very thinly laminated - laminated sandstone beds				
												Bentonite seal
					15.0							
												Gravel filter pack
								2-10mm thick iron infill along joints dipping 30°				
								Sandstone becoming thinly bedded				
												50mm PN18 uPVC machine slotted casing (0.4 mm aperture)
					20.0							

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GROUNDWATER MONITORING WELL

BOREHOLE No. NEL-ENV-BH022

Sheet 1 OF 1

Client: North East Link Project
Project: North East Link Project
Project No: 31350060910
Location: Simpson Barracks, Yallambie

Easting: 330901.0 m
Northing: 5823508.2 m
Reduced Level:
Inclination: -90° **Bearing:** N/A

Datum/Coord.System: MGA94
UTM Zone: 55
Driller: Star Drilling
Drill Rig: Geoprobe

Start/End Date: 12/06/2018 / 12/06/2018
Installation Date: 12/06/2018
Logged By: AT
Checked By: LPS

DRILLING					MATERIAL						INSTALLATION	
PROGRESS: DRILLING & CASING	PROGRESS: WATER	GROUND WATER LEVELS	Depth (m)	Samples & Field Tests	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	ROCK TYPE : Colour, Grain size, Structure (texture, fabric, mineral composition, hardness alteration, cementation, etc as applicable)	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	MONITORING WELL DETAILS	Components
WB					20.0			Sandstone becoming thinly bedded *(continued)*				
								Fe-staining in sandstone and frequent Fe-infilled veins with a range of angles and directions				
								BOREHOLE NEL-ENV-BH022 TERMINATED AT 22.00 m				
					25.0							
					30.0							

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ENGINEERING LOG

BOREHOLE No. NEL-ENV-BH023

Sheet 1 OF 1

Client: North East Link Project
Project: North East Link Project **Project No:** 31350060910
Location: Greensborough Rd, Yallambie

Easting: 330891.8 m
Northing: 5823533.4 m
Reduced Level:
Inclination: -90° **Bearing:** N/A

Datum/Coord.System: MGA94
UTM Zone: 55
Driller: QEST
Drill Rig:

Start Date: 05/06/2018
End Date: 05/06/2018
Logged By: KA
Checked By: LPS

DRILLING AND SAMPLING							MATERIAL					
Drilling & Casing	Water	Depth (m)	Samples & Field Tests	Recovered	RL (m)	Depth (m)	Graphic Log	Classification Symbol	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components ORIGIN	Moisture Condition	Consistency Relative Density	STRUCTURE & Other Observations
NDD									TOPSOIL	D	L	0.00: No odour or staining
		0.10	ES PID = 0.0 ppm									0.10: Environmental sample
		0.30	ES PID = 0.0 ppm						FILL; Clay, orange - brown, minor sand, trace silt and gravel, rootlets and brick fragments, moderate plasticity			0.30: Environmental sample
		0.50	ES PID = 0.0 ppm			0.5			CLAY; Orange - brown, minor silt, trace sand, moderate plasticity			0.50: Environmental sample
		0.60	ES PID = 0.0 ppm									0.60: Environmental sample
									BOREHOLE NEL-ENV-BH023 TERMINATED AT 0.70 m			
						1.0						
						1.5						
						2.0						
						2.5						
						3.0						
						3.5						
						4.0						
						4.5						
						5.0						
						5.5						

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GROUNDWATER MONITORING WELL

BOREHOLE No. NEL-ENV-BH024

Sheet 1 OF 1

Client: North East Link Project
Project: North East Link Project
Project No: 31350060910
Location: Watsonia Rd, Watsonia

Easting: 330996.5 m
Northing: 4824228.0 m
Reduced Level:
Inclination: -90° **Bearing:** N/A

Datum/Coord.System: MGA94
UTM Zone: 55
Driller: Star Drilling
Drill Rig: Geoprobe

Start/End Date: 24/04/2018 / 24/04/2018
Installation Date: 24/04/2018
Logged By: KA
Checked By: LPS

DRILLING: PROGRESS – DRILLING & CASING	WATER	GROUND WATER LEVELS	Depth (m)	Samples & Field Tests	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL: ROCK TYPE : Colour, Grain size, Structure (texture, fabric, mineral composition, hardness alteration, cementation, etc as applicable)	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	INSTALLATION: MONITORING WELL DETAILS / Components
NDD					0.0			TOPSOIL			
			0.10	ES PID = 0.3 ppm				FILL; Clay, pale brown, minor siltstone fragments 0.5 - 30mm in diameter, moderate plasticity			
			0.50	ES PID = 0.6 ppm				SANDSTONE (XW); Residual soil inferred as sandstone and siltstone. Pale brown, grey and orange	D	F - H	
			1.00	ES PID = 0.4 ppm							
AUGER			1.50	ES PID = 0.4 ppm							
											Cement bentonite grout backfill 50mm PN18 uPVC blank casing
					5.0				M		
											Bentonite seal

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GROUNDWATER MONITORING WELL

BOREHOLE No. NEL-ENV-BH024

Sheet 1 OF 1

Client: North East Link Project	**Easting:** 330996.5 m	**Datum/Coord.System:** MGA94	**Start/End Date:** 24/04/2018 / 24/04/2018
Project: North East Link Project	**Northing:** 4824228.0 m	**UTM Zone:** 55	**Installation Date:** 24/04/2018
Project No: 31350060910	**Reduced Level:**	**Driller:** Star Drilling	**Logged By:** KA
Location: Watsonia Rd, Watsonia	**Inclination:** -90° **Bearing:** N/A	**Drill Rig:** Geoprobe	**Checked By:** LPS

DRILLING					MATERIAL						INSTALLATION	
PROGRESS: DRILLING & CASING	PROGRESS: WATER	GROUND WATER LEVELS	Depth (m)	Samples & Field Tests	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	ROCK TYPE : Colour, Grain size, Structure (texture, fabric, mineral composition, hardness alteration, cementation, etc as applicable)	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	MONITORING WELL DETAILS	Components
AUGER					10.0			SILTSTONE (XW); Residual soil inferred as siltstone. Pale brown - dark brown, grey and orange	M / W			Gravel filter pack; 50mm PN18 uPVC machine slotted casing (0.4 mm aperture)
					15.0			BOREHOLE NEL-ENV-BH024 TERMINATED AT 11.50 m				

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GROUNDWATER MONITORING WELL

BOREHOLE No. NEL-ENV-BH025

Sheet 1 OF 1

Client: North East Link Project
Project: North East Link Project
Project No: 31350060910
Location: Watsonia Station, Watsonia

Easting: 331024.6 m
Northing: 5824382.8 m
Reduced Level:
Inclination: -90° **Bearing:** N/A

Datum/Coord.System: MGA94
UTM Zone: 55
Driller: Star Drilling
Drill Rig: Geoprobe

Start/End Date: 24/04/2018 / 26/04/2018
Installation Date: 26/04/2018
Logged By: KA
Checked By: LPS

DRILLING – PROGRESS: DRILLING & CASING	WATER	GROUND WATER LEVELS	Depth (m)	Samples & Field Tests	DEPTH (m)	MATERIAL – ROCK TYPE : Colour, Grain size, Structure (texture, fabric, mineral composition, hardness alteration, cementation, etc as applicable)	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	INSTALLATION – Components
NDD					0.0	FILL; Gravel, pale grey - dark grey, fine - coarse grained, angular crushed rock			
						ASPHALT			
			0.30	ES PID = 0.4 ppm		FILL; Clay, brown, moderate plasticity			
			0.60	ES PID = 1.1 ppm		FILL; Ballast and clay			
						CLAY; Pale brown, minor silt, moderate plasticity		F	
			1.00	ES PID = 1.4 ppm		SANDSTONE (XW); Residual soil inferred as sandstone and siltstone, pale brown, brown, grey and dark brown.		F - H	
AUGER			1.80	ES PID = 0.2 ppm		SILTSTONE (XW); Residual soil inferred as siltstone, pale brown - grey	M		Cement bentonite grout backfill 50mm PN18 uPVC blank casing
					5.0				Bentonite seal

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GROUNDWATER MONITORING WELL

BOREHOLE No. NEL-ENV-BH025

Sheet 1 OF 1

Client: North East Link Project
Project: North East Link Project
Project No: 31350060910
Location: Watsonia Station, Watsonia

Easting: 331024.6 m
Northing: 5824382.8 m
Reduced Level:
Inclination: -90° **Bearing:** N/A

Datum/Coord.System: MGA94
UTM Zone: 55
Driller: Star Drilling
Drill Rig: Geoprobe

Start/End Date: 24/04/2018 / 26/04/2018
Installation Date: 26/04/2018
Logged By: KA
Checked By: LPS

DRILLING & CASING	WATER	GROUND WATER LEVELS	Depth (m)	Samples & Field Tests	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	ROCK TYPE : Colour, Grain size, Structure (texture, fabric, mineral composition, hardness alteration, cementation, etc as applicable)	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	MONITORING WELL DETAILS	Components
AUGER					10.0 15.0			SILTSTONE (XW); Residual soil inferred as siltstone, pale brown - grey *(continued)*	M W			Gravel filter pack 50mm PN18 uPVC machine slotted casing (0.4 mm aperture)
								BOREHOLE NEL-ENV-BH025 TERMINATED AT 15.50 m				

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ENGINEERING LOG

BOREHOLE No. NEL-ENV-BH026

Sheet 1 OF 1

Client: North East Link Project
Project: North East Link Project
Project No: 31350060910
Location: Watsonia Station, Watsonia

Easting: 331049.7 m
Northing: 5824419.6 m
Reduced Level:
Inclination: -90° **Bearing:** N/A

Datum/Coord.System: MGA94
UTM Zone: 55
Driller: QEST
Drill Rig:

Start Date: 24/04/2018
End Date: 24/04/2018
Logged By: KA
Checked By: LPS

DRILLING AND SAMPLING							MATERIAL					
Drilling & Casing	Water	Depth (m)	Samples & Field Tests	Recovered	RL (m)	Depth (m)	Graphic Log	Classification Symbol	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components ORIGIN	Moisture Condition	Consistency Relative Density	STRUCTURE & Other Observations
NDD									FILL; Gravel, grey, fine - coarse grained, angular, crushed rock			
		0.10	ES PID = 0.1 ppm						CLAY; brown, moderate plasticity			0.10: Environmental sample
						0.5						
		0.50	ES PID = 0.3 ppm						SANDSTONE (XW); Residual soil inferred as sandstone, interbedded with siltstone, pale brown, dark brown, grey			0.50: Environmental sample
						1.0						
		1.00	ES PID = 0.5 ppm						SILTSTONE (XW); Residual soil inferred as siltstone, pale brown - grey			1.00: Environmental sample
						1.5			BOREHOLE NEL-ENV-BH026 TERMINATED AT 1.50 m			
						2.0						
						2.5						
						3.0						
						3.5						
						4.0						
						4.5						
						5.0						
						5.5						

AGS 3_1 RTA 1_1 LIB 06.1 GHD 1.14_NEL.GLB Log NEL NON-CORED BOREHOLE NEL-LFBORES.GPJ 31/Jul/2018 08:59

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ENGINEERING LOG

BOREHOLE No. NEL-ENV-BH027
Sheet 1 OF 1

Client: North East Link Project
Project: North East Link Project
Project No: 31350060910
Location: Watsonia Station, Watsonia

Easting: 331128.2 m
Northing: 5824501.9 m
Reduced Level:
Inclination: -90° **Bearing:** N/A

Datum/Coord.System: MGA94
UTM Zone: 55
Driller:
Drill Rig:

Start Date: 27/04/2018
End Date: 27/04/2018
Logged By: KA
Checked By: LPS

DRILLING AND SAMPLING							MATERIAL					
Drilling & Casing	Water	Depth (m)	Samples & Field Tests	Recovered	RL (m)	Depth (m)	Graphic Log	Classification Symbol	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components ORIGIN	Moisture Condition	Consistency Relative Density	STRUCTURE & Other Observations
HA		0.00	ES						FILL; Gravel, grey, fine - medium grained, angular, crushed rock 5-30mm in diameter, with a clayey matrix. Clay is pale brown, with moderate plasticity			0.00: Environmental sample
		0.30	ES						SANDSTONE (XW); Residual soil inferred as sandstone, interbedded with siltstone, pale brown, dark brown, grey			0.30: Environmental sample
						0.5			BOREHOLE NEL-ENV-BH027 TERMINATED AT 0.40 m Refusal			
						1.0						
						1.5						
						2.0						
						2.5						
						3.0						
						3.5						
						4.0						
						4.5						
						5.0						
						5.5						

AGS 3_1 RTA 1_1 LIB 06.1 GHD 1.14_NEL.GLB Log NEL NON-CORED BOREHOLE NEL-LFBORES.GPJ 31/Jul/2018 08:59

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ENGINEERING LOG

BOREHOLE No. NEL-ENV-BH028

Sheet 1 OF 1

Client: North East Link Project
Project: North East Link Project
Project No: 31350060910
Location: Watsonia Station, Watsonia

Easting: 331236.6 m
Northing: 5824649.3 m
Reduced Level:
Inclination: -90° **Bearing:** N/A

Datum/Coord.System: MGA94
UTM Zone: 55
Driller: QEST
Drill Rig:

Start Date: 24/04/2018
End Date: 24/04/2018
Logged By: KA
Checked By: LPS

DRILLING AND SAMPLING						MATERIAL					
Drilling & Casing	Water	Depth (m)	Samples & Field Tests	Recovered	RL (m)	Depth (m)	Graphic Log	Classification Symbol	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components ORIGIN	Moisture Condition	Consistency Relative Density	STRUCTURE & Other Observations
NDD		0.10	ES PID = 0.3 ppm						FILL; Clay, pale brown, minor rounded - angular siltstone fragments 5-30mm in diameter, moderate plasticity			0.10: Environmental sample
		0.50	ES PID = 0.7 ppm			0.5						0.50: Environmental sample
									CLAY; brown, minor silt, trace sand and rounded - angular siltstone fragments			
		1.00	ES PID = 0.7 ppm			1.0						1.00: Environmental sample
									SANDSTONE (XW); Residual soil inferred as sandstone and siltstone, pale brown - grey - dark brown			
		1.50	ES PID = 0.7 ppm			1.5						1.50: Environmental sample
									BOREHOLE NEL-ENV-BH028 TERMINATED AT 1.60 m			
						2.0						
						2.5						
						3.0						
						3.5						
						4.0						
						4.5						
						5.0						
						5.5						

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ENGINEERING LOG

BOREHOLE No. NEL-ENV-BH029

Sheet 1 OF 1

Client: North East Link Project
Project: North East Link Project
Project No: 31350060910
Location: Watsonia Rd, Watsonia

Easting: 330999.4 m
Northing: 5824239.1 m
Reduced Level:
Inclination: -90° **Bearing:** N/A

Datum/Coord.System: MGA94
UTM Zone: 55
Driller: QEST
Drill Rig:

Start Date: 24/04/2018
End Date: 24/04/2018
Logged By: KA
Checked By: LPS

DRILLING AND SAMPLING							MATERIAL					
Drilling & Casing	Water	Depth (m)	Samples & Field Tests	Recovered	RL (m)	Depth (m)	Graphic Log	Classification Symbol	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components ORIGIN	Moisture Condition	Consistency Relative Density	STRUCTURE & Other Observations
HA		0.10	ES						FILL; Clay; pale brown, moderate plasticity, with minor siltstone fragments 5-30mm in diameter, rounded - angular and friable	D	H	0.10: Environmental sample
		0.50	ES			0.5						0.50: Environmental sample
									BOREHOLE NEL-ENV-BH029 TERMINATED AT 0.60 m Refusal			
						1.0						
						1.5						
						2.0						
						2.5						
						3.0						
						3.5						
						4.0						
						4.5						
						5.0						
						5.5						

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ENGINEERING LOG

BOREHOLE No. NEL-ENV-BH030

Sheet 1 OF 1

Client: North East Link Project	**Easting:** 331014.2 m	**Datum/Coord.System:** MGA94	**Start Date:** 24/04/2018
Project: North East Link Project	**Northing:** 5824242.0 m	**UTM Zone:** 55	**End Date:** 24/04/2018
Project No: 31350060910	**Reduced Level:**	**Driller:** QEST	**Logged By:** KA
Location: Watsonia Rd, Watsonia	**Inclination:** -90° **Bearing:** N/A	**Drill Rig:**	**Checked By:** LPS

DRILLING AND SAMPLING						MATERIAL						
Drilling & Casing	Water	Depth (m)	Samples & Field Tests	Recovered	RL (m)	Depth (m)	Graphic Log	Classification Symbol	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components ORIGIN	Moisture Condition	Consistency Relative Density	STRUCTURE & Other Observations
HA		0.10	ES						FILL; Clay; pale brown, moderate plasticity, with minor siltstone fragments 5-30mm in diameter, rounded - angular and friable	D	H	0.10: Environmental sample
		0.50	ES			0.5						0.50: Environmental sample
		1.00	ES			1.0			BOREHOLE NEL-ENV-BH030 TERMINATED AT 1.00 m Refusal			1.00: Environmental sample
						1.5						
						2.0						
						2.5						
						3.0						
						3.5						
						4.0						
						4.5						
						5.0						
						5.5						

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ENGINEERING LOG

BOREHOLE No. NEL-ENV-BH031

Sheet 1 OF 1

Client: North East Link Project	**Easting:** 331027.0 m	**Datum/Coord.System:** MGA94	**Start Date:** 23/04/2018
Project: North East Link Project	**Northing:** 5824245.1 m	**UTM Zone:** 55	**End Date:** 24/04/2018
Project No: 31350060910	**Reduced Level:**	**Driller:** QEST	**Logged By:** KA
Location: Watsonia Rd, Watsonia	**Inclination:** -90° **Bearing:** N/A	**Drill Rig:**	**Checked By:** LPS

DRILLING AND SAMPLING							MATERIAL					
Drilling & Casing	Water	Depth (m)	Samples & Field Tests	Recovered	RL (m)	Depth (m)	Graphic Log	Classification Symbol	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components ORIGIN	Moisture Condition	Consistency Relative Density	STRUCTURE & Other Observations
HA		0.10	ES PID = 0.9 ppm						FILL; Clay; pale brown, moderate plasticity, with minor siltstone fragments 5-30mm in diameter, rounded - angular and friable	D	H	0.10: Environmental sample
HA		0.50	ES PID = 0.8 ppm			0.5						0.50: Environmental sample
NDD		1.00	ES			1.0						1.00: Environmental sample
NDD		1.50	ES			1.5			CLAY; brown, moderate plasticity		F	1.50: Environmental sample
									BOREHOLE NEL-ENV-BH031 TERMINATED AT 1.60 m			
						2.0						
						2.5						
						3.0						
						3.5						
						4.0						
						4.5						
						5.0						
						5.5						

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GROUNDWATER MONITORING WELL

BOREHOLE No. NEL-ENV-BH032

Sheet 1 OF 1

Client: North East Link Project	**Easting:** 331029.1 m	**Datum/Coord.System:** MGA94	**Start/End Date:** 1/06/2018 / 1/06/2018
Project: North East Link Project	**Northing:** 5818542.9 m	**UTM Zone:** 55	**Installation Date:** 1/06/2018
Project No: 31350060910	**Reduced Level:**	**Driller:** Star Drilling	**Logged By:** KA
Location: Greenaway St, Bulleen	**Inclination:** -90° **Bearing:** N/A	**Drill Rig:** Geoprobe	**Checked By:** LPS

DRILLING & CASING (PROGRESS)	WATER (PROGRESS)	GROUND WATER LEVELS	Depth (m)	Samples & Field Tests	DEPTH (m)	ROCK TYPE : Colour, Grain size, Structure (texture, fabric, mineral composition, hardness alteration, cementation, etc as applicable)	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	Components (INSTALLATION)
Asphalt Core					0.0	ASPHALT; black, 70mm, with concrete			
AUGER			0.50	ES PID = 0.0 ppm		FILL; Clay, dark brown mottled orange, with organic material, moderate plasticity	D	H	Bentonite seal; 50mm PN18 uPVC blank casing
			1.00	ES PID = 0.0 ppm					
			1.50	ES PID = 0.0 ppm					
			2.00	ES PID = 0.0 ppm					Gravel filter pack
		▶	4.00	ES PID = 0.0 ppm		Silty CLAY; grey with sand, low plasticity	W	S	
			5.00	ES PID = 0.0 ppm	5.0				50mm PN18 uPVC machine slotted casing (0.4 mm aperture)
			6.00	ES PID = 0.0 ppm					
						BOREHOLE NEL-ENV-BH032 TERMINATED AT 6.50 m			

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ENGINEERING LOG

BOREHOLE No. LFB01

Sheet 1 OF 1

Client: North East Link Project
Project: North East Link Project
Project No: 31350060910
Location: Bulleen Rd, Bulleen

Easting: 330734.4 m
Northing: 5817363.8 m
Reduced Level:
Inclination: -90° **Bearing:** N/A

Datum/Coord.System: MGA94
UTM Zone: 55
Driller: Star Drilling
Drill Rig: Geoprobe

Start Date: 11/07/2018
End Date: 11/07/2018
Logged By: KA
Checked By: LPS

Drilling & Casing	Water	Depth (m)	Samples & Field Tests	Recovered	RL (m)	Depth (m)	Graphic Log	Classification Symbol	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components ORIGIN	Moisture Condition	Consistency Relative Density	STRUCTURE & Other Observations
HA						0.0			TOPSOIL	D	L	0.00: No odours or staining
		0.10	ES PID = 0.0 ppm									0.10: Environmental sample
						0.2			FILL; Clay, brown with gravel, sand and silt, minor rock fragments and waste, trace rootlets, moderate plasticity	M	S	
		0.50	ES PID = 0.3 ppm			0.5						0.50: Environmental sample
		1.00	ES PID = 0.5 ppm			1.0						1.00: Environmental sample
						1.2			WASTE; Bricks present, poor sample recovery			
AUGER						1.5						
						2.8			FILL; Clay, dark brown with silt and trace sand, low plasticity with trace rootlets	M	H	
		3.00	ES PID = 0.6 ppm			3.0						3.00: Environmental sample
						3.7			CLAY; grey - brown, with silt and orange sand, moderate plasticity		F	
		4.00	ES PID = 0.5 ppm			4.0						4.00: Environmental sample
		5.00	ES PID = 0.1 ppm			5.0			BOREHOLE LFB01 TERMINATED AT 5.00 m			5.00: Environmental sample

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ENGINEERING LOG

BOREHOLE No. LFB02

Sheet 1 OF 1

Client: North East Link Project
Project: North East Link Project
Project No: 31350060910
Location: Bulleen Rd, Bulleen

Easting: 330715.4 m
Northing: 5817389.0 m
Reduced Level:
Inclination: -90° **Bearing:** N/A

Datum/Coord.System: MGA94
UTM Zone: 55
Driller: Star Drilling
Drill Rig: Geoprobe

Start Date: 11/07/2018
End Date: 11/07/2018
Logged By: KA
Checked By: LPS

Drilling & Casing	Water	Depth (m)	Samples & Field Tests	Recovered	RL (m)	Depth (m)	Graphic Log	Classification Symbol	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components ORIGIN	Moisture Condition	Consistency Relative Density	STRUCTURE & Other Observations
HA (0.0–1.5)						0.0			TOPSOIL	D	L	0.00: No odours or staining
		0.10	ES PID = 0.0 ppm									0.10: Environmental sample
						0.2			FILL; Clay, brown with minor sand and silt. Moderate plasticity with some rock fragments and rootlets present	M	F	
		0.50	ES PID = 0.5 ppm			0.5						0.50: Environmental sample
		1.00	ES PID = 0.5 ppm			1.0			WASTE; Minor sand and silt, poor sample recovery			1.00: Environmental sample
AUGER (1.5–5.0)						1.5						
		2.00	ES PID = 0.2 ppm			2.0						2.00: Environmental sample
						2.6			FILL; Clay, dark brown with orange - red. Minor silt and sand. Moderate plasticity with trace rootlets	M	F	
		3.00	ES PID = 0.4 ppm			3.0						3.00: Environmental sample
						3.7			CLAY; brown mottled orange, with minor silt and trace sand, moderate plasticity			
		4.00	ES PID = 0.5 ppm			4.0						4.00: Environmental sample
		5.00	ES PID = 0.3 ppm			5.0			BOREHOLE LFB02 TERMINATED AT 5.00 m			5.00: Environmental sample
						5.5						

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ENGINEERING LOG

BOREHOLE No. LFB03

Sheet 1 OF 1

Client: North East Link Project
Project: North East Link Project
Project No: 31350060910
Location: Bulleen Rd, Bulleen

Easting: 330753.7 m
Northing: 5817418.3 m
Reduced Level:
Inclination: -90° **Bearing:** N/A

Datum/Coord.System: MGA94
UTM Zone: 55
Driller: Star Drilling
Drill Rig: Geoprobe

Start Date: 11/07/2018
End Date: 11/07/2018
Logged By: KA
Checked By: LPS

Drilling & Casing	Water	Depth (m)	Samples & Field Tests	Recovered	RL (m)	Depth (m)	Graphic Log	Classification Symbol	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components ORIGIN	Moisture Condition	Consistency Relative Density	STRUCTURE & Other Observations
HA (0.0–1.5)		0.10	ES PID = 0.0 ppm						TOPSOIL	D	L	0.10: Environmental sample
									FILL; Clay, brown with minor sand, silt, rock fragments and waste bricks, trace rootlets, moderate plasticity	M	F	
		0.50	ES PID = 0.4 ppm			0.5						0.50: Environmental sample
		1.00	ES PID = 0.4 ppm			1.0			WASTE; Rocks and rubbish, bricks present, minor clay and sand fill			1.00: Environmental sample
AUGER (1.5–5.0)						1.5						
		2.00	ES PID = 0.2 ppm			2.0						2.00: Environmental sample
						2.5						
									FILL; Clay, dark brown with minor silt and sand, moderate plasticity	M	H	
		3.00	ES PID = 0.5 ppm			3.0						3.00: Environmental sample
						3.5						
									CLAY; grey - orange, with minor silt and sand, moderate plasticity		F	
		4.00	ES PID = 0.3 ppm			4.0						4.00: Environmental sample
						4.5						
		5.00	ES PID = 0.5 ppm			5.0			BOREHOLE LFB03 TERMINATED AT 5.00 m			5.00: Environmental sample
						5.5						

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ENGINEERING LOG

BOREHOLE No. LFB04

Sheet 1 OF 1

Client: North East Link Project
Project: North East Link Project
Project No: 31350060910
Location: Bulleen Rd, Bulleen

Easting: 330768.0 m
Northing: 5817457.2 m
Reduced Level:
Inclination: -90° **Bearing:** N/A

Datum/Coord.System: MGA94
UTM Zone: 55
Driller: Star Drilling
Drill Rig: Geoprobe

Start Date: 11/07/2018
End Date: 11/07/2018
Logged By: KA
Checked By: LPS

Drilling & Casing	Water	Depth (m)	Samples & Field Tests	Recovered	RL (m)	Depth (m)	Graphic Log	Classification Symbol	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components ORIGIN	Moisture Condition	Consistency Relative Density	STRUCTURE & Other Observations
HA						0.0			TOPSOIL	D	L	0.00: No odours or staining
HA		0.10	ES									0.10: Environmental sample
HA						0.2			FILL; Clay, brown with minor sand and silt, trace rock fragments, rootlets and waste, moderate plasticity	M	S	
HA		0.50	ES			0.5						0.50: Environmental sample
HA						1.0			WASTE; Rubbish			
AUGER						1.5						
AUGER						1.6			FILL; Clay, dark brown with minor silt and sand, moderate plasticity	M	H	
AUGER		2.00	ES PID = 0.4 ppm			2.0						2.00: Environmental sample
AUGER						2.5						
AUGER						2.7			CLAY; grey - orange, with minor silt and sand, moderate plasticity		F	
AUGER		3.00	ES PID = 0.3 ppm			3.0						3.00: Environmental sample
AUGER						3.5						
AUGER		4.00	ES PID = 0.3 ppm			4.0						4.00: Environmental sample
AUGER						4.5			CLAY; grey - orange, with minor silt, low plasticity			
		5.00	ES PID = 0.1 ppm			5.0			BOREHOLE LFB04 TERMINATED AT 5.00 m			5.00: Environmental sample
						5.5						

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ENGINEERING LOG

BOREHOLE No. LFB05

Sheet 1 OF 1

Client: North East Link Project
Project: North East Link Project
Project No: 31350060910
Location: Bulleen Rd, Bulleen

Easting: 330770.8 m
Northing: 5817490.3 m
Reduced Level:
Inclination: -90° **Bearing:** N/A

Datum/Coord.System: MGA94
UTM Zone: 55
Driller: Star Drilling
Drill Rig: Geoprobe

Start Date: 11/07/2018
End Date: 11/07/2018
Logged By: KA
Checked By: LPS

DRILLING AND SAMPLING						MATERIAL						
Drilling & Casing	Water	Depth (m)	Samples & Field Tests	Recovered	RL (m)	Depth (m)	Graphic Log	Classification Symbol	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components ORIGIN	Moisture Condition	Consistency Relative Density	STRUCTURE & Other Observations
HA									TOPSOIL	D	L	
HA		0.10	ES PID = 0.0 ppm									0.10: Environmental sample
HA									FILL; Clay, brown, minor sand and silt, trace rootlets, rock fragments and glass waste, moderate plasticity	M	F	
HA		0.50	ES PID = 0.1 ppm			0.5						0.50: Environmental sample
HA		1.00	ES PID = 0.7 ppm			1.0			WASTE; Rubbish, steel springs, glass			1.00: Environmental sample
AUGER						1.5						
AUGER									FILL; Clay, dark brown, minor silt and sand, moderate plasticity	M	F	
AUGER		2.00	ES PID = 0.2 ppm			2.0						2.00: Environmental sample
AUGER						2.5						
AUGER		3.00	ES PID = 0.3 ppm			3.0						3.00: Environmental sample
AUGER						3.5			CLAY; grey - orange, with sand, moderate plasticity			
AUGER		4.00	ES PID = 0.3 ppm			4.0						4.00: Environmental sample
AUGER						4.5						
		5.00	ES PID = 0.2 ppm			5.0			BOREHOLE LFB05 TERMINATED AT 5.00 m			5.00: Environmental sample
						5.5						

See GHD Standard Sheets for details of abbreviations & basis of descriptions.

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ENGINEERING LOG

BOREHOLE No. LFB06

Sheet 1 OF 1

Client: North East Link Project	**Easting:** 330762.2 m	**Datum/Coord.System:** MGA94	**Start Date:** 10/07/2018
Project: North East Link Project	**Northing:** 5817529.3 m	**UTM Zone:** 55	**End Date:** 10/07/2018
Project No: 31350060910	**Reduced Level:**	**Driller:** Star Drilling	**Logged By:** KA
Location: Bulleen Rd, Bulleen	**Inclination:** -90° **Bearing:** N/A	**Drill Rig:** Geoprobe	**Checked By:** LPS

DRILLING AND SAMPLING / MATERIAL

Drilling & Casing	Water	Depth (m)	Samples & Field Tests	Recovered	RL (m)	Depth (m)	Graphic Log	Classification Symbol	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components ORIGIN	Moisture Condition	Consistency Relative Density	STRUCTURE & Other Observations
HA						0.00			TOPSOIL	D	L	0.00: No odours or staining
		0.10	ES PID = 0.0 ppm									0.10: Environmental sample
						0.20			FILL; Clay, brown, minor sand and silt, trace rock fragments and trace glass waste, moderate plasticity	M	S	
		0.50	ES PID = 0.0 ppm			0.5						0.50: Environmental sample
						0.80			WASTE; Rubbish, concrete, metal pipes			
AUGER						1.80			FILL; Clay, dark brown, minor silt and sand, moderate plasticity	M	H	
		2.00	ES PID = 0.0 ppm			2.0						2.00: Environmental sample
						2.60			CLAY; grey - orange, minor sand and trace silt, moderate plasticity			
		3.00	ES PID = 0.2 ppm			3.0						3.00: Environmental sample
						3.80			Sandy CLAY; grey - orange, trace silt, moderate plasticity		S	
		4.00	ES PID = 0.2 ppm			4.0						4.00: Environmental sample
						4.20			Silty CLAY; grey, minor sand, moderate plasticity			
		5.00	ES PID = 0.0 ppm			5.0			BOREHOLE LFB06 TERMINATED AT 5.00 m			5.00: Environmental sample

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ENGINEERING LOG

BOREHOLE No. LFB07

Sheet 1 OF 1

Client: North East Link Project
Project: North East Link Project
Project No: 31350060910
Location: Bulleen Rd, Bulleen

Easting: 330752.9 m
Northing: 5817553.2 m
Reduced Level:
Inclination: -90° **Bearing:** N/A

Datum/Coord.System: MGA94
UTM Zone: 55
Driller: Star Drilling
Drill Rig: Geoprobe

Start Date: 10/07/2018
End Date: 10/07/2018
Logged By: KA
Checked By: LPS

Drilling & Casing	Water	Depth (m)	Samples & Field Tests	Recovered	RL (m)	Depth (m)	Graphic Log	Classification Symbol	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components ORIGIN	Moisture Condition	Consistency Relative Density	STRUCTURE & Other Observations
HA									TOPSOIL	D	L	
		0.10	ES PID = 0.0 ppm									0.10: Environmental sample
									FILL; Clay, brown, minor silt and trace sand, moderate plasticity	M	F	
		0.50	ES PID = 0.0 ppm			0.5						0.50: Environmental sample
									WASTE; Rubbish, bricks			
						1.0						
AUGER						1.5						
									FILL; Clay, dark brown, minor silt and trace sand, moderate plasticity	M	H	
		2.00	ES PID = 0.0 ppm			2.0						2.00: Environmental sample
						2.5						
									CLAY; grey mottled orange, trace silt and trace sand, moderate plasticity		St	
		3.00	ES PID = 0.0 ppm			3.0						3.00: Environmental sample
						3.5						
		4.00	ES			4.0						4.00: Environmental sample
						4.5			CLAY; becoming sandy			
		5.00	ES			5.0			BOREHOLE LFB07 TERMINATED AT 5.00 m			5.00: Environmental sample
						5.5						

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ENGINEERING LOG

BOREHOLE No. LFB08

Sheet 1 OF 1

Client: North East Link Project	**Easting:** 330744.7 m	**Datum/Coord.System:** MGA94	**Start Date:** 10/07/2018
Project: North East Link Project	**Northing:** 5817561.0 m	**UTM Zone:** 55	**End Date:** 10/07/2018
Project No: 31350060910	**Reduced Level:**	**Driller:** Star Drilling	**Logged By:** KA
Location: Bulleen Rd, Bulleen	**Inclination:** -90° **Bearing:** N/A	**Drill Rig:** Geoprobe	**Checked By:** LPS

DRILLING AND SAMPLING						MATERIAL					
Drilling & Casing	Water	Depth (m)	Samples & Field Tests	Recovered	RL (m)	Depth (m)	Classification Symbol	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components ORIGIN	Moisture Condition	Consistency Relative Density	STRUCTURE & Other Observations
HA								TOPSOIL; dark brown, rootlets	D	L	
		0.10	ES PID = 0.0 ppm								0.10: Environmental sample
								FILL; Clay, brown, minor silt and trace sand, moderate plasticity	M	S	
		0.50	ES PID = 0.0 ppm			0.5					0.50: Environmental sample
						1.0					
								WASTE; Rubbish, steel springs			
AUGER						1.5					
								FILL; Clay, dark brown, minor silt and trace sand, moderate plasticity	M	H	
		2.00	ES PID = 0.0 ppm			2.0					2.00: Environmental sample
						2.5					
								CLAY; grey mottled orange, trace silt and trace sand, moderate plasticity		St	
		3.00	ES PID = 0.0 ppm			3.0					3.00: Environmental sample
						3.5					
								SAND; pale brown - orange, fine grained sand with minor silt and trace clay		F	
		4.00	ES PID = 0.0 ppm			4.0					4.00: Environmental sample
						4.5		Sandy SILT; orange - grey, fine grained sand with trace clay		S	
						5.0					
		5.00	ES PID = 0.0 ppm					BOREHOLE LFB08 TERMINATED AT 5.00 m			5.00: Environmental sample
						5.5					

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ENGINEERING LOG

BOREHOLE No. LFB09

Sheet 1 OF 1

Client: North East Link Project
Project: North East Link Project
Project No: 31350060910
Location: Bulleen Rd, Bulleen

Easting: 330760.5 m
Northing: 5817565.6 m
Reduced Level:
Inclination: -90° **Bearing:** N/A

Datum/Coord.System: MGA94
UTM Zone: 55
Driller: Star Drilling
Drill Rig: Geoprobe

Start Date: 10/07/2018
End Date: 10/07/2018
Logged By: KA
Checked By: LPS

DRILLING AND SAMPLING						MATERIAL					
Drilling & Casing	Water	Depth (m)	Samples & Field Tests	Recovered	RL (m)	Depth (m)	Graphic Log	Classification Symbol	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components ORIGIN	Moisture Condition	Consistency Relative Density	STRUCTURE & Other Observations
HA (0.00–1.50)		0.10	ES PID = 0.0 ppm			0.0			TOPSOIL	D	L	0.10: Environmental sample
		0.50	ES PID = 0.0 ppm			0.2			FILL; Clay, brown, minor silt and trace sand, moderate plasticity	M	H	0.50: Environmental sample
		1.00	ES			0.8			WASTE; Rubbish, concrete blocks			0.80: Slight organic waste odour 1.00: Environmental sample
AUGER (1.50–5.00)		2.00	ES			1.8			FILL; Silty clay, pale brown - orange, minor sand, low plasticity	M	St	2.00: Environmental sample
		3.00	ES			2.8			SAND; pale brown - orange, fine grained, with trace silt and trace clay		D	3.00: Environmental sample
		4.00	ES			3.6			CLAY; grey mottled orange, trace silt and trace sand, moderate plasticity		H	4.00: Environmental sample
						5.0			BOREHOLE LFB09 TERMINATED AT 5.00 m			

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ENGINEERING LOG

BOREHOLE No. LFB10

Sheet 1 OF 1

Client: North East Link Project
Project: North East Link Project
Project No: 31350060910
Location: Bulleen Rd, Bulleen

Easting: 330778.8 m
Northing: 5817556.7 m
Reduced Level:
Inclination: -90° **Bearing:** N/A

Datum/Coord.System: MGA94
UTM Zone: 55
Driller: Star Drilling
Drill Rig: Geoprobe

Start Date: 11/07/2018
End Date: 11/07/2018
Logged By: KA
Checked By: LPS

DRILLING AND SAMPLING						MATERIAL					
Drilling & Casing	Water	Depth (m)	Samples & Field Tests	Recovered	RL (m)	Depth (m)	Graphic Log	Classification Symbol	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components ORIGIN	Moisture Condition	Consistency Relative Density	STRUCTURE & Other Observations
HA		0.10	ES PID = 0.0 ppm			0.0			TOPSOIL	D	L	0.10: Environmental sample
HA						0.2			FILL; Sandstone and sand, pale brown			
HA		0.50	ES PID = 0.2 ppm			0.5			WASTE; Rubbish, bricks and pieces of metal			0.50: Environmental sample
AUGER						1.6			FILL; Clay, dark brown, minor silt and sand, moderate plasticity	M	H	
AUGER		2.00	ES PID = 0.0 ppm									2.00: Environmental sample
AUGER						2.2			FILL; Sand, brown - orange, fine grained, minor silt, trace clay,		D	
AUGER		3.00	ES PID = 0.2 ppm									3.00: Environmental sample
AUGER						3.2			CLAY; grey - orange, minor sand, trace silt, moderate plasticity		H	
AUGER		4.00	ES PID = 0.1 ppm									4.00: Environmental sample
		5.00	ES PID = 0.3 ppm			5.0			BOREHOLE LFB10 TERMINATED AT 5.00 m			5.00: Environmental sample

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Appendix G – Spoil Management Strategy

North East Link Project

Spoil Management Strategy

April 2019

Executive summary

The purpose of this Spoil Management Strategy for the North East Link ('the project') is to:

- Outline the proposed approach to spoil management during the project's construction
- Identify feasible options for the management of spoil arising from the project's construction, based on indicative volume estimates for each spoil category
- Identify preferred methods of management of each spoil category consistent with Victoria' *Environment Protection Act 1970* waste hierarchy and taking into account potential human health and environmental risks
- Inform the preparation of a Spoil Management Plan following project approval and before the project's construction started.

Based on preliminary estimates, approximately 6.3 million m^3 (*in-situ*) of soil and rock would be excavated to construct North East Link across the three project elements:

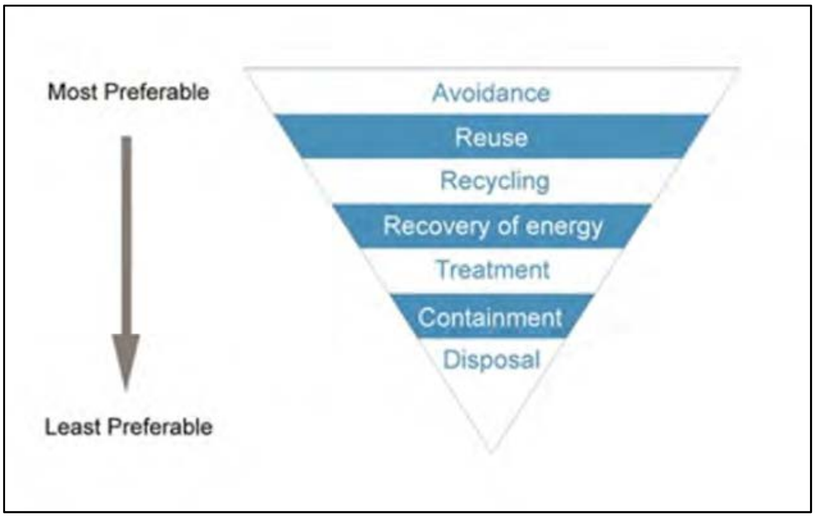
- M80 Ring Road to the northern portal
- Northern portal to southern portal
- Eastern Freeway.

Volumes described below are the volumes of soil and rock to be excavated. Estimated spoil volumes are calculated by multiplying these volumes by a bulking factor.

It is estimated that most soil and rock excavated would comprise Fill Material. Following confirmation of this category, in accordance with the Industrial Waste Resource Guidelines, this material can be moved off-site or reused on-site, and is not regulated by the Environment Protection Authority (EPA) Victoria.

The spoil volume estimates and preliminary classifications completed have estimated that most spoil would be classified as Fill Material (also known as 'clean fill'). The estimates also indicated approximately 257,000 m^3 (*in situ*) of Prescribed Industrial Waste (PIW), which will require management. This predominantly consisting of Category C PIW. Further assessment is required to refine this estimate. The assessment has identified that quantities Waste Acid Sulfate Soils (WASS), up to 2.6 million m^3 (*in situ*) may be encountered and require management.

Management of spoil is to be undertaken in accordance with the waste hierarchy set out in Victoria's *Environment Protection Act 1970,* illustrated in the diagram below.



In the context of the project, the following assessment of management options was addressed:

- Avoidance – preferred but limited options available for this project
- Reuse/recycling – preferred and to be applied wherever possible, particularly with respect to Fill Material and WASS off-site
- Recovery of energy – unlikely to be practicable, to be further considered once additional field information has been obtained
- Treatment – preferred option particularly off-site at a licensed facility for Category A, Category B and WASS
- Containment – unlikely to be practicable on the basis that soils and rock are being excavated and will need to be relocated; containment options for appropriate material may be considered at the locations of cut and fill tunnels
- Disposal – least preferred option but off-site disposal may be required due to time, project area and project design constraints.

It is acknowledged that EPA Victoria has released guidance regarding contaminated spoil management on major infrastructure projects. Based on this guidance it may be possible to apply for a major infrastructure soil management classification.

Management of PIW and WASS is to be detailed in a Spoil Management Plan as part of the Construction Environmental Management Plan (CEMP to be prepared by the construction contractor and approved by EPA Victoria.

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Annexures

1. Introduction

1.1 Project description

North East Link Project (NELP) was set up by the Victorian Government to oversee the North East Link project (‘the project’). The project is a proposed new freeway and standard road connection that would complete the ‘missing link’ in Melbourne’s metropolitan ring road, giving the city a fully completed orbital connection for the first time. North East Link would connect the Western Ring Road (M80) to the Eastern Freeway, and include works along the Eastern Freeway. The project would also support the provision of a range of complementary and associated works, separate from the project. These would be subject to separate regulatory and planning assessment and approval processes.

To facilitate delivery, North East Link would require temporary and permanent land occupation, drainage and flood mitigation works, and the use of tunnel boring machines (TBMs) to construct most of the tunnel length. These works will generate a significant volume of excavated soil that would need to be managed as a portion of the spoil is likely to be contaminated.

1.2 Purpose of this report

The purpose of this Spoil Management Strategy for the North East Link project is to:

- Outline the proposed approach to spoil management during construction of the project
- Identify feasible options for the management of spoil arising from project construction based on indicative volume estimates for each spoil category
- Identify preferred methods of management of each spoil category consistent with the waste hierarchy and taking into account potential human health and environmental risks
- Inform the preparation of a Spoil Management Plan during following project approval and prior to construction commencement.

1.3 Scope

The scope of the SMS addresses the following:

- Spoil generating activities and indicative volume estimates
- Spoil categorisation in accordance with the *Environment Protection Act 1970* (Victoria) and the Environment Protection (Industrial Waste Resource) Regulations 2009 (Victoria)
- Spoil management and its implementation in accordance with the waste hierarchy
- On-site spoil management requirements
- Spoil transport requirements
- Requirements for a Spoil Management Plan.

1.4 Project elements

The North East Link project and its key elements are:

- **Element 1 - M80 Ring Road to the northern portal** – from the M80 Ring Road at Plenty Road, and the Greensborough Bypass at Plenty River Drive, North East Link would extend to the northern portal near Blamey Road utilising a mixture of above, below and at surface road sections. This would include new road interchanges at the M80 Ring Road and Grimshaw Street.
- **Element 2 - Northern portal to southern portal** – from the northern portal the road would transition into twin tunnels that would connect to Lower Plenty Road via a new interchange, before travelling under residential areas, Banyule Flats and the Yarra River to a new interchange at Manningham Road. The tunnels would then continue to the southern portal located south of the Veneto Club.
- **Element 3 - Eastern Freeway** – from around Hoddle Street in the west through to Springvale Road in the east, modifications to the Eastern Freeway would include widening to accommodate future traffic volumes and new dedicated bus lanes for the Doncaster Busway. There would also be a new interchange at Bulleen Road to connect North East Link to the Eastern Freeway.

These elements are shown in Figure 1-1.

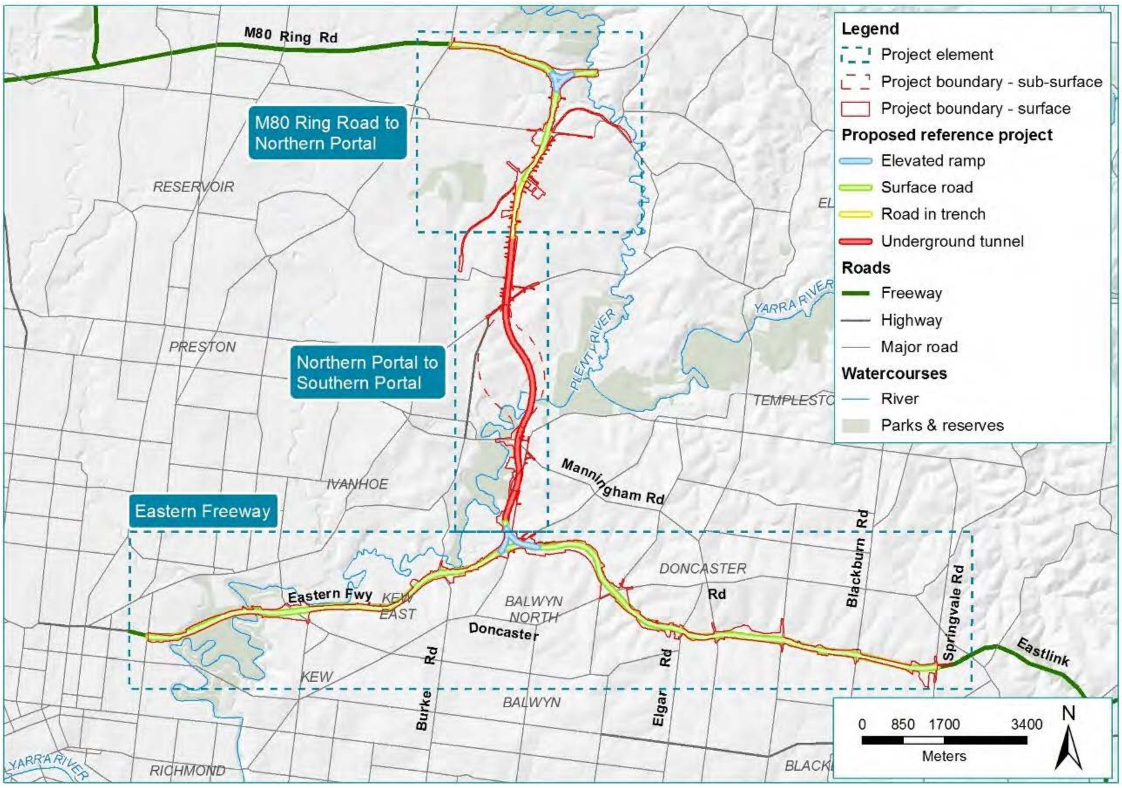

Figure 1-1 Project elements

1.5 Assumptions and limitations

The indicative spoil estimates presented in this document are for *in-situ* volumes of soils and rock to be excavated. No bulking factor has been applied to the *in-situ* volumes and therefore the actual spoil volumes may be up to 30% greater.

The indicative spoil volume estimates were determined using an MX3D model based on the Reference Design. The results are limited by the accuracy of the LiDAR data and feature survey information available for inclusion in the model. The estimates do not distinguish between material types and include existing asphalt and pavement.

Indicative waste categories and volume estimates are based on a limited number of soil sample results and a number of assumptions with regards to the type of contaminating activity identified.

2. Spoil generation

2.1 Spoil-generating activities

Spoil is defined as waste soil or rock resulting from project construction regardless of construction technique. Spoil would be generated during the North East Link construction through a range of activities. These are described in the sections below.

2.1.1 Surface construction earthworks

The project would require earthworks along the majority of the North East Link alignment, in particular for works supporting upgrade works on the M80 Ring Road and Eastern Freeway. The majority of earthworks would involve cut and fill for road widening, development of overpass and shared use pathways and footing excavation.

2.1.2 Cut and cover tunnels

For North East Link, the main tunnel cut and cover tunnel sections are between Windsor Street and Lower Plenty Road Yallambie, Bridge Street and Golden Way, Bulleen and Rocklea Street and the Eastern Freeway Bulleen.

Cut and cover construction involves using excavation equipment to dig a large trench or rectangular hole in the ground which is then covered by a concrete deck. Once the deck is in place, surface activity can largely resume as construction works continue below. The cut and cover structures for the tunnels and ramps would be built “top down”.

Construction would commence with installation of retaining walls following by excavation and installation of struts. Once this is complete, soil is excavated to just below the roof slab level of the underground structure and struts are installed to support the retaining walls, which in turn support the soil at the sides.

The roof slab is constructed and decking installed at ground level and the next level of slab is constructed, and the process progresses downwards until the base slab is completed. The installation of sidewalls and a base are constructed and the soil is then backfilled to the top strut level before the strut is removed. This is followed by backfilling the top of the underground structure and reinstating the surface area.

2.1.3 Tunnel boring machine (TBM) tunnels

TBMs would be the method for construction for the majority of the tunnels. A TBM would typically have a rotating cutter head, and behind the cutter head is a chamber from where the excavated spoil is removed. The spoil is typically transferred by a conveyor or slurry pipe to transport the spoil to the main spoil management area at the TBM launch construction compound for removal (to be determined).

The TBMs would be driven from south to north before being dismantled at the northern portal site. The TBMs would be in operation 24 hours per day, seven days per week, progressing at an estimated average rate of 60 metres per week and producing on average 23,000 m^3 of spoil per week.

2.1.4 Mined tunnels

Mined tunnel sections would be constructed with road headers at locations where TBMs are unsuitable because of limited available depth to the surface. For North East Link, the mined tunnel section would be adjacent to Bulleen Road between Avon Street and just south of Rocklea Road.

Two road headers would be used with an average production of 1,500 m^3 per day, per road header with canopy tubes installed the full length of the tunnel during the mining. A road header is an excavation machine consisting of a boom mounted rotating cutter head on bulldozer style tracks, a loading device, and a crawler track to move the machine forward into the rock face.

Spoil from the cavern excavation would be transported from the road header by conveyor belts or trucks to the main spoil management area at the main TBM launch construction compound for removal (to be determined)..

2.1.5 Sewer tunnel

The tunnel required for the realigned Yarra East main sewer would be constructed on the east of Bulleen Road from Avon Street to the Bulleen Road (adjacent to the Bulleen Swim Centre). This will be achieved through pipe jacking with exception of where it crosses the dam adjacent to the Marles Playing Fields at Trinity Grammar School Sporting Complex, where the sewer tunnel would be constructed using an open trench method and a cofferdam to prevent water entering the trough.

An estimated 9,300 m^3 of spoil is expected to be excavated from the tunnel which would be transferred to the surface for the deep, up to 20 metres, section and directly from the excavators for the shallower, up to 6 metre section.

Spoil generated daily would be approximately 90 m^3 for pipe-jacking and up to 75 m^3 for shaft excavation (*in situ*). This would require up to 10 truck movements per day assuming each truck can remove 10 m^3 of spoil from the site per load. Spoil would then be stored temporarily using a spoil storage shed until it is removed.

3. Spoil categorisation

3.1 Applicable legislation and policy

Victoria's *Environmental Protection Act 1970* is a legislative framework that regulates the discharge or emission of waste to water, land or air, and places controls on the disposal and transportation of waste. The Environment Protection Authority (EPA Victoria) has produced Industrial Waste Resource Guidelines (IWRGs) and publications to provide guidance for the management of spoil in Victoria. The following policy, regulations, IWRGs and publications provide guidance in relation to the sampling and categorisation of spoil:

- Environment Protection (Industrial Waste Resource) Regulations 2009
- IWRG600.2 *Waste Categorisation* (2010)
- IWRG621 *Soil Hazard Categorisation and Management* (2009)
- IWRG702 *Soil Sampling* (2009)
- Environment Protection (Scheduled Premises) Regulations 2017
- *Industrial Waste Management Policy (Waste Acid Sulfate Soils)* (1999)
- EPA Victoria Publication 655.1 *Acid Sulfate Soils and Rock* (2009)
- *Victorian Best Practice Guidelines for Assessing and Managing Coastal Acid Sulfate Soils* (2010)

In addition, the Heads of EPAs Australia and New Zealand (HEPA), released its guidance on the management of per- and polyfluorinated alkyl substances (PFAS) in January 2018. The PFAS National Environmental Management Plan (PFAS NEMP) provides assessment guidelines for soil and water and landfill acceptance criteria. Acceptance of PFAS-impacted soil by landfills is still subject to EPA approval.

3.1.1 Waste categories

The categorisation of waste in Victoria is based on two EPA Victoria publications:

- IWRG621 *Soil Hazard Categorisation and Management* (2009) which provides threshold values for Fill Material and Prescribed Industrial Waste (PIW)
- Publication 655.1 *Acid Sulfate Soils and Rock* (2009) which provides guidance on the classification and management of WASS.

Based on investigations completed to date, the spoil generated by the project would comprise a combination of Fill Material and Prescribed Industrial Waste (PIW) and waste acid sulphate soil (WASS). Each category is described below.

Fill Material

Fill Material (also known as Clean Fill) is not considered a waste under the IWRG. Therefore, EPA Victoria does not regulate the transport and reuse (on or off site) of Fill Material. However, the Environment Protection Act 1970 places general obligations to prevent adverse impacts on the environment and human health. Where there is potential for adverse impacts from the deposit of Fill Material, advice should be sought from EPA.

Where soil is found to contain elevated levels of contaminants (such as nickel and fluoride) or other constituents that can be demonstrated to be of natural origin and are naturally elevated, the soil may be classified as Fill Material.

Prescribed Industrial Waste (PIW)

Prescribed Industrial Waste (PIW) may arise as a by-product of manufacturing or be a classified as contaminated soil. Guidance in determining the hazard category for contaminated soil can be found in EPA Victoria Publication IWRG621 *Soil Hazard Categorisation and Management* (2009). Category A is the most hazardous decreasing to Category C. Category A contaminated soil requires treatment to reduce or control the hazard before meeting acceptance criteria for disposal at an appropriate EPA licensed facility. Category C and Category B Contaminated soil can be accepted at a landfill or facility licensed by EPA Victoria to accept such waste.

PIW may also contain asbestos containing material (ACM). If PIW contains ACM it would be categorised as:

- Category A or B if the levels of other contaminants present exceed the criteria in EPA Victoria Publication IWRG621 *Soil Hazard Categorisation and Management* (2009)
- Category C if soil contains asbestos only, that is, no other contaminants exceed criteria set in EPA Victoria Publication IWRG621 *Soil Hazard Categorisation and Management* (2009)
- Category C if packaged for disposal.

It is possible to apply to EPA Victoria for reclassification of a PIW if it can be shown that a different category is appropriate for the contaminants of concern (e.g. a contaminant is immobilised). The application must justify why the reclassification and proposed management method can achieve the best environmental outcome. Further analytical testing may be required to support the reclassification of soils.

PFAS-impacted soil waste categories are based on the total concentration and leachable concentrations of PFOS+PFHxS and PFOA. These determine what type of landfill may receive the material i.e. unlined, clay/single composite lined or double composite lined landfill cells.

Waste Acid Sulfate Soils (WASS)

EPA Victoria Publication 655.1 *Acid Sulfate Soils and Rock* (2009) provide guidance on the classification and management of WASS. The Department of Sustainability and Environment (DSE) *Victorian Best Practice Guidelines for Assessing and Managing Coastal Acid Sulfate Soils* (2010) also provides detailed information on the management of WASS.

The IWMP defines an acid sulfate soil as any soil, sediment, unconsolidated geological material or disturbed consolidated rock mass containing metal sulfides exceeding criteria published in EPA Victoria Publication 655.1 *Acid Sulfate Soils and Rock* (2009). WASS has the potential to oxidise producing acid which may be harmful to human health and/or the environment. Disturbance of acid sulfate soils and rock can adversely impact environmental quality, agricultural practices, engineering and landscaping works as well as human health *via* ingestion of contaminated water or occupational health and safety for workers.

WASS may present itself in the following forms:

- Actual Acid Sulfate Soil (AASS) – Soil containing sulfides which have oxidised (exposed to oxygen and water) producing sulfuric acid – as shown in Figure 3-1, the soil containing sulfides need to be exposed to air (oxygen) and water for become an AASS
- Potential Acid Sulfate Soil (PASS) – Soil where the sulfides have not yet oxidised (still contained within oxygen-free or waterlogged soil)
- Acid Sulfate Rock (ASR) – Rock containing sulfides which may oxidise producing sulfuric acid.

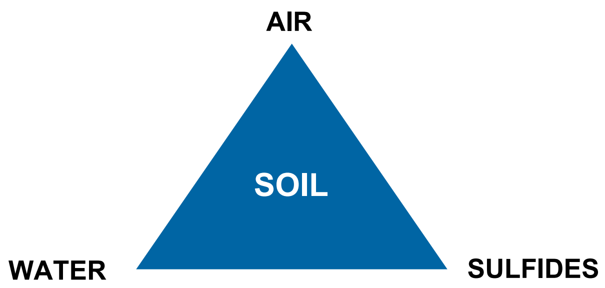

Figure 3-1 The combination that creates Actual Acid Sulfate Soil (AASS)

Other considerations with regards to spoil classification and management include the following exclusions which have been listed by EPA Victoria for the categorisation of contaminated spoil:

- Naturally elevated metals may be granted special approval
- Asbestos contaminated soil must be sent off-site for disposal
- Acid sulphate soil subject to the Industrial Waste Management Policy (Waste Acid Sulphate Soils) best practice (Best Practice Management Plan must be developed by appropriately qualified person)
- Per-and polyfluorinated alkyl substances (PFAS) affected soil – to be managed under the National Environment Protection (Assessment of Site Contamination) Measures and EPA Victoria interim position
- Soil containing volatile organic chemicals requires treatment or disposal
- Polychlorinated biphenyl (PCB) soil > 7ppm must be taken off-site for destruction
- Naturally immobilised contaminants such as B(a)P must be classified by hazard – can apply to EPA Victoria on a case-by-case basis.

3.2 Spoil volume estimates by category and location

An indicative estimate of the likely spoil the construction of North East Link would generate is provided in the *Spoil volume estimates* report attached as Appendix M to EES Technical report O – Contamination and soil. It was estimated that North East Link would generate approximately 6.1 million cubic metres (m^3) of excavated soil and rock (*in-situ*). A summary by element is provided in Table 3.1.

Table 3.1 Indicative spoil volume estimates (*in situ*) by element

Element	Total estimated volumes (m^3)
Element 1 – M80 Ring Road to northern portal	2,155,000
Element 2 – Northern to southern portal	3,265,000
Element 3 – Eastern Freeway	680,000
Total	**6,105,000**

Indicative volumes of Fill Material and Prescribed Industrial Waste (PIW) potentially generated by North East Link project are summarised in Table 3.2.

Table 3.2 Indicative waste category volume estimates

IWRG spoil category		Estimated volumes (m³ *in-situ*)	General description
Fill Material		4,845,000	Soil (clay, silt and/or sand), gravel and rock of naturally occurring materials.
Contaminated Spoil – Prescribed Industrial Waste	Category A	6,000	Spoil with the potential to adversely affect human health and the environment. Contaminant levels decrease from Category A to C (Category A is the most hazardous).
	Category B	16,000	
	Category C	235,000	

Notes:
1. All indicative spoil volume estimates are for *in-situ* material (no bulking factor applied).
2. IWRG621, *Soil Hazard Categorisation and Management* (2009) provides the constituent thresholds of contaminants for categorisation of Fill Material and Category A, B and C PIWs.
3. Volumes sourced from *Spoil volume estimates* report, Appendix M, EES Technical report O –Contamination and soil.
4. Volumes estimated exclude consideration of acid sulfate soil/rock.

As noted in the *Spoil volume estimates* report (Appendix M, EES Technical report O – Contamination and soil), much of the classification of Category C for the Silurian basement rocks is based on fluoride exceeding the upper limit for Fill Material in EPA Victoria Publication IWRG621 *Soil Hazard Categorisation and Management* (2009). A number of lines of evidence suggest this material could be re-categorised to Fill Material. Re-classification would need to be obtained from EPA Victoria. A reduction of the volume of Category C PIW would provide a significant project benefit and provide more flexibility in spoil management options.

A portion of the spoil generated by the project's construction may also be classified as Waste Acid Sulfate Soil (WASS). WASS includes Potential Acid Sulfate Soil (PASS), Actual Acid Sulfate Soil (AASS) and Acid Sulfate Rock (ASR). An indicative estimate of the volume of WASS the project could generate is summarised in Table 3.3. The spoil volumes estimates by category and source location are provided in the *Spoil volume estimates* report.

Table 3.3 Estimated PASS/AASS and ASR spoil volumes

Spoil category	Estimated volumes (m³ *in-situ*)
Potential Acid Sulfate Soil (PASS), Actual Acid Sulfate Soil (AASS)	594,000
Acid Sulfate Rock (ASR)	2,630,000

Notes:
1. All indicative spoil volume estimates are for in-situ material (no bulking factor applied).
2. EPA Publication 655.1 - Acid Sulfate Soil and Rock provides the criteria for determination of WASS.
3. Volumes sourced from Spoil volume estimates report, Appendix M, EES Technical report Contamination and soil.

The categorisation of Fill Material and Category A, B and C PIWs are determined by constituent thresholds of contaminants set out in EPA Victoria Publication IWRG621 *Soil Hazard Categorisation and Management* 2009. However, due to the limited field data, the ratio of categorised waste has been extrapolated where possible and estimated as required. Further sampling and assessment of waste soil and rock in accordance with the required sampling densities of the IWRG and WASS guidelines would be undertaken for the preparation of a Spoil Management Plan before the project's construction started to provide more certainty about the volumes of waste in each IWRG category.

No attempt has been made to separate WASS from soil categorised under the IWRG. It is expected that most of the WASS would come from excavated moderately weathered to fresh Silurian aged siltstone rock, listed as Fill Material in Table 3.2 above.

The assumptions associated with these estimates are provided in the *Spoil volume estimates* report (Appendix M, EES Technical report O – Contamination and soil).

4. Spoil management approach

4.1 Overview

The waste hierarchy is one of 11 principles of environment protection set out in Victoria's *Environment Protection Act 1970*. The waste hierarchy lists broad management options for waste in order of the most preferable to least preferable, as shown in Figure 4-1. The most preferable method is avoiding and reducing the generation of waste. The least preferable method is disposal to landfill. Management of the spoil generated during North East Link's construction must consider this hierarchy.

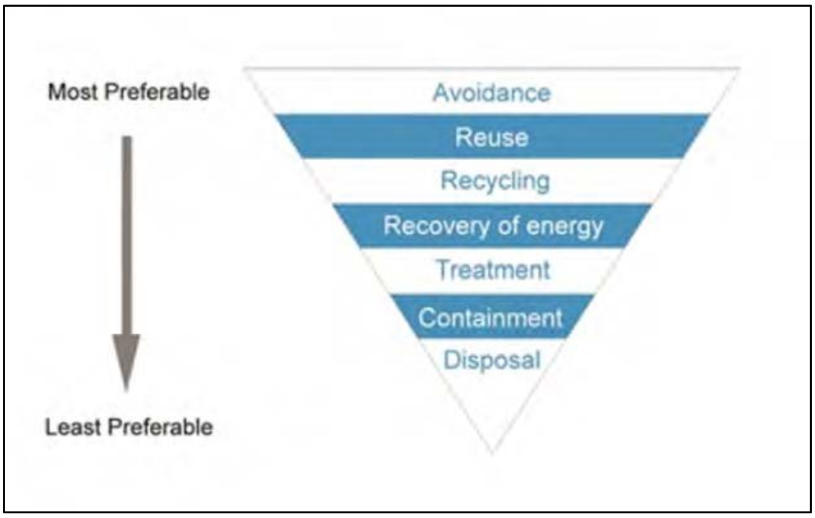

Figure 4-1 EPA Victoria waste management hierarchy

The management of spoil will be highly dependent on the categorisation of spoil generated during the project's construction. The available and preferred management options by spoil category, including examples for consideration, are discussed in the following sections.

For the purposes of the Spoil Management Strategy it is assumed there is currently sufficient capacity at existing landfills and treatment facilities to accommodate the project would generate. It is noted that initial calculations completed for Technical report O – Contamination and soil suggest that conservative volumes of Category A and B soils may exceed landfill capacity. However, the estimates provided are likely to vary significantly from the final volumes, due to the adoption of conservative assumptions in the absence of detailed sampling information. There is also considerable time before the landfill capacity would be needed and it is likely that capacity would be made available as required as the market responded to demand. The contractor will need to include contingencies in their planning to management any shortfall in landfill capacity.

The contractor would be required to engage with relevant waste disposal facilities and other waste management organisations to confirm the availability of management options, and document these options within their Construction Environmental Management Plan (CEMP).

The contractor will also need to consider the management requirements of PFAS-impacted spoil in accordance with the PFAS NEMP.

The use of classifications does not exempt sites from the requirement to obtain a Works Approval as required under the Environment Protection (Scheduled Premises) Regulations 2017 when large quantities (>1,000 m^3) of contaminated soil will be retained on site.

An overview of the soil management process has been developed by EPA Victoria as shown in the flowchart in Figure 4-2.

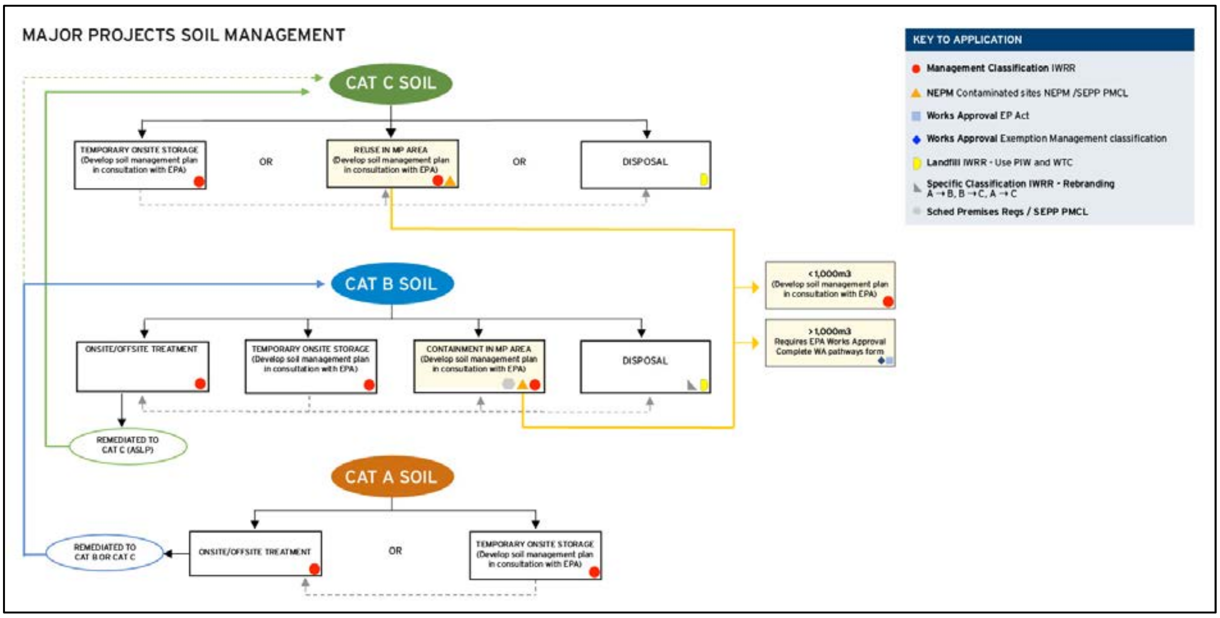

Figure 4-2 Major projects soil management

4.2 Avoidance

Excess spoil generation can be avoided through optimised design, management and engineering where practicable. Several mitigating measures which can be considered for implementation include:

- Refinement of design and construction methods to reduce the volume of spoil produced/ disturbed (where practicable)
- Using engineering measures such as improving the structural properties of *in-situ* spoil, negating the need for its removal (such as by grouting)
- Minimisation of groundwater disturbance and/or coverage of *in-situ* PASS to reduce the generation of WASS.

The roadway capacity largely dictates the size and extent of project infrastructure. Modifications to the roadway capacity of North East Link are unlikely at this stage due to the significant capital cost. The project alignment has been selected based on a wide range of economic and political factors and major changes are not practicable.

4.3 Reuse

Reuse of spoil at the site of origin is possible where it meets human health and ecological criteria, and is a preferred option. Spoil designated as PIW (Categories A, B and C) are regulated by EPA Victoria and options for the reuse, treatment or disposal of these materials includes:

- Category A – of-site treatment at a licensed facility
- Category B – off-site treatment or disposal to a licensed facility, or containment on-site
- Category C – disposal to a licensed facility, or reuse on-site

However, disposal of Fill Material does not face these constraints as its movement and disposal is not regulated and Fill Material is a commodity with many viable uses.

Reuse of spoil on North East Link can be split in two categories:

- Reuse within the project
- Reuse outside the project.

4.3.1 Reuse within the project

Spoil could potentially be reused within the project boundary for:

- Fill embankments and beneath ramps
- Restoration of any pre-existing contaminated sites within the project boundary
- Reuse topsoil for site restoration.

However, the potential to reuse spoil within the project is limited, due to the objective of minimising the project footprint and the limitations on space in the developed suburban area. The construction sites are narrow and would be congested with construction-enabling equipment, materials and personnel. However, if a need for spoil is identified, an application for a Major Infrastructure spoil management classification and reuse within the project can be submitted to EPA Victoria's Major Projects Unit.

Fill Material

Fill Material, particularly topsoil, would be recovered and reused wherever practicable, such as for landscaping areas. It is expected the Contractor would adopt innovative approaches to reuse Fill Material wherever possible. In accordance with the Environment Protection Act, any reuse of Fill Material at the receiving site must not have adverse impacts on human health or the environment.

Contaminated spoil (PIW)

Reuse of less than 1,000m^3 of Category C soil and containment of less than 1,000 m^3 of Category B soil on-site requires implementation of a Spoil Management Plan prepared in consultation with EPA Victoria. Reuse or containment of soils above these volumes would require an EPA Victoria Works Approval. It is noted that exceptions to reuse and containment exist under EPA Victoria's *Contaminated soil management and reuse on major infrastructure projects*.

Category A spoil cannot be reused or contained on-site.

WASS (AASS, PASS & ASR)

Reuse of WASS is possible if it is treated or managed appropriately. Classifications for PIW may be issued by EPA Victoria in accordance with clause 11 of the Environment Protection (Industrial Waste Resource) Regulations 2009. Classifications can specify spoil management options through conditions such as requirements on auditing, tracking, treatment, storing or monitoring.

WASS can be reused on-site where it meets human health and ecological criteria. This may be achieved through the treatment of spoil and engineering design. Treatment would only be allowed under a Construction Environmental Management Plan (CEMP) prepared in accordance with the Industrial Waste Management Policy (Waste Acid Sulfate Soils) 1998 that has been approved by EPA Victoria. Treatment would likely require neutralising and possibly dewatering before it is allowed to be placed in an area away from where it was excavated. Therefore, reuse on-site of WASS may be considered an impracticable option for North East Link, due to site and program constraints.

Reuse of PFAS-impacted spoil onsite would require approval by the EPA Victoria.

4.3.2 Reuse outside the project

Reuse of spoil material outside the project would need to meet the requirements of the Environment Protection Act, and may be subject to a determination by EPA Victoria. PIW (Category B and C) would need to be treated and reclassified as Fill Material with EPA Victoria approval. Options to reuse material include:

- Construction on other projects
- Manufacturing of construction materials (bricks and tiles)
- Manufacturing of soil conditioners
- Land reclamation
- Land restoration (including filling disused mines or quarries)
- Port and coastal protection works
- Reuse for landfill management.

Options available for the reuse of material are provided in the context of the spoil management hierarchy shown in Table 4.1. In determining whether any of these options are viable, a number of factors must be considered including the timing of other projects, homogeneity of the material, suitability of the waste category for off-site use, transport costs, engineering properties of the waste and treatment requirements.

Fill Material

Fill Material is preferred to be reused on-site wherever possible. However, given the large total volume of Fill Material that North East Link's construction would generate, most would not be able to be reused within the project boundary and would be reused off-site. Disposal of Fill Material is not regulated and it is a commodity with many viable uses.

In accordance with the Environment Protection Act, any reuse of Fill Material at the receiving site must not have adverse impacts on human health or the environment.

Contaminated spoil (PIW)

Contaminated spoil is designated by the Environment Protection Act as PIW once it is removed from its original source. Category A PIW, being the most hazardous, cannot be reused and must be treated and disposed at a licensed treatment facility.

Reuse of Category B and Category C PIW off-site would require treatment (possibly at an off-site licensed treatment facility) and reclassification as Fill Material before its reuse. The Contractor would be expected to conduct a feasibility study/cost benefit analysis for this option before the project's construction started.

WASS (AASS, PASS & acid sulfate rock)

Spoil classified as WASS would require treatment before its reuse and may only occur at premises:

- Licensed to dispose of WASS under the Environment Protect Act
- Where a CEMP, prepared in accordance with the Industrial Waste Management Policy (Waste Acid Sulfate Soils) 1998 has been approved by EPA Victoria.

A combination of licensed receiving facilities or reuse sites approved by EPA Victoria under a CEMP (such as for port construction or maintenance) could be adopted for North East Link's construction. The treatment requirements for reuse of WASS are considered further in Section 4.5.

In accordance with EPA Victoria Publication 655.1 *Acid Sulfate Soils and Rock* (2009), WASS sourced from a subaqueous environment which is intended to be directly disposed of to a marine or estuarine spoil ground does not require a CEMP. EPA Victoria must approve this disposal method, oxidation must be minimised, and disposal carried out in accordance with current best practice for dredging.

Reuse of PFAS-impacted spoil offsite would require approval by the EPA Victoria.

4.4 Recycling and energy recovery

Recycling involves using material that would otherwise be disposed of for another purpose in order to recover some value. For example, concrete can be recycled and reused to make new concrete.

Energy recovery involves using a waste resource to generate energy, such as the combustion of flammable products like asphalt to produce electricity. The processes associated with energy recovery are described in EPA Victoria Publication 1559.1 *Guideline Energy From Waste* (July 2017).

Based on ongoing investigations and the nature of the spoil material being excavated during North East Link's construction, recycling and/or recovery of energy opportunities would unlikely be viable management options for the spoil generated. However, opportunities could be further investigated by off-site treatment facilities utilised and implemented where practicable. Some components of demolition rubble such as asphalt or concrete can be recycled but these materials are not the subject of this report.

4.5 Treatment

4.5.1 Fill Material

No or minimal treatment is required for reuse or disposal of Fill Material. Industrial waste such as bricks and concrete, which may be co-mingled with Fill Material would need to be removed as far as practicable in accordance with the IWRGs.

4.5.2 Contaminated spoil (PIW)

There are various methods for treating PIW depending on the contaminants which are targeted to be removed. EPA Victoria Publication 1589 *Contaminated soil – treatment and disposal* (Draft 2015) requires the spoil producer to conduct an assessment to determine if treatment is a viable option before PIW is able to be disposed of at a landfill, against the following tests:

(a) Available — the PIW can be treated or reprocessed to reduce the requirement for residual management, and technology and facilities necessary to realise this potential are practicably accessible.

(b) Not available — the PIW cannot be treated or reprocessed to reduce the requirement for residual management, or technology and facilities necessary to realise this potential are not practicably accessible.

Category A PIW must be treated and disposed at a licensed treatment facility. Treatment of Category B & C PIW at a licensed treatment facility before its reuse is preferred for North East Link, where practicable. In assessing whether an option is practicable, practicability does not mean the option is the lowest cost option. A preferable option that costs more may still be practicable. EPA Victoria Publication 1589 *Contaminated soil – treatment and disposal* (Draft 2015) provides examples of how to assess the practicability of an option in terms of technical, logistical and financial factors.

Options for treatment of contaminated spoil include:

- Chemical immobilisation and solidification for the treatment of inorganic and organic contaminants
- Bioremediation for the treatment of organic contaminants, including petroleum hydrocarbons
- Soil washing for the treatment of heavy metals, petroleum hydrocarbons, some VOCs, PCBs, PAHs, acids, pesticides, herbicides and cyanides
- Thermal desorption or destruction for the treatment of VOCs, SVOCs, PCBs, PFAS, dioxins and furans.

The application of these treatment technologies for the treatment of spoil would be applied to reduce contaminant concentrations and/or leachability and allow for Category A and Category B soils to be reclassified as either Category C soil or Fill Material post treatment. Reclassification of material would require additional testing and application to EPA Victoria. Treatment and subsequent reclassification by EPA Victoria would require stockpiling of the material pending EPA Victoria determination.

4.5.3 WASS (AASS, PASS and ASR)

EPA Victoria Publication 655.1 *Acid Sulfate Soil & Rock* (2009) and the *Victorian Best Practice Guidelines for Assessing and Managing Coastal Acid Sulfate Soils* (2010) provide guidance on the treatment methods available for WASS. Due to site constraints on North East Link, WASS spoil would need to be treated off-site at the receiving facility. However, if the contractor determines there is sufficient space within another construction site, it could be transported to that site for treatment (with EPA Victoria approval).

The treatment methodology for the WASS would comprise:

- Transport of the WASS in accordance with the requirements detailed in Section 3.1 above
- Weighing the spoil (via weighbridge or similar) and placement into a temporarily stockpile
- Review of previous analytical testing together with real-time measurements of the pH and moisture content of the stockpiled spoil
- Addition of an alkaline neutralisation agent (typically lime) at a rate determined from the testing
- Reuse and/or disposal as appropriate.

Minimisation of stockpile duration times would be undertaken to reduce the volume of neutralisation agent required wherever practicable. Further information about the treatment of WASS is provided in the *Victorian Best Practice Guidelines for Assessing and Managing Coastal Acid Sulfate Soils* (2010).

4.6 Containment

Containment is not considered a viable option for PIW or WASS excavated during the construction of North East Link due to site area constraints and limited space within project boundaries. Where removal of PIW of WASS spoil is not required for construction purposes and can remain *in situ*, it may be viable to assess treatment/management to minimise the potential for migration of contaminants. Containment options would need to be considered for where fill placement is required and risks to human health and the environment are assessed to be acceptable, on a site-specific basis.

4.7 Disposal

Disposal of spoil is the least preferred management option for the project. However, it may be required for PIW, asbestos containing material, WASS and PFAS-impacted spoil, due to project, site and program constraints and the available capacity of treatment facilities.

EPA Victoria has provided an Industrial Waste fact sheet: EPA Publication 1624 (May 2016) which guides the producer and receiver of Fill Material, PIW and WASS. EPA Victoria also provides a list of licensed disposal locations on its website at <https://www.epa.vic.gov.au/your-environment/waste/landfills>.

EPA Victoria regulates the storage, transport and disposal of waste in Victoria. Spoil disposal methods for North East Link would be selected based on the classification of waste material in the EPA Victoria Industrial Waste Resource Guidelines. Contaminated soil is required to be transported using a vehicle with an EPA Victoria permit accompanied by a waste transport certificate. The transported contaminated soil may only be accepted by a licensed facility, unless exempted from the process by EPA Victoria.

The EPA Victoria also require that disposal of PFAS-impacted spoil be in accordance with the PFAS NEMP. Individual landfills must seek approval from the EPA Victoria to receive such wastes.

Spoil would be transported from the site locations to off-site treatment and/or disposal areas by road trucks. Indicative truck haulage routes have been identified to provide construction-related traffic with efficient access to the freeway and arterial road network and between worksites, minimising the impact on local traffic and local roads wherever possible.

4.8 Asbestos containing material

Asbestos containing material may be encountered in spoil from Bulleen Park and other historical sites and would have to be classified as Asbestos Containing Material (ACM), Asbestos fines or Fibrous asbestos. An occupational hygienist would need to be engaged to prepare an Asbestos Management Plan as part of the Contractor's Construction Environmental Management Plan (CEMP) that would define the procedures and protocol for identifying and managing asbestos containing waste. The asbestos containing waste would be managed in accordance with Victoria's O*ccupational Health and Safety Act 2004* and Occupational Health and Safety Regulations 2007. ACM would be handled and transported in accordance with IWRG611.1 Asbestos Transport and Disposal 2009.

4.9 Summary

A summary of the available and preferred management options for North East Link by spoil category, including examples for consideration, is provided in Table 4.1.

Table 4.1 NEL spoil management hierarchy options assessment

Hierarchy	Option	Example of option	Potential Management options by spoil category*		
			Fill Material	Prescribed Industrial Waste (PIW) Category A, B and C	Waste Acid Sulfate Soil (WASS) PASS, AASS and ASR
Avoidance[1]	Optimised design and management	• Reduction of tunnel length, tunnel diameters, shaft cross-sectional areas and station volumes can be implemented to reduce the total volume of spoil produced. • Re-direct the route or interchanges to avoid likely PIW areas	Preferred but not acceptable to the project. Limited options available, due to surrounding residential construction and the political objective to impact as few residential properties as possible.		
Reuse – within project[2,3]	Reuse for Construction within project	• Reuse in project fill embankments and mounds within short haulage distance of source • Restoration of any pre-existing contaminated sites within the project boundary • Reuse topsoil for site restoration	Preferred and should be applied wherever possible. Limited available space within project boundary for construction of mounds or other use of soils.	Preferred. Less than 1,000m^3 of Category C soil may be able to be reused and less than 1,000m^3 of Category B soil may be able to be contained on-site under a soil management plan prepared with EPA Victoria. Additional volumes of Category C or B soil could be retained on-site if a Works Approval is granted. It is noted that the total estimated spoil quantities could not be reused within the alignment. It is not considered feasible to reuse Category A soils on site[2,5]	Preferred but unlikely to be feasible due to limited available space for creation of management areas.[3,5]
Reuse – outside project	Reuse for: • Construction on other projects • Manufacturing of construction materials • Manufacturing of soil conditioners • Land reclamation • Land restoration • Port/coastal protection • Landfill management.	• Reuse for fill embankments and mounds on surrounding construction projects within an economic haulage distance from site • Manufacturing with sand in concrete or shale in bricks or tiles • Reuse for land reclamation works subject to master planning, timing and approvals • Restore existing contaminated areas, and reuse to fill disused facilities such as mines and quarries, to enable either future development or ecological rehabilitation • Reuse in coastal protection works such as beach nourishment, port expansion or rehabilitation • Capping of completed landfill cells and daily covering of landfilled waste	Preferred	Can only be used outside the project following treatment and re-classification. Reuse of Category A soil not permitted off-site.	Preferred. Potential reuse subject to treatment at premises[3]: • Licensed to dispose of WASS under the Environment Protection Act, or • Where an EMP, prepared in accordance with the Policy, has been approved by EPA Victoria.

Hierarchy	Option	Example of option	Potential Management options by spoil category*		
			Fill Material	Prescribed Industrial Waste (PIW) Category A, B and C	Waste Acid Sulfate Soil (WASS) PASS, AASS and ASR
Treatment	Treatment on site or off-site at licensed facility	Applicable treatment to remove contaminants of concern	Not required	Preferred off-site (must be treated at a licensed facility). Ability for on-site treatment is limited due to available space and time within the suburban setting. Preferred but unlikely to be feasible [5].	Preferred off-site. Treatment must occur at premises[3]: • Licensed to dispose of WASS under the Environment Protection Act, or • Where an EMP, prepared in accordance with the Policy, has been approved by EPA Victoria. On site treatment not feasible[5].
Disposal	Off-site disposal as waste	• Disposal at approved landfill facility • Disposal at an EPA licensed facility	Not preferred	Disposal at licensed facility if remains a PIW not preferred. Reuse preferred if reclassified and approved by EPA Victoria.	Not preferred. Dispose off-site at premises[3]: • Licensed to dispose of WASS under the Environment Protection Act, or • Where an EMP, prepared in accordance with the Policy, has been approved by EPA Victoria.
*The presence of PFAS in each category must be taken into account when determining management options and management must be in accordance with the PFAS NEMP.					

Notes:

1. Avoidance to be targeted through design, management & engineering.
2. Any reuse of Category A, B or C PIW in the project area must meet human health and ecological criteria.
3. Potential reuse, treatment and/or disposal of WASS must occur at premises:
   - Licensed to dispose of WASS under the Environment Protection Act, or
   - Where an EMP, prepared in accordance with the Industrial Waste Management Policy (Waste Acid Sulfate Soils), has been approved by the EPA Victoria.
4. Disposal of PIW only if treatment deemed Impracticable as assessed in accordance with EPA Publication 1589 Contaminated soil - treatment & disposal (2015 DRAFT). If treated it may result in re-categorisation as Fill Material with broader reuse options available.
5. Not feasible – This option is considered either impractical or unfeasible on North East Link due to site restrictions and program constraints.
6. Acronyms:
   - PIW – Prescribed Industrial Waste as categorised in accordance with the *IWR Regulations*.
   - WASS – Waste Acid Sulfate Soil - Comprises disturbed Potential Acid Sulfate Soil (PASS), Actual Acid Sulfate Soil (AASS) and/or Acid Sulfate Rock (ASR).
   - IWMP - Industrial Waste Management Policy (Waste Acid Sulfate Soils) 1999

5. Spoil Management Plan

Contractors would be required to develop and implement a Spoil Management Plan consistent with this Spoil Management Strategy and in accordance with relevant regulations, standards or best practice guidelines. The Spoil Management Plan would be developed in consultation with EPA Victoria and would address:

- Complying with applicable regulatory requirements
- Identifying the nature and extent of spoil (clean fill and contaminated spoil)
- Roles and responsibilities
- Storage, handling, transport and disposal of spoil in a manner that protects human health and the environment
- Design and development of specific environmental management plans for temporary stockpile areas
- Identifying and managing potential sites for re-use, management or disposal of any spoil in accordance with the Environmental Protection Act waste management hierarchy
- Monitoring and reporting
- Identifying locations and extent of any PIW or other waste and the method for characterising PIW spoil before excavation
- Identifying suitable sites for disposal of waste
- Remediation management plan for contaminated land and groundwater to remediate contamination caused or exacerbated during the course of the project.

In particular, the Spoil Management Plan would contain:

- A description of soil source, location, quantity and characteristics of the contaminated spoil and the contaminants of concern (including PFAS)
- Spoil categorisation procedure including sampling regime and testing particulars
- The process for acceptance of soils retained and imported to site
- Off-site reuse, treatment and disposal procedures
- Confirmation of the availability of spoil management options
- Management procedure for soils exceeding human health criteria including management of occupational health and safety
- An Asbestos Management Plan or similar prepared by an occupational hygienist that would define the procedures and protocol for identifying and managing asbestos
- A WASS Management Plan in accordance with the guidelines provided in EPA Victoria Publication 655.1 *Acid Sulfate Soil and Rock* (2009) and the associated *Victorian Best Practice Guidelines for Assessing and Managing Coastal Acid Sulfate Soils* (2010)
- PFAS management options in accordance with the PFAS National Environment Management Plan
- Spoil tracking system details of each load including mass or volume, spoil categorisation, destination, truck registration and configuration, site departure time and arrival time at receipt facility, soil pH (for WASS), and any necessary transport licences and approvals

- Stockpile Management Plan detailing how spoil would be segregated, contained and managed to mitigate against environmental and human health impacts including erosion and sedimentation control
- Provision of contingencies to address any capacity issues associated with the ability of licensed landfills to receive PIW and other waste – the contingencies must not result in long-term storage of waste on the project
- A management plan for contaminated spoil left exposed after construction works that may exceed the beneficial uses of land – the contractor would be required to make this material safe for the public and the environment during construction and for future use
- Persons responsible for implementation and management of the above.

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Victorian Government 1999, *Industrial Waste Management Policy* (Waste Acid Sulfate Soils).

Victorian Government, 2013, *State Environment Protection Policy (Prevention and Management of Contamination of Land).*

VicTrack 2016, *Guidelines for the reuse of potentially contaminated or contaminated soil on VicTrack land,* Victorian Government, Melbourne.

WorkSafe Victoria 2008, *Compliance Code - Removing Asbestos in Workplaces,* 1st edition, Victorian Government, Melbourne.

WorkSafe Victoria 2010, *Guidance Note - Asbestos-contaminated soil*, Victorian Government, Melbourne.

Annexures

Annexure A - Spoil volume estimates

Table sourced from Spoil Volume Estimate (Technical report O - Contamination and Soil – Appendix M). Refer to that report for assumptions.

Location	Estimated in situ volumes (m^3)					
	Fill	Cat A	Cat B	Cat C	Total PIW	Sub Total
M80 Ring Road to northern portal	**2,120,000**	**-**	**3,000**	**32,000**	**35,000**	**2,155,000**
Greensborough landfill	12,850		1285	11,565	12,850	25,700
Watsonia landfill (AK Lines Reserve)	4500		450	4050	4500	9,000
Watsonia railway station	84,350			8750	8,750	93,100
Yallambie Road fuel station	77,750		825	7425	8250	86,000
Northern portal to southern portal	**3,111,000**	**5,500**	**11,500**	**137,000**	**154,000**	**3,265,000**
Yallambie landfill (Borlase Reserve)	158,300	-	-	35,000	35,000	193,300
Bulleen Industrial Precinct	774,000	5000	10,000	85,000	100,000	874,000
Former Bulleen quarry	-	-	-	-	-	-
Bulleen Park (landfill)	11,000	500	1,500	17,000	19,000	30,000
Eastern Freeway	**612,000**	**500**	**1,500**	**66,000**	**68,000**	**680,000**
Bulleen Park (landfill)	11,000	500	1,500	17,000	19,000	30,000
Former landfill at Camberwell Golf Club	N/A*	-	-	18,500	18,500	18,500
Greythorn landfill	3250	-	-	3250	3250	6500
Koonung Creek Linear Park	63,010	-	-	17,000	17,000	80,010
Former City of Camberwell landfill	N/A*	-	-	10,000	10,000	10,000
TOTALS	**5,843,000**	**6,000**	**16,000**	**235,000**	**257,000**	**6,100,000**
*N/A –no excavation is required						

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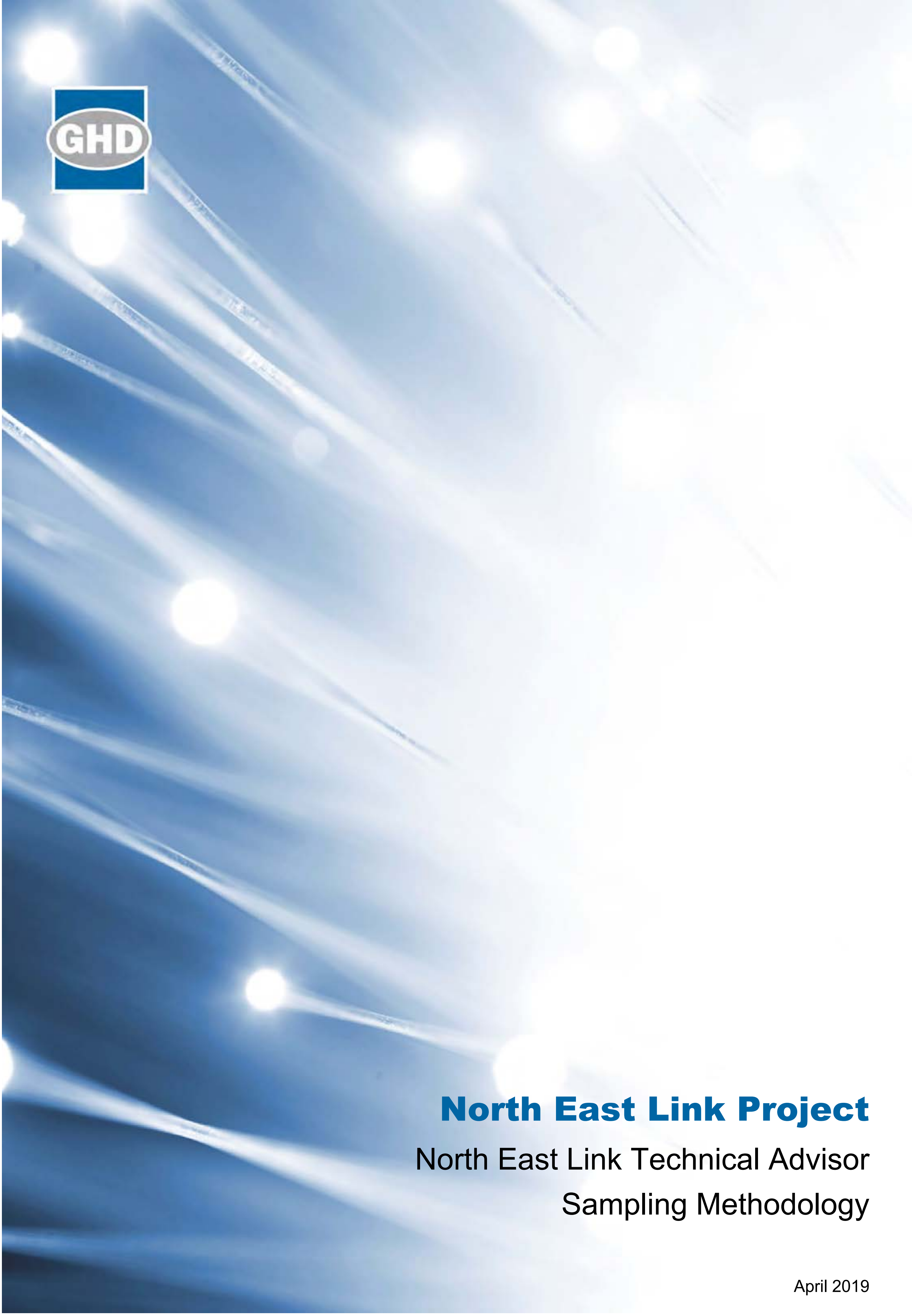
Appendix H – Soil and groundwater sampling methodology



North East Link Project

North East Link Technical Advisor

Sampling Methodology

April 2019

Table of contents

Appendices

1. Introduction

1.1 Purpose of this report

This supplementary report presents the sampling methodology for soil, groundwater and vapour assessment undertaken as part of the assessment for the North East Link EES Technical report O – Contamination and soil.

A more detailed introduction to the project is provided in the EES Technical report O – Contamination and soil.

2. Methodology

2.1 Site assessment

2.1.1 Site clearance

Borehole locations were cleared through a multi-step process, as follows:

- Dial before you dig plans were obtained and the location of the proposed borehole/groundwater well positioned on site. The on-site assessment also included a review of above ground services and other related infrastructure that may have presented a safety hazard.
- The area surrounding the proposed sample location was assessed visually to identify features such as service pits, trenches, depressions and marker posts that may indicate the presence of an underground service.
- Underground services, as shown on dial before you dig plans were located by a service location contractor using electronic scanning equipment. The broader sample area was also cleared, using the scanning equipment, to identify the potential presence of unknown services.
- Following locator clearance, each sample point was extended using hand auger or a combination of hand auger and high pressure water lance/vacuum extraction. Use of the water lance was minimised to reduce the potential impact on underlying soils.

2.1.2 Soil sampling methodology

Soil samples were collected from soil bores installed specifically for the purpose of collecting samples for environmental analysis and also opportunistically in bores installed for geotechnical or hydrogeological purposes.

The soil sampling process included the following steps:

- Concrete core where concrete or saw cut where asphalt surfaces were present
- Collection of soil samples using the hand auger from the site surface, 0.5 mbgl, 1.0 mbgl, and at 1-metre intervals thereafter, where possible until natural soil is encountered (in the absence of odour and visible signs of contamination)
- The intervals between samples were extended using the hand auger or by water lance and vacuum extraction
- The soil profile was logged as the borehole progressed. All soil types, changes in colour or texture, evidence of fill, odour, drilling difficulty, water inflow or loss, core loss, soil sample intervals, PID readings etc. were recorded on the soil bore log.
- Each soil sample was separated into two parts.
  - The first part was placed in two 250-millilitre sample jars (minimum headspace). Samples were maintained on ice (or in the site fridge) until being transported under Chain of Custody documentation to the analytical laboratory.
  - The second part was placed in a sealed plastic bag, broken up, and allowed to sit at room temperature for subsequent field screening for non-specific combustible vapours, using a photoionization detector (PID).
- A separate sample of soil for acid sulfate analysis was collected in the field and placed within a zip lock bag. The acid sulfate samples were frozen at the site shed before being sorted and selected samples transported to the laboratory for analysis.

- Samples were transported to the laboratory at the end of each sampling day or within 48 hours of collection.

Decontamination practices included the following:

- A clean pair of new, non-powdered, disposable nitrile gloves will be worn immediately prior to sampling and each time a different location is sampled.
- The hand auger was decontaminated prior to drilling/sampling each location and in between each sampling location. Decontamination was completed using one of the two methods outlined below:
  - Extensively pressure wash auger head and lead rod, to remove any attached soil/soil residue until auger is visibly clean; or
  - Scrape all soil fragments off the auger, scrub in a bucket of potable water with phosphate free cleaning solution and rinse in a bucket or under a spray of fresh potable water. Water containing the cleaning solution and rinse water was changed between boreholes.

A minimum of two samples were selected from every borehole and submitted to ALS Environmental Pty Ltd for laboratory analysis. Samples were selected based on observations of potential contamination, such as odour and colour. At least one near surface sample ideally collected from fill soils and one underlying sample from natural soils was submitted for analysis. All samples were submitted for the screen of analytes outlined in the Industrial Waste Resource Guidelines (IWRG) document 621 – *Soil Hazard Categorisation*. The IWRG 621 screen is considered satisfactory for an assessment of likely contamination and also permits consideration of offsite disposal classification.

The following sample naming convention was followed: NEL-(borehole number)-(depth of sample).

Soil samples had been collected at the locations shown in Figures 6 to 16 in Appendix A of EES Technical report O – Contamination and soil. Locations were based on the outcome of the site historical assessment, site walkover, underground service location and assessment of area sensitivity (by the project Stakeholder Engagement Team).

Soil samples recovered for assessment of acid sulphate soil and rock potential were placed immediately on ice and stored in a freezer prior to delivery to the laboratory for analysis. The location of the samples recovered specifically for this purpose as at the time of drafting this report are provided in Figures 19 to 23, *A*ppendix A of EES Technical report O – Contamination and soil..

2.1.3 Groundwater well installation

The Contaminated Land team located and installed eight groundwater wells along the North East Link alignment. Another five groundwater wells were installed by the Geotechnical and hydrogeological team. These wells, plus an additional eight existing wells, were sampled for the purpose of assessing the presence of contaminants of concern.

The locations of the monitoring wells are shown on Figures 17 and 18 in Appendix A of EES Technical report O – Contamination and soil. Bore logs with construction details are presented in Appendix F of Technical report O – Contamination and soil.

The wells were installed in accordance with Bore Construction Licenses obtained from Southern Rural Water. For monitoring wells, the following method was used:

- The upper 1.5 metres of each bore was completed using the procedure outlined above for installation of soil bores.
- From a depth of approximately 1.5 mBGL boreholes were extended to a depth of approximately 2 metres below the water table. The water table was assessed on a site by site basis looking for issues such as moisture inflow into the well and loss of dust.
- Typically, three metres of machine slotted, threaded, 50- millimetre class 18 PVC were installed at the base of each hole before being cased to the surface. Graded washed sand was placed to 0.5 metres above the top of the screened interval, followed by approximately 1 metre of bentonite chips and then cement grout to the ground surface.
- The soil/rock profile was logged as the borehole progressed. All factors such as soil types, changes in colour or texture, evidence of fill, odour, drilling difficulty, water inflow or loss, core loss, soil sample intervals and PID readings were recorded on the bore log.
- Bore logs for groundwater wells are presented in Appendix F of EES Technical report O – Contamination and soil.
- Field measurement of VOC concentrations were conducted at selected depths at each location using a PID.
- Groundwater monitoring were developed using disposable bailers. Each well was developed with the objective of removing fines from the bore (as practicable).
- Groundwater wells were surveyed for elevation and location to Australian Height Datum (AHD) and Australian Mapping Grid (AMG). Reduced Levels are presented in the groundwater gauging table in Appendix J of EES Technical report O – Contamination and soil.
- It is noted that boreholes drilled by the geotechnical or hydrogeological team were advanced through siltstone rock, using a triple-barrel diamond core technique. This technique is generally adopted where higher quality rock is encountered or where greater geological detail is required and provides a continuous core sample.

2.1.4 Groundwater sampling

Groundwater gauging, sampling, decontamination and sample handling procedures were conducted in general accordance with EPA Victoria Publication 669: *Groundwater Sampling Guidelines (*EPA Victoria, 2000) and EPA Victoria Publication IWRG701: *A Guide to the Sampling and Analysis of Waters, Wastewaters, Soils and Wastes* (EPA, 2009).

Groundwater level measurements were recorded at monitoring well locations using an oil/water interface probe to determine the depth to the groundwater table and the presence or absence of light non-aqueous phase liquid (LNAPL)

Groundwater sampling was undertaken as part of this scope of work using low flow/Micropurge techniques. Samples were collected once field parameters (pH, electrical conductivity, redox potential, temperature and dissolved oxygen) were observed to have stabilised, to ensure the samples were representative of the formation water.

Appropriate quality control measures were implemented in the field during sampling. The oil/water interface meter and low flow pump were decontaminated between groundwater bore locations with Decon 90 solution and rinsed with potable water and deionised water.

All water samples were collected into sample containers prepared by the analytical laboratory. After preparation and labelling, the samples together with Chain of Custody documentation were stored with ice in a cooler while on-site and in transit to Australian Laboratory Services (ALS).

The details of well gauging, purging, sampling and field-testing were recorded on groundwater sampling recording forms, provided in Appendix I of EES Technical report O – Contamination and soil.

Groundwater samples were analysed for CoPC identified during the site historical assessment of a broad suite of parameters including general chemistry parameters, sulfate reducing bacteria, dissolved metals, benzene, toluene, ethylbenzene, xylenes, and naphthalene (BTEXN), hydrocarbons, polycyclic aromatic hydrocarbons (PAHs), phenols, pesticides, polychlorinated biphenyls (PCBs), volatile and semi-volatile organic compounds (VOCs/SVOCs), and per-and polyfluorinated alkyl substances (PFAS).

2.1.5 Vapour / Gas

The only soil vapour / gas assessment undertaken as part of the project was completed as part of the landfill assessment. Those works are addressed in Appendix K of EES Technical report – Contamination and soil.

2.2 Quality assurance/Quality control (QA/QC)

QA/QC samples were samples were generally collected in accordance with guidance presented in Australian Standard AS414482.1 and included collection of samples outlined below. The detail on blind samples were recorded and maintained on ProjectWise throughout the project.

- Duplicate samples (blind replicate) for analysis by the primary laboratory. Duplicate samples were collected at a rate of 1 in 20 primary samples. Duplicate samples were labelled with a QC prefix with no association to the sample location. Duplicate samples were analysed for the same suite as the primary sample.
- Triplicate samples (split sample) for analysis by the secondary laboratory. Triplicate samples were collected at a rate of 1 in 20 primary samples. Triplicate samples were labelled with a QC prefix with no association to the sample location. Triplicate samples were analysed for the same suite as the primary sample.
- Trip blank samples were collected at a rate of one per day, per team. The trip blank samples were prepared by the laboratory and were carried in the eskies with primary samples. Trip blank samples were analysed for volatile compounds. Trip blank samples were labelled with a 'TB' prefix.
- Field blank samples were collected at a rate of one per day, per team. The field blank sample involved the collection of a water sample from laboratory prepared deionised water in the field. Field blank samples were labelled with a FB prefix.
- Rinsate samples were collected at a rate of one per day, per team. Rinsate samples were collected by flushing a cleaned piece of sampling equipment with deionised water and collecting the flushed water. The sampling equipment was rotated and included items such as a glove, hand auger and groundwater pump. The rinsate samples were labelled with a RB prefix and analysed for

It is noted the procedures outlined above were not followed by the geotechnical team at the start of the project and thus during the collection of opportunistic samples. However, the quantity of QA/QC samples collected since is considered satisfactory to address the limitations of that data.

3. Data validation

Analytical data validation is the process of assessing whether data are in compliance with method requirements and project specifications. The primary objectives of this process are to ensure that data of known quality are reported, and to identify if the data can be used to fulfil the overall project objectives.

The data validation guidelines adopted are based upon data validation guidance documents published by the United States Environmental Protection Agency (US EPA). These include: US EPA *Contract Laboratory Program for Organic Data Review*, October 1999; US EPA *Contract Laboratory Program for Inorganic Data Review*, July 2002; and the US EPA *Guidance on Environmental Data Verification and Data Validation*, November 2002. The process involves the checking of analytical procedure compliance and an assessment of the accuracy and precision of analytical data from a range of quality control measurements, generated from both the field sampling and analytical programs.

Specific elements that have been checked and assessed for this project include:

- Preservation and storage of samples upon collection and during transport to the laboratory
- Sample holding times
- Use of appropriate analytical and field sampling procedures
- Required limits of reporting
- Frequency of conducting quality control measurements
- Laboratory blank results
- Field duplicate and triplicate results
- Laboratory duplicate results
- Matrix spike (MS) results
- Surrogates spike results
- Review of chromatograms (if applicable)
- The occurrence of apparently unusual or anomalous results, such as laboratory results that appear to be inconsistent with field observations or measurements.

Specific elements that have been checked and assessed for the project are detailed below.

A list of relative percentage differences (RPDs) are presented in 0, herein. RPDs were reported in excess of guidelines for a number of metals. However, these are not atypical for heterogeneous soils and do not suggest any significant issues with the sampling procedures.

3.1 Analytical data quality summary

3.1.1 Soil

A review of the analytical results relative to observations made during the fieldwork program did not identify any anomalous data. The table below details findings of the data quality review.

DATA VALIDATION REPORT					
Project number:	60539390	**Validation by:**	Nick Laurie	**Date:**	06/06/2018
Client:	North East Link Project				
Site:	North East Link Project				
Matrix type:	Soil	**Data verified by:**	Nick Laurie	**Date:**	06/06/2018
Primary samples:	116				
Laboratory:	ALS, Eurofins				
Lab reference:	EM1807708, EM1806904, EM1806989, EM1807528, EM1802327, EM1802348, EM1802868, EM1803435, EM1801471, EM1801849, EM1801198, EM1803702, EM1803248, EM1805006, EM1804004, EM1805014, EM1804502, EM1802245, EM1802868, EM1805002, EM1803587, EM1805015, EM1803724, EM1803919, EM1806138, EM1805158, EM1805857, EM1806394, EM1805929, EM1807041, EM1806356, 593673, 591177, 595959	**Project Manager:**	Nazuha Rosli		

Key Issues:	No QA/QC issues were identified in the field or laboratory datasets that are expected to have a material implication to decision-making on the project.
Field Quality Assurance and Quality Control	
Sampling personnel	All sampling was conducted by GHD personnel between 10 January and 27 April 2018.
Sampling Methodology	Samples were collected using nitrile gloves.
Chain of Custody (COC)	Chain of custody documents were completed by field staff.
Analysis Request	Laboratory analysis requests and sample receipt notifications were reviewed and approved by the PM.
Field Blank	Field blank samples were collected at a frequency of one per day of sampling (eleven in total). Concentrations were reported below the limit of reporting (LOR) for all analytes tested, with the following exceptions: - Fluoride in FB103 (0.3 mg/L), sampled 13 April 2018; - Copper in FB300 (0.003 mg/L), sampled 23 April 2018; and - Copper in FB301 (0.003 mg/L), sampled 24 April 2018. Although the above field blank samples reported concentrations of fluoride and copper, respectively, these detections are at trace level and several orders of magnitude below the sample concentrations. These concentrations, most likely present in the deionised water supplied by the laboratory for field use, do not reflect atmospheric conditions.
Rinsate Blank	Rinsate blank samples were collected at a frequency of one per day of

DATA VALIDATION REPORT	
	sampling (twelve in total). Concentrations were reported below the limit of reporting (LOR) for all analytes tested, with the following exceptions: - Fluoride in RB103 (0.2 mg/L), sampled 13 April 2018; - Fluoride in RB300 (0.6 mg/L), sampled 23 April 2018; - Copper in RB300 (0.003 mg/L), sampled 23 April 2018; - Copper in RB301 (0.004 mg/L), sampled 24 April 2018; and - Copper in RB302 (0.003 mg/L), sampled 27 April 2018. Although the above rinsate samples reported concentrations of fluoride and copper, respectively, these detections are at trace level and several orders of magnitude below the sample concentrations. These concentrations, most likely present in the deionised water supplied by the laboratory for field use, do not reflect cross sample contamination between sampling locations.
Trip Blank	Trip blanks were included at frequency of one per cooler (eleven in total). Concentrations were not detected above the LOR for all analytes tested.
Frequency of field QC	Field duplicates were collected at a rate of 4.3% (below expected rate of 5%), and field triplicates were collected at a rate of 2.5% (below expected rate of 5%).
Handling and preservation	Primary, duplicate and triplicate groundwater samples were received preserved and chilled at the laboratory. For batches where temperature was measured, sample receipt temperatures were within (3.4-6.0°C) the recommended range (≤6°C) for batches EM1802245, EM1806904, EM1803919, EM1803248, EM1801849 and EM1804502. For other batches (EM1801198, EM1806356, EM1804004, EM1806989, EM1805158, EM1803724, EM1805002, EM1803587, EM1805929 and EM1801471), sample receipt temperatures were above the recommended range (6.3-14.6°C). Sample receipt temperatures for triplicate samples were not collected/reported. For samples above the recommended temperature range, data interpretation is not likely affected as the TRH/BTEXN concentrations in all samples are below LOR (orders of magnitude below guideline criteria), with the exception of NEL-BH128_1.2m, NEL-BH140_0.2m and NEL-BH179_0.1m where heavy end TRH fractions are minor. For these samples, data interpretation is also considered not to be affected. All samples were received at the laboratory in appropriate sample containers.

DATA VALIDATION REPORT	
Laboratory QA/QC	
Tests requested/reported	Samples were analysed and reported as requested on the Chain Of Custody (COC).
Holding time compliance	Samples were extracted and analysed within recommended holding times, with the following exceptions: - NEL-ENV-BH028_1.5-1.6 and NEL-ENV-BH025_1.0-1.1 in batch EM180778 for non-volatile leach (3 days overdue); - RB300 and FB300 in batch EM1806904 for pH (7 days overdue); - RB301 and FB301 in batch EM1806904 for pH (6 days overdue); - RB302 and FB302 in batch EM1806989 for pH (3 days overdue); - NEL-ENV-BH030_0.0-0.1 in batch EM1807528 for pH (9 days overdue), total cyanide (1 day), PCBs (1 day), MAHs (8 days), naphthalene (8 days), VHCs (8 days), phenols (1 day), PAHs (1 day), OCPs (1 day) and TPH/TRH (8 days); - NEL-BH125_0.4, NEL-BH125_0.75, NEL-BH125_1.0, NEL-BH125_1.5, NEL-BH126_0.3, NEL-BH125_3.0 in batch EM1803435 for total recoverable mercury (8 days); - NEL-BH125_3.0 in batch EM1803435 for total recoverable mercury (2 days); - NEL-BH106_2.0m and NEL-BH106_3.0m in batch EM1801198 for pH (1 day); - NEL-BH109_1.1m in batch EM1805006 for non-volatile leach (7 days); - RB102 and FB102 for pH (2 days); - FB103 and RB103 in batch EM1804502 for pH (2 days); - FB104 and RB104 in batch EM1805002 for pH (3 days); - NEL-BH140_0.2m in batch EM1805015 for non-volatile leach (10 days); - RB101 and FB101 in batch EM1803724 for pH (2 days); - FB200 and RB200 in batch EM1803919 for pH (6 days); - FB105 and RB105 in batch EM1805158 for pH (4 days); - NEL-BH151_1.5m in batch EM1805857 for pH (10 days), MAHs (7 days), naphthalene (7 days), VHCs (7 days) and TPH/TRH (7 days); - FB106 and RB106 in batch EM1805929 for pH (3 days); and - RB107 and FB107 in batch EM1806356 for pH (3 days).
Laboratory Accreditation	The laboratory analysis was conducted by ALS Environmental Pty Ltd (Melbourne) a National Association of Testing Authorities (NATA) accredited laboratory. The triplicate sample was analysed at Eurofins MGT (Melbourne), also a NATA accredited laboratory.

DATA VALIDATION REPORT	
Frequency of laboratory QC	The laboratory reported a sufficient frequency of quality control samples to assess whether the results have been reported to an acceptable accuracy and precision, with the following exceptions: - Matrix spikes and laboratory duplicates for PAH/phenols, PCBs, semivolatile organic compounds and TRH semivolatile fractions in EM1806904 and EM1806989; - Matrix spikes for hexavalent chromium, PCBs, semivolatile organic compounds, total cyanide, total fluoride, total mercury, Total Metals, TRH semivolatile fractions and VOCs (ultra-trace) in EM1807528; - Laboratory control spikes for hexavalent chromium in EM1801471 and EM1801849; - Laboratory duplicates and matrix spikes for PAHs/phenols in EM1805006; - Laboratory control samples for hexavalent chromium and laboratory duplicates and matrix spikes for PAHs/ phenols, PCBs, semivolatile organic compounds and TRH semivolatile fractions in EM1804004; - Laboratory duplicates and matrix spikes for PAHs/phenols, PCBs, semivolatile organic compounds and TRH semivolatile fractions and matrix spikes for fluoride and total cyanide in batch EM1804502; - Laboratory control samples for hexavalent chromium in batch EM1802245; - Laboratory duplicates and matrix spikes for PAHs/phenols, PCBs, semivolatile organic compounds, TRH semivolatile fractions in batch EM1805002; - Laboratory control samples for hexavalent chromium, and matrix spikes for PAH/phenols in batch EM1803587; - Laboratory duplicates and matrix spikes for PAH/phenols in batch EM1805015; - Laboratory duplicates and matrix spikes for PAH/phenols, PCBs, semivolatile organic compounds, TRH semivolatile fractions, and laboratory duplicates for fluoride in batch EM1803724; - Laboratory duplicates and matrix spikes for PAH/phenols, semivolatile organic compounds and TRH semivolatile fractions in batch EM1803919; - Laboratory duplicates and matrix spikes for PAH/phenols, semivolatile organic compounds, TRH semivolatile fractions, and matrix spikes for PCBs in batch EM1805158; - Matrix spikes for PCBs, semivolatile organic compounds, total cyanide, TRH sermivolatile fractions in batch EM1805857; - Laboratory duplicates and matrix spikes for PAHs/phenols, PCBs, semivolatile organic compounds in batches EM1805929 and EM1806356; and - Laboratory duplicates and matrix spikes for TRH semivolatile fractions in batch EM1805929.
Method Blank	Method blank concentrations were not detected above the LOR for all analytes tested.
Laboratory duplicate RPDs	Laboratory duplicate Relative Percentage Differences (RPD) were within control limits. The laboratory duplicate RPDs are presented in the laboratory Quality Control Report.
Laboratory control spike	LCS recoveries were within control limits, with the following exceptions:

DATA VALIDATION REPORT	
recovery	- 2-4 dimethylphenol (122%), where the recovery was greater than the upper control limit (43-120%) in batch EM1803248; - alpha-BHC (125%), where the recovery was greater than the upper control limit (68-122%) in batch EM1803248; - total PCBs (153%), where the recovery was greater than the upper control limit (63-118%) in batch EM1804502; - 2.4 dinitrophenol (135%), where the recovery was greater than the upper control limit (23-125%) in batch EM1804502; - tetrachloroethene (139%), where the recovery was greater than the upper control limit (75-119%) in batch EM1804502; - 2.4 dinitrophenol (133%), where the recovery was greater than the upper control limit (21-130%) in batch EM1804502; - 2.4 dinitrophenol (132%), where the recovery was greater than the upper control limit (23-125%) in batch EM1805002; - hexachlorobutadiene (60.4%), where the recovery was less than the lower control limit (63-126%) in batch EM1805002; - 1.2.4 trichlorobenzene (60.8%), where the recovery was less than the lower control limit (62-119%) in batch EM1805002; - TPH C10-C14 (142%), where the recovery was greater than the upper control limit (58-134%) in batch EM1805002; and - TRH C10-C16 (131%), where the recovery was greater than the upper control limit (58-122%) in batch EM1805002.
Matrix spike recovery	All AECOM Matrix Spike (MS) recoveries (where reported) were within control limits.
Surrogate spike recovery	Surrogate spike recoveries were within control limits, with the following exceptions: - 1.2 dichlorobenzene-D4 (121%), where the recovery was greater than the upper data quality objective (31-117%) in sample NEL-BH109_0.2m.

DATA VALIDATION REPORT	
QA/QC Data Evaluation	
Comparison of Field Observations and Laboratory Results	No anomalous results between field observations and analysis results were noted.
Data transcription	A random 10% check of the laboratory results identified no anomalies within the electronic data, the laboratory reports, and tables generated by AECOM.
Limits of reporting	LORs were sufficiently low to enable assessment against adopted guideline criteria.
Field duplicate RPDs	RPDs exceeded control limits for the following sample analysis. (Sample with higher reported concentrations are in bold). NEL-BH137_0.1m and **QC1000** for arsenic (91%); NEL-ENV-BH030_0.0-0.1 and **QC3000** for arsenic (89%); and NEL-ENV-BH030_0.0-0.1 and **QC3000** for lead (33%). The higher concentration should be considered for site interpretation.
Field triplicate RPDs	RPDs exceeded control limits for the following sample analysis. (Sample with higher reported concentrations are in bold). NEL-BH179_1.5m and **QC2002** for lead (46%); NEL-BH179_1.5m and **QC2002** for nickel (42%); NEL-BH179_1.5m and **QC2002** for zinc (42%); NEL-BH179_1.5m and **QC2002** for fluoride (32%); NEL-ENV-BH030_0.0-0.1 and **QC4000** for lead (46%). NEL-BH151_1.5m and **QC2001** for copper (40%); NEL-BH151_1.5m and **QC2001** for lead (50%); and NEL-BH151_1.5m and **QC2001** for zinc (33%). The higher concentration should be considered for site interpretation.
Chromatograms	
	NA
Other	
Ionic Balance	NA
Conversions	As reported by laboratory
Sum totals	0 x LOR, 0.5 x LOR, 1 x LOR for non-detects, TRH C10-C40, total xylenes, sum of BTEX laboratory reported.

3.1.2 Groundwater

The table below details the finds of the data quality review.

DATA VALIDATION REPORT					
Project number:	60539390	**Validation by:**	Nick Laurie	**Date:**	12/06/2018
Client:	North East Link Project				
Site:	North East Link Project				
Matrix type:	Groundwater	**Data verified by:**	Nick Laurie	**Date:**	12/06/2018
Primary samples:	5				
Laboratory:	ALS, Eurofins				
Lab reference:	584938, 585222, 585329, 594757	**Project Manager:**	Nazuha Rosli		

Key Issues:	As no field duplicate or triplicates were collected during fieldworks, the assessment of data repeatability is limited.
Field Quality Assurance and Quality Control	
Sampling personnel	All sampling was conducted by GHD personnel on 12 February, 15 to 16 February 2018 and 17 April 2018.
Sampling Methodology	Samples were collected using low flow technique.
Chain of Custody (COC)	Chain of custody documents were completed by field staff.
Analysis Request	Laboratory analysis requests and sample receipt notifications were reviewed and approved by the PM.
Field Blank	Field blank samples were not collected during these sampling rounds.
Rinsate Blank	Rinsate blank samples were collected at a frequency of one per day of sampling (four in total). Concentrations were reported below the limit of reporting (LOR) for all analytes tested, with the exception of chloride in RB01 / 120218 (2.1 mg/L). Samples collected on 12 February 2018 reported concentrations of chloride > 2,800 mg/L, and therefore data interpretation is not affected. For sample RB05 / 160218, VOC analysis was not conducted as VOC vials were not collected. Therefore, the effectiveness of the decontamination procedure is limited to all analytes except TRH and BTEX constituents in samples NEL-BH062 A and NEL-BH125.
Trip Blank	Trip blank samples were not collected during these sampling rounds.
Frequency of field QC	Field duplicates and triplicates were not collected during these sampling rounds. It is noted sample QC1 was collected in batch 585329 and is assumed to be a duplicate sample; however the parent sample for this QC sample has not been noted and is therefore unknown. Therefore, as no field duplicate or triplicates were collected during fieldworks, the assessment of data repeatability is limited.

DATA VALIDATION REPORT	
Handling and preservation	Primary and duplicate groundwater samples were received preserved and chilled at the laboratory. For Eurofins primary batches (585222, 585329, 594757 and 594938), a sample receipt temperature was not reported, however an attempt to chill the batches was noted. All samples were received at the laboratory in appropriate sample containers.
Laboratory QA/QC	
Tests requested/reported	Samples were analysed and reported as requested on the Chain Of Custody (COC).
Holding time compliance	Samples were extracted and analysed within recommended holding times.
Laboratory Accreditation	The laboratory analysis was conducted by Eurofins MGT (Melbourne), a NATA accredited laboratory.
Frequency of laboratory QC	The laboratory has not reported whether a sufficient frequency of quality control samples have been provided, to assess whether the results have been reported to an acceptable accuracy and precision.
Method Blank	Method blank concentrations were not detected above the LOR for all analytes tested.
Laboratory duplicate RPDs	Laboratory duplicate Relative Percentage Differences (RPD) were within control limits. The laboratory duplicate RPDs are presented in the laboratory Quality Control Report.
Laboratory control spike recovery	LCS recoveries were within control limits
Matrix spike recovery	All AECOM Matrix Spike (MS) recoveries (where reported) were within control limits, with the exception of magnesium and sodium, where the recoveries (131% and 134%, respectively) were greater than the upper control limits (70-130% range) for anonymous sample M18-Ap23598 in primary batch 594938.
Surrogate spike recovery	Surrogate spike recoveries were within control limits.

DATA VALIDATION REPORT	
QA/QC Data Evaluation	
Comparison of Field Observations and Laboratory Results	Field notes for this scope of works are not available for comparison with laboratory results.
Data transcription	A random 10% check of the laboratory results identified no anomalies within the electronic data, the laboratory reports, and tables generated by AECOM.
Limits of reporting	LORs were sufficiently low to enable assessment against adopted guideline criteria, with the following exceptions: - Protocol LOR for benzo(a)pyrene (1 µg/L) above guideline adopted criteria (GAC) (0.01 µg/L); - Protocol LOR for vinyl chloride (1 µg/L) above GAC (0.3 µg/L); - Protocol LOR for hexachlorobutadiene (1 µg/L) above GAC (0.7 µg/L); - Protocol LOR for chlordane (1 µg/L) above GAC (0.08 µg/L); - Protocol LOR for DDT (0.1 µg/L) above GAC (0.01 µg/L); - Protocol LOR for endrin (0.1 µg/L) above GAC (0.02 µg/L); - Protocol LOR for DDT (0.1 µg/L) above GAC (0.01 µg/L); - Protocol LOR for heptachlor (0.1 µg/L) above GAC (0.09 µg/L); - Protocol LOR for toxaphene (10 µg/L) above GAC (0.2 µg/L); - Protocol LOR for omethoate (2 µg/L) above GAC (1 µg/L); - Protocol LOR for azinphos methyl (2 µg/L) above GAC (0.02 µg/L); - Protocol LOR for chloropyrifos (20 µg/L) above GAC (0.01 µg/L); - Protocol LOR for diazinon (2 µg/L) above GAC (0.01 µg/L); - Protocol LOR for dichlorvos (2 µg/L) above GAC (1 µg/L); - Protocol LOR for dimethoate (2 µg/L) above GAC (0.15 µg/L); - Protocol LOR for ethoprop (2 µg/L) above GAC (1 µg/L); - Protocol LOR for fenitrothion (2 µg/L) above GAC (0.02 µg/L); - Protocol LOR for malathion (2 µg/L) above GAC (0.05 µg/L); - Protocol LOR for parathion (2 µg/L) above GAC (0.004 µg/L); - Protocol LOR for terbufos (2 µg/L) above GAC (0.9 µg/L); and - Protocol LOR for trifluralin (5 µg/L) above GAC (4.4 µg/L).
Field duplicate RPDs	Field duplicates were not collected as part of this work.
Field triplicate RPDs	Field triplicates were not collected as part of this work.
Chromatograms	
	NA
Other	
Ionic Balance	NA
Conversions	As reported by laboratory
Sum totals	0 x LOR, 0.5 x LOR, 1 x LOR for non-detects, TRH C10-C40, total xylenes, sum of BTEX laboratory reported.

Annexures

Annexure A – Relative percentage difference (RPD) table

		Lab Report Number	EM1803587	EM1803587		EM1803587	EM1803587		EM1805857	EM1805158		EM1805929	EM1805929		EM1807528	EM1806904		EM1805929	593673		EM1807528	595959		EM1805857	591177	
		Field ID	NEL-BH137_0.1m	QC1000	RPD	NEL-BH137_0.1m	QC2000	RPD	NEL-BH151_1.5m	QC1001	RPD	NEL-BH179_1.5m	QC1002	RPD	NEL-ENV-BH030_0.0-0.1	QC3000	RPD	NEL-BH179_1.5m	QC2002	RPD	NEL-ENV-BH030_0.0-0.1	QC4000	RPD	NEL-BH151_1.5m	QC2001	RPD
		Sampled Date/Time	22/02/2018 15:00	22/02/2018 15:00		22/02/2018 15:00	22/02/2018 15:00		23/03/2018 15:00	23/03/2018 15:00		9/04/2018 15:00	9/04/2018 15:00		23/04/2018	23/04/2018		9/04/2018 15:00	9/04/2018 15:00		23/04/2018	23/04/2018		23/03/2018 15:00	23/03/2018 15:00	
Analyte	**Units**	**EQL**																								
C6-C9 fraction	mg/kg	10 : 20 (Interlab)	<10	<10	0	<10	<10	0	<10	<10	0	<10	<10	0	<10	<10	0	<10	<20	0	<10	<20	0	<10	<20	0
C10-C14 fraction	mg/kg	50 : 20 (Interlab)	<50	<50	0	<50	<50	0	<50	<50	0	<50	<50	0	<50	<50	0	<50	<20	0	<50	<20	0	<50	<20	0
C15-C28 fraction	mg/kg	100 : 50 (Interlab)	<100	<100	0	<100	<100	0	<100	<100	0	<100	<100	0	<100	<100	0	<100	<50	0	<100	<50	0	<100	<50	0
C29-C36 fraction	mg/kg	100 : 50 (Interlab)	<100	<100	0	<100	<100	0	<100	<100	0	<100	<100	0	<100	<100	0	<100	<50	0	<100	<50	0	<100	<50	0
C6-C10 fraction	mg/kg	10 : 20 (Interlab)	<10	<10	0	<10	<10	0	<10	<10	0	<10	<10	0	<10	<10	0	<10	<20	0	<10	<20	0	<10	<20	0
>C10-C16 fraction	mg/kg	50	<50	<50	0	<50	<50	0	<50	<50	0	<50	<50	0	<50	<50	0	<50	<50	0	<50	<50	0	<50	<50	0
>C16-C34 fraction	mg/kg	100	<100	<100	0	<100	<100	0	<100	<100	0	<100	<100	0	<100	<100	0	<100	<100	0	<100	<100	0	<100	<100	0
>C34-C40 fraction	mg/kg	100	<100	<100	0	<100	<100	0	<100	<100	0	<100	<100	0	<100	<100	0	<100	<100	0	<100	<100	0	<100	<100	0
Benzene	mg/kg	0.2 : 0.1 (Interlab)	<0.2	<0.2	0	<0.2	<0.2	0	<0.2	<0.2	0	<0.2	<0.2	0	<0.2	<0.2	0	<0.2	<0.1	0	<0.2	<0.1	0	<0.2	<0.1	0
Toluene	mg/kg	0.5 : 0.1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.1	0	<0.5	<0.1	0	<0.5	<0.1	0
Ethylbenzene	mg/kg	0.5 : 0.1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.1	0	<0.5	<0.1	0	<0.5	<0.1	0
m&p-Xylene	mg/kg	0.5 : 0.2 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.2	0	<0.5	<0.2	0	<0.5	<0.2	0
o-Xylene	mg/kg	0.5 : 0.1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.1	0	<0.5	<0.1	0	<0.5	<0.1	0
Styrene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
Naphthalene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
Acenaphthylene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
Acenaphthene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
Anthracene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
Fluorene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
Phenanthrene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
Fluoranthene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
Benz(a)anthracene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
Benzo(b+j) & Benzo(k)fluoranthene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5			<0.5			<0.5		
Benzo(a)pyrene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
Benzo(a)pyrene TEQ (LOR)	mg/kg	0.5	1.2	1.2	0	1.2	1.2	0	1.2	1.2	0	1.2	1.2	0	1.2	1.2	0	1.2	1.2	0	1.2	1.2	0	1.2	1.2	0
Chrysene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
Pyrene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
Benzo(g,h,i)perylene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
Dibenz(a,h)anthracene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
Indeno(1,2,3-cd)pyrene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
Naphthalene	mg/kg	1 : 0.5 (Interlab)	<1	<1	0	<1	<1	0	<1	<1	0	<1	<1	0	<1	<1	0	<1	<0.5	0	<1	<0.5	0	<1	<0.5	0
Phenol	mg/kg	1 : 0.5 (Interlab)	<1	<1	0	<1	<1	0	<1	<1	0	<1	<1	0	<1	<1	0	<1	<0.5	0	<1	<0.5	0	<1	<0.5	0
2-Chlorophenol	mg/kg	0.03 : 0.5 (Interlab)	<0.03	<0.03	0	<0.03	<0.03	0	<0.03	<0.03	0	<0.03	<0.03	0	<0.03	<0.03	0	<0.03	<0.5	0	<0.03	<0.5	0	<0.03	<0.5	0
2-Methylphenol (o-Cresol)	mg/kg	1 : 0.2 (Interlab)	<1	<1	0	<1	<1	0	<1	<1	0	<1	<1	0	<1	<1	0	<1	<0.2	0	<1	<0.2	0	<1	<0.2	0
3&4-Methylphenol (m&p-Cresol)	mg/kg	1 : 0.4 (Interlab)	<1	<1	0	<1	<1	0	<1	<1	0	<1	<1	0	<1	<1	0	<1	<0.4	0	<1	<0.4	0	<1	<0.4	0
2-Nitrophenol	mg/kg	1	<1	<1	0	<1	<1	0	<1	<1	0	<1	<1	0	<1	<1	0	<1	<1	0	<1	<1	0	<1	<1	0
2,4-Dichlorophenol	mg/kg	0.03 : 0.5 (Interlab)	<0.03	<0.03	0	<0.03	<0.03	0	<0.03	<0.03	0	<0.03	<0.03	0	<0.03	<0.03	0	<0.03	<0.5	0	<0.03	<0.5	0	<0.03	<0.5	0
2,4-Dimethylphenol	mg/kg	1 : 0.5 (Interlab)	<1	<1	0	<1	<1	0	<1	<1	0	<1	<1	0	<1	<1	0	<1	<0.5	0	<1	<0.5	0	<1	<0.5	0
2,6-Dichlorophenol	mg/kg	0.03 : 0.5 (Interlab)	<0.03	<0.03	0	<0.03	<0.03	0	<0.03	<0.03	0	<0.03	<0.03	0	<0.03	<0.03	0	<0.03	<0.5	0	<0.03	<0.5	0	<0.03	<0.5	0
4-Chloro-3-methylphenol	mg/kg	0.03 : 1 (Interlab)	<0.03	<0.03	0	<0.03	<0.03	0	<0.03	<0.03	0	<0.03	<0.03	0	<0.03	<0.03	0	<0.03	<1	0	<0.03	<1	0	<0.03	<1	0
2,4,6-Trichlorophenol	mg/kg	0.05 : 1 (Interlab)	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<1	0	<0.05	<1	0	<0.05	<1	0
2,4,5-Trichlorophenol	mg/kg	0.05 : 1 (Interlab)	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<1	0	<0.05	<1	0	<0.05	<1	0
2,3,5,6-Tetrachlorophenol	mg/kg	0.03	<0.03	<0.03	0	<0.03	<0.03	0	<0.03	<0.03	0	<0.03	<0.03	0	<0.03	<0.03	0	<0.03			<0.03			<0.03		
4,6-Dinitro-2-methylphenol	mg/kg	5	<5	<5	0	<5	<5	0	<5	<5	0	<5	<5	0	<5	<5	0	<5	<5	0	<5	<5	0	<5	<5	0
Pentachlorophenol	mg/kg	0.2 : 1 (Interlab)	<0.2	<0.2	0	<0.2	<0.2	0	<0.2	<0.2	0	<0.2	<0.2	0	<0.2	<0.2	0	<0.2	<1	0	<0.2	<1	0	<0.2	<1	0
2,3,4,5-&2,3,4,6-Tetrachlorophenol	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.05			<0.05			<0.05		
2,4-Dinitrophenol	mg/kg	5	<5	<5	0	<5	<5	0	<5	<5	0	<5	<5	0	<5	<5	0	<5	<5	0	<5	<5	0	<5	<5	0
2-Cyclohexyl-4,6-dinitrophenol	mg/kg	5 : 20 (Interlab)	<5	<5	0	<5	<5	0	<5	<5	0	<5	<5	0	<5	<5	0	<5	<20	0	<5	<20	0	<5	<20	0
4-Nitrophenol	mg/kg	5	<5	<5	0	<5	<5	0	<5	<5	0	<5	<5	0	<5	<5	0	<5	<5	0	<5	<5	0	<5	<5	0
Dinoseb	mg/kg	5 : 20 (Interlab)	<5	<5	0	<5	<5	0	<5	<5	0	<5	<5	0	<5	<5	0	<5	<20	0	<5	<20	0	<5	<20	0
Chromium (hexavalent)	mg/kg	0.5 : 1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<1	0	<0.5	<1	0	<0.5	<1	0
Mercury	mg/kg	0.1	<0.1	<0.1	0	<0.1	<0.1	0	<0.1	<0.1	0	<0.1	<0.1	0	<0.1	<0.1	0	<0.1	<0.1	0	<0.1	<0.1	0	<0.1	<0.1	0
Arsenic	mg/kg	5 : 2 (Interlab)	**6**	**16**	**91**	6	6	0	<5	<5	0	<5	<5	0	**5**	**13**	**89**	<5	4.1	0	5	6.3	23	<5	2.1	0
Cadmium	mg/kg	1 : 0.4 (Interlab)	<1	<1	0	<1	<1	0	<1	<1	0	<1	<1	0	<1	<1	0	<1	<0.4	0	<1	<0.4	0	<1	<0.4	0
Copper	mg/kg	5	13	14	7	13	13	0	6	6	0	13	11	17	22	22	0	13	15	14	22	29	27	**6**	**9**	**40**
Lead	mg/kg	5	<5	<5	0	<5	<5	0	9	10	11	10	9	11	**20**	**28**	**33**	**10**	**16**	**46**	**20**	**32**	**46**	**9**	**15**	**50**
Molybdenum	mg/kg	2 : 5 (Interlab)	<2	<2	0	<2	<2	0	<2	<2	0	<2	<2	0	<2	<2	0	<2	<5	0	<2	<5	0	<2	<5	0
Nickel	mg/kg	2 : 5 (Interlab)	14	14	0	14	14	0	9	10	11	13	11	17	48	43	11	**13**	**20**	**42**	48	53	10	9	12	29
Selenium	mg/kg	5 : 2 (Interlab)	<5	<5	0	<5	<5	0	<5	<5	0	<5	<5	0	<5	<5	0	<5	<2	0	<5	<2	0	<5	<2	0
Silver	mg/kg	2 : 0.2 (Interlab)	<2	<2	0	<2	<2	0	<2	<2	0	<2	<2	0	<2	<2	0	<2	<0.2	0	<2	<0.2	0	<2	<0.2	0
Tin	mg/kg	5 : 10 (Interlab)	<5	<5	0	<5	<5	0	<5	<5	0	<5	<5	0	<5	<5	0	<5	<10	0	<5	<10	0	<5	<10	0
Zinc	mg/kg	5	34	37	8	34	34	0	18	19	5	17	14	19	59	65	10	**17**	**26**	**42**	59	72	20	**18**	**25**	**33**
Chlorobenzene	mg/kg	0.02 : 0.5 (Interlab)	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.5	0	<0.02	<0.5	0	<0.02	<0.5	0
1,2-Dichlorobenzene	mg/kg	0.02 : 0.5 (Interlab)	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.5	0	<0.02	<0.5	0	<0.02	<0.5	0
1,4-Dichlorobenzene	mg/kg	0.02 : 0.5 (Interlab)	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.5	0	<0.02	<0.5	0	<0.02	<0.5	0
1,2,4-Trichlorobenzene	mg/kg	0.01 : 0.5 (Interlab)	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.5	0	<0.01	<0.5	0	<0.01	<0.5	0
Vinyl chloride	mg/kg	0.02 : 0.5 (Interlab)	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.5	0	<0.02	<0.5	0	<0.02	<0.5	0
1,1-Dichloroethene	mg/kg	0.01 : 0.5 (Interlab)	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.5	0	<0.01	<0.5	0	<0.01	<0.5	0
cis-1,2-Dichloroethene	mg/kg	0.01 : 0.5 (Interlab)	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.5	0	<0.01	<0.5	0	<0.01	<0.5	0
trans-1,2-Dichloroethene	mg/kg	0.02 : 0.5 (Interlab)	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.5	0	<0.02	<0.5	0	<0.02	<0.5	0
1,1,1-Trichloroethane	mg/kg	0.01 : 0.5 (Interlab)	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.5	0	<0.01	<0.5	0	<0.01	<0.5	0
Carbon Tetrachloride	mg/kg	0.01 : 0.5 (Interlab)	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.5	0	<0.01	<0.5	0	<0.01	<0.5	0
1,2-Dichloroethane	mg/kg	0.02 : 0.5 (Interlab)	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.5	0	<0.02	<0.5	0	<0.02	<0.5	0
Trichloroethene	mg/kg	0.02 : 0.5 (Interlab)	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.5	0	<0.02	<0.5	0	<0.02	<0.5	0
1,1,2-Trichloroethane	mg/kg	0.04 : 0.5 (Interlab)	<0.04	<0.04	0	<0.04	<0.04	0	<0.04	<0.04	0	<0.04	<0.04	0	<0.04	<0.04	0	<0.04	<0.5	0	<0.04	<0.5	0	<0.04	<0.5	0
Tetrachloroethene	mg/kg	0.02 : 0.5 (Interlab)	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.5	0	<0.02	<0.5	0	<0.02	<0.5	0
1,1,1,2-Tetrachloroethane	mg/kg	0.01 : 0.5 (Interlab)	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.5	0	<0.01	<0.5	0	<0.01	<0.5	0
1,1,2,2-Tetrachloroethane	mg/kg	0.02 : 0.5 (Interlab)	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.5	0	<0.02	<0.5	0	<0.02	<0.5	0
Dichloromethane	mg/kg	0.4 : 0.5 (Interlab)	<0.4	<0.4	0	<0.4	<0.4	0	<0.4	<0.4	0	<0.4	<0.4	0	<0.4	<0.4	0	<0.4	<0.5	0	<0.4	<0.5	0	<0.4	<0.5	0
Hexachlorobutadiene	mg/kg	0.02 : 0.5 (Interlab)	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.5	0	<0.02	<0.5	0	<0.02	<0.5	0
Chloroform	mg/kg	0.02 : 0.5 (Interlab)	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.5	0	<0.02	<0.5	0	<0.02	<0.5	0
Fluoride	mg/kg	40 : 100 (Interlab)	510	660	26	510	670	27	330	300	10	370	390	5	340	330	3	**370**	**510**	**32**	340	410	19	330	380	14
Polychlorinated Biphenyls	mg/kg	0.1	<0.1	<0.1	0	<0.1	<0.1	0	<0.1	<0.1	0	<0.1	<0.1	0	<0.1	<0.1	0	<0.1	<0.1	0	<0.1	<0.1	0	<0.1	<0.1	0
Aldrin	mg/kg	0.03 : 0.05 (Interlab)	<0.03	<0.03	0	<0.03	<0.03	0	<0.03	<0.03	0	<0.03	<0.03	0	<0.03	<0.03	0	<0.03	<0.05	0	<0.03	<0.05	0	<0.03	<0.05	0
Dieldrin	mg/kg	0.03 : 0.05 (Interlab)	<0.03	<0.03	0	<0.03	<0.03	0	<0.03	<0.03	0	<0.03	<0.03	0	<0.03	<0.03	0	<0.03	<0.05	0	<0.03	<0.05	0	<0.03	<0.05	0
a-BHC	mg/kg	0.03 : 0.05 (Interlab)	<0.03	<0.03	0	<0.03	<0.03	0	<0.03	<0.03	0	<0.03	<0.03	0	<0.03	<0.03	0	<0.03	<0.05	0	<0.03	<0.05	0	<0.03	<0.05	0
b-BHC	mg/kg	0.03 : 0.05 (Interlab)	<0.03	<0.03	0	<0.03	<0.03	0	<0.03	<0.03	0	<0.03	<0.03	0	<0.03	<0.03	0	<0.03	<0.05	0	<0.03	<0.05	0	<0.03	<0.05	0
d-BHC	mg/kg	0.03 : 0.05 (Interlab)	<0.03	<0.03	0	<0.03	<0.03	0	<0.03	<0.03	0	<0.03	<0.03	0	<0.03	<0.03	0	<0.03	<0.05	0	<0.03	<0.05	0	<0.03	<0.05	0
g-BHC (Lindane)	mg/kg	0.03 : 0.05 (Interlab)	<0.03	<0.03	0	<0.03	<0.03	0	<0.03	<0.03	0	<0.03	<0.03	0	<0.03	<0.03	0	<0.03	<0.05	0	<0.03	<0.05	0	<0.03	<0.05	0

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Appendix I – Laboratory reports

Available on request

Appendix J – Tables of results

Well ID	Date (dd.mm.yyyy)	Time (hh.mm)	Depth to Water (m TOC)	Comments
NEL-BH004 (deep)	18.09.2017	10.51	4.904	*Prior to development*
	11.01.2018	10.43	4.732	*Prior to development*
	22.01.2018	11.34	4.838	-
	15.02.2018	14.10	4.952	-
	22.02.2018	10.01	5.059	-
	01.03.2018	12.15	5.098	-
	23.03.2018	8.50	5.253	-
	20.04.2018	-	5.383	-
	22.06.2018	11.17	5.403	-
	20.07.2018	9.26	5.323	-
NEL-BH004A (shallow)	18.09.2017	10.50	4.422	*Prior to development*
	11.01.2018	10.10	4.372	*Prior to development*
	22.01.2018	11.30	4.350	-
	15.02.2018	13.30	4.582	-
	22.02.2018	9.57	4.706	-
	01.03.2018	11.55	4.857	-
	23.03.2018	8.45	5.099	-
	20.04.2018	-	5.266	-
	22.06.2018	11.20	4.997	-
	20.07.2018	9.27	4.897	-
NEL-BH005	21.09.2017	9.38	3.230	*Prior to development*
	18.10.2017	7.54	3.531	-
	19.01.2018	8.20	3.631	-
	22.02.2018	12.00	3.606	-
	23.03.2018	10.45	3.527	-
	19.04.2018	-	3.578	-
	19.07.2018	14.36	3.697	-
NEL-BH008	18.09.2017	14.15	-	*Prior to development, dry @ 19.721, one gatic bolt missing*
NEL-BH009				*Not installed*
NEL-BH010	18/09/2017	15.00	20.875	*Prior to development*
	18/10/2017	12.47	21.044	*needs grout*
	20/11/2017	14.05	21.043	*needs grout*
NEL-BH011	18.09.2017	17.05	7.552	*Prior to development*
	18.10.2017	15.09	7.601	-
	21.11.2017	10.50	7.601	-
NEL-BH012	18.09.2017	16.50	4.731	*Prior to development*
	18.10.2017	14.42	4.701	-
	21.11.2017	10.25	4.693	-
NEL-BH013	18.09.2017	16.28	5.425	*Prior to development*
	18.10.2017	13.40	5.580	*One gatic bolt missing*
	21.11.2017	9.39	5.612	-
NEL-BH014 (deep)	18.09.2017	15.50	5.000	*Prior to development*

Well ID	Date (dd.mm.yyyy)	Time (hh.mm)	Depth to Water (m TOC)	Comments
NEL-BH014A (shallow)	18.09.2017	15.55	-	*dry @ 4.330m Prior to development*
NEL-BH015	18.09.2017	15.19		*entire gatic under water*
	18.10.2017	13.12	1.371	*needs grout*
	20.11.2017	14.35	1.433	*needs grout*
NEL-BH028	18.09.2017	11.52	4.866	*Prior to development*
	20.09.2017	9.43	4.882	*Prior to development*
	18.10.2017	8.19	5.318	-
	20.11.2017	8.55	5.456	-
	22.02.2018	12.28	5.276	-
	28.02.2018	12.05	5.369	-
	23.03.2018	11.05	5.400	-
	19.04.2018	-	5.409	-
NEL-BH029	18.09.2017	13.00	5.523	*Prior to development*
	23.02.2018	13.00		*Could not locate well - covered by grass*
	20.03.2018	13.00	6.152	*Prior to development*
	22.03.2018	13.25	6.367	*Gatic within triangle of three new saplings*
	19.04.2018	-	6.284	-
	21.06.2018	14.12	5.991	-
	19.07.2018	14.05	6.133	-
NEL-BH031	18.09.2017	13.35	6.186	*Prior to development*
	21.09.2017	13.30	6.178	*Prior to development*
	18.10.2017	11.05	6.265	-
	20.11.2017	11.58	6.341	-
	21.12.2017	14.36	6.177	-
	19.01.2018	9.52	6.096	-
	13.02.2018	12.30	6.236	-
	23.02.2018	11.09	6.304	-
	27.02.2018	10.50	6.403	-
	08.03.2018	9.40	6.476	-
	22.03.2018	11.35	6.583	-
	19.04.2018	-	6.641	-
	23.04.2018	12.00	6.650	-
	04.05.2018	9.10	6.662	-
	21.06.2018	12.58	10.292	*Still recovering from pumping test*
	19.07.2018	11.23	6.623	*Datalogger in well, logging every 4hrs*

Well ID	Date (dd.mm.yyyy)	Time (hh.mm)	Depth to Water (m TOC)	Comments
NEL-BH032	18.09.2017	14.35	15.202	*Prior to development*
	18.10.2017	11.56	16.135	-
	21.11.2017	9.07	16.203	-
NEL-BH033	18.09.2017	14.45	17.177	*Prior to development*
	18.10.2017	11.45	17.208	-
	21.11.2017	8.52	17.239	-
NEL-BH037	18.09.2017	11.59	3.062	*Prior to development*
	20.09.2017	9.14	3.095	*Prior to development*
	18.10.2017	8.08	3.288	-
	20.11.2017	8.20	3.393	-
	22.02.2018	12.11	3.265	-
	23.03.2018	10.55	3.524	-
	16.04.2018	13.00	3.584	-
	19.04.2018	-	3.595	-
NEL-BH038	18.09.2017	12.05	3.073	*Prior to development*
	18.10.2017	8.00	2.941	-
	20.11.2017	8.10	2.964	-
	14.02.2018	8.00	2.851	-
	22.02.2018	12.08	2.924	-
	28.02.2018	7.55	2.946	-
	23.03.2018	10.50	3.120	-
	19.04.2018	-	3.118	-
NEL-BH039	04.10.2017	11.13	6.403	*Prior to development*
	18.10.2017	7.40	6.492	-
	20.11.2017	7.45	6.732	-
	22.12.2017	10.50	6.138	-
	22.01.2018	11.46	6.367	-
	22.02.2018	10.26	6.730	-
	23.03.2018	9.25	6.994	-
	18.04.2018	9.00	7.104	-
	20.04.2018	-	7.121	-
	22.06.2018	11.07	7.111	-
	20.07.2018	8.56	7.094	-

Well ID	Date (dd.mm.yyyy)	Time (hh.mm)	Depth to Water (m TOC)	Comments
NEL-BH040 (deep)	18.09.2017	11.15	1.753	*Prior to development*
	18.10.2017	10.16	2.107	-
	20.11.2017	10.49	2.244	-
	19.01.2018	12.14	2.602	-
	12.02.2018	10.20	2.636	-
	22.02.2018	9.15	2.837	-
	26.02.2018	11.30	2.913	-
	23.03.2018	8.40	2.947	-
	20.04.2018	-	2.971	-
	23.04.2018	9.30	3.060	-
	04.05.2018	9.46	3.171	-
	22.06.2018	11.50	2.978	-
	20.07.2018	8.34	2.879	-
NEL-BH040A (shallow)	18.09.2017	11.16	2.414	*Prior to development*
	18.10.2017	10.14	2.429	-
	20.11.2017	10.46	2.521	-
	19.01.2018	12.10	2.606	-
	12.02.2018	9.00	2.825	-
	22.02.2018	9.10	2.958	-
	26.02.2018	11.59	3.000	-
	23.03.2018	8.35	3.044	-
	20.04.2018	-	3.081	-
	04.05.2018	9.44	2.948	-
	22.06.2018	11.52	2.965	-
	20.07.2018	8.35	2.547	*Datalogger in well, logging every 4hrs*
NEL-BH043	19.07.2018	11.36	4.451	-
NEL-BH044	17.10.2017	7.43	9.774	*Prior to development*
	18.10.2017	11.26	9.846	-
	20.11.2017	13.10	9.761	-
	21.12.2017	14.12	9.704	-
	19.01.2018	9.00	9.703	-
	13.02.2018	11.15	9.716	-
	23.02.2018	9.18	9.692	-
	27.02.2018	9.30	9.691	-
	22.03.2018	9.55	9.784	-
	19.04.2018	-	9.868	-
	21.06.2018	11.18	10.056	-
	19.07.2018	10.12	9.990	-
NEL-BH045				

Well ID	Date (dd.mm.yyyy)	Time (hh.mm)	Depth to Water (m TOC)	Comments
NEL-BH046	18.10.2017	14.05	-	Limit of IP was 30 m, needs grout
	21.11.2017	10.06	34.091	-
NEL-BH053				
NEL-BH057	18.09.2017	13.45	8.929	Prior to development
	18.10.2017	11.12	9.120	-
	20.11.2017	12.13	9.101	-
	21.12.2017	14.25	9.051	-
	19.01.2018	9.39	8.960	-
	22.02.2018	10.58	8.921	-
	01.03.2018	10.35	8.928	-
	19.04.2018	-	9.200	In line with door and first wooden post
	21.06.2018	12.23	9.393	-
	19.07.2018	10.59	9.289	-
NEL-BH059	04.10.2017	9.00	6.977	Prior to development
	18.10.2017	9.15	7.083	needs grout
	20.11.2017	10.01	7.124	needs grout
	22.12.2017	10.01	6.891	needs grout
	19.01.2018	11.23	6.900	needs grout
	13.02.2018	8.00	6.928	-
	23.02.2018	12.12	7.002	-
	27.02.2018	11.45	7.043	-
	23.03.2018	9.55	7.141	-
	19.04.2018	-	7.130	-
	23.04.2018	11.16	7.350	-
	04.05.2018	11.29	7.445	-
	21.06.2018	14.29	8.337	-
	19.07.2018	14.26	7.400	-
NEL-BH060	18.09.2017	12.15	3.705	Prior to development, no well cap
	03.10.2017	9.51	4.410	Prior to development
	18.10.2017	8.15	4.350	-
	20.11.2017	8.37	4.480	-
	14.02.2018	11.50	4.267	-
	22.02.2018	12.20	4.330	-
	28.02.2018	11.15	4.382	-
	23.03.2018	11.00	4.569	could do with grout top up
	19.04.2018	-	4.631	-
NEL-BH061 (deep)	18.09.2017	11.50	4.057	Prior to development, no well cap
	03.10.2017	11.41	4.444	Prior to development
	18.10.2017	8.33	4.291	-
	20.11.2017	9.14	4.491	-
	22.02.2018	12.41		could not access well
	23.03.2018	11.08	4.577	long grass - bollard placed on top of gatic - ENE of monument
	19.04.2018	-	4.618	-
	22.06.2018	8.45	4.465	-

Well ID	Date *(dd.mm.yyyy)*	Time *(hh.mm)*	Depth to Water *(m TOC)*	Comments
NEL-BH061A (shallow)	18.09.2017	11.45	4.886	*Prior to development, high turbidity*
	18.10.2017	8.28	6.585	-
	20.11.2017	9.10	7.070	-
	22.02.2018	12.39	7.285	-
	23.03.2018	11.10	7.102	-
	19.04.2018	-	7.127	-
NEL-BH062 (deep)	18.09.2017	12.28	5.841	*Prior to development, no well cap*
	18.10.2017	8.50	5.531	-
	20.11.2017	9.29	5.883	-
	14.02.2018	10.50	5.836	-
	22.02.2018	12.52	6.030	-
	28.02.2018	13.45	6.131	-
	08.03.2018	12.41	6.135	-
	23.03.2018	11.15	5.988	-
	19.04.2018	-	5.932	-
	23.04.2018	8.15	6.000	-
	04.05.2018	10.37	6.128	-
	22.06.2018	8.58	5.418	-
NEL-BH062B (middle)	18.09.2017	12.30		-
	18.10.2017	8.48	5.317	-
	20.11.2017	9.25	5.681	-
	22.02.2018	12.49	5.829	-
	23.03.2018	11.17	5.782	-
	19.04.2018	-	5.778	-
	23.04.2018	8.17	5.900	-
	04.05.2018	10.38	5.906	-
	22.06.2018	8.56	5.522	-
NEL-BH062A (shallow)	18.09.2017	12.25	5.233	*Prior to development*
	18.10.2017	8.46	6.178	-
	20.11.2017	9.19	6.650	-
	22.02.2018	12.46	6.865	-
	23.03.2018	11.19	6.745	-
	19.04.2018	-	6.734	-
	23.04.2018	8.19	6.860	-
	04.05.2018	10.40	6.895	-
	22.06.2018	8.54	6.410	-
NEL-BH063	18.10.2017	8.58	2.631	*needs grout*
	20.11.2017	9.36	2.759	*needs grout*
	22.02.2018	13.05	2.677	-
	23.03.2018	11.22	3.013	-
	19.04.2018	-	3.082	-
NEL-BH064	18.10.2017	9.04	2.639	*needs grout*
	20.11.2017	9.42	2.705	*needs grout*
	22.02.2018	13.11	2.613	-
	23.03.2018	11.25	2.775	-
	19.04.2018	-	2.826	-

Well ID	Date (dd.mm.yyyy)	Time (hh.mm)	Depth to Water (m TOC)	Comments
NEL-BH067	12.04.2018	9.00	4.690	*Prior to development*
	26.07.2018	8.20	4.489	-
NEL-BH068	12.04.2018	11.50	3.080	*Prior to development*
	26.07.2018	9.10	2.720	-
NEL-BH069	18.10.2017	10.30	5.301	-
	20.11.2017	11.00	5.317	-
	19.01.2018	12.20	5.131	-
	22.02.2018	9.02	5.360	-
	23.03.2018	8.30	5.703	-
	20.04.2018	-	5.784	-
	22.06.2018	11.46	5.630	-
	20.07.2018	8.38	5.646	-
NEL-BH070	18.10.2017	9.58	7.666	-
	20.11.2017	10.32	7.712	-
	22.12.2017	10.32	7.835	-
	19.01.2018	11.50	8.071	-
	22.02.2018	9.45	8.335	-
	22.03.2018	14.25	8.515	-
	20.04.2018	-	8.505	-
	22.06.2018	12.13	8.357	-
	20.07.2018	8.23	8.131	-
NEL-BH071	18.10.2017	9.48	8.806	-
	20.11.2017	10.25	8.886	-
	22.12.2017	10.26	8.959	-
	19.01.2018	11.44	9.193	-
	22.02.2018	9.40	9.364	-
	22.03.2018	14.05	9.562	-
	20.04.2018	-	9.506	-
	22.06.2018	12.09	9.446	-
	20.07.2018	8.19	9.250	-
NEL-BH072	18.10.2017	9.39	3.031	-
	20.11.2017	10.18	3.152	-
	22.12.2017	10.20	3.016	-
	19.01.2018	11.37	3.034	-
	22.02.2018	9.30	3.186	-
	22.03.2018	13.50	3.390	-
	20.04.2018	-	3.492	-
	22.06.2018	12.02	3.465	-
	20.07.2018	8.15	3.430	-
NEL-BH076 (deep)	22.03.2018	13.00	6.449	*Build up of gas in casing - remove cap carefully*
	17.04.2018	10.30	6.440	-
	19.04.2018	-	6.389	-
	21.06.2018	13.56	6.060	-
	19.07.2018	13.55	6.239	-
NEL-BH076A (shallow)	22.01.2018	12.30	6.270	*Prior to development*
	21.03.2018	13.48	6.501	-
	22.03.2018	12.55	6.492	*Build up of gas in casing - remove cap carefully*
	17.04.2018	9.50	6.494	-
	19.04.2018	-	6.461	-
	21.06.2018	13.55	6.216	-
	19.07.2018	13.53	6.364	-
NEL-BH078	22.03.2018	12.45	5.502	*Build up of gas in casing - remove cap carefully*
	19.04.2018	-	5.193	-
	21.06.2018	13.48	4.986	-
	19.07.2018	13.36	4.973	-

Well ID	Date (dd.mm.yyyy)	Time (hh.mm)	Depth to Water (m TOC)	Comments
NEL-BH080	19.01.2018	10.45	3.735	*Prior to development*
	22.03.2018	12.00	4.338	-
	19.04.2018	-	4.214	-
	21.06.2018	13.39	3.974	-
	19.07.2018	13.45	3.934	-
NEL-BH083	20.11.2017	11.35	4.810	-
	21.12.2017	15.00	4.733	-
	19.01.2018	10.11	4.767	-
	22.03.2018	11.45	5.144	-
	19.04.2018	-	4.974	-
	21.06.2018	13.15	4.729	-
	19.07.2018	11.49	4.802	-
NEL-BH084				
NEL-BH085	19.07.2018	11.04	2.144	*Open hole, close to Simpson's barracks off Borlase St*
	19.09.2018	9.06	1.999	
NEL-BH086	14.12.2017	10.19	9.010	*Prior to development*
	12.07.2018	10.00	9.870	-
NEL-BH087	13.12.2017	12.41	5.610	*Prior to development*
	12.07.2018	12.00	6.151	-
NEL-BH088	13.12.2017	14.21	11.970	*Prior to development*
	12.07.2018	14.00	12.693	-
NEL-BH089	13.12.2017	10.21	20.200	*Prior to development*
	12.07.2018	15.00	20.180	-
NEL-BH090	22.03.2018	10.43	21.972	*Further development recommended*
	19.04.2018	-	21.369	-
	21.06.2018	12.16	21.526	-
	19.07.2018	10.52	21.465	-
NEL-BH091	23.02.2018	10.40	17.541	*Recently developed - WL still recovering*
	22.03.2018	10.50	17.491	-
	19.04.2018	-	17.565	-
	21.06.2018	12.11	17.791	-
	19.07.2018	10.48	17.717	-

Well ID	Date (dd.mm.yyyy)	Time (hh.mm)	Depth to Water (m TOC)	Comments
NEL-BH092	23.02.2018	10.10	9.499	-
	22.03.2018	10.29	9.284	-
	19.04.2018	-	9.219	-
	21.06.2018	12.03	9.300	-
	19.07.2018	10.42	9.331	-
NEL-BH093	22.03.2018	8.50	15.846	-
	19.04.2018	-	15.458	-
	21.06.2018	10.21	15.490	-
	19.07.2018	9.09	15.360	-
NEL-BH095	21.12.2017	14.00	11.316	-
	19.01.2018	8.50	11.296	-
	23.02.2018	8.30	11.390	-
	22.03.2018	9.05	11.598	-
	19.04.2018	-	11.698	-
	21.06.2018	10.30	11.836	-
	19.07.2018	9.15	11.724	-
NEL-BH097	23.02.2018	8.58	12.374	-
	22.03.2018	9.35	12.494	-
	19.04.2018	-	12.484	-
	21.06.2018	11.04	12.507	-
	19.07.2018	9.51	12.435	-
NEL-BH098	19.01.2018	9.20	13.532	*Prior to development*
	23.02.2018	8.44	13.573	-
	22.03.2018	9.45	13.711	-
	19.04.2018	-	13.773	-
	23.04.2018	13.01	13.780	-
	04.05.2018	8.30	13.763	-
	21.06.2018	11.13	13.931	-
	19.07.2018	10.01	13.850	*Datalogger in well, logging every 4hrs*
NEL-BH099	22.03.2018	9.20	19.876	*open hole - no casing installed. needs security screw*
	19.04.2018	-	19.890	*open hole - no casing installed*
	21.06.2018	10.54	19.980	-
	19.07.2018	9.46	20.000	-

Well ID	Date (dd.mm.yyyy)	Time (hh.mm)	Depth to Water (m TOC)	Comments
NEL-BH100	22.03.2018	11.25	4.325	-
	19.04.2018	-	4.322	-
	21.06.2018	12.28	4.263	*Recovering from pumping test*
	19.07.2018	-	-	*Well destroyed*
NEL-BH106	22.03.2018	11.20	2.752	-
	19.04.2018	-	2.772	-
	21.06.2018	12.34	3.085	-
	19.07.2018	11.13	2.279	-
NEL-BH107	22.03.2018	11.15	2.907	-
	19.04.2018	-	3.039	-
	21.06.2018	12.37	4.515	-
	19.07.2018	11.15	2.765	-
NEL-BH108	22.03.2018	11.00	7.432	-
	19.04.2018	-	7.331	-
	21.06.2018	10.16	7.555	-
	19.07.2018	9.04	7.513	-
NEL-BH121	22.01.2018	9.20	10.361	*Prior to development*
	23.02.2018	9.29	13.300	*Recently developed - WL still recovering*
	23.03.2018	11.48	10.784	-
	19.04.2018	-	10.926	-
	21.06.2018	10.40	11.117	-
	19.07.2018	9.18	10.985	-
NEL-BH122	23.02.2018	9.39	7.324	*Prior to development*
	23.03.2018	11.52	-	*No access - well within locked LXRA compound*
	19.07.2018	9.23	9.220	*Developed with bailer, 10L total over 2 weeks taken*
NEL-BH123	23.03.2018	9.48	13.662	-
	20.04.2018	-	13.699	-
	22.06.2018	10.00	13.940	-
	20.07.2018	10.28	14.111	-
NEL-BH124	27.04.2018	9.50	16.700	*Prior to development*
	22.06.2018	10.06	16.696	-
	20.07.2018	10.31	16.681	-

Well ID	Date (dd.mm.yyyy)	Time (hh.mm)	Depth to Water (m TOC)	Comments
NEL-BH125	31.01.2018	10.48	5.820	Prior to development
	22.02.2018	10.32	6.106	-
	23.03.2018	9.30	6.250	*Ants nest in gatic. Best to visit early in morning when cold*
	20.04.2018	-	6.353	-
	22.06.2018	11.03	6.288	-
	20.07.2018	9.01	6.242	*Well casing repaired on 11.07.2018, PVC cut down ~10cm*
NEL-BH126	22.02.2018	10.20	4.622	-
	23.03.2018	9.20	4.995	-
	20.04.2018	-	5.096	-
	22.06.2018	11.13	4.923	-
	20.07.2018	8.54	4.798	-
NEL-BH127	22.02.2018	10.14	5.913	-
	23.03.2018	9.10	6.070	-
	20.04.2018	-	6.114	*needs security screw*
	22.06.2018	10.37	6.040	-
	20.07.2018	8.50	6.035	-
NEL-BH128	22.02.2018	10.41	6.658	*Prior to development*
	23.03.2018	9.40	6.380	-
	20.04.2018	-	6.428	-
	23.04.2018	10.17	6.430	-
	04.05.2018	10.12	6.427	-
	22.06.2018	10.51	6.361	-
	20.07.2018	9.09	6.387	-
NEL-BH128A	22.02.2018	10.44	6.268	-
	23.03.2018	9.35	6.785	*top of PVC needs to be re-cut*
	20.04.2018	-	6.883	-
	04.05.2018	10.14	6.841	-
	22.06.2018	10.53	6.824	-
	20.07.2018	9.07	6.842	-
NEL-BH130	24.01.2018	15.45	3.652	*Prior to development*
	22.02.2018	8.50	4.831	-
	23.03.2018	8.25	5.132	*top of PVC needs to be re-cut*
	20.04.2018	-	5.184	*needs security screw*
	22.06.2018	11.41	4.978	-
	20.07.2018	8.41	4.936	-

Well ID	Date (dd.mm.yyyy)	Time (hh.mm)	Depth to Water (m TOC)	Comments
NEL-BH131				Not sampled by the date of this report
NEL-BH132				Not sampled by the date of this report
NEL-BH133				Not sampled by the date of this report
NEL-BH137	23.03.2018	10.10	7.357	Eastern gatic
	19.04.2018	-	7.250	-
	21.06.2018	14.35	7.432	-
	20.07.2018	10.40	7.342	-
NEL-BH140	23.03.2018	-	8.219	Western gatic
	19.04.2018	-	8.246	-
	21.06.2018	14.35	7.432	-
	19.07.2018	14.49	8.276	-
NEL-BH150				
NEL-BH151	12.04.2018	13.20	4.110	Prior to development
	26.07.2018	10.20	3.979	-
NEL-BH158	20.07.2018	10.43	6.584	-
NEL-BH159	19.07.2018	11.25	7.200	Open hole
NEL-BH181	26.04.2018	11.03	4.150	Prior to development
	04.05.2018	12.00	5.045	-
	22.06.2018	10.16	4.729	-
	20.07.2018	10.04	4.678	-
NEL-BH182	26.04.2018	12.13	5.850	Prior to development
	04.05.2018	12.05	5.851	-
	22.06.2018	10.22	5.906	-
	20.07.2018	10.07	5.747	-

Well ID	Date (dd.mm.yyyy)	Time (hh.mm)	Depth to Water (m TOC)	Comments
NEL-ENV-BH004				*Not Installed*
NEL-ENV-BH006	23.03.2018	-	7.385	*Prior to development, western gatic*
	20.04.2018	-	7.422	*Prior to development, western gatic*
	08.05.2018	-	7.420	-
	21.06.2018	14.34	7.520	-
	19.07.2018	-	7.362	-
	16.08.2018	14.22	7.432	-
	19.09.2018	12.29	7.443	-
NEL-ENV-BH008	23.03.2018	-	8.285	*Prior to development, eastern gatic*
	20.04.2018	-	8.328	*Prior to development*
	08.05.2018	-	8.340	-
	21.06.2018	14.54	8.361	-
	19.07.2018	14.52	8.347	-
	16.08.2018	14.55	8.388	-
	19.09.2018	12.05	8.409	-
NEL-ENV-BH009	27.06.2018	13.00	3.030	-
	19.07.2018	11.40	3.625	-
NEL-ENV-BH014	13.07.2018	7.30	6.515	-
	19.07.2018	14.29	6.488	-
	16.08.2018	14.03	6.500	-
	19.09.2018	12.22	6.485	-
NEL-ENV-BH022	20.09.2018	8.37	18.623	*Hydrocarbon odour present*
NEL-ENV-BH024	27.04.2018	11.00	8.450	*Prior to development*
	08.05.2018	-	6.910	-
	19.07.2018	14.00	7.010	-
	19.08.2018	11.01	7.114	-
	19.09.2018	8.44	7.175	-
NEL-ENV-BH025	27.04.2018	7.45	11.300	*Prior to development*
	08.05.2018	-	6.750	-
NEL-ENV-BH032	27.06.2018	9.45	3.735	-
	19.07.2018	14.34	3.626	*New environmental well adjacent to NEL-BH005*
	19.09.2018	12.33	3.780	-

Appendix J Table 2
Summary of Stabilized Water Quality Parameters

Well ID	Date	Stabilised Water Quality Parameters						Colour, turbidity, odour	Area
		Temp. (c)	EC (µS/cm)	TDS	Redox (mV-ORP)	pH	DO (ppm)		
NEL-BH004	15/02/2018	18.00	8,180	5,317	-138.80	7.32	0.00	clear, low, none	Bulleen
NEL-BH004 A	15/02/2018	17.40	2,260	1,469	-82.20	7.29	0.00	pale yellow, low, none	Bulleen
NEL-BH031	13/02/2018	18.50	12,657	8,227	-95.60	7.87	1.51	clear, low, none	Bulleen
	8/03/2018	17.90	13,045	8,479	-66.10	6.59	0.40	pale grey, low, none	Bulleen
NEL-BH037	16/04/2018	18.20	11,577	7,525	-94.10	6.35	0.55	clear, low, H2S	Bulleen
NEL-BH038	14/02/2018	19.90	11,765	7,647	-52.10	7.16	1.17	clear, low, none	Bulleen
NEL-BH039	18/04/2018	17.50	2,019	1,312	-130.10	6.28	3.45	clear, low, H2S	Bulleen
NEL-BH040	12/02/2018	18.00	10,623	6,905	-34.10	6.84	1.26	clear, low, none	Bulleen
NEL-BH040 A	12/02/2018	17.50	9,572	6,222	-37.40	6.54	2.00	clear to pale grey, low, slight H2S	Bulleen
NEL-BH044	13/02/2018	18.40	5,178	3,366	-52.80	7.56	1.99	clear, low, none	Bulleen
NEL-BH059	13/02/2018	16.80	8,776	5,704	-91.70	7.53	1.21	clear, low, none	Bulleen
NEL-BH060	14/02/2018	17.90	8,920	5,798	-61.00	7.39	1.30	clear, low, none	Bulleen
NEL-BH062	14/02/2018	16.20	8,169	5,310	68.80	7.50	0.30	clear, low, none	Bulleen
	8/03/2018	16.30	8,700	5,655	-76.60	7.06	1.92	clear, low, none	Bulleen
NEL-BH062 B	14/02/2018	15.60	4,368	2,839	-73.90	7.13	0.66	pale yellow to clear, low, none	Bulleen
	8/03/2018	16.20	4,622	3,004	-98.50	7.04	8.36	clear, low, none	Bulleen
NEL-BH062 A	16/02/2018	15.30	1,792	1,165	-116.60	6.31	0.66	clear, low, none	Bulleen
NEL-BH064	14/02/2018	19.30	10,740	6,981	-45.50	7.35	0.82	clear, low, none	Bulleen
NEL-BH070	12/02/2018	19.20	9,138	5,940	-74.50	7.01	0.66	clear, low, none	Bulleen
NEL-BH071	17/04/2018	17.60	7,700	5,005	-86.10	6.08	1.55	pale brown to clear, low, slight H2S	Bulleen
NEL-BH072	12/02/2018	17.70	7,898	5,134	-44.90	6.52	1.22	pale grey, low, none	Bulleen
NEL-BH076	17/04/2018	16.30	4,411	2,867	20.50	5.81	1.56	pale grey, low, slight H2S	Bulleen
NEL-BH076 A	17/04/2018	16.10	3,450	2,243	-27.10	5.76	2.79	pale grey to clear, low, H2S	Tunnel
NEL-BH078	17/04/2018	16.30	6,589	4,283	-123.30	6.65	1.87	pale grey to clear, low, H2S	Tunnel
NEL-BH083	16/04/2018	17.30	12,242	7,957	-123.00	5.70	2.66	pale grey to clear, low, H2S	Tunnel
NEL-BH086	12/07/2018	15.2	13,039	10,000	115.9	6.53	0.00	pale grey to brown, low, none	Yallambie
NEL-BH087	12/07/2018	15.6	9,774	6,300	-12.1	6.59	0.03	clear, low, none	Yallambie
NEL-BH088	12/07/2018	15.7	8,947	6,100	47.7	6.70	0.40	clear, low, none	Yallambie
NEL-BH089	12/07/2018	16.9	10,322	6,800	-103.8	6.54	0.24	clear, low, none	Yallambie
NEL-BH091	16/02/2018	18.80	5,499	3,574	66.70	7.06	5.48	pale brown, low to medium, none	Watsonia
NEL-BH093	16/04/2018	18.10	6,594	4,286	27.70	6.71	3.66	pale grey, low, none	Watsonia
NEL-BH095	13/02/2018	18.80	4,683	3,044	-52.60	7.81	1.31	pale grey, low, none	Watsonia
NEL-BH097	15/02/2018	17.20	10,205	6,633	19.50	6.94	1.49	pale grey, low, none	Watsonia
NEL-BH098	15/02/2018	16.90	6,512	4,233	155.10	6.21	4.29	pale grey to clear, low, none	Watsonia
NEL-BH106	16/04/2018	16.90	13,722	8,919	-36.00	5.74	0.20	clear, low, H2S	Watsonia
NEL-BH107	16/04/2018	17.30	11,397	7,408	-30.20	6.55	0.29	clear, low, none	Watsonia
NEL-BH125	16/02/2018	16.90	1,311	852	-121.10	6.39	0.58	clear, low, H2S	Bulleen
NEL-BH128	8/03/2018	17.60	1,264	822	-66.60	6.40	4.88	clear, low, none	Bulleen
NEL-BH140	18/04/2018	17.70	6,629	4,309	33.10	6.73	4.22	pale brown, low, none	Bulleen
NEL-ENV-BH006	27/06/2018	18.8	6.798	6,350	145.1	6.96	1.67	orange, high, none	Bulleen
NEL-ENV-BH008	8/05/2018	18.30	9,443	7,280	101.10	6.77	2.60	pale grey to brown, very low, none	Bulleen
NEL-ENV-BH009	27/06/2018	16.8	1,177	962	166.3	6.49	8.28	clear, low, none	Bulleen
NEL-ENV-BH014	13/07/2018	17.1	2,080	1,300	103.8	7.28	2.26	clear, low, none	Bulleen
NEL-ENV-BH024	8/05/2018	20.30	7,790	5,710	133.60	6.90	2.45	clear, very low, slight odour	Watsonia
NEL-ENV-BH025	9/05/2018	18.00	9,483	7,280	147.10	6.57	9.15	pale grey to brown, low, slight odour	Watsonia
NEL-ENV-BH032	27/06/2018	18.9	9,262	7,220	202.1	6.97	4.23	clear, low, none	Bulleen

Table 2 - Protected Beneficial Uses of the Segments

Beneficial Uses	Segments (mg/L TDS)				
	A1 (0-500)	A2 (501-1,000)	B (1,001-3,500)	C (3,501-13,000)	D (greater than 13,000)
1. Maintenance of ecosystems	✓	✓	✓	✓	✓
2. Potable water supply:					
desirable	✓				
acceptable		✓			
3. Potable mineral water supply	✓	✓	✓		
4. Agriculture, parks and gardens	✓	✓	✓		
5. Stock watering	✓	✓	✓	✓	
6. Industrial water use	✓	✓	✓	✓	✓
7. Primary contact recreation (eg. bathing, swimming)	✓	✓	✓	✓	
8. Buildings and structures	✓	✓	✓	✓	✓

Appendix J
Table 3
Summary of Soil Analytical Results

Location Code	Unit	EQL	EPA Victoria IWRG 621 Category B	EPA Victoria IWRG 621 Category C	EPA Victoria IWRG 621 Clean Fill	EPA Victoria IWRG 621 Trigger for Leachate Testing	NEL-BH079	NEL-BH079	NEL-BH086	NEL-BH087	NEL-BH087	NEL-BH088	NEL-BH088	NEL-BH089	NEL-BH089	NEL-BH100	NEL-BH101	NEL-BH101	NEL-BH106	NEL-BH106	NEL-BH107	NEL-BH107
Depth							0.5 - 0.6	1 - 1.1	0.3 - 0.4	0.2 - 0.3	0.7 - 0.8	0.2 - 0.3	0.6 - 0.7	0.2 - 0.3	0.6 - 0.7	2 - 2.1	0.5 - 0.6	1 - 1.1	2 - 2.1	3 - 3.1	0.7 - 0.8	2 - 2.1
Date							10/07/2018	10/07/2018	2/11/2017	21/11/2017	21/11/2017	21/11/2017	21/11/2017	21/11/2017	21/11/2017	23/01/2018	14/06/2018	14/06/2018	12/01/2018	12/01/2018	10/01/2018	11/01/2018
Field ID							NEL-BH079_0.5m	NEL-BH079_1.0m	NEL-BH086_0.3m	NEL-BH087_0.2m	NEL-BH087_0.7m	NEL-BH088_0.2m	NEL-BH088_0.6m	NEL-BH089_0.2m	NEL-BH089_0.6m	NEL_BH100_2.0m	NEL-BH101_0.5	NEL-BH101_1.0	NEL-BH106_2.0m	NEL-BH106_3.0m	NEL-BH107_0.7m	NEL-BH107_2.0m
Sample Type							Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
Lab Report Number							EM1811072	EM1811072	EM1716457	EM1715998	EM1715998	EM1715998	EM1715998	EM1715998	EM1715998	EM1801849	EM1809614	EM1809614	EM1801198	EM1801198	EM1801198	EM1801198
Inorganics																						
Cyanide (Total)	mg/kg	1	10000	2500	50	160	<1	<1	2	<1	<1	<1	<1	1	<1	<1	<1	<1	<1	<1	1	<1
Major Ions																						
Fluoride	mg/kg	40	40000	10000	450	3000	560	540	530	130	330	160	620	480	520	340	610	200	280	200	410	220
Metals																						
Arsenic	mg/kg	5	2000	500	20	14	5	<5	<5	<5	8	<5	<5	7	9	6	<5	5	5	<5	6	<5
Cadmium	mg/kg	1	400	100	3	4	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chromium (hexavalent)	mg/kg	0.5	2000	500	1	100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chromium (III+VI)	mg/kg	2					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Copper	mg/kg	5	20000	5000	100	4000	14	17	9	<5	6	<5	12	17	30	16	14	<5	14	10	18	<5
Lead	mg/kg	5	6000	1500	300	20	12	15	10	8	15	6	12	24	23	12	12	13	13	15	16	11
Mercury	mg/kg	0.1	300	75	1	2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Molybdenum	mg/kg	2	4000	1000	40	100	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Nickel	mg/kg	2	12000	3000	60	40	33	57	16	3	8	2	16	9	10	26	20	8	16	21	19	10
Selenium	mg/kg	5	200	50	10	20	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Silver	mg/kg	2	720	180	10	200	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Tin	mg/kg	5		500	50		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Zinc	mg/kg	5	140000	35000	200	6000	22	64	12	6	6	<5	16	21	10	15	23	9	14	8	20	7
BTEXN																						
Benzene	mg/kg	0.2	16	4	1	2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene (o)	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene (m & p)	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene Total	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TRH - NEPM 2013																						
F1 (C6-C10 minus BTEXN)	mg/kg	10					<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
C6-C10 Fraction	mg/kg	10					<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
F2 (>C10-C16 minus Naphthalene)	mg/kg	50					<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
>C10-C16 Fraction	mg/kg	50					<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
F3 (>C16-C34 Fraction)	mg/kg	100					<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
F4 (>C34-C40 Fraction)	mg/kg	100					<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
>C10-C40 (Sum of Total)	mg/kg	50					<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
TRH - NEPM 1999																						
C6-C9 Fraction	mg/kg	10	2600	650	100		<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
C10-C14 Fraction	mg/kg	50					<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
C15-C28 Fraction	mg/kg	100					<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
C29-C36 Fraction	mg/kg	100					<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
C10-C36 (Sum of Total)	mg/kg	50	40000	10000	1000		<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
PAHs																						
Sum of polycyclic aromatic hydrocarbons	mg/kg	0.5					<0.5	<0.5	-	-	-	-	-	-	-	-	<0.5	<0.5	-	-	-	-
Pyrene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benz(a)anthracene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a) pyrene	mg/kg	0.5	20	5	1	0.02	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(b+j+k)fluoranthene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g,h,i)perylene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a,h)anthracene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1,2,3-c,d)pyrene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PAHs (Sum of total) - Lab calc	mg/kg	0.5	400	100	20		-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5
Total 8 PAHs (as BaP TEQ)(zero LOR) - Lab Ca	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total 8 PAHs (as BaP TEQ)(half LOR) - Lab Cal	mg/kg	0.5					0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
Total 8 PAHs (as BaP TEQ)(full LOR) - Lab Calc	mg/kg	0.5					1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
Phenols																						
Phenols(halogenated) - Lab Calc	mg/kg	0.03				40	<0.03	<0.03	<1	<1	<1	<1	<1	<1	<1	<1	<0.03	<0.03	<1	<1	<1	<1
3/4-Methylphenol (m/p-cresol)	mg/kg	1					<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	-	-	-	-
Phenols (non-halogenated) - Lab Calc	mg/kg	1				280	<1	<1	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	-	<1	<1	-	-	-	-
2,3,5,6-Tetrachlorophenol	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
2,4,5-trichlorophenol	mg/kg	0.05					<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
2,4,6-trichlorophenol	mg/kg	0.05					<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
2,4-dichlorophenol	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
2,4-dimethylphenol	mg/kg	1					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
2,4-dinitrophenol	mg/kg	5					<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
2,6-dichlorophenol	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
2,3,4,5 & 2,3,4,6-Tetrachlorophenol	mg/kg	0.05					<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
2-chlorophenol	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
2-methylphenol	mg/kg	1					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
2-nitrophenol	mg/kg	1					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
4,6-Dinitro-o-cyclohexyl phenol	mg/kg	5					<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
4-chloro-3-methylphenol	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
4-nitrophenol	mg/kg	5					<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Pentachlorophenol	mg/kg	0.2					<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Phenol	mg/kg	1					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Phenols (Total Halogenated)	mg/kg	0.03					-	-	-	-	-	-	-	-	-	<0.03	-	-	<0.03	<0.03	<0.03	<0.03
Phenols (Total Non Halogenated)	mg/kg	1					-	-	-	-	-	-	-	-	-	<1	-	-	<1	<1	<1	<1

Appendix J
Table 3
Summary of Soil Analytical Results

	Unit	EQL	EPA Victoria IWRG 621 Category B	EPA Victoria IWRG 621 Category C	EPA Victoria IWRG 621 Clean Fill	EPA Victoria IWRG 621 Trigger for Leachate Testing																
						Location Code	NEL-BH108	NEL-BH108	NEL-BH108	NEL-BH109	NEL-BH109	NEL-BH110	NEL-BH110	NEL-BH110	NEL-BH110	NEL-BH118	NEL-BH118	NEL-BH118	NEL-BH119	NEL-BH119	NEL-BH119	NEL-BH120
						Depth	0.2 - 0.3	0.7 - 0.8	1.2 - 1.3	0.2 - 0.3	1.1 - 1.2	0.1 - 0.2	0.5 - 0.6	1 - 1.1	1.5 - 1.6	0.5 - 0.5	0.8 - 0.8	3.5 - 3.5	1 - 1	1.8 - 1.8	2.5 - 2.5	0.2 - 0.3
						Date	19/02/2018	19/02/2018	19/02/2018	5/03/2018	5/03/2018	13/03/2018	13/03/2018	13/03/2018	13/03/2018	12/09/2018	12/09/2018	12/09/2018	7/09/2018	7/09/2018	7/09/2018	5/07/2018
						Field ID	NEL-BH108_0.2m	NEL-BH108_0.7m	NEL-BH108_1.2m	NEL-BH109_0.2m	NEL-BH109_1.1m	NEL-BH110_0.1m	NEL-BH110_0.5m	NEL-BH110_1.0m	NEL-BH110_1.5m	NEL-BH118_0.5	NEL-BH118_0.8	NEL-BH118_3.5	NEL-BH119_1.0	NEL-BH119_1.8	NEL-BH119_2.5	NEL-BH120_0.2m
						Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
						Lab Report Number	EM1803248	EM1803248	EM1803248	EM1804004	EM1804004	EM1804502	EM1804502	EM1804502	EM1804502	EM1814744	EM1814744	EM1814744	EM1814388	EM1814388	EM1814388	EM1810873
Inorganics																						
Cyanide (Total)	mg/kg	1	10000	2500	50	160	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Major Ions																						
Fluoride	mg/kg	40	40000	10000	450	3000	540	700	640	370	440	270	490	600	460	200	280	410	170	120	320	190
Metals																						
Arsenic	mg/kg	5	2000	500	20	14	6	8	5	8	<5	6	8	8	7	15	<5	<5	6	20	<5	7
Cadmium	mg/kg	1	400	100	3	4	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	11	13	<1	<1
Chromium (hexavalent)	mg/kg	0.5	2000	500	1	100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chromium (III+VI)	mg/kg	2					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Copper	mg/kg	5	20000	5000	100	4000	17	23	22	18	12	9	33	23	23	48	7	11	45	82	11	25
Lead	mg/kg	5	6000	1500	300	20	14	22	14	30	14	17	22	13	9	291	16	13	74	66	14	42
Mercury	mg/kg	0.1	300	75	1	2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1.0	0.4	<0.1	<0.1
Molybdenum	mg/kg	2	4000	1000	40	100	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	5	<2	<2
Nickel	mg/kg	2	12000	3000	60	40	31	57	53	40	23	8	34	32	35	14	8	20	62	112	14	19
Selenium	mg/kg	5	200	50	10	20	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Silver	mg/kg	2	720	180	10	200	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Tin	mg/kg	5		500	50		<5	<5	<5	<5	<5	<5	<5	<5	<5	6	<5	<5	121	31	<5	<5
Zinc	mg/kg	5	140000	35000	200	6000	26	52	68	63	30	41	52	59	76	168	8	25	126	148	18	55
BTEXN																						
Benzene	mg/kg	0.2	16	4	1	2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene (o)	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene (m & p)	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene Total	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TRH - NEPM 2013																						
F1 (C6-C10 minus BTEXN)	mg/kg	10					<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
C6-C10 Fraction	mg/kg	10					<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
F2 (>C10-C16 minus Naphthalene)	mg/kg	50					<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
>C10-C16 Fraction	mg/kg	50					<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
F3 (>C16-C34 Fraction)	mg/kg	100					<100	<100	<100	<100	<100	<100	<100	<100	<100	830	<100	<100	250	180	<100	<100
F4 (>C34-C40 Fraction)	mg/kg	100					<100	<100	<100	<100	<100	<100	<100	<100	<100	380	<100	<100	110	110	<100	<100
>C10-C40 (Sum of Total)	mg/kg	50					<50	<50	<50	<50	<50	<50	<50	<50	<50	1,210	<50	<50	360	290	<50	<50
TRH - NEPM 1999																						
C6-C9 Fraction	mg/kg	10	2600	650	100		<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
C10-C14 Fraction	mg/kg	50					<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
C15-C28 Fraction	mg/kg	100					<100	<100	<100	<100	<100	<100	<100	<100	<100	390	<100	<100	120	<100	<100	<100
C29-C36 Fraction	mg/kg	100					<100	<100	<100	<100	<100	<100	<100	<100	<100	640	<100	<100	180	170	<100	<100
C10-C36 (Sum of Total)	mg/kg	50	40000	10000	1000		<50	<50	<50	<50	<50	<50	<50	<50	<50	1,030	<50	<50	300	170	<50	<50
PAHs																						
Sum of polycyclic aromatic hydrocarbons	mg/kg	0.5					-	-	-	-	-	-	-	-	75.7	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Pyrene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	1.2	<0.5	<0.5	<0.5	12.4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benz(a)anthracene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	0.6	<0.5	<0.5	<0.5	4.9	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a) pyrene	mg/kg	0.5	20	5	1	0.02	<0.5	<0.5	<0.5	<0.5	0.6	<0.5	<0.5	<0.5	10.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(b+j+k)fluoranthene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	1.0	<0.5	<0.5	<0.5	14.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g,h,i)perylene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	7.4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	5.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a,h)anthracene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	1.4	<0.5	<0.5	<0.5	9.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1,2,3-c,d)pyrene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	5.8	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	1.1	<0.5	<0.5	<0.5	3.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PAHs (Sum of total) - Lab calc	mg/kg	0.5	400	100	20		<0.5	<0.5	<0.5	<0.5	5.9	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-
Total 8 PAHs (as BaP TEQ)(zero LOR) - Lab Ca	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	0.8	<0.5	<0.5	<0.5	13.8	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total 8 PAHs (as BaP TEQ)(half LOR) - Lab Cal	mg/kg	0.5					0.6	0.6	0.6	0.6	1.0	0.6	0.6	0.6	13.8	0.6	0.6	0.6	0.6	0.6	0.6	0.6
Total 8 PAHs (as BaP TEQ)(full LOR) - Lab Calc	mg/kg	0.5					1.2	1.2	1.2	1.2	1.3	1.2	1.2	1.2	13.8	1.2	1.2	1.2	1.2	1.2	1.2	1.2
Phenols																						
Phenols(halogenated) - Lab Calc	mg/kg	0.03				40	<1	<1	<1	-	-	-	-	-	-	<0.14	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
3/4-Methylphenol (m/p-cresol)	mg/kg	1					-	-	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Phenols (non-halogenated) - Lab Calc	mg/kg	1				280	-	-	-	-	-	-	-	-	-	<1	<1	<1	<1	<1	<1	<1
2,3,5,6-Tetrachlorophenol	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.14	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
2,4,5-trichlorophenol	mg/kg	0.05					<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.14	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
2,4,6-trichlorophenol	mg/kg	0.05					<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.14	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
2,4-dichlorophenol	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.14	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
2,4-dimethylphenol	mg/kg	1					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
2,4-dinitrophenol	mg/kg	5					<5	<5	<5	<5	<5	<5	<5	<5	<5	<12	<5	<5	<5	<5	<5	<5
2,6-dichlorophenol	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.14	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
2,3,4,5 & 2,3,4,6-Tetrachlorophenol	mg/kg	0.05					<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.29	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
2-chlorophenol	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.14	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
2-methylphenol	mg/kg	1					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
2-nitrophenol	mg/kg	1					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
4,6-Dinitro-o-cyclohexyl phenol	mg/kg	5					<5	<5	<5	<5	<5	<5	<5	<5	<5	<6	<5	<5	<5	<5	<5	<5
4-chloro-3-methylphenol	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.14	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
4-nitrophenol	mg/kg	5					<5	<5	<5	<5	<5	<5	<5	<5	<5	<6	<5	<5	<5	<5	<5	<5
Pentachlorophenol	mg/kg	0.2					<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Phenol	mg/kg	1					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Phenols (Total Halogenated)	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	-	-	-	-	-	-	-
Phenols (Total Non Halogenated)	mg/kg	1					<1	<1	<1	<1	<1	<1	<1	<1	<1	-	-	-	-	-	-	-

Appendix J
Table 3
Summary of Soil Analytical Results

						Location Code	NEL-BH120	NEL-BH123	NEL-BH124	NEL-BH124	NEL-BH124	NEL-BH124	NEL-BH125	NEL-BH125	NEL-BH125	NEL-BH125	NEL-BH125	NEL-BH125	NEL-BH125	NEL-BH125	NEL-BH125	NEL-BH125	NEL-BH125
						Depth	1 - 1.1	0.1 - 0.2	0.1 - 0.2	0.5 - 0.6	1.1 - 1.2	1.5 - 1.6	0.4 - 0.5	0.4 - 0.5	0.75 - 0.85	0.75 - 0.85	1 - 1.1	1 - 1.1	1.5 - 1.6	1.5 - 1.6	3 - 3.1	3 - 3.1	4.5 - 4.6
						Date	5/07/2018	22/02/2018	13/03/2018	13/03/2018	13/03/2018	13/03/2018	17/01/2018	17/01/2018	17/01/2018	17/01/2018	17/01/2018	17/01/2018	17/01/2018	17/01/2018	23/01/2018	23/01/2018	23/01/2018
						Field ID	NEL-BH120_1.0m	NEL-BH123_0.1m	NEL-BH124_0.1m	NEL-BH124_0.5m	NEL-BH124_1.1m	NEL-BH124_1.5m	NEL-BH125_0.4m	NEL-BH125_0.4	NEL-BH125_0.75m	NEL-BH125_0.75	NEL-BH125_1.0m	NEL-BH125_1.0	NEL-BH125_1.5m	NEL-BH125_1.5	NEL_BH125_3.0m	NEL-BH125_3.0	NEL_BH125_4.5m
						Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
						Lab Report Number	EM1810873	EM1803587	EM1804502	EM1804502	EM1804502	EM1804502	EM1801471	EM1803435	EM1801471	EM1803435	EM1801471	EM1803435	EM1801471	EM1803435	EM1801849	EM1803435	EM1801849
	Unit	EQL	EPA Victoria IWRG 621 Category B	EPA Victoria IWRG 621 Category C	EPA Victoria IWRG 621 Clean Fill	EPA Victoria IWRG 621 Trigger for Leachate Testing																	
Inorganics																							
Cyanide (Total)	mg/kg	1	10000	2500	50	160	<1	<1	<1	<1	<1	<1	<1	-	<1	-	<1	-	<1	-	<1	-	<1
Major Ions																							
Fluoride	mg/kg	40	40000	10000	450	3000	630	180	480	180	300	250	240	-	230	-	140	-	80	-	230	-	270
Metals																							
Arsenic	mg/kg	5	2000	500	20	14	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	21	5	<5	<5	<5	<5	7
Cadmium	mg/kg	1	400	100	3	4	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	1	<1	<1	<1	<1	<1	<1
Chromium (hexavalent)	mg/kg	0.5	2000	500	1	100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5
Chromium (III+VI)	mg/kg	2					-	-	-	-	-	-	-	25	-	28	-	119	-	14	-	32	-
Copper	mg/kg	5	20000	5000	100	4000	24	31	30	7	<5	<5	14	11	22,200	17	92	29	21	20	11	11	8
Lead	mg/kg	5	6000	1500	300	20	11	<5	<5	6	5	5	27	25	33	13	242	48	5,390	1,730	455	498	15
Mercury	mg/kg	0.1	300	75	1	2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Molybdenum	mg/kg	2	4000	1000	40	100	<2	<2	<2	<2	<2	<2	<2	<2	<2	4	2	<2	<2	<2	<2	<2	<2
Nickel	mg/kg	2	12000	3000	60	40	44	81	76	11	8	8	12	14	17	15	39	19	9	7	16	14	19
Selenium	mg/kg	5	200	50	10	20	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Silver	mg/kg	2	720	180	10	200	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Tin	mg/kg	5		500	50		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	410	51	199	15	7	5	<5
Zinc	mg/kg	5	140000	35000	200	6000	73	40	41	16	16	18	42	38	10,700	81	634	481	426	301	65	59	41
BTEXN																							
Benzene	mg/kg	0.2	16	4	1	2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-	<0.2	-	<0.2	-	<0.2	-	<0.2	-	<0.2
Toluene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5
Ethylbenzene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5
Xylene (o)	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5
Xylene (m & p)	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5
Xylene Total	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5
TRH - NEPM 2013																							
F1 (C6-C10 minus BTEXN)	mg/kg	10					<10	<10	<10	<10	<10	<10	<10	-	<10	-	<10	-	<10	-	<10	-	<10
C6-C10 Fraction	mg/kg	10					<10	<10	<10	<10	<10	<10	<10	-	<10	-	<10	-	<10	-	<10	-	<10
F2 (>C10-C16 minus Naphthalene)	mg/kg	50					<50	<50	<50	<50	<50	<50	<50	-	<50	-	<50	-	<50	-	<50	-	<50
>C10-C16 Fraction	mg/kg	50					<50	<50	<50	<50	<50	<50	<50	-	<50	-	<50	-	<50	-	<50	-	<50
F3 (>C16-C34 Fraction)	mg/kg	100					<100	<100	<100	<100	<100	<100	<100	-	<100	-	<100	-	<100	-	<100	-	<100
F4 (>C34-C40 Fraction)	mg/kg	100					<100	<100	<100	<100	<100	<100	<100	-	<100	-	<100	-	<100	-	<100	-	<100
>C10-C40 (Sum of Total)	mg/kg	50					<50	<50	<50	<50	<50	<50	<50	-	<50	-	<50	-	<50	-	<50	-	<50
TRH - NEPM 1999																							
C6-C9 Fraction	mg/kg	10	2600	650	100		<10	<10	<10	<10	<10	<10	<10	-	<10	-	<10	-	<10	-	<10	-	<10
C10-C14 Fraction	mg/kg	50					<50	<50	<50	<50	<50	<50	<50	-	<50	-	<50	-	<50	-	<50	-	<50
C15-C28 Fraction	mg/kg	100					<100	<100	<100	<100	<100	<100	<100	-	<100	-	<100	-	<100	-	<100	-	<100
C29-C36 Fraction	mg/kg	100					<100	<100	<100	<100	<100	<100	<100	-	<100	-	<100	-	<100	-	<100	-	<100
C10-C36 (Sum of Total)	mg/kg	50	40000	10000	1000		<50	<50	<50	<50	<50	<50	<50	-	<50	-	<50	-	<50	-	<50	-	<50
PAHs																							
Sum of polycyclic aromatic hydrocarbons	mg/kg	0.5					<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pyrene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5
Acenaphthene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5
Acenaphthylene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5
Anthracene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5
Benz(a)anthracene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5
Benzo(a) pyrene	mg/kg	0.5	20	5	1	0.02	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5
Benzo(b+j+k)fluoranthene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5
Benzo(g,h,i)perylene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5
Chrysene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5
Dibenz(a,h)anthracene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5
Fluoranthene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5
Fluorene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5
Indeno(1,2,3-c,d)pyrene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5
Naphthalene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5
Phenanthrene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5
PAHs (Sum of total) - Lab calc	mg/kg	0.5	400	100	20		-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5
Total 8 PAHs (as BaP TEQ)(zero LOR) - Lab Ca	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5
Total 8 PAHs (as BaP TEQ)(half LOR) - Lab Cal	mg/kg	0.5					0.6	0.6	0.6	0.6	0.6	0.6	0.6	-	0.6	-	0.6	-	0.6	-	0.6	-	0.6
Total 8 PAHs (as BaP TEQ)(full LOR) - Lab Calc	mg/kg	0.5					1.2	1.2	1.2	1.2	1.2	1.2	1.2	-	1.2	-	1.2	-	1.2	-	1.2	-	1.2
Phenols																							
Phenols(halogenated) - Lab Calc	mg/kg	0.03				40	<0.03	<0.03	-	-	-	-	<1	-	<1	-	<1	-	<1	-	<1	-	<1
3/4-Methylphenol (m/p-cresol)	mg/kg	1					<1	<1	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-
Phenols (non-halogenated) - Lab Calc	mg/kg	1				280	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,3,5,6-Tetrachlorophenol	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	-	<0.03	-	<0.03	-	<0.03	-	<0.03	-	<0.03
2,4,5-trichlorophenol	mg/kg	0.05					<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.05	-	<0.05	-	<0.05	-	<0.05	-	<0.05
2,4,6-trichlorophenol	mg/kg	0.05					<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.05	-	<0.05	-	<0.05	-	<0.05	-	<0.05
2,4-dichlorophenol	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	-	<0.03	-	<0.03	-	<0.03	-	<0.03	-	<0.03
2,4-dimethylphenol	mg/kg	1					<1	<1	<1	<1	<1	<1	<1	-	<1	-	<1	-	<1	-	<1	-	<1
2,4-dinitrophenol	mg/kg	5					<5	<5	<5	<5	<5	<5	<5	-	<5	-	<5	-	<5	-	<5	-	<5
2,6-dichlorophenol	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	-	<0.03	-	<0.03	-	<0.03	-	<0.03	-	<0.03
2,3,4,5 & 2,3,4,6-Tetrachlorophenol	mg/kg	0.05					<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.05	-	<0.05	-	<0.05	-	<0.05	-	<0.05
2-chlorophenol	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	-	<0.03	-	<0.03	-	<0.03	-	<0.03	-	<0.03
2-methylphenol	mg/kg	1					<1	<1	<1	<1	<1	<1	<1	-	<1	-	<1	-	<1	-	<1	-	<1
2-nitrophenol	mg/kg	1					<1	<1	<1	<1	<1	<1	<1	-	<1	-	<1	-	<1	-	<1	-	<1
4,6-Dinitro-o-cyclohexyl phenol	mg/kg	5					<5	<5	<5	<5	<5	<5	<5	-	<5	-	<5	-	<5	-	<5	-	<5
4-chloro-3-methylphenol	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	-	<0.03	-	<0.03	-	<0.03	-	<0.03	-	<0.03
4-nitrophenol	mg/kg	5					<5	<5	<5	<5	<5	<5	<5	-	<5	-	<5	-	<5	-	<5	-	<5
Pentachlorophenol	mg/kg	0.2					<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-	<0.2	-	<0.2	-	<0.2	-	<0.2	-	<0.2
Phenol	mg/kg	1					<1	<1	<1	<1	<1	<1	<1	-	<1	-	<1	-	<1	-	<1	-	<1
Phenols (Total Halogenated)	mg/kg	0.03					-	-	<0.03	<0.03	<0.03	<0.03	<0.03	-	<0.03	-	<0.03	-	<0.03	-	<0.03	-	<0.03
Phenols (Total Non Halogenated)	mg/kg	1					-	-	<1	<1	<1	<1	<1	-	<1	-	<1	-	<1	-	<1	-	<1

Appendix J
Table 3
Summary of Soil Analytical Results

						Location Code	NEL-BH126	NEL-BH126	NEL-BH126	NEL-BH126	NEL-BH126	NEL-BH126	NEL-BH126	NEL-BH127	NEL-BH127	NEL-BH127	NEL-BH127	NEL-BH127	NEL-BH127	NEL-BH127	NEL-BH128	NEL-BH128A	NEL-BH128A
						Depth	0.3 - 0.4	0.3 - 0.4	0.7 - 0.8	1 - 1.1	1.5 - 1.6	2 - 2.1	3 - 3.1	0.25 - 0.35	0.6 - 0.7	1.05 - 1.15	1.5 - 1.6	2 - 2.1	2.5 - 2.6	3 - 3.1	0.5 - 0.6	0.23 - 0.33	0.23 - 0.33
						Date	17/01/2018	17/01/2018	17/01/2018	17/01/2018	17/01/2018	31/01/2018	31/01/2018	30/01/2018	30/01/2018	30/01/2018	30/01/2018	31/01/2018	31/01/2018	31/01/2018	15/01/2018	30/01/2018	30/01/2018
						Field ID	NEL-BH126_0.3m	NEL-BH126_0.3	NEL-BH126_0.7m	NEL-BH126_1.0m	NEL-BH126_1.5m	NEL-BH126_2.0	NEL-BH126_3.0	NEL-BH127_0.25m	NEL-BH127_0.6m	NEL-BH127_1.05m	NEL-BH127_1.50m	NEL-BH127_2.0m	NEL-BH127_2.5m	NEL-BH127_3.0m	NEL-BH128_0.5m	NEL-BH128A_0.23	NEL-BH128A_0.23m
						Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
						Lab Report Number	EM1801471	EM1803435	EM1801471	EM1801471	EM1801471	EM1802245	EM1802245	EM1802245	EM1802245	EM1802245	EM1802245	EM1802245	EM1802245	EM1802245	EM1801471	EM1803435	EM1802245
	Unit	EQL	EPA Victoria IWRG 621 Category B	EPA Victoria IWRG 621 Category C	EPA Victoria IWRG 621 Clean Fill	EPA Victoria IWRG 621 Trigger for Leachate Testing																	
Inorganics																							
Cyanide (Total)	mg/kg	1	10000	2500	50	160	<1	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	1
Major Ions																							
Fluoride	mg/kg	40	40000	10000	450	3000	190	-	240	280	320	310	220	290	200	230	240	240	240	230	320	-	290
Metals																							
Arsenic	mg/kg	5	2000	500	20	14	<5	<5	<5	6	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	6	5
Cadmium	mg/kg	1	400	100	3	4	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chromium (hexavalent)	mg/kg	0.5	2000	500	1	100	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5
Chromium (III+VI)	mg/kg	2					-	26	-	-	-	-	-	-	-	-	-	-	-	-	-	39	-
Copper	mg/kg	5	20000	5000	100	4000	14	13	7	9	15	13	8	7	8	8	7	14	10	12	11	17	12
Lead	mg/kg	5	6000	1500	300	20	25	17	13	14	10	11	9	10	11	9	11	9	9	8	16	21	23
Mercury	mg/kg	0.1	300	75	1	2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Molybdenum	mg/kg	2	4000	1000	40	100	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Nickel	mg/kg	2	12000	3000	60	40	21	16	10	11	14	15	13	16	14	14	13	20	16	16	19	21	14
Selenium	mg/kg	5	200	50	10	20	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Silver	mg/kg	2	720	180	10	200	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Tin	mg/kg	5		500	50		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Zinc	mg/kg	5	140000	35000	200	6000	88	113	24	18	26	24	27	11	13	24	25	39	38	37	42	80	66
BTEXN																							
Benzene	mg/kg	0.2	16	4	1	2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-	<0.2
Toluene	mg/kg	0.5					<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5
Ethylbenzene	mg/kg	0.5					<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5
Xylene (o)	mg/kg	0.5					<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5
Xylene (m & p)	mg/kg	0.5					<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5
Xylene Total	mg/kg	0.5					<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5
TRH - NEPM 2013																							
F1 (C6-C10 minus BTEXN)	mg/kg	10					<10	-	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	-	<10
C6-C10 Fraction	mg/kg	10					<10	-	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	-	<10
F2 (>C10-C16 minus Naphthalene)	mg/kg	50					<50	-	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	-	<50
>C10-C16 Fraction	mg/kg	50					<50	-	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	-	<50
F3 (>C16-C34 Fraction)	mg/kg	100					<100	-	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	-	<100
F4 (>C34-C40 Fraction)	mg/kg	100					<100	-	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	-	<100
>C10-C40 (Sum of Total)	mg/kg	50					<50	-	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	-	<50
TRH - NEPM 1999																							
C6-C9 Fraction	mg/kg	10	2600	650	100		<10	-	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	-	<10
C10-C14 Fraction	mg/kg	50					<50	-	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	-	<50
C15-C28 Fraction	mg/kg	100					<100	-	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	-	<100
C29-C36 Fraction	mg/kg	100					<100	-	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	-	<100
C10-C36 (Sum of Total)	mg/kg	50	40000	10000	1000		<50	-	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	-	<50
PAHs																							
Sum of polycyclic aromatic hydrocarbons	mg/kg	0.5					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pyrene	mg/kg	0.5					<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5
Acenaphthene	mg/kg	0.5					<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5
Acenaphthylene	mg/kg	0.5					<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5
Anthracene	mg/kg	0.5					<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5
Benz(a)anthracene	mg/kg	0.5					<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5
Benzo(a) pyrene	mg/kg	0.5	20	5	1	0.02	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5
Benzo(b+j+k)fluoranthene	mg/kg	0.5					<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5
Benzo(g,h,i)perylene	mg/kg	0.5					<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5
Chrysene	mg/kg	0.5					<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5
Dibenz(a,h)anthracene	mg/kg	0.5					<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5
Fluoranthene	mg/kg	0.5					<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5
Fluorene	mg/kg	0.5					<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5
Indeno(1,2,3-c,d)pyrene	mg/kg	0.5					<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5
Naphthalene	mg/kg	0.5					<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5
Phenanthrene	mg/kg	0.5					<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5
PAHs (Sum of total) - Lab calc	mg/kg	0.5	400	100	20		<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5
Total 8 PAHs (as BaP TEQ)(zero LOR) - Lab Ca	mg/kg	0.5					<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5
Total 8 PAHs (as BaP TEQ)(half LOR) - Lab Cal	mg/kg	0.5					0.6	-	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	-	0.6
Total 8 PAHs (as BaP TEQ)(full LOR) - Lab Calc	mg/kg	0.5					1.2	-	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	-	1.2
Phenols																							
Phenols(halogenated) - Lab Calc	mg/kg	0.03				40	<1	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1
3/4-Methylphenol (m/p-cresol)	mg/kg	1					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phenols (non-halogenated) - Lab Calc	mg/kg	1				280	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,3,5,6-Tetrachlorophenol	mg/kg	0.03					<0.03	-	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	-	<0.03
2,4,5-trichlorophenol	mg/kg	0.05					<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.05
2,4,6-trichlorophenol	mg/kg	0.05					<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.05
2,4-dichlorophenol	mg/kg	0.03					<0.03	-	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	-	<0.03
2,4-dimethylphenol	mg/kg	1					<1	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1
2,4-dinitrophenol	mg/kg	5					<5	-	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	-	<5
2,6-dichlorophenol	mg/kg	0.03					<0.03	-	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	-	<0.03
2,3,4,5 & 2,3,4,6-Tetrachlorophenol	mg/kg	0.05					<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.05
2-chlorophenol	mg/kg	0.03					<0.03	-	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	-	<0.03
2-methylphenol	mg/kg	1					<1	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1
2-nitrophenol	mg/kg	1					<1	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1
4,6-Dinitro-o-cyclohexyl phenol	mg/kg	5					<5	-	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	-	<5
4-chloro-3-methylphenol	mg/kg	0.03					<0.03	-	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	-	<0.03
4-nitrophenol	mg/kg	5					<5	-	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	-	<5
Pentachlorophenol	mg/kg	0.2					<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-	<0.2
Phenol	mg/kg	1					<1	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1
Phenols (Total Halogenated)	mg/kg	0.03					<0.03	-	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	-	<0.03
Phenols (Total Non Halogenated)	mg/kg	1					<1	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1

Appendix J
Table 3
Summary of Soil Analytical Results

	Unit	EQL	EPA Victoria IWRG 621 Category B	EPA Victoria IWRG 621 Category C	EPA Victoria IWRG 621 Clean Fill	EPA Victoria IWRG 621 Trigger for Leachate Testing																	
						Location Code	NEL-BH128A	NEL-BH128A	NEL-BH128A	NEL-BH128A	NEL-BH131	NEL-BH131	NEL-BH132	NEL-BH132	NEL-BH133	NEL-BH133	NEL-BH135	NEL-BH135	NEL-BH137	NEL-BH137	NEL-BH137	NEL-BH137	NEL-BH137
						Depth	0.45 - 0.55	0.9 - 1	1.2 - 1.3	1.2 - 1.3	0.1 - 0.2	0.5 - 0.6	0.1 - 0.2	1 - 1.1	0.1 - 0.2	1 - 1.1	0.2 - 0.3	1 - 1.1	0.1 - 0.2	0.1 - 0.2	0.1 - 0.2	0.7 - 0.8	1.2 - 1.3
						Date	30/01/2018	30/01/2018	30/01/2018	30/01/2018	20/03/2018	20/03/2018	20/03/2018	20/03/2018	20/03/2018	20/03/2018	25/06/2018	25/06/2018	22/02/2018	22/02/2018	22/02/2018	22/02/2018	22/02/2018
						Field ID	NEL-BH128A_0.45m	NEL-BH128A_0.9m	NEL-BH128A_1.2m	NEL-BH128A_1.2	NEL-BH131_0.1m	NEL-BH131_0.5m	NEL-BH132_0.1m	NEL-BH132_1.0m	NEL-BH133_0.1m	NEL-BH133_1.0m	NEL-BH135_0.2m	NEL-BH135_1.0m	NEL-BH137_0.1m	QC1000	QC2000	NEL-BH137_0.7m	NEL-BH137_1.2m
						Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Field_D	Field_D	Normal	Normal
						Lab Report Number	EM1802245	EM1802245	EM1802245	EM1803435	EM1805002	EM1805002	EM1805002	EM1805002	EM1805002	EM1805002	EM1810219	EM1810219	EM1803587	EM1803587	EM1803587	EM1803587	EM1803587
Inorganics																							
Cyanide (Total)	mg/kg	1	10000	2500	50	160	<1	<1	<1	-	<1	<1	1	<1	1	<1	1	<1	<1	<1	<1	<1	<1
Major Ions																							
Fluoride	mg/kg	40	40000	10000	450	3000	610	380	300	-	260	400	370	340	370	320	150	370	510	660	670	60	250
Metals																							
Arsenic	mg/kg	5	2000	500	20	14	<5	7	6	8	<5	<5	6	<5	<5	<5	<5	<5	6	16	6	<5	<5
Cadmium	mg/kg	1	400	100	3	4	<1	<1	<2	2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chromium (hexavalent)	mg/kg	0.5	2000	500	1	100	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chromium (III+VI)	mg/kg	2					-	-	-	50	-	-	-	-	-	-	-	-	-	-	-	-	-
Copper	mg/kg	5	20000	5000	100	4000	12	15	40	222	13	15	16	9	12	9	7	12	13	14	13	<5	9
Lead	mg/kg	5	6000	1500	300	20	19	18	123	139	14	15	19	11	17	10	23	10	<5	<5	<5	7	7
Mercury	mg/kg	0.1	300	75	1	2	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Molybdenum	mg/kg	2	4000	1000	40	100	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	6
Nickel	mg/kg	2	12000	3000	60	40	19	26	27	30	14	28	27	15	17	16	6	28	14	14	14	4	12
Selenium	mg/kg	5	200	50	10	20	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Silver	mg/kg	2	720	180	10	200	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Tin	mg/kg	5		500	50		<5	<5	6	13	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Zinc	mg/kg	5	140000	35000	200	6000	51	41	2,820	2,740	36	44	65	33	43	25	33	25	34	37	34	27	9
BTEXN																							
Benzene	mg/kg	0.2	16	4	1	2	<0.2	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	0.5					<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	0.5					<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene (o)	mg/kg	0.5					<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene (m & p)	mg/kg	0.5					<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene Total	mg/kg	0.5					<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TRH - NEPM 2013																							
F1 (C6-C10 minus BTEXN)	mg/kg	10					<10	<10	<10	-	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
C6-C10 Fraction	mg/kg	10					<10	<10	<10	-	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
F2 (>C10-C16 minus Naphthalene)	mg/kg	50					<50	<50	<50	-	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
>C10-C16 Fraction	mg/kg	50					<50	<50	<50	-	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
F3 (>C16-C34 Fraction)	mg/kg	100					<100	<100	160	-	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
F4 (>C34-C40 Fraction)	mg/kg	100					<100	<100	<100	-	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
>C10-C40 (Sum of Total)	mg/kg	50					<50	<50	160	-	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
TRH - NEPM 1999																							
C6-C9 Fraction	mg/kg	10	2600	650	100		<10	<10	<10	-	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
C10-C14 Fraction	mg/kg	50					<50	<50	<50	-	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
C15-C28 Fraction	mg/kg	100					<100	<100	<100	-	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
C29-C36 Fraction	mg/kg	100					<100	<100	120	-	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
C10-C36 (Sum of Total)	mg/kg	50	40000	10000	1000		<50	<50	120	-	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
PAHs																							
Sum of polycyclic aromatic hydrocarbons	mg/kg	0.5					-	-	-	-	-	-	-	-	-	-	<0.5	<0.5	-	-	-	-	-
Pyrene	mg/kg	0.5					<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	mg/kg	0.5					<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	mg/kg	0.5					<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	mg/kg	0.5					<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benz(a)anthracene	mg/kg	0.5					<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a) pyrene	mg/kg	0.5	20	5	1	0.02	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(b+j+k)fluoranthene	mg/kg	0.5					<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g,h,i)perylene	mg/kg	0.5					<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	mg/kg	0.5					<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a,h)anthracene	mg/kg	0.5					<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	mg/kg	0.5					<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	mg/kg	0.5					<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1,2,3-c,d)pyrene	mg/kg	0.5					<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	mg/kg	0.5					<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	mg/kg	0.5					<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PAHs (Sum of total) - Lab calc	mg/kg	0.5	400	100	20		<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.5
Total 8 PAHs (as BaP TEQ)(zero LOR) - Lab Ca	mg/kg	0.5					<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total 8 PAHs (as BaP TEQ)(half LOR) - Lab Cal	mg/kg	0.5					0.6	0.6	0.6	-	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
Total 8 PAHs (as BaP TEQ)(full LOR) - Lab Calc	mg/kg	0.5					1.2	1.2	1.2	-	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
Phenols																							
Phenols(halogenated) - Lab Calc	mg/kg	0.03				40	<1	<1	<1	-	-	-	-	-	-	-	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
3/4-Methylphenol (m/p-cresol)	mg/kg	1					-	-	-	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Phenols (non-halogenated) - Lab Calc	mg/kg	1				280	-	-	-	-	-	-	-	-	-	-	<1	<1	<1	<1	<1	<1	<1
2,3,5,6-Tetrachlorophenol	mg/kg	0.03					<0.03	<0.03	<0.03	-	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
2,4,5-trichlorophenol	mg/kg	0.05					<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
2,4,6-trichlorophenol	mg/kg	0.05					<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
2,4-dichlorophenol	mg/kg	0.03					<0.03	<0.03	<0.03	-	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
2,4-dimethylphenol	mg/kg	1					<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
2,4-dinitrophenol	mg/kg	5					<5	<5	<5	-	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
2,6-dichlorophenol	mg/kg	0.03					<0.03	<0.03	<0.03	-	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
2,3,4,5 & 2,3,4,6-Tetrachlorophenol	mg/kg	0.05					<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
2-chlorophenol	mg/kg	0.03					<0.03	<0.03	<0.03	-	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
2-methylphenol	mg/kg	1					<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
2-nitrophenol	mg/kg	1					<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
4,6-Dinitro-o-cyclohexyl phenol	mg/kg	5					<5	<5	<5	-	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
4-chloro-3-methylphenol	mg/kg	0.03					<0.03	<0.03	<0.03	-	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
4-nitrophenol	mg/kg	5					<5	<5	<5	-	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Pentachlorophenol	mg/kg	0.2					<0.2	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Phenol	mg/kg	1					<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Phenols (Total Halogenated)	mg/kg	0.03					<0.03	<0.03	<0.03	-	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	-	-	-	-	-	-	-
Phenols (Total Non Halogenated)	mg/kg	1					<1	<1	<1	-	<1	<1	<1	<1	<1	<1	-	-	-	-	-	-	-

Appendix J
Table 3
Summary of Soil Analytical Results

	Unit	EQL	EPA Victoria IWRG 621 Category B	EPA Victoria IWRG 621 Category C	EPA Victoria IWRG 621 Clean Fill	EPA Victoria IWRG 621 Trigger for Leachate Testing																	
Location Code							NEL-BH137	NEL-BH138	NEL-BH138	NEL-BH138	NEL-BH140	NEL-BH140	NEL-BH140	NEL-BH140	NEL-BH140	NEL-BH140	NEL-BH141	NEL-BH141	NEL-BH142	NEL-BH142	NEL-BH143	NEL-BH143	NEL-BH144
Depth							1.5 - 1.6	0.35 - 0.45	1 - 1.1	1.5 - 1.6	0.2 - 0.3	0.5 - 0.6	1 - 1.1	4.5 - 4.6	6 - 6.1	7.95 - 8.05	0.2 - 0.3	0.7 - 0.8	0.2 - 0.3	1 - 1.1	0.2 - 0.3	1 - 1.1	0.1 - 0.2
Date							22/02/2018	5/06/2018	5/06/2018	5/06/2018	27/02/2018	27/02/2018	27/02/2018	28/02/2018	28/02/2018	28/02/2018	2/07/2018	2/07/2018	3/07/2018	3/07/2018	4/07/2018	4/07/2018	17/05/2018
Field ID							NEL-BH137_1.5m	NEL-BH138_0.35m	NEL-BH138_1.0m	NEL-BH138_1.5m	NEL-BH140_0.2m	NEL-BH140_0.5m	NEL-BH140_1.0m	NEL-BH140_4.5m	NEL-BH140_6.0m	NEL-BH140_7.95m	NEL-BH141_0.2m	NEL-BH141_0.75m	NEL-BH142_0.2m	NEL-BH142_1.0m	NEL-BH143_0.2m	NEL-BH143_1.0m	NEL-BH144_0.1m
Sample Type							Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
Lab Report Number							EM1803587	EM1809234	EM1809234	EM1809234	EM1803724	EM1803724	EM1803724	EM1803919	EM1803919	EM1803919	EM1810580	EM1810580	EM1810780	EM1810780	EM1810779	EM1810779	EM1808218
Inorganics																							
Cyanide (Total)	mg/kg	1	10000	2500	50	160	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Major Ions																							
Fluoride	mg/kg	40	40000	10000	450	3000	300	130	220	250	180	50	230	200	360	400	220	330	160	470	230	290	190
Metals																							
Arsenic	mg/kg	5	2000	500	20	14	<5	<5	11	5	<5	<5	<5	6	<5	<5	<5	9	<5	7	<5	<5	5
Cadmium	mg/kg	1	400	100	3	4	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chromium (hexavalent)	mg/kg	0.5	2000	500	1	100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	<0.5	<0.5	<0.5
Chromium (III+VI)	mg/kg	2					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Copper	mg/kg	5	20000	5000	100	4000	13	<5	8	7	27	<5	9	13	7	7	10	11	6	21	11	8	9
Lead	mg/kg	5	6000	1500	300	20	10	8	11	13	9	<5	12	13	12	9	24	15	14	13	26	11	20
Mercury	mg/kg	0.1	300	75	1	2	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Molybdenum	mg/kg	2	4000	1000	40	100	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Nickel	mg/kg	2	12000	3000	60	40	22	7	8	9	54	<2	14	18	11	10	12	15	6	39	14	15	11
Selenium	mg/kg	5	200	50	10	20	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Silver	mg/kg	2	720	180	10	200	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Tin	mg/kg	5		500	50		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Zinc	mg/kg	5	140000	35000	200	6000	15	18	8	8	34	<5	14	16	12	21	49	22	40	46	55	26	37
BTEXN																							
Benzene	mg/kg	0.2	16	4	1	2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene (o)	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene (m & p)	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene Total	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TRH - NEPM 2013																							
F1 (C6-C10 minus BTEXN)	mg/kg	10					<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
C6-C10 Fraction	mg/kg	10					<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
F2 (>C10-C16 minus Naphthalene)	mg/kg	50					<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
>C10-C16 Fraction	mg/kg	50					<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
F3 (>C16-C34 Fraction)	mg/kg	100					<100	<100	<100	<100	270	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
F4 (>C34-C40 Fraction)	mg/kg	100					<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
>C10-C40 (Sum of Total)	mg/kg	50					<50	<50	<50	<50	270	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
TRH - NEPM 1999																							
C6-C9 Fraction	mg/kg	10	2600	650	100		<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
C10-C14 Fraction	mg/kg	50					<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
C15-C28 Fraction	mg/kg	100					<100	<100	<100	<100	160	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
C29-C36 Fraction	mg/kg	100					<100	<100	<100	<100	150	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
C10-C36 (Sum of Total)	mg/kg	50	40000	10000	1000		<50	<50	<50	<50	310	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
PAHs																							
Sum of polycyclic aromatic hydrocarbons	mg/kg	0.5					-	<0.5	<0.5	<0.5	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Pyrene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benz(a)anthracene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a) pyrene	mg/kg	0.5	20	5	1	0.02	<0.5	<0.5	<0.5	<0.5	0.7	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(b+j+k)fluoranthene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g,h,i)perylene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	0.7	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a,h)anthracene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1,2,3-c,d)pyrene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PAHs (Sum of total) - Lab calc	mg/kg	0.5	400	100	20		<0.5	-	-	-	4.8	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-
Total 8 PAHs (as BaP TEQ)(zero LOR) - Lab Ca	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	0.9	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total 8 PAHs (as BaP TEQ)(half LOR) - Lab Cal	mg/kg	0.5					0.6	0.6	0.6	0.6	1.2	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
Total 8 PAHs (as BaP TEQ)(full LOR) - Lab Calc	mg/kg	0.5					1.2	1.2	1.2	1.2	1.4	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
Phenols																							
Phenols(halogenated) - Lab Calc	mg/kg	0.03				40	<0.03	<0.03	<0.03	<0.03	-	-	-	-	-	-	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
3/4-Methylphenol (m/p-cresol)	mg/kg	1					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Phenols (non-halogenated) - Lab Calc	mg/kg	1				280	<1	<1	<1	<1	-	-	-	-	-	-	<1	<1	<1	<1	<1	<1	<1
2,3,5,6-Tetrachlorophenol	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
2,4,5-trichlorophenol	mg/kg	0.05					<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
2,4,6-trichlorophenol	mg/kg	0.05					<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
2,4-dichlorophenol	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
2,4-dimethylphenol	mg/kg	1					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
2,4-dinitrophenol	mg/kg	5					<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
2,6-dichlorophenol	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
2,3,4,5 & 2,3,4,6-Tetrachlorophenol	mg/kg	0.05					<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
2-chlorophenol	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
2-methylphenol	mg/kg	1					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
2-nitrophenol	mg/kg	1					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
4,6-Dinitro-o-cyclohexyl phenol	mg/kg	5					<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
4-chloro-3-methylphenol	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
4-nitrophenol	mg/kg	5					<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Pentachlorophenol	mg/kg	0.2					<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Phenol	mg/kg	1					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Phenols (Total Halogenated)	mg/kg	0.03					-	-	-	-	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	-	-	-	-	-	-	-
Phenols (Total Non Halogenated)	mg/kg	1					-	-	-	-	<1	<1	<1	<1	<1	<1	-	-	-	-	-	-	-

Appendix J
Table 3
Summary of Soil Analytical Results

Location Code	Unit	EQL	EPA Victoria IWRG 621 Category B	EPA Victoria IWRG 621 Category C	EPA Victoria IWRG 621 Clean Fill	EPA Victoria IWRG 621 Trigger for Leachate Testing	NEL-BH144	NEL-BH150	NEL-BH150	NEL-BH151	NEL-BH151	NEL-BH151	NEL-BH151	NEL-BH155	NEL-BH155	NEL-BH156	NEL-BH156	NEL-BH159	NEL-BH159	NEL-BH161	NEL-BH161	NEL-BH162	NEL-BH162
Depth							1 - 1.1	0.1 - 0.2	1 - 1.1	0.1 - 0.2	1 - 1.1	1.5 - 1.6	1.5 - 1.6	0.2 - 0.3	1 - 1.1	0.1 - 0.2	0.5 - 0.6	0.2 - 0.3	1.5 - 1.6	0.2 - 0.3	0.5 - 0.6	0.2 - 0.3	1 - 1.1
Date							17/05/2018	23/03/2018	23/03/2018	23/03/2018	23/03/2018	23/03/2018	23/03/2018	31/05/2018	31/05/2018	24/05/2018	24/05/2018	14/05/2018	14/05/2018	13/06/2018	13/06/2018	6/06/2018	6/06/2018
Field ID							NEL-BH144_1.0m	NEL-BH150_0.1m	NEL-BH150_1.0m	NEL-BH151_0.1m	NEL-BH151_1.0m	NEL-BH151_1.5m	QC1001	NEL-BH155_0.2m	NEL-BH155_1.0m	NEL-BH156_0.1m	NEL-BH156_0.5m	NEL-BH159_0.2m	NEL-BH159_1.5m	NEL-BH161_0.2m	NEL-BH161_0.5m	NEL-BH162_0.2m	NEL-BH162_1.0m
Sample Type							Normal	Normal	Normal	Normal	Normal	Normal	Field_D	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
Lab Report Number							EM1808218	EM1805158	EM1805158	EM1805158	EM1805158	EM1805857	EM1805158	EM1808885	EM1808885	EM1808553	EM1808553	EM1807877	EM1807877	EM1809532	EM1809532	EM1809233	EM1809233
Inorganics																							
Cyanide (Total)	mg/kg	1	10000	2500	50	160	<1	1	<1	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Major Ions																							
Fluoride	mg/kg	40	40000	10000	450	3000	300	310	260	340	320	330	300	230	560	350	400	430	360	230	530	510	560
Metals																							
Arsenic	mg/kg	5	2000	500	20	14	<5	<5	<5	<5	<5	<5	<5	<5	8	<5	<5	8	7	<5	7	<5	<5
Cadmium	mg/kg	1	400	100	3	4	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chromium (hexavalent)	mg/kg	0.5	2000	500	1	100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chromium (III+VI)	mg/kg	2					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Copper	mg/kg	5	20000	5000	100	4000	9	12	8	10	10	6	6	11	19	16	20	18	16	5	17	<5	13
Lead	mg/kg	5	6000	1500	300	20	9	22	7	13	12	9	10	16	24	28	15	24	17	18	15	7	12
Mercury	mg/kg	0.1	300	75	1	2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.3	0.5	<0.1	<0.1
Molybdenum	mg/kg	2	4000	1000	40	100	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Nickel	mg/kg	2	12000	3000	60	40	16	16	14	14	13	9	10	19	46	32	50	32	26	4	17	5	28
Selenium	mg/kg	5	200	50	10	20	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Silver	mg/kg	2	720	180	10	200	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Tin	mg/kg	5		500	50		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Zinc	mg/kg	5	140000	35000	200	6000	30	47	35	34	23	18	19	22	44	80	51	46	35	7	17	7	23
BTEXN																							
Benzene	mg/kg	0.2	16	4	1	2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene (o)	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene (m & p)	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene Total	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TRH - NEPM 2013																							
F1 (C6-C10 minus BTEXN)	mg/kg	10					<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
C6-C10 Fraction	mg/kg	10					<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
F2 (>C10-C16 minus Naphthalene)	mg/kg	50					<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
>C10-C16 Fraction	mg/kg	50					<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
F3 (>C16-C34 Fraction)	mg/kg	100					<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
F4 (>C34-C40 Fraction)	mg/kg	100					<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
>C10-C40 (Sum of Total)	mg/kg	50					<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
TRH - NEPM 1999																							
C6-C9 Fraction	mg/kg	10	2600	650	100		<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
C10-C14 Fraction	mg/kg	50					<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
C15-C28 Fraction	mg/kg	100					<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
C29-C36 Fraction	mg/kg	100					<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
C10-C36 (Sum of Total)	mg/kg	50	40000	10000	1000		<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
PAHs																							
Sum of polycyclic aromatic hydrocarbons	mg/kg	0.5					<0.5	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Pyrene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benz(a)anthracene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a) pyrene	mg/kg	0.5	20	5	1	0.02	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(b+j+k)fluoranthene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g,h,i)perylene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a,h)anthracene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1,2,3-c,d)pyrene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PAHs (Sum of total) - Lab calc	mg/kg	0.5	400	100	20		-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-
Total 8 PAHs (as BaP TEQ)(zero LOR) - Lab Ca	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total 8 PAHs (as BaP TEQ)(half LOR) - Lab Cal	mg/kg	0.5					0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
Total 8 PAHs (as BaP TEQ)(full LOR) - Lab Calc	mg/kg	0.5					1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
Phenols																							
Phenols(halogenated) - Lab Calc	mg/kg	0.03				40	<0.03	-	-	-	-	-	-	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
3/4-Methylphenol (m/p-cresol)	mg/kg	1					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Phenols (non-halogenated) - Lab Calc	mg/kg	1				280	<1	-	-	-	-	-	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
2,3,5,6-Tetrachlorophenol	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
2,4,5-trichlorophenol	mg/kg	0.05					<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
2,4,6-trichlorophenol	mg/kg	0.05					<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
2,4-dichlorophenol	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
2,4-dimethylphenol	mg/kg	1					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
2,4-dinitrophenol	mg/kg	5					<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
2,6-dichlorophenol	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
2,3,4,5 & 2,3,4,6-Tetrachlorophenol	mg/kg	0.05					<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
2-chlorophenol	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
2-methylphenol	mg/kg	1					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
2-nitrophenol	mg/kg	1					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
4,6-Dinitro-o-cyclohexyl phenol	mg/kg	5					<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
4-chloro-3-methylphenol	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
4-nitrophenol	mg/kg	5					<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Pentachlorophenol	mg/kg	0.2					<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Phenol	mg/kg	1					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Phenols (Total Halogenated)	mg/kg	0.03					-	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	-	-	-	-	-	-	-	-	-	-
Phenols (Total Non Halogenated)	mg/kg	1					-	<1	<1	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-

Appendix J
Table 3
Summary of Soil Analytical Results

						Location Code	NEL-BH163	NEL-BH163	NEL-BH163	NEL-BH164	NEL-BH164	NEL-BH165	NEL-BH165	NEL-BH166	NEL-BH166	NEL-BH167	NEL-BH167	NEL-BH172	NEL-BH174	NEL-BH174	NEL-BH177	NEL-BH177	NEL-BH178
						Depth	0.2 - 0.3	0.2 - 0.3	1 - 1.1	0.2 - 0.3	0.5 - 0.6	0.2 - 0.3	0.5 - 0.6	0.5 - 0.6	1.5 - 1.6	0.2 - 0.3	0.5 - 0.6	0.5 - 0.6	0.5 - 0.6	1.5 - 1.6	0.5 - 0.6	1 - 1.1	0.2 - 0.3
						Date	13/06/2018	13/06/2018	13/06/2018	13/06/2018	13/06/2018	6/06/2018	6/06/2018	3/07/2018	3/07/2018	6/07/2018	6/07/2018	29/06/2018	5/07/2018	5/07/2018	29/06/2018	29/06/2018	5/07/2018
						Field ID	NEL-BH163_0.2m	QC1005	NEL-BH163_1.0m	NEL-BH164_0.2m	NEL-BH164_0.5m	NEL-BH165_0.2m	NEL-BH165_0.5m	NEL-BH166_0.5m	NEL-BH166_1.5m	NEL-BH167_0.2m	NEL-BH167_0.5m	NEL-BH172_0.5m	NEL-BH174_0.5m	NEL-BH174_1.5m	NEL-BH177_0.5m	NEL-BH177_1.0m	NEL-BH178_0.2m
						Sample Type	Normal	Field_D	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
						Lab Report Number	EM1809532	EM1809532	EM1809532	EM1809532	EM1809532	EM1809233	EM1809233	EM1810780	EM1810780	EM1810871	EM1810871	EM1810581	EM1810873	EM1810873	EM1810581	EM1810581	EM1810873
	Unit	EQL	EPA Victoria IWRG 621 Category B	EPA Victoria IWRG 621 Category C	EPA Victoria IWRG 621 Clean Fill	EPA Victoria IWRG 621 Trigger for Leachate Testing																	
Inorganics																							
Cyanide (Total)	mg/kg	1	10000	2500	50	160	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Major Ions																							
Fluoride	mg/kg	40	40000	10000	450	3000	360	320	740	70	200	210	200	920	240	220	220	480	390	640	350	470	330
Metals																							
Arsenic	mg/kg	5	2000	500	20	14	10	<5	<5	<5	<5	5	5	6	<5	6	5	7	6	7	<5	<5	<5
Cadmium	mg/kg	1	400	100	3	4	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chromium (hexavalent)	mg/kg	0.5	2000	500	1	100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chromium (III+VI)	mg/kg	2					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Copper	mg/kg	5	20000	5000	100	4000	6	5	17	<5	<5	7	16	11	7	10	13	24	13	28	8	12	17
Lead	mg/kg	5	6000	1500	300	20	16	13	24	8	9	14	14	55	20	14	12	32	15	21	14	14	12
Mercury	mg/kg	0.1	300	75	1	2	0.2	<0.1	0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1
Molybdenum	mg/kg	2	4000	1000	40	100	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Nickel	mg/kg	2	12000	3000	60	40	13	9	30	3	4	12	35	14	16	15	23	43	24	58	14	15	41
Selenium	mg/kg	5	200	50	10	20	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Silver	mg/kg	2	720	180	10	200	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Tin	mg/kg	5		500	50		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Zinc	mg/kg	5	140000	35000	200	6000	16	12	54	6	<5	12	21	64	23	18	20	51	21	66	15	14	26
BTEXN																							
Benzene	mg/kg	0.2	16	4	1	2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene (o)	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene (m & p)	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene Total	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TRH - NEPM 2013																							
F1 (C6-C10 minus BTEXN)	mg/kg	10					<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
C6-C10 Fraction	mg/kg	10					<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
F2 (>C10-C16 minus Naphthalene)	mg/kg	50					<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
>C10-C16 Fraction	mg/kg	50					<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
F3 (>C16-C34 Fraction)	mg/kg	100					<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
F4 (>C34-C40 Fraction)	mg/kg	100					<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
>C10-C40 (Sum of Total)	mg/kg	50					<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
TRH - NEPM 1999																							
C6-C9 Fraction	mg/kg	10	2600	650	100		<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
C10-C14 Fraction	mg/kg	50					<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
C15-C28 Fraction	mg/kg	100					<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
C29-C36 Fraction	mg/kg	100					<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
C10-C36 (Sum of Total)	mg/kg	50	40000	10000	1000		<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
PAHs																							
Sum of polycyclic aromatic hydrocarbons	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Pyrene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benz(a)anthracene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a) pyrene	mg/kg	0.5	20	5	1	0.02	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(b+j+k)fluoranthene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g,h,i)perylene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a,h)anthracene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1,2,3-c,d)pyrene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PAHs (Sum of total) - Lab calc	mg/kg	0.5	400	100	20		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total 8 PAHs (as BaP TEQ)(zero LOR) - Lab Ca	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total 8 PAHs (as BaP TEQ)(half LOR) - Lab Cal	mg/kg	0.5					0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
Total 8 PAHs (as BaP TEQ)(full LOR) - Lab Calc	mg/kg	0.5					1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
Phenols																							
Phenols(halogenated) - Lab Calc	mg/kg	0.03				40	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
3/4-Methylphenol (m/p-cresol)	mg/kg	1					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Phenols (non-halogenated) - Lab Calc	mg/kg	1				280	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
2,3,5,6-Tetrachlorophenol	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
2,4,5-trichlorophenol	mg/kg	0.05					<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
2,4,6-trichlorophenol	mg/kg	0.05					<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
2,4-dichlorophenol	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
2,4-dimethylphenol	mg/kg	1					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
2,4-dinitrophenol	mg/kg	5					<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
2,6-dichlorophenol	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
2,3,4,5 & 2,3,4,6-Tetrachlorophenol	mg/kg	0.05					<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
2-chlorophenol	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
2-methylphenol	mg/kg	1					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
2-nitrophenol	mg/kg	1					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
4,6-Dinitro-o-cyclohexyl phenol	mg/kg	5					<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
4-chloro-3-methylphenol	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
4-nitrophenol	mg/kg	5					<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Pentachlorophenol	mg/kg	0.2					<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Phenol	mg/kg	1					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Phenols (Total Halogenated)	mg/kg	0.03					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phenols (Total Non Halogenated)	mg/kg	1					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Appendix J
Table 3
Summary of Soil Analytical Results

						Location Code	NEL-BH178	NEL-BH179	NEL-BH179	NEL-BH179	NEL-BH180	NEL-BH180	NEL-BH181	NEL-BH181	NEL-BH182	NEL-BH182	NEL-BH184	NEL-BH184	NEL-BH184	NEL-BH185	NEL-BH185	NEL-BH186	NEL-BH187	NEL-BH187
						Depth	1 - 1.1	0.1 - 0.2	1.5 - 1.6	1.5 - 1.6	0.1 - 0.2	1 - 1.1	0.2 - 0.3	1 - 1.1	0.2 - 0.3	1 - 1.1	0.2 - 0.3	0.5 - 0.6	1 - 1.1	0.2 - 0.3	0.9 - 1	0.2 - 0.3	0.2 - 0.3	0.5 - 0.6
						Date	5/07/2018	9/04/2018	9/04/2018	9/04/2018	17/05/2018	17/05/2018	16/04/2018	16/04/2018	16/04/2018	16/04/2018	10/07/2018	9/08/2018	9/08/2018	1/06/2018	1/06/2018	1/06/2018	7/05/2018	7/05/2018
						Field ID	NEL-BH178_1.0m	NEL-BH179_0.1m	NEL-BH179_1.5m	QC1002	NEL-BH180_0.1m	NEL-BH180_1.0m	NEL-BH181-0.2m	NEL-BH181-1.0m	NEL-BH182-0.2m	NEL-BH182-1.0m	NEL-BH184_0.2m	NEL-BH184_0.5	NEL-BH184_1.0	NEL-BH185_0.2m	NEL-BH185_0.9m	NEL-BH186_0.2m	NEL-BH187_0.2m	NEL-BH187_0.5m
						Sample Type	Normal	Normal	Normal	Field_D	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
						Lab Report Number	EM1810873	EM1805929	EM1805929	EM1805929	EM1808218	EM1808218	EM1806356	EM1806356	EM1806356	EM1806356	EM1811072	EM1812809	EM1812809	EM1809091	EM1809091	EM1809091	EM1807474	EM1807474
	Unit	EQL	EPA Victoria IWRG 621 Category B	EPA Victoria IWRG 621 Category C	EPA Victoria IWRG 621 Clean Fill	EPA Victoria IWRG 621 Trigger for Leachate Testing																		
Inorganics																								
Cyanide (Total)	mg/kg	1	10000	2500	50	160	<1	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	1	<1	1	1	<1
Major Ions																								
Fluoride	mg/kg	40	40000	10000	450	3000	470	480	370	390	220	320	340	250	280	250	250	390	530	200	200	500	520	700
Metals																								
Arsenic	mg/kg	5	2000	500	20	14	<5	6	<5	<5	<5	<5	<5	<5	<5	<5	<5	5	<5	<5	7	7	6	6
Cadmium	mg/kg	1	400	100	3	4	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chromium (hexavalent)	mg/kg	0.5	2000	500	1	100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	<0.5	<0.5	<0.5
Chromium (III+VI)	mg/kg	2					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Copper	mg/kg	5	20000	5000	100	4000	11	14	13	11	10	9	26	9	13	10	29	15	20	6	13	18	11	12
Lead	mg/kg	5	6000	1500	300	20	16	25	10	9	12	11	137	10	14	9	9	14	13	16	13	14	12	13
Mercury	mg/kg	0.1	300	75	1	2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Molybdenum	mg/kg	2	4000	1000	40	100	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Nickel	mg/kg	2	12000	3000	60	40	24	22	13	11	14	16	35	16	28	17	67	28	45	9	53	27	33	33
Selenium	mg/kg	5	200	50	10	20	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Silver	mg/kg	2	720	180	10	200	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Tin	mg/kg	5		500	50		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Zinc	mg/kg	5	140000	35000	200	6000	12	44	17	14	39	30	92	36	37	29	42	34	46	35	93	27	30	35
BTEXN																								
Benzene	mg/kg	0.2	16	4	1	2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene (o)	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene (m & p)	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene Total	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TRH - NEPM 2013																								
F1 (C6-C10 minus BTEXN)	mg/kg	10					<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
C6-C10 Fraction	mg/kg	10					<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
F2 (>C10-C16 minus Naphthalene)	mg/kg	50					<50	70	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
>C10-C16 Fraction	mg/kg	50					<50	70	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
F3 (>C16-C34 Fraction)	mg/kg	100					<100	270	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	130	<100	<100	<100	<100
F4 (>C34-C40 Fraction)	mg/kg	100					<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
>C10-C40 (Sum of Total)	mg/kg	50					<50	340	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	130	<50	<50	<50	<50
TRH - NEPM 1999																								
C6-C9 Fraction	mg/kg	10	2600	650	100		<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
C10-C14 Fraction	mg/kg	50					<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
C15-C28 Fraction	mg/kg	100					<100	200	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
C29-C36 Fraction	mg/kg	100					<100	160	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
C10-C36 (Sum of Total)	mg/kg	50	40000	10000	1000		<50	360	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
PAHs																								
Sum of polycyclic aromatic hydrocarbons	mg/kg	0.5					<0.5	-	-	-	<0.5	<0.5	0.6	<0.5	<0.5	<0.5	<0.5	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Pyrene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benz(a)anthracene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a) pyrene	mg/kg	0.5	20	5	1	0.02	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(b+j+k)fluoranthene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g,h,i)perylene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a,h)anthracene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1,2,3-c,d)pyrene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PAHs (Sum of total) - Lab calc	mg/kg	0.5	400	100	20		-	<0.5	<0.5	<0.5	-	-	0.6	<0.5	<0.5	<0.5	-			-	-	-	-	-
Total 8 PAHs (as BaP TEQ)(zero LOR) - Lab Ca	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total 8 PAHs (as BaP TEQ)(half LOR) - Lab Cal	mg/kg	0.5					0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
Total 8 PAHs (as BaP TEQ)(full LOR) - Lab Calc	mg/kg	0.5					1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
Phenols																								
Phenols(halogenated) - Lab Calc	mg/kg	0.03				40	<0.03	-	-	-	<0.03	<0.03	<1	<1	<1	<1	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
3/4-Methylphenol (m/p-cresol)	mg/kg	1					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Phenols (non-halogenated) - Lab Calc	mg/kg	1				280	<1	-	-	-	<1	<1	<0.03	<0.03	<0.03	<0.03	<1	<1	<1	<1	<1	<1	<1	<1
2,3,5,6-Tetrachlorophenol	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
2,4,5-trichlorophenol	mg/kg	0.05					<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
2,4,6-trichlorophenol	mg/kg	0.05					<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
2,4-dichlorophenol	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
2,4-dimethylphenol	mg/kg	1					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
2,4-dinitrophenol	mg/kg	5					<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
2,6-dichlorophenol	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
2,3,4,5 & 2,3,4,6-Tetrachlorophenol	mg/kg	0.05					<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
2-chlorophenol	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
2-methylphenol	mg/kg	1					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
2-nitrophenol	mg/kg	1					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
4,6-Dinitro-o-cyclohexyl phenol	mg/kg	5					<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
4-chloro-3-methylphenol	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
4-nitrophenol	mg/kg	5					<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Pentachlorophenol	mg/kg	0.2					<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Phenol	mg/kg	1					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Phenols (Total Halogenated)	mg/kg	0.03					-	<0.03	<0.03	<0.03	-	-	<0.03	<0.03	<0.03	<0.03	-			-	-	-	-	-
Phenols (Total Non Halogenated)	mg/kg	1					-	<1	<1	<1	-	-	<1	<1	<1	<1	-	-	-	-	-	-	-	-

Appendix J
Table 3
Summary of Soil Analytical Results

	Unit	EQL	EPA Victoria IWRG 621 Category B	EPA Victoria IWRG 621 Category C	EPA Victoria IWRG 621 Clean Fill	EPA Victoria IWRG 621 Trigger for Leachate Testing	NEL-BH188	NEL-BH188	NEL-BH190	NEL-BH190	NEL-BH191	NEL-BH191	NEL-BH191	NEL-BH192	NEL-BH192	NEL-BH194	NEL-BH194	NEL-BH195	NEL-BH195	NEL-BH200	NEL-BH200	NEL-BH201	NEL-BH201	NEL-BH202
Location Code							NEL-BH188	NEL-BH188	NEL-BH190	NEL-BH190	NEL-BH191	NEL-BH191	NEL-BH191	NEL-BH192	NEL-BH192	NEL-BH194	NEL-BH194	NEL-BH195	NEL-BH195	NEL-BH200	NEL-BH200	NEL-BH201	NEL-BH201	NEL-BH202
Depth							0.2 - 0.3	1 - 1.1	0.5 - 0.6	1.5 - 1.6	0.5 - 0.6	1 - 1.1	1 - 1.1	0.2 - 0.6	1 - 1.1	0.2 - 0.3	1 - 1.1	0.5 - 0.6	1 - 1.1	0.5 - 0.6	1 - 1.1	0.5 - 0.6	1 - 1.1	0.2 - 0.3
Date							7/05/2018	7/05/2018	16/07/2018	16/07/2018	12/05/2018	12/05/2018	12/05/2018	18/07/2018	18/07/2018	24/05/2018	24/05/2018	10/07/2018	10/07/2018	20/06/2018	20/06/2018	22/06/2018	22/06/2018	25/06/2018
Field ID							NEL-BH188_0.2m	NEL-BH188_1.0m	NELBH190_0.5	NELBH190_1.5	NEL-BH191_0.5m	NEL-BH191_1.0m	QC1003	NEL-BH192_0.2	NEL-BH192_1.0	NEL-BH194_0.2m	NEL-BH194_1.0m	NEL-BH195_0.5m	NEL-BH195_1.0m	NEL-BH200_0	NEL-BH200_1.0m	NEL-BH201_0.5m	NEL-BH201_1.0m	NEL-BH202_0.2m
Sample Type							Normal	Normal	Normal	Normal	Normal	Normal	Field_D	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
Lab Report Number							EM1807474	EM1807474	EM1811371	EM1811371	EM1808252	EM1808252	EM1808252	EM1811453	EM1811453	EM1808553	EM1808553	EM1811072	EM1811072	EM1809961	EM1809961	EM1810220	EM1810220	EM1810219
Inorganics																								
Cyanide (Total)	mg/kg	1	10000	2500	50	160	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Major Ions																								
Fluoride	mg/kg	40	40000	10000	450	3000	120	380	320	350	260	460	420	400	580	300	460	390	420	200	180	360	230	120
Metals																								
Arsenic	mg/kg	5	2000	500	20	14	<5	<5	<5	<5	<5	5	7	<5	<5	<5	<5	9	<5	<5	6	6	<5	<5
Cadmium	mg/kg	1	400	100	3	4	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chromium (hexavalent)	mg/kg	0.5	2000	500	1	100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chromium (III+VI)	mg/kg	2					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Copper	mg/kg	5	20000	5000	100	4000	5	13	8	14	18	24	22	24	23	13	25	26	30	10	7	13	31	11
Lead	mg/kg	5	6000	1500	300	20	6	6	12	12	8	17	16	24	15	29	12	52	28	22	27	14	24	16
Mercury	mg/kg	0.1	300	75	1	2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Molybdenum	mg/kg	2	4000	1000	40	100	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Nickel	mg/kg	2	12000	3000	60	40	4	4	13	30	40	61	54	42	48	25	58	24	19	19	8	20	24	26
Selenium	mg/kg	5	200	50	10	20	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Silver	mg/kg	2	720	180	10	200	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Tin	mg/kg	5		500	50		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Zinc	mg/kg	5	140000	35000	200	6000	11	6	12	31	30	56	46	71	82	42	113	104	101	41	13	24	45	33
BTEXN																								
Benzene	mg/kg	0.2	16	4	1	2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene (o)	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene (m & p)	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene Total	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TRH - NEPM 2013																								
F1 (C6-C10 minus BTEXN)	mg/kg	10					<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
C6-C10 Fraction	mg/kg	10					<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
F2 (>C10-C16 minus Naphthalene)	mg/kg	50					<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
>C10-C16 Fraction	mg/kg	50					<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
F3 (>C16-C34 Fraction)	mg/kg	100					<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	140	<100	<100	<100	<100	240
F4 (>C34-C40 Fraction)	mg/kg	100					<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	180
>C10-C40 (Sum of Total)	mg/kg	50					<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	140	<50	<50	<50	<50	420
TRH - NEPM 1999																								
C6-C9 Fraction	mg/kg	10	2600	650	100		<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
C10-C14 Fraction	mg/kg	50					<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
C15-C28 Fraction	mg/kg	100					<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
C29-C36 Fraction	mg/kg	100					<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	240
C10-C36 (Sum of Total)	mg/kg	50	40000	10000	1000		<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	240
PAHs																								
Sum of polycyclic aromatic hydrocarbons	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	8.4	<0.5	<0.5	<0.5	<0.5	3.3
Pyrene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.6	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benz(a)anthracene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.7	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a) pyrene	mg/kg	0.5	20	5	1	0.02	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.1	<0.5	<0.5	<0.5	<0.5	0.7
Benzo(b+j+k)fluoranthene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.7	<0.5	<0.5	<0.5	<0.5	1.0
Benzo(g,h,i)perylene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.8	<0.5	<0.5	<0.5	<0.5	1.0
Chrysene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a,h)anthracene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.3	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1,2,3-c,d)pyrene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	<0.5	<0.5	<0.5	<0.5	0.6
Naphthalene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PAHs (Sum of total) - Lab calc	mg/kg	0.5	400	100	20		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total 8 PAHs (as BaP TEQ)(zero LOR) - Lab Ca	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.4	<0.5	<0.5	<0.5	<0.5	<1.4[#4]
Total 8 PAHs (as BaP TEQ)(half LOR) - Lab Cal	mg/kg	0.5					0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	1.7	0.6	0.6	0.6	0.6	<1.4[#4]
Total 8 PAHs (as BaP TEQ)(full LOR) - Lab Calc	mg/kg	0.5					1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.9	1.2	1.2	1.2	1.2	1.4
Phenols																								
Phenols(halogenated) - Lab Calc	mg/kg	0.03				40	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.07[#4]
3/4-Methylphenol (m/p-cresol)	mg/kg	1					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Phenols (non-halogenated) - Lab Calc	mg/kg	1				280	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
2,3,5,6-Tetrachlorophenol	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.07[#4]
2,4,5-trichlorophenol	mg/kg	0.05					<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.07[#4]
2,4,6-trichlorophenol	mg/kg	0.05					<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.07[#4]
2,4-dichlorophenol	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.07[#4]
2,4-dimethylphenol	mg/kg	1					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
2,4-dinitrophenol	mg/kg	5					<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<6[#4]
2,6-dichlorophenol	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.07[#4]
2,3,4,5 & 2,3,4,6-Tetrachlorophenol	mg/kg	0.05					<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.14[#4]
2-chlorophenol	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.07[#4]
2-methylphenol	mg/kg	1					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
2-nitrophenol	mg/kg	1					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
4,6-Dinitro-o-cyclohexyl phenol	mg/kg	5					<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
4-chloro-3-methylphenol	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.07[#4]
4-nitrophenol	mg/kg	5					<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Pentachlorophenol	mg/kg	0.2					<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Phenol	mg/kg	1					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Phenols (Total Halogenated)	mg/kg	0.03					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phenols (Total Non Halogenated)	mg/kg	1					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Appendix J
Table 3
Summary of Soil Analytical Results

						Location Code	NEL-BH202	NEL-BH202	NEL-BH203	NEL-BH203	NEL-BH204	NEL-BH204	NEL-BH217	NEL-BH217	NEL-BH221	NEL-BH221	NEL-BH221	NEL-BH223	NEL-BH223	NEL-BH224	NEL-BH224	NEL-BH225
						Depth	0.2 - 0.3	1 - 1.1	0.5 - 0.6	1.5 - 1.6	0.5 - 0.6	1.5 - 1.6	0.5 - 0.6	1 - 1.1	0.5 - 0.5	1 - 1	3 - 3	0.2 - 0.3	0.5 - 0.6	0.2 - 0.3	0.5 - 0.6	0.2 - 0.3
						Date	25/06/2018	25/06/2018	18/06/2018	18/06/2018	18/06/2018	18/06/2018	9/08/2018	9/08/2018	11/09/2018	11/09/2018	11/09/2018	13/06/2018	13/06/2018	13/06/2018	13/06/2018	6/07/2018
						Field ID	QC1006	NEL-BH202_1.0m	NEL-BH203_0.5m	NEL-BH203_1.5m	NEL-BH204_0.5m	NEL-BH204_1.5m	NEL-BH217_0.5	NEL-BH217_1.0	NEL-BH221_0.5	NEL-BH221_1.0	NEL-BH221_3.0	NEL-BH223_0.2m	NEL-BH223_0.5m	NEL-BH224_0.2m	NEL-BH224_0.5m	NEL-BH225_0.2m
						Sample Type	Field_D	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
						Lab Report Number	EM1810219	EM1810219	EM1809816	EM1809816	EM1809816	EM1809816	EM1812809	EM1812809	EM1814744	EM1814744	EM1814744	EM1809532	EM1809532	EM1809532	EM1809532	EM1810871
	Unit	EQL	EPA Victoria IWRG 621 Category B	EPA Victoria IWRG 621 Category C	EPA Victoria IWRG 621 Clean Fill	EPA Victoria IWRG 621 Trigger for Leachate Testing																
Inorganics																						
Cyanide (Total)	mg/kg	1	10000	2500	50	160	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Major Ions																						
Fluoride	mg/kg	40	40000	10000	450	3000	120	140	230	250	300	240	520	410	260	360	400	140	380	110	520	240
Metals																						
Arsenic	mg/kg	5	2000	500	20	14	<5	<5	<5	<5	10	<5	6	5	5	8	<5	<5	12	<5	5	23
Cadmium	mg/kg	1	400	100	3	4	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chromium (hexavalent)	mg/kg	0.5	2000	500	1	100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chromium (III+VI)	mg/kg	2					-	-	-	-	-	-			-	-	-	-	-	-	-	-
Copper	mg/kg	5	20000	5000	100	4000	9	6	6	8	20	12	20	26	11	22	12	<5	10	<5	18	29
Lead	mg/kg	5	6000	1500	300	20	14	10	10	15	28	15	13	12	30	248	16	7	26	8	16	18
Mercury	mg/kg	0.1	300	75	1	2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	0.3	<0.1	0.3	<0.1
Molybdenum	mg/kg	2	4000	1000	40	100	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Nickel	mg/kg	2	12000	3000	60	40	22	9	7	10	31	16	26	26	15	23	15	4	15	4	23	79
Selenium	mg/kg	5	200	50	10	20	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Silver	mg/kg	2	720	180	10	200	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Tin	mg/kg	5		500	50		<5	<5	<5	<5	<5	<5	<5	<5	<5	11	<5	<5	<5	<5	<5	<5
Zinc	mg/kg	5	140000	35000	200	6000	30	11	13	38	48	31	41	66	28	125	25	5	11	6	18	54
BTEXN																						
Benzene	mg/kg	0.2	16	4	1	2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene (o)	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene (m & p)	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene Total	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TRH - NEPM 2013																						
F1 (C6-C10 minus BTEXN)	mg/kg	10					<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
C6-C10 Fraction	mg/kg	10					<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
F2 (>C10-C16 minus Naphthalene)	mg/kg	50					<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
>C10-C16 Fraction	mg/kg	50					<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
F3 (>C16-C34 Fraction)	mg/kg	100					250	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
F4 (>C34-C40 Fraction)	mg/kg	100					<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
>C10-C40 (Sum of Total)	mg/kg	50					250	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
TRH - NEPM 1999																						
C6-C9 Fraction	mg/kg	10	2600	650	100		<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
C10-C14 Fraction	mg/kg	50					<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
C15-C28 Fraction	mg/kg	100					150	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
C29-C36 Fraction	mg/kg	100					150	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
C10-C36 (Sum of Total)	mg/kg	50	40000	10000	1000		300	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
PAHs																						
Sum of polycyclic aromatic hydrocarbons	mg/kg	0.5					20.8	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Pyrene	mg/kg	0.5					2.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	mg/kg	0.5					0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	mg/kg	0.5					0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benz(a)anthracene	mg/kg	0.5					1.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a) pyrene	mg/kg	0.5	20	5	1	0.02	3.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(b+j+k)fluoranthene	mg/kg	0.5					4.7	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g,h,i)perylene	mg/kg	0.5					2.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	mg/kg	0.5					1.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a,h)anthracene	mg/kg	0.5					0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	mg/kg	0.5					1.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1,2,3-c,d)pyrene	mg/kg	0.5					1.9	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PAHs (Sum of total) - Lab calc	mg/kg	0.5	400	100	20		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total 8 PAHs (as BaP TEQ)(zero LOR) - Lab Ca	mg/kg	0.5					4.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total 8 PAHs (as BaP TEQ)(half LOR) - Lab Cal	mg/kg	0.5					4.5	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
Total 8 PAHs (as BaP TEQ)(full LOR) - Lab Calc	mg/kg	0.5					4.5	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
Phenols																						
Phenols(halogenated) - Lab Calc	mg/kg	0.03				40	<0.07[#4]	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
3/4-Methylphenol (m/p-cresol)	mg/kg	1					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Phenols (non-halogenated) - Lab Calc	mg/kg	1				280	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
2,3,5,6-Tetrachlorophenol	mg/kg	0.03					<0.07[#4]	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
2,4,5-trichlorophenol	mg/kg	0.05					<0.07[#4]	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
2,4,6-trichlorophenol	mg/kg	0.05					<0.07[#4]	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
2,4-dichlorophenol	mg/kg	0.03					<0.07[#4]	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
2,4-dimethylphenol	mg/kg	1					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
2,4-dinitrophenol	mg/kg	5					<6[#4]	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
2,6-dichlorophenol	mg/kg	0.03					<0.07[#4]	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
2,3,4,5 & 2,3,4,6-Tetrachlorophenol	mg/kg	0.05					<0.14[#4]	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
2-chlorophenol	mg/kg	0.03					<0.07[#4]	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
2-methylphenol	mg/kg	1					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
2-nitrophenol	mg/kg	1					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
4,6-Dinitro-o-cyclohexyl phenol	mg/kg	5					<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
4-chloro-3-methylphenol	mg/kg	0.03					<0.07[#4]	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
4-nitrophenol	mg/kg	5					<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Pentachlorophenol	mg/kg	0.2					<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Phenol	mg/kg	1					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Phenols (Total Halogenated)	mg/kg	0.03					-	-	-	-	-	-			-	-	-	-	-	-	-	-
Phenols (Total Non Halogenated)	mg/kg	1					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Appendix J
Table 3
Summary of Soil Analytical Results

						Location Code	NEL-BH225	NEL-BH232	NEL-BH232	NEL-EF-BH003	NEL-EF-BH003	NEL-EF-BH005	NEL-EF-BH005	NEL-EF-BH006	NEL-EF-BH006	NEL-EF-BH007	NEL-EF-BH007	NEL-EF-BH009	NEL-EF-BH009	NEL-EF-BH011	NEL-EF-BH013
						Depth	1 - 1.1	0.5 - 0.6	1.5 - 1.6	0.5 - 0.6	1 - 1.1	0.2 - 0.3	1 - 1.1	0.5 - 0.6	1.5 - 1.6	0.2 - 0.3	0.5 - 0.6	0.5 - 0.6	1.5 - 1.6	0.2 - 0.3	0.5 - 0.6
						Date	6/07/2018	22/06/2018	22/06/2018	9/07/2018	9/07/2018	1/06/2018	1/06/2018	9/07/2018	9/07/2018	28/05/2018	28/05/2018	4/07/2018	4/07/2018	28/05/2018	10/08/2018
						Field ID	NEL-BH225_1.0m	NEL-BH232_0.5m	NEL-BH232_1.5m	NEL-EF-BH003_0.5m	NEL-EF-BH003_1.0m	NEL-EF-BH005_0.2m	NEL-EF-BH005_1.0m	NEL-EF-BH006_0.5m	NEL-EF-BH006_1.5m	NEL-EF-BH007_0.2m	NEL-EF-BH007_0.5m	NEL-EF-BH009_0.5m	NEL-EF-BH009_1.5m	NEL-EF-BH011_0.2m	NEL-EF-BH013_0.5
						Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
						Lab Report Number	EM1810871	EM1810220	EM1810220	EM1811071	EM1811071	EM1809091	EM1809091	EM1811071	EM1811071	EM1808781	EM1808781	EM1810779	EM1810779	EM1808781	EM1812810
	Unit	EQL	EPA Victoria IWRG 621 Category B	EPA Victoria IWRG 621 Category C	EPA Victoria IWRG 621 Clean Fill	EPA Victoria IWRG 621 Trigger for Leachate Testing															
Inorganics																					
Cyanide (Total)	mg/kg	1	10000	2500	50	160	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Major Ions																					
Fluoride	mg/kg	40	40000	10000	450	3000	240	250	260	300	210	160	200	220	270	230	540	340	170	200	340
Metals																					
Arsenic	mg/kg	5	2000	500	20	14	<5	<5	<5	<5	<5	5	<5	<5	<5	<5	9	<5	<5	<5	6
Cadmium	mg/kg	1	400	100	3	4	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chromium (hexavalent)	mg/kg	0.5	2000	500	1	100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chromium (III+VI)	mg/kg	2					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Copper	mg/kg	5	20000	5000	100	4000	8	8	11	10	<5	19	15	12	12	11	24	18	<5	12	14
Lead	mg/kg	5	6000	1500	300	20	12	12	14	10	8	32	20	14	11	42	34	17	7	16	20
Mercury	mg/kg	0.1	300	75	1	2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Molybdenum	mg/kg	2	4000	1000	40	100	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Nickel	mg/kg	2	12000	3000	60	40	9	12	15	21	9	23	14	17	22	16	51	51	9	23	20
Selenium	mg/kg	5	200	50	10	20	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Silver	mg/kg	2	720	180	10	200	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Tin	mg/kg	5		500	50		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Zinc	mg/kg	5	140000	35000	200	6000	13	20	22	33	11	39	32	32	20	46	70	44	<5	36	34
BTEXN																					
Benzene	mg/kg	0.2	16	4	1	2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene (o)	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene (m & p)	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene Total	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TRH - NEPM 2013																					
F1 (C6-C10 minus BTEXN)	mg/kg	10					<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
C6-C10 Fraction	mg/kg	10					<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
F2 (>C10-C16 minus Naphthalene)	mg/kg	50					<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
>C10-C16 Fraction	mg/kg	50					<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
F3 (>C16-C34 Fraction)	mg/kg	100					<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
F4 (>C34-C40 Fraction)	mg/kg	100					<100	<100	<100	<100	<100	120	<100	<100	<100	<100	<100	<100	<100	<100	<100
>C10-C40 (Sum of Total)	mg/kg	50					<50	<50	<50	<50	<50	120	<50	<50	<50	<50	<50	<50	<50	<50	<50
TRH - NEPM 1999																					
C6-C9 Fraction	mg/kg	10	2600	650	100		<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
C10-C14 Fraction	mg/kg	50					<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
C15-C28 Fraction	mg/kg	100					<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
C29-C36 Fraction	mg/kg	100					<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
C10-C36 (Sum of Total)	mg/kg	50	40000	10000	1000		<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
PAHs																					
Sum of polycyclic aromatic hydrocarbons	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	3.3
Pyrene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.9
Acenaphthene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benz(a)anthracene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a) pyrene	mg/kg	0.5	20	5	1	0.02	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6
Benzo(b+j+k)fluoranthene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g,h,i)perylene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a,h)anthracene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.9
Fluorene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1,2,3-c,d)pyrene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.9
PAHs (Sum of total) - Lab calc	mg/kg	0.5	400	100	20		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total 8 PAHs (as BaP TEQ)(zero LOR) - Lab Ca	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.6[#4]	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total 8 PAHs (as BaP TEQ)(half LOR) - Lab Cal	mg/kg	0.5					0.6	0.6	0.6	0.6	0.6	<0.6[#4]	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
Total 8 PAHs (as BaP TEQ)(full LOR) - Lab Calc	mg/kg	0.5					1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
Phenols																					
Phenols(halogenated) - Lab Calc	mg/kg	0.03				40	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
3/4-Methylphenol (m/p-cresol)	mg/kg	1					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Phenols (non-halogenated) - Lab Calc	mg/kg	1				280	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
2,3,5,6-Tetrachlorophenol	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
2,4,5-trichlorophenol	mg/kg	0.05					<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
2,4,6-trichlorophenol	mg/kg	0.05					<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
2,4-dichlorophenol	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
2,4-dimethylphenol	mg/kg	1					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
2,4-dinitrophenol	mg/kg	5					<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
2,6-dichlorophenol	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
2,3,4,5 & 2,3,4,6-Tetrachlorophenol	mg/kg	0.05					<0.05	<0.05	<0.05	<0.05	<0.05	<0.06[#4]	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
2-chlorophenol	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
2-methylphenol	mg/kg	1					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
2-nitrophenol	mg/kg	1					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
4,6-Dinitro-o-cyclohexyl phenol	mg/kg	5					<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
4-chloro-3-methylphenol	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
4-nitrophenol	mg/kg	5					<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Pentachlorophenol	mg/kg	0.2					<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Phenol	mg/kg	1					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Phenols (Total Halogenated)	mg/kg	0.03					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phenols (Total Non Halogenated)	mg/kg	1					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Appendix J
Table 3
Summary of Soil Analytical Results

Location Code							NEL-EF-BH013	NEL-EF-BH014	NEL-EF-BH014	NEL-EF-BH015	NEL-EF-BH015	NEL-EF-BH016	NEL-EF-BH016	NEL-EF-BH017	NEL-EF-BH017	NEL-EF-BH017	NEL-EF-BH017	NEL-EF-BH017	NEL-EF-BH017
Depth							1 - 1.1	0.5 - 0.6	1 - 1.1	0.5 - 0.6	1 - 1.1	0.2 - 0.3	1 - 1.1	0.5 - 0.6	0.5 - 0.6	1 - 1.1	1.5 - 1.6	2 - 2.1	3 - 3.1
Date							10/08/2018	9/07/2018	9/07/2018	14/06/2018	14/06/2018	5/06/2018	5/06/2018	5/06/2018	5/06/2018	5/06/2018	5/06/2018	15/06/2018	15/06/2018
Field ID							NEL-EF-BH013_1.0	NEL-EF-BH014_0.5m	NEL-EF-BH014_1.0m	NEL-EF-BH015_0.5	NEL-EF-BH015_1.0	NEL-EF-BH016_0.2m	NEL-EF-BH016_1.0m	NEL-EF-BH017_0.5m	QC1004	NEL-EF-BH017_1.0m	NEL-EF-BH017_1.5m	NEL-EF-BH017_2.0m	NEL-EF-BH017_3.0m
Sample Type							Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Field_D	Normal	Normal	Normal	Normal
Lab Report Number							EM1812810	EM1811071	EM1811071	EM1809614	EM1809614	EM1809234	EM1809234	EM1809234	EM1809234	EM1809234	EM1809234	EM1809613	EM1809613
	Unit	EQL	EPA Victoria IWRG 621 Category B	EPA Victoria IWRG 621 Category C	EPA Victoria IWRG 621 Clean Fill	EPA Victoria IWRG 621 Trigger for Leachate Testing													
Inorganics																			
Cyanide (Total)	mg/kg	1	10000	2500	50	160	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Major Ions																			
Fluoride	mg/kg	40	40000	10000	450	3000	380	380	520	500	250	200	350	440	580	340	210	270	480
Metals																			
Arsenic	mg/kg	5	2000	500	20	14	7	12	7	6	<5	<5	6	<5	<5	5	6	10	7
Cadmium	mg/kg	1	400	100	3	4	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chromium (hexavalent)	mg/kg	0.5	2000	500	1	100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chromium (III+VI)	mg/kg	2					-	-	-	-	-	-	-	-	-	-	-	-	-
Copper	mg/kg	5	20000	5000	100	4000	30	23	15	15	10	9	14	23	22	19	41	<5	9
Lead	mg/kg	5	6000	1500	300	20	29	36	15	24	16	15	18	39	34	43	30	12	14
Mercury	mg/kg	0.1	300	75	1	2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	<0.1
Molybdenum	mg/kg	2	4000	1000	40	100	<2	<2	<2	<2	<2	<2	2	<2	<2	<2	<2	<2	<2
Nickel	mg/kg	2	12000	3000	60	40	47	24	17	24	11	7	20	15	14	14	5	8	15
Selenium	mg/kg	5	200	50	10	20	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Silver	mg/kg	2	720	180	10	200	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Tin	mg/kg	5		500	50		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Zinc	mg/kg	5	140000	35000	200	6000	52	58	26	42	19	16	35	76	68	66	59	7	19
BTEXN																			
Benzene	mg/kg	0.2	16	4	1	2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene (o)	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene (m & p)	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene Total	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TRH - NEPM 2013																			
F1 (C6-C10 minus BTEXN)	mg/kg	10					<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
C6-C10 Fraction	mg/kg	10					<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
F2 (>C10-C16 minus Naphthalene)	mg/kg	50					<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
>C10-C16 Fraction	mg/kg	50					<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
F3 (>C16-C34 Fraction)	mg/kg	100					<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
F4 (>C34-C40 Fraction)	mg/kg	100					<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
>C10-C40 (Sum of Total)	mg/kg	50					<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
TRH - NEPM 1999																			
C6-C9 Fraction	mg/kg	10	2600	650	100		<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
C10-C14 Fraction	mg/kg	50					<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
C15-C28 Fraction	mg/kg	100					<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
C29-C36 Fraction	mg/kg	100					<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
C10-C36 (Sum of Total)	mg/kg	50	40000	10000	1000		<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
PAHs																			
Sum of polycyclic aromatic hydrocarbons	mg/kg	0.5					8.9	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Pyrene	mg/kg	0.5					1.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benz(a)anthracene	mg/kg	0.5					0.9	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a) pyrene	mg/kg	0.5	20	5	1	0.02	1.4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(b+j+k)fluoranthene	mg/kg	0.5					1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g,h,i)perylene	mg/kg	0.5					0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	mg/kg	0.5					0.8	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a,h)anthracene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	mg/kg	0.5					1.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1,2,3-c,d)pyrene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	mg/kg	0.5					1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PAHs (Sum of total) - Lab calc	mg/kg	0.5	400	100	20		-	-	-	-	-	-	-	-	-	-	-	-	-
Total 8 PAHs (as BaP TEQ)(zero LOR) - Lab Ca	mg/kg	0.5					1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total 8 PAHs (as BaP TEQ)(half LOR) - Lab Cal	mg/kg	0.5					1.5	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
Total 8 PAHs (as BaP TEQ)(full LOR) - Lab Calc	mg/kg	0.5					1.8	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
Phenols																			
Phenols(halogenated) - Lab Calc	mg/kg	0.03				40	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
3/4-Methylphenol (m/p-cresol)	mg/kg	1					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Phenols (non-halogenated) - Lab Calc	mg/kg	1				280	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
2,3,5,6-Tetrachlorophenol	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
2,4,5-trichlorophenol	mg/kg	0.05					<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
2,4,6-trichlorophenol	mg/kg	0.05					<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
2,4-dichlorophenol	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
2,4-dimethylphenol	mg/kg	1					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
2,4-dinitrophenol	mg/kg	5					<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
2,6-dichlorophenol	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
2,3,4,5 & 2,3,4,6-Tetrachlorophenol	mg/kg	0.05					<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
2-chlorophenol	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
2-methylphenol	mg/kg	1					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
2-nitrophenol	mg/kg	1					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
4,6-Dinitro-o-cyclohexyl phenol	mg/kg	5					<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
4-chloro-3-methylphenol	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
4-nitrophenol	mg/kg	5					<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Pentachlorophenol	mg/kg	0.2					<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Phenol	mg/kg	1					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Phenols (Total Halogenated)	mg/kg	0.03						-	-	-	-	-	-	-	-	-	-	-	-
Phenols (Total Non Halogenated)	mg/kg	1					-	-	-	-	-	-	-	-	-	-	-	-	-

Appendix J
Table 3
Summary of Soil Analytical Results

						Location Code	NEL-EF-BH018	NEL-EF-BH018	NEL-EF-BH019	NEL-EF-BH019	NEL-EF-BH021	NEL-EF-BH021	NEL-EF-BH024	NEL-EF-BH024
						Depth	0.2 - 0.3	0.5 - 0.6	0.2 - 0.3	1 - 1.1	0.5 - 0.6	1.5 - 1.6	0.5 - 0.6	1 - 1.1
						Date	14/06/2018	14/06/2018	7/06/2018	7/06/2018	10/08/2018	10/08/2018	10/08/2018	10/08/2018
						Field ID	NEL-EF-BH018_0.2	NEL-EF-BH018_0.5	NEL-EF-BH019_0.2m	NEL-EF-BH019_1.0m	NEL-EF-BH021_0.5	NEL-EF-BH021_1.5	NEL-EF-BH024_0.5	NEL-EF-BH024_1.0
						Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
						Lab Report Number	EM1809614	EM1809614	EM1809231	EM1809231	EM1812810	EM1812810	EM1812810	EM1812810
	Unit	EQL	EPA Victoria IWRG 621 Category B	EPA Victoria IWRG 621 Category C	EPA Victoria IWRG 621 Clean Fill	EPA Victoria IWRG 621 Trigger for Leachate Testing								
Inorganics														
Cyanide (Total)	mg/kg	1	10000	2500	50	160	<1	<1	<1	<1	<1	<1	<1	<1
Major Ions														
Fluoride	mg/kg	40	40000	10000	450	3000	140	500	210	320	310	310	340	300
Metals														
Arsenic	mg/kg	5	2000	500	20	14	6	<5	<5	11	<5	<5	<5	8
Cadmium	mg/kg	1	400	100	3	4	<1	<1	<1	<1	<1	<1	<1	<1
Chromium (hexavalent)	mg/kg	0.5	2000	500	1	100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chromium (III+VI)	mg/kg	2					-	-	-	-				
Copper	mg/kg	5	20000	5000	100	4000	7	11	13	21	10	10	14	20
Lead	mg/kg	5	6000	1500	300	20	27	11	22	42	13	11	15	15
Mercury	mg/kg	0.1	300	75	1	2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Molybdenum	mg/kg	2	4000	1000	40	100	<2	<2	<2	<2	<2	<2	<2	<2
Nickel	mg/kg	2	12000	3000	60	40	<2	13	16	7	15	14	20	34
Selenium	mg/kg	5	200	50	10	20	<5	<5	<5	<5	<5	<5	<5	<5
Silver	mg/kg	2	720	180	10	200	<2	<2	<2	<2	<2	<2	<2	<2
Tin	mg/kg	5		500	50		<5	<5	<5	<5	<5	<5	<5	<5
Zinc	mg/kg	5	140000	35000	200	6000	9	8	35	40	22	48	40	62
BTEXN														
Benzene	mg/kg	0.2	16	4	1	2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene (o)	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene (m & p)	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene Total	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TRH - NEPM 2013														
F1 (C6-C10 minus BTEXN)	mg/kg	10					<10	<10	<10	<10	<10	<10	<10	<10
C6-C10 Fraction	mg/kg	10					<10	<10	<10	<10	<10	<10	<10	<10
F2 (>C10-C16 minus Naphthalene)	mg/kg	50					<50	<50	<50	<50	<50	<50	<50	<50
>C10-C16 Fraction	mg/kg	50					<50	<50	<50	<50	<50	<50	<50	<50
F3 (>C16-C34 Fraction)	mg/kg	100					<100	<100	<100	<100	<100	<100	<100	<100
F4 (>C34-C40 Fraction)	mg/kg	100					<100	<100	<100	<100	<100	<100	<100	<100
>C10-C40 (Sum of Total)	mg/kg	50					<50	<50	<50	<50	<50	<50	<50	<50
TRH - NEPM 1999														
C6-C9 Fraction	mg/kg	10	2600	650	100		<10	<10	<10	<10	<10	<10	<10	<10
C10-C14 Fraction	mg/kg	50					<50	<50	<50	<50	<50	<50	<50	<50
C15-C28 Fraction	mg/kg	100					<100	<100	<100	<100	<100	<100	<100	<100
C29-C36 Fraction	mg/kg	100					<100	<100	<100	<100	<100	<100	<100	<100
C10-C36 (Sum of Total)	mg/kg	50	40000	10000	1000		<50	<50	<50	<50	<50	<50	<50	<50
PAHs														
Sum of polycyclic aromatic hydrocarbons	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Pyrene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benz(a)anthracene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a) pyrene	mg/kg	0.5	20	5	1	0.02	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(b+j+k)fluoranthene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g,h,i)perylene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a,h)anthracene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1,2,3-c,d)pyrene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PAHs (Sum of total) - Lab calc	mg/kg	0.5	400	100	20		-	-	-	-	-	-	-	-
Total 8 PAHs (as BaP TEQ)(zero LOR) - Lab Ca	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total 8 PAHs (as BaP TEQ)(half LOR) - Lab Cal	mg/kg	0.5					0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
Total 8 PAHs (as BaP TEQ)(full LOR) - Lab Calc	mg/kg	0.5					1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
Phenols														
Phenols(halogenated) - Lab Calc	mg/kg	0.03				40	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
3/4-Methylphenol (m/p-cresol)	mg/kg	1					<1	<1	<1	<1	<1	<1	<1	<1
Phenols (non-halogenated) - Lab Calc	mg/kg	1				280	<1	<1	<1	<1	<1	<1	<1	<1
2,3,5,6-Tetrachlorophenol	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
2,4,5-trichlorophenol	mg/kg	0.05					<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
2,4,6-trichlorophenol	mg/kg	0.05					<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
2,4-dichlorophenol	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
2,4-dimethylphenol	mg/kg	1					<1	<1	<1	<1	<1	<1	<1	<1
2,4-dinitrophenol	mg/kg	5					<5	<5	<5	<5	<5	<5	<5	<5
2,6-dichlorophenol	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
2,3,4,5 & 2,3,4,6-Tetrachlorophenol	mg/kg	0.05					<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
2-chlorophenol	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
2-methylphenol	mg/kg	1					<1	<1	<1	<1	<1	<1	<1	<1
2-nitrophenol	mg/kg	1					<1	<1	<1	<1	<1	<1	<1	<1
4,6-Dinitro-o-cyclohexyl phenol	mg/kg	5					<5	<5	<5	<5	<5	<5	<5	<5
4-chloro-3-methylphenol	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
4-nitrophenol	mg/kg	5					<5	<5	<5	<5	<5	<5	<5	<5
Pentachlorophenol	mg/kg	0.2					<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Phenol	mg/kg	1					<1	<1	<1	<1	<1	<1	<1	<1
Phenols (Total Halogenated)	mg/kg	0.03					-	-	-	-				
Phenols (Total Non Halogenated)	mg/kg	1					-	-	-	-	-	-	-	-

Appendix J
Table 3
Summary of Soil Analytical Results

Location Code							NEL-ENV-BH003	NEL-ENV-BH003	NEL-ENV-BH005	NEL-ENV-BH005	NEL-ENV-BH009	NEL-ENV-BH009	NEL-ENV-BH009	NEL-ENV-BH009	NEL-ENV-BH009	NEL-ENV-BH011	NEL-ENV-BH011	NEL-ENV-BH012	NEL-ENV-BH012	NEL-ENV-BH014	NEL-ENV-BH016
Depth							0.2 - 0.3	1 - 1.1	0.5 - 0.6	1 - 1.1	1.5 - 1.6	2.45 - 2.9	3.8 - 4	4.8 - 5	4.8 - 5	0.5 - 0.6	1.5 - 1.6	1 - 1.1	1.5 - 1.6	0.5 - 0.6	0.5 - 0.6
Date							18/09/2018	18/09/2018	18/09/2018	18/09/2018	1/06/2018	2/06/2018	2/06/2018	2/06/2018	2/06/2018	27/06/2018	27/06/2018	13/07/2018	13/07/2018	1/06/2018	13/07/2018
Field ID							NEL-ENV-BH003_0.2m	NEL-ENV-BH003_1.0m	NEL-ENV-BH005_0.5m	NEL-ENV-BH005_1.0m	NEL-ENV-BH009_1.5-1	NEL-ENV-BH009_2.45	NEL-ENV-BH009_3.8-4	NEL-ENV-BH009_4.8-5	QC3001	NEL-ENV-BH011_0.5m	NEL-ENV-BH011_1.5m	NEL-ENV-BH012_1.0	NEL-ENV-BH012_1.5	NEL-ENV-BH014_0.5m	NEL-ENV-BH016_0.5
Sample Type							Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Field_D	Normal	Normal	Normal	Normal	Normal	Normal
Lab Report Number							EM1815165	EM1815165	EM1815165	EM1815165	EM1809010	EM1809010	EM1809010	EM1809010	EM1809010	EM1810388	EM1810388	EM1811286	EM1811286	EM1809091	EM1811286
	Unit	EQL	EPA Victoria IWRG 621 Category B	EPA Victoria IWRG 621 Category C	EPA Victoria IWRG 621 Clean Fill	EPA Victoria IWRG 621 Trigger for Leachate Testing															
Inorganics																					
Cyanide (Total)	mg/kg	1	10000	2500	50	160	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Major Ions																					
Fluoride	mg/kg	40	40000	10000	450	3000	310	500	460	460	280	360	320	320	310	360	360	250	240	340	280
Metals																					
Arsenic	mg/kg	5	2000	500	20	14	5	<5	5	<5	<5	6	<5	6	9	<5	<5	8	7	<5	<5
Cadmium	mg/kg	1	400	100	3	4	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chromium (hexavalent)	mg/kg	0.5	2000	500	1	100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chromium (III+VI)	mg/kg	2					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Copper	mg/kg	5	20000	5000	100	4000	11	16	14	13	13	15	7	11	16	19	21	7	9	12	6
Lead	mg/kg	5	6000	1500	300	20	14	11	11	10	24	12	6	10	11	14	14	17	20	11	9
Mercury	mg/kg	0.1	300	75	1	2	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Molybdenum	mg/kg	2	4000	1000	40	100	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Nickel	mg/kg	2	12000	3000	60	40	19	24	36	22	22	29	16	16	23	34	36	13	19	17	5
Selenium	mg/kg	5	200	50	10	20	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Silver	mg/kg	2	720	180	10	200	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Tin	mg/kg	5		500	50		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Zinc	mg/kg	5	140000	35000	200	6000	32	40	47	36	39	36	33	40	51	56	57	11	18	26	6
BTEXN																					
Benzene	mg/kg	0.2	16	4	1	2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene (o)	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene (m & p)	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene Total	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TRH - NEPM 2013																					
F1 (C6-C10 minus BTEXN)	mg/kg	10					<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
C6-C10 Fraction	mg/kg	10					<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
F2 (>C10-C16 minus Naphthalene)	mg/kg	50					<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
>C10-C16 Fraction	mg/kg	50					<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
F3 (>C16-C34 Fraction)	mg/kg	100					<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
F4 (>C34-C40 Fraction)	mg/kg	100					<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
>C10-C40 (Sum of Total)	mg/kg	50					<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
TRH - NEPM 1999																					
C6-C9 Fraction	mg/kg	10	2600	650	100		<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
C10-C14 Fraction	mg/kg	50					<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
C15-C28 Fraction	mg/kg	100					<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
C29-C36 Fraction	mg/kg	100					<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
C10-C36 (Sum of Total)	mg/kg	50	40000	10000	1000		<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
PAHs																					
Sum of polycyclic aromatic hydrocarbons	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Pyrene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benz(a)anthracene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a) pyrene	mg/kg	0.5	20	5	1	0.02	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(b+j+k)fluoranthene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g,h,i)perylene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a,h)anthracene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1,2,3-c,d)pyrene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PAHs (Sum of total) - Lab calc	mg/kg	0.5	400	100	20		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total 8 PAHs (as BaP TEQ)(zero LOR) - Lab Ca	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total 8 PAHs (as BaP TEQ)(half LOR) - Lab Cal	mg/kg	0.5					0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
Total 8 PAHs (as BaP TEQ)(full LOR) - Lab Calc	mg/kg	0.5					1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
Phenols																					
Phenols(halogenated) - Lab Calc	mg/kg	0.03				40	<1	<1	<1	<1	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
3/4-Methylphenol (m/p-cresol)	mg/kg	1					<0.03	<0.03	<0.03	<0.03	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Phenols (non-halogenated) - Lab Calc	mg/kg	1				280	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
2,3,5,6-Tetrachlorophenol	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
2,4,5-trichlorophenol	mg/kg	0.05					<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
2,4,6-trichlorophenol	mg/kg	0.05					<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
2,4-dichlorophenol	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
2,4-dimethylphenol	mg/kg	1					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
2,4-dinitrophenol	mg/kg	5					<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
2,6-dichlorophenol	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
2,3,4,5 & 2,3,4,6-Tetrachlorophenol	mg/kg	0.05					<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
2-chlorophenol	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
2-methylphenol	mg/kg	1					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
2-nitrophenol	mg/kg	1					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
4,6-Dinitro-o-cyclohexyl phenol	mg/kg	5					<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
4-chloro-3-methylphenol	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
4-nitrophenol	mg/kg	5					<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Pentachlorophenol	mg/kg	0.2					<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Phenol	mg/kg	1					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Phenols (Total Halogenated)	mg/kg	0.03									-	-	-	-	-	-	-	-	-	-	-
Phenols (Total Non Halogenated)	mg/kg	1					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Appendix J
Table 3
Summary of Soil Analytical Results

Location Code							NEL-ENV-BH016	NEL-ENV-BH017	NEL-ENV-BH018	NEL-ENV-BH018	NEL-ENV-BH022	NEL-ENV-BH022	NEL-ENV-BH022	NEL-ENV-BH023	NEL-ENV-BH024	NEL-ENV-BH024	NEL-ENV-BH025	NEL-ENV-BH025	NEL-ENV-BH026	NEL-ENV-BH026	NEL-ENV-BH027
Depth							1.5 - 1.5	0.5 - 0.6	0.5 - 0.6	1.5 - 1.6	0.2 - 0.3	0.5 - 0.6	1.5 - 1.6	0.6 - 0.7	0.5 - 0.6	1 - 1.1	0.3 - 0.4	1 - 1.1	0.1 - 0.2	0.5 - 0.6	0 - 0.1
Date							13/07/2018	1/06/2018	13/07/2018	13/07/2018	6/06/2018	6/06/2018	6/06/2018	5/06/2018	24/04/2018	24/04/2018	24/04/2018	24/04/2018	24/04/2018	24/04/2018	27/04/2018
Field ID							NEL-ENV-BH016_1.5	NEL-ENV-BH017_0.5-0	NEL-ENV-BH018_0.5	NEL-ENV-BH018_1.5	NEL-ENV-BH022_0.2m	NEL-ENV-BH022_0.5m	NEL-ENV-BH022_1.5m	NEL-ENV-BH023_0.6-0.7	NEL-ENV-BH024_0.5-0.6	NEL-ENV-BH024_1	NEL-ENV-BH025_0	NEL-ENV-BH025_1	NEL-ENV-BH026_0	NEL-ENV-BH026_0	NEL-ENV-BH027_0
Sample Type							Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
Lab Report Number							EM1811286	EM1809010	EM1811286	EM1811286	EM1809233	EM1809233	EM1809233	EM1809096	EM1806904	EM1806904	EM1806904	EM1806904	EM1806904	EM1806904	EM1806989
	Unit	EQL	EPA Victoria IWRG 621 Category B	EPA Victoria IWRG 621 Category C	EPA Victoria IWRG 621 Clean Fill	EPA Victoria IWRG 621 Trigger for Leachate Testing															
Inorganics																					
Cyanide (Total)	mg/kg	1	10000	2500	50	160	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Major Ions																					
Fluoride	mg/kg	40	40000	10000	450	3000	500	130	220	140	640	340	750	560	430	450	250	680	360	480	<40
Metals																					
Arsenic	mg/kg	5	2000	500	20	14	<5	<5	5	<5	8	11	8	6	<5	5	<5	8	7	6	<5
Cadmium	mg/kg	1	400	100	3	4	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chromium (hexavalent)	mg/kg	0.5	2000	500	1	100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chromium (III+VI)	mg/kg	2					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Copper	mg/kg	5	20000	5000	100	4000	13	13	8	7	18	39	46	19	20	23	19	30	20	22	11
Lead	mg/kg	5	6000	1500	300	20	9	14	9	7	33	24	16	26	8	8	15	22	18	20	17
Mercury	mg/kg	0.1	300	75	1	2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Molybdenum	mg/kg	2	4000	1000	40	100	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Nickel	mg/kg	2	12000	3000	60	40	14	25	16	11	14	27	15	74	20	15	33	59	42	46	12
Selenium	mg/kg	5	200	50	10	20	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Silver	mg/kg	2	720	180	10	200	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Tin	mg/kg	5		500	50		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Zinc	mg/kg	5	140000	35000	200	6000	16	35	20	19	16	22	13	141	32	26	36	96	42	56	27
BTEXN																					
Benzene	mg/kg	0.2	16	4	1	2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene (o)	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene (m & p)	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene Total	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TRH - NEPM 2013																					
F1 (C6-C10 minus BTEXN)	mg/kg	10					<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
C6-C10 Fraction	mg/kg	10					<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
F2 (>C10-C16 minus Naphthalene)	mg/kg	50					<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
>C10-C16 Fraction	mg/kg	50					<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
F3 (>C16-C34 Fraction)	mg/kg	100					<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
F4 (>C34-C40 Fraction)	mg/kg	100					<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
>C10-C40 (Sum of Total)	mg/kg	50					<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
TRH - NEPM 1999																					
C6-C9 Fraction	mg/kg	10	2600	650	100		<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
C10-C14 Fraction	mg/kg	50					<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
C15-C28 Fraction	mg/kg	100					<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
C29-C36 Fraction	mg/kg	100					<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
C10-C36 (Sum of Total)	mg/kg	50	40000	10000	1000		<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
PAHs																					
Sum of polycyclic aromatic hydrocarbons	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Pyrene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benz(a)anthracene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a) pyrene	mg/kg	0.5	20	5	1	0.02	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(b+j+k)fluoranthene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g,h,i)perylene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a,h)anthracene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1,2,3-c,d)pyrene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PAHs (Sum of total) - Lab calc	mg/kg	0.5	400	100	20		-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total 8 PAHs (as BaP TEQ)(zero LOR) - Lab Ca	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total 8 PAHs (as BaP TEQ)(half LOR) - Lab Cal	mg/kg	0.5					0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
Total 8 PAHs (as BaP TEQ)(full LOR) - Lab Calc	mg/kg	0.5					1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
Phenols																					
Phenols(halogenated) - Lab Calc	mg/kg	0.03				40	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
3/4-Methylphenol (m/p-cresol)	mg/kg	1					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Phenols (non-halogenated) - Lab Calc	mg/kg	1				280	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
2,3,5,6-Tetrachlorophenol	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
2,4,5-trichlorophenol	mg/kg	0.05					<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
2,4,6-trichlorophenol	mg/kg	0.05					<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
2,4-dichlorophenol	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
2,4-dimethylphenol	mg/kg	1					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
2,4-dinitrophenol	mg/kg	5					<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
2,6-dichlorophenol	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
2,3,4,5 & 2,3,4,6-Tetrachlorophenol	mg/kg	0.05					<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
2-chlorophenol	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
2-methylphenol	mg/kg	1					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
2-nitrophenol	mg/kg	1					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
4,6-Dinitro-o-cyclohexyl phenol	mg/kg	5					<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
4-chloro-3-methylphenol	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
4-nitrophenol	mg/kg	5					<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Pentachlorophenol	mg/kg	0.2					<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Phenol	mg/kg	1					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Phenols (Total Halogenated)	mg/kg	0.03					-	-	-	-	-	-	-	-	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Phenols (Total Non Halogenated)	mg/kg	1					-	-	-	-	-	-	-	-	<1	<1	<1	<1	<1	<1	<1

Appendix J
Table 3
Summary of Soil Analytical Results

						Location Code	NEL-ENV-BH027	NEL-ENV-BH028	NEL-ENV-BH028	NEL-ENV-BH028	NEL-ENV-BH029	NEL-ENV-BH029	NEL-ENV-BH030	NEL-ENV-BH030	NEL-ENV-BH030	NEL-ENV-BH030	NEL-ENV-BH031	NEL-ENV-BH031	NEL-ENV-BH031	NEL-ENV-BH032	NEL-ENV-BH032
						Depth	0.3 - 0.4	0 - 0.1	0.5 - 0.6	1.5 - 1.6	0 - 0.1	0.5 - 0.6	0 - 0.1	0 - 0.1	0.5 - 0.6	0.9 - 1	0 - 0.1	0.5 - 0.6	1.5 - 1.6	1 - 1.1	2 - 2.1
						Date	27/04/2018	24/04/2018	24/04/2018	24/04/2018	23/04/2018	23/04/2018	23/04/2018	23/04/2018	23/04/2018	23/04/2018	23/04/2018	23/04/2018	24/04/2018	1/06/2018	1/06/2018
						Field ID	NEL-ENV-BH027_0	NEL-ENV-BH028_0	NEL-ENV-BH028_0	NEL-ENV-BH028_1	NEL-ENV-BH029_0	NEL-ENV-BH029_0	NEL-ENV-BH030_0	QC3000	NEL-ENV-BH030_0	NEL-ENV-BH030_0.9-1.0	NEL-ENV-BH031_0.0-0.1	NEL-ENV-BH031_0.5-0.6	NEL-ENV-BH031_1.5-1.6	NEL-ENV-BH032_1.0-1.1	NEL-ENV-BH032_2.0-2.1
						Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Field_D	Normal	Normal	Normal	Normal	Normal	Normal	Normal
						Lab Report Number	EM1806989	EM1806904	EM1806904	EM1806904	EM1806904	EM1806904	EM1807528	EM1806904	EM1806904	EM1806904	EM1806904	EM1806904	EM1806904	EM1809010	EM1809010
	Unit	EQL	EPA Victoria IWRG 621 Category B	EPA Victoria IWRG 621 Category C	EPA Victoria IWRG 621 Clean Fill	EPA Victoria IWRG 621 Trigger for Leachate Testing															
Inorganics																					
Cyanide (Total)	mg/kg	1	10000	2500	50	160	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Major Ions																					
Fluoride	mg/kg	40	40000	10000	450	3000	230	300	490	700	370	410	340	330	430	480	420	210	550	400	290
Metals																					
Arsenic	mg/kg	5	2000	500	20	14	<5	6	5	7	8	7	5	13	7	7	6	<5	6	5	<5
Cadmium	mg/kg	1	400	100	3	4	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chromium (hexavalent)	mg/kg	0.5	2000	500	1	100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chromium (III+VI)	mg/kg	2					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Copper	mg/kg	5	20000	5000	100	4000	12	22	20	18	21	21	22	22	25	24	23	10	24	11	14
Lead	mg/kg	5	6000	1500	300	20	<5	18	11	11	19	24	20	28	21	26	23	16	21	19	16
Mercury	mg/kg	0.1	300	75	1	2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Molybdenum	mg/kg	2	4000	1000	40	100	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Nickel	mg/kg	2	12000	3000	60	40	7	32	31	64	33	57	48	43	38	78	49	12	52	22	11
Selenium	mg/kg	5	200	50	10	20	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Silver	mg/kg	2	720	180	10	200	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Tin	mg/kg	5		500	50		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Zinc	mg/kg	5	140000	35000	200	6000	7	52	58	88	56	69	59	65	110	65	62	25	85	18	13
BTEXN																					
Benzene	mg/kg	0.2	16	4	1	2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene (o)	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene (m & p)	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene Total	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TRH - NEPM 2013																					
F1 (C6-C10 minus BTEXN)	mg/kg	10					<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
C6-C10 Fraction	mg/kg	10					<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
F2 (>C10-C16 minus Naphthalene)	mg/kg	50					<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
>C10-C16 Fraction	mg/kg	50					<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
F3 (>C16-C34 Fraction)	mg/kg	100					<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
F4 (>C34-C40 Fraction)	mg/kg	100					<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
>C10-C40 (Sum of Total)	mg/kg	50					<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
TRH - NEPM 1999																					
C6-C9 Fraction	mg/kg	10	2600	650	100		<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
C10-C14 Fraction	mg/kg	50					<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
C15-C28 Fraction	mg/kg	100					<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
C29-C36 Fraction	mg/kg	100					<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
C10-C36 (Sum of Total)	mg/kg	50	40000	10000	1000		<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
PAHs																					
Sum of polycyclic aromatic hydrocarbons	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Pyrene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benz(a)anthracene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a) pyrene	mg/kg	0.5	20	5	1	0.02	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(b+j+k)fluoranthene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g,h,i)perylene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a,h)anthracene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1,2,3-c,d)pyrene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PAHs (Sum of total) - Lab calc	mg/kg	0.5	400	100	20		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-
Total 8 PAHs (as BaP TEQ)(zero LOR) - Lab Ca	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total 8 PAHs (as BaP TEQ)(half LOR) - Lab Cal	mg/kg	0.5					0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
Total 8 PAHs (as BaP TEQ)(full LOR) - Lab Calc	mg/kg	0.5					1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
Phenols																					
Phenols(halogenated) - Lab Calc	mg/kg	0.03				40	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
3/4-Methylphenol (m/p-cresol)	mg/kg	1					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Phenols (non-halogenated) - Lab Calc	mg/kg	1				280	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
2,3,5,6-Tetrachlorophenol	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
2,4,5-trichlorophenol	mg/kg	0.05					<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
2,4,6-trichlorophenol	mg/kg	0.05					<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
2,4-dichlorophenol	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
2,4-dimethylphenol	mg/kg	1					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
2,4-dinitrophenol	mg/kg	5					<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
2,6-dichlorophenol	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
2,3,4,5 & 2,3,4,6-Tetrachlorophenol	mg/kg	0.05					<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
2-chlorophenol	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
2-methylphenol	mg/kg	1					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
2-nitrophenol	mg/kg	1					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
4,6-Dinitro-o-cyclohexyl phenol	mg/kg	5					<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
4-chloro-3-methylphenol	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
4-nitrophenol	mg/kg	5					<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Pentachlorophenol	mg/kg	0.2					<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Phenol	mg/kg	1					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Phenols (Total Halogenated)	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	-	-
Phenols (Total Non Halogenated)	mg/kg	1					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	-

Appendix J
Table 3
Summary of Soil Analytical Results

						Location Code	NEL-ENV-BH032	NEL-LFB01	NEL-LFB01	NEL-LFB01	NEL-LFB01	NEL-LFB01	NEL-LFB01	NEL-LFB02	NEL-LFB02	NEL-LFB02	NEL-LFB02	NEL-LFB02	NEL-LFB02	NEL-LFB02	NEL-LFB02
						Depth	4 - 4.1	0.1 - 0.2	0.5 - 0.6	1 - 1.1	3 - 3.1	4 - 4.1	5 - 5.1	0.1 - 0.2	0.5 - 0.6	1 - 1.1	2 - 2.1	3 - 3.1	3 - 3.1	4 - 4.1	5 - 5.1
						Date	1/06/2018	10/07/2018	11/07/2018	11/07/2018	11/07/2018	11/07/2018	11/07/2018	10/07/2018	11/07/2018	11/07/2018	11/07/2018	11/07/2018	11/07/2018	11/07/2018	11/07/2018
						Field ID	NEL-ENV-BH032_4.0-4.1	NEL-LFB01_0.1m	NEL-LFB01_0.5m	NEL-LFB01_1.0m	NEL-LFB01_3.0m	NEL-LFB01_4.0m	NEL-LFB01_5.0m	NEL-LFB02_0.1m	NEL-LFB02_0.5m	NEL-LFB02_1.0m	NEL-LFB02_2.0m	NEL-LFB02_3.0m	QC3003	NEL-LFB02_4.0m	NEL-LFB02_5.0m
						Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Field_D	Normal	Normal
						Lab Report Number	EM1809010	EM1811724	EM1811150	EM1811150	EM1811150	EM1811150	EM1811724	EM1811724	EM1811150	EM1811150	EM1811150	EM1811150	EM1811150	EM1811724	EM1811724
	Unit	EQL	EPA Victoria IWRG 621 Category B	EPA Victoria IWRG 621 Category C	EPA Victoria IWRG 621 Clean Fill	EPA Victoria IWRG 621 Trigger for Leachate Testing															
Inorganics																					
Cyanide (Total)	mg/kg	1	10000	2500	50	160	<1	-	-	<1	<1	-	-	-	-	-	<1	<1	<1	-	-
Major Ions																					
Fluoride	mg/kg	40	40000	10000	450	3000	290	-	-	290	300	-	-	-	-	-	390	400	380	-	-
Metals																					
Arsenic	mg/kg	5	2000	500	20	14	<5	<5	6	<5	<5	<5	<5	7	<5	<5	10	6	7	<5	<5
Cadmium	mg/kg	1	400	100	3	4	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	2	<1	<1	<1	<1
Chromium (hexavalent)	mg/kg	0.5	2000	500	1	100	<0.5	-	-	<0.5	<0.5	-	-	-	-	-	<0.5	<0.5	<0.5	-	-
Chromium (III+VI)	mg/kg	2					-	25	-	-	-	-	25	24	-	-	-	-	-	37	32
Copper	mg/kg	5	20000	5000	100	4000	9	19	32	12	9	11	10	15	19	10	44	13	13	12	12
Lead	mg/kg	5	6000	1500	300	20	10	47	84	15	11	8	18	30	20	14	238	12	16	11	12
Mercury	mg/kg	0.1	300	75	1	2	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1
Molybdenum	mg/kg	2	4000	1000	40	100	<2	<2	<2	<2	<2	<2	<2	2	<2	<2	<2	<2	<2	<2	<2
Nickel	mg/kg	2	12000	3000	60	40	8	23	24	41	14	17	24	16	34	15	27	20	20	19	18
Selenium	mg/kg	5	200	50	10	20	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Silver	mg/kg	2	720	180	10	200	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Tin	mg/kg	5		500	50		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	56	<5	<5	<5	<5
Zinc	mg/kg	5	140000	35000	200	6000	12	111	188	28	24	33	51	58	57	34	2,490	45	41	44	61
BTEXN																					
Benzene	mg/kg	0.2	16	4	1	2	<0.2	-	-	<0.2	<0.2	-	-	-	-	-	<0.2	<0.2	<0.2	-	-
Toluene	mg/kg	0.5					<0.5	-	-	<0.5	<0.5	-	-	-	-	-	<0.5	<0.5	<0.5	-	-
Ethylbenzene	mg/kg	0.5					<0.5	-	-	<0.5	<0.5	-	-	-	-	-	<0.5	<0.5	<0.5	-	-
Xylene (o)	mg/kg	0.5					<0.5	-	-	<0.5	<0.5	-	-	-	-	-	<0.5	<0.5	<0.5	-	-
Xylene (m & p)	mg/kg	0.5					<0.5	-	-	<0.5	<0.5	-	-	-	-	-	<0.5	<0.5	<0.5	-	-
Xylene Total	mg/kg	0.5					<0.5	-	-	<0.5	<0.5	-	-	-	-	-	<0.5	<0.5	<0.5	-	-
TRH - NEPM 2013																					
F1 (C6-C10 minus BTEXN)	mg/kg	10					<10	-	-	<10	<10	-	-	-	-	-	<10	<10	<10	-	-
C6-C10 Fraction	mg/kg	10					<10	-	-	<10	<10	-	-	-	-	-	<10	<10	<10	-	-
F2 (>C10-C16 minus Naphthalene)	mg/kg	50					<50	-	-	<50	<50	-	-	-	-	-	<50	<50	<50	-	-
>C10-C16 Fraction	mg/kg	50					<50	-	-	<50	<50	-	-	-	-	-	<50	<50	<50	-	-
F3 (>C16-C34 Fraction)	mg/kg	100					<100	-	-	<100	<100	-	-	-	-	-	<100	<100	<100	-	-
F4 (>C34-C40 Fraction)	mg/kg	100					<100	-	-	<100	<100	-	-	-	-	-	<100	<100	<100	-	-
>C10-C40 (Sum of Total)	mg/kg	50					<50	-	-	<50	<50	-	-	-	-	-	<50	<50	<50	-	-
TRH - NEPM 1999																					
C6-C9 Fraction	mg/kg	10	2600	650	100		<10	-	-	<10	<10	-	-	-	-	-	<10	<10	<10	-	-
C10-C14 Fraction	mg/kg	50					<50	-	-	<50	<50	-	-	-	-	-	<50	<50	<50	-	-
C15-C28 Fraction	mg/kg	100					<100	-	-	<100	<100	-	-	-	-	-	<100	<100	<100	-	-
C29-C36 Fraction	mg/kg	100					<100	-	-	<100	<100	-	-	-	-	-	<100	<100	<100	-	-
C10-C36 (Sum of Total)	mg/kg	50	40000	10000	1000		<50	-	-	<50	<50	-	-	-	-	-	<50	<50	<50	-	-
PAHs																					
Sum of polycyclic aromatic hydrocarbons	mg/kg	0.5					<0.5	-	-	<0.5	<0.5	-	-	-	-	-	<0.5	<0.5	<0.5	-	-
Pyrene	mg/kg	0.5					<0.5	-	-	<0.5	<0.5	-	-	-	-	-	<0.5	<0.5	<0.5	-	-
Acenaphthene	mg/kg	0.5					<0.5	-	-	<0.5	<0.5	-	-	-	-	-	<0.5	<0.5	<0.5	-	-
Acenaphthylene	mg/kg	0.5					<0.5	-	-	<0.5	<0.5	-	-	-	-	-	<0.5	<0.5	<0.5	-	-
Anthracene	mg/kg	0.5					<0.5	-	-	<0.5	<0.5	-	-	-	-	-	<0.5	<0.5	<0.5	-	-
Benz(a)anthracene	mg/kg	0.5					<0.5	-	-	<0.5	<0.5	-	-	-	-	-	<0.5	<0.5	<0.5	-	-
Benzo(a) pyrene	mg/kg	0.5	20	5	1	0.02	<0.5	-	-	<0.5	<0.5	-	-	-	-	-	<0.5	<0.5	<0.5	-	-
Benzo(b+j+k)fluoranthene	mg/kg	0.5					<0.5	-	-	<0.5	<0.5	-	-	-	-	-	<0.5	<0.5	<0.5	-	-
Benzo(g,h,i)perylene	mg/kg	0.5					<0.5	-	-	<0.5	<0.5	-	-	-	-	-	<0.5	<0.5	<0.5	-	-
Chrysene	mg/kg	0.5					<0.5	-	-	<0.5	<0.5	-	-	-	-	-	<0.5	<0.5	<0.5	-	-
Dibenz(a,h)anthracene	mg/kg	0.5					<0.5	-	-	<0.5	<0.5	-	-	-	-	-	<0.5	<0.5	<0.5	-	-
Fluoranthene	mg/kg	0.5					<0.5	-	-	<0.5	<0.5	-	-	-	-	-	<0.5	<0.5	<0.5	-	-
Fluorene	mg/kg	0.5					<0.5	-	-	<0.5	<0.5	-	-	-	-	-	<0.5	<0.5	<0.5	-	-
Indeno(1,2,3-c,d)pyrene	mg/kg	0.5					<0.5	-	-	<0.5	<0.5	-	-	-	-	-	<0.5	<0.5	<0.5	-	-
Naphthalene	mg/kg	0.5					<0.5	-	-	<0.5	<0.5	-	-	-	-	-	<0.5	<0.5	<0.5	-	-
Phenanthrene	mg/kg	0.5					<0.5	-	-	<0.5	<0.5	-	-	-	-	-	<0.5	<0.5	<0.5	-	-
PAHs (Sum of total) - Lab calc	mg/kg	0.5	400	100	20		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total 8 PAHs (as BaP TEQ)(zero LOR) - Lab Ca	mg/kg	0.5					<0.5	-	-	<0.5	<0.5	-	-	-	-	-	<0.5	<0.5	<0.5	-	-
Total 8 PAHs (as BaP TEQ)(half LOR) - Lab Cal	mg/kg	0.5					0.6	-	-	0.6	0.6	-	-	-	-	-	0.6	0.6	0.6	-	-
Total 8 PAHs (as BaP TEQ)(full LOR) - Lab Calc	mg/kg	0.5					1.2	-	-	1.2	1.2	-	-	-	-	-	1.2	1.2	1.2	-	-
Phenols																					
Phenols(halogenated) - Lab Calc	mg/kg	0.03				40	<0.03	-	-	<1	<1	-	-	-	-	-	<1	<1	<1	-	-
3/4-Methylphenol (m/p-cresol)	mg/kg	1					<1	-	-	<1	<1	-	-	-	-	-	<1	<1	<1	-	-
Phenols (non-halogenated) - Lab Calc	mg/kg	1				280	<1	-	-	<0.03	<0.03	-	-	-	-	-	<0.03	<0.03	<0.03	-	-
2,3,5,6-Tetrachlorophenol	mg/kg	0.03					<0.03	-	-	<0.03	<0.03	-	-	-	-	-	<0.03	<0.03	<0.03	-	-
2,4,5-trichlorophenol	mg/kg	0.05					<0.05	-	-	<0.05	<0.05	-	-	-	-	-	<0.05	<0.05	<0.05	-	-
2,4,6-trichlorophenol	mg/kg	0.05					<0.05	-	-	<0.05	<0.05	-	-	-	-	-	<0.05	<0.05	<0.05	-	-
2,4-dichlorophenol	mg/kg	0.03					<0.03	-	-	<0.03	<0.03	-	-	-	-	-	<0.03	<0.03	<0.03	-	-
2,4-dimethylphenol	mg/kg	1					<1	-	-	<1	<1	-	-	-	-	-	<1	<1	<1	-	-
2,4-dinitrophenol	mg/kg	5					<5	-	-	<5	<5	-	-	-	-	-	<5	<5	<5	-	-
2,6-dichlorophenol	mg/kg	0.03					<0.03	-	-	<0.03	<0.03	-	-	-	-	-	<0.03	<0.03	<0.03	-	-
2,3,4,5 & 2,3,4,6-Tetrachlorophenol	mg/kg	0.05					<0.05	-	-	<0.05	<0.05	-	-	-	-	-	<0.05	<0.05	<0.05	-	-
2-chlorophenol	mg/kg	0.03					<0.03	-	-	<0.03	<0.03	-	-	-	-	-	<0.03	<0.03	<0.03	-	-
2-methylphenol	mg/kg	1					<1	-	-	<1	<1	-	-	-	-	-	<1	<1	<1	-	-
2-nitrophenol	mg/kg	1					<1	-	-	<1	<1	-	-	-	-	-	<1	<1	<1	-	-
4,6-Dinitro-o-cyclohexyl phenol	mg/kg	5					<5	-	-	<5	<5	-	-	-	-	-	<5	<5	<5	-	-
4-chloro-3-methylphenol	mg/kg	0.03					<0.03	-	-	<0.03	<0.03	-	-	-	-	-	<0.03	<0.03	<0.03	-	-
4-nitrophenol	mg/kg	5					<5	-	-	<5	<5	-	-	-	-	-	<5	<5	<5	-	-
Pentachlorophenol	mg/kg	0.2					<0.2	-	-	<0.2	<0.2	-	-	-	-	-	<0.2	<0.2	<0.2	-	-
Phenol	mg/kg	1					<1	-	-	<1	<1	-	-	-	-	-	<1	<1	<1	-	-
Phenols (Total Halogenated)	mg/kg	0.03					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phenols (Total Non Halogenated)	mg/kg	1					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Appendix J
Table 3
Summary of Soil Analytical Results

						Location Code	NEL-LFB03	NEL-LFB03	NEL-LFB03	NEL-LFB03	NEL-LFB03	NEL-LFB03	NEL-LFB03	NEL-LFB04	NEL-LFB04	NEL-LFB04	NEL-LFB04	NEL-LFB04	NEL-LFB04
						Depth	0.1 - 0.2	0.5 - 0.6	1 - 1.1	2 - 2.1	3 - 3.1	4 - 4.1	5 - 5.1	0.1 - 0.2	0.5 - 0.6	2 - 2.1	3 - 3.1	4 - 4.1	5 - 5.1
						Date	10/07/2018	11/07/2018	11/07/2018	11/07/2018	11/07/2018	11/07/2018	11/07/2018	10/07/2018	11/07/2018	11/07/2018	11/07/2018	11/07/2018	11/07/2018
						Field ID	NEL-LFB03_0.1m	NEL-LFB03_0.5m	NEL-LFB03_1.0m	NEL-LFB03_2.0m	NEL-LFB03_3.0m	NEL-LFB03_4.0m	NEL-LFB03_5.0m	NEL-LFB04_0.1m	NEL-LFB04_0.5m	NEL-LFB04_2.0m	NEL-LFB04_3.0m	NEL-LFB04_4.0m	NEL-LFB04_5.0m
						Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
						Lab Report Number	EM1811150	EM1811150	EM1811150	EM1811150	EM1811150	EM1811724	EM1811724	EM1811724	EM1811150	EM1811150	EM1811150	EM1811150	EM1811724
	Unit	EQL	EPA Victoria IWRG 621 Category B	EPA Victoria IWRG 621 Category C	EPA Victoria IWRG 621 Clean Fill	EPA Victoria IWRG 621 Trigger for Leachate Testing													
Inorganics																			
Cyanide (Total)	mg/kg	1	10000	2500	50	160	-	-	<1	<1	-	-	-	-	<1	<1	-	-	-
Major Ions																			
Fluoride	mg/kg	40	40000	10000	450	3000	-	-	380	340	-	-	-	-	320	430	-	-	-
Metals																			
Arsenic	mg/kg	5	2000	500	20	14	<5	9	5	59	<5	<5	<5	<5	<5	<5	<5	<5	7
Cadmium	mg/kg	1	400	100	3	4	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chromium (hexavalent)	mg/kg	0.5	2000	500	1	100	-	-	<0.5	<0.5	-	-	-	-	<0.5	<0.5	-	-	-
Chromium (III+VI)	mg/kg	2					24	-	-	-	-	26	31	23	-	-	-	-	28
Copper	mg/kg	5	20000	5000	100	4000	14	14	14	24	14	10	9	14	10	11	12	11	14
Lead	mg/kg	5	6000	1500	300	20	23	27	48	82	10	15	10	25	50	12	12	9	14
Mercury	mg/kg	0.1	300	75	1	2	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	5.7	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Molybdenum	mg/kg	2	4000	1000	40	100	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Nickel	mg/kg	2	12000	3000	60	40	17	26	21	34	17	17	14	13	16	16	17	16	16
Selenium	mg/kg	5	200	50	10	20	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Silver	mg/kg	2	720	180	10	200	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Tin	mg/kg	5		500	50		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Zinc	mg/kg	5	140000	35000	200	6000	48	35	504	64	24	26	36	60	51	26	32	34	40
BTEXN																			
Benzene	mg/kg	0.2	16	4	1	2	-	-	<0.2	<0.2	-	-	-	-	<0.2	<0.2	-	-	-
Toluene	mg/kg	0.5					-	-	<0.5	<0.5	-	-	-	-	<0.5	<0.5	-	-	-
Ethylbenzene	mg/kg	0.5					-	-	<0.5	<0.5	-	-	-	-	<0.5	<0.5	-	-	-
Xylene (o)	mg/kg	0.5					-	-	<0.5	<0.5	-	-	-	-	<0.5	<0.5	-	-	-
Xylene (m & p)	mg/kg	0.5					-	-	<0.5	<0.5	-	-	-	-	<0.5	<0.5	-	-	-
Xylene Total	mg/kg	0.5					-	-	<0.5	<0.5	-	-	-	-	<0.5	<0.5	-	-	-
TRH - NEPM 2013																			
F1 (C6-C10 minus BTEXN)	mg/kg	10					-	-	<10	<10	-	-	-	-	<10	<10	-	-	-
C6-C10 Fraction	mg/kg	10					-	-	<10	<10	-	-	-	-	<10	<10	-	-	-
F2 (>C10-C16 minus Naphthalene)	mg/kg	50					-	-	<50	<50	-	-	-	-	<50	<50	-	-	-
>C10-C16 Fraction	mg/kg	50					-	-	<50	<50	-	-	-	-	<50	<50	-	-	-
F3 (>C16-C34 Fraction)	mg/kg	100					-	-	<100	220	-	-	-	-	<100	<100	-	-	-
F4 (>C34-C40 Fraction)	mg/kg	100					-	-	<100	120	-	-	-	-	<100	<100	-	-	-
>C10-C40 (Sum of Total)	mg/kg	50					-	-	<50	340	-	-	-	-	<50	<50	-	-	-
TRH - NEPM 1999																			
C6-C9 Fraction	mg/kg	10	2600	650	100		-	-	<10	<10	-	-	-	-	<10	<10	-	-	-
C10-C14 Fraction	mg/kg	50					-	-	<50	<50	-	-	-	-	<50	<50	-	-	-
C15-C28 Fraction	mg/kg	100					-	-	<100	<100	-	-	-	-	<100	<100	-	-	-
C29-C36 Fraction	mg/kg	100					-	-	<100	190	-	-	-	-	<100	<100	-	-	-
C10-C36 (Sum of Total)	mg/kg	50	40000	10000	1000		-	-	<50	190	-	-	-	-	<50	<50	-	-	-
PAHs																			
Sum of polycyclic aromatic hydrocarbons	mg/kg	0.5					-	-	<0.5	<0.5	-	-	-	-	<0.5	<0.5	-	-	-
Pyrene	mg/kg	0.5					-	-	<0.5	<0.5	-	-	-	-	<0.5	<0.5	-	-	-
Acenaphthene	mg/kg	0.5					-	-	<0.5	<0.5	-	-	-	-	<0.5	<0.5	-	-	-
Acenaphthylene	mg/kg	0.5					-	-	<0.5	<0.5	-	-	-	-	<0.5	<0.5	-	-	-
Anthracene	mg/kg	0.5					-	-	<0.5	<0.5	-	-	-	-	<0.5	<0.5	-	-	-
Benz(a)anthracene	mg/kg	0.5					-	-	<0.5	<0.5	-	-	-	-	<0.5	<0.5	-	-	-
Benzo(a) pyrene	mg/kg	0.5	20	5	1	0.02	-	-	<0.5	<0.5	-	-	-	-	<0.5	<0.5	-	-	-
Benzo(b+j+k)fluoranthene	mg/kg	0.5					-	-	<0.5	<0.5	-	-	-	-	<0.5	<0.5	-	-	-
Benzo(g,h,i)perylene	mg/kg	0.5					-	-	<0.5	<0.5	-	-	-	-	<0.5	<0.5	-	-	-
Chrysene	mg/kg	0.5					-	-	<0.5	<0.5	-	-	-	-	<0.5	<0.5	-	-	-
Dibenz(a,h)anthracene	mg/kg	0.5					-	-	<0.5	<0.5	-	-	-	-	<0.5	<0.5	-	-	-
Fluoranthene	mg/kg	0.5					-	-	<0.5	<0.5	-	-	-	-	<0.5	<0.5	-	-	-
Fluorene	mg/kg	0.5					-	-	<0.5	<0.5	-	-	-	-	<0.5	<0.5	-	-	-
Indeno(1,2,3-c,d)pyrene	mg/kg	0.5					-	-	<0.5	<0.5	-	-	-	-	<0.5	<0.5	-	-	-
Naphthalene	mg/kg	0.5					-	-	<0.5	<0.5	-	-	-	-	<0.5	<0.5	-	-	-
Phenanthrene	mg/kg	0.5					-	-	<0.5	<0.5	-	-	-	-	<0.5	<0.5	-	-	-
PAHs (Sum of total) - Lab calc	mg/kg	0.5	400	100	20		-	-	-	-	-	-	-	-	-	-	-	-	-
Total 8 PAHs (as BaP TEQ)(zero LOR) - Lab Ca	mg/kg	0.5					-	-	<0.5	<0.5	-	-	-	-	<0.5	<0.5	-	-	-
Total 8 PAHs (as BaP TEQ)(half LOR) - Lab Cal	mg/kg	0.5					-	-	0.6	0.6	-	-	-	-	0.6	0.6	-	-	-
Total 8 PAHs (as BaP TEQ)(full LOR) - Lab Calc	mg/kg	0.5					-	-	1.2	1.2	-	-	-	-	1.2	1.2	-	-	-
Phenols																			
Phenols(halogenated) - Lab Calc	mg/kg	0.03				40	-	-	<1	<1	-	-	-	-	<1	<1	-	-	-
3/4-Methylphenol (m/p-cresol)	mg/kg	1					-	-	<1	<1	-	-	-	-	<1	<1	-	-	-
Phenols (non-halogenated) - Lab Calc	mg/kg	1				280	-	-	<0.03	<0.03	-	-	-	-	<0.03	<0.03	-	-	-
2,3,5,6-Tetrachlorophenol	mg/kg	0.03					-	-	<0.03	<0.03	-	-	-	-	<0.03	<0.03	-	-	-
2,4,5-trichlorophenol	mg/kg	0.05					-	-	<0.05	<0.05	-	-	-	-	<0.05	<0.05	-	-	-
2,4,6-trichlorophenol	mg/kg	0.05					-	-	<0.05	<0.05	-	-	-	-	<0.05	<0.05	-	-	-
2,4-dichlorophenol	mg/kg	0.03					-	-	<0.03	<0.03	-	-	-	-	<0.03	<0.03	-	-	-
2,4-dimethylphenol	mg/kg	1					-	-	<1	<1	-	-	-	-	<1	<1	-	-	-
2,4-dinitrophenol	mg/kg	5					-	-	<5	<5	-	-	-	-	<5	<5	-	-	-
2,6-dichlorophenol	mg/kg	0.03					-	-	<0.03	<0.03	-	-	-	-	<0.03	<0.03	-	-	-
2,3,4,5 & 2,3,4,6-Tetrachlorophenol	mg/kg	0.05					-	-	<0.05	<0.05	-	-	-	-	<0.05	<0.05	-	-	-
2-chlorophenol	mg/kg	0.03					-	-	<0.03	<0.03	-	-	-	-	<0.03	<0.03	-	-	-
2-methylphenol	mg/kg	1					-	-	<1	<1	-	-	-	-	<1	<1	-	-	-
2-nitrophenol	mg/kg	1					-	-	<1	<1	-	-	-	-	<1	<1	-	-	-
4,6-Dinitro-o-cyclohexyl phenol	mg/kg	5					-	-	<5	<5	-	-	-	-	<5	<5	-	-	-
4-chloro-3-methylphenol	mg/kg	0.03					-	-	<0.03	<0.03	-	-	-	-	<0.03	<0.03	-	-	-
4-nitrophenol	mg/kg	5					-	-	<5	<5	-	-	-	-	<5	<5	-	-	-
Pentachlorophenol	mg/kg	0.2					-	-	<0.2	<0.2	-	-	-	-	<0.2	<0.2	-	-	-
Phenol	mg/kg	1					-	-	<1	<1	-	-	-	-	<1	<1	-	-	-
Phenols (Total Halogenated)	mg/kg	0.03					-	-	-	-	-	-	-	-	-	-	-	-	-
Phenols (Total Non Halogenated)	mg/kg	1					-	-	-	-	-	-	-	-	-	-	-	-	-

Appendix J
Table 3
Summary of Soil Analytical Results

	Unit	EQL	EPA Victoria IWRG 621 Category B	EPA Victoria IWRG 621 Category C	EPA Victoria IWRG 621 Clean Fill	EPA Victoria IWRG 621 Trigger for Leachate Testing	NEL-LFB05	NEL-LFB05	NEL-LFB05	NEL-LFB05	NEL-LFB05	NEL-LFB05	NEL-LFB05	NEL-LFB06	NEL-LFB06	NEL-LFB06	NEL-LFB06	NEL-LFB06	NEL-LFB06	NEL-LFB07	NEL-LFB07	NEL-LFB07
Location Code							NEL-LFB05	NEL-LFB05	NEL-LFB05	NEL-LFB05	NEL-LFB05	NEL-LFB05	NEL-LFB05	NEL-LFB06	NEL-LFB06	NEL-LFB06	NEL-LFB06	NEL-LFB06	NEL-LFB06	NEL-LFB07	NEL-LFB07	NEL-LFB07
Depth							0.1 - 0.2	0.5 - 0.6	1 - 1.1	2 - 2.1	3 - 3.1	4 - 4.1	5 - 5.1	0.1 - 0.2	0.5 - 0.6	2 - 2.1	3 - 3.1	4 - 4.1	5 - 5.1	0.1 - 0.2	0.5 - 0.6	2 - 2.1
Date							10/07/2018	11/07/2018	11/07/2018	11/07/2018	11/07/2018	11/07/2018	11/07/2018	10/07/2018	10/07/2018	10/07/2018	10/07/2018	10/07/2018	10/07/2018	10/07/2018	10/07/2018	10/07/2018
Field ID							NEL-LFB05_0.1m	NEL-LFB05_0.5m	NEL-LFB05_1.0m	NEL-LFB05_2.0m	NEL-LFB05_3.0m	NEL-LFB05_4.0m	NEL-LFB05_5.0m	NEL-LFB06_0.1m	NEL-LFB06_0.5m	NEL-LFB06_2.0m	NEL-LFB06_3.0m	NEL-LFB06_4.0m	NEL-LFB06_5.0m	NEL-LFB07_0.1m	NEL-LFB07_0.5m	NEL-LFB07_2.0m
Sample Type							Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
Lab Report Number							EM1811724	EM1811150	EM1811150	EM1811150	EM1811150	EM1811724	EM1811724	EM1811150	EM1811150	EM1811150	EM1811150	EM1811724	EM1811724	EM1811724	EM1811150	EM1811150
Inorganics																						
Cyanide (Total)	mg/kg	1	10000	2500	50	160	-	-	<1	-	<1	-	-	-	<1	<1	-	-	-	-	1	<1
Major Ions																						
Fluoride	mg/kg	40	40000	10000	450	3000	-	-	260	-	360	-	-	-	520	260	-	-	-	-	390	290
Metals																						
Arsenic	mg/kg	5	2000	500	20	14	<5	<5	9	<5	<5	<5	<5	6	5	<5	6	<5	5	7	<5	<5
Cadmium	mg/kg	1	400	100	3	4	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chromium (hexavalent)	mg/kg	0.5	2000	500	1	100	-	-	<0.5	-	<0.5	-	-	-	<0.5	<0.5	-	-	-	-	<0.5	<0.5
Chromium (III+VI)	mg/kg	2					21	-	-	-	-	31	26	-	-	-	-	29	27	28	-	-
Copper	mg/kg	5	20000	5000	100	4000	13	10	71	13	14	12	11	16	39	10	12	9	9	54	11	14
Lead	mg/kg	5	6000	1500	300	20	23	30	103	12	13	11	14	37	39	11	17	16	12	83	18	14
Mercury	mg/kg	0.1	300	75	1	2	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2
Molybdenum	mg/kg	2	4000	1000	40	100	<2	<2	3	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Nickel	mg/kg	2	12000	3000	60	40	13	8	38	21	23	15	11	25	37	18	22	19	17	22	16	20
Selenium	mg/kg	5	200	50	10	20	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Silver	mg/kg	2	720	180	10	200	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Tin	mg/kg	5		500	50		<5	<5	10	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Zinc	mg/kg	5	140000	35000	200	6000	46	33	146	45	40	34	29	60	122	40	52	68	66	152	43	45
BTEXN																						
Benzene	mg/kg	0.2	16	4	1	2	-	-	<0.2	-	<0.2	-	-	-	<0.2	<0.2	-	-	-	-	<0.2	<0.2
Toluene	mg/kg	0.5					-	-	<0.5	-	<0.5	-	-	-	<0.5	<0.5	-	-	-	-	<0.5	<0.5
Ethylbenzene	mg/kg	0.5					-	-	<0.5	-	<0.5	-	-	-	<0.5	<0.5	-	-	-	-	<0.5	<0.5
Xylene (o)	mg/kg	0.5					-	-	<0.5	-	<0.5	-	-	-	<0.5	<0.5	-	-	-	-	<0.5	<0.5
Xylene (m & p)	mg/kg	0.5					-	-	<0.5	-	<0.5	-	-	-	<0.5	<0.5	-	-	-	-	<0.5	<0.5
Xylene Total	mg/kg	0.5					-	-	<0.5	-	<0.5	-	-	-	<0.5	<0.5	-	-	-	-	<0.5	<0.5
TRH - NEPM 2013																						
F1 (C6-C10 minus BTEXN)	mg/kg	10					-	-	<10	-	<10	-	-	-	<10	<10	-	-	-	-	<10	<10
C6-C10 Fraction	mg/kg	10					-	-	<10	-	<10	-	-	-	<10	<10	-	-	-	-	<10	<10
F2 (>C10-C16 minus Naphthalene)	mg/kg	50					-	-	<50	-	<50	-	-	-	<50	<50	-	-	-	-	<50	<50
>C10-C16 Fraction	mg/kg	50					-	-	<50	-	<50	-	-	-	<50	<50	-	-	-	-	<50	<50
F3 (>C16-C34 Fraction)	mg/kg	100					-	-	130	-	<100	-	-	-	<100	<100	-	-	-	-	<100	<100
F4 (>C34-C40 Fraction)	mg/kg	100					-	-	<100	-	<100	-	-	-	<100	<100	-	-	-	-	<100	<100
>C10-C40 (Sum of Total)	mg/kg	50					-	-	130	-	<50	-	-	-	<50	<50	-	-	-	-	<50	<50
TRH - NEPM 1999																						
C6-C9 Fraction	mg/kg	10	2600	650	100		-	-	<10	-	<10	-	-	-	<10	<10	-	-	-	-	<10	<10
C10-C14 Fraction	mg/kg	50					-	-	<50	-	<50	-	-	-	<50	<50	-	-	-	-	<50	<50
C15-C28 Fraction	mg/kg	100					-	-	<100	-	<100	-	-	-	<100	<100	-	-	-	-	<100	<100
C29-C36 Fraction	mg/kg	100					-	-	<100	-	<100	-	-	-	<100	<100	-	-	-	-	<100	<100
C10-C36 (Sum of Total)	mg/kg	50	40000	10000	1000		-	-	<50	-	<50	-	-	-	<50	<50	-	-	-	-	<50	<50
PAHs																						
Sum of polycyclic aromatic hydrocarbons	mg/kg	0.5					-	-	<0.5	-	<0.5	-	-	-	<0.5	<0.5	-	-	-	-	<0.5	<0.5
Pyrene	mg/kg	0.5					-	-	<0.5	-	<0.5	-	-	-	<0.5	<0.5	-	-	-	-	<0.5	<0.5
Acenaphthene	mg/kg	0.5					-	-	<0.5	-	<0.5	-	-	-	<0.5	<0.5	-	-	-	-	<0.5	<0.5
Acenaphthylene	mg/kg	0.5					-	-	<0.5	-	<0.5	-	-	-	<0.5	<0.5	-	-	-	-	<0.5	<0.5
Anthracene	mg/kg	0.5					-	-	<0.5	-	<0.5	-	-	-	<0.5	<0.5	-	-	-	-	<0.5	<0.5
Benz(a)anthracene	mg/kg	0.5					-	-	<0.5	-	<0.5	-	-	-	<0.5	<0.5	-	-	-	-	<0.5	<0.5
Benzo(a) pyrene	mg/kg	0.5	20	5	1	0.02	-	-	<0.5	-	<0.5	-	-	-	<0.5	<0.5	-	-	-	-	<0.5	<0.5
Benzo(b+j+k)fluoranthene	mg/kg	0.5					-	-	<0.5	-	<0.5	-	-	-	<0.5	<0.5	-	-	-	-	<0.5	<0.5
Benzo(g,h,i)perylene	mg/kg	0.5					-	-	<0.5	-	<0.5	-	-	-	<0.5	<0.5	-	-	-	-	<0.5	<0.5
Chrysene	mg/kg	0.5					-	-	<0.5	-	<0.5	-	-	-	<0.5	<0.5	-	-	-	-	<0.5	<0.5
Dibenz(a,h)anthracene	mg/kg	0.5					-	-	<0.5	-	<0.5	-	-	-	<0.5	<0.5	-	-	-	-	<0.5	<0.5
Fluoranthene	mg/kg	0.5					-	-	<0.5	-	<0.5	-	-	-	<0.5	<0.5	-	-	-	-	<0.5	<0.5
Fluorene	mg/kg	0.5					-	-	<0.5	-	<0.5	-	-	-	<0.5	<0.5	-	-	-	-	<0.5	<0.5
Indeno(1,2,3-c,d)pyrene	mg/kg	0.5					-	-	<0.5	-	<0.5	-	-	-	<0.5	<0.5	-	-	-	-	<0.5	<0.5
Naphthalene	mg/kg	0.5					-	-	<0.5	-	<0.5	-	-	-	<0.5	<0.5	-	-	-	-	<0.5	<0.5
Phenanthrene	mg/kg	0.5					-	-	<0.5	-	<0.5	-	-	-	<0.5	<0.5	-	-	-	-	<0.5	<0.5
PAHs (Sum of total) - Lab calc	mg/kg	0.5	400	100	20		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total 8 PAHs (as BaP TEQ)(zero LOR) - Lab Ca	mg/kg	0.5					-	-	<0.5	-	<0.5	-	-	-	<0.5	<0.5	-	-	-	-	<0.5	<0.5
Total 8 PAHs (as BaP TEQ)(half LOR) - Lab Cal	mg/kg	0.5					-	-	0.6	-	0.6	-	-	-	0.6	0.6	-	-	-	-	0.6	0.6
Total 8 PAHs (as BaP TEQ)(full LOR) - Lab Calc	mg/kg	0.5					-	-	1.2	-	1.2	-	-	-	1.2	1.2	-	-	-	-	1.2	1.2
Phenols																						
Phenols(halogenated) - Lab Calc	mg/kg	0.03				40	-	-	<1	-	<1	-	-	-	<1	<1	-	-	-	-	<1	<1
3/4-Methylphenol (m/p-cresol)	mg/kg	1					-	-	<1	-	<1	-	-	-	<1	<1	-	-	-	-	<1	<1
Phenols (non-halogenated) - Lab Calc	mg/kg	1				280	-	-	<0.03	-	<0.03	-	-	-	<0.03	<0.03	-	-	-	-	<0.03	<0.03
2,3,5,6-Tetrachlorophenol	mg/kg	0.03					-	-	<0.03	-	<0.03	-	-	-	<0.03	<0.03	-	-	-	-	<0.03	<0.03
2,4,5-trichlorophenol	mg/kg	0.05					-	-	<0.05	-	<0.05	-	-	-	<0.05	<0.05	-	-	-	-	<0.05	<0.05
2,4,6-trichlorophenol	mg/kg	0.05					-	-	<0.05	-	<0.05	-	-	-	<0.05	<0.05	-	-	-	-	<0.05	<0.05
2,4-dichlorophenol	mg/kg	0.03					-	-	<0.03	-	<0.03	-	-	-	<0.03	<0.03	-	-	-	-	<0.03	<0.03
2,4-dimethylphenol	mg/kg	1					-	-	<1	-	<1	-	-	-	<1	<1	-	-	-	-	<1	<1
2,4-dinitrophenol	mg/kg	5					-	-	<5	-	<5	-	-	-	<5	<5	-	-	-	-	<5	<5
2,6-dichlorophenol	mg/kg	0.03					-	-	<0.03	-	<0.03	-	-	-	<0.03	<0.03	-	-	-	-	<0.03	<0.03
2,3,4,5 & 2,3,4,6-Tetrachlorophenol	mg/kg	0.05					-	-	<0.05	-	<0.05	-	-	-	<0.05	<0.05	-	-	-	-	<0.05	<0.05
2-chlorophenol	mg/kg	0.03					-	-	<0.03	-	<0.03	-	-	-	<0.03	<0.03	-	-	-	-	<0.03	<0.03
2-methylphenol	mg/kg	1					-	-	<1	-	<1	-	-	-	<1	<1	-	-	-	-	<1	<1
2-nitrophenol	mg/kg	1					-	-	<1	-	<1	-	-	-	<1	<1	-	-	-	-	<1	<1
4,6-Dinitro-o-cyclohexyl phenol	mg/kg	5					-	-	<5	-	<5	-	-	-	<5	<5	-	-	-	-	<5	<5
4-chloro-3-methylphenol	mg/kg	0.03					-	-	<0.03	-	<0.03	-	-	-	<0.03	<0.03	-	-	-	-	<0.03	<0.03
4-nitrophenol	mg/kg	5					-	-	<5	-	<5	-	-	-	<5	<5	-	-	-	-	<5	<5
Pentachlorophenol	mg/kg	0.2					-	-	<0.2	-	<0.2	-	-	-	<0.2	<0.2	-	-	-	-	<0.2	<0.2
Phenol	mg/kg	1					-	-	<1	-	<1	-	-	-	<1	<1	-	-	-	-	<1	<1
Phenols (Total Halogenated)	mg/kg	0.03					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phenols (Total Non Halogenated)	mg/kg	1					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Appendix J
Table 3
Summary of Soil Analytical Results

Location Code							NEL-LFB07	NEL-LFB07	NEL-LFB07	NEL-LFB08	NEL-LFB08	NEL-LFB08	NEL-LFB08	NEL-LFB08	NEL-LFB08	NEL-LFB09	NEL-LFB09	NEL-LFB09	NEL-LFB09	NEL-LFB09
Depth							3 - 3.1	4 - 4.1	5 - 5.1	0.1 - 0.2	0.5 - 0.6	2 - 2.1	3 - 3.1	4 - 4.1	5 - 5.1	0.1 - 0.2	0.5 - 0.6	1 - 1.1	2 - 2.1	3 - 3.1
Date							10/07/2018	10/07/2018	10/07/2018	10/07/2018	10/07/2018	10/07/2018	10/07/2018	10/07/2018	10/07/2018	10/07/2018	10/07/2018	10/07/2018	10/07/2018	10/07/2018
Field ID							NEL-LFB07_3.0m	NEL-LFB07_4.0m	NEL-LFB07_5.0m	NEL-LFB08_0.1m	NEL-LFB08_0.5m	NEL-LFB08_2.0m	NEL-LFB08_3.0m	NEL-LFB08_4.0m	NEL-LFB08_5.0m	NEL-LFB09_0.1m	NEL-LFB09_0.5m	NEL-LFB09_1.0m	NEL-LFB09_2.0m	NEL-LFB09_3.0m
Sample Type							Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
Lab Report Number							EM1811150	EM1811150	EM1811724	EM1811724	EM1811150	EM1811150	EM1811150	EM1811150	EM1811724	EM1811724	EM1811150	EM1811150	EM1811150	EM1811150
	Unit	EQL	EPA Victoria IWRG 621 Category B	EPA Victoria IWRG 621 Category C	EPA Victoria IWRG 621 Clean Fill	EPA Victoria IWRG 621 Trigger for Leachate Testing														
Inorganics																				
Cyanide (Total)	mg/kg	1	10000	2500	50	160	-	-	-	-	-	<1	-	<1	-	-	<1	<1	-	-
Major Ions																				
Fluoride	mg/kg	40	40000	10000	450	3000	-	-	-	-	-	340	-	230	-	-	350	300	-	-
Metals																				
Arsenic	mg/kg	5	2000	500	20	14	7	<5	<5	<5	<5	<5	<5	<5	<5	6	12	<5	<5	<5
Cadmium	mg/kg	1	400	100	3	4	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chromium (hexavalent)	mg/kg	0.5	2000	500	1	100	-	-	-	-	-	<0.5	-	<0.5	-	-	<0.5	<0.5	-	-
Chromium (III+VI)	mg/kg	2					-	-	27	24	-	-	-	-	26	25	-	-	-	-
Copper	mg/kg	5	20000	5000	100	4000	13	8	8	17	11	14	10	9	9	30	11	14	10	9
Lead	mg/kg	5	6000	1500	300	20	13	14	14	43	19	10	8	10	11	40	26	18	9	8
Mercury	mg/kg	0.1	300	75	1	2	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Molybdenum	mg/kg	2	4000	1000	40	100	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Nickel	mg/kg	2	12000	3000	60	40	23	17	17	18	17	20	15	15	18	19	16	18	17	15
Selenium	mg/kg	5	200	50	10	20	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Silver	mg/kg	2	720	180	10	200	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Tin	mg/kg	5		500	50		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	5	<5	<5
Zinc	mg/kg	5	140000	35000	200	6000	38	35	67	82	45	43	33	36	39	89	42	59	33	31
BTEXN																				
Benzene	mg/kg	0.2	16	4	1	2	-	-	-	-	-	<0.2	-	<0.2	-	-	<0.2	<0.2	-	-
Toluene	mg/kg	0.5					-	-	-	-	-	<0.5	-	<0.5	-	-	<0.5	<0.5	-	-
Ethylbenzene	mg/kg	0.5					-	-	-	-	-	<0.5	-	<0.5	-	-	<0.5	<0.5	-	-
Xylene (o)	mg/kg	0.5					-	-	-	-	-	<0.5	-	<0.5	-	-	<0.5	<0.5	-	-
Xylene (m & p)	mg/kg	0.5					-	-	-	-	-	<0.5	-	<0.5	-	-	<0.5	<0.5	-	-
Xylene Total	mg/kg	0.5					-	-	-	-	-	<0.5	-	<0.5	-	-	<0.5	<0.5	-	-
TRH - NEPM 2013																				
F1 (C6-C10 minus BTEXN)	mg/kg	10					-	-	-	-	-	<10	-	<10	-	-	<10	<10	-	-
C6-C10 Fraction	mg/kg	10					-	-	-	-	-	<10	-	<10	-	-	<10	<10	-	-
F2 (>C10-C16 minus Naphthalene)	mg/kg	50					-	-	-	-	-	<50	-	<50	-	-	<50	<50	-	-
>C10-C16 Fraction	mg/kg	50					-	-	-	-	-	<50	-	<50	-	-	<50	<50	-	-
F3 (>C16-C34 Fraction)	mg/kg	100					-	-	-	-	-	<100	-	<100	-	-	<100	<100	-	-
F4 (>C34-C40 Fraction)	mg/kg	100					-	-	-	-	-	<100	-	<100	-	-	<100	<100	-	-
>C10-C40 (Sum of Total)	mg/kg	50					-	-	-	-	-	<50	-	<50	-	-	<50	<50	-	-
TRH - NEPM 1999																				
C6-C9 Fraction	mg/kg	10	2600	650	100		-	-	-	-	-	<10	-	<10	-	-	<10	<10	-	-
C10-C14 Fraction	mg/kg	50					-	-	-	-	-	<50	-	<50	-	-	<50	<50	-	-
C15-C28 Fraction	mg/kg	100					-	-	-	-	-	<100	-	<100	-	-	<100	<100	-	-
C29-C36 Fraction	mg/kg	100					-	-	-	-	-	<100	-	<100	-	-	<100	<100	-	-
C10-C36 (Sum of Total)	mg/kg	50	40000	10000	1000		-	-	-	-	-	<50	-	<50	-	-	<50	<50	-	-
PAHs																				
Sum of polycyclic aromatic hydrocarbons	mg/kg	0.5					-	-	-	-	-	<0.5	-	<0.5	-	-	<0.5	<0.5	-	-
Pyrene	mg/kg	0.5					-	-	-	-	-	<0.5	-	<0.5	-	-	<0.5	<0.5	-	-
Acenaphthene	mg/kg	0.5					-	-	-	-	-	<0.5	-	<0.5	-	-	<0.5	<0.5	-	-
Acenaphthylene	mg/kg	0.5					-	-	-	-	-	<0.5	-	<0.5	-	-	<0.5	<0.5	-	-
Anthracene	mg/kg	0.5					-	-	-	-	-	<0.5	-	<0.5	-	-	<0.5	<0.5	-	-
Benz(a)anthracene	mg/kg	0.5					-	-	-	-	-	<0.5	-	<0.5	-	-	<0.5	<0.5	-	-
Benzo(a) pyrene	mg/kg	0.5	20	5	1	0.02	-	-	-	-	-	<0.5	-	<0.5	-	-	<0.5	<0.5	-	-
Benzo(b+j+k)fluoranthene	mg/kg	0.5					-	-	-	-	-	<0.5	-	<0.5	-	-	<0.5	<0.5	-	-
Benzo(g,h,i)perylene	mg/kg	0.5					-	-	-	-	-	<0.5	-	<0.5	-	-	<0.5	<0.5	-	-
Chrysene	mg/kg	0.5					-	-	-	-	-	<0.5	-	<0.5	-	-	<0.5	<0.5	-	-
Dibenz(a,h)anthracene	mg/kg	0.5					-	-	-	-	-	<0.5	-	<0.5	-	-	<0.5	<0.5	-	-
Fluoranthene	mg/kg	0.5					-	-	-	-	-	<0.5	-	<0.5	-	-	<0.5	<0.5	-	-
Fluorene	mg/kg	0.5					-	-	-	-	-	<0.5	-	<0.5	-	-	<0.5	<0.5	-	-
Indeno(1,2,3-c,d)pyrene	mg/kg	0.5					-	-	-	-	-	<0.5	-	<0.5	-	-	<0.5	<0.5	-	-
Naphthalene	mg/kg	0.5					-	-	-	-	-	<0.5	-	<0.5	-	-	<0.5	<0.5	-	-
Phenanthrene	mg/kg	0.5					-	-	-	-	-	<0.5	-	<0.5	-	-	<0.5	<0.5	-	-
PAHs (Sum of total) - Lab calc	mg/kg	0.5	400	100	20		-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total 8 PAHs (as BaP TEQ)(zero LOR) - Lab Ca	mg/kg	0.5					-	-	-	-	-	<0.5	-	<0.5	-	-	<0.5	<0.5	-	-
Total 8 PAHs (as BaP TEQ)(half LOR) - Lab Cal	mg/kg	0.5					-	-	-	-	-	0.6	-	0.6	-	-	0.6	0.6	-	-
Total 8 PAHs (as BaP TEQ)(full LOR) - Lab Calc	mg/kg	0.5					-	-	-	-	-	1.2	-	1.2	-	-	1.2	1.2	-	-
Phenols																				
Phenols(halogenated) - Lab Calc	mg/kg	0.03				40	-	-	-	-	-	<1	-	<1	-	-	<1	<1	-	-
3/4-Methylphenol (m/p-cresol)	mg/kg	1					-	-	-	-	-	<1	-	<1	-	-	<1	<1	-	-
Phenols (non-halogenated) - Lab Calc	mg/kg	1				280	-	-	-	-	-	<0.03	-	<0.03	-	-	<0.03	<0.03	-	-
2,3,5,6-Tetrachlorophenol	mg/kg	0.03					-	-	-	-	-	<0.03	-	<0.03	-	-	<0.03	<0.03	-	-
2,4,5-trichlorophenol	mg/kg	0.05					-	-	-	-	-	<0.05	-	<0.05	-	-	<0.05	<0.05	-	-
2,4,6-trichlorophenol	mg/kg	0.05					-	-	-	-	-	<0.05	-	<0.05	-	-	<0.05	<0.05	-	-
2,4-dichlorophenol	mg/kg	0.03					-	-	-	-	-	<0.03	-	<0.03	-	-	<0.03	<0.03	-	-
2,4-dimethylphenol	mg/kg	1					-	-	-	-	-	<1	-	<1	-	-	<1	<1	-	-
2,4-dinitrophenol	mg/kg	5					-	-	-	-	-	<5	-	<5	-	-	<5	<5	-	-
2,6-dichlorophenol	mg/kg	0.03					-	-	-	-	-	<0.03	-	<0.03	-	-	<0.03	<0.03	-	-
2,3,4,5 & 2,3,4,6-Tetrachlorophenol	mg/kg	0.05					-	-	-	-	-	<0.05	-	<0.05	-	-	<0.05	<0.05	-	-
2-chlorophenol	mg/kg	0.03					-	-	-	-	-	<0.03	-	<0.03	-	-	<0.03	<0.03	-	-
2-methylphenol	mg/kg	1					-	-	-	-	-	<1	-	<1	-	-	<1	<1	-	-
2-nitrophenol	mg/kg	1					-	-	-	-	-	<1	-	<1	-	-	<1	<1	-	-
4,6-Dinitro-o-cyclohexyl phenol	mg/kg	5					-	-	-	-	-	<5	-	<5	-	-	<5	<5	-	-
4-chloro-3-methylphenol	mg/kg	0.03					-	-	-	-	-	<0.03	-	<0.03	-	-	<0.03	<0.03	-	-
4-nitrophenol	mg/kg	5					-	-	-	-	-	<5	-	<5	-	-	<5	<5	-	-
Pentachlorophenol	mg/kg	0.2					-	-	-	-	-	<0.2	-	<0.2	-	-	<0.2	<0.2	-	-
Phenol	mg/kg	1					-	-	-	-	-	<1	-	<1	-	-	<1	<1	-	-
Phenols (Total Halogenated)	mg/kg	0.03					-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phenols (Total Non Halogenated)	mg/kg	1					-	-	-	-	-	-	-	-	-	-	-	-	-	-

Appendix J
Table 3
Summary of Soil Analytical Results

Location Code							NEL-LFB09	NEL-LFB10	NEL-LFB10	NEL-LFB10	NEL-LFB10	NEL-LFB10	NEL-LFB10	NEL-LFB10
Depth							4 - 4.1	0.1 - 0.2	0.5 - 0.6	2 - 2.1	3 - 3.1	4 - 4.1	4 - 4.1	5 - 5.1
Date							10/07/2018	10/07/2018	10/07/2018	10/07/2018	10/07/2018	10/07/2018	11/07/2018	10/07/2018
Field ID							NEL-LFB09_4.0m	NEL-LFB10_0.1m	NEL-LFB10_0.5m	NEL-LFB10_2.0m	NEL-LFB10_3.0m	NEL-LFB10_4.0m	QC3002	NEL-LFB10_5.0m
Sample Type							Normal	Normal	Normal	Normal	Normal	Normal	Field_D	Normal
Lab Report Number							EM1811724	EM1811724	EM1811150	EM1811150	EM1811150	EM1811150	EM1811150	EM1811724
	Unit	EQL	EPA Victoria IWRG 621 Category B	EPA Victoria IWRG 621 Category C	EPA Victoria IWRG 621 Clean Fill	EPA Victoria IWRG 621 Trigger for Leachate Testing								
Inorganics														
Cyanide (Total)	mg/kg	1	10000	2500	50	160	-	-	-	<1	-	<1	<1	-
Major Ions														
Fluoride	mg/kg	40	40000	10000	450	3000	-	-	-	510	-	270	310	-
Metals														
Arsenic	mg/kg	5	2000	500	20	14	<5	<5	7	5	<5	<5	<5	<5
Cadmium	mg/kg	1	400	100	3	4	<1	<1	<1	<1	<1	<1	<1	<1
Chromium (hexavalent)	mg/kg	0.5	2000	500	1	100	-	-	-	<0.5	-	<0.5	0.6	-
Chromium (III+VI)	mg/kg	2					24	23	-	-	-	-	-	30
Copper	mg/kg	5	20000	5000	100	4000	8	18	30	13	10	8	8	8
Lead	mg/kg	5	6000	1500	300	20	11	30	8	13	12	11	12	11
Mercury	mg/kg	0.1	300	75	1	2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Molybdenum	mg/kg	2	4000	1000	40	100	<2	<2	<2	<2	<2	<2	<2	<2
Nickel	mg/kg	2	12000	3000	60	40	10	25	4	22	16	16	14	12
Selenium	mg/kg	5	200	50	10	20	<5	<5	<5	<5	<5	<5	<5	<5
Silver	mg/kg	2	720	180	10	200	<2	<2	<2	<2	<2	<2	<2	<2
Tin	mg/kg	5		500	50		<5	<5	<5	<5	<5	<5	<5	<5
Zinc	mg/kg	5	140000	35000	200	6000	22	72	46	39	37	31	30	34
BTEXN														
Benzene	mg/kg	0.2	16	4	1	2	-	-	-	<0.2	-	<0.2	<0.2	-
Toluene	mg/kg	0.5					-	-	-	<0.5	-	<0.5	<0.5	-
Ethylbenzene	mg/kg	0.5					-	-	-	<0.5	-	<0.5	<0.5	-
Xylene (o)	mg/kg	0.5					-	-	-	<0.5	-	<0.5	<0.5	-
Xylene (m & p)	mg/kg	0.5					-	-	-	<0.5	-	<0.5	<0.5	-
Xylene Total	mg/kg	0.5					-	-	-	<0.5	-	<0.5	<0.5	-
TRH - NEPM 2013														
F1 (C6-C10 minus BTEXN)	mg/kg	10					-	-	-	<10	-	<10	<10	-
C6-C10 Fraction	mg/kg	10					-	-	-	<10	-	<10	<10	-
F2 (>C10-C16 minus Naphthalene)	mg/kg	50					-	-	-	<50	-	<50	<50	-
>C10-C16 Fraction	mg/kg	50					-	-	-	<50	-	<50	<50	-
F3 (>C16-C34 Fraction)	mg/kg	100					-	-	-	<100	-	<100	<100	-
F4 (>C34-C40 Fraction)	mg/kg	100					-	-	-	<100	-	<100	<100	-
>C10-C40 (Sum of Total)	mg/kg	50					-	-	-	<50	-	<50	<50	-
TRH - NEPM 1999														
C6-C9 Fraction	mg/kg	10	2600	650	100		-	-	-	<10	-	<10	<10	-
C10-C14 Fraction	mg/kg	50					-	-	-	<50	-	<50	<50	-
C15-C28 Fraction	mg/kg	100					-	-	-	<100	-	<100	<100	-
C29-C36 Fraction	mg/kg	100					-	-	-	<100	-	<100	<100	-
C10-C36 (Sum of Total)	mg/kg	50	40000	10000	1000		-	-	-	<50	-	<50	<50	-
PAHs														
Sum of polycyclic aromatic hydrocarbons	mg/kg	0.5					-	-	-	<0.5	-	<0.5	<0.5	-
Pyrene	mg/kg	0.5					-	-	-	<0.5	-	<0.5	<0.5	-
Acenaphthene	mg/kg	0.5					-	-	-	<0.5	-	<0.5	<0.5	-
Acenaphthylene	mg/kg	0.5					-	-	-	<0.5	-	<0.5	<0.5	-
Anthracene	mg/kg	0.5					-	-	-	<0.5	-	<0.5	<0.5	-
Benz(a)anthracene	mg/kg	0.5					-	-	-	<0.5	-	<0.5	<0.5	-
Benzo(a) pyrene	mg/kg	0.5	20	5	1	0.02	-	-	-	<0.5	-	<0.5	<0.5	-
Benzo(b+j+k)fluoranthene	mg/kg	0.5					-	-	-	<0.5	-	<0.5	<0.5	-
Benzo(g,h,i)perylene	mg/kg	0.5					-	-	-	<0.5	-	<0.5	<0.5	-
Chrysene	mg/kg	0.5					-	-	-	<0.5	-	<0.5	<0.5	-
Dibenz(a,h)anthracene	mg/kg	0.5					-	-	-	<0.5	-	<0.5	<0.5	-
Fluoranthene	mg/kg	0.5					-	-	-	<0.5	-	<0.5	<0.5	-
Fluorene	mg/kg	0.5					-	-	-	<0.5	-	<0.5	<0.5	-
Indeno(1,2,3-c,d)pyrene	mg/kg	0.5					-	-	-	<0.5	-	<0.5	<0.5	-
Naphthalene	mg/kg	0.5					-	-	-	<0.5	-	<0.5	<0.5	-
Phenanthrene	mg/kg	0.5					-	-	-	<0.5	-	<0.5	<0.5	-
PAHs (Sum of total) - Lab calc	mg/kg	0.5	400	100	20		-	-	-	-	-	-	-	-
Total 8 PAHs (as BaP TEQ)(zero LOR) - Lab Ca	mg/kg	0.5					-	-	-	<0.5	-	<0.5	<0.5	-
Total 8 PAHs (as BaP TEQ)(half LOR) - Lab Cal	mg/kg	0.5					-	-	-	0.6	-	0.6	0.6	-
Total 8 PAHs (as BaP TEQ)(full LOR) - Lab Calc	mg/kg	0.5					-	-	-	1.2	-	1.2	1.2	-
Phenols														
Phenols(halogenated) - Lab Calc	mg/kg	0.03				40	-	-	-	<1	-	<1	<1	-
3/4-Methylphenol (m/p-cresol)	mg/kg	1					-	-	-	<1	-	<1	<1	-
Phenols (non-halogenated) - Lab Calc	mg/kg	1				280	-	-	-	<0.03	-	<0.03	<0.03	-
2,3,5,6-Tetrachlorophenol	mg/kg	0.03					-	-	-	<0.03	-	<0.03	<0.03	-
2,4,5-trichlorophenol	mg/kg	0.05					-	-	-	<0.05	-	<0.05	<0.05	-
2,4,6-trichlorophenol	mg/kg	0.05					-	-	-	<0.05	-	<0.05	<0.05	-
2,4-dichlorophenol	mg/kg	0.03					-	-	-	<0.03	-	<0.03	<0.03	-
2,4-dimethylphenol	mg/kg	1					-	-	-	<1	-	<1	<1	-
2,4-dinitrophenol	mg/kg	5					-	-	-	<5	-	<5	<5	-
2,6-dichlorophenol	mg/kg	0.03					-	-	-	<0.03	-	<0.03	<0.03	-
2,3,4,5 & 2,3,4,6-Tetrachlorophenol	mg/kg	0.05					-	-	-	<0.05	-	<0.05	<0.05	-
2-chlorophenol	mg/kg	0.03					-	-	-	<0.03	-	<0.03	<0.03	-
2-methylphenol	mg/kg	1					-	-	-	<1	-	<1	<1	-
2-nitrophenol	mg/kg	1					-	-	-	<1	-	<1	<1	-
4,6-Dinitro-o-cyclohexyl phenol	mg/kg	5					-	-	-	<5	-	<5	<5	-
4-chloro-3-methylphenol	mg/kg	0.03					-	-	-	<0.03	-	<0.03	<0.03	-
4-nitrophenol	mg/kg	5					-	-	-	<5	-	<5	<5	-
Pentachlorophenol	mg/kg	0.2					-	-	-	<0.2	-	<0.2	<0.2	-
Phenol	mg/kg	1					-	-	-	<1	-	<1	<1	-
Phenols (Total Halogenated)	mg/kg	0.03					-	-	-	-	-	-	-	-
Phenols (Total Non Halogenated)	mg/kg	1					-	-	-	-	-	-	-	-

Appendix J
Table 3
Summary of Soil Analytical Results

	Unit	EQL	EPA Victoria IWRG 621 Category B	EPA Victoria IWRG 621 Category C	EPA Victoria IWRG 621 Clean Fill	EPA Victoria IWRG 621 Trigger for Leachate Testing																
Location Code							NEL-BH079	NEL-BH079	NEL-BH086	NEL-BH087	NEL-BH087	NEL-BH088	NEL-BH088	NEL-BH089	NEL-BH089	NEL-BH100	NEL-BH101	NEL-BH101	NEL-BH106	NEL-BH106	NEL-BH107	NEL-BH107
Depth							0.5 - 0.6	1 - 1.1	0.3 - 0.4	0.2 - 0.3	0.7 - 0.8	0.2 - 0.3	0.6 - 0.7	0.2 - 0.3	0.6 - 0.7	2 - 2.1	0.5 - 0.6	1 - 1.1	2 - 2.1	3 - 3.1	0.7 - 0.8	2 - 2.1
Date							10/07/2018	10/07/2018	2/11/2017	21/11/2017	21/11/2017	21/11/2017	21/11/2017	21/11/2017	21/11/2017	23/01/2018	14/06/2018	14/06/2018	12/01/2018	12/01/2018	10/01/2018	11/01/2018
Field ID							NEL-BH079_0.5m	NEL-BH079_1.0m	NEL-BH086_0.3m	NEL-BH087_0.2m	NEL-BH087_0.7m	NEL-BH088_0.2m	NEL-BH088_0.6m	NEL-BH089_0.2m	NEL-BH089_0.6m	NEL_BH100_2.0m	NEL-BH101_0.5	NEL-BH101_1.0	NEL-BH106_2.0m	NEL-BH106_3.0m	NEL-BH107_0.7m	NEL-BH107_2.0m
Sample Type							Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
Lab Report Number							EM1811072	EM1811072	EM1716457	EM1715998	EM1715998	EM1715998	EM1715998	EM1715998	EM1715998	EM1801849	EM1809614	EM1809614	EM1801198	EM1801198	EM1801198	EM1801198
VOCs																						
TCE	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Tetrachloroethene	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
trans-1,2-dichloroethene	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
SVOCs																						
4,6-Dinitro-2-methylphenol	mg/kg	5					<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
OC Pesticides																						
Other organochlorine pesticides - Lab Calc	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	-	<0.03	<0.03	-	-	-	-
Organochlorine pesticides EPAVic	mg/kg	0.03			1		<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Other organochlorine pesticides EPAVic	mg/kg	0.03	50	10			-	-	-	-	-	-	-	-	-	<0.03	-	-	<0.03	<0.03	<0.03	<0.03
4,4-DDE	mg/kg	0.05					<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
a-BHC	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Aldrin	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Aldrin + Dieldrin	mg/kg	0.03	4.8	1.2		0.6	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
b-BHC	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Chlordane	mg/kg	0.03	16	4		2	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Chlordane (cis)	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Chlordane (trans)	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
d-BHC	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
4,4 DDD	mg/kg	0.05					<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
4,4 DDT	mg/kg	0.05					<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
DDT+DDE+DDD - Lab Calc	mg/kg	0.05	50	50		40	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dieldrin	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Endosulfan I	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Endosulfan II	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Endosulfan Sulfate	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Endrin	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Endrin aldehyde	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
g-BHC (Lindane)	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Heptachlor	mg/kg	0.03	4.8	1.2		0.6	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Heptachlor epoxide	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Hexachlorobenzene	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Methoxychlor	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
MAH																						
MAH (Sum of Total)	mg/kg	0.2					<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-	<0.2	<0.2	-	-	-	-
Styrene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total MAH□	mg/kg	0.2					-	-	-	-	-	-	-	-	-	<0.2	-	-	<0.2	<0.2	<0.2	<0.2
PCBs																						
PCBs (Total)	mg/kg	0.1	0	0	2		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Herbicides																						
Dinoseb	mg/kg	5					<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Chlorinated Hydrocarbons																						
Chlorinated hydrocarbons EPAVic	mg/kg	0.01			1		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Other chlorinated hydrocarbons (Total)	mg/kg	0.01	50	10			<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
1,1,1,2-tetrachloroethane	mg/kg	0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
1,1,1-trichloroethane	mg/kg	0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
1,1,2,2-tetrachloroethane	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
1,1,2-trichloroethane	mg/kg	0.04					<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
1,1-dichloroethene	mg/kg	0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
1,2,4-trichlorobenzene	mg/kg	0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
1,2-dichlorobenzene	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
1,2-dichloroethane	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
1,4-dichlorobenzene	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Carbon tetrachloride	mg/kg	0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chlorobenzene	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Chloroform	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
cis-1,2-dichloroethene	mg/kg	0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Dichloromethane	mg/kg	0.4					<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Hexachlorobutadiene	mg/kg	0.02	11	2.8		1.4	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Vinyl chloride	mg/kg	0.02	4.8	1.2		0.6	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Asbestos																						
Asbestos Detected	g	0.1					-	-	No	No	No	No	No	No	No	No	-	-	No	No	No	No
Asbestos (Trace)	Fibres	5					-	-	No	No	No	No	No	No	No	No	-	-	No	No	No	No
Asbestos Type	-						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
weight of sample	g	0.01					-	-	20.4	20.7	21.7	17.3	20.9	30.3	28.4	38.6	-	-	43.8	42.1	39.7	41.9

Comments

- No asbestos found, at the reporting limit of 0.1 g/kg, by polarised light microscopy including dispersion staining. Asbestos material was detected and positively identified at concentrations estimated to be below 0.1 g/kg.

Appendix J
Table 3
Summary of Soil Analytical Results

Location Code	Unit	EQL	EPA Victoria IWRG 621 Category B	EPA Victoria IWRG 621 Category C	EPA Victoria IWRG 621 Clean Fill	EPA Victoria IWRG 621 Trigger for Leachate Testing	NEL-BH108	NEL-BH108	NEL-BH108	NEL-BH109	NEL-BH109	NEL-BH110	NEL-BH110	NEL-BH110	NEL-BH110	NEL-BH118	NEL-BH118	NEL-BH118	NEL-BH119	NEL-BH119	NEL-BH119	NEL-BH120
Depth							0.2 - 0.3	0.7 - 0.8	1.2 - 1.3	0.2 - 0.3	1.1 - 1.2	0.1 - 0.2	0.5 - 0.6	1 - 1.1	1.5 - 1.6	0.5 - 0.5	0.8 - 0.8	3.5 - 3.5	1 - 1	1.8 - 1.8	2.5 - 2.5	0.2 - 0.3
Date							19/02/2018	19/02/2018	19/02/2018	5/03/2018	5/03/2018	13/03/2018	13/03/2018	13/03/2018	13/03/2018	12/09/2018	12/09/2018	12/09/2018	7/09/2018	7/09/2018	7/09/2018	5/07/2018
Field ID							NEL-BH108_0.2m	NEL-BH108_0.7m	NEL-BH108_1.2m	NEL-BH109_0.2m	NEL-BH109_1.1m	NEL-BH110_0.1m	NEL-BH110_0.5m	NEL-BH110_1.0m	NEL-BH110_1.5m	NEL-BH118_0.5	NEL-BH118_0.8	NEL-BH118_3.5	NEL-BH119_1.0	NEL-BH119_1.8	NEL-BH119_2.5	NEL-BH120_0.2m
Sample Type							Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
Lab Report Number							EM1803248	EM1803248	EM1803248	EM1804004	EM1804004	EM1804502	EM1804502	EM1804502	EM1804502	EM1814744	EM1814744	EM1814744	EM1814388	EM1814388	EM1814388	EM1810873
VOCs																						
TCE	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Tetrachloroethene	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
trans-1,2-dichloroethene	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
SVOCs																						
4,6-Dinitro-2-methylphenol	mg/kg	5					<5	<5	<5	<5	<5	<5	<5	<5	<5	<6	<5	<5	<5	<5	<5	<5
OC Pesticides																						
Other organochlorine pesticides - Lab Calc	mg/kg	0.03					-	-	-	-	-	-	-	-	-	<0.14	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Organochlorine pesticides EPAVic	mg/kg	0.03			1		<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.14	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Other organochlorine pesticides EPAVic	mg/kg	0.03	50	10			<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	-	-	-	-	-	-	-
4,4-DDE	mg/kg	0.05					<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.14	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
a-BHC	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.14	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Aldrin	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.14	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Aldrin + Dieldrin	mg/kg	0.03	4.8	1.2		0.6	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.14	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
b-BHC	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.14	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Chlordane	mg/kg	0.03	16	4		2	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.14	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Chlordane (cis)	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.14	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Chlordane (trans)	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.14	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
d-BHC	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.14	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
4,4 DDD	mg/kg	0.05					<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.14	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
4,4 DDT	mg/kg	0.05					<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.14	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
DDT+DDE+DDD - Lab Calc	mg/kg	0.05	50	50		40	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.14	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dieldrin	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.14	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Endosulfan I	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.14	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Endosulfan II	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.14	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Endosulfan Sulfate	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.14	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Endrin	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.14	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Endrin aldehyde	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.14	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
g-BHC (Lindane)	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.14	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Heptachlor	mg/kg	0.03	4.8	1.2		0.6	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.14	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Heptachlor epoxide	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.14	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Hexachlorobenzene	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.14	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Methoxychlor	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.14	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
MAH																						
MAH (Sum of Total)	mg/kg	0.2					-	-	-	-	-	-	-	-	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Styrene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total MAH☐	mg/kg	0.2					<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-	-	-	-	-	-	-
PCBs																						
PCBs (Total)	mg/kg	0.1	0	0	2		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Herbicides																						
Dinoseb	mg/kg	5					<5	<5	<5	<5	<5	<5	<5	<5	<5	<6	<5	<5	<5	<5	<5	<5
Chlorinated Hydrocarbons																						
Chlorinated hydrocarbons EPAVic	mg/kg	0.01			1		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Other chlorinated hydrocarbons (Total)	mg/kg	0.01	50	10			<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
1,1,1,2-tetrachloroethane	mg/kg	0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
1,1,1-trichloroethane	mg/kg	0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
1,1,2,2-tetrachloroethane	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
1,1,2-trichloroethane	mg/kg	0.04					<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
1,1-dichloroethene	mg/kg	0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
1,2,4-trichlorobenzene	mg/kg	0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
1,2-dichlorobenzene	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
1,2-dichloroethane	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
1,4-dichlorobenzene	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Carbon tetrachloride	mg/kg	0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chlorobenzene	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Chloroform	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
cis-1,2-dichloroethene	mg/kg	0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Dichloromethane	mg/kg	0.4					<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Hexachlorobutadiene	mg/kg	0.02	11	2.8		1.4	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Vinyl chloride	mg/kg	0.02	4.8	1.2		0.6	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Asbestos																						
Asbestos Detected	g	0.1					No	No	No	-	-	-	-	-	-	-	No	-	-	Yes	-	-
Asbestos (Trace)	Fibres	5					No	No	No	-	-	-	-	-	-	-	No	-	-	No	-	-
Asbestos Type	-						-	-	-	-	-	-	-	-	-	-	-	-	-	Ch + Am + Cr	-	-
weight of sample	g	0.01					35.2	35.1	37.7	-	-	-	-	-	-	-	51.1	-	-	31.6	-	-

Comments

- No asbestos found, at the reporting limit of 0.1 g/kg, by polarised light microscopy including dispersion staining. Asbestos material was detected and positively identified at cc

Appendix J
Table 3
Summary of Soil Analytical Results

Location Code							NEL-BH120	NEL-BH123	NEL-BH124	NEL-BH124	NEL-BH124	NEL-BH124	NEL-BH125	NEL-BH125	NEL-BH125	NEL-BH125	NEL-BH125	NEL-BH125	NEL-BH125	NEL-BH125	NEL-BH125	NEL-BH125	NEL-BH125
Depth							1 - 1.1	0.1 - 0.2	0.1 - 0.2	0.5 - 0.6	1.1 - 1.2	1.5 - 1.6	0.4 - 0.5	0.4 - 0.5	0.75 - 0.85	0.75 - 0.85	1 - 1.1	1 - 1.1	1.5 - 1.6	1.5 - 1.6	3 - 3.1	3 - 3.1	4.5 - 4.6
Date							5/07/2018	22/02/2018	13/03/2018	13/03/2018	13/03/2018	13/03/2018	17/01/2018	17/01/2018	17/01/2018	17/01/2018	17/01/2018	17/01/2018	17/01/2018	17/01/2018	23/01/2018	23/01/2018	23/01/2018
Field ID							NEL-BH120_1.0m	NEL-BH123_0.1m	NEL-BH124_0.1m	NEL-BH124_0.5m	NEL-BH124_1.1m	NEL-BH124_1.5m	NEL-BH125_0.4m	NEL-BH125_0.4	NEL-BH125_0.75m	NEL-BH125_0.75	NEL-BH125_1.0m	NEL-BH125_1.0	NEL-BH125_1.5m	NEL-BH125_1.5	NEL_BH125_3.0m	NEL-BH125_3.0	NEL_BH125_4.5m
Sample Type							Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
Lab Report Number							EM1810873	EM1803587	EM1804502	EM1804502	EM1804502	EM1804502	EM1801471	EM1803435	EM1801471	EM1803435	EM1801471	EM1803435	EM1801471	EM1803435	EM1801849	EM1803435	EM1801849
	Unit	EQL	EPA Victoria IWRG 621 Category B	EPA Victoria IWRG 621 Category C	EPA Victoria IWRG 621 Clean Fill	EPA Victoria IWRG 621 Trigger for Leachate Testing																	
VOCs																							
TCE	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	-	<0.02	-	<0.02	-	<0.02	-	<0.02	-	<0.02
Tetrachloroethene	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	-	<0.02	-	0.11	-	<0.02	-	<0.02	-	<0.02
trans-1,2-dichloroethene	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	-	<0.02	-	<0.02	-	<0.02	-	<0.02	-	<0.02
SVOCs																							
4,6-Dinitro-2-methylphenol	mg/kg	5					<5	<5	<5	<5	<5	<5	<5	-	<5	-	<5	-	<5	-	<5	-	<5
OC Pesticides																							
Other organochlorine pesticides - Lab Calc	mg/kg	0.03					<0.03	<0.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Organochlorine pesticides EPAVic	mg/kg	0.03			1		<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	-	<0.03	-	<0.03	-	<0.03	-	<0.03	-	<0.03
Other organochlorine pesticides EPAVic	mg/kg	0.03	50	10			-	-	<0.03	<0.03	<0.03	<0.03	<0.03	-	<0.03	-	<0.03	-	<0.03	-	<0.03	-	<0.03
4,4-DDE	mg/kg	0.05					<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.05	-	<0.05	-	<0.05	-	<0.05	-	<0.05
a-BHC	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	-	<0.03	-	<0.03	-	<0.03	-	<0.03	-	<0.03
Aldrin	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	-	<0.03	-	<0.03	-	<0.03	-	<0.03	-	<0.03
Aldrin + Dieldrin	mg/kg	0.03	4.8	1.2		0.6	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	-	<0.03	-	<0.03	-	<0.03	-	<0.03	-	<0.03
b-BHC	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	-	<0.03	-	<0.03	-	<0.03	-	<0.03	-	<0.03
Chlordane	mg/kg	0.03	16	4		2	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	-	<0.03	-	<0.03	-	<0.03	-	<0.03	-	<0.03
Chlordane (cis)	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	-	<0.03	-	<0.03	-	<0.03	-	<0.03	-	<0.03
Chlordane (trans)	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	-	<0.03	-	<0.03	-	<0.03	-	<0.03	-	<0.03
d-BHC	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	-	<0.03	-	<0.03	-	<0.03	-	<0.03	-	<0.03
4,4 DDD	mg/kg	0.05					<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.05	-	<0.05	-	<0.05	-	<0.05	-	<0.05
4,4 DDT	mg/kg	0.05					<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.05	-	<0.05	-	<0.05	-	<0.05	-	<0.05
DDT+DDE+DDD - Lab Calc	mg/kg	0.05	50	50		40	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.05	-	<0.05	-	<0.05	-	<0.05	-	<0.05
Dieldrin	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	-	<0.03	-	<0.03	-	<0.03	-	<0.03	-	<0.03
Endosulfan I	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	-	<0.03	-	<0.03	-	<0.03	-	<0.03	-	<0.03
Endosulfan II	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	-	<0.03	-	<0.03	-	<0.03	-	<0.03	-	<0.03
Endosulfan Sulfate	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	-	<0.03	-	<0.03	-	<0.03	-	<0.03	-	<0.03
Endrin	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	-	<0.03	-	<0.03	-	<0.03	-	<0.03	-	<0.03
Endrin aldehyde	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	-	<0.03	-	<0.03	-	<0.03	-	<0.03	-	<0.03
g-BHC (Lindane)	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	-	<0.03	-	<0.03	-	<0.03	-	<0.03	-	<0.03
Heptachlor	mg/kg	0.03	4.8	1.2		0.6	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	-	<0.03	-	<0.03	-	<0.03	-	<0.03	-	<0.03
Heptachlor epoxide	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	-	<0.03	-	<0.03	-	<0.03	-	<0.03	-	<0.03
Hexachlorobenzene	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	-	<0.03	-	<0.03	-	<0.03	-	<0.03	-	<0.03
Methoxychlor	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	-	<0.03	-	<0.03	-	<0.03	-	<0.03	-	<0.03
MAH																							
MAH (Sum of Total)	mg/kg	0.2					<0.2	<0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Styrene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5
Total MAH☐	mg/kg	0.2					-	-	<0.2	<0.2	<0.2	<0.2	<0.2	-	<0.2	-	<0.2	-	<0.2	-	<0.2	-	<0.2
PCBs																							
PCBs (Total)	mg/kg	0.1	0	0	2		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	-	<0.1	-	<0.1	-	<0.1	-	<0.1
Herbicides																							
Dinoseb	mg/kg	5					<5	<5	<5	<5	<5	<5	<5	-	<5	-	<5	-	<5	-	<5	-	<5
Chlorinated Hydrocarbons																							
Chlorinated hydrocarbons EPAVic	mg/kg	0.01			1		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	0.11	-	<0.01	-	<0.01	-	<0.01
Other chlorinated hydrocarbons (Total)	mg/kg	0.01	50	10			<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	0.11	-	<0.01	-	<0.01	-	<0.01
1,1,1,2-tetrachloroethane	mg/kg	0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	<0.01	-	<0.01	-	<0.01	-	<0.01
1,1,1-trichloroethane	mg/kg	0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	<0.01	-	<0.01	-	<0.01	-	<0.01
1,1,2,2-tetrachloroethane	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	-	<0.02	-	<0.02	-	<0.02	-	<0.02	-	<0.02
1,1,2-trichloroethane	mg/kg	0.04					<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	-	<0.04	-	<0.04	-	<0.04	-	<0.04	-	<0.04
1,1-dichloroethene	mg/kg	0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	<0.01	-	<0.01	-	<0.01	-	<0.01
1,2,4-trichlorobenzene	mg/kg	0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	<0.01	-	<0.01	-	<0.01	-	<0.01
1,2-dichlorobenzene	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	-	<0.02	-	<0.02	-	<0.02	-	<0.02	-	<0.02
1,2-dichloroethane	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	-	<0.02	-	<0.02	-	<0.02	-	<0.02	-	<0.02
1,4-dichlorobenzene	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	-	<0.02	-	<0.02	-	<0.02	-	<0.02	-	<0.02
Carbon tetrachloride	mg/kg	0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	<0.01	-	<0.01	-	<0.01	-	<0.01
Chlorobenzene	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	-	<0.02	-	<0.02	-	<0.02	-	<0.02	-	<0.02
Chloroform	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	-	<0.02	-	<0.02	-	<0.02	-	<0.02	-	<0.02
cis-1,2-dichloroethene	mg/kg	0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	<0.01	-	<0.01	-	<0.01	-	<0.01
Dichloromethane	mg/kg	0.4					<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	-	<0.4	-	<0.4	-	<0.4	-	<0.4	-	<0.4
Hexachlorobutadiene	mg/kg	0.02	11	2.8		1.4	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	-	<0.02	-	<0.02	-	<0.02	-	<0.02	-	<0.02
Vinyl chloride	mg/kg	0.02	4.8	1.2		0.6	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	-	<0.02	-	<0.02	-	<0.02	-	<0.02	-	<0.02
Asbestos																							
Asbestos Detected	g	0.1					-	-	-	-	-	-	No	-	No	-	No	-	No*	-	No	-	No
Asbestos (Trace)	Fibres	5					-	-	-	-	-	-	No	-	No	-	No	-	No	-	No	-	No
Asbestos Type	-						-	-	-	-	-	-	-	-	-	-	-	-	Ch + Am + Cr	-	-	-	-
weight of sample	g	0.01					-	-	-	-	-	-	192	-	49.9	-	101	-	163	-	83.5	-	104

Comments

* No asbestos found, at the reporting limit of 0.1 g/kg, by polarised light microscopy including dispersion staining. Asbestos material was detected and positively identified at cc

						Location Code	NEL-BH126	NEL-BH126	NEL-BH126	NEL-BH126	NEL-BH126	NEL-BH126	NEL-BH126	NEL-BH127	NEL-BH127	NEL-BH127	NEL-BH127	NEL-BH127	NEL-BH127	NEL-BH127	NEL-BH128	NEL-BH128A	NEL-BH128A
						Depth	0.3 - 0.4	0.3 - 0.4	0.7 - 0.8	1 - 1.1	1.5 - 1.6	2 - 2.1	3 - 3.1	0.25 - 0.35	0.6 - 0.7	1.05 - 1.15	1.5 - 1.6	2 - 2.1	2.5 - 2.6	3 - 3.1	0.5 - 0.6	0.23 - 0.33	0.23 - 0.33
						Date	17/01/2018	17/01/2018	17/01/2018	17/01/2018	17/01/2018	31/01/2018	31/01/2018	30/01/2018	30/01/2018	30/01/2018	30/01/2018	31/01/2018	31/01/2018	31/01/2018	15/01/2018	30/01/2018	30/01/2018
						Field ID	NEL-BH126_0.3m	NEL-BH126_0.3	NEL-BH126_0.7m	NEL-BH126_1.0m	NEL-BH126_1.5m	NEL-BH126_2.0	NEL-BH126_3.0	NEL-BH127_0.25m	NEL-BH127_0.6m	NEL-BH127_1.05m	NEL-BH127_1.50m	NEL-BH127_2.0m	NEL-BH127_2.5m	NEL-BH127_3.0m	NEL-BH128_0.5m	NEL-BH128A_0.23	NEL-BH128A_0.23m
						Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
						Lab Report Number	EM1801471	EM1803435	EM1801471	EM1801471	EM1801471	EM1802245	EM1802245	EM1802245	EM1802245	EM1802245	EM1802245	EM1802245	EM1802245	EM1802245	EM1801471	EM1803435	EM1802245
	Unit	EQL	EPA Victoria IWRG 621 Category B	EPA Victoria IWRG 621 Category C	EPA Victoria IWRG 621 Clean Fill	EPA Victoria IWRG 621 Trigger for Leachate Testing																	
VOCs																							
TCE	mg/kg	0.02					<0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	-	<0.02
Tetrachloroethene	mg/kg	0.02					<0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	-	<0.02
trans-1,2-dichloroethene	mg/kg	0.02					<0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	-	<0.02
SVOCs																							
4,6-Dinitro-2-methylphenol	mg/kg	5					<5	-	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	-	<5
OC Pesticides																							
Other organochlorine pesticides - Lab Calc	mg/kg	0.03					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Organochlorine pesticides EPAVic	mg/kg	0.03			1		<0.03	-	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	-	<0.03
Other organochlorine pesticides EPAVic	mg/kg	0.03	50	10			<0.03	-	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	-	<0.03
4,4-DDE	mg/kg	0.05					<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.05
a-BHC	mg/kg	0.03					<0.03	-	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	-	<0.03
Aldrin	mg/kg	0.03					<0.03	-	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	-	<0.03
Aldrin + Dieldrin	mg/kg	0.03	4.8	1.2		0.6	<0.03	-	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	-	<0.03
b-BHC	mg/kg	0.03					<0.03	-	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	-	<0.03
Chlordane	mg/kg	0.03	16	4		2	<0.03	-	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	-	<0.03
Chlordane (cis)	mg/kg	0.03					<0.03	-	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	-	<0.03
Chlordane (trans)	mg/kg	0.03					<0.03	-	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	-	<0.03
d-BHC	mg/kg	0.03					<0.03	-	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	-	<0.03
4,4 DDD	mg/kg	0.05					<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.05
4,4 DDT	mg/kg	0.05					<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.05
DDT+DDE+DDD - Lab Calc	mg/kg	0.05	50	50		40	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.05
Dieldrin	mg/kg	0.03					<0.03	-	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	-	<0.03
Endosulfan I	mg/kg	0.03					<0.03	-	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	-	<0.03
Endosulfan II	mg/kg	0.03					<0.03	-	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	-	<0.03
Endosulfan Sulfate	mg/kg	0.03					<0.03	-	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	-	<0.03
Endrin	mg/kg	0.03					<0.03	-	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	-	<0.03
Endrin aldehyde	mg/kg	0.03					<0.03	-	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	-	<0.03
g-BHC (Lindane)	mg/kg	0.03					<0.03	-	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	-	<0.03
Heptachlor	mg/kg	0.03	4.8	1.2		0.6	<0.03	-	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	-	<0.03
Heptachlor epoxide	mg/kg	0.03					<0.03	-	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	-	<0.03
Hexachlorobenzene	mg/kg	0.03					<0.03	-	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	-	<0.03
Methoxychlor	mg/kg	0.03					<0.03	-	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	-	<0.03
MAH																							
MAH (Sum of Total)	mg/kg	0.2					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Styrene	mg/kg	0.5					<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5
Total MAH	mg/kg	0.2					<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-	<0.2
PCBs																							
PCBs (Total)	mg/kg	0.1	0	0	2		<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1
Herbicides																							
Dinoseb	mg/kg	5					<5	-	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	-	<5
Chlorinated Hydrocarbons																							
Chlorinated hydrocarbons EPAVic	mg/kg	0.01			1		<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01
Other chlorinated hydrocarbons (Total)	mg/kg	0.01	50	10			<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01
1,1,1,2-tetrachloroethane	mg/kg	0.01					<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01
1,1,1-trichloroethane	mg/kg	0.01					<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01
1,1,2,2-tetrachloroethane	mg/kg	0.02					<0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	-	<0.02
1,1,2-trichloroethane	mg/kg	0.04					<0.04	-	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	-	<0.04
1,1-dichloroethene	mg/kg	0.01					<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01
1,2,4-trichlorobenzene	mg/kg	0.01					<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01
1,2-dichlorobenzene	mg/kg	0.02					<0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	-	<0.02
1,2-dichloroethane	mg/kg	0.02					<0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	-	<0.02
1,4-dichlorobenzene	mg/kg	0.02					<0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	-	<0.02
Carbon tetrachloride	mg/kg	0.01					<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01
Chlorobenzene	mg/kg	0.02					<0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	-	<0.02
Chloroform	mg/kg	0.02					<0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	-	<0.02
cis-1,2-dichloroethene	mg/kg	0.01					<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01
Dichloromethane	mg/kg	0.4					<0.4	-	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	-	<0.4
Hexachlorobutadiene	mg/kg	0.02	11	2.8		1.4	<0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	-	<0.02
Vinyl chloride	mg/kg	0.02	4.8	1.2		0.6	<0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	-	<0.02
Asbestos																							
Asbestos Detected	g	0.1					No	-	No	No	No	No	No	No	No	No	No	No	No	No	No	-	No
Asbestos (Trace)	Fibres	5					No	-	No	No	No	No	No	No	No	No	No	No	No	No	No	-	No
Asbestos Type	-						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
weight of sample	g	0.01					166	-	126	84.5	144	43.6	44.0	10.6	21.8	27.5	12.6	45.4	45.4	46.2	103	-	24.1

Comments

* No asbestos found, at the reporting limit of 0.1 g/kg, by polarised light microscopy including dispersion staining. Asbestos material was detected and positively identified at cc

Appendix J
Table 3
Summary of Soil Analytical Results

	Unit	EQL	EPA Victoria IWRG 621 Category B	EPA Victoria IWRG 621 Category C	EPA Victoria IWRG 621 Clean Fill	EPA Victoria IWRG 621 Trigger for Leachate Testing								
						Location Code	NEL-BH128A	NEL-BH128A	NEL-BH128A	NEL-BH128A	NEL-BH131	NEL-BH131	NEL-BH132	NEL-BH132
						Depth	0.45 - 0.55	0.9 - 1	1.2 - 1.3	1.2 - 1.3	0.1 - 0.2	0.5 - 0.6	0.1 - 0.2	1 - 1.1
						Date	30/01/2018	30/01/2018	30/01/2018	30/01/2018	20/03/2018	20/03/2018	20/03/2018	20/03/2018
						Field ID	NEL-BH128A_0.45m	NEL-BH128A_0.9m	NEL-BH128A_1.2m	NEL-BH128A_1.2	NEL-BH131_0.1m	NEL-BH131_0.5m	NEL-BH132_0.1m	NEL-BH132_1.0m
						Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
						Lab Report Number	EM1802245	EM1802245	EM1802245	EM1803435	EM1805002	EM1805002	EM1805002	EM1805002
VOCs														
TCE	mg/kg	0.02					<0.02	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02
Tetrachloroethene	mg/kg	0.02					<0.02	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02
trans-1,2-dichloroethene	mg/kg	0.02					<0.02	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02
SVOCs														
4,6-Dinitro-2-methylphenol	mg/kg	5					<5	<5	<5	-	<5	<5	<5	<5
OC Pesticides														
Other organochlorine pesticides - Lab Calc	mg/kg	0.03					-	-	-	-	-	-	-	-
Organochlorine pesticides EPAVic	mg/kg	0.03			1		<0.03	<0.03	0.60	-	<0.03	<0.03	<0.03	<0.03
Other organochlorine pesticides EPAVic	mg/kg	0.03	50	10			<0.03	<0.03	<0.03	-	<0.03	<0.03	<0.03	<0.03
4,4-DDE	mg/kg	0.05					<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05
a-BHC	mg/kg	0.03					<0.03	<0.03	<0.03	-	<0.03	<0.03	<0.03	<0.03
Aldrin	mg/kg	0.03					<0.03	<0.03	<0.03	-	<0.03	<0.03	<0.03	<0.03
Aldrin + Dieldrin	mg/kg	0.03	4.8	1.2		0.6	<0.03	<0.03	<0.03	-	<0.03	<0.03	<0.03	<0.03
b-BHC	mg/kg	0.03					<0.03	<0.03	<0.03	-	<0.03	<0.03	<0.03	<0.03
Chlordane	mg/kg	0.03	16	4		2	<0.03	<0.03	<0.03	-	<0.03	<0.03	<0.03	<0.03
Chlordane (cis)	mg/kg	0.03					<0.03	<0.03	<0.03	-	<0.03	<0.03	<0.03	<0.03
Chlordane (trans)	mg/kg	0.03					<0.03	<0.03	<0.03	-	<0.03	<0.03	<0.03	<0.03
d-BHC	mg/kg	0.03					<0.03	<0.03	<0.03	-	<0.03	<0.03	<0.03	<0.03
4,4 DDD	mg/kg	0.05					<0.05	<0.05	0.60	-	<0.05	<0.05	<0.05	<0.05
4,4 DDT	mg/kg	0.05					<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05
DDT+DDE+DDD - Lab Calc	mg/kg	0.05	50	50		40	<0.05	<0.05	0.60	-	<0.05	<0.05	<0.05	<0.05
Dieldrin	mg/kg	0.03					<0.03	<0.03	<0.03	-	<0.03	<0.03	<0.03	<0.03
Endosulfan I	mg/kg	0.03					<0.03	<0.03	<0.03	-	<0.03	<0.03	<0.03	<0.03
Endosulfan II	mg/kg	0.03					<0.03	<0.03	<0.03	-	<0.03	<0.03	<0.03	<0.03
Endosulfan Sulfate	mg/kg	0.03					<0.03	<0.03	<0.03	-	<0.03	<0.03	<0.03	<0.03
Endrin	mg/kg	0.03					<0.03	<0.03	<0.03	-	<0.03	<0.03	<0.03	<0.03
Endrin aldehyde	mg/kg	0.03					<0.03	<0.03	<0.03	-	<0.03	<0.03	<0.03	<0.03
g-BHC (Lindane)	mg/kg	0.03					<0.03	<0.03	<0.03	-	<0.03	<0.03	<0.03	<0.03
Heptachlor	mg/kg	0.03	4.8	1.2		0.6	<0.03	<0.03	<0.03	-	<0.03	<0.03	<0.03	<0.03
Heptachlor epoxide	mg/kg	0.03					<0.03	<0.03	<0.03	-	<0.03	<0.03	<0.03	<0.03
Hexachlorobenzene	mg/kg	0.03					<0.03	<0.03	<0.03	-	<0.03	<0.03	<0.03	<0.03
Methoxychlor	mg/kg	0.03					<0.03	<0.03	<0.03	-	<0.03	<0.03	<0.03	<0.03
MAH														
MAH (Sum of Total)	mg/kg	0.2					-	-	-	-	-	-	-	-
Styrene	mg/kg	0.5					<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5
Total MAH☐	mg/kg	0.2					<0.2	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2
PCBs														
PCBs (Total)	mg/kg	0.1	0	0	2		<0.1	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1
Herbicides														
Dinoseb	mg/kg	5					<5	<5	<5	-	<5	<5	<5	<5
Chlorinated Hydrocarbons														
Chlorinated hydrocarbons EPAVic	mg/kg	0.01			1		<0.01	<0.01	<0.01	-	<0.01	<0.01	<0.01	<0.01
Other chlorinated hydrocarbons (Total)	mg/kg	0.01	50	10			<0.01	<0.01	<0.01	-	<0.01	<0.01	<0.01	<0.01
1,1,1,2-tetrachloroethane	mg/kg	0.01					<0.01	<0.01	<0.01	-	<0.01	<0.01	<0.01	<0.01
1,1,1-trichloroethane	mg/kg	0.01					<0.01	<0.01	<0.01	-	<0.01	<0.01	<0.01	<0.01
1,1,2,2-tetrachloroethane	mg/kg	0.02					<0.02	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02
1,1,2-trichloroethane	mg/kg	0.04					<0.04	<0.04	<0.04	-	<0.04	<0.04	<0.04	<0.04
1,1-dichloroethene	mg/kg	0.01					<0.01	<0.01	<0.01	-	<0.01	<0.01	<0.01	<0.01
1,2,4-trichlorobenzene	mg/kg	0.01					<0.01	<0.01	<0.01	-	<0.01	<0.01	<0.01	<0.01
1,2-dichlorobenzene	mg/kg	0.02					<0.02	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02
1,2-dichloroethane	mg/kg	0.02					<0.02	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02
1,4-dichlorobenzene	mg/kg	0.02					<0.02	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02
Carbon tetrachloride	mg/kg	0.01					<0.01	<0.01	<0.01	-	<0.01	<0.01	<0.01	<0.01
Chlorobenzene	mg/kg	0.02					<0.02	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02
Chloroform	mg/kg	0.02					<0.02	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02
cis-1,2-dichloroethene	mg/kg	0.01					<0.01	<0.01	<0.01	-	<0.01	<0.01	<0.01	<0.01
Dichloromethane	mg/kg	0.4					<0.4	<0.4	<0.4	-	<0.4	<0.4	<0.4	<0.4
Hexachlorobutadiene	mg/kg	0.02	11	2.8		1.4	<0.02	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02
Vinyl chloride	mg/kg	0.02	4.8	1.2		0.6	<0.02	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02
Asbestos														
Asbestos Detected	g	0.1					No	No	No	-	-	-	-	-
Asbestos (Trace)	Fibres	5					No	No	No	-	-	-	-	-
Asbestos Type	-						-	-	-	-	-	-	-	-
weight of sample	g	0.01					21.6	29.3	29.8	-	-	-	-	-

	Location Code	NEL-BH133	NEL-BH133	NEL-BH135	NEL-BH135	NEL-BH137	NEL-BH137	NEL-BH137	NEL-BH137	NEL-BH137
	Depth	0.1 - 0.2	1 - 1.1	0.2 - 0.3	1 - 1.1	0.1 - 0.2	0.1 - 0.2	0.1 - 0.2	0.7 - 0.8	1.2 - 1.3
	Date	20/03/2018	20/03/2018	25/06/2018	25/06/2018	22/02/2018	22/02/2018	22/02/2018	22/02/2018	22/02/2018
	Field ID	NEL-BH133_0.1m	NEL-BH133_1.0m	NEL-BH135_0.2m	NEL-BH135_1.0m	NEL-BH137_0.1m	QC1000	QC2000	NEL-BH137_0.7m	NEL-BH137_1.2m
	Sample Type	Normal	Normal	Normal	Normal	Normal	Field_D	Field_D	Normal	Normal
	Lab Report Number	EM1805002	EM1805002	EM1810219	EM1810219	EM1803587	EM1803587	EM1803587	EM1803587	EM1803587
VOCs										
TCE		<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Tetrachloroethene		<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
trans-1,2-dichloroethene		<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
SVOCs										
4,6-Dinitro-2-methylphenol		<5	<5	<5	<5	<5	<5	<5	<5	<5
OC Pesticides										
Other organochlorine pesticides - Lab Calc		-	-	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Organochlorine pesticides EPAVic		<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Other organochlorine pesticides EPAVic		<0.03	<0.03	-	-	-	-	-	-	-
4,4-DDE		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
a-BHC		<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Aldrin		<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Aldrin + Dieldrin		<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
b-BHC		<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Chlordane		<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Chlordane (cis)		<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Chlordane (trans)		<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
d-BHC		<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
4,4 DDD		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
4,4 DDT		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
DDT+DDE+DDD - Lab Calc		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dieldrin		<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Endosulfan I		<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Endosulfan II		<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Endosulfan Sulfate		<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Endrin		<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Endrin aldehyde		<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
g-BHC (Lindane)		<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Heptachlor		<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Heptachlor epoxide		<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Hexachlorobenzene		<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Methoxychlor		<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
MAH										
MAH (Sum of Total)		-	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Styrene		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total MAH☐		<0.2	<0.2	-	-	-	-	-	-	-
PCBs										
PCBs (Total)		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Herbicides										
Dinoseb		<5	<5	<5	<5	<5	<5	<5	<5	<5
Chlorinated Hydrocarbons										
Chlorinated hydrocarbons EPAVic		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Other chlorinated hydrocarbons (Total)		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
1,1,1,2-tetrachloroethane		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
1,1,1-trichloroethane		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
1,1,2,2-tetrachloroethane		<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
1,1,2-trichloroethane		<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
1,1-dichloroethene		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
1,2,4-trichlorobenzene		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
1,2-dichlorobenzene		<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
1,2-dichloroethane		<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
1,4-dichlorobenzene		<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Carbon tetrachloride		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chlorobenzene		<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Chloroform		<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
cis-1,2-dichloroethene		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Dichloromethane		<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Hexachlorobutadiene		<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Vinyl chloride		<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Asbestos										
Asbestos Detected		-	-	-	-	-	-	-	-	-
Asbestos (Trace)		-	-	-	-	-	-	-	-	-
Asbestos Type		-	-	-	-	-	-	-	-	-
weight of sample		-	-	-	-	-	-	-	-	-

Comments

* No asbestos found, at the reporting limit of 0.1 g/kg, by polarised light microscopy including dispersion staining. Asbestos material was detected and positively identified at cc

Appendix J
Table 3
Summary of Soil Analytical Results

Location Code	Unit	EQL	EPA Victoria IWRG 621 Category B	EPA Victoria IWRG 621 Category C	EPA Victoria IWRG 621 Clean Fill	EPA Victoria IWRG 621 Trigger for Leachate Testing	NEL-BH137	NEL-BH138	NEL-BH138	NEL-BH138	NEL-BH140	NEL-BH140	NEL-BH140	NEL-BH140	NEL-BH140	NEL-BH140	NEL-BH141	NEL-BH141	NEL-BH142	NEL-BH142	NEL-BH143	NEL-BH143	NEL-BH144
Depth							1.5 - 1.6	0.35 - 0.45	1 - 1.1	1.5 - 1.6	0.2 - 0.3	0.5 - 0.6	1 - 1.1	4.5 - 4.6	6 - 6.1	7.95 - 8.05	0.2 - 0.3	0.7 - 0.8	0.2 - 0.3	1 - 1.1	0.2 - 0.3	1 - 1.1	0.1 - 0.2
Date							22/02/2018	5/06/2018	5/06/2018	5/06/2018	27/02/2018	27/02/2018	27/02/2018	28/02/2018	28/02/2018	28/02/2018	2/07/2018	2/07/2018	3/07/2018	3/07/2018	4/07/2018	4/07/2018	17/05/2018
Field ID							NEL-BH137_1.5m	NEL-BH138_0.35m	NEL-BH138_1.0m	NEL-BH138_1.5m	NEL-BH140_0.2m	NEL-BH140_0.5m	NEL-BH140_1.0m	NEL-BH140_4.5m	NEL-BH140_6.0m	NEL-BH140_7.95m	NEL-BH141_0.2m	NEL-BH141_0.75m	NEL-BH142_0.2m	NEL-BH142_1.0m	NEL-BH143_0.2m	NEL-BH143_1.0m	NEL-BH144_0.1m
Sample Type							Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
Lab Report Number							EM1803587	EM1809234	EM1809234	EM1809234	EM1803724	EM1803724	EM1803724	EM1803919	EM1803919	EM1803919	EM1810580	EM1810580	EM1810780	EM1810780	EM1810779	EM1810779	EM1808218
VOCs																							
TCE	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Tetrachloroethene	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
trans-1,2-dichloroethene	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
SVOCs																							
4,6-Dinitro-2-methylphenol	mg/kg	5					<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
OC Pesticides																							
Other organochlorine pesticides - Lab Calc	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	-	-	-	-	-	-	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Organochlorine pesticides EPAVic	mg/kg	0.03			1		<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.09	<0.03	<0.03	<0.03	<0.03
Other organochlorine pesticides EPAVic	mg/kg	0.03	50	10			-	-	-	-	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	-	-	-	-	-	-	-
4,4-DDE	mg/kg	0.05					<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.09	<0.05	<0.05	<0.05	<0.05
a-BHC	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Aldrin	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Aldrin + Dieldrin	mg/kg	0.03	4.8	1.2		0.6	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
b-BHC	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Chlordane	mg/kg	0.03	16	4		2	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Chlordane (cis)	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Chlordane (trans)	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
d-BHC	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
4,4 DDD	mg/kg	0.05					<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
4,4 DDT	mg/kg	0.05					<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
DDT+DDE+DDD - Lab Calc	mg/kg	0.05	50	50		40	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.09	<0.05	<0.05	<0.05	<0.05
Dieldrin	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Endosulfan I	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Endosulfan II	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Endosulfan Sulfate	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Endrin	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Endrin aldehyde	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
g-BHC (Lindane)	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Heptachlor	mg/kg	0.03	4.8	1.2		0.6	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Heptachlor epoxide	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Hexachlorobenzene	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Methoxychlor	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
MAH																							
MAH (Sum of Total)	mg/kg	0.2					<0.2	<0.2	<0.2	<0.2	-	-	-	-	-	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Styrene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total MAH□	mg/kg	0.2					-	-	-	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-	-	-	-	-	-	-
PCBs																							
PCBs (Total)	mg/kg	0.1	0	0	2		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Herbicides																							
Dinoseb	mg/kg	5					<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Chlorinated Hydrocarbons																							
Chlorinated hydrocarbons EPAVic	mg/kg	0.01			1		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Other chlorinated hydrocarbons (Total)	mg/kg	0.01	50	10			<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
1,1,1,2-tetrachloroethane	mg/kg	0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
1,1,1-trichloroethane	mg/kg	0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
1,1,2,2-tetrachloroethane	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
1,1,2-trichloroethane	mg/kg	0.04					<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
1,1-dichloroethene	mg/kg	0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
1,2,4-trichlorobenzene	mg/kg	0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
1,2-dichlorobenzene	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
1,2-dichloroethane	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
1,4-dichlorobenzene	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Carbon tetrachloride	mg/kg	0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chlorobenzene	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Chloroform	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
cis-1,2-dichloroethene	mg/kg	0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Dichloromethane	mg/kg	0.4					<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Hexachlorobutadiene	mg/kg	0.02	11	2.8		1.4	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Vinyl chloride	mg/kg	0.02	4.8	1.2		0.6	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Asbestos																							
Asbestos Detected	g	0.1					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Asbestos (Trace)	Fibres	5					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Asbestos Type	-						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
weight of sample	g	0.01					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Comments

* No asbestos found, at the reporting limit of 0.1 g/kg, by polarised light microscopy including dispersion staining. Asbestos material was detected and positively identified at cc

Appendix J
Table 3
Summary of Soil Analytical Results

	Unit	EQL	EPA Victoria IWRG 621 Category B	EPA Victoria IWRG 621 Category C	EPA Victoria IWRG 621 Clean Fill	EPA Victoria IWRG 621 Trigger for Leachate Testing																	
Location Code							NEL-BH144	NEL-BH150	NEL-BH150	NEL-BH151	NEL-BH151	NEL-BH151	NEL-BH151	NEL-BH155	NEL-BH155	NEL-BH156	NEL-BH156	NEL-BH159	NEL-BH159	NEL-BH161	NEL-BH161	NEL-BH162	NEL-BH162
Depth							1 - 1.1	0.1 - 0.2	1 - 1.1	0.1 - 0.2	1 - 1.1	1.5 - 1.6	1.5 - 1.6	0.2 - 0.3	1 - 1.1	0.1 - 0.2	0.5 - 0.6	0.2 - 0.3	1.5 - 1.6	0.2 - 0.3	0.5 - 0.6	0.2 - 0.3	1 - 1.1
Date							17/05/2018	23/03/2018	23/03/2018	23/03/2018	23/03/2018	23/03/2018	23/03/2018	31/05/2018	31/05/2018	24/05/2018	24/05/2018	14/05/2018	14/05/2018	13/06/2018	13/06/2018	6/06/2018	6/06/2018
Field ID							NEL-BH144_1.0m	NEL-BH150_0.1m	NEL-BH150_1.0m	NEL-BH151_0.1m	NEL-BH151_1.0m	NEL-BH151_1.5m	QC1001	NEL-BH155_0.2m	NEL-BH155_1.0m	NEL-BH156_0.1m	NEL-BH156_0.5m	NEL-BH159_0.2m	NEL-BH159_1.5m	NEL-BH161_0.2m	NEL-BH161_0.5m	NEL-BH162_0.2m	NEL-BH162_1.0m
Sample Type							Normal	Normal	Normal	Normal	Normal	Normal	Field_D	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
Lab Report Number							EM1808218	EM1805158	EM1805158	EM1805158	EM1805158	EM1805857	EM1805158	EM1808885	EM1808885	EM1808553	EM1808553	EM1807877	EM1807877	EM1809532	EM1809532	EM1809233	EM1809233
VOCs																							
TCE	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Tetrachloroethene	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
trans-1,2-dichloroethene	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
SVOCs																							
4,6-Dinitro-2-methylphenol	mg/kg	5					<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
OC Pesticides																							
Other organochlorine pesticides - Lab Calc	mg/kg	0.03					<0.03	-	-	-	-	-	-	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Organochlorine pesticides EPAVic	mg/kg	0.03			1		<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Other organochlorine pesticides EPAVic	mg/kg	0.03	50	10			-	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	-	-	-	-	-	-	-	-	-	-
4,4-DDE	mg/kg	0.05					<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
a-BHC	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Aldrin	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Aldrin + Dieldrin	mg/kg	0.03	4.8	1.2		0.6	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
b-BHC	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Chlordane	mg/kg	0.03	16	4		2	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Chlordane (cis)	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Chlordane (trans)	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
d-BHC	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
4,4 DDD	mg/kg	0.05					<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
4,4 DDT	mg/kg	0.05					<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
DDT+DDE+DDD - Lab Calc	mg/kg	0.05	50	50		40	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dieldrin	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Endosulfan I	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Endosulfan II	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Endosulfan Sulfate	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Endrin	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Endrin aldehyde	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
g-BHC (Lindane)	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Heptachlor	mg/kg	0.03	4.8	1.2		0.6	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Heptachlor epoxide	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Hexachlorobenzene	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Methoxychlor	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
MAH																							
MAH (Sum of Total)	mg/kg	0.2					<0.2	-	-	-	-	-	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Styrene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total MAH☐	mg/kg	0.2					-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-	-	-	-	-	-	-	-	-	-
PCBs																							
PCBs (Total)	mg/kg	0.1	0	0	2		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Herbicides																							
Dinoseb	mg/kg	5					<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Chlorinated Hydrocarbons																							
Chlorinated hydrocarbons EPAVic	mg/kg	0.01			1		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Other chlorinated hydrocarbons (Total)	mg/kg	0.01	50	10			<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
1,1,1,2-tetrachloroethane	mg/kg	0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
1,1,1-trichloroethane	mg/kg	0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
1,1,2,2-tetrachloroethane	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
1,1,2-trichloroethane	mg/kg	0.04					<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
1,1-dichloroethene	mg/kg	0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
1,2,4-trichlorobenzene	mg/kg	0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
1,2-dichlorobenzene	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
1,2-dichloroethane	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
1,4-dichlorobenzene	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Carbon tetrachloride	mg/kg	0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chlorobenzene	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Chloroform	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
cis-1,2-dichloroethene	mg/kg	0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Dichloromethane	mg/kg	0.4					<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Hexachlorobutadiene	mg/kg	0.02	11	2.8		1.4	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Vinyl chloride	mg/kg	0.02	4.8	1.2		0.6	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Asbestos																							
Asbestos Detected	g	0.1					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Asbestos (Trace)	Fibres	5					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Asbestos Type	-						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
weight of sample	g	0.01					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Comments

* No asbestos found, at the reporting limit of 0.1 g/kg, by polarised light microscopy including dispersion staining. Asbestos material was detected and positively identified at cc

Appendix J
Table 3
Summary of Soil Analytical Results

						Location Code	NEL-BH163	NEL-BH163	NEL-BH163	NEL-BH164	NEL-BH164	NEL-BH165	NEL-BH165	NEL-BH166	NEL-BH166	NEL-BH167	NEL-BH167	NEL-BH172	NEL-BH174	NEL-BH174	NEL-BH177	NEL-BH177	NEL-BH178
						Depth	0.2 - 0.3	0.2 - 0.3	1 - 1.1	0.2 - 0.3	0.5 - 0.6	0.2 - 0.3	0.5 - 0.6	0.5 - 0.6	1.5 - 1.6	0.2 - 0.3	0.5 - 0.6	0.5 - 0.6	0.5 - 0.6	1.5 - 1.6	0.5 - 0.6	1 - 1.1	0.2 - 0.3
						Date	13/06/2018	13/06/2018	13/06/2018	13/06/2018	13/06/2018	6/06/2018	6/06/2018	3/07/2018	3/07/2018	6/07/2018	6/07/2018	29/06/2018	5/07/2018	5/07/2018	29/06/2018	29/06/2018	5/07/2018
						Field ID	NEL-BH163_0.2m	QC1005	NEL-BH163_1.0m	NEL-BH164_0.2m	NEL-BH164_0.5m	NEL-BH165_0.2m	NEL-BH165_0.5m	NEL-BH166_0.5m	NEL-BH166_1.5m	NEL-BH167_0.2m	NEL-BH167_0.5m	NEL-BH172_0.5m	NEL-BH174_0.5m	NEL-BH174_1.5m	NEL-BH177_0.5m	NEL-BH177_1.0m	NEL-BH178_0.2m
						Sample Type	Normal	Field_D	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
						Lab Report Number	EM1809532	EM1809532	EM1809532	EM1809532	EM1809532	EM1809233	EM1809233	EM1810780	EM1810780	EM1810871	EM1810871	EM1810581	EM1810873	EM1810873	EM1810581	EM1810581	EM1810873
	Unit	EQL	EPA Victoria IWRG 621 Category B	EPA Victoria IWRG 621 Category C	EPA Victoria IWRG 621 Clean Fill	EPA Victoria IWRG 621 Trigger for Leachate Testing																	
VOCs																							
TCE	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Tetrachloroethene	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
trans-1,2-dichloroethene	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
SVOCs																							
4,6-Dinitro-2-methylphenol	mg/kg	5					<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
OC Pesticides																							
Other organochlorine pesticides - Lab Calc	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Organochlorine pesticides EPAVic	mg/kg	0.03			1		<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Other organochlorine pesticides EPAVic	mg/kg	0.03	50	10			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4,4-DDE	mg/kg	0.05					<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
a-BHC	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Aldrin	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Aldrin + Dieldrin	mg/kg	0.03	4.8	1.2		0.6	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
b-BHC	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Chlordane	mg/kg	0.03	16	4		2	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Chlordane (cis)	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Chlordane (trans)	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
d-BHC	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
4,4 DDD	mg/kg	0.05					<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
4,4 DDT	mg/kg	0.05					<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
DDT+DDE+DDD - Lab Calc	mg/kg	0.05	50	50		40	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dieldrin	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Endosulfan I	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Endosulfan II	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Endosulfan Sulfate	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Endrin	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Endrin aldehyde	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
g-BHC (Lindane)	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Heptachlor	mg/kg	0.03	4.8	1.2		0.6	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Heptachlor epoxide	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Hexachlorobenzene	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Methoxychlor	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
MAH																							
MAH (Sum of Total)	mg/kg	0.2					<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Styrene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total MAH☐	mg/kg	0.2					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PCBs																							
PCBs (Total)	mg/kg	0.1	0	0	2		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Herbicides																							
Dinoseb	mg/kg	5					<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Chlorinated Hydrocarbons																							
Chlorinated hydrocarbons EPAVic	mg/kg	0.01			1		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Other chlorinated hydrocarbons (Total)	mg/kg	0.01	50	10			<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
1,1,1,2-tetrachloroethane	mg/kg	0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
1,1,1-trichloroethane	mg/kg	0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
1,1,2,2-tetrachloroethane	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
1,1,2-trichloroethane	mg/kg	0.04					<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
1,1-dichloroethene	mg/kg	0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
1,2,4-trichlorobenzene	mg/kg	0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
1,2-dichlorobenzene	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
1,2-dichloroethane	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
1,4-dichlorobenzene	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Carbon tetrachloride	mg/kg	0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chlorobenzene	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Chloroform	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
cis-1,2-dichloroethene	mg/kg	0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Dichloromethane	mg/kg	0.4					<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Hexachlorobutadiene	mg/kg	0.02	11	2.8		1.4	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Vinyl chloride	mg/kg	0.02	4.8	1.2		0.6	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Asbestos																							
Asbestos Detected	g	0.1					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Asbestos (Trace)	Fibres	5					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Asbestos Type	-						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
weight of sample	g	0.01					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Comments

* No asbestos found, at the reporting limit of 0.1 g/kg, by polarised light microscopy including dispersion staining. Asbestos material was detected and positively identified at cc

Location Code							NEL-BH178	NEL-BH179	NEL-BH179	NEL-BH179	NEL-BH180	NEL-BH180	NEL-BH181	NEL-BH181	NEL-BH182	NEL-BH182	NEL-BH184	NEL-BH184	NEL-BH184	NEL-BH185	NEL-BH185	NEL-BH186	NEL-BH187	NEL-BH187
Depth							1 - 1.1	0.1 - 0.2	1.5 - 1.6	1.5 - 1.6	0.1 - 0.2	1 - 1.1	0.2 - 0.3	1 - 1.1	0.2 - 0.3	1 - 1.1	0.2 - 0.3	0.5 - 0.6	1 - 1.1	0.2 - 0.3	0.9 - 1	0.2 - 0.3	0.2 - 0.3	0.5 - 0.6
Date							5/07/2018	9/04/2018	9/04/2018	9/04/2018	17/05/2018	17/05/2018	16/04/2018	16/04/2018	16/04/2018	16/04/2018	10/07/2018	9/08/2018	9/08/2018	1/06/2018	1/06/2018	1/06/2018	7/05/2018	7/05/2018
Field ID							NEL-BH178_1.0m	NEL-BH179_0.1m	NEL-BH179_1.5m	QC1002	NEL-BH180_0.1m	NEL-BH180_1.0m	NEL-BH181-0.2m	NEL-BH181-1.0m	NEL-BH182-0.2m	NEL-BH182-1.0m	NEL-BH184_0.2m	NEL-BH184_0.5	NEL-BH184_1.0	NEL-BH185_0.2m	NEL-BH185_0.9m	NEL-BH186_0.2m	NEL-BH187_0.2m	NEL-BH187_0.5m
Sample Type							Normal	Normal	Normal	Field_D	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
Lab Report Number							EM1810873	EM1805929	EM1805929	EM1805929	EM1808218	EM1808218	EM1806356	EM1806356	EM1806356	EM1806356	EM1811072	EM1812809	EM1812809	EM1809091	EM1809091	EM1809091	EM1807474	EM1807474
	Unit	EQL	EPA Victoria IWRG 621 Category B	EPA Victoria IWRG 621 Category C	EPA Victoria IWRG 621 Clean Fill	EPA Victoria IWRG 621 Trigger for Leachate Testing																		
VOCs																								
TCE	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Tetrachloroethene	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
trans-1,2-dichloroethene	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
SVOCs																								
4,6-Dinitro-2-methylphenol	mg/kg	5					<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
OC Pesticides																								
Other organochlorine pesticides - Lab Calc	mg/kg	0.03					<0.03	-	-	-	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Organochlorine pesticides EPAVic	mg/kg	0.03			1		<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Other organochlorine pesticides EPAVic	mg/kg	0.03	50	10			-	<0.03	<0.03	<0.03	-	-	<0.03	<0.03	<0.03	<0.03	-	-	-	-	-	-	-	-
4,4-DDE	mg/kg	0.05					<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
a-BHC	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Aldrin	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Aldrin + Dieldrin	mg/kg	0.03	4.8	1.2		0.6	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
b-BHC	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Chlordane	mg/kg	0.03	16	4		2	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Chlordane (cis)	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Chlordane (trans)	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
d-BHC	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
4,4 DDD	mg/kg	0.05					<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
4,4 DDT	mg/kg	0.05					<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
DDT+DDE+DDD - Lab Calc	mg/kg	0.05	50	50		40	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dieldrin	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Endosulfan I	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Endosulfan II	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Endosulfan Sulfate	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Endrin	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Endrin aldehyde	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
g-BHC (Lindane)	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Heptachlor	mg/kg	0.03	4.8	1.2		0.6	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Heptachlor epoxide	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Hexachlorobenzene	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Methoxychlor	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
MAH																								
MAH (Sum of Total)	mg/kg	0.2					<0.2	-	-	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Styrene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total MAH☐	mg/kg	0.2					-	<0.2	<0.2	<0.2	-	-	<0.2	<0.2	<0.2	<0.2	-	-	-	-	-	-	-	-
PCBs																		<0.1	<0.1					
PCBs (Total)	mg/kg	0.1	0	0	2		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1			<0.1	<0.1	<0.1	<0.1	<0.1
Herbicides																		-	-					
Dinoseb	mg/kg	5					<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Chlorinated Hydrocarbons																								
Chlorinated hydrocarbons EPAVic	mg/kg	0.01			1		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Other chlorinated hydrocarbons (Total)	mg/kg	0.01	50	10			<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
1,1,1,2-tetrachloroethane	mg/kg	0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
1,1,1-trichloroethane	mg/kg	0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
1,1,2,2-tetrachloroethane	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
1,1,2-trichloroethane	mg/kg	0.04					<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
1,1-dichloroethene	mg/kg	0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
1,2,4-trichlorobenzene	mg/kg	0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
1,2-dichlorobenzene	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
1,2-dichloroethane	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
1,4-dichlorobenzene	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Carbon tetrachloride	mg/kg	0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chlorobenzene	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Chloroform	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
cis-1,2-dichloroethene	mg/kg	0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Dichloromethane	mg/kg	0.4					<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Hexachlorobutadiene	mg/kg	0.02	11	2.8		1.4	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Vinyl chloride	mg/kg	0.02	4.8	1.2		0.6	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Asbestos																								
Asbestos Detected	g	0.1					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Asbestos (Trace)	Fibres	5					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Asbestos Type	-						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
weight of sample	g	0.01					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Comments

* No asbestos found, at the reporting limit of 0.1 g/kg, by polarised light microscopy including dispersion staining. Asbestos material was detected and positively identified at cc

Appendix J
Table 3
Summary of Soil Analytical Results

	Unit	EQL	EPA Victoria IWRG 621 Category B	EPA Victoria IWRG 621 Category C	EPA Victoria IWRG 621 Clean Fill	EPA Victoria IWRG 621 Trigger for Leachate Testing																		
Location Code							NEL-BH188	NEL-BH188	NEL-BH190	NEL-BH190	NEL-BH191	NEL-BH191	NEL-BH191	NEL-BH192	NEL-BH192	NEL-BH194	NEL-BH194	NEL-BH195	NEL-BH195	NEL-BH200	NEL-BH200	NEL-BH201	NEL-BH201	NEL-BH202
Depth							0.2 - 0.3	1 - 1.1	0.5 - 0.6	1.5 - 1.6	0.5 - 0.6	1 - 1.1	1 - 1.1	0.2 - 0.6	1 - 1.1	0.2 - 0.3	1 - 1.1	0.5 - 0.6	1 - 1.1	0.5 - 0.6	1 - 1.1	0.5 - 0.6	1 - 1.1	0.2 - 0.3
Date							7/05/2018	7/05/2018	16/07/2018	16/07/2018	12/05/2018	12/05/2018	12/05/2018	18/07/2018	18/07/2018	24/05/2018	24/05/2018	10/07/2018	10/07/2018	20/06/2018	20/06/2018	22/06/2018	22/06/2018	25/06/2018
Field ID							NEL-BH188_0.2m	NEL-BH188_1.0m	NELBH190_0.5	NELBH190_1.5	NEL-BH191_0.5m	NEL-BH191_1.0m	QC1003	NEL-BH192_0.2	NEL-BH192_1.0	NEL-BH194_0.2	NEL-BH194_1.0m	NEL-BH195_0.5m	NEL-BH195_1.0m	NEL-BH200_	NEL-BH200_1.0m	NEL-BH201_0.5m	NEL-BH201_1.0m	NEL-BH202_0.2m
Sample Type							Normal	Normal	Normal	Normal	Normal	Normal	Field_D	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
Lab Report Number							EM1807474	EM1807474	EM1811371	EM1811371	EM1808252	EM1808252	EM1808252	EM1811453	EM1811453	EM1808553	EM1808553	EM1811072	EM1811072	EM1809961	EM1809961	EM1810220	EM1810220	EM1810219
VOCs																								
TCE	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Tetrachloroethene	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
trans-1,2-dichloroethene	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
SVOCs																								
4,6-Dinitro-2-methylphenol	mg/kg	5					<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
OC Pesticides																								
Other organochlorine pesticides - Lab Calc	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.07#4
Organochlorine pesticides EPAVic	mg/kg	0.03			1		<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.07#4
Other organochlorine pesticides EPAVic	mg/kg	0.03	50	10			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4,4-DDE	mg/kg	0.05					<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.07#4
a-BHC	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.07#4
Aldrin	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.07#4
Aldrin + Dieldrin	mg/kg	0.03	4.8	1.2		0.6	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.07#4
b-BHC	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.07#4
Chlordane	mg/kg	0.03	16	4		2	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.07#4
Chlordane (cis)	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.07#4
Chlordane (trans)	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.07#4
d-BHC	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.07#4
4,4 DDD	mg/kg	0.05					<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.07#4
4,4 DDT	mg/kg	0.05					<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.07#4
DDT+DDE+DDD - Lab Calc	mg/kg	0.05	50	50		40	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.07#4
Dieldrin	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.07#4
Endosulfan I	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.07#4
Endosulfan II	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.07#4
Endosulfan Sulfate	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.07#4
Endrin	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.07#4
Endrin aldehyde	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.07#4
g-BHC (Lindane)	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.07#4
Heptachlor	mg/kg	0.03	4.8	1.2		0.6	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.07#4
Heptachlor epoxide	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.07#4
Hexachlorobenzene	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.07#4
Methoxychlor	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.07#4
MAH																								
MAH (Sum of Total)	mg/kg	0.2					<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Styrene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total MAH□	mg/kg	0.2					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PCBs																								
PCBs (Total)	mg/kg	0.1	0	0	2		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2#4
Herbicides																								
Dinoseb	mg/kg	5					<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Chlorinated Hydrocarbons																								
Chlorinated hydrocarbons EPAVic	mg/kg	0.01			1		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Other chlorinated hydrocarbons (Total)	mg/kg	0.01	50	10			<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
1,1,1,2-tetrachloroethane	mg/kg	0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
1,1,1-trichloroethane	mg/kg	0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
1,1,2,2-tetrachloroethane	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
1,1,2-trichloroethane	mg/kg	0.04					<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
1,1-dichloroethene	mg/kg	0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
1,2,4-trichlorobenzene	mg/kg	0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
1,2-dichlorobenzene	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
1,2-dichloroethane	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
1,4-dichlorobenzene	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Carbon tetrachloride	mg/kg	0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chlorobenzene	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Chloroform	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
cis-1,2-dichloroethene	mg/kg	0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Dichloromethane	mg/kg	0.4					<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Hexachlorobutadiene	mg/kg	0.02	11	2.8		1.4	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Vinyl chloride	mg/kg	0.02	4.8	1.2		0.6	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Asbestos																								
Asbestos Detected	g	0.1					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Asbestos (Trace)	Fibres	5					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Asbestos Type	-						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
weight of sample	g	0.01					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Comments

* No asbestos found, at the reporting limit of 0.1 g/kg, by polarised light microscopy including dispersion staining. Asbestos material was detected and positively identified at cc

Appendix J
Table 3
Summary of Soil Analytical Results

	Unit	EQL	EPA Victoria IWRG 621 Category B	EPA Victoria IWRG 621 Category C	EPA Victoria IWRG 621 Clean Fill	EPA Victoria IWRG 621 Trigger for Leachate Testing																
Location Code							NEL-BH202	NEL-BH202	NEL-BH203	NEL-BH203	NEL-BH204	NEL-BH204	NEL-BH217	NEL-BH217	NEL-BH221	NEL-BH221	NEL-BH221	NEL-BH223	NEL-BH223	NEL-BH224	NEL-BH224	NEL-BH225
Depth							0.2 - 0.3	1 - 1.1	0.5 - 0.6	1.5 - 1.6	0.5 - 0.6	1.5 - 1.6	0.5 - 0.6	1 - 1.1	0.5 - 0.5	1 - 1	3 - 3	0.2 - 0.3	0.5 - 0.6	0.2 - 0.3	0.5 - 0.6	0.2 - 0.3
Date							25/06/2018	25/06/2018	18/06/2018	18/06/2018	18/06/2018	18/06/2018	9/08/2018	9/08/2018	11/09/2018	11/09/2018	11/09/2018	13/06/2018	13/06/2018	13/06/2018	13/06/2018	6/07/2018
Field ID							QC1006	NEL-BH202_1.0m	NEL-BH203_0.5m	NEL-BH203_1.5m	NEL-BH204_0.5m	NEL-BH204_1.5m	NEL-BH217_0.5	NEL-BH217_1.0	NEL-BH221_0.5	NEL-BH221_1.0	NEL-BH221_3.0	NEL-BH223_0.2m	NEL-BH223_0.5m	NEL-BH224_0.2m	NEL-BH224_0.5m	NEL-BH225_0.2m
Sample Type							Field_D	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
Lab Report Number							EM1810219	EM1810219	EM1809816	EM1809816	EM1809816	EM1809816	EM1812809	EM1812809	EM1814744	EM1814744	EM1814744	EM1809532	EM1809532	EM1809532	EM1809532	EM1810871
VOCs																						
TCE	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Tetrachloroethene	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
trans-1,2-dichloroethene	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
SVOCs																						
4,6-Dinitro-2-methylphenol	mg/kg	5					<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
OC Pesticides																						
Other organochlorine pesticides - Lab Calc	mg/kg	0.03					<0.07[#4]	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Organochlorine pesticides EPAVic	mg/kg	0.03			1		<0.07[#4]	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Other organochlorine pesticides EPAVic	mg/kg	0.03	50	10			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4,4-DDE	mg/kg	0.05					<0.07[#4]	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
a-BHC	mg/kg	0.03					<0.07[#4]	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Aldrin	mg/kg	0.03					<0.07[#4]	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Aldrin + Dieldrin	mg/kg	0.03	4.8	1.2		0.6	<0.07[#4]	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
b-BHC	mg/kg	0.03					<0.07[#4]	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Chlordane	mg/kg	0.03	16	4		2	<0.07[#4]	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Chlordane (cis)	mg/kg	0.03					<0.07[#4]	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Chlordane (trans)	mg/kg	0.03					<0.07[#4]	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
d-BHC	mg/kg	0.03					<0.07[#4]	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
4,4 DDD	mg/kg	0.05					<0.07[#4]	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
4,4 DDT	mg/kg	0.05					<0.07[#4]	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
DDT+DDE+DDD - Lab Calc	mg/kg	0.05	50	50		40	<0.07[#4]	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dieldrin	mg/kg	0.03					<0.07[#4]	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Endosulfan I	mg/kg	0.03					<0.07[#4]	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Endosulfan II	mg/kg	0.03					<0.07[#4]	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Endosulfan Sulfate	mg/kg	0.03					<0.07[#4]	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Endrin	mg/kg	0.03					<0.07[#4]	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Endrin aldehyde	mg/kg	0.03					<0.07[#4]	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
g-BHC (Lindane)	mg/kg	0.03					<0.07[#4]	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Heptachlor	mg/kg	0.03	4.8	1.2		0.6	<0.07[#4]	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Heptachlor epoxide	mg/kg	0.03					<0.07[#4]	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Hexachlorobenzene	mg/kg	0.03					<0.07[#4]	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Methoxychlor	mg/kg	0.03					<0.07[#4]	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
MAH																						
MAH (Sum of Total)	mg/kg	0.2					<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Styrene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total MAH☐	mg/kg	0.2					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PCBs																						
PCBs (Total)	mg/kg	0.1	0	0	2		<0.2[#4]	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Herbicides																						
Dinoseb	mg/kg	5					<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Chlorinated Hydrocarbons																						
Chlorinated hydrocarbons EPAVic	mg/kg	0.01			1		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Other chlorinated hydrocarbons (Total)	mg/kg	0.01	50	10			<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
1,1,1,2-tetrachloroethane	mg/kg	0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
1,1,1-trichloroethane	mg/kg	0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
1,1,2,2-tetrachloroethane	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
1,1,2-trichloroethane	mg/kg	0.04					<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
1,1-dichloroethene	mg/kg	0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
1,2,4-trichlorobenzene	mg/kg	0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
1,2-dichlorobenzene	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
1,2-dichloroethane	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
1,4-dichlorobenzene	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Carbon tetrachloride	mg/kg	0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chlorobenzene	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Chloroform	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
cis-1,2-dichloroethene	mg/kg	0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Dichloromethane	mg/kg	0.4					<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Hexachlorobutadiene	mg/kg	0.02	11	2.8		1.4	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Vinyl chloride	mg/kg	0.02	4.8	1.2		0.6	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Asbestos																						
Asbestos Detected	g	0.1					-	-	-	-	-	-	-	-	-	No	-	-	-	-	-	-
Asbestos (Trace)	Fibres	5					-	-	-	-	-	-	-	-	-	No	-	-	-	-	-	-
Asbestos Type	-						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
weight of sample	g	0.01					-	-	-	-	-	-	-	-	-	46.1	-	-	-	-	-	-

Comments

* No asbestos found, at the reporting limit of 0.1 g/kg, by polarised light microscopy including dispersion staining. Asbestos material was detected and positively identified at cc

Appendix J
Table 3
Summary of Soil Analytical Results

	Unit	EQL	EPA Victoria IWRG 621 Category B	EPA Victoria IWRG 621 Category C	EPA Victoria IWRG 621 Clean Fill	EPA Victoria IWRG 621 Trigger for Leachate Testing															
Location Code							NEL-BH225	NEL-BH232	NEL-BH232	NEL-EF-BH003	NEL-EF-BH003	NEL-EF-BH005	NEL-EF-BH005	NEL-EF-BH006	NEL-EF-BH006	NEL-EF-BH007	NEL-EF-BH007	NEL-EF-BH009	NEL-EF-BH009	NEL-EF-BH011	NEL-EF-BH013
Depth							1 - 1.1	0.5 - 0.6	1.5 - 1.6	0.5 - 0.6	1 - 1.1	0.2 - 0.3	1 - 1.1	0.5 - 0.6	1.5 - 1.6	0.2 - 0.3	0.5 - 0.6	0.5 - 0.6	1.5 - 1.6	0.2 - 0.3	0.5 - 0.6
Date							6/07/2018	22/06/2018	22/06/2018	9/07/2018	9/07/2018	1/06/2018	1/06/2018	9/07/2018	9/07/2018	28/05/2018	28/05/2018	4/07/2018	4/07/2018	28/05/2018	10/08/2018
Field ID							NEL-BH225_1.0m	NEL-BH232_0.5m	NEL-BH232_1.5m	NEL-EF-BH003_0.5m	NEL-EF-BH003_1.0m	NEL-EF-BH005_0.2m	NEL-EF-BH005_1.0m	NEL-EF-BH006_0.5m	NEL-EF-BH006_1.5m	NEL-EF-BH007_0.2m	NEL-EF-BH007_0.5m	NEL-EF-BH009_0.5m	NEL-EF-BH009_1.5m	NEL-EF-BH011_0.2m	NEL-EF-BH013_0.5
Sample Type							Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
Lab Report Number							EM1810871	EM1810220	EM1810220	EM1811071	EM1811071	EM1809091	EM1809091	EM1811071	EM1811071	EM1808781	EM1808781	EM1810779	EM1810779	EM1808781	EM1812810
VOCs																					
TCE	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Tetrachloroethene	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
trans-1,2-dichloroethene	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
SVOCs																					
4,6-Dinitro-2-methylphenol	mg/kg	5					<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
OC Pesticides																					
Other organochlorine pesticides - Lab Calc	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Organochlorine pesticides EPAVic	mg/kg	0.03			1		<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Other organochlorine pesticides EPAVic	mg/kg	0.03	50	10			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4,4-DDE	mg/kg	0.05					<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
a-BHC	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Aldrin	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Aldrin + Dieldrin	mg/kg	0.03	4.8	1.2		0.6	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
b-BHC	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Chlordane	mg/kg	0.03	16	4		2	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Chlordane (cis)	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Chlordane (trans)	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
d-BHC	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
4,4 DDD	mg/kg	0.05					<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
4,4 DDT	mg/kg	0.05					<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
DDT+DDE+DDD - Lab Calc	mg/kg	0.05	50	50		40	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dieldrin	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Endosulfan I	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Endosulfan II	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Endosulfan Sulfate	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Endrin	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Endrin aldehyde	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
g-BHC (Lindane)	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Heptachlor	mg/kg	0.03	4.8	1.2		0.6	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Heptachlor epoxide	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Hexachlorobenzene	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Methoxychlor	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
MAH																					
MAH (Sum of Total)	mg/kg	0.2					<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Styrene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total MAH☐	mg/kg	0.2					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PCBs																					<0.1
PCBs (Total)	mg/kg	0.1	0	0	2		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
Herbicides																					-
Dinoseb	mg/kg	5					<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Chlorinated Hydrocarbons																					
Chlorinated hydrocarbons EPAVic	mg/kg	0.01			1		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Other chlorinated hydrocarbons (Total)	mg/kg	0.01	50	10			<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
1,1,1,2-tetrachloroethane	mg/kg	0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
1,1,1-trichloroethane	mg/kg	0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
1,1,2,2-tetrachloroethane	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
1,1,2-trichloroethane	mg/kg	0.04					<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
1,1-dichloroethene	mg/kg	0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
1,2,4-trichlorobenzene	mg/kg	0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
1,2-dichlorobenzene	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
1,2-dichloroethane	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
1,4-dichlorobenzene	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Carbon tetrachloride	mg/kg	0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chlorobenzene	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Chloroform	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
cis-1,2-dichloroethene	mg/kg	0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Dichloromethane	mg/kg	0.4					<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Hexachlorobutadiene	mg/kg	0.02	11	2.8		1.4	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Vinyl chloride	mg/kg	0.02	4.8	1.2		0.6	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Asbestos																					
Asbestos Detected	g	0.1					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Asbestos (Trace)	Fibres	5					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Asbestos Type	-						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
weight of sample	g	0.01					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Comments

* No asbestos found, at the reporting limit of 0.1 g/kg, by polarised light microscopy including dispersion staining. Asbestos material was detected and positively identified at cc

Appendix J
Table 3
Summary of Soil Analytical Results

Location Code							NEL-EF-BH013	NEL-EF-BH014	NEL-EF-BH014	NEL-EF-BH015	NEL-EF-BH015	NEL-EF-BH016	NEL-EF-BH016	NEL-EF-BH017	NEL-EF-BH017	NEL-EF-BH017	NEL-EF-BH017	NEL-EF-BH017	NEL-EF-BH017
Depth							1 - 1.1	0.5 - 0.6	1 - 1.1	0.5 - 0.6	1 - 1.1	0.2 - 0.3	1 - 1.1	0.5 - 0.6	0.5 - 0.6	1 - 1.1	1.5 - 1.6	2 - 2.1	3 - 3.1
Date							10/08/2018	9/07/2018	9/07/2018	14/06/2018	14/06/2018	5/06/2018	5/06/2018	5/06/2018	5/06/2018	5/06/2018	5/06/2018	15/06/2018	15/06/2018
Field ID							NEL-EF-BH013_1.0	NEL-EF-BH014_0.5m	NEL-EF-BH014_1.0m	NEL-EF-BH015_0.5	NEL-EF-BH015_1.0	NEL-EF-BH016_0.2m	NEL-EF-BH016_1.0m	NEL-EF-BH017_0.5m	QC1004	NEL-EF-BH017_1.0m	NEL-EF-BH017_1.5m	NEL-EF-BH017_2.0m	NEL-EF-BH017_3.0m
Sample Type							Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Field_D	Normal	Normal	Normal	Normal
Lab Report Number							EM1812810	EM1811071	EM1811071	EM1809614	EM1809614	EM1809234	EM1809234	EM1809234	EM1809234	EM1809234	EM1809234	EM1809613	EM1809613
	Unit	EQL	EPA Victoria IWRG 621 Category B	EPA Victoria IWRG 621 Category C	EPA Victoria IWRG 621 Clean Fill	EPA Victoria IWRG 621 Trigger for Leachate Testing													
VOCs																			
TCE	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Tetrachloroethene	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
trans-1,2-dichloroethene	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
SVOCs																			
4,6-Dinitro-2-methylphenol	mg/kg	5					<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
OC Pesticides																			
Other organochlorine pesticides - Lab Calc	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Organochlorine pesticides EPAVic	mg/kg	0.03			1		<0.03	0.12	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Other organochlorine pesticides EPAVic	mg/kg	0.03	50	10			-	-	-	-	-	-	-	-	-	-	-	-	-
4,4-DDE	mg/kg	0.05					<0.05	0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
a-BHC	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Aldrin	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Aldrin + Dieldrin	mg/kg	0.03	4.8	1.2		0.6	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
b-BHC	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Chlordane	mg/kg	0.03	16	4		2	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Chlordane (cis)	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Chlordane (trans)	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
d-BHC	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
4,4 DDD	mg/kg	0.05					<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
4,4 DDT	mg/kg	0.05					<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
DDT+DDE+DDD - Lab Calc	mg/kg	0.05	50	50		40	<0.05	0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dieldrin	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Endosulfan I	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Endosulfan II	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Endosulfan Sulfate	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Endrin	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Endrin aldehyde	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
g-BHC (Lindane)	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Heptachlor	mg/kg	0.03	4.8	1.2		0.6	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Heptachlor epoxide	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Hexachlorobenzene	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Methoxychlor	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
MAH																			
MAH (Sum of Total)	mg/kg	0.2					<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Styrene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total MAH☐	mg/kg	0.2					-	-	-	-	-	-	-	-	-	-	-	-	-
PCBs							<0.1												
PCBs (Total)	mg/kg	0.1	0	0	2			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Herbicides							-												
Dinoseb	mg/kg	5					<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Chlorinated Hydrocarbons																			
Chlorinated hydrocarbons EPAVic	mg/kg	0.01			1		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Other chlorinated hydrocarbons (Total)	mg/kg	0.01	50	10			<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
1,1,1,2-tetrachloroethane	mg/kg	0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
1,1,1-trichloroethane	mg/kg	0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
1,1,2,2-tetrachloroethane	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
1,1,2-trichloroethane	mg/kg	0.04					<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
1,1-dichloroethene	mg/kg	0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
1,2,4-trichlorobenzene	mg/kg	0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
1,2-dichlorobenzene	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
1,2-dichloroethane	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
1,4-dichlorobenzene	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Carbon tetrachloride	mg/kg	0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chlorobenzene	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Chloroform	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
cis-1,2-dichloroethene	mg/kg	0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Dichloromethane	mg/kg	0.4					<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Hexachlorobutadiene	mg/kg	0.02	11	2.8		1.4	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Vinyl chloride	mg/kg	0.02	4.8	1.2		0.6	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Asbestos																			
Asbestos Detected	g	0.1					-	-	-	-	-	-	-	-	-	-	-	-	-
Asbestos (Trace)	Fibres	5					-	-	-	-	-	-	-	-	-	-	-	-	-
Asbestos Type	-						-	-	-	-	-	-	-	-	-	-	-	-	-
weight of sample	g	0.01					-	-	-	-	-	-	-	-	-	-	-	-	-

Comments

* No asbestos found, at the reporting limit of 0.1 g/kg, by polarised light microscopy including dispersion staining. Asbestos material was detected and positively identified at cc

Appendix J
Table 3
Summary of Soil Analytical Results

	Unit	EQL	EPA Victoria IWRG 621 Category B	EPA Victoria IWRG 621 Category C	EPA Victoria IWRG 621 Clean Fill	EPA Victoria IWRG 621 Trigger for Leachate Testing								
						Location Code	NEL-EF-BH018	NEL-EF-BH018	NEL-EF-BH019	NEL-EF-BH019	NEL-EF-BH021	NEL-EF-BH021	NEL-EF-BH024	NEL-EF-BH024
						Depth	0.2 - 0.3	0.5 - 0.6	0.2 - 0.3	1 - 1.1	0.5 - 0.6	1.5 - 1.6	0.5 - 0.6	1 - 1.1
						Date	14/06/2018	14/06/2018	7/06/2018	7/06/2018	10/08/2018	10/08/2018	10/08/2018	10/08/2018
						Field ID	NEL-EF-BH018_0.2	NEL-EF-BH018_0.5	NEL-EF-BH019_0.2m	NEL-EF-BH019_1.0m	NEL-EF-BH021_0.5	NEL-EF-BH021_1.5	NEL-EF-BH024_0.5	NEL-EF-BH024_1.0
						Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
						Lab Report Number	EM1809614	EM1809614	EM1809231	EM1809231	EM1812810	EM1812810	EM1812810	EM1812810
VOCs														
TCE	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Tetrachloroethene	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
trans-1,2-dichloroethene	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
SVOCs														
4,6-Dinitro-2-methylphenol	mg/kg	5					<5	<5	<5	<5	<5	<5	<5	<5
OC Pesticides														
Other organochlorine pesticides - Lab Calc	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Organochlorine pesticides EPAVic	mg/kg	0.03			1		<0.03	<0.03	<0.03	0.06	<0.03	<0.03	<0.03	<0.03
Other organochlorine pesticides EPAVic	mg/kg	0.03	50	10			-	-	-	-	-	-	-	-
4,4-DDE	mg/kg	0.05					<0.05	<0.05	<0.05	0.06	<0.05	<0.05	<0.05	<0.05
a-BHC	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Aldrin	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Aldrin + Dieldrin	mg/kg	0.03	4.8	1.2		0.6	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
b-BHC	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Chlordane	mg/kg	0.03	16	4		2	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Chlordane (cis)	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Chlordane (trans)	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
d-BHC	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
4,4 DDD	mg/kg	0.05					<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
4,4 DDT	mg/kg	0.05					<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
DDT+DDE+DDD - Lab Calc	mg/kg	0.05	50	50		40	<0.05	<0.05	<0.05	0.06	<0.05	<0.05	<0.05	<0.05
Dieldrin	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Endosulfan I	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Endosulfan II	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Endosulfan Sulfate	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Endrin	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Endrin aldehyde	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
g-BHC (Lindane)	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Heptachlor	mg/kg	0.03	4.8	1.2		0.6	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Heptachlor epoxide	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Hexachlorobenzene	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Methoxychlor	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
MAH														
MAH (Sum of Total)	mg/kg	0.2					<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Styrene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total MAH☐	mg/kg	0.2					-	-	-	-	-	-	-	-
PCBs											<0.1	<0.1	<0.1	<0.1
PCBs (Total)	mg/kg	0.1	0	0	2		<0.1	<0.1	<0.1	<0.1				
Herbicides											-	-	-	-
Dinoseb	mg/kg	5					<5	<5	<5	<5	<5	<5	<5	<5
Chlorinated Hydrocarbons														
Chlorinated hydrocarbons EPAVic	mg/kg	0.01			1		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Other chlorinated hydrocarbons (Total)	mg/kg	0.01	50	10			<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
1,1,1,2-tetrachloroethane	mg/kg	0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
1,1,1-trichloroethane	mg/kg	0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
1,1,2,2-tetrachloroethane	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
1,1,2-trichloroethane	mg/kg	0.04					<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
1,1-dichloroethene	mg/kg	0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
1,2,4-trichlorobenzene	mg/kg	0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
1,2-dichlorobenzene	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
1,2-dichloroethane	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
1,4-dichlorobenzene	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Carbon tetrachloride	mg/kg	0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chlorobenzene	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Chloroform	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
cis-1,2-dichloroethene	mg/kg	0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Dichloromethane	mg/kg	0.4					<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Hexachlorobutadiene	mg/kg	0.02	11	2.8		1.4	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Vinyl chloride	mg/kg	0.02	4.8	1.2		0.6	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Asbestos														
Asbestos Detected	g	0.1					-	-	-	-	-	-	-	-
Asbestos (Trace)	Fibres	5					-	-	-	-	-	-	-	-
Asbestos Type	-						-	-	-	-	-	-	-	-
weight of sample	g	0.01					-	-	-	-	-	-	-	-

Comments

* No asbestos found, at the reporting limit of 0.1 g/kg, by polarised light microscopy including dispersion staining. Asbestos material was detected and positively identified at cc

Appendix J
Table 3
Summary of Soil Analytical Results

						Location Code	NEL-ENV-BH003	NEL-ENV-BH003	NEL-ENV-BH005	NEL-ENV-BH005	NEL-ENV-BH009	NEL-ENV-BH009	NEL-ENV-BH009	NEL-ENV-BH009	NEL-ENV-BH009	NEL-ENV-BH011	NEL-ENV-BH011	NEL-ENV-BH012	NEL-ENV-BH012	NEL-ENV-BH014	NEL-ENV-BH016
						Depth	0.2 - 0.3	1 - 1.1	0.5 - 0.6	1 - 1.1	1.5 - 1.6	2.45 - 2.9	3.8 - 4	4.8 - 5	4.8 - 5	0.5 - 0.6	1.5 - 1.6	1 - 1.1	1.5 - 1.6	0.5 - 0.6	0.5 - 0.6
						Date	18/09/2018	18/09/2018	18/09/2018	18/09/2018	1/06/2018	2/06/2018	2/06/2018	2/06/2018	2/06/2018	27/06/2018	27/06/2018	13/07/2018	13/07/2018	1/06/2018	13/07/2018
						Field ID	NEL-ENV-BH003_0.2m	NEL-ENV-BH003_1.0m	NEL-ENV-BH005_0.5m	NEL-ENV-BH005_1.0m	NEL-ENV-BH009_1.5-1	NEL-ENV-BH009_2.45	NEL-ENV-BH009_3.8-4	NEL-ENV-BH009_4.8-5	QC3001	NEL-ENV-BH011_0.5m	NEL-ENV-BH011_1.5m	NEL-ENV-BH012_1.0	NEL-ENV-BH012_1.5	NEL-ENV-BH014_0.5m	NEL-ENV-BH016_0.5
						Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Field_D	Normal	Normal	Normal	Normal	Normal	Normal
						Lab Report Number	EM1815165	EM1815165	EM1815165	EM1815165	EM1809010	EM1809010	EM1809010	EM1809010	EM1809010	EM1810388	EM1810388	EM1811286	EM1811286	EM1809091	EM1811286
	Unit	EQL	EPA Victoria IWRG 621 Category B	EPA Victoria IWRG 621 Category C	EPA Victoria IWRG 621 Clean Fill	EPA Victoria IWRG 621 Trigger for Leachate Testing															
VOCs																					
TCE	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Tetrachloroethene	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
trans-1,2-dichloroethene	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
SVOCs																					
4,6-Dinitro-2-methylphenol	mg/kg	5					<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
OC Pesticides																					
Other organochlorine pesticides - Lab Calc	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Organochlorine pesticides EPAVic	mg/kg	0.03			1		<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Other organochlorine pesticides EPAVic	mg/kg	0.03	50	10			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4,4-DDE	mg/kg	0.05					<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
a-BHC	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Aldrin	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Aldrin + Dieldrin	mg/kg	0.03	4.8	1.2		0.6	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
b-BHC	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Chlordane	mg/kg	0.03	16	4		2	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Chlordane (cis)	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Chlordane (trans)	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
d-BHC	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
4,4 DDD	mg/kg	0.05					<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
4,4 DDT	mg/kg	0.05					<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
DDT+DDE+DDD - Lab Calc	mg/kg	0.05	50	50		40	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dieldrin	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Endosulfan I	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Endosulfan II	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Endosulfan Sulfate	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Endrin	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Endrin aldehyde	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
g-BHC (Lindane)	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Heptachlor	mg/kg	0.03	4.8	1.2		0.6	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Heptachlor epoxide	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Hexachlorobenzene	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Methoxychlor	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
MAH																					
MAH (Sum of Total)	mg/kg	0.2					<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Styrene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total MAH☐	mg/kg	0.2					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PCBs																					
PCBs (Total)	mg/kg	0.1	0	0	2		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Herbicides																					
Dinoseb	mg/kg	5					<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Chlorinated Hydrocarbons																					
Chlorinated hydrocarbons EPAVic	mg/kg	0.01			1		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Other chlorinated hydrocarbons (Total)	mg/kg	0.01	50	10			<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
1,1,1,2-tetrachloroethane	mg/kg	0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
1,1,1-trichloroethane	mg/kg	0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
1,1,2,2-tetrachloroethane	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
1,1,2-trichloroethane	mg/kg	0.04					<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
1,1-dichloroethene	mg/kg	0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
1,2,4-trichlorobenzene	mg/kg	0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
1,2-dichlorobenzene	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
1,2-dichloroethane	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
1,4-dichlorobenzene	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Carbon tetrachloride	mg/kg	0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chlorobenzene	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Chloroform	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
cis-1,2-dichloroethene	mg/kg	0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Dichloromethane	mg/kg	0.4					<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Hexachlorobutadiene	mg/kg	0.02	11	2.8		1.4	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Vinyl chloride	mg/kg	0.02	4.8	1.2		0.6	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Asbestos																					
Asbestos Detected	g	0.1					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Asbestos (Trace)	Fibres	5					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Asbestos Type	-						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
weight of sample	g	0.01					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Comments

* No asbestos found, at the reporting limit of 0.1 g/kg, by polarised light microscopy including dispersion staining. Asbestos material was detected and positively identified at cc

Appendix J
Table 3
Summary of Soil Analytical Results

	Unit	EQL	EPA Victoria IWRG 621 Category B	EPA Victoria IWRG 621 Category C	EPA Victoria IWRG 621 Clean Fill	EPA Victoria IWRG 621 Trigger for Leachate Testing															
						Location Code	NEL-ENV-BH016	NEL-ENV-BH017	NEL-ENV-BH018	NEL-ENV-BH018	NEL-ENV-BH022	NEL-ENV-BH022	NEL-ENV-BH022	NEL-ENV-BH023	NEL-ENV-BH024	NEL-ENV-BH024	NEL-ENV-BH025	NEL-ENV-BH025	NEL-ENV-BH026	NEL-ENV-BH026	NEL-ENV-BH027
						Depth	1.5 - 1.5	0.5 - 0.6	0.5 - 0.6	1.5 - 1.6	0.2 - 0.3	0.5 - 0.6	1.5 - 1.6	0.6 - 0.7	0.5 - 0.6	1 - 1.1	0.3 - 0.4	1 - 1.1	0.1 - 0.2	0.5 - 0.6	0 - 0.1
						Date	13/07/2018	1/06/2018	13/07/2018	13/07/2018	6/06/2018	6/06/2018	6/06/2018	5/06/2018	24/04/2018	24/04/2018	24/04/2018	24/04/2018	24/04/2018	24/04/2018	27/04/2018
						Field ID	NEL-ENV-BH016_1.5	NEL-ENV-BH017_0.5-0	NEL-ENV-BH018_0.5	NEL-ENV-BH018_1.5	NEL-ENV-BH022_0.2m	NEL-ENV-BH022_0.5m	NEL-ENV-BH022_1.5m	NEL-ENV-BH023_0.6-0.7	NEL-ENV-BH024_0.5-0.6	NEL-ENV-BH024_1	NEL-ENV-BH025_0	NEL-ENV-BH025_1	NEL-ENV-BH026_0	NEL-ENV-BH026_0	NEL-ENV-BH027_0
						Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
						Lab Report Number	EM1811286	EM1809010	EM1811286	EM1811286	EM1809233	EM1809233	EM1809233	EM1809096	EM1806904	EM1806904	EM1806904	EM1806904	EM1806904	EM1806904	EM1806989
VOCs																					
TCE	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Tetrachloroethene	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.09	0.06	<0.02	<0.02	<0.02
trans-1,2-dichloroethene	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
SVOCs																					
4,6-Dinitro-2-methylphenol	mg/kg	5					<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
OC Pesticides																					
Other organochlorine pesticides - Lab Calc	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Organochlorine pesticides EPAVic	mg/kg	0.03			1		<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Other organochlorine pesticides EPAVic	mg/kg	0.03	50	10			-	-	-	-	-	-	-	-	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
4,4-DDE	mg/kg	0.05					<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
a-BHC	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Aldrin	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Aldrin + Dieldrin	mg/kg	0.03	4.8	1.2		0.6	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
b-BHC	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Chlordane	mg/kg	0.03	16	4		2	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Chlordane (cis)	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Chlordane (trans)	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
d-BHC	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
4,4 DDD	mg/kg	0.05					<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
4,4 DDT	mg/kg	0.05					<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
DDT+DDE+DDD - Lab Calc	mg/kg	0.05	50	50		40	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dieldrin	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Endosulfan I	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Endosulfan II	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Endosulfan Sulfate	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Endrin	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Endrin aldehyde	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
g-BHC (Lindane)	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Heptachlor	mg/kg	0.03	4.8	1.2		0.6	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Heptachlor epoxide	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Hexachlorobenzene	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Methoxychlor	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
MAH																					
MAH (Sum of Total)	mg/kg	0.2					<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Styrene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total MAH□	mg/kg	0.2					-	-	-	-	-	-	-	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
PCBs																					
PCBs (Total)	mg/kg	0.1	0	0	2		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Herbicides																					
Dinoseb	mg/kg	5					<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Chlorinated Hydrocarbons																					
Chlorinated hydrocarbons EPAVic	mg/kg	0.01			1		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.09	0.06	<0.01	<0.01	<0.01
Other chlorinated hydrocarbons (Total)	mg/kg	0.01	50	10			<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.09	0.06	<0.01	<0.01	<0.01
1,1,1,2-tetrachloroethane	mg/kg	0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
1,1,1-trichloroethane	mg/kg	0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
1,1,2,2-tetrachloroethane	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
1,1,2-trichloroethane	mg/kg	0.04					<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
1,1-dichloroethene	mg/kg	0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
1,2,4-trichlorobenzene	mg/kg	0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
1,2-dichlorobenzene	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
1,2-dichloroethane	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
1,4-dichlorobenzene	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Carbon tetrachloride	mg/kg	0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chlorobenzene	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Chloroform	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
cis-1,2-dichloroethene	mg/kg	0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Dichloromethane	mg/kg	0.4					<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Hexachlorobutadiene	mg/kg	0.02	11	2.8		1.4	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Vinyl chloride	mg/kg	0.02	4.8	1.2		0.6	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Asbestos																					
Asbestos Detected	g	0.1					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Asbestos (Trace)	Fibres	5					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Asbestos Type	-						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
weight of sample	g	0.01					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Comments

* No asbestos found, at the reporting limit of 0.1 g/kg, by polarised light microscopy including dispersion staining. Asbestos material was detected and positively identified at cc

Appendix J
Table 3
Summary of Soil Analytical Results

						Location Code	NEL-ENV-BH027	NEL-ENV-BH028	NEL-ENV-BH028	NEL-ENV-BH028	NEL-ENV-BH029	NEL-ENV-BH029	NEL-ENV-BH030	NEL-ENV-BH030	NEL-ENV-BH030	NEL-ENV-BH030	NEL-ENV-BH031	NEL-ENV-BH031	NEL-ENV-BH031	NEL-ENV-BH032	NEL-ENV-BH032
						Depth	0.3 - 0.4	0 - 0.1	0.5 - 0.6	1.5 - 1.6	0 - 0.1	0.5 - 0.6	0 - 0.1	0 - 0.1	0.5 - 0.6	0.9 - 1	0 - 0.1	0.5 - 0.6	1.5 - 1.6	1 - 1.1	2 - 2.1
						Date	27/04/2018	24/04/2018	24/04/2018	24/04/2018	23/04/2018	23/04/2018	23/04/2018	23/04/2018	23/04/2018	23/04/2018	23/04/2018	23/04/2018	24/04/2018	1/06/2018	1/06/2018
						Field ID	NEL-ENV-BH027_0	NEL-ENV-BH028_0	NEL-ENV-BH028_0	NEL-ENV-BH028_1	NEL-ENV-BH029_0	NEL-ENV-BH029_0	NEL-ENV-BH030_0	QC3000	NEL-ENV-BH030_0	NEL-ENV-BH030_0.9-1.0	NEL-ENV-BH031_0.0-0.1	NEL-ENV-BH031_0.5-0.6	NEL-ENV-BH031_1.5-1.6	NEL-ENV-BH032_1.0-1.1	NEL-ENV-BH032_2.0-2.1
						Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Field_D	Normal	Normal	Normal	Normal	Normal	Normal	Normal
						Lab Report Number	EM1806989	EM1806904	EM1806904	EM1806904	EM1806904	EM1806904	EM1807528	EM1806904	EM1806904	EM1806904	EM1806904	EM1806904	EM1806904	EM1809010	EM1809010
	Unit	EQL	EPA Victoria IWRG 621 Category B	EPA Victoria IWRG 621 Category C	EPA Victoria IWRG 621 Clean Fill	EPA Victoria IWRG 621 Trigger for Leachate Testing															
VOCs																					
TCE	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Tetrachloroethene	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
trans-1,2-dichloroethene	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
SVOCs																					
4,6-Dinitro-2-methylphenol	mg/kg	5					<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
OC Pesticides																					
Other organochlorine pesticides - Lab Calc	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Organochlorine pesticides EPAVic	mg/kg	0.03			1		<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Other organochlorine pesticides EPAVic	mg/kg	0.03	50	10			<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	-	-
4,4-DDE	mg/kg	0.05					<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
a-BHC	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Aldrin	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Aldrin + Dieldrin	mg/kg	0.03	4.8	1.2		0.6	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
b-BHC	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Chlordane	mg/kg	0.03	16	4		2	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Chlordane (cis)	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Chlordane (trans)	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
d-BHC	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
4,4 DDD	mg/kg	0.05					<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
4,4 DDT	mg/kg	0.05					<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
DDT+DDE+DDD - Lab Calc	mg/kg	0.05	50	50		40	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dieldrin	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Endosulfan I	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Endosulfan II	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Endosulfan Sulfate	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Endrin	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Endrin aldehyde	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
g-BHC (Lindane)	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Heptachlor	mg/kg	0.03	4.8	1.2		0.6	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Heptachlor epoxide	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Hexachlorobenzene	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Methoxychlor	mg/kg	0.03					<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
MAH																					
MAH (Sum of Total)	mg/kg	0.2					<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Styrene	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total MAH☐	mg/kg	0.2					<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-	-
PCBs																					
PCBs (Total)	mg/kg	0.1	0	0	2		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Herbicides																					
Dinoseb	mg/kg	5					<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Chlorinated Hydrocarbons																					
Chlorinated hydrocarbons EPAVic	mg/kg	0.01			1		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Other chlorinated hydrocarbons (Total)	mg/kg	0.01	50	10			<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
1,1,1,2-tetrachloroethane	mg/kg	0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
1,1,1-trichloroethane	mg/kg	0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
1,1,2,2-tetrachloroethane	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
1,1,2-trichloroethane	mg/kg	0.04					<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
1,1-dichloroethene	mg/kg	0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
1,2,4-trichlorobenzene	mg/kg	0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
1,2-dichlorobenzene	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
1,2-dichloroethane	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
1,4-dichlorobenzene	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Carbon tetrachloride	mg/kg	0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chlorobenzene	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Chloroform	mg/kg	0.02					<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
cis-1,2-dichloroethene	mg/kg	0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Dichloromethane	mg/kg	0.4					<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Hexachlorobutadiene	mg/kg	0.02	11	2.8		1.4	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Vinyl chloride	mg/kg	0.02	4.8	1.2		0.6	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Asbestos																					
Asbestos Detected	g	0.1					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Asbestos (Trace)	Fibres	5					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Asbestos Type	-						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
weight of sample	g	0.01					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Comments

* No asbestos found, at the reporting limit of 0.1 g/kg, by polarised light microscopy including dispersion staining. Asbestos material was detected and positively identified at cc

Appendix J
Table 3
Summary of Soil Analytical Results

	Unit	EQL	EPA Victoria IWRG 621 Category B	EPA Victoria IWRG 621 Category C	EPA Victoria IWRG 621 Clean Fill	EPA Victoria IWRG 621 Trigger for Leachate Testing															
Location Code							NEL-ENV-BH032	NEL-LFB01	NEL-LFB01	NEL-LFB01	NEL-LFB01	NEL-LFB01	NEL-LFB01	NEL-LFB02	NEL-LFB02	NEL-LFB02	NEL-LFB02	NEL-LFB02	NEL-LFB02	NEL-LFB02	NEL-LFB02
Depth							4 - 4.1	0.1 - 0.2	0.5 - 0.6	1 - 1.1	3 - 3.1	4 - 4.1	5 - 5.1	0.1 - 0.2	0.5 - 0.6	1 - 1.1	2 - 2.1	3 - 3.1	3 - 3.1	4 - 4.1	5 - 5.1
Date							1/06/2018	10/07/2018	11/07/2018	11/07/2018	11/07/2018	11/07/2018	11/07/2018	10/07/2018	11/07/2018	11/07/2018	11/07/2018	11/07/2018	11/07/2018	11/07/2018	11/07/2018
Field ID							NEL-ENV-BH032_4.0-4.1	NEL-LFB01_0.1m	NEL-LFB01_0.5m	NEL-LFB01_1.0m	NEL-LFB01_3.0m	NEL-LFB01_4.0m	NEL-LFB01_5.0m	NEL-LFB02_0.1m	NEL-LFB02_0.5m	NEL-LFB02_1.0m	NEL-LFB02_2.0m	NEL-LFB02_3.0m	QC3003	NEL-LFB02_4.0m	NEL-LFB02_5.0m
Sample Type							Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Field_D	Normal	Normal
Lab Report Number							EM1809010	EM1811724	EM1811150	EM1811150	EM1811150	EM1811150	EM1811724	EM1811724	EM1811150	EM1811150	EM1811150	EM1811150	EM1811150	EM1811724	EM1811724
VOCs																					
TCE	mg/kg	0.02					<0.02	-	-	<0.02	<0.02	-	-	-	-	-	<0.02	<0.02	<0.02	-	-
Tetrachloroethene	mg/kg	0.02					<0.02	-	-	<0.02	<0.02	-	-	-	-	-	<0.02	<0.02	<0.02	-	-
trans-1,2-dichloroethene	mg/kg	0.02					<0.02	-	-	<0.02	<0.02	-	-	-	-	-	<0.02	<0.02	<0.02	-	-
SVOCs																					
4,6-Dinitro-2-methylphenol	mg/kg	5					<5	-	-	<5	<5	-	-	-	-	-	<5	<5	<5	-	-
OC Pesticides																					
Other organochlorine pesticides - Lab Calc	mg/kg	0.03					<0.03	-	-	<0.03	<0.03	-	-	-	-	-	<0.03	<0.03	<0.03	-	-
Organochlorine pesticides EPAVic	mg/kg	0.03			1		<0.03	-	-	<0.03	<0.03	-	-	-	-	-	<0.03	<0.03	<0.03	-	-
Other organochlorine pesticides EPAVic	mg/kg	0.03	50	10			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4,4-DDE	mg/kg	0.05					<0.05	-	-	<0.05	<0.05	-	-	-	-	-	<0.05	<0.05	<0.05	-	-
a-BHC	mg/kg	0.03					<0.03	-	-	<0.03	<0.03	-	-	-	-	-	<0.03	<0.03	<0.03	-	-
Aldrin	mg/kg	0.03					<0.03	-	-	<0.03	<0.03	-	-	-	-	-	<0.03	<0.03	<0.03	-	-
Aldrin + Dieldrin	mg/kg	0.03	4.8	1.2		0.6	<0.03	-	-	<0.03	<0.03	-	-	-	-	-	<0.03	<0.03	<0.03	-	-
b-BHC	mg/kg	0.03					<0.03	-	-	<0.03	<0.03	-	-	-	-	-	<0.03	<0.03	<0.03	-	-
Chlordane	mg/kg	0.03	16	4		2	<0.03	-	-	<0.03	<0.03	-	-	-	-	-	<0.03	<0.03	<0.03	-	-
Chlordane (cis)	mg/kg	0.03					<0.03	-	-	<0.03	<0.03	-	-	-	-	-	<0.03	<0.03	<0.03	-	-
Chlordane (trans)	mg/kg	0.03					<0.03	-	-	<0.03	<0.03	-	-	-	-	-	<0.03	<0.03	<0.03	-	-
d-BHC	mg/kg	0.03					<0.03	-	-	<0.03	<0.03	-	-	-	-	-	<0.03	<0.03	<0.03	-	-
4,4 DDD	mg/kg	0.05					<0.05	-	-	<0.05	<0.05	-	-	-	-	-	<0.05	<0.05	<0.05	-	-
4,4 DDT	mg/kg	0.05					<0.05	-	-	<0.05	<0.05	-	-	-	-	-	<0.05	<0.05	<0.05	-	-
DDT+DDE+DDD - Lab Calc	mg/kg	0.05	50	50		40	<0.05	-	-	<0.05	<0.05	-	-	-	-	-	<0.05	<0.05	<0.05	-	-
Dieldrin	mg/kg	0.03					<0.03	-	-	<0.03	<0.03	-	-	-	-	-	<0.03	<0.03	<0.03	-	-
Endosulfan I	mg/kg	0.03					<0.03	-	-	<0.03	<0.03	-	-	-	-	-	<0.03	<0.03	<0.03	-	-
Endosulfan II	mg/kg	0.03					<0.03	-	-	<0.03	<0.03	-	-	-	-	-	<0.03	<0.03	<0.03	-	-
Endosulfan Sulfate	mg/kg	0.03					<0.03	-	-	<0.03	<0.03	-	-	-	-	-	<0.03	<0.03	<0.03	-	-
Endrin	mg/kg	0.03					<0.03	-	-	<0.03	<0.03	-	-	-	-	-	<0.03	<0.03	<0.03	-	-
Endrin aldehyde	mg/kg	0.03					<0.03	-	-	<0.03	<0.03	-	-	-	-	-	<0.03	<0.03	<0.03	-	-
g-BHC (Lindane)	mg/kg	0.03					<0.03	-	-	<0.03	<0.03	-	-	-	-	-	<0.03	<0.03	<0.03	-	-
Heptachlor	mg/kg	0.03	4.8	1.2		0.6	<0.03	-	-	<0.03	<0.03	-	-	-	-	-	<0.03	<0.03	<0.03	-	-
Heptachlor epoxide	mg/kg	0.03					<0.03	-	-	<0.03	<0.03	-	-	-	-	-	<0.03	<0.03	<0.03	-	-
Hexachlorobenzene	mg/kg	0.03					<0.03	-	-	<0.03	<0.03	-	-	-	-	-	<0.03	<0.03	<0.03	-	-
Methoxychlor	mg/kg	0.03					<0.03	-	-	<0.03	<0.03	-	-	-	-	-	<0.03	<0.03	<0.03	-	-
MAH																					
MAH (Sum of Total)	mg/kg	0.2					<0.2	-	-	<0.2	<0.2	-	-	-	-	-	<0.2	<0.2	<0.2	-	-
Styrene	mg/kg	0.5					<0.5	-	-	<0.5	<0.5	-	-	-	-	-	<0.5	<0.5	<0.5	-	-
Total MAH☐	mg/kg	0.2					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PCBs																					
PCBs (Total)	mg/kg	0.1	0	0	2		<0.1	-	-	<0.1	<0.1	-	-	-	-	-	<0.1	<0.1	<0.1	-	-
Herbicides																					
Dinoseb	mg/kg	5					<5	-	-	<5	<5	-	-	-	-	-	<5	<5	<5	-	-
Chlorinated Hydrocarbons																					
Chlorinated hydrocarbons EPAVic	mg/kg	0.01			1		<0.01	-	-	<0.01	<0.01	-	-	-	-	-	<0.01	<0.01	<0.01	-	-
Other chlorinated hydrocarbons (Total)	mg/kg	0.01	50	10			<0.01	-	-	<0.01	<0.01	-	-	-	-	-	<0.01	<0.01	<0.01	-	-
1,1,1,2-tetrachloroethane	mg/kg	0.01					<0.01	-	-	<0.01	<0.01	-	-	-	-	-	<0.01	<0.01	<0.01	-	-
1,1,1-trichloroethane	mg/kg	0.01					<0.01	-	-	<0.01	<0.01	-	-	-	-	-	<0.01	<0.01	<0.01	-	-
1,1,2,2-tetrachloroethane	mg/kg	0.02					<0.02	-	-	<0.02	<0.02	-	-	-	-	-	<0.02	<0.02	<0.02	-	-
1,1,2-trichloroethane	mg/kg	0.04					<0.04	-	-	<0.04	<0.04	-	-	-	-	-	<0.04	<0.04	<0.04	-	-
1,1-dichloroethene	mg/kg	0.01					<0.01	-	-	<0.01	<0.01	-	-	-	-	-	<0.01	<0.01	<0.01	-	-
1,2,4-trichlorobenzene	mg/kg	0.01					<0.01	-	-	<0.01	<0.01	-	-	-	-	-	<0.01	<0.01	<0.01	-	-
1,2-dichlorobenzene	mg/kg	0.02					<0.02	-	-	<0.02	<0.02	-	-	-	-	-	<0.02	<0.02	<0.02	-	-
1,2-dichloroethane	mg/kg	0.02					<0.02	-	-	<0.02	<0.02	-	-	-	-	-	<0.02	<0.02	<0.02	-	-
1,4-dichlorobenzene	mg/kg	0.02					<0.02	-	-	<0.02	<0.02	-	-	-	-	-	<0.02	<0.02	<0.02	-	-
Carbon tetrachloride	mg/kg	0.01					<0.01	-	-	<0.01	<0.01	-	-	-	-	-	<0.01	<0.01	<0.01	-	-
Chlorobenzene	mg/kg	0.02					<0.02	-	-	<0.02	<0.02	-	-	-	-	-	<0.02	<0.02	<0.02	-	-
Chloroform	mg/kg	0.02					<0.02	-	-	<0.02	<0.02	-	-	-	-	-	<0.02	<0.02	<0.02	-	-
cis-1,2-dichloroethene	mg/kg	0.01					<0.01	-	-	<0.01	<0.01	-	-	-	-	-	<0.01	<0.01	<0.01	-	-
Dichloromethane	mg/kg	0.4					<0.4	-	-	<0.4	<0.4	-	-	-	-	-	<0.4	<0.4	<0.4	-	-
Hexachlorobutadiene	mg/kg	0.02	11	2.8		1.4	<0.02	-	-	<0.02	<0.02	-	-	-	-	-	<0.02	<0.02	<0.02	-	-
Vinyl chloride	mg/kg	0.02	4.8	1.2		0.6	<0.02	-	-	<0.02	<0.02	-	-	-	-	-	<0.02	<0.02	<0.02	-	-
Asbestos																					
Asbestos Detected	g	0.1					-	-	Yes	No*	-	-	-	-	-	No	No	-	-	-	-
Asbestos (Trace)	Fibres	5					-	-	No	No	-	-	-	-	-	No	No	-	-	-	-
Asbestos Type	-						-	-	Ch + Am	Ch	-	-	-	-	-	-	-	-	-	-	-
weight of sample	g	0.01					-	-	364	494	-	-	-	-	-	374	269	-	-	-	-

Comments

* No asbestos found, at the reporting limit of 0.1 g/kg, by polarised light microscopy including dispersion staining. Asbestos material was detected and positively identified at cc

Appendix J
Table 3
Summary of Soil Analytical Results

						Location Code	NEL-LFB03	NEL-LFB03	NEL-LFB03	NEL-LFB03	NEL-LFB03	NEL-LFB03	NEL-LFB03	NEL-LFB04	NEL-LFB04	NEL-LFB04	NEL-LFB04	NEL-LFB04	NEL-LFB04
						Depth	0.1 - 0.2	0.5 - 0.6	1 - 1.1	2 - 2.1	3 - 3.1	4 - 4.1	5 - 5.1	0.1 - 0.2	0.5 - 0.6	2 - 2.1	3 - 3.1	4 - 4.1	5 - 5.1
						Date	10/07/2018	11/07/2018	11/07/2018	11/07/2018	11/07/2018	11/07/2018	11/07/2018	10/07/2018	11/07/2018	11/07/2018	11/07/2018	11/07/2018	11/07/2018
						Field ID	NEL-LFB03_0.1m	NEL-LFB03_0.5m	NEL-LFB03_1.0m	NEL-LFB03_2.0m	NEL-LFB03_3.0m	NEL-LFB03_4.0m	NEL-LFB03_5.0m	NEL-LFB04_0.1m	NEL-LFB04_0.5m	NEL-LFB04_2.0m	NEL-LFB04_3.0m	NEL-LFB04_4.0m	NEL-LFB04_5.0m
						Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
						Lab Report Number	EM1811150	EM1811150	EM1811150	EM1811150	EM1811150	EM1811724	EM1811724	EM1811724	EM1811150	EM1811150	EM1811150	EM1811150	EM1811724
	Unit	EQL	EPA Victoria IWRG 621 Category B	EPA Victoria IWRG 621 Category C	EPA Victoria IWRG 621 Clean Fill	EPA Victoria IWRG 621 Trigger for Leachate Testing													
VOCs																			
TCE	mg/kg	0.02					-	-	<0.02	<0.02	-	-	-	-	<0.02	<0.02	-	-	-
Tetrachloroethene	mg/kg	0.02					-	-	<0.02	0.06	-	-	-	-	<0.02	<0.02	-	-	-
trans-1,2-dichloroethene	mg/kg	0.02					-	-	<0.02	<0.02	-	-	-	-	<0.02	<0.02	-	-	-
SVOCs																			
4,6-Dinitro-2-methylphenol	mg/kg	5					-	-	<5	<5	-	-	-	-	<5	<5	-	-	-
OC Pesticides																			
Other organochlorine pesticides - Lab Calc	mg/kg	0.03					-	-	<0.03	<0.03	-	-	-	-	<0.03	<0.03	-	-	-
Organochlorine pesticides EPAVic	mg/kg	0.03			1		-	-	<0.03	<0.03	-	-	-	-	<0.03	<0.03	-	-	-
Other organochlorine pesticides EPAVic	mg/kg	0.03	50	10			-	-	-	-	-	-	-	-	-	-	-	-	-
4,4-DDE	mg/kg	0.05					-	-	<0.05	<0.05	-	-	-	-	<0.05	<0.05	-	-	-
a-BHC	mg/kg	0.03					-	-	<0.03	<0.03	-	-	-	-	<0.03	<0.03	-	-	-
Aldrin	mg/kg	0.03					-	-	<0.03	<0.03	-	-	-	-	<0.03	<0.03	-	-	-
Aldrin + Dieldrin	mg/kg	0.03	4.8	1.2		0.6	-	-	<0.03	<0.03	-	-	-	-	<0.03	<0.03	-	-	-
b-BHC	mg/kg	0.03					-	-	<0.03	<0.03	-	-	-	-	<0.03	<0.03	-	-	-
Chlordane	mg/kg	0.03	16	4		2	-	-	<0.03	<0.03	-	-	-	-	<0.03	<0.03	-	-	-
Chlordane (cis)	mg/kg	0.03					-	-	<0.03	<0.03	-	-	-	-	<0.03	<0.03	-	-	-
Chlordane (trans)	mg/kg	0.03					-	-	<0.03	<0.03	-	-	-	-	<0.03	<0.03	-	-	-
d-BHC	mg/kg	0.03					-	-	<0.03	<0.03	-	-	-	-	<0.03	<0.03	-	-	-
4,4 DDD	mg/kg	0.05					-	-	<0.05	<0.05	-	-	-	-	<0.05	<0.05	-	-	-
4,4 DDT	mg/kg	0.05					-	-	<0.05	<0.05	-	-	-	-	<0.05	<0.05	-	-	-
DDT+DDE+DDD - Lab Calc	mg/kg	0.05	50	50		40	-	-	<0.05	<0.05	-	-	-	-	<0.05	<0.05	-	-	-
Dieldrin	mg/kg	0.03					-	-	<0.03	<0.03	-	-	-	-	<0.03	<0.03	-	-	-
Endosulfan I	mg/kg	0.03					-	-	<0.03	<0.03	-	-	-	-	<0.03	<0.03	-	-	-
Endosulfan II	mg/kg	0.03					-	-	<0.03	<0.03	-	-	-	-	<0.03	<0.03	-	-	-
Endosulfan Sulfate	mg/kg	0.03					-	-	<0.03	<0.03	-	-	-	-	<0.03	<0.03	-	-	-
Endrin	mg/kg	0.03					-	-	<0.03	<0.03	-	-	-	-	<0.03	<0.03	-	-	-
Endrin aldehyde	mg/kg	0.03					-	-	<0.03	<0.03	-	-	-	-	<0.03	<0.03	-	-	-
g-BHC (Lindane)	mg/kg	0.03					-	-	<0.03	<0.03	-	-	-	-	<0.03	<0.03	-	-	-
Heptachlor	mg/kg	0.03	4.8	1.2		0.6	-	-	<0.03	<0.03	-	-	-	-	<0.03	<0.03	-	-	-
Heptachlor epoxide	mg/kg	0.03					-	-	<0.03	<0.03	-	-	-	-	<0.03	<0.03	-	-	-
Hexachlorobenzene	mg/kg	0.03					-	-	<0.03	<0.03	-	-	-	-	<0.03	<0.03	-	-	-
Methoxychlor	mg/kg	0.03					-	-	<0.03	<0.03	-	-	-	-	<0.03	<0.03	-	-	-
MAH																			
MAH (Sum of Total)	mg/kg	0.2					-	-	<0.2	<0.2	-	-	-	-	<0.2	<0.2	-	-	-
Styrene	mg/kg	0.5					-	-	<0.5	<0.5	-	-	-	-	<0.5	<0.5	-	-	-
Total MAH☐	mg/kg	0.2					-	-	-	-	-	-	-	-	-	-	-	-	-
PCBs																			
PCBs (Total)	mg/kg	0.1	0	0	2		-	-	<0.1	<0.1	-	-	-	-	<0.1	<0.1	-	-	-
Herbicides																			
Dinoseb	mg/kg	5					-	-	<5	<5	-	-	-	-	<5	<5	-	-	-
Chlorinated Hydrocarbons																			
Chlorinated hydrocarbons EPAVic	mg/kg	0.01			1		-	-	<0.01	0.06	-	-	-	-	<0.01	<0.01	-	-	-
Other chlorinated hydrocarbons (Total)	mg/kg	0.01	50	10			-	-	<0.01	0.06	-	-	-	-	<0.01	<0.01	-	-	-
1,1,1,2-tetrachloroethane	mg/kg	0.01					-	-	<0.01	<0.01	-	-	-	-	<0.01	<0.01	-	-	-
1,1,1-trichloroethane	mg/kg	0.01					-	-	<0.01	<0.01	-	-	-	-	<0.01	<0.01	-	-	-
1,1,2,2-tetrachloroethane	mg/kg	0.02					-	-	<0.02	<0.02	-	-	-	-	<0.02	<0.02	-	-	-
1,1,2-trichloroethane	mg/kg	0.04					-	-	<0.04	<0.04	-	-	-	-	<0.04	<0.04	-	-	-
1,1-dichloroethene	mg/kg	0.01					-	-	<0.01	<0.01	-	-	-	-	<0.01	<0.01	-	-	-
1,2,4-trichlorobenzene	mg/kg	0.01					-	-	<0.01	<0.01	-	-	-	-	<0.01	<0.01	-	-	-
1,2-dichlorobenzene	mg/kg	0.02					-	-	<0.02	<0.02	-	-	-	-	<0.02	<0.02	-	-	-
1,2-dichloroethane	mg/kg	0.02					-	-	<0.02	<0.02	-	-	-	-	<0.02	<0.02	-	-	-
1,4-dichlorobenzene	mg/kg	0.02					-	-	<0.02	<0.02	-	-	-	-	<0.02	<0.02	-	-	-
Carbon tetrachloride	mg/kg	0.01					-	-	<0.01	<0.01	-	-	-	-	<0.01	<0.01	-	-	-
Chlorobenzene	mg/kg	0.02					-	-	<0.02	<0.02	-	-	-	-	<0.02	<0.02	-	-	-
Chloroform	mg/kg	0.02					-	-	<0.02	<0.02	-	-	-	-	<0.02	<0.02	-	-	-
cis-1,2-dichloroethene	mg/kg	0.01					-	-	<0.01	<0.01	-	-	-	-	<0.01	<0.01	-	-	-
Dichloromethane	mg/kg	0.4					-	-	<0.4	<0.4	-	-	-	-	<0.4	<0.4	-	-	-
Hexachlorobutadiene	mg/kg	0.02	11	2.8		1.4	-	-	<0.02	<0.02	-	-	-	-	<0.02	<0.02	-	-	-
Vinyl chloride	mg/kg	0.02	4.8	1.2		0.6	-	-	<0.02	<0.02	-	-	-	-	<0.02	<0.02	-	-	-
Asbestos																			
Asbestos Detected	g	0.1					-	-	No	No	-	-	-	-	No	No	-	-	-
Asbestos (Trace)	Fibres	5					-	-	No	No	-	-	-	-	No	No	-	-	-
Asbestos Type	-						-	-	-	-	-	-	-	-	-	-	-	-	-
weight of sample	g	0.01					-	-	223	254	-	-	-	-	116	273	-	-	-

Comments

* No asbestos found, at the reporting limit of 0.1 g/kg, by polarised light microscopy including dispersion staining. Asbestos material was detected and positively identified at cc

Appendix J
Table 3
Summary of Soil Analytical Results

	Unit	EQL	EPA Victoria IWRG 621 Category B	EPA Victoria IWRG 621 Category C	EPA Victoria IWRG 621 Clean Fill	EPA Victoria IWRG 621 Trigger for Leachate Testing																
Location Code							NEL-LFB05	NEL-LFB05	NEL-LFB05	NEL-LFB05	NEL-LFB05	NEL-LFB05	NEL-LFB05	NEL-LFB06	NEL-LFB06	NEL-LFB06	NEL-LFB06	NEL-LFB06	NEL-LFB06	NEL-LFB07	NEL-LFB07	NEL-LFB07
Depth							0.1 - 0.2	0.5 - 0.6	1 - 1.1	2 - 2.1	3 - 3.1	4 - 4.1	5 - 5.1	0.1 - 0.2	0.5 - 0.6	2 - 2.1	3 - 3.1	4 - 4.1	5 - 5.1	0.1 - 0.2	0.5 - 0.6	2 - 2.1
Date							10/07/2018	11/07/2018	11/07/2018	11/07/2018	11/07/2018	11/07/2018	11/07/2018	10/07/2018	10/07/2018	10/07/2018	10/07/2018	10/07/2018	10/07/2018	10/07/2018	10/07/2018	10/07/2018
Field ID							NEL-LFB05_0.1m	NEL-LFB05_0.5m	NEL-LFB05_1.0m	NEL-LFB05_2.0m	NEL-LFB05_3.0m	NEL-LFB05_4.0m	NEL-LFB05_5.0m	NEL-LFB06_0.1m	NEL-LFB06_0.5m	NEL-LFB06_2.0m	NEL-LFB06_3.0m	NEL-LFB06_4.0m	NEL-LFB06_5.0m	NEL-LFB07_0.1m	NEL-LFB07_0.5m	NEL-LFB07_2.0m
Sample Type							Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
Lab Report Number							EM1811724	EM1811150	EM1811150	EM1811150	EM1811150	EM1811724	EM1811724	EM1811150	EM1811150	EM1811150	EM1811150	EM1811724	EM1811724	EM1811724	EM1811150	EM1811150
VOCs																						
TCE	mg/kg	0.02					-	-	<0.02	-	<0.02	-	-	-	<0.02	<0.02	-	-	-	-	<0.02	<0.02
Tetrachloroethene	mg/kg	0.02					-	-	0.02	-	<0.02	-	-	-	<0.02	<0.02	-	-	-	-	<0.02	<0.02
trans-1,2-dichloroethene	mg/kg	0.02					-	-	<0.02	-	<0.02	-	-	-	<0.02	<0.02	-	-	-	-	<0.02	<0.02
SVOCs																						
4,6-Dinitro-2-methylphenol	mg/kg	5					-	-	<5	-	<5	-	-	-	<5	<5	-	-	-	-	<5	<5
OC Pesticides																						
Other organochlorine pesticides - Lab Calc	mg/kg	0.03					-	-	<0.03	-	<0.03	-	-	-	<0.03	<0.03	-	-	-	-	<0.03	<0.03
Organochlorine pesticides EPAVic	mg/kg	0.03			1		-	-	<0.03	-	<0.03	-	-	-	<0.03	<0.03	-	-	-	-	<0.03	<0.03
Other organochlorine pesticides EPAVic	mg/kg	0.03	50	10			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4,4-DDE	mg/kg	0.05					-	-	<0.05	-	<0.05	-	-	-	<0.05	<0.05	-	-	-	-	<0.05	<0.05
a-BHC	mg/kg	0.03					-	-	<0.03	-	<0.03	-	-	-	<0.03	<0.03	-	-	-	-	<0.03	<0.03
Aldrin	mg/kg	0.03					-	-	<0.03	-	<0.03	-	-	-	<0.03	<0.03	-	-	-	-	<0.03	<0.03
Aldrin + Dieldrin	mg/kg	0.03	4.8	1.2		0.6	-	-	<0.03	-	<0.03	-	-	-	<0.03	<0.03	-	-	-	-	<0.03	<0.03
b-BHC	mg/kg	0.03					-	-	<0.03	-	<0.03	-	-	-	<0.03	<0.03	-	-	-	-	<0.03	<0.03
Chlordane	mg/kg	0.03	16	4		2	-	-	<0.03	-	<0.03	-	-	-	<0.03	<0.03	-	-	-	-	<0.03	<0.03
Chlordane (cis)	mg/kg	0.03					-	-	<0.03	-	<0.03	-	-	-	<0.03	<0.03	-	-	-	-	<0.03	<0.03
Chlordane (trans)	mg/kg	0.03					-	-	<0.03	-	<0.03	-	-	-	<0.03	<0.03	-	-	-	-	<0.03	<0.03
d-BHC	mg/kg	0.03					-	-	<0.03	-	<0.03	-	-	-	<0.03	<0.03	-	-	-	-	<0.03	<0.03
4,4 DDD	mg/kg	0.05					-	-	<0.05	-	<0.05	-	-	-	<0.05	<0.05	-	-	-	-	<0.05	<0.05
4,4 DDT	mg/kg	0.05					-	-	<0.05	-	<0.05	-	-	-	<0.05	<0.05	-	-	-	-	<0.05	<0.05
DDT+DDE+DDD - Lab Calc	mg/kg	0.05	50	50		40	-	-	<0.05	-	<0.05	-	-	-	<0.05	<0.05	-	-	-	-	<0.05	<0.05
Dieldrin	mg/kg	0.03					-	-	<0.03	-	<0.03	-	-	-	<0.03	<0.03	-	-	-	-	<0.03	<0.03
Endosulfan I	mg/kg	0.03					-	-	<0.03	-	<0.03	-	-	-	<0.03	<0.03	-	-	-	-	<0.03	<0.03
Endosulfan II	mg/kg	0.03					-	-	<0.03	-	<0.03	-	-	-	<0.03	<0.03	-	-	-	-	<0.03	<0.03
Endosulfan Sulfate	mg/kg	0.03					-	-	<0.03	-	<0.03	-	-	-	<0.03	<0.03	-	-	-	-	<0.03	<0.03
Endrin	mg/kg	0.03					-	-	<0.03	-	<0.03	-	-	-	<0.03	<0.03	-	-	-	-	<0.03	<0.03
Endrin aldehyde	mg/kg	0.03					-	-	<0.03	-	<0.03	-	-	-	<0.03	<0.03	-	-	-	-	<0.03	<0.03
g-BHC (Lindane)	mg/kg	0.03					-	-	<0.03	-	<0.03	-	-	-	<0.03	<0.03	-	-	-	-	<0.03	<0.03
Heptachlor	mg/kg	0.03	4.8	1.2		0.6	-	-	<0.03	-	<0.03	-	-	-	<0.03	<0.03	-	-	-	-	<0.03	<0.03
Heptachlor epoxide	mg/kg	0.03					-	-	<0.03	-	<0.03	-	-	-	<0.03	<0.03	-	-	-	-	<0.03	<0.03
Hexachlorobenzene	mg/kg	0.03					-	-	<0.03	-	<0.03	-	-	-	<0.03	<0.03	-	-	-	-	<0.03	<0.03
Methoxychlor	mg/kg	0.03					-	-	<0.03	-	<0.03	-	-	-	<0.03	<0.03	-	-	-	-	<0.03	<0.03
MAH																						
MAH (Sum of Total)	mg/kg	0.2					-	-	<0.2	-	<0.2	-	-	-	<0.2	<0.2	-	-	-	-	<0.2	<0.2
Styrene	mg/kg	0.5					-	-	<0.5	-	<0.5	-	-	-	<0.5	<0.5	-	-	-	-	<0.5	<0.5
Total MAH☐	mg/kg	0.2					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PCBs																						
PCBs (Total)	mg/kg	0.1	0	0	2		-	-	<0.1	-	<0.1	-	-	-	<0.1	<0.1	-	-	-	-	<0.1	<0.1
Herbicides																						
Dinoseb	mg/kg	5					-	-	<5	-	<5	-	-	-	<5	<5	-	-	-	-	<5	<5
Chlorinated Hydrocarbons																						
Chlorinated hydrocarbons EPAVic	mg/kg	0.01			1		-	-	0.02	-	<0.01	-	-	-	<0.01	<0.01	-	-	-	-	<0.01	<0.01
Other chlorinated hydrocarbons (Total)	mg/kg	0.01	50	10			-	-	0.02	-	<0.01	-	-	-	<0.01	<0.01	-	-	-	-	<0.01	<0.01
1,1,1,2-tetrachloroethane	mg/kg	0.01					-	-	<0.01	-	<0.01	-	-	-	<0.01	<0.01	-	-	-	-	<0.01	<0.01
1,1,1-trichloroethane	mg/kg	0.01					-	-	<0.01	-	<0.01	-	-	-	<0.01	<0.01	-	-	-	-	<0.01	<0.01
1,1,2,2-tetrachloroethane	mg/kg	0.02					-	-	<0.02	-	<0.02	-	-	-	<0.02	<0.02	-	-	-	-	<0.02	<0.02
1,1,2-trichloroethane	mg/kg	0.04					-	-	<0.04	-	<0.04	-	-	-	<0.04	<0.04	-	-	-	-	<0.04	<0.04
1,1-dichloroethene	mg/kg	0.01					-	-	<0.01	-	<0.01	-	-	-	<0.01	<0.01	-	-	-	-	<0.01	<0.01
1,2,4-trichlorobenzene	mg/kg	0.01					-	-	<0.01	-	<0.01	-	-	-	<0.01	<0.01	-	-	-	-	<0.01	<0.01
1,2-dichlorobenzene	mg/kg	0.02					-	-	<0.02	-	<0.02	-	-	-	<0.02	<0.02	-	-	-	-	<0.02	<0.02
1,2-dichloroethane	mg/kg	0.02					-	-	<0.02	-	<0.02	-	-	-	<0.02	<0.02	-	-	-	-	<0.02	<0.02
1,4-dichlorobenzene	mg/kg	0.02					-	-	<0.02	-	<0.02	-	-	-	<0.02	<0.02	-	-	-	-	<0.02	<0.02
Carbon tetrachloride	mg/kg	0.01					-	-	<0.01	-	<0.01	-	-	-	<0.01	<0.01	-	-	-	-	<0.01	<0.01
Chlorobenzene	mg/kg	0.02					-	-	<0.02	-	<0.02	-	-	-	<0.02	<0.02	-	-	-	-	<0.02	<0.02
Chloroform	mg/kg	0.02					-	-	<0.02	-	<0.02	-	-	-	<0.02	<0.02	-	-	-	-	<0.02	<0.02
cis-1,2-dichloroethene	mg/kg	0.01					-	-	<0.01	-	<0.01	-	-	-	<0.01	<0.01	-	-	-	-	<0.01	<0.01
Dichloromethane	mg/kg	0.4					-	-	<0.4	-	<0.4	-	-	-	<0.4	<0.4	-	-	-	-	<0.4	<0.4
Hexachlorobutadiene	mg/kg	0.02	11	2.8		1.4	-	-	<0.02	-	<0.02	-	-	-	<0.02	<0.02	-	-	-	-	<0.02	<0.02
Vinyl chloride	mg/kg	0.02	4.8	1.2		0.6	-	-	<0.02	-	<0.02	-	-	-	<0.02	<0.02	-	-	-	-	<0.02	<0.02
Asbestos																						
Asbestos Detected	g	0.1					-	-	No	No	-	-	-	-	No	No	-	-	-	-	No	No
Asbestos (Trace)	Fibres	5					-	-	No	No	-	-	-	-	No	No	-	-	-	-	No	No
Asbestos Type	-						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
weight of sample	g	0.01					-	-	408	220	-	-	-	-	419	346	-	-	-	-	428	214

Comments

* No asbestos found, at the reporting limit of 0.1 g/kg, by polarised light microscopy including dispersion staining. Asbestos material was detected and positively identified at cc

Appendix J
Table 3
Summary of Soil Analytical Results

						Location Code	NEL-LFB07	NEL-LFB07	NEL-LFB07	NEL-LFB08	NEL-LFB08	NEL-LFB08	NEL-LFB08	NEL-LFB08	NEL-LFB08	NEL-LFB09	NEL-LFB09	NEL-LFB09	NEL-LFB09	NEL-LFB09
						Depth	3 - 3.1	4 - 4.1	5 - 5.1	0.1 - 0.2	0.5 - 0.6	2 - 2.1	3 - 3.1	4 - 4.1	5 - 5.1	0.1 - 0.2	0.5 - 0.6	1 - 1.1	2 - 2.1	3 - 3.1
						Date	10/07/2018	10/07/2018	10/07/2018	10/07/2018	10/07/2018	10/07/2018	10/07/2018	10/07/2018	10/07/2018	10/07/2018	10/07/2018	10/07/2018	10/07/2018	10/07/2018
						Field ID	NEL-LFB07_3.0m	NEL-LFB07_4.0m	NEL-LFB07_5.0m	NEL-LFB08_0.1m	NEL-LFB08_0.5m	NEL-LFB08_2.0m	NEL-LFB08_3.0m	NEL-LFB08_4.0m	NEL-LFB08_5.0m	NEL-LFB09_0.1m	NEL-LFB09_0.5m	NEL-LFB09_1.0m	NEL-LFB09_2.0m	NEL-LFB09_3.0m
						Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
						Lab Report Number	EM1811150	EM1811150	EM1811724	EM1811724	EM1811150	EM1811150	EM1811150	EM1811150	EM1811724	EM1811724	EM1811150	EM1811150	EM1811150	EM1811150
	Unit	EQL	EPA Victoria IWRG 621 Category B	EPA Victoria IWRG 621 Category C	EPA Victoria IWRG 621 Clean Fill	EPA Victoria IWRG 621 Trigger for Leachate Testing														
VOCs																				
TCE	mg/kg	0.02					-	-	-	-	-	<0.02	-	<0.02	-	-	<0.02	<0.02	-	-
Tetrachloroethene	mg/kg	0.02					-	-	-	-	-	<0.02	-	<0.02	-	-	<0.02	<0.02	-	-
trans-1,2-dichloroethene	mg/kg	0.02					-	-	-	-	-	<0.02	-	<0.02	-	-	<0.02	<0.02	-	-
SVOCs																				
4,6-Dinitro-2-methylphenol	mg/kg	5					-	-	-	-	-	<5	-	<5	-	-	<5	<5	-	-
OC Pesticides																				
Other organochlorine pesticides - Lab Calc	mg/kg	0.03					-	-	-	-	-	<0.03	-	<0.03	-	-	<0.03	<0.03	-	-
Organochlorine pesticides EPAVic	mg/kg	0.03			1		-	-	-	-	-	<0.03	-	<0.03	-	-	<0.03	<0.03	-	-
Other organochlorine pesticides EPAVic	mg/kg	0.03	50	10			-	-	-	-	-	-	-	-	-	-	-	-	-	-
4,4-DDE	mg/kg	0.05					-	-	-	-	-	<0.05	-	<0.05	-	-	<0.05	<0.05	-	-
a-BHC	mg/kg	0.03					-	-	-	-	-	<0.03	-	<0.03	-	-	<0.03	<0.03	-	-
Aldrin	mg/kg	0.03					-	-	-	-	-	<0.03	-	<0.03	-	-	<0.03	<0.03	-	-
Aldrin + Dieldrin	mg/kg	0.03	4.8	1.2		0.6	-	-	-	-	-	<0.03	-	<0.03	-	-	<0.03	<0.03	-	-
b-BHC	mg/kg	0.03					-	-	-	-	-	<0.03	-	<0.03	-	-	<0.03	<0.03	-	-
Chlordane	mg/kg	0.03	16	4		2	-	-	-	-	-	<0.03	-	<0.03	-	-	<0.03	<0.03	-	-
Chlordane (cis)	mg/kg	0.03					-	-	-	-	-	<0.03	-	<0.03	-	-	<0.03	<0.03	-	-
Chlordane (trans)	mg/kg	0.03					-	-	-	-	-	<0.03	-	<0.03	-	-	<0.03	<0.03	-	-
d-BHC	mg/kg	0.03					-	-	-	-	-	<0.03	-	<0.03	-	-	<0.03	<0.03	-	-
4,4 DDD	mg/kg	0.05					-	-	-	-	-	<0.05	-	<0.05	-	-	<0.05	<0.05	-	-
4,4 DDT	mg/kg	0.05					-	-	-	-	-	<0.05	-	<0.05	-	-	<0.05	<0.05	-	-
DDT+DDE+DDD - Lab Calc	mg/kg	0.05	50	50		40	-	-	-	-	-	<0.05	-	<0.05	-	-	<0.05	<0.05	-	-
Dieldrin	mg/kg	0.03					-	-	-	-	-	<0.03	-	<0.03	-	-	<0.03	<0.03	-	-
Endosulfan I	mg/kg	0.03					-	-	-	-	-	<0.03	-	<0.03	-	-	<0.03	<0.03	-	-
Endosulfan II	mg/kg	0.03					-	-	-	-	-	<0.03	-	<0.03	-	-	<0.03	<0.03	-	-
Endosulfan Sulfate	mg/kg	0.03					-	-	-	-	-	<0.03	-	<0.03	-	-	<0.03	<0.03	-	-
Endrin	mg/kg	0.03					-	-	-	-	-	<0.03	-	<0.03	-	-	<0.03	<0.03	-	-
Endrin aldehyde	mg/kg	0.03					-	-	-	-	-	<0.03	-	<0.03	-	-	<0.03	<0.03	-	-
g-BHC (Lindane)	mg/kg	0.03					-	-	-	-	-	<0.03	-	<0.03	-	-	<0.03	<0.03	-	-
Heptachlor	mg/kg	0.03	4.8	1.2		0.6	-	-	-	-	-	<0.03	-	<0.03	-	-	<0.03	<0.03	-	-
Heptachlor epoxide	mg/kg	0.03					-	-	-	-	-	<0.03	-	<0.03	-	-	<0.03	<0.03	-	-
Hexachlorobenzene	mg/kg	0.03					-	-	-	-	-	<0.03	-	<0.03	-	-	<0.03	<0.03	-	-
Methoxychlor	mg/kg	0.03					-	-	-	-	-	<0.03	-	<0.03	-	-	<0.03	<0.03	-	-
MAH																				
MAH (Sum of Total)	mg/kg	0.2					-	-	-	-	-	<0.2	-	<0.2	-	-	<0.2	<0.2	-	-
Styrene	mg/kg	0.5					-	-	-	-	-	<0.5	-	<0.5	-	-	<0.5	<0.5	-	-
Total MAH☐	mg/kg	0.2					-	-	-	-	-	-	-	-	-	-	-	-	-	-
PCBs																				
PCBs (Total)	mg/kg	0.1	0	0	2		-	-	-	-	-	<0.1	-	<0.1	-	-	<0.1	<0.1	-	-
Herbicides																				
Dinoseb	mg/kg	5					-	-	-	-	-	<5	-	<5	-	-	<5	<5	-	-
Chlorinated Hydrocarbons																				
Chlorinated hydrocarbons EPAVic	mg/kg	0.01			1		-	-	-	-	-	<0.01	-	<0.01	-	-	<0.01	<0.01	-	-
Other chlorinated hydrocarbons (Total)	mg/kg	0.01	50	10			-	-	-	-	-	<0.01	-	<0.01	-	-	<0.01	<0.01	-	-
1,1,1,2-tetrachloroethane	mg/kg	0.01					-	-	-	-	-	<0.01	-	<0.01	-	-	<0.01	<0.01	-	-
1,1,1-trichloroethane	mg/kg	0.01					-	-	-	-	-	<0.01	-	<0.01	-	-	<0.01	<0.01	-	-
1,1,2,2-tetrachloroethane	mg/kg	0.02					-	-	-	-	-	<0.02	-	<0.02	-	-	<0.02	<0.02	-	-
1,1,2-trichloroethane	mg/kg	0.04					-	-	-	-	-	<0.04	-	<0.04	-	-	<0.04	<0.04	-	-
1,1-dichloroethene	mg/kg	0.01					-	-	-	-	-	<0.01	-	<0.01	-	-	<0.01	<0.01	-	-
1,2,4-trichlorobenzene	mg/kg	0.01					-	-	-	-	-	<0.01	-	<0.01	-	-	<0.01	<0.01	-	-
1,2-dichlorobenzene	mg/kg	0.02					-	-	-	-	-	<0.02	-	<0.02	-	-	<0.02	<0.02	-	-
1,2-dichloroethane	mg/kg	0.02					-	-	-	-	-	<0.02	-	<0.02	-	-	<0.02	<0.02	-	-
1,4-dichlorobenzene	mg/kg	0.02					-	-	-	-	-	<0.02	-	<0.02	-	-	<0.02	<0.02	-	-
Carbon tetrachloride	mg/kg	0.01					-	-	-	-	-	<0.01	-	<0.01	-	-	<0.01	<0.01	-	-
Chlorobenzene	mg/kg	0.02					-	-	-	-	-	<0.02	-	<0.02	-	-	<0.02	<0.02	-	-
Chloroform	mg/kg	0.02					-	-	-	-	-	<0.02	-	<0.02	-	-	<0.02	<0.02	-	-
cis-1,2-dichloroethene	mg/kg	0.01					-	-	-	-	-	<0.01	-	<0.01	-	-	<0.01	<0.01	-	-
Dichloromethane	mg/kg	0.4					-	-	-	-	-	<0.4	-	<0.4	-	-	<0.4	<0.4	-	-
Hexachlorobutadiene	mg/kg	0.02	11	2.8		1.4	-	-	-	-	-	<0.02	-	<0.02	-	-	<0.02	<0.02	-	-
Vinyl chloride	mg/kg	0.02	4.8	1.2		0.6	-	-	-	-	-	<0.02	-	<0.02	-	-	<0.02	<0.02	-	-
Asbestos																				
Asbestos Detected	g	0.1					-	-	-	-	No	No	-	-	-	-	-	No	No	-
Asbestos (Trace)	Fibres	5					-	-	-	-	No	No	-	-	-	-	-	No	No	-
Asbestos Type	-						-	-	-	-	-	-	-	-	-	-	-	-	-	-
weight of sample	g	0.01					-	-	-	-	179	404	-	-	-	-	-	600	284	-

Comments

* No asbestos found, at the reporting limit of 0.1 g/kg, by polarised light microscopy including dispersion staining. Asbestos material was detected and positively identified at cc

Appendix J
Table 3
Summary of Soil Analytical Results

						Location Code	NEL-LFB09	NEL-LFB10	NEL-LFB10	NEL-LFB10	NEL-LFB10	NEL-LFB10	NEL-LFB10	NEL-LFB10
						Depth	4 - 4.1	0.1 - 0.2	0.5 - 0.6	2 - 2.1	3 - 3.1	4 - 4.1	4 - 4.1	5 - 5.1
						Date	10/07/2018	10/07/2018	10/07/2018	10/07/2018	10/07/2018	10/07/2018	11/07/2018	10/07/2018
						Field ID	NEL-LFB09_4.0m	NEL-LFB10_0.1m	NEL-LFB10_0.5m	NEL-LFB10_2.0m	NEL-LFB10_3.0m	NEL-LFB10_4.0m	QC3002	NEL-LFB10_5.0m
						Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Field_D	Normal
						Lab Report Number	EM1811724	EM1811724	EM1811150	EM1811150	EM1811150	EM1811150	EM1811150	EM1811724
	Unit	EQL	EPA Victoria IWRG 621 Category B	EPA Victoria IWRG 621 Category C	EPA Victoria IWRG 621 Clean Fill	EPA Victoria IWRG 621 Trigger for Leachate Testing								
VOCs														
TCE	mg/kg	0.02					-	-	-	<0.02	-	<0.02	<0.02	-
Tetrachloroethene	mg/kg	0.02					-	-	-	<0.02	-	<0.02	<0.02	-
trans-1,2-dichloroethene	mg/kg	0.02					-	-	-	<0.02	-	<0.02	<0.02	-
SVOCs														
4,6-Dinitro-2-methylphenol	mg/kg	5					-	-	-	<5	-	<5	<5	-
OC Pesticides														
Other organochlorine pesticides - Lab Calc	mg/kg	0.03					-	-	-	<0.03	-	<0.03	<0.03	-
Organochlorine pesticides EPAVic	mg/kg	0.03			1		-	-	-	<0.03	-	<0.03	<0.03	-
Other organochlorine pesticides EPAVic	mg/kg	0.03	50	10			-	-	-	-	-	-	-	-
4,4-DDE	mg/kg	0.05					-	-	-	<0.05	-	<0.05	<0.05	-
a-BHC	mg/kg	0.03					-	-	-	<0.03	-	<0.03	<0.03	-
Aldrin	mg/kg	0.03					-	-	-	<0.03	-	<0.03	<0.03	-
Aldrin + Dieldrin	mg/kg	0.03	4.8	1.2		0.6	-	-	-	<0.03	-	<0.03	<0.03	-
b-BHC	mg/kg	0.03					-	-	-	<0.03	-	<0.03	<0.03	-
Chlordane	mg/kg	0.03	16	4		2	-	-	-	<0.03	-	<0.03	<0.03	-
Chlordane (cis)	mg/kg	0.03					-	-	-	<0.03	-	<0.03	<0.03	-
Chlordane (trans)	mg/kg	0.03					-	-	-	<0.03	-	<0.03	<0.03	-
d-BHC	mg/kg	0.03					-	-	-	<0.03	-	<0.03	<0.03	-
4,4 DDD	mg/kg	0.05					-	-	-	<0.05	-	<0.05	<0.05	-
4,4 DDT	mg/kg	0.05					-	-	-	<0.05	-	<0.05	<0.05	-
DDT+DDE+DDD - Lab Calc	mg/kg	0.05	50	50		40	-	-	-	<0.05	-	<0.05	<0.05	-
Dieldrin	mg/kg	0.03					-	-	-	<0.03	-	<0.03	<0.03	-
Endosulfan I	mg/kg	0.03					-	-	-	<0.03	-	<0.03	<0.03	-
Endosulfan II	mg/kg	0.03					-	-	-	<0.03	-	<0.03	<0.03	-
Endosulfan Sulfate	mg/kg	0.03					-	-	-	<0.03	-	<0.03	<0.03	-
Endrin	mg/kg	0.03					-	-	-	<0.03	-	<0.03	<0.03	-
Endrin aldehyde	mg/kg	0.03					-	-	-	<0.03	-	<0.03	<0.03	-
g-BHC (Lindane)	mg/kg	0.03					-	-	-	<0.03	-	<0.03	<0.03	-
Heptachlor	mg/kg	0.03	4.8	1.2		0.6	-	-	-	<0.03	-	<0.03	<0.03	-
Heptachlor epoxide	mg/kg	0.03					-	-	-	<0.03	-	<0.03	<0.03	-
Hexachlorobenzene	mg/kg	0.03					-	-	-	<0.03	-	<0.03	<0.03	-
Methoxychlor	mg/kg	0.03					-	-	-	<0.03	-	<0.03	<0.03	-
MAH														
MAH (Sum of Total)	mg/kg	0.2					-	-	-	<0.2	-	<0.2	<0.2	-
Styrene	mg/kg	0.5					-	-	-	<0.5	-	<0.5	<0.5	-
Total MAH☐	mg/kg	0.2					-	-	-	-	-	-	-	-
PCBs														
PCBs (Total)	mg/kg	0.1	0	0	2		-	-	-	<0.1	-	<0.1	<0.1	-
Herbicides														
Dinoseb	mg/kg	5					-	-	-	<5	-	<5	<5	-
Chlorinated Hydrocarbons														
Chlorinated hydrocarbons EPAVic	mg/kg	0.01			1		-	-	-	<0.01	-	<0.01	<0.01	-
Other chlorinated hydrocarbons (Total)	mg/kg	0.01	50	10			-	-	-	<0.01	-	<0.01	<0.01	-
1,1,1,2-tetrachloroethane	mg/kg	0.01					-	-	-	<0.01	-	<0.01	<0.01	-
1,1,1-trichloroethane	mg/kg	0.01					-	-	-	<0.01	-	<0.01	<0.01	-
1,1,2,2-tetrachloroethane	mg/kg	0.02					-	-	-	<0.02	-	<0.02	<0.02	-
1,1,2-trichloroethane	mg/kg	0.04					-	-	-	<0.04	-	<0.04	<0.04	-
1,1-dichloroethene	mg/kg	0.01					-	-	-	<0.01	-	<0.01	<0.01	-
1,2,4-trichlorobenzene	mg/kg	0.01					-	-	-	<0.01	-	<0.01	<0.01	-
1,2-dichlorobenzene	mg/kg	0.02					-	-	-	<0.02	-	<0.02	<0.02	-
1,2-dichloroethane	mg/kg	0.02					-	-	-	<0.02	-	<0.02	<0.02	-
1,4-dichlorobenzene	mg/kg	0.02					-	-	-	<0.02	-	<0.02	<0.02	-
Carbon tetrachloride	mg/kg	0.01					-	-	-	<0.01	-	<0.01	<0.01	-
Chlorobenzene	mg/kg	0.02					-	-	-	<0.02	-	<0.02	<0.02	-
Chloroform	mg/kg	0.02					-	-	-	<0.02	-	<0.02	<0.02	-
cis-1,2-dichloroethene	mg/kg	0.01					-	-	-	<0.01	-	<0.01	<0.01	-
Dichloromethane	mg/kg	0.4					-	-	-	<0.4	-	<0.4	<0.4	-
Hexachlorobutadiene	mg/kg	0.02	11	2.8		1.4	-	-	-	<0.02	-	<0.02	<0.02	-
Vinyl chloride	mg/kg	0.02	4.8	1.2		0.6	-	-	-	<0.02	-	<0.02	<0.02	-
Asbestos														
Asbestos Detected	g	0.1					-	-	No	No	-	-	-	-
Asbestos (Trace)	Fibres	5					-	-	No	No	-	-	-	-
Asbestos Type	-						-	-	-	-	-	-	-	-
weight of sample	g	0.01					-	-	303	172	-	-	-	-

Comments

* No asbestos found, at the reporting limit of 0.1 g/kg, by polarised light microscopy including dispersion staining. Asbestos material was detected and positively identified at cc

				Location Code	NEL-BH030	NEL-BH030	NEL-BH030	NEL-BH030	NEL-BH033	NEL-BH033	NEL-BH033	NEL-BH033	NEL-BH033	NEL-BH034	NEL-BH034	NEL-BH034	NEL-BH034	NEL-BH034
				Depth	17.02 - 17.12	18.68 - 18.78	26.71 - 26.81	43.25 - 43.35	12.4 - 12.5	21.4 - 21.5	24.68 - 24.78	26.33 - 26.43	29.74 - 29.84	7.9 - 8	9.28 - 9.38	12.05 - 12.15	15.95 - 16.05	22.9 - 23
				Date	2/09/2017	2/09/2017	2/09/2017	9/09/2017	11/07/2017	11/07/2017	11/07/2017	11/07/2017	11/07/2017	11/07/2017	11/07/2017	11/07/2017	11/07/2017	12/07/2017
				Field ID	NEL-BH030 (17.02m)	NEL-BH030 (18.68m)	NEL-BH030 (26.71m)	NEL-BH030 (43.25m)	NEL-BH033 (12.4m)	NEL-BH033 (21.4m)	NEL-BH033 (24.68m)	NEL-BH033 (26.33m)	NEL-BH033 (29.74m)	NEL-BH034 (7.9m)	NEL-BH034 (9.28m)	NEL-BH034 (12.05m)	NEL-BH034 (15.95m)	NEL-BH034 (22.9m)
				Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
				Lab Report Number	EM1712819	EM1712819	EM1712819	EM1712819	EM1712011	EM1712011	EM1712011	EM1712011	EM1712011	EM1712011	EM1712011	EM1712011	EM1712011	EM1712011
	Unit	EQL	EPA Victoria IWRG 621 Category B -	EPA Victoria IWRG 621 Category C -														
Major Ions																		
Fluoride	mg/L	0.1	600	150	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fluoride (filtered)	mg/L	0.1	600	150	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Metals																		
Arsenic (filtered)	mg/L	0.1	2.8	0.7	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Cadmium (filtered)	mg/L	0.05	0.8	0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Chromium (III+VI) (filtered)	mg/L	0.1	20	5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Copper (filtered)	mg/L	0.1	800	200	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Lead (filtered)	mg/L	0.1	4	1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1
Mercury (filtered)	mg/L	0.001	0.4	0.1	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Nickel (filtered)	mg/L	0.1	8	2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Tin (filtered)	mg/L	0.1			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Zinc (filtered)	mg/L	0.1	1200	300	<0.1	<0.1	<0.1	<0.1	0.3	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.6	0.2
PAHs																		
Benzo(a) pyrene	µg/L	0.5	4	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Appendix J
Table 4
Summary of Soil Analytical Results for Leachability Analysis

	Unit	EQL	EPA Victoria IWRG 621 Category B -	EPA Victoria IWRG 621 Category C -													
Location Code					NEL-BH042	NEL-BH042	NEL-BH042	NEL-BH043	NEL-BH043	NEL-BH043	NEL-BH043	NEL-BH043	NEL-BH057	NEL-BH057	NEL-BH057	NEL-BH057	NEL-BH057
Depth					15.5 - 15.6	31.46 - 31.56	45.75 - 45.85	5.95 - 6.05	11 - 11.1	11.57 - 11.67	18.4 - 18.5	34.6 - 34.7	5.64 - 5.74	15.43 - 15.53	21 - 21.1	40.85 - 40.95	48 - 48.1
Date					16/09/2017	16/09/2017	16/09/2017	12/07/2017	12/07/2017	12/07/2017	12/07/2017	11/07/2017	2/09/2017	2/09/2017	2/09/2017	2/09/2017	2/09/2017
Field ID					NEL-BH042 (15.5m)	NEL-BH042 (31.46m)	NEL-BH042 (45.75m)	NEL-BH043 (5.95m)	NEL-BH043 (11.00m)	NEL-BH043 (11.57m)	NEL-BH043 (18.4m)	NEL-BH043 (34.6m)	NEL-BH057 (5.64m)	NEL-BH057 (15.43m)	NEL-BH057 (21.0m)	NEL-BH057 (40.85m)	NEL-BH057 (48.0m)
Sample Type					Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
Lab Report Number					EM1712819	EM1712819	EM1712819	EM1712011	EM1712011	EM1712011	EM1712011	EM1712011	EM1712819	EM1712819	EM1712819	EM1712819	EM1712819
Major Ions																	
Fluoride	mg/L	0.1	600	150	-	-	-	-	-	-	-	-	-	-	-	-	-
Fluoride (filtered)	mg/L	0.1	600	150	-	-	-	-	-	-	-	-	-	-	-	-	-
Metals																	
Arsenic (filtered)	mg/L	0.1	2.8	0.7	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Cadmium (filtered)	mg/L	0.05	0.8	0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Chromium (III+VI) (filtered)	mg/L	0.1	20	5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Copper (filtered)	mg/L	0.1	800	200	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Lead (filtered)	mg/L	0.1	4	1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Mercury (filtered)	mg/L	0.001	0.4	0.1	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Nickel (filtered)	mg/L	0.1	8	2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	0.4	<0.1
Tin (filtered)	mg/L	0.1			-	-	-	-	-	-	-	-	-	-	-	-	-
Zinc (filtered)	mg/L	0.1	1200	300	0.6	<0.1	<0.1	0.2	0.3	0.2	0.2	0.2	0.2	<0.1	0.2	0.1	0.1
PAHs																	
Benzo(a) pyrene	µg/L	0.5	4	1	-	-	-	-	-	-	-	-	-	-	-	-	-

Appendix J
Table 4
Summary of Soil Analytical Results for Leachability Analysis

				Location Code	NEL-BH058	NEL-BH058	NEL-BH058	NEL-BH079	NEL-BH108	NEL-BH108	NEL-BH108	NEL-BH109	NEL-BH109	NEL-BH110	NEL-BH120	NEL-BH120
				Depth	18.22 - 18.32	19.07 - 19.17	22.85 - 22.95		0.2 - 0.3	0.7 - 0.8	1.2 - 1.3	0.2 - 0.3	1.1 - 1.2	0.5 - 0.6		
				Date	24/07/2017	24/07/2017	24/07/2017	10/07/2018	19/02/2018	19/02/2018	19/02/2018	5/03/2018	5/03/2018	13/03/2018	5/07/2018	5/07/2018
				Field ID	NEL-BH058 (18.22m)	NEL-BH058 (19.07m)	NEL-BH058 (22.85m)	NEL-BH079_1.0m	NEL-BH108_0.2m	NEL-BH108_0.7m	NEL-BH108_1.2m	NEL-BH109_0.2m	NEL-BH109_1.1m	NEL-BH110_0.5m	NEL-BH120_0.2m	NEL-BH120_1.0m
				Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
				Lab Report Number	EM1712011	EM1712011	EM1712011	EM1812499	EM1803702	EM1803702	EM1803702	EM1805006	EM1805006	EM1805014	EM1812499	EM1812499
	Unit	EQL	EPA Victoria IWRG 621 Category B -	EPA Victoria IWRG 621 Category C -												
Major Ions																
Fluoride	mg/L	0.1	600	150	-	-	-	-	0.2	0.2	0.2	-	-	-	-	-
Fluoride (filtered)	mg/L	0.1	600	150	-	-	-	-	-	-	-	-	-	-	-	-
Metals																
Arsenic (filtered)	mg/L	0.1	2.8	0.7	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-
Cadmium (filtered)	mg/L	0.05	0.8	0.2	<0.05	<0.05	<0.05	-	-	-	-	-	-	-	-	-
Chromium (III+VI) (filtered)	mg/L	0.1	20	5	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-
Copper (filtered)	mg/L	0.1	800	200	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-
Lead (filtered)	mg/L	0.1	4	1	<0.1	<0.1	<0.1	-	-	-	<0.1	<0.1	-	<0.1	<0.1	-
Mercury (filtered)	mg/L	0.001	0.4	0.1	<0.0010	<0.0010	<0.0010	-	-	-	-	-	-	-	-	-
Nickel (filtered)	mg/L	0.1	8	2	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	<0.1	-	-	-	<0.1
Tin (filtered)	mg/L	0.1			-	-	-	-	-	-	-	-	-	-	-	-
Zinc (filtered)	mg/L	0.1	1200	300	0.2	0.2	0.2	-	-	-	-	-	-	-	-	-
PAHs																
Benzo(a) pyrene	µg/L	0.5	4	1	-	-	-	-	-	-	-	-	<0.5	-	-	-

	Unit	EQL	EPA Victoria IWRG 621 Category B -	EPA Victoria IWRG 621 Category C -																
Location Code					NEL-BH125	NEL-BH125	NEL-BH125	NEL-BH125	NEL-BH125	NEL-BH125	NEL-BH125	NEL-BH126	NEL-BH128A	NEL-BH128A	NEL-BH128A	NEL-BH128A	NEL-BH135	NEL-BH138	NEL-BH138	NEL-BH140
Depth					0.4 - 0.5	0.75 - 0.85	0.75 - 0.85	1 - 1.1	1 - 1.1	1.5 - 1.6	3 - 3.1	0.3 - 0.4	0.23 - 0.33	0.45 - 0.55	1.2 - 1.3	1.2 - 1.3	0.2 - 0.3	0.35 - 0.45	1 - 1.1	0.2 - 0.3
Date					17/01/2018	17/01/2018	17/01/2018	17/01/2018	17/01/2018	17/01/2018	23/01/2018	17/01/2018	30/01/2018	30/01/2018	30/01/2018	30/01/2018	6/07/2018	22/06/2018	22/06/2018	27/02/2018
Field ID					NEL-BH125_0.4	NEL-BH125_0.75	NEL-BH125_0.75m	NEL-BH125_1.0	NEL-BH125_1.0m	NEL-BH125_1.5m	NEL-BH125_3.0m	NEL-BH126_0.3	NEL-BH128A_0.23	NEL-BH128A_0.45m	NEL-BH128A_1.2	NEL-BH128A_1.2m	NEL-BH135_0.2m	NEL-BH138_0.35m	NEL-BH138_1.0m	NEL-BH140_0.2m
Sample Type					Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
Lab Report Number					EM1803435	EM1803435	EM1802327	EM1803435	EM1802327	EM1802327	EM1802348	EM1803435	EM1803435	EM1802868	EM1803435	EM1802868	EM1810875	EM1810010	EM1810010	EM1805015
Major Ions																				
Fluoride	mg/L	0.1	600	150	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	-	-
Fluoride (filtered)	mg/L	0.1	600	150	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Metals																				
Arsenic (filtered)	mg/L	0.1	2.8	0.7	-	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-
Cadmium (filtered)	mg/L	0.05	0.8	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium (III+VI) (filtered)	mg/L	0.1	20	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Copper (filtered)	mg/L	0.1	800	200	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead (filtered)	mg/L	0.1	4	1	<0.1	<0.1	-	<0.1	-	7.3	1.4	<0.1	<0.1	-	0.2	-	<0.1	<0.1	<0.1	-
Mercury (filtered)	mg/L	0.001	0.4	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nickel (filtered)	mg/L	0.1	8	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1
Tin (filtered)	mg/L	0.1			-	-	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-
Zinc (filtered)	mg/L	0.1	1200	300	-	-	0.6	-	4.5	2.9	-	-	-	-	-	30.3	-	-	-	-
PAHs																				
Benzo(a) pyrene	µg/L	0.5	4	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5

				Location Code	NEL-BH141	NEL-BH143	NEL-BH150	NEL-BH155	NEL-BH159	NEL-BH163	NEL-BH166	NEL-BH172	NEL-BH174	NEL-BH178	NEL-BH179	NEL-BH181	NEL-BH184	NEL-BH185	NEL-BH191
				Depth	0.2 - 0.3	0.2 - 0.3	0.1 - 0.2	1 - 1.1	0.2 - 0.3	1 - 1.1	0.5 - 0.6	0.5 - 0.6			0.1 - 0.2	0.2 - 0.3		0.9 - 1	1 - 1.1
				Date	2/07/2018	4/07/2018	23/03/2018	31/05/2018	14/05/2018	6/07/2018	3/07/2018	29/06/2018	5/07/2018	5/07/2018	9/04/2018	16/04/2018	10/07/2018	1/06/2018	12/05/2018
				Field ID	NEL-BH141_0.2m	NEL-BH143_0.2m	NEL-BH150_0.1m	NEL-BH155_1.0m	NEL-BH159_0.2m	NEL-BH163_1.0m	NEL-BH166_0.5m	NEL-BH172_0.5m	NEL-BH174_1.5m	NEL-BH178_0.2m	NEL-BH179_0.1m	NEL-BH181-0.2m	NEL-BH184_0.2m	NEL-BH185_0.9m	NEL-BH191_1.0m
				Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
				Lab Report Number	EM1811179	EM1811282	EM1806138	EM1809877	EM1809688	EM1810875	EM1811282	EM1811179	EM1812499	EM1812499	EM1806394	EM1807041	EM1812499	EM1809671	EM1809655
	Unit	EQL	EPA Victoria IWRG 621 Category B -	EPA Victoria IWRG 621 Category C -															
Major Ions																			
Fluoride	mg/L	0.1	600	150	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fluoride (filtered)	mg/L	0.1	600	150	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Metals																			
Arsenic (filtered)	mg/L	0.1	2.8	0.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cadmium (filtered)	mg/L	0.05	0.8	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium (III+VI) (filtered)	mg/L	0.1	20	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Copper (filtered)	mg/L	0.1	800	200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead (filtered)	mg/L	0.1	4	1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	-	-	-
Mercury (filtered)	mg/L	0.001	0.4	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nickel (filtered)	mg/L	0.1	8	2	-	-	-	<0.1	-	-	-	<0.1	<0.1	<0.1	-	-	<0.1	<0.1	<0.1
Tin (filtered)	mg/L	0.1			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Zinc (filtered)	mg/L	0.1	1200	300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PAHs																			
Benzo(a) pyrene	µg/L	0.5	4	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Appendix J
Table 4
Summary of Soil Analytical Results for Leachability Analysis

	Unit	EQL	EPA Victoria IWRG 621 Category B -	EPA Victoria IWRG 621 Category C -														
				Location Code	NEL-BH192	NEL-BH192	NEL-BH195	NEL-BH195	NEL-BH200	NEL-BH200	NEL-BH201	NEL-BH202	NEL-BH202	NEL-BH204	NEL-BH223	NEL-BH225	NEL-EF-BH005	NEL-EF-BH005
				Depth					0.5 - 0.6	1 - 1.1	1 - 1.1	0.2 - 0.3	0.2 - 0.3	0.5 - 0.6	0.5 - 0.6			0.2 - 0.3
				Date	18/07/2018	18/07/2018	10/07/2018	10/07/2018	6/07/2018	6/07/2018	6/07/2018	6/07/2018	6/07/2018	6/07/2018	6/07/2018	6/07/2018	1/06/2018	1/06/2018
				Field ID	NEL-BH192_0.2m	NEL-BH192_1.0m	NEL-BH195_0.5m	NEL-BH195_1.0m	NEL-BH200_0.5m	NEL-BH200_1.0m	NEL-BH201_1.0m	NEL-BH202_0.2m	QC1006	NEL-BH204_0.5m	NEL-BH223_0.5m	NEL-BH225_0.2m	NEL-EF-BH005_1.0m	NEL-EF-BH005_0.2m
				Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Field_D	Normal	Normal	Normal	Normal	Normal
				Lab Report Number	EM1812499	EM1812499	EM1812499	EM1812499	EM1810875	EM1810875	EM1810875	EM1810875	EM1810875	EM1810875	EM1810875	EM1812499	EM1812499	EM1809671
Major Ions																		
Fluoride	mg/L	0.1	600	150	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fluoride (filtered)	mg/L	0.1	600	150	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Metals																		
Arsenic (filtered)	mg/L	0.1	2.8	0.7	-	-	-	-	-	-	-	-	-	-	-	<0.1	-	-
Cadmium (filtered)	mg/L	0.05	0.8	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium (III+VI) (filtered)	mg/L	0.1	20	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Copper (filtered)	mg/L	0.1	800	200	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead (filtered)	mg/L	0.1	4	1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	<0.1	<0.1	-	<0.1	<0.1
Mercury (filtered)	mg/L	0.001	0.4	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nickel (filtered)	mg/L	0.1	8	2	<0.1	<0.1	-	-	-	-	-	-	-	-	-	<0.1	-	-
Tin (filtered)	mg/L	0.1			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Zinc (filtered)	mg/L	0.1	1200	300	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PAHs																		
Benzo(a) pyrene	µg/L	0.5	4	1	-	-	-	<0.5	-	-	-	<0.5	<0.5	-	-	-	-	-

				Location Code	NEL-EF-BH007	NEL-EF-BH007	NEL-EF-BH009	NEL-EF-BH015	NEL-EF-BH017	NEL-EF-BH017	NEL-EF-BH017	NEL-EF-BH018	NEL-EF-BH019	NEL-EF-BH019	NEL-ENV-BH009	NEL-ENV-BH022	NEL-ENV-BH022	NEL-ENV-BH023
				Depth	0.2 - 0.3	0.5 - 0.6	0.5 - 0.6	0.5 - 0.6	0.5 - 0.6	1 - 1.1	1.5 - 1.6	0.2 - 0.3	0.2 - 0.3	1 - 1.1		0.2 - 0.3	0.5 - 0.6	0.6 - 0.7
				Date	28/05/2018	28/05/2018	4/07/2018	6/07/2018	5/06/2018	5/06/2018	5/06/2018	6/07/2018	6/07/2018	6/07/2018	1/06/2018	6/06/2018	6/06/2018	5/06/2018
				Field ID	NEL-EF-BH007_0.2m	NEL-EF-BH007_0.5m	NEL-EF-BH009_0.5m	NEL-EF-BH015_0.5	NEL-EF-BH017_0.5m	NEL-EF-BH017_1.0m	NEL-EF-BH017_1.5m	NEL-EF-BH018_0.2	NEL-EF-BH019_0.2m	NEL-EF-BH019_1.0m	NEL-ENV-BH009_1.5-1	NEL-ENV-BH022_0.2m	NEL-ENV-BH022_0.5m	NEL-ENV-BH023_0.6-0
				Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
				Lab Report Number	EM1809654	EM1809654	EM1811282	EM1810875	EM1809881	EM1809881	EM1809881	EM1810875	EM1810875	EM1810875	EM1812499	EM1809854	EM1809854	EM1809540
	Unit	EQL	EPA Victoria IWRG 621 Category B -	EPA Victoria IWRG 621 Category C -														
Major Ions																		
Fluoride	mg/L	0.1	600	150	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2
Fluoride (filtered)	mg/L	0.1	600	150	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Metals																		
Arsenic (filtered)	mg/L	0.1	2.8	0.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cadmium (filtered)	mg/L	0.05	0.8	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium (III+VI) (filtered)	mg/L	0.1	20	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Copper (filtered)	mg/L	0.1	800	200	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead (filtered)	mg/L	0.1	4	1	<0.1	<0.1	-	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Mercury (filtered)	mg/L	0.001	0.4	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nickel (filtered)	mg/L	0.1	8	2	-	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	<0.1
Tin (filtered)	mg/L	0.1			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Zinc (filtered)	mg/L	0.1	1200	300	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PAHs																		
Benzo(a) pyrene	µg/L	0.5	4	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Appendix J
Table 4
Summary of Soil Analytical Results for Leachability Analysis

				Location Code	NEL-ENV-BH025	NEL-ENV-BH028	NEL-ENV-BH030	NEL-LFB01	NEL-LFB01	NEL-LFB01	NEL-LFB02	NEL-LFB02	NEL-LFB03	NEL-LFB03	NEL-LFB03	NEL-LFB03	NEL-LFB03	NEL-LFB04	NEL-LFB04
				Depth	1 - 1.1	1.5 - 1.6	0.9 - 1		0.5 - 0.6	1 - 1.1		2 - 2.1			0.5 - 0.6	1 - 1.1	2 - 2.1		0.5 - 0.6
				Date	24/04/2018	24/04/2018	24/04/2018	10/07/2018	11/07/2018	11/07/2018	10/07/2018	11/07/2018	10/07/2018	11/07/2018	11/07/2018	11/07/2018	11/07/2018	10/07/2018	11/07/2018
				Field ID	NEL-ENV-BH025_1.0-1	NEL-ENV-BH028_1.5-1	NEL-ENV-BH030_0.9-1	NEL-LFB01_0.1m	NEL-LFB01_0.5m	NEL-LFB01_1.0m	NEL-LFB02_0.1m	NEL-LFB02_2.0m	NEL-LFB03_0.1m	NEL-LFB03_5.0m	NEL-LFB03_0.5m	NEL-LFB03_1.0m	NEL-LFB03_2.0m	NEL-LFB04_0.1m	NEL-LFB04_0.5m
				Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
				Lab Report Number	EM1807708	EM1807708	EM1807708	EM1812499	EM1811715	EM1811715	EM1812499	EM1811715	EM1812499	EM1812499	EM1811715	EM1811715	EM1811715	EM1812499	EM1811715
	Unit	EQL	EPA Victoria IWRG 621 Category B -	EPA Victoria IWRG 621 Category C -															
Major Ions																			
Fluoride	mg/L	0.1	600	150	0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-
Fluoride (filtered)	mg/L	0.1	600	150	0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-
Metals																			
Arsenic (filtered)	mg/L	0.1	2.8	0.7	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	-	-
Cadmium (filtered)	mg/L	0.05	0.8	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium (III+VI) (filtered)	mg/L	0.1	20	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Copper (filtered)	mg/L	0.1	800	200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead (filtered)	mg/L	0.1	4	1	-	-	-	<0.1	<0.1	-	<0.1	0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1
Mercury (filtered)	mg/L	0.001	0.4	0.1	-	-	-	-	-	-	-	-	-	<0.0010	-	-	-	-	-
Nickel (filtered)	mg/L	0.1	8	2	-	0.1	<0.1	-	-	<0.1	-	-	-	-	-	-	-	-	-
Tin (filtered)	mg/L	0.1			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Zinc (filtered)	mg/L	0.1	1200	300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PAHs																			
Benzo(a) pyrene	µg/L	0.5	4	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

				Location Code	NEL-LFB05	NEL-LFB05	NEL-LFB05	NEL-LFB06	NEL-LFB06	NEL-LFB07	NEL-LFB08	NEL-LFB09	NEL-LFB09	NEL-LFB10
				Depth		0.5 - 0.6	1 - 1.1	0.1 - 0.2	0.5 - 0.6				0.5 - 0.6	
				Date	10/07/2018	11/07/2018	11/07/2018	10/07/2018	10/07/2018	10/07/2018	10/07/2018	10/07/2018	10/07/2018	10/07/2018
				Field ID	NEL-LFB05_0.1m	NEL-LFB05_0.5m	NEL-LFB05_1.0m	NEL-LFB06_0.1m	NEL-LFB06_0.5m	NEL-LFB07_0.1m	NEL-LFB08_0.1m	NEL-LFB09_0.1m	NEL-LFB09_0.5m	NEL-LFB10_0.1m
				Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
				Lab Report Number	EM1812499	EM1811715	EM1811715	EM1811715	EM1811715	EM1812499	EM1812499	EM1812499	EM1811715	EM1812499
	Unit	EQL	EPA Victoria IWRG 621 Category B -	EPA Victoria IWRG 621 Category C -										
Major Ions														
Fluoride	mg/L	0.1	600	150	-	-	-	-	-	-	-	-	-	-
Fluoride (filtered)	mg/L	0.1	600	150	-	-	-	-	-	-	-	-	-	-
Metals														
Arsenic (filtered)	mg/L	0.1	2.8	0.7	-	-	-	-	-	-	-	-	-	-
Cadmium (filtered)	mg/L	0.05	0.8	0.2	-	-	-	-	-	-	-	-	-	-
Chromium (III+VI) (filtered)	mg/L	0.1	20	5	-	-	-	-	-	-	-	-	-	-
Copper (filtered)	mg/L	0.1	800	200	-	-	-	-	-	-	-	-	-	-
Lead (filtered)	mg/L	0.1	4	1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Mercury (filtered)	mg/L	0.001	0.4	0.1	-	-	-	-	-	-	-	-	-	-
Nickel (filtered)	mg/L	0.1	8	2	-	-	-	-	-	-	-	-	-	-
Tin (filtered)	mg/L	0.1			-	-	-	-	-	-	-	-	-	-
Zinc (filtered)	mg/L	0.1	1200	300	-	-	-	-	-	-	-	-	-	-
PAHs														
Benzo(a) pyrene	µg/L	0.5	4	1	-	-	-	-	-	-	-	-	-	-

Appendix J
Table 5
Summary of Groundwater Analytical Results

	Unit	EQL	ANZECC 2000 - Stock Watering	ANZECC 2000 FW 95%	ANZECC 2000 FW 99%	PFAS NEMP 2018 Freshwater 99%	ANZECC 2000 Irrigation - Long-term Trigger Values	NHMRC Recreational Guidelines 2008	NEL-BH004	NEL-BH004A	NEL-BH031	NEL-BH031	NEL-BH037	NEL-BH038	NEL-BH039	NEL-BH039	NEL-BH039
Field ID									NEL-BH004 D/150218	NEL-BH004 S/150218	NEL-BH031/080318	NEL-BH031 / 130218	NEL-BH037 / 160418	NEL-BH038 / 140218	NEL-BH039/180418	QC1/180418	QC2 / 180418
Date									15/02/2018	15/02/2018	8/03/2018	13/02/2018	16/04/2018	14/02/2018	18/04/2018	18/04/2018	18/04/2018
Sample Type									Normal	Normal	Normal	Normal	Normal	Normal	Normal	Field_D	Field_D
Lab Report Number									585222 / EM1803079	585222 / EM1803079	588501	584938	594417 / EM1806339	584987 / EM1802989	594938 / EM1806473	594938 / EM1806473	EM1806473
Inorganics																	
Colour(Pt/Co) true	PT/CO UNIT	2							-	-	<2	-	-	-	-	-	-
pH (Lab)	pH Units	0.01					6-9		8.0	8.1	7.3	8.3	7.8	8.2	6.9	6.8	6.50
Electrical conductivity (lab)	µS/cm	1					2900		8,000	2,600	-	16,000	15,000	15,000	2,700	2,500	2,400
Total Dissolved Solids (est.)	mg/L	1	5000						-	-	-	-	-	-	-	-	-
Total Dissolved Solids	mg/L	10	5000						5,700	1,700	9,500	9,900	7,600	7,100	1,300	1,200	1,420
Total Suspended Solids	mg/L	1							-	-	47	-	-	-	-	-	-
Chlorine	mg/L	0.1		0.003	0.0004				-	-	<0.1	-	-	-	-	-	-
Thiosulfate(S)	µg/L	1,000							-	-	<2,000	-	-	-	-	-	-
COD	mg/L	25							-	-	350	-	-	-	-	-	-
Cyanide (Total)	mg/L	0.005		0.007	0.004			0.8	-	-	<0.005	-	-	-	-	-	-
Sodium Adsorption Ratio (filtered)	-	0.01					5		-	-	-	-	-	-	-	-	-
Sulfate as S	mg/L	5	333						-	-	170	-	-	-	-	-	-
Total Oxidised Sulfur (as S)	mg/L	10							-	-	170	-	-	-	-	-	-
Major Ions																	
Calcium	mg/L	0.5	1000						150	33	140	140	240	210	33	33	-
Calcium (filtered)	mg/L	1	1000						-	-	-	-	-	-	-	-	26
Magnesium	mg/L	0.5							350	50	470	470	390	550	63	63	-
Magnesium (filtered)	mg/L	1							-	-	-	-	-	-	-	-	51
Potassium	mg/L	0.5							18	<5	51	48	34	25	3.0	3.2	-
Potassium (filtered)	mg/L	1							-	-	-	-	-	-	-	-	3
Sodium	mg/L	0.5							2,100	630	3,000	3,000	2,400	2,500	440	440	-
Sodium (filtered)	mg/L	1							-	-	-	-	-	-	-	-	385
Chloride	mg/L	1					350		3,100	740	5,200	4,900	2,900	4,700	820	810	536
Sulfate	mg/L	5	1000					5000	350	87	510	520	360	510	58	58	-
Sulfate (filtered)	mg/L	1	1000					5000	-	-	-	-	-	-	-	-	51
Fluoride	mg/L	0.1	2				1	15	-	-	<0.5	-	-	-	-	-	-
Cations Total	meq/L	0.01							-	-	-	-	-	-	-	-	22.3
Anions Total	meq/L	0.01							-	-	-	-	-	-	-	-	23.8
Ionic Balance	%	0.01							-	-	-	-	-	-	-	-	3.24
TOC																	
Total Organic Carbon	mg/L								<5	<5	-	<5	16	<5	<5	<5	3
Metals																	
Arsenic	mg/L	0.001	0.5	0.013	0.0008		0.1	0.1	-	-	-	-	-	-	-	-	-
Arsenic (filtered)	mg/L	0.001	0.5	0.013	0.0008		0.1	0.1	-	-	0.001	-	0.005	-	0.002	0.002	0.002
Barium (filtered)	mg/L	0.001						20	-	-	0.05	-	-	-	-	-	0.333
Beryllium	mg/L	0.001					0.1	0.6	-	-	-	-	-	-	-	-	-
Beryllium (filtered)	mg/L	0.001					0.1	0.6	-	-	<0.001	-	<0.001	-	<0.001	<0.001	<0.001
Boron	mg/L	0.05	5	0.37	0.09		0.5	40	-	-	-	-	-	-	-	-	-
Boron (filtered)	mg/L	0.05	5	0.37	0.09		0.5	40	-	-	0.09	-	0.16	-	0.08	0.08	0.08
Cadmium	mg/L	0.0002	0.01	0.0002	0.00006		0.01	0.02	-	-	-	-	-	-	-	-	-
Cadmium (filtered)	mg/L	0.0001	0.01	0.0002	0.00006		0.01	0.02	-	-	<0.0002	-	<0.0002	-	<0.0002	<0.0002	<0.0001
Chromium (hexavalent)	mg/L	0.001		0.001	0.00001			0.5	-	-	-	-	-	-	<0.001	<0.001	-
Chromium (III+VI)	mg/L	0.001	1	0.001	0.00001		0.1		-	-	-	-	-	-	-	-	-
Chromium (III+VI) (filtered)	mg/L	0.001	1	0.001	0.00001		0.1		-	-	<0.001	-	<0.001	-	-	-	<0.001
Cobalt	mg/L	0.001	1				0.05		-	-	-	-	-	-	-	-	-
Cobalt (filtered)	mg/L	0.001	1				0.05		-	-	<0.001	-	<0.001	-	<0.001	<0.001	<0.001
Copper	mg/L	0.001	1	0.0014	0.001		0.2	20	-	-	-	-	-	-	-	-	-
Copper (filtered)	mg/L	0.001	1	0.0014	0.001		0.2	20	-	-	0.019	-	0.003	-	<0.001	<0.001	<0.001
Iron (filtered)	mg/L	0.05					0.2		-	-	-	-	-	-	-	-	-
Lead	mg/L	0.001	0.1	0.0034	0.001		2	0.1	-	-	-	-	-	-	-	-	-
Lead (filtered)	mg/L	0.001	0.1	0.0034	0.001		2	0.1	-	-	0.001	-	<0.001	-	<0.001	<0.001	<0.001
Manganese	mg/L	0.005		1.9	1.2		0.2	5	-	-	-	-	-	-	-	-	-
Manganese (filtered)	mg/L	0.001		1.9	1.2		0.2	5	-	-	0.12	-	0.18	-	0.62	0.67	0.597
Mercury	mg/L	0.0001	0.002	0.0006	0.00006		0.002	0.01	-	-	-	-	-	-	-	-	-
Mercury (filtered)	mg/L	0.0001	0.002	0.0006	0.00006		0.002	0.01	-	-	<0.0001	-	<0.0001	-	<0.0001	<0.0001	<0.0001
Molybdenum (filtered)	mg/L	0.005	0.15				0.01	0.5	-	-	<0.005	-	-	-	-	-	-
Nickel	mg/L	0.001	1	0.011	0.008		0.2	0.2	-	-	-	-	-	-	-	-	-
Nickel (filtered)	mg/L	0.001	1	0.011	0.008		0.2	0.2	-	-	0.031	-	0.022	-	0.024	0.025	0.024
Selenium	mg/L	0.001	0.02	0.011	0.005		0.02	0.1	-	-	-	-	-	-	-	-	-
Selenium (filtered)	mg/L	0.001	0.02	0.011	0.005		0.02	0.1	-	-	<0.001	-	<0.001	-	<0.001	<0.001	<0.01
Silver (filtered)	mg/L	0.005		0.00005	0.00002			1	-	-	<0.005	-	-	-	-	-	-
Tin (filtered)	mg/L	0.005							-	-	<0.005	-	-	-	-	-	-
Vanadium (filtered)	mg/L	0.01					0.1		-	-	-	-	-	-	-	-	<0.01
Zinc	mg/L	0.005	20	0.008	0.0024		2		-	-	-	-	-	-	-	-	-
Zinc (filtered)	mg/L	0.005	20	0.008	0.0024		2		-	-	0.049	-	0.012	-	0.018	0.007	0.018

Appendix J
Table 5
Summary of Groundwater Analytical Results

								Location Code	NEL-BH040	NEL-BH040A	NEL-BH044	NEL-BH059	NEL-BH060	NEL-BH062	NEL-BH062	NEL-BH062A	NEL-BH062B	NEL-BH062B
								Field ID	NEL-BH040 / 120218	NEL-BH040 A / 120218	NEL-BH044 / 130218	NEL-BH059 / 130218	NEL-BH060 / 140218	NEL-BH062/080318	NEL-BH062 / 140218	NEL-BH062 A / 160218	NEL-BH062B/080318	NEL-BH062 B / 140218
								Date	12/02/2018	12/02/2018	13/02/2018	13/02/2018	14/02/2018	8/03/2018	14/02/2018	16/02/2018	8/03/2018	14/02/2018
								Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
								Lab Report Number	584938	584938	584938	584938	584987 / EM1802989	588501	584987 / EM1802989	585329 / EM1802989	588501	584987 / EM1802989
	Unit	EQL	ANZECC 2000 - Stock Watering	ANZECC 2000 FW 95%	ANZECC 2000 FW 99%	PFAS NEMP 2018 Freshwater 99%	ANZECC 2000 Irrigation - Long-term Trigger Values	NHMRC Recreational Guidelines 2008										
Inorganics																		
Colour(Pt/Co) true	PT/CO UNIT	2							-	-	-	-	-	<2	-	-	4	-
pH (Lab)	pH Units	0.01					6-9		7.3	7.3	8.6	7.4	8.4	7.2	8.3	7.5	6.4	8.3
Electrical conductivity (lab)	µS/cm	1					2900		13,000	12,000	6,900	12,000	10,000	-	11,000	2,000	-	5,400
Total Dissolved Solids (est.)	mg/L	1	5000						-	-	-	-	-	-	-	-	-	-
Total Dissolved Solids	mg/L	10	5000						7,000	6,100	2,700	6,000	5,200	5,500	6,400	1,300	3,300	3,000
Total Suspended Solids	mg/L	1							-	-	-	-	-	6.2	-	-	9.5	-
Chlorine	mg/L	0.1		0.003	0.0004				-	-	-	-	-	<0.1	-	-	<0.1	-
Thiosulfate(S)	µg/L	1,000							-	-	-	-	-	<2,000	-	-	<2,000	-
COD	mg/L	25							-	-	-	-	-	52	-	-	76	-
Cyanide (Total)	mg/L	0.005		0.007	0.004			0.8	-	-	-	-	-	<0.005	-	-	<0.005	-
Sodium Adsorption Ratio (filtered)	-	0.01					5		-	-	-	-	-	-	-	-	-	-
Sulfate as S	mg/L	5	333						-	-	-	-	-	93	-	-	45	-
Total Oxidised Sulfur (as S)	mg/L	10							-	-	-	-	-	93	-	-	45	-
Major Ions																		
Calcium	mg/L	0.5	1000						140	150	36	100	110	180	200	44	87	92
Calcium (filtered)	mg/L	1	1000						-	-	-	-	-	-	-	-	-	-
Magnesium	mg/L	0.5							350	310	97	270	270	270	310	45	140	150
Magnesium (filtered)	mg/L	1							-	-	-	-	-	-	-	-	-	-
Potassium	mg/L	0.5							19	12	24	23	25	15	17	3.1	7.8	7.1
Potassium (filtered)	mg/L	1							-	-	-	-	-	-	-	-	-	-
Sodium	mg/L	0.5							2,200	1,900	1,400	2,000	2,100	1,800	1,900	390	840	920
Sodium (filtered)	mg/L	1							-	-	-	-	-	-	-	-	-	-
Chloride	mg/L	1					350		3,900	3,600	1,500	3,300	3,100	3,200	3,200	600	1,600	1,600
Sulfate	mg/L	5	1000					5000	360	300	170	320	300	280	300	<5	130	150
Sulfate (filtered)	mg/L	1	1000					5000	-	-	-	-	-	-	-	-	-	-
Fluoride	mg/L	0.1	2				1	15	-	-	-	-	-	<0.5	-	-	<0.5	-
Cations Total	meq/L	0.01							-	-	-	-	-	-	-	-	-	-
Anions Total	meq/L	0.01							-	-	-	-	-	-	-	-	-	-
Ionic Balance	%	0.01							-	-	-	-	-	-	-	-	-	-
TOC																		
Total Organic Carbon	mg/L								<5	<5	<5	<5	<5	-	<5	<5	-	<5
Metals																		
Arsenic	mg/L	0.001	0.5	0.013	0.0008		0.1	0.1	-	-	-	-	-	-	-	0.001	-	-
Arsenic (filtered)	mg/L	0.001	0.5	0.013	0.0008		0.1	0.1	-	-	-	-	-	0.002	-	-	0.008	-
Barium (filtered)	mg/L	0.001						20	-	-	-	-	-	0.09	-	-	0.27	-
Beryllium	mg/L	0.001					0.1	0.6	-	-	-	-	-	-	-	<0.001	-	-
Beryllium (filtered)	mg/L	0.001					0.1	0.6	-	-	-	-	-	<0.001	-	-	<0.001	-
Boron	mg/L	0.05	5	0.37	0.09		0.5	40	-	-	-	-	-	-	-	0.12	-	-
Boron (filtered)	mg/L	0.05	5	0.37	0.09		0.5	40	-	-	-	-	-	0.05	-	-	0.07	-
Cadmium	mg/L	0.0002	0.01	0.0002	0.00006		0.01	0.02	-	-	-	-	-	-	-	<0.0002	-	-
Cadmium (filtered)	mg/L	0.0001	0.01	0.0002	0.00006		0.01	0.02	-	-	-	-	-	<0.0002	-	-	<0.0002	-
Chromium (hexavalent)	mg/L	0.001		0.001	0.00001			0.5	-	-	-	-	-	-	-	-	-	-
Chromium (III+VI)	mg/L	0.001	1	0.001	0.00001		0.1		-	-	-	-	-	-	-	0.004	-	-
Chromium (III+VI) (filtered)	mg/L	0.001	1	0.001	0.00001		0.1		-	-	-	-	-	<0.001	-	-	<0.001	-
Cobalt	mg/L	0.001	1				0.05		-	-	-	-	-	-	-	0.002	-	-
Cobalt (filtered)	mg/L	0.001	1				0.05		-	-	-	-	-	0.002	-	-	<0.001	-
Copper	mg/L	0.001	1	0.0014	0.001		0.2	20	-	-	-	-	-	-	-	0.004	-	-
Copper (filtered)	mg/L	0.001	1	0.0014	0.001		0.2	20	-	-	-	-	-	0.021	-	-	0.023	-
Iron (filtered)	mg/L	0.05					0.2		-	-	-	-	-	-	-	-	-	-
Lead	mg/L	0.001	0.1	0.0034	0.001		2	0.1	-	-	-	-	-	-	-	0.002	-	-
Lead (filtered)	mg/L	0.001	0.1	0.0034	0.001		2	0.1	-	-	-	-	-	0.002	-	-	0.002	-
Manganese	mg/L	0.005		1.9	1.2		0.2	5	-	-	-	-	-	-	-	0.57	-	-
Manganese (filtered)	mg/L	0.001		1.9	1.2		0.2	5	-	-	-	-	-	0.18	-	-	0.3	-
Mercury	mg/L	0.0001	0.002	0.0006	0.00006		0.002	0.01	-	-	-	-	-	-	-	<0.0001	-	-
Mercury (filtered)	mg/L	0.0001	0.002	0.0006	0.00006		0.002	0.01	-	-	-	-	-	<0.0001	-	-	<0.0001	-
Molybdenum (filtered)	mg/L	0.005	0.15				0.01	0.5	-	-	-	-	-	<0.005	-	-	<0.005	-
Nickel	mg/L	0.001	1	0.011	0.008		0.2	0.2	-	-	-	-	-	-	-	0.020	-	-
Nickel (filtered)	mg/L	0.001	1	0.011	0.008		0.2	0.2	-	-	-	-	-	0.02	-	-	0.009	-
Selenium	mg/L	0.001	0.02	0.011	0.005		0.02	0.1	-	-	-	-	-	-	-	<0.001	-	-
Selenium (filtered)	mg/L	0.001	0.02	0.011	0.005		0.02	0.1	-	-	-	-	-	<0.001	-	-	<0.001	-
Silver (filtered)	mg/L	0.005		0.00005	0.00002			1	-	-	-	-	-	<0.005	-	-	<0.005	-
Tin (filtered)	mg/L	0.005							-	-	-	-	-	<0.005	-	-	<0.005	-
Vanadium (filtered)	mg/L	0.01					0.1		-	-	-	-	-	-	-	-	-	-
Zinc	mg/L	0.005	20	0.008	0.0024		2		-	-	-	-	-	-	-	0.021	-	-
Zinc (filtered)	mg/L	0.005	20	0.008	0.0024		2		-	-	-	-	-	0.049	-	-	0.039	-

Appendix J
Table 5
Summary of Groundwater Analytical Results

								Location Code	NEL-BH064	NEL-BH070	NEL-BH071	NEL-BH072	NEL-BH076	NEL-BH076A	NEL-BH078
								Field ID	NEL-BH064 / 140218	NEL-BH070 / 120218	NEL-BH071/170418	NEL-BH072 / 120218	NEL-BH076/170418	NEL-BH076A/170418	NEL-BH078/170418
								Date	14/02/2018	12/02/2018	17/04/2018	12/02/2018	17/04/2018	17/04/2018	17/04/2018
								Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal
								Lab Report Number	584987 / EM1802989	584938	594757 / EM1806408	584938	594757 / EM1806408	594757 / EM1806408	594757 / EM1806408
	Unit	EQL	ANZECC 2000 - Stock Watering	ANZECC 2000 FW 95%	ANZECC 2000 FW 99%	PFAS NEMP 2018 Freshwater 99%	ANZECC 2000 Irrigation - Long-term Trigger Values	NHMRC Recreational Guidelines 2008							
Inorganics															
Colour(Pt/Co) true	PT/CO UNIT	2							-	-	-	-	-	-	-
pH (Lab)	pH Units	0.01					6-9		8.3	7.5	6.5	7.3	6.0	6.3	7.3
Electrical conductivity (lab)	µS/cm	1					2900		14,000	11,000	9,300	9,800	5,500	4,300	8,100
Total Dissolved Solids (est.)	mg/L	1	5000						-	-	-	-	-	-	-
Total Dissolved Solids	mg/L	10	5000						5,800	5,000	5,200	4,700	2,200	2,300	4,300
Total Suspended Solids	mg/L	1							-	-	-	-	-	-	-
Chlorine	mg/L	0.1		0.003	0.0004				-	-	-	-	-	-	-
Thiosulfate(S)	µg/L	1,000							-	-	-	-	-	-	-
COD	mg/L	25							-	-	-	-	-	-	-
Cyanide (Total)	mg/L	0.005		0.007	0.004			0.8	-	-	-	-	-	-	-
Sodium Adsorption Ratio (filtered)	-	0.01					5		-	-	-	-	-	-	-
Sulfate as S	mg/L	5	333						-	-	-	-	-	-	-
Total Oxidised Sulfur (as S)	mg/L	10							-	-	-	-	-	-	-
Major Ions															
Calcium	mg/L	0.5	1000						130	160	90	100	59	53	67
Calcium (filtered)	mg/L	1	1000						-	-	-	-	-	-	-
Magnesium	mg/L	0.5							350	300	220	230	91	87	180
Magnesium (filtered)	mg/L	1							-	-	-	-	-	-	-
Potassium	mg/L	0.5							24	19	7.3	17	14	7.6	12
Potassium (filtered)	mg/L	1							-	-	-	-	-	-	-
Sodium	mg/L	0.5							2,300	1,700	1,500	1,600	880	620	1,300
Sodium (filtered)	mg/L	1							-	-	-	-	-	-	-
Chloride	mg/L	1					350		3,900	3,100	2,800	2,800	1,800	1,400	2,500
Sulfate	mg/L	5	1000					5000	390	270	180	190	160	110	270
Sulfate (filtered)	mg/L	1	1000					5000	-	-	-	-	-	-	-
Fluoride	mg/L	0.1	2				1	15	-	-	-	-	-	-	-
Cations Total	meq/L	0.01							-	-	-	-	-	-	-
Anions Total	meq/L	0.01							-	-	-	-	-	-	-
Ionic Balance	%	0.01							-	-	-	-	-	-	-
TOC															
Total Organic Carbon	mg/L								<5	<5	22	<5	31	6.9	<5
Metals															
Arsenic	mg/L	0.001	0.5	0.013	0.0008		0.1	0.1	-	-	-	-	-	-	-
Arsenic (filtered)	mg/L	0.001	0.5	0.013	0.0008		0.1	0.1	-	-	0.006	-	0.001	0.002	0.003
Barium (filtered)	mg/L	0.001						20	-	-	-	-	-	-	-
Beryllium	mg/L	0.001					0.1	0.6	-	-	-	-	-	-	-
Beryllium (filtered)	mg/L	0.001					0.1	0.6	-	-	<0.001	-	<0.001	<0.001	<0.001
Boron	mg/L	0.05	5	0.37	0.09		0.5	40	-	-	-	-	-	-	-
Boron (filtered)	mg/L	0.05	5	0.37	0.09		0.5	40	-	-	0.25	-	0.12	0.12	0.13
Cadmium	mg/L	0.0002	0.01	0.0002	0.00006		0.01	0.02	-	-	-	-	-	-	-
Cadmium (filtered)	mg/L	0.0001	0.01	0.0002	0.00006		0.01	0.02	-	-	<0.0002	-	<0.0002	<0.0002	<0.0002
Chromium (hexavalent)	mg/L	0.001		0.001	0.00001			0.5	-	-	-	-	-	-	-
Chromium (III+VI)	mg/L	0.001	1	0.001	0.00001		0.1		-	-	-	-	-	-	-
Chromium (III+VI) (filtered)	mg/L	0.001	1	0.001	0.00001		0.1		-	-	<0.001	-	<0.001	<0.001	<0.001
Cobalt	mg/L	0.001	1				0.05		-	-	-	-	-	-	-
Cobalt (filtered)	mg/L	0.001	1				0.05		-	-	0.004	-	0.001	<0.001	<0.001
Copper	mg/L	0.001	1	0.0014	0.001		0.2	20	-	-	-	-	-	-	-
Copper (filtered)	mg/L	0.001	1	0.0014	0.001		0.2	20	-	-	0.051	-	0.011	0.025	0.019
Iron (filtered)	mg/L	0.05					0.2		-	-	-	-	-	-	-
Lead	mg/L	0.001	0.1	0.0034	0.001		2	0.1	-	-	-	-	-	-	-
Lead (filtered)	mg/L	0.001	0.1	0.0034	0.001		2	0.1	-	-	0.003	-	<0.001	0.002	0.002
Manganese	mg/L	0.005		1.9	1.2		0.2	5	-	-	-	-	-	-	-
Manganese (filtered)	mg/L	0.001		1.9	1.2		0.2	5	-	-	0.77	-	0.34	0.43	0.52
Mercury	mg/L	0.0001	0.002	0.0006	0.00006		0.002	0.01	-	-	-	-	-	-	-
Mercury (filtered)	mg/L	0.0001	0.002	0.0006	0.00006		0.002	0.01	-	-	<0.0001	-	<0.0001	<0.0001	<0.0001
Molybdenum (filtered)	mg/L	0.005	0.15				0.01	0.5	-	-	-	-	-	-	-
Nickel	mg/L	0.001	1	0.011	0.008		0.2	0.2	-	-	-	-	-	-	-
Nickel (filtered)	mg/L	0.001	1	0.011	0.008		0.2	0.2	-	-	0.035	-	0.13	0.026	0.024
Selenium	mg/L	0.001	0.02	0.011	0.005		0.02	0.1	-	-	-	-	-	-	-
Selenium (filtered)	mg/L	0.001	0.02	0.011	0.005		0.02	0.1	-	-	0.004	-	<0.001	<0.001	<0.001
Silver (filtered)	mg/L	0.005		0.00005	0.00002			1	-	-	-	-	-	-	-
Tin (filtered)	mg/L	0.005							-	-	-	-	-	-	-
Vanadium (filtered)	mg/L	0.01					0.1		-	-	-	-	-	-	-
Zinc	mg/L	0.005	20	0.008	0.0024		2		-	-	-	-	-	-	-
Zinc (filtered)	mg/L	0.005	20	0.008	0.0024		2		-	-	0.13	-	0.10	0.060	0.033

Appendix J
Table 5
Summary of Groundwater Analytical Results

	Unit	EQL	ANZECC 2000 - Stock Watering	ANZECC 2000 FW 95%	ANZECC 2000 FW 99%	PFAS NEMP 2018 Freshwater 99%	ANZECC 2000 Irrigation - Long-term Trigger Values	NHMRC Recreational Guidelines 2008									
								Location Code	NEL-BH083	NEL-BH086	NEL-BH086	NEL-BH086	NEL-BH087	NEL-BH088	NEL-BH089	NEL-BH091	NEL-BH093
								Field ID	NEL-BH083 / 160418	NEL-BH086 / 120718	QC1 / 120718	QC2/120718	NEL-BH087 / 120718	NEL-BH088 / 120718	NEL-BH089 / 120718	NEL-BH091/160218	NEL-BH093 / 160418
								Date	16/04/2018	12/07/2018	12/07/2018	12/07/2018	12/07/2018	12/07/2018	12/07/2018	16/02/2018	16/04/2018
								Sample Type	Normal	Normal	Field_D	Field_D	Normal	Normal	Normal	Normal	Normal
								Lab Report Number	594417 / EM1806339	607533 / EM1811208	607533	EM1811208	607533 / EM1811208	607533 / EM1811208	607533 / EM1811208	585329 / EM1803154	594417 / EM1806339
Inorganics																	
Colour(Pt/Co) true	PT/CO UNIT	2							-	-	-	-	-	-	-	-	-
pH (Lab)	pH Units	0.01					6-9		7.1	7.7	7.5	7.29	7.8	7.7	7.4	8.2	8.0
Electrical conductivity (lab)	µS/cm	1					2900		17,000	15,000	15,000	16,000	11,000	10,000	10,000	8,100	8,700
Total Dissolved Solids (est.)	mg/L	1	5000						-	-	-	-	-	-	-	-	-
Total Dissolved Solids	mg/L	10	5000						8,600	10,000	10,000	9,480	6,300	6,100	6,800	3,900	3,800
Total Suspended Solids	mg/L	1							-	-	-	-	-	-	-	-	-
Chlorine	mg/L	0.1		0.003	0.0004				-	-	-	-	-	-	-	-	-
Thiosulfate(S)	µg/L	1,000							-	-	-	-	-	-	-	-	-
COD	mg/L	25							-	-	-	-	-	-	-	-	-
Cyanide (Total)	mg/L	0.005		0.007	0.004			0.8	-	-	-	-	-	-	-	-	-
Sodium Adsorption Ratio (filtered)	-	0.01					5		-	-	-	-	-	-	-	-	-
Sulfate as S	mg/L	5	333						-	-	-	-	-	-	-	-	-
Total Oxidised Sulfur (as S)	mg/L	10							-	-	-	-	-	-	-	-	-
Major Ions																	
Calcium	mg/L	0.5	1000						180	70	70	-	65	59	34	67	43
Calcium (filtered)	mg/L	1	1000						-	-	-	62	-	-	-	-	-
Magnesium	mg/L	0.5							440	400	400	-	230	190	190	140	85
Magnesium (filtered)	mg/L	1							-	-	-	421	-	-	-	-	-
Potassium	mg/L	0.5							37	48	50	-	43	43	51	48	45
Potassium (filtered)	mg/L	1							-	-	-	54	-	-	-	-	-
Sodium	mg/L	0.5							2,800	2,600	2,600	-	2,000	1,900	1,900	2,000	1,500
Sodium (filtered)	mg/L	1							-	-	-	2,590	-	-	-	-	-
Chloride	mg/L	1					350		3,000	3,700	3,600	5,510	2,600	2,300	2,500	2,400	1,700
Sulfate	mg/L	5	1000					5000	530	610	600	-	320	120	250	61	210
Sulfate (filtered)	mg/L	1	1000					5000	-	-	-	612	-	-	-	-	-
Fluoride	mg/L	0.1	2				1	15	-	-	-	-	-	-	-	-	-
Cations Total	meq/L	0.01							-	-	-	152	-	-	-	-	-
Anions Total	meq/L	0.01							-	-	-	183	-	-	-	-	-
Ionic Balance	%	0.01							-	-	-	9.30	-	-	-	-	-
TOC																	
Total Organic Carbon	mg/L								19	5.1	<5	2	13	<5	27	<5	25
Metals																	
Arsenic	mg/L	0.001	0.5	0.013	0.0008		0.1	0.1	-	-	-	-	-	-	-	0.001	-
Arsenic (filtered)	mg/L	0.001	0.5	0.013	0.0008		0.1	0.1	0.003	<0.001	<0.001	<0.001	<0.001	<0.001	0.003	-	<0.001
Barium (filtered)	mg/L	0.001						20	-	-	-	0.033	-	-	-	-	-
Beryllium	mg/L	0.001					0.1	0.6	-	-	-	-	-	-	-	<0.001	-
Beryllium (filtered)	mg/L	0.001					0.1	0.6	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.001
Boron	mg/L	0.05	5	0.37	0.09		0.5	40	-	-	-	-	-	-	-	0.27	-
Boron (filtered)	mg/L	0.05	5	0.37	0.09		0.5	40	0.14	0.17	0.20	0.15	0.17	0.20	0.07	-	0.06
Cadmium	mg/L	0.0002	0.01	0.0002	0.00006		0.01	0.02	-	-	-	-	-	-	-	<0.0002	-
Cadmium (filtered)	mg/L	0.0001	0.01	0.0002	0.00006		0.01	0.02	<0.0002	<0.0002	<0.0002	<0.0001	<0.0002	<0.0002	<0.0002	-	<0.0002
Chromium (hexavalent)	mg/L	0.001		0.001	0.00001			0.5	-	-	-	-	-	-	-	-	-
Chromium (III+VI)	mg/L	0.001	1	0.001	0.00001		0.1		-	-	-	-	-	-	-	0.002	-
Chromium (III+VI) (filtered)	mg/L	0.001	1	0.001	0.00001		0.1		<0.001	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	-	0.001
Cobalt	mg/L	0.001	1				0.05		-	-	-	-	-	-	-	0.012	-
Cobalt (filtered)	mg/L	0.001	1				0.05		<0.001	0.001	0.002	0.001	0.003	0.003	0.003	-	<0.001
Copper	mg/L	0.001	1	0.0014	0.001		0.2	20	-	-	-	-	-	-	-	0.005	-
Copper (filtered)	mg/L	0.001	1	0.0014	0.001		0.2	20	0.001	0.006	0.086	0.005	0.012	0.022	0.013	-	0.018
Iron (filtered)	mg/L	0.05					0.2		-	<0.05	<0.05	-	0.07	0.05	1.4	-	-
Lead	mg/L	0.001	0.1	0.0034	0.001		2	0.1	-	-	-	-	-	-	-	<0.001	-
Lead (filtered)	mg/L	0.001	0.1	0.0034	0.001		2	0.1	<0.001	<0.001	0.003	<0.001	<0.001	0.002	0.001	-	<0.001
Manganese	mg/L	0.005		1.9	1.2		0.2	5	-	-	-	-	-	-	-	0.27	-
Manganese (filtered)	mg/L	0.001		1.9	1.2		0.2	5	0.19	0.074	0.081	0.066	0.17	0.051	0.77	-	0.022
Mercury	mg/L	0.0001	0.002	0.0006	0.00006		0.002	0.01	-	-	-	-	-	-	-	<0.0001	-
Mercury (filtered)	mg/L	0.0001	0.002	0.0006	0.00006		0.002	0.01	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	-	<0.0001
Molybdenum (filtered)	mg/L	0.005	0.15				0.01	0.5	-	-	-	-	-	-	-	-	-
Nickel	mg/L	0.001	1	0.011	0.008		0.2	0.2	-	-	-	-	-	-	-	0.016	-
Nickel (filtered)	mg/L	0.001	1	0.011	0.008		0.2	0.2	0.037	0.070	0.085	0.075	0.036	0.053	0.11	-	0.002
Selenium	mg/L	0.001	0.02	0.011	0.005		0.02	0.1	-	-	-	-	-	-	-	0.009	-
Selenium (filtered)	mg/L	0.001	0.02	0.011	0.005		0.02	0.1	<0.001	<0.001	<0.001	<0.01	<0.001	0.012	<0.001	-	<0.001
Silver (filtered)	mg/L	0.005		0.00005	0.00002			1	-	-	-	-	-	-	-	-	-
Tin (filtered)	mg/L	0.005							-	-	-	-	-	-	-	-	-
Vanadium (filtered)	mg/L	0.01					0.1		-	-	-	<0.01	-	-	-	-	-
Zinc	mg/L	0.005	20	0.008	0.0024		2		-	-	-	-	-	-	-	0.008	-
Zinc (filtered)	mg/L	0.005	20	0.008	0.0024		2		0.035	0.007	0.14	0.008	0.032	0.063	0.041	-	0.017

Appendix J
Table 5
Summary of Groundwater Analytical Results

								Location Code	NEL-BH095	NEL-BH097	NEL-BH098	NEL-BH106	NEL-BH107	NEL-BH125	NEL-BH125	NEL-BH125
								Field ID	NEL-BH095 / 130218	NEL-BH097/150218	NEL-BH098/150218	NEL-BH106 / 160418	NEL-BH107 / 160418	NEL-BH125/160218	QC1/160218	QC2/160218
								Date	13/02/2018	15/02/2018	15/02/2018	16/04/2018	16/04/2018	16/02/2018	16/02/2018	16/02/2018
								Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Field_D	Field_D
								Lab Report Number	584938	585222 / EM1803079	585222 / EM1803079	594417 / EM1806339	594417 / EM1806339	585329 / EM1803154	585329 / EM1803154	EM1803154
	Unit	EQL	ANZECC 2000 - Stock Watering	ANZECC 2000 FW 95%	ANZECC 2000 FW 99%	PFAS NEMP 2018 Freshwater 99%	ANZECC 2000 Irrigation - Long-term Trigger Values	NHMRC Recreational Guidelines 2008								
Inorganics																
Colour(Pt/Co) true	PT/CO UNIT	2							-	-	-	-	-	-	-	-
pH (Lab)	pH Units	0.01					6-9		7.7	7.7	7.2	7.3	8.0	7.7	7.2	7.12
Electrical conductivity (lab)	µS/cm	1					2900		6,100	10,000	7,200	19,000	15,000	1,600	1,500	1,630
Total Dissolved Solids (est.)	mg/L	1	5000						-	-	-	-	-	-	-	-
Total Dissolved Solids	mg/L	10	5000						2,500	6,800	5,300	9,700	7,600	910	930	1,030
Total Suspended Solids	mg/L	1							-	-	-	-	-	-	-	-
Chlorine	mg/L	0.1		0.003	0.0004				-	-	-	-	-	-	-	-
Thiosulfate(S)	µg/L	1,000							-	-	-	-	-	-	-	-
COD	mg/L	25							-	-	-	-	-	-	-	-
Cyanide (Total)	mg/L	0.005		0.007	0.004			0.8	-	-	-	-	-	-	-	-
Sodium Adsorption Ratio (filtered)	-	0.01					5		-	-	-	-	-	-	-	-
Sulfate as S	mg/L	5	333						-	-	-	-	-	-	-	-
Total Oxidised Sulfur (as S)	mg/L	10							-	-	-	-	-	-	-	-
Major Ions																
Calcium	mg/L	0.5	1000						74	110	83	180	92	33	32	-
Calcium (filtered)	mg/L	1	1000						-	-	-	-	-	-	-	22
Magnesium	mg/L	0.5							72	460	230	450	310	55	50	-
Magnesium (filtered)	mg/L	1							-	-	-	-	-	-	-	40
Potassium	mg/L	0.5							35	55	27	42	43	3.1	3.0	-
Potassium (filtered)	mg/L	1							-	-	-	-	-	-	-	4
Sodium	mg/L	0.5							1,100	2,900	1,600	2,700	2,400	280	270	-
Sodium (filtered)	mg/L	1							-	-	-	-	-	-	-	206
Chloride	mg/L	1					350		1,500	3,800	2,800	3,600	2,900	200	200	204
Sulfate	mg/L	5	1000					5000	270	520	420	660	440	170	170	-
Sulfate (filtered)	mg/L	1	1000					5000	-	-	-	-	-	-	-	179
Fluoride	mg/L	0.1	2				1	15	-	-	-	-	-	-	-	-
Cations Total	meq/L	0.01							-	-	-	-	-	-	-	13.4
Anions Total	meq/L	0.01							-	-	-	-	-	-	-	18.4
Ionic Balance	%	0.01							-	-	-	-	-	-	-	15.6
TOC																
Total Organic Carbon	mg/L								<5	<5	<5	18	21	<5	8.2	13
Metals																
Arsenic	mg/L	0.001	0.5	0.013	0.0008		0.1	0.1	-	-	-	-	-	0.004	0.004	-
Arsenic (filtered)	mg/L	0.001	0.5	0.013	0.0008		0.1	0.1	-	-	-	<0.001	0.001	-	-	0.004
Barium (filtered)	mg/L	0.001						20	-	-	-	-	-	-	-	0.208
Beryllium	mg/L	0.001					0.1	0.6	-	-	-	-	-	<0.001	<0.001	-
Beryllium (filtered)	mg/L	0.001					0.1	0.6	-	-	-	<0.001	<0.001	-	-	<0.001
Boron	mg/L	0.05	5	0.37	0.09		0.5	40	-	-	-	-	-	0.11	0.12	-
Boron (filtered)	mg/L	0.05	5	0.37	0.09		0.5	40	-	-	-	0.09	0.16	-	-	0.12
Cadmium	mg/L	0.0002	0.01	0.0002	0.00006		0.01	0.02	-	-	-	-	-	<0.0002	<0.0002	-
Cadmium (filtered)	mg/L	0.0001	0.01	0.0002	0.00006		0.01	0.02	-	-	-	<0.0002	<0.0002	-	-	<0.0001
Chromium (hexavalent)	mg/L	0.001		0.001	0.00001			0.5	-	-	-	-	-	-	-	-
Chromium (III+VI)	mg/L	0.001	1	0.001	0.00001		0.1		-	-	-	-	-	0.002	0.002	-
Chromium (III+VI) (filtered)	mg/L	0.001	1	0.001	0.00001		0.1		-	-	-	<0.001	<0.001	-	-	<0.001
Cobalt	mg/L	0.001	1				0.05		-	-	-	-	-	0.002	0.002	-
Cobalt (filtered)	mg/L	0.001	1				0.05		-	-	-	0.002	0.002	-	-	0.002
Copper	mg/L	0.001	1	0.0014	0.001		0.2	20	-	-	-	-	-	0.003	0.003	-
Copper (filtered)	mg/L	0.001	1	0.0014	0.001		0.2	20	-	-	-	<0.001	0.007	-	-	<0.001
Iron (filtered)	mg/L	0.05					0.2		-	-	-	-	-	-	-	-
Lead	mg/L	0.001	0.1	0.0034	0.001		2	0.1	-	-	-	-	-	<0.001	<0.001	-
Lead (filtered)	mg/L	0.001	0.1	0.0034	0.001		2	0.1	-	-	-	<0.001	<0.001	-	-	<0.001
Manganese	mg/L	0.005		1.9	1.2		0.2	5	-	-	-	-	-	0.87	0.92	-
Manganese (filtered)	mg/L	0.001		1.9	1.2		0.2	5	-	-	-	0.26	0.24	-	-	0.839
Mercury	mg/L	0.0001	0.002	0.0006	0.00006		0.002	0.01	-	-	-	-	-	<0.0001	<0.0001	-
Mercury (filtered)	mg/L	0.0001	0.002	0.0006	0.00006		0.002	0.01	-	-	-	<0.0001	<0.0001	-	-	<0.0001
Molybdenum (filtered)	mg/L	0.005	0.15				0.01	0.5	-	-	-	-	-	-	-	-
Nickel	mg/L	0.001	1	0.011	0.008		0.2	0.2	-	-	-	-	-	0.015	0.016	-
Nickel (filtered)	mg/L	0.001	1	0.011	0.008		0.2	0.2	-	-	-	0.003	0.007	-	-	0.014
Selenium	mg/L	0.001	0.02	0.011	0.005		0.02	0.1	-	-	-	-	-	<0.001	<0.001	-
Selenium (filtered)	mg/L	0.001	0.02	0.011	0.005		0.02	0.1	-	-	-	<0.001	<0.001	-	-	<0.01
Silver (filtered)	mg/L	0.005		0.00005	0.00002			1	-	-	-	-	-	-	-	-
Tin (filtered)	mg/L	0.005							-	-	-	-	-	-	-	-
Vanadium (filtered)	mg/L	0.01					0.1		-	-	-	-	-	-	-	<0.01
Zinc	mg/L	0.005	20	0.008	0.0024		2		-	-	-	-	-	0.008	0.013	-
Zinc (filtered)	mg/L	0.005	20	0.008	0.0024		2		-	-	-	0.017	0.014	-	-	<0.005

								Location Code	NEL-BH128	NEL-BH140	NEL-ENV-BH006	NEL-ENV-BH008	NEL-ENV-BH009	NEL-ENV-BH009	NEL-ENV-BH014
								Field ID	NEL-BH128/080318	NEL-BH140/180418	NEL-ENV-BH006_27062018	NEL-ENV-BH008_08052018	NEL-ENV-BH009_27062018	NEL-ENV-BH009_19072018	ENV-BH014 / 130718
								Date	8/03/2018	18/04/2018	27/06/2018	8/05/2018	27/06/2018	19/07/2018	13/07/2018
								Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal
								Lab Report Number	588501	594938	EM1810368	EM1807515	EM1810368	EM1811589	607533 / EM1811208
	Unit	EQL	ANZECC 2000 - Stock Watering	ANZECC 2000 FW 95%	ANZECC 2000 FW 99%	PFAS NEMP 2018 Freshwater 99%	ANZECC 2000 Irrigation - Long-term Trigger Values	NHMRC Recreational Guidelines 2008							
Inorganics															
Colour(Pt/Co) true	PT/CO UNIT	2							6.6	-	-	-	-	-	-
pH (Lab)	pH Units	0.01					6-9		6.8	7.8	7.42	7.13	6.74	-	8.1
Electrical conductivity (lab)	µS/cm	1					2900		-	8,300	9,770	11,200	1,480	-	2,400
Total Dissolved Solids (est.)	mg/L	1	5000						-	-	6,350	7,280	962	-	-
Total Dissolved Solids	mg/L	10	5000						730	4,200	-	-	-	-	1,300
Total Suspended Solids	mg/L	1							29	-	-	-	-	-	-
Chlorine	mg/L	0.1		0.003	0.0004				<0.2	-	-	-	-	-	-
Thiosulfate(S)	µg/L	1,000							<2,000	-	-	-	-	-	-
COD	mg/L	25							49	-	-	-	-	-	-
Cyanide (Total)	mg/L	0.005		0.007	0.004			0.8	<0.005	-	-	-	-	-	-
Sodium Adsorption Ratio (filtered)	-	0.01					5		-	-	23.0	24.1	1.75	-	-
Sulfate as S	mg/L	5	333						11	-	-	-	-	-	-
Total Oxidised Sulfur (as S)	mg/L	10							11	-	-	-	-	-	-
Major Ions															
Calcium	mg/L	0.5	1000						28	77	-	-	-	-	14
Calcium (filtered)	mg/L	1	1000						-	-	78	89	48	-	-
Magnesium	mg/L	0.5							25	170	-	-	-	-	26
Magnesium (filtered)	mg/L	1							-	-	164	205	100	-	-
Potassium	mg/L	0.5							2.4	24	-	-	-	-	6.4
Potassium (filtered)	mg/L	1							-	-	23	22	<1	-	-
Sodium	mg/L	0.5							240	1,700	-	-	-	-	420
Sodium (filtered)	mg/L	1							-	-	1,560	1,980	93	-	-
Chloride	mg/L	1					350		250	2,400	3,180	3,680	209	-	260
Sulfate	mg/L	5	1000					5000	33	160	-	-	-	-	68
Sulfate (filtered)	mg/L	1	1000					5000	-	-	222	184	84	-	-
Fluoride	mg/L	0.1	2				1	15	<0.5	-	1.1	0.8	0.3	-	-
Cations Total	meq/L	0.01							-	-	85.8	108	14.7	-	-
Anions Total	meq/L	0.01							-	-	109	125	17.4	-	-
Ionic Balance	%	0.01							-	-	12.0	7.18	8.44	-	-
TOC															
Total Organic Carbon	mg/L								-	<5	-	-	-	-	9.4
Metals															
Arsenic	mg/L	0.001	0.5	0.013	0.0008		0.1	0.1	-	-	-	-	-	-	-
Arsenic (filtered)	mg/L	0.001	0.5	0.013	0.0008		0.1	0.1	0.002	<0.001	<0.001	<0.001	<0.001	-	0.002
Barium (filtered)	mg/L	0.001						20	0.71	-	0.052	0.100	0.208	-	-
Beryllium	mg/L	0.001					0.1	0.6	-	-	-	-	-	-	-
Beryllium (filtered)	mg/L	0.001					0.1	0.6	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.001
Boron	mg/L	0.05	5	0.37	0.09		0.5	40	-	-	-	-	-	-	-
Boron (filtered)	mg/L	0.05	5	0.37	0.09		0.5	40	<0.05	0.20	0.40	0.24	0.17	-	0.53
Cadmium	mg/L	0.0002	0.01	0.0002	0.00006		0.01	0.02	-	-	-	-	-	-	-
Cadmium (filtered)	mg/L	0.0001	0.01	0.0002	0.00006		0.01	0.02	<0.0002	<0.0002	<0.0001	0.0002	<0.0001	-	<0.0002
Chromium (hexavalent)	mg/L	0.001		0.001	0.00001			0.5	-	<0.001	-	-	-	-	-
Chromium (III+VI)	mg/L	0.001	1	0.001	0.00001		0.1		-	-	-	-	-	-	-
Chromium (III+VI) (filtered)	mg/L	0.001	1	0.001	0.00001		0.1		<0.001	-	0.002	<0.001	<0.001	-	<0.001
Cobalt	mg/L	0.001	1				0.05		-	-	-	-	-	-	-
Cobalt (filtered)	mg/L	0.001	1				0.05		0.001	0.002	<0.001	0.004	0.002	-	<0.001
Copper	mg/L	0.001	1	0.0014	0.001		0.2	20	-	-	-	-	-	-	-
Copper (filtered)	mg/L	0.001	1	0.0014	0.001		0.2	20	0.014	0.010	0.002	0.117	0.006	-	0.021
Iron (filtered)	mg/L	0.05					0.2		-	-	-	-	-	-	<0.05
Lead	mg/L	0.001	0.1	0.0034	0.001		2	0.1	-	-	-	-	-	-	-
Lead (filtered)	mg/L	0.001	0.1	0.0034	0.001		2	0.1	0.001	<0.001	<0.001	0.015	<0.001	-	0.002
Manganese	mg/L	0.005		1.9	1.2		0.2	5	-	-	-	-	-	-	-
Manganese (filtered)	mg/L	0.001		1.9	1.2		0.2	5	0.11	0.44	0.024	0.101	0.126	-	0.013
Mercury	mg/L	0.0001	0.002	0.0006	0.00006		0.002	0.01	-	-	-	-	-	-	-
Mercury (filtered)	mg/L	0.0001	0.002	0.0006	0.00006		0.002	0.01	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	-	<0.0001
Molybdenum (filtered)	mg/L	0.005	0.15				0.01	0.5	<0.005	-	-	-	-	-	-
Nickel	mg/L	0.001	1	0.011	0.008		0.2	0.2	-	-	-	-	-	-	-
Nickel (filtered)	mg/L	0.001	1	0.011	0.008		0.2	0.2	0.016	0.023	0.001	0.075	0.008	-	0.062
Selenium	mg/L	0.001	0.02	0.011	0.005		0.02	0.1	-	-	-	-	-	-	-
Selenium (filtered)	mg/L	0.001	0.02	0.011	0.005		0.02	0.1	<0.001	0.003	<0.01	<0.01	<0.01	-	0.002
Silver (filtered)	mg/L	0.005		0.00005	0.00002			1	<0.005	-	-	-	-	-	-
Tin (filtered)	mg/L	0.005							<0.005	-	-	-	-	-	-
Vanadium (filtered)	mg/L	0.01					0.1		-	-	<0.01	<0.01	<0.01	-	-
Zinc	mg/L	0.005	20	0.008	0.0024		2		-	-	-	-	-	-	-
Zinc (filtered)	mg/L	0.005	20	0.008	0.0024		2		0.039	0.065	0.009	0.212	0.038	-	0.041

Appendix J
Table 5
Summary of Groundwater Analytical Results

	Unit	EQL	ANZECC 2000 - Stock Watering	ANZECC 2000 FW 95%	ANZECC 2000 FW 99%	PFAS NEMP 2018 Freshwater 99%	ANZECC 2000 Irrigation - Long-term Trigger Values	NHMRC Recreational Guidelines 2008								
Location Code									NEL-ENV-BH022	NEL-ENV-BH024	NEL-ENV-BH024	NEL-ENV-BH024	NEL-ENV-BH024	NEL-ENV-BH025	NEL-ENV-BH032	NEL-PB01A
Field ID									NEL-ENV-BH022	NEL-ENV-BH024_08052018	NEL-ENV-BH024_19072018	QC5000_08052018	QC6000_08052018	NEL-ENV-BH025_09052018	NEL-ENV-BH032_27062018	NEL-PB01A
Date									27/09/2018	8/05/2018	19/07/2018	8/05/2018	8/05/2018	9/05/2018	27/06/2018	6/07/2018
Sample Type									Normal	Normal	Normal	Field_D	Field_D	Normal	Normal	Normal
Lab Report Number									EM1815577	EM1807515	EM1811589	EM1807515	EM1807515	EM1807669	EM1810368	607533
Inorganics																
Colour(Pt/Co) true	PT/CO UNIT	2							-	-	-	-	-	-	-	-
pH (Lab)	pH Units	0.01					6-9		7.28	7.58	-	7.62	7.61	7.18	7.49	7.1
Electrical conductivity (lab)	µS/cm	1					2900		8,380	8,780	-	8,530	8,660	11,200	11,100	1,200
Total Dissolved Solids (est.)	mg/L	1	5000						5,450	5,710	-	5,540	5,630	7,280	7,220	-
Total Dissolved Solids	mg/L	10	5000						-	-	-	-	-	-	-	790
Total Suspended Solids	mg/L	1							-	-	-	-	-	-	-	-
Chlorine	mg/L	0.1		0.003	0.0004				-	-	-	-	-	-	-	-
Thiosulfate(S)	µg/L	1,000							-	-	-	-	-	-	-	-
COD	mg/L	25							-	-	-	-	-	-	-	-
Cyanide (Total)	mg/L	0.005		0.007	0.004			0.8	-	-	-	-	-	-	-	-
Sodium Adsorption Ratio (filtered)	-	0.01					5		28.2	32.3	-	34.0	33.0	39.5	28.9	-
Sulfate as S	mg/L	5	333						-	-	-	-	-	-	-	-
Total Oxidised Sulfur (as S)	mg/L	10							-	-	-	-	-	-	-	-
Major Ions																
Calcium	mg/L	0.5	1000						-	-	-	-	-	-	-	41
Calcium (filtered)	mg/L	1	1000						23	35	-	34	35	24	54	-
Magnesium	mg/L	0.5							-	-	-	-	-	-	-	61
Magnesium (filtered)	mg/L	1							114	86	-	86	87	127	177	-
Potassium	mg/L	0.5							-	-	-	-	-	-	-	2.6
Potassium (filtered)	mg/L	1							55	26	-	26	26	53	16	-
Sodium	mg/L	0.5							-	-	-	-	-	-	-	120
Sodium (filtered)	mg/L	1							1,490	1,630	-	1,820	1,790	2,190	1,950	-
Chloride	mg/L	1					350		2,700	2,480	-	2,530	2,560	3,350	3,600	100
Sulfate	mg/L	5	1000					5000	-	-	-	-	-	-	-	<5
Sulfate (filtered)	mg/L	1	1000					5000	118	158	-	181	164	120	313	-
Fluoride	mg/L	0.1	2				1	15	1.1	0.8	-	0.8	0.8	0.4	0.9	-
Cations Total	meq/L	0.01							76.7	80.4	-	88.6	87.4	108	102	-
Anions Total	meq/L	0.01							92.6	94.0	-	95.5	96.4	120	127	-
Ionic Balance	%	0.01							9.34	7.82	-	3.75	4.88	5.13	10.8	-
TOC																
Total Organic Carbon	mg/L								-	-	-	-	-	-	-	21
Metals																
Arsenic	mg/L	0.001	0.5	0.013	0.0008		0.1	0.1	-	-	-	-	-	-	-	-
Arsenic (filtered)	mg/L	0.001	0.5	0.013	0.0008		0.1	0.1	0.001	0.002	-	0.002	0.002	0.002	0.001	-
Barium (filtered)	mg/L	0.001						20	0.062	0.069	-	0.072	0.071	0.090	0.065	-
Beryllium	mg/L	0.001					0.1	0.6	-	-	-	-	-	-	-	-
Beryllium (filtered)	mg/L	0.001					0.1	0.6	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	-
Boron	mg/L	0.05	5	0.37	0.09		0.5	40	-	-	-	-	-	-	-	-
Boron (filtered)	mg/L	0.05	5	0.37	0.09		0.5	40	<0.05	1.01	-	1.00	1.03	0.24	0.32	-
Cadmium	mg/L	0.0002	0.01	0.0002	0.00006		0.01	0.02	-	-	-	-	-	-	-	-
Cadmium (filtered)	mg/L	0.0001	0.01	0.0002	0.00006		0.01	0.02	<0.0001	<0.0001	-	<0.0001	<0.0001	<0.0001	<0.0001	-
Chromium (hexavalent)	mg/L	0.001		0.001	0.00001			0.5	-	-	-	-	-	-	-	-
Chromium (III+VI)	mg/L	0.001	1	0.001	0.00001		0.1		-	-	-	-	-	-	-	-
Chromium (III+VI) (filtered)	mg/L	0.001	1	0.001	0.00001		0.1		<0.001	0.001	-	<0.001	<0.001	0.004	<0.001	-
Cobalt	mg/L	0.001	1				0.05		-	-	-	-	-	-	-	-
Cobalt (filtered)	mg/L	0.001	1				0.05		0.005	0.004	-	0.004	0.005	0.005	0.003	-
Copper	mg/L	0.001	1	0.0014	0.001		0.2	20	-	-	-	-	-	-	-	-
Copper (filtered)	mg/L	0.001	1	0.0014	0.001		0.2	20	0.002	0.006	-	0.006	0.006	0.013	0.012	-
Iron (filtered)	mg/L	0.05					0.2		-	-	-	-	-	-	-	-
Lead	mg/L	0.001	0.1	0.0034	0.001		2	0.1	-	-	-	-	-	-	-	-
Lead (filtered)	mg/L	0.001	0.1	0.0034	0.001		2	0.1	0.007	<0.001	-	0.001	<0.001	0.001	<0.001	-
Manganese	mg/L	0.005		1.9	1.2		0.2	5	-	-	-	-	-	-	-	-
Manganese (filtered)	mg/L	0.001		1.9	1.2		0.2	5	0.473	0.066	-	0.064	0.065	0.067	0.039	-
Mercury	mg/L	0.0001	0.002	0.0006	0.00006		0.002	0.01	-	-	-	-	-	-	-	-
Mercury (filtered)	mg/L	0.0001	0.002	0.0006	0.00006		0.002	0.01	0.0003	<0.0001	-	<0.0001	<0.0001	<0.0001	<0.0001	-
Molybdenum (filtered)	mg/L	0.005	0.15				0.01	0.5	-	-	-	-	-	-	-	-
Nickel	mg/L	0.001	1	0.011	0.008		0.2	0.2	-	-	-	-	-	-	-	-
Nickel (filtered)	mg/L	0.001	1	0.011	0.008		0.2	0.2	0.014	0.151	-	0.149	0.148	0.051	0.005	-
Selenium	mg/L	0.001	0.02	0.011	0.005		0.02	0.1	-	-	-	-	-	-	-	-
Selenium (filtered)	mg/L	0.001	0.02	0.011	0.005		0.02	0.1	<0.01	<0.01	-	<0.01	<0.01	0.01	0.02	-
Silver (filtered)	mg/L	0.005		0.00005	0.00002			1	-	-	-	-	-	-	-	-
Tin (filtered)	mg/L	0.005							-	-	-	-	-	-	-	-
Vanadium (filtered)	mg/L	0.01					0.1		<0.01	0.02	-	0.02	0.02	0.02	<0.01	-
Zinc	mg/L	0.005	20	0.008	0.0024		2		-	-	-	-	-	-	-	-
Zinc (filtered)	mg/L	0.005	20	0.008	0.0024		2		0.009	0.007	-	0.009	0.010	0.034	0.012	-

Appendix J
Table 5
Summary of Groundwater Analytical Results

	Unit	EQL	ANZECC 2000 - Stock Watering	ANZECC 2000 FW 95%	ANZECC 2000 FW 99%	PFAS NEMP 2018 Freshwater 99%	ANZECC 2000 Irrigation - Long-term Trigger Values	NHMRC Recreational Guidelines 2008	NEL-BH004	NEL-BH004A	NEL-BH031	NEL-BH031	NEL-BH037	NEL-BH038	NEL-BH039	NEL-BH039	NEL-BH039
Location Code									NEL-BH004	NEL-BH004A	NEL-BH031	NEL-BH031	NEL-BH037	NEL-BH038	NEL-BH039	NEL-BH039	NEL-BH039
Field ID									NEL-BH004 D/150218	NEL-BH004 S/150218	NEL-BH031/080318	NEL-BH031 / 130218	NEL-BH037 / 160418	NEL-BH038 / 140218	NEL-BH039/180418	QC1/180418	QC2 / 180418
Date									15/02/2018	15/02/2018	8/03/2018	13/02/2018	16/04/2018	14/02/2018	18/04/2018	18/04/2018	18/04/2018
Sample Type									Normal	Normal	Normal	Normal	Normal	Normal	Normal	Field_D	Field_D
Lab Report Number									585222 / EM1803079	585222 / EM1803079	588501	584938	594417 / EM1806339	584987 / EM1802989	594938 / EM1806473	594938 / EM1806473	EM1806473
BTEXN																	
Naphthalene (BTEXN)	µg/L	5		16	2.5				-	-	<10	-	-	-	<10	<10	<5
BTEX (Sum of Total) - Lab Calc	µg/L	1							-	-	-	-	-	-	-	-	<1
Benzene	µg/L	1		950	600			10	-	-	<1	-	-	-	<1	<1	<1
Toluene	µg/L	1						8000	-	-	<1	-	-	-	<1	<1	<2
Ethylbenzene	µg/L	1						3000	-	-	<1	-	-	-	<1	<1	<2
Xylene (o)	µg/L	1		350	200				-	-	<1	-	-	-	<1	<1	<2
Xylene (m & p)	µg/L	2							-	-	<2	-	-	-	<2	<2	<2
Xylene Total	µg/L	2						6000	-	-	<3	-	-	-	<3	<3	<2
TRH - NEPM 2013																	
F1 (C6-C10 minus BTEXN)	µg/L	20							-	-	<20	-	-	-	<20	<20	<20
C6-C10 Fraction	µg/L	20							-	-	<20	-	-	-	<20	<20	<20
F2 (>C10-C16 minus Naphthalene)	µg/L	50							-	-	<50	-	-	-	<50	<50	<100
>C10-C16 Fraction	µg/L	50							-	-	<50	-	-	-	<50	<50	<100
F3 (>C16-C34 Fraction)	µg/L	100							-	-	<100	-	-	-	<100	<100	<100
F4 (>C34-C40 Fraction)	µg/L	100							-	-	<100	-	-	-	<100	<100	<100
>C10-C40 (Sum of Total)	µg/L	100							-	-	-	-	-	-	-	-	<100
TRH - NEPM 1999																	
C6-C9 Fraction	µg/L	20							-	-	<20	-	-	-	<20	<20	<20
C10-C14 Fraction	µg/L	50							-	-	<50	-	-	-	<50	<50	<50
C15-C28 Fraction	µg/L	100							-	-	<100	-	-	-	<100	<100	<100
C29-C36 Fraction	µg/L	50							-	-	<100	-	-	-	<100	<100	<50
C10-C36 (Sum of Total)	µg/L	50							-	-	<100	-	-	-	<100	<100	<50
Nitrosoamines																	
N-Nitrosodiphenyl & Diphenylamine	µg/L	4							-	-	-	-	-	-	-	-	<4
Unassigned																	
CO2 (Free)	mg/L	5							-	-	-	-	19	-	69	71	-
Acidity & Alkalinity																	
Alkalinity (Carbonate as CaCO3)	mg/L	1							<10	<10	<10	<10	<10	<10	<10	<10	<1
Alkalinity (Bicarbonate as CaCO3)	mg/L	1							430	660	450	470	620	290	350	300	382
Alkalinity (Hydroxide as CaCO3)	mg/L	1							<10	<10	-	<10	<20	<10	<20	<20	<1
Alkalinity (total as CaCO3)	mg/L	1							430	660	-	470	620	290	350	300	382
Hardness as CaCO3 (filtered)	mg/L	1							-	-	-	-	-	-	-	-	-
Nutrients																	
Sulfite as S	µg/L	500							-	-	<1,000	-	-	-	-	-	-
Ammonia as N	mg/L	0.01		0.9	0.32				1.0	0.16	0.02	<0.01	0.03	0.57	0.35	0.35	0.41
Nitrate (as N)	mg/L	0.01	90	7.2	4.9				<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.02	0.02
Nitrite (as N)	mg/L	0.01	9.1						<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01
Nitrogen (Total Oxidised) (as N)	mg/L	0.01							<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	0.02
Nitrogen (Total)	mg/L	0.1					5		1.3	0.5	-	<0.2	0.2	0.6	0.6	1.1	0.4
Phosphorus (Total)	mg/L	0.01					0.05		-	-	-	-	-	-	-	-	0.36
Reactive Phosphorus as P	µg/L	10							<50	<50	-	<50	<50	<50	<50	<50	-
Phosphate total (P)	µg/L	50							150	300	-	80	100	650	420	760	-
Kjeldahl Nitrogen Total	mg/L	0.1							1.3	0.5	<0.2	<0.2	0.2	0.6	0.6	1.1	0.4
Organic Indicators																	
BOD	mg/L	5							-	-	<5	-	-	-	-	-	-
PAHs																	
Pyrene	µg/L	1							-	-	<1	-	-	-	<1	<1	<2
Acenaphthene	µg/L	1							-	-	<1	-	-	-	<10	<10	<2
Acenaphthylene	µg/L	1							-	-	<1	-	-	-	<10	<10	<2
Anthracene	µg/L	1							-	-	<1	-	-	-	<1	<1	<2
Benz(a)anthracene	µg/L	1							-	-	<1	-	-	-	<1	<1	<2
Benzo(a) pyrene	µg/L	1						0.1	-	-	<1	-	-	-	<1	<1	<2
Benzo[b+j]fluoranthene	µg/L	1							-	-	<1	-	-	-	<1	<1	-
Benzo(k)fluoranthene	µg/L	1							-	-	<1	-	-	-	<1	<1	-
Benzo(b+j+k)fluoranthene	µg/L	4							-	-	-	-	-	-	-	-	<4
Benzo(g,h,i)perylene	µg/L	1							-	-	<1	-	-	-	<1	<1	<2
Chrysene	µg/L	1							-	-	<1	-	-	-	<1	<1	<2
Dibenz(a,h)anthracene	µg/L	1							-	-	<1	-	-	-	<1	<1	<2
Fluoranthene	µg/L	1							-	-	<1	-	-	-	<1	<1	<2
Fluorene	µg/L	1							-	-	<1	-	-	-	<10	<10	<2
Indeno(1,2,3-c,d)pyrene	µg/L	1							-	-	<1	-	-	-	<1	<1	<2
Naphthalene-PAH	µg/L	1		16	2.5				-	-	<1	-	-	-	<1	<1	-
Naphthalene	µg/L	2		16	2.5				-	-	-	-	-	-	-	-	<2
Phenanthrene	µg/L	1							-	-	<1	-	-	-	<1	<1	<2
PAHs (Sum of total) - Lab calc	µg/L	1							-	-	<1	-	-	-	<10	<10	<2
Total 8 PAHs (as BaP TEQ)(zero LOR) - Lab Calc	µg/L	2							-	-	-	-	-	-	-	-	<2

Appendix J
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Summary of Groundwater Analytical Results

	Unit	EQL	ANZECC 2000 - Stock Watering	ANZECC 2000 FW 95%	ANZECC 2000 FW 99%	PFAS NEMP 2018 Freshwater 99%	ANZECC 2000 Irrigation - Long-term Trigger Values	NHMRC Recreational Guidelines 2008	NEL-BH040	NEL-BH040A	NEL-BH044	NEL-BH059	NEL-BH060	NEL-BH062	NEL-BH062	NEL-BH062A	NEL-BH062B	NEL-BH062B
Field ID									NEL-BH040 / 120218	NEL-BH040 A / 120218	NEL-BH044 / 130218	NEL-BH059 / 130218	NEL-BH060 / 140218	NEL-BH062/080318	NEL-BH062 / 140218	NEL-BH062 A / 160218	NEL-BH062B/080318	NEL-BH062 B / 140218
Date									12/02/2018	12/02/2018	13/02/2018	13/02/2018	14/02/2018	8/03/2018	14/02/2018	16/02/2018	8/03/2018	14/02/2018
Sample Type									Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
Lab Report Number									584938	584938	584938	584938	584987 / EM1802989	588501	584987 / EM1802989	585329 / EM1802989	588501	584987 / EM1802989
BTEXN																		
Naphthalene (BTEXN)	µg/L	5		16	2.5				-	-	-	-	-	<10	-	<10	<10	-
BTEX (Sum of Total) - Lab Calc	µg/L	1							-	-	-	-	-	-	-	-	-	-
Benzene	µg/L	1		950	600			10	-	-	-	-	-	<1	-	<1	<1	-
Toluene	µg/L	1						8000	-	-	-	-	-	<1	-	9	<1	-
Ethylbenzene	µg/L	1						3000	-	-	-	-	-	<1	-	<1	<1	-
Xylene (o)	µg/L	1		350	200				-	-	-	-	-	<1	-	<1	<1	-
Xylene (m & p)	µg/L	2							-	-	-	-	-	<2	-	<2	<2	-
Xylene Total	µg/L	2						6000	-	-	-	-	-	<3	-	<3	<3	-
TRH - NEPM 2013																		
F1 (C6-C10 minus BTEXN)	µg/L	20							-	-	-	-	-	<20	-	<20	<20	-
C6-C10 Fraction	µg/L	20							-	-	-	-	-	<20	-	<20	<20	-
F2 (>C10-C16 minus Naphthalene)	µg/L	50							-	-	-	-	-	<50	-	<50	<50	-
>C10-C16 Fraction	µg/L	50							-	-	-	-	-	<50	-	<50	<50	-
F3 (>C16-C34 Fraction)	µg/L	100							-	-	-	-	-	<100	-	<100	<100	-
F4 (>C34-C40 Fraction)	µg/L	100							-	-	-	-	-	<100	-	<100	<100	-
>C10-C40 (Sum of Total)	µg/L	100							-	-	-	-	-	-	-	-	-	-
TRH - NEPM 1999																		
C6-C9 Fraction	µg/L	20							-	-	-	-	-	<20	-	<20	<20	-
C10-C14 Fraction	µg/L	50							-	-	-	-	-	<50	-	<50	<50	-
C15-C28 Fraction	µg/L	100							-	-	-	-	-	<100	-	<100	<100	-
C29-C36 Fraction	µg/L	50							-	-	-	-	-	<100	-	<100	<100	-
C10-C36 (Sum of Total)	µg/L	50							-	-	-	-	-	<100	-	<100	<100	-
Nitrosoamines																		
N-Nitrosodiphenyl & Diphenylamine	µg/L	4							-	-	-	-	-	-	-	-	-	-
Unassigned																		
CO2 (Free)	mg/L	5							-	-	-	-	-	-	-	-	-	-
Acidity & Alkalinity																		
Alkalinity (Carbonate as CaCO3)	mg/L	1							<10	<10	65	<10	34	<10	<10	<10	<10	<10
Alkalinity (Bicarbonate as CaCO3)	mg/L	1							560	510	820	460	700	290	300	1,000	410	370
Alkalinity (Hydroxide as CaCO3)	mg/L	1							<10	<10	<10	<10	<10	-	<10	<10	-	<10
Alkalinity (total as CaCO3)	mg/L	1							560	510	890	460	740	-	300	1,000	-	370
Hardness as CaCO3 (filtered)	mg/L	1							-	-	-	-	-	-	-	-	-	-
Nutrients																		
Sulfite as S	µg/L	500							-	-	-	-	-	<1,000	-	-	<1,000	-
Ammonia as N	mg/L	0.01		0.9	0.32				0.57	0.41	<0.01	0.08	<0.01	2.9	2.9	1.4	1.3	1.5
Nitrate (as N)	mg/L	0.01	90	7.2	4.9				0.10	<0.02	<0.02	<0.02	<0.02	0.03	<0.02	<0.02	0.07	0.03
Nitrite (as N)	mg/L	0.01	9.1						<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Nitrogen (Total Oxidised) (as N)	mg/L	0.01							0.11	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	-	<0.05
Nitrogen (Total)	mg/L	0.1					5		0.7	0.6	<0.2	<0.2	0.2	-	2.4	1.5	-	1.6
Phosphorus (Total)	mg/L	0.01					0.05		-	-	-	-	-	-	-	-	-	-
Reactive Phosphorus as P	µg/L	10							<50	<50	60	<50	<50	-	<50	<50	-	<50
Phosphate total (P)	µg/L	50							160	180	100	80	90	-	100	670	-	390
Kjeldahl Nitrogen Total	mg/L	0.1							0.6	0.6	<0.2	<0.2	0.2	4.3	2.4	1.5	2.1	1.6
Organic Indicators																		
BOD	mg/L	5							-	-	-	-	-	<5	-	-	<5	-
PAHs																		
Pyrene	µg/L	1							-	-	-	-	-	<1	-	<1	<1	-
Acenaphthene	µg/L	1							-	-	-	-	-	<1	-	<1	<1	-
Acenaphthylene	µg/L	1							-	-	-	-	-	<1	-	<1	<1	-
Anthracene	µg/L	1							-	-	-	-	-	<1	-	<1	<1	-
Benz(a)anthracene	µg/L	1							-	-	-	-	-	<1	-	<1	<1	-
Benzo(a) pyrene	µg/L	1						0.1	-	-	-	-	-	<1	-	<1	<1	-
Benzo[b+j]fluoranthene	µg/L	1							-	-	-	-	-	<1	-	<1	<1	-
Benzo(k)fluoranthene	µg/L	1							-	-	-	-	-	<1	-	<1	<1	-
Benzo(b+j+k)fluoranthene	µg/L	4							-	-	-	-	-	-	-	-	-	-
Benzo(g,h,i)perylene	µg/L	1							-	-	-	-	-	<1	-	<1	<1	-
Chrysene	µg/L	1							-	-	-	-	-	<1	-	<1	<1	-
Dibenz(a,h)anthracene	µg/L	1							-	-	-	-	-	<1	-	<1	<1	-
Fluoranthene	µg/L	1							-	-	-	-	-	<1	-	<1	<1	-
Fluorene	µg/L	1							-	-	-	-	-	<1	-	<1	<1	-
Indeno(1,2,3-c,d)pyrene	µg/L	1							-	-	-	-	-	<1	-	<1	<1	-
Naphthalene-PAH	µg/L	1		16	2.5				-	-	-	-	-	<1	-	<1	<1	-
Naphthalene	µg/L	2		16	2.5				-	-	-	-	-	-	-	-	-	-
Phenanthrene	µg/L	1							-	-	-	-	-	<1	-	<1	<1	-
PAHs (Sum of total) - Lab calc	µg/L	1							-	-	-	-	-	<1	-	<1	<1	-
Total 8 PAHs (as BaP TEQ)(zero LOR) - Lab Calc	µg/L	2							-	-	-	-	-	-	-	-	-	-

Appendix J
Table 5
Summary of Groundwater Analytical Results

	Unit	EQL	ANZECC 2000 - Stock Watering	ANZECC 2000 FW 95%	ANZECC 2000 FW 99%	PFAS NEMP 2018 Freshwater 99%	ANZECC 2000 Irrigation - Long-term Trigger Values	NHMRC Recreational Guidelines 2008							
								Location Code	NEL-BH064	NEL-BH070	NEL-BH071	NEL-BH072	NEL-BH076	NEL-BH076A	NEL-BH078
								Field ID	NEL-BH064 / 140218	NEL-BH070 / 120218	NEL-BH071/170418	NEL-BH072 / 120218	NEL-BH076/170418	NEL-BH076A/170418	NEL-BH078/170418
								Date	14/02/2018	12/02/2018	17/04/2018	12/02/2018	17/04/2018	17/04/2018	17/04/2018
								Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal
								Lab Report Number	584987 / EM1802989	584938	594757 / EM1806408	584938	594757 / EM1806408	594757 / EM1806408	594757 / EM1806408
BTEXN															
Naphthalene (BTEXN)	µg/L	5		16	2.5				-	-	-	-	-	-	-
BTEX (Sum of Total) - Lab Calc	µg/L	1							-	-	-	-	-	-	-
Benzene	µg/L	1		950	600			10	-	-	-	-	-	-	-
Toluene	µg/L	1						8000	-	-	-	-	-	-	-
Ethylbenzene	µg/L	1						3000	-	-	-	-	-	-	-
Xylene (o)	µg/L	1		350	200				-	-	-	-	-	-	-
Xylene (m & p)	µg/L	2							-	-	-	-	-	-	-
Xylene Total	µg/L	2						6000	-	-	-	-	-	-	-
TRH - NEPM 2013															
F1 (C6-C10 minus BTEXN)	µg/L	20							-	-	-	-	-	-	-
C6-C10 Fraction	µg/L	20							-	-	-	-	-	-	-
F2 (>C10-C16 minus Naphthalene)	µg/L	50							-	-	-	-	-	-	-
>C10-C16 Fraction	µg/L	50							-	-	-	-	-	-	-
F3 (>C16-C34 Fraction)	µg/L	100							-	-	-	-	-	-	-
F4 (>C34-C40 Fraction)	µg/L	100							-	-	-	-	-	-	-
>C10-C40 (Sum of Total)	µg/L	100							-	-	-	-	-	-	-
TRH - NEPM 1999															
C6-C9 Fraction	µg/L	20							-	-	-	-	-	-	-
C10-C14 Fraction	µg/L	50							-	-	-	-	-	-	-
C15-C28 Fraction	µg/L	100							-	-	-	-	-	-	-
C29-C36 Fraction	µg/L	50							-	-	-	-	-	-	-
C10-C36 (Sum of Total)	µg/L	50							-	-	-	-	-	-	-
Nitrosoamines															
N-Nitrosodiphenyl & Diphenylamine	µg/L	4							-	-	-	-	-	-	-
Unassigned															
CO2 (Free)	mg/L	5							-	-	410	-	630	280	49
Acidity & Alkalinity															
Alkalinity (Carbonate as CaCO3)	mg/L	1							<10	<10	<10	<10	<10	<10	<10
Alkalinity (Bicarbonate as CaCO3)	mg/L	1							480	500	770	550	330	340	500
Alkalinity (Hydroxide as CaCO3)	mg/L	1							<10	<10	<20	<10	<20	<20	<20
Alkalinity (total as CaCO3)	mg/L	1							490	500	770	550	330	340	500
Hardness as CaCO3 (filtered)	mg/L	1							-	-	-	-	-	-	-
Nutrients															
Sulfite as S	µg/L	500							-	-	-	-	-	-	-
Ammonia as N	mg/L	0.01		0.9	0.32				0.47	0.66	<0.01	0.51	0.90	0.77	0.85
Nitrate (as N)	mg/L	0.01	90	7.2	4.9				<0.02	<0.02	0.71	0.43	<0.02	<0.02	<0.02
Nitrite (as N)	mg/L	0.01	9.1						<0.02	<0.02	0.04	<0.02	<0.02	0.05	<0.02
Nitrogen (Total Oxidised) (as N)	mg/L	0.01							<0.05	<0.05	0.75	0.43	<0.05	<0.05	<0.05
Nitrogen (Total)	mg/L	0.1					5		0.5	0.8	0.8	0.9	1.2	1.1	1.2
Phosphorus (Total)	mg/L	0.01					0.05		-	-	-	-	-	-	-
Reactive Phosphorus as P	µg/L	10							<50	<50	<50	<50	<50	<50	<50
Phosphate total (P)	µg/L	50							120	80	200	430	2,200	240	230
Kjeldahl Nitrogen Total	mg/L	0.1							0.5	0.8	<0.2	0.5	1.2	1.1	1.2
Organic Indicators															
BOD	mg/L	5							-	-	-	-	-	-	-
PAHs															
Pyrene	µg/L	1							-	-	-	-	-	-	-
Acenaphthene	µg/L	1							-	-	-	-	-	-	-
Acenaphthylene	µg/L	1							-	-	-	-	-	-	-
Anthracene	µg/L	1							-	-	-	-	-	-	-
Benz(a)anthracene	µg/L	1							-	-	-	-	-	-	-
Benzo(a) pyrene	µg/L	1						0.1	-	-	-	-	-	-	-
Benzo[b+j]fluoranthene	µg/L	1							-	-	-	-	-	-	-
Benzo(k)fluoranthene	µg/L	1							-	-	-	-	-	-	-
Benzo(b+j+k)fluoranthene	µg/L	4							-	-	-	-	-	-	-
Benzo(g,h,i)perylene	µg/L	1							-	-	-	-	-	-	-
Chrysene	µg/L	1							-	-	-	-	-	-	-
Dibenz(a,h)anthracene	µg/L	1							-	-	-	-	-	-	-
Fluoranthene	µg/L	1							-	-	-	-	-	-	-
Fluorene	µg/L	1							-	-	-	-	-	-	-
Indeno(1,2,3-c,d)pyrene	µg/L	1							-	-	-	-	-	-	-
Naphthalene-PAH	µg/L	1		16	2.5				-	-	-	-	-	-	-
Naphthalene	µg/L	2		16	2.5				-	-	-	-	-	-	-
Phenanthrene	µg/L	1							-	-	-	-	-	-	-
PAHs (Sum of total) - Lab calc	µg/L	1							-	-	-	-	-	-	-
Total 8 PAHs (as BaP TEQ)(zero LOR) - Lab Calc	µg/L	2							-	-	-	-	-	-	-

Appendix J
Table 5
Summary of Groundwater Analytical Results

								Location Code	NEL-BH083	NEL-BH086	NEL-BH086	NEL-BH086	NEL-BH087	NEL-BH088	NEL-BH089	NEL-BH091	NEL-BH093
								Field ID	NEL-BH083 / 160418	NEL-BH086 / 120718	QC1 / 120718	QC2/120718	NEL-BH087 / 120718	NEL-BH088 / 120718	NEL-BH089 / 120718	NEL-BH091/160218	NEL-BH093 / 160418
								Date	16/04/2018	12/07/2018	12/07/2018	12/07/2018	12/07/2018	12/07/2018	12/07/2018	16/02/2018	16/04/2018
								Sample Type	Normal	Normal	Field_D	Field_D	Normal	Normal	Normal	Normal	Normal
								Lab Report Number	594417 / EM1806339	607533 / EM1811208	607533	EM1811208	607533 / EM1811208	607533 / EM1811208	607533 / EM1811208	585329 / EM1803154	594417 / EM1806339
	Unit	EQL	ANZECC 2000 - Stock Watering	ANZECC 2000 FW 95%	ANZECC 2000 FW 99%	PFAS NEMP 2018 Freshwater 99%	ANZECC 2000 Irrigation - Long-term Trigger Values	NHMRC Recreational Guidelines 2008									
BTEXN																	
Naphthalene (BTEXN)	µg/L	5		16	2.5				-	<10	<10	<5	<10	<10	<10	<10	-
BTEX (Sum of Total) - Lab Calc	µg/L	1							-	-	-	<1	-	-	-	-	-
Benzene	µg/L	1		950	600			10	-	<1	<1	<1	<1	<1	53	<1	-
Toluene	µg/L	1						8000	-	<1	<1	<2	<1	<1	3	<1	-
Ethylbenzene	µg/L	1						3000	-	<1	<1	<2	<1	<1	19	<1	-
Xylene (o)	µg/L	1		350	200				-	<1	<1	<2	<1	<1	<1	<1	-
Xylene (m & p)	µg/L	2							-	<2	<2	<2	<2	<2	24	<2	-
Xylene Total	µg/L	2						6000	-	<3	<3	<2	<3	<3	24	<3	-
TRH - NEPM 2013																	
F1 (C6-C10 minus BTEXN)	µg/L	20							-	<20	<20	<20	<20	<20	130	<20	-
C6-C10 Fraction	µg/L	20							-	<20	<20	<20	<20	<20	230	<20	-
F2 (>C10-C16 minus Naphthalene)	µg/L	50							-	<50	<50	<100	<50	<50	<50	<50	-
>C10-C16 Fraction	µg/L	50							-	<50	<50	<100	<50	<50	<50	<50	-
F3 (>C16-C34 Fraction)	µg/L	100							-	<100	<100	<100	<100	<100	<100	500	-
F4 (>C34-C40 Fraction)	µg/L	100							-	<100	<100	<100	<100	<100	<100	<100	-
>C10-C40 (Sum of Total)	µg/L	100							-	-	-	<100	-	-	-	-	-
TRH - NEPM 1999																	
C6-C9 Fraction	µg/L	20							-	<20	<20	<20	<20	<20	190	<20	-
C10-C14 Fraction	µg/L	50							-	<50	<50	<50	<50	<50	<50	580	-
C15-C28 Fraction	µg/L	100							-	<100	<100	<100	<100	<100	<100	400	-
C29-C36 Fraction	µg/L	50							-	<100	<100	<50	<100	<100	<100	<100	-
C10-C36 (Sum of Total)	µg/L	50							-	<100	<100	<50	<100	<100	<100	980	-
Nitrosoamines																	
N-Nitrosodiphenyl & Diphenylamine	µg/L	4							-	-	-	<4	-	-	-	-	-
Unassigned																	
CO2 (Free)	mg/L	5							68	26	40	-	25	41	41	-	11
Acidity & Alkalinity																	
Alkalinity (Carbonate as CaCO3)	mg/L	1							<10	<10	<10	<1	<10	<10	<10	<10	<10
Alkalinity (Bicarbonate as CaCO3)	mg/L	1							530	660	680	737	790	1,100	820	1,000	610
Alkalinity (Hydroxide as CaCO3)	mg/L	1							<20	<20	<20	<1	<20	<20	<20	<10	<20
Alkalinity (total as CaCO3)	mg/L	1							530	660	680	737	790	1,100	820	1,000	610
Hardness as CaCO3 (filtered)	mg/L	1							-	-	-	-	-	-	-	-	-
Nutrients																	
Sulfite as S	µg/L	500							-	-	-	-	-	-	-	-	-
Ammonia as N	mg/L	0.01		0.9	0.32				<0.01	<0.01	<0.01	0.18	<0.01	<0.01	<0.01	<0.01	<0.01
Nitrate (as N)	mg/L	0.01	90	7.2	4.9				<0.02	<0.02	<0.02	0.03	<0.02	0.13	<0.02	0.11	0.35
Nitrite (as N)	mg/L	0.01	9.1						<0.02	<0.02	<0.02	<0.01	<0.02	0.05	<0.02	<0.02	<0.02
Nitrogen (Total Oxidised) (as N)	mg/L	0.01							<0.05	<0.05	<0.05	0.03	<0.05	0.18	<0.05	0.11	0.35
Nitrogen (Total)	mg/L	0.1					5		1.5	<0.2	<0.2	0.4	<0.2	<0.2	0.4	<0.2	0.7
Phosphorus (Total)	mg/L	0.01					0.05		-	-	-	0.15	-	-	-	-	-
Reactive Phosphorus as P	µg/L	10							<50	<50	<50	-	<50	<50	<50	<50	<50
Phosphate total (P)	µg/L	50							360	100	100	-	90	70	160	400	60
Kjeldahl Nitrogen Total	mg/L	0.1							1.5	<0.2	<0.2	0.4	<0.2	<0.2	0.4	<0.2	0.3
Organic Indicators																	
BOD	mg/L	5							-	-	-	-	-	-	-	-	-
PAHs																	
Pyrene	µg/L	1							-	<1	<1	<2	<1	<1	<1	<1	-
Acenaphthene	µg/L	1							-	<1	<1	<2	<1	<1	<1	<1	-
Acenaphthylene	µg/L	1							-	<1	<1	<2	<1	<1	<1	<1	-
Anthracene	µg/L	1							-	<1	<1	<2	<1	<1	<1	<1	-
Benz(a)anthracene	µg/L	1							-	<1	<1	<2	<1	<1	<1	<1	-
Benzo(a) pyrene	µg/L	1						0.1	-	<1	<1	<2	<1	<1	<1	<1	-
Benzo[b+j]fluoranthene	µg/L	1							-	<1	<1	-	<1	<1	<1	<1	-
Benzo(k)fluoranthene	µg/L	1							-	<1	<1	-	<1	<1	<1	<1	-
Benzo(b+j+k)fluoranthene	µg/L	4							-	-	-	<4	-	-	-	-	-
Benzo(g,h,i)perylene	µg/L	1							-	<1	<1	<2	<1	<1	<1	<1	-
Chrysene	µg/L	1							-	<1	<1	<2	<1	<1	<1	<1	-
Dibenz(a,h)anthracene	µg/L	1							-	<1	<1	<2	<1	<1	<1	<1	-
Fluoranthene	µg/L	1							-	<1	<1	<2	<1	<1	<1	<1	-
Fluorene	µg/L	1							-	<1	<1	<2	<1	<1	<1	<1	-
Indeno(1,2,3-c,d)pyrene	µg/L	1							-	<1	<1	<2	<1	<1	<1	<1	-
Naphthalene-PAH	µg/L	1		16	2.5				-	<1	<1	-	<1	<1	1	<1	-
Naphthalene	µg/L	2		16	2.5				-	-	-	<2	-	-	-	-	-
Phenanthrene	µg/L	1							-	<1	<1	<2	<1	<1	<1	<1	-
PAHs (Sum of total) - Lab calc	µg/L	1							-	<1	<1	<2	<1	<1	1	<1	-
Total 8 PAHs (as BaP TEQ)(zero LOR) - Lab Calc	µg/L	2							-	-	-	<2	-	-	-	-	-

Appendix J
Table 5
Summary of Groundwater Analytical Results

	Unit	EQL	ANZECC 2000 - Stock Watering	ANZECC 2000 FW 95%	ANZECC 2000 FW 99%	PFAS NEMP 2018 Freshwater 99%	ANZECC 2000 Irrigation - Long-term Trigger Values	NHMRC Recreational Guidelines 2008								
Location Code									NEL-BH095	NEL-BH097	NEL-BH098	NEL-BH106	NEL-BH107	NEL-BH125	NEL-BH125	NEL-BH125
Field ID									NEL-BH095 / 130218	NEL-BH097/150218	NEL-BH098/150218	NEL-BH106 / 160418	NEL-BH107 / 160418	NEL-BH125/160218	QC1/160218	QC2/160218
Date									13/02/2018	15/02/2018	15/02/2018	16/04/2018	16/04/2018	16/02/2018	16/02/2018	16/02/2018
Sample Type									Normal	Normal	Normal	Normal	Normal	Normal	Field_D	Field_D
Lab Report Number									584938	585222 / EM1803079	585222 / EM1803079	594417 / EM1806339	594417 / EM1806339	585329 / EM1803154	585329 / EM1803154	EM1803154
BTEXN																
Naphthalene (BTEXN)	µg/L	5		16	2.5				-	-	-	-	-	<10	<10	<5
BTEX (Sum of Total) - Lab Calc	µg/L	1							-	-	-	-	-	-	-	<1
Benzene	µg/L	1		950	600			10	-	-	-	-	-	<1	<1	<1
Toluene	µg/L	1						8000	-	-	-	-	-	<1	<1	<2
Ethylbenzene	µg/L	1						3000	-	-	-	-	-	<1	<1	<2
Xylene (o)	µg/L	1		350	200				-	-	-	-	-	<1	<1	<2
Xylene (m & p)	µg/L	2							-	-	-	-	-	<2	<2	<2
Xylene Total	µg/L	2						6000	-	-	-	-	-	<3	<3	<2
TRH - NEPM 2013																
F1 (C6-C10 minus BTEXN)	µg/L	20							-	-	-	-	-	<20	<20	<20
C6-C10 Fraction	µg/L	20							-	-	-	-	-	<20	<20	<20
F2 (>C10-C16 minus Naphthalene)	µg/L	50							-	-	-	-	-	<50	<50	<100
>C10-C16 Fraction	µg/L	50							-	-	-	-	-	<50	<50	<100
F3 (>C16-C34 Fraction)	µg/L	100							-	-	-	-	-	<100	<100	140
F4 (>C34-C40 Fraction)	µg/L	100							-	-	-	-	-	<100	<100	<100
>C10-C40 (Sum of Total)	µg/L	100							-	-	-	-	-	-	-	140
TRH - NEPM 1999																
C6-C9 Fraction	µg/L	20							-	-	-	-	-	<20	<20	<20
C10-C14 Fraction	µg/L	50							-	-	-	-	-	<50	<50	<50
C15-C28 Fraction	µg/L	100							-	-	-	-	-	<100	<100	180
C29-C36 Fraction	µg/L	50							-	-	-	-	-	<100	<100	<50
C10-C36 (Sum of Total)	µg/L	50							-	-	-	-	-	<100	<100	180
Nitrosoamines																
N-Nitrosodiphenyl & Diphenylamine	µg/L	4							-	-	-	-	-	-	-	<4
Unassigned																
CO2 (Free)	mg/L	5							-	-	-	37	12	-	-	-
Acidity & Alkalinity																
Alkalinity (Carbonate as CaCO3)	mg/L	1							<10	<10	<10	<10	<10	<10	<10	<1
Alkalinity (Bicarbonate as CaCO3)	mg/L	1							490	760	250	360	670	470	430	448
Alkalinity (Hydroxide as CaCO3)	mg/L	1							<10	<10	<10	<20	<20	<10	<10	<1
Alkalinity (total as CaCO3)	mg/L	1							490	760	250	360	670	470	430	448
Hardness as CaCO3 (filtered)	mg/L	1							-	-	-	-	-	-	-	-
Nutrients																
Sulfite as S	µg/L	500							-	-	-	-	-	-	-	-
Ammonia as N	mg/L	0.01		0.9	0.32				<0.01	0.10	<0.01	0.32	<0.01	0.02	0.02	0.08
Nitrate (as N)	mg/L	0.01	90	7.2	4.9				<0.02	0.08	<0.02	<0.02	<0.02	<0.02	<0.02	0.01
Nitrite (as N)	mg/L	0.01	9.1						<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01
Nitrogen (Total Oxidised) (as N)	mg/L	0.01							<0.05	0.08	<0.05	<0.05	<0.05	<0.05	<0.05	0.01
Nitrogen (Total)	mg/L	0.1					5		<0.2	0.4	<0.2	0.5	<0.2	0.5	0.3	<0.1
Phosphorus (Total)	mg/L	0.01					0.05		-	-	-	-	-	-	-	0.04
Reactive Phosphorus as P	µg/L	10							<50	<50	<50	<50	<50	<50	<50	-
Phosphate total (P)	µg/L	50							90	140	70	80	<50	210	180	-
Kjeldahl Nitrogen Total	mg/L	0.1							<0.2	0.3	<0.2	0.5	<0.2	0.5	0.3	<0.1
Organic Indicators																
BOD	mg/L	5							-	-	-	-	-	-	-	-
PAHs																
Pyrene	µg/L	1							-	-	-	-	-	<1	<1	<2
Acenaphthene	µg/L	1							-	-	-	-	-	<1	<1	<2
Acenaphthylene	µg/L	1							-	-	-	-	-	<1	<1	<2
Anthracene	µg/L	1							-	-	-	-	-	<1	<1	<2
Benz(a)anthracene	µg/L	1							-	-	-	-	-	<1	<1	<2
Benzo(a) pyrene	µg/L	1						0.1	-	-	-	-	-	<1	<1	<2
Benzo[b+j]fluoranthene	µg/L	1							-	-	-	-	-	<1	<1	-
Benzo(k)fluoranthene	µg/L	1							-	-	-	-	-	<1	<1	-
Benzo(b+j+k)fluoranthene	µg/L	4							-	-	-	-	-	-	-	<4
Benzo(g,h,i)perylene	µg/L	1							-	-	-	-	-	<1	<1	<2
Chrysene	µg/L	1							-	-	-	-	-	<1	<1	<2
Dibenz(a,h)anthracene	µg/L	1							-	-	-	-	-	<1	<1	<2
Fluoranthene	µg/L	1							-	-	-	-	-	<1	<1	<2
Fluorene	µg/L	1							-	-	-	-	-	<1	<1	<2
Indeno(1,2,3-c,d)pyrene	µg/L	1							-	-	-	-	-	<1	<1	<2
Naphthalene-PAH	µg/L	1		16	2.5				-	-	-	-	-	<1	<1	-
Naphthalene	µg/L	2		16	2.5				-	-	-	-	-	-	-	<2
Phenanthrene	µg/L	1							-	-	-	-	-	<1	<1	<2
PAHs (Sum of total) - Lab calc	µg/L	1							-	-	-	-	-	<1	<1	<2
Total 8 PAHs (as BaP TEQ)(zero LOR) - Lab Calc	µg/L	2							-	-	-	-	-	-	-	<2

Appendix J
Table 5
Summary of Groundwater Analytical Results

	Unit	EQL	ANZECC 2000 - Stock Watering	ANZECC 2000 FW 95%	ANZECC 2000 FW 99%	PFAS NEMP 2018 Freshwater 99%	ANZECC 2000 Irrigation - Long-term Trigger Values	NHMRC Recreational Guidelines 2008							
Location Code									NEL-BH128	NEL-BH140	NEL-ENV-BH006	NEL-ENV-BH008	NEL-ENV-BH009	NEL-ENV-BH009	NEL-ENV-BH014
Field ID									NEL-BH128/080318	NEL-BH140/180418	NEL-ENV-BH006_27062018	NEL-ENV-BH008_08052018	NEL-ENV-BH009_27062018	NEL-ENV-BH009_19072018	ENV-BH014 / 130718
Date									8/03/2018	18/04/2018	27/06/2018	8/05/2018	27/06/2018	19/07/2018	13/07/2018
Sample Type									Normal	Normal	Normal	Normal	Normal	Normal	Normal
Lab Report Number									588501	594938	EM1810368	EM1807515	EM1810368	EM1811589	607533 / EM1811208
BTEXN															
Naphthalene (BTEXN)	µg/L	5		16	2.5				<10	-	<5	<5	<5	-	<10
BTEX (Sum of Total) - Lab Calc	µg/L	1							-	-	<1	<1	<1	-	-
Benzene	µg/L	1		950	600			10	<1	-	<1	<1	<1	-	<1
Toluene	µg/L	1						8000	<1	-	<2	<2	<2	-	<1
Ethylbenzene	µg/L	1						3000	<1	-	<2	<2	<2	-	<1
Xylene (o)	µg/L	1		350	200				<1	-	<2	<2	<2	-	<1
Xylene (m & p)	µg/L	2							<2	-	<2	<2	<2	-	<2
Xylene Total	µg/L	2						6000	<3	-	<2	<2	<2	-	<3
TRH - NEPM 2013															
F1 (C6-C10 minus BTEXN)	µg/L	20							<20	-	<20	<20	<20	-	<20
C6-C10 Fraction	µg/L	20							<20	-	<20	<20	<20	-	<20
F2 (>C10-C16 minus Naphthalene)	µg/L	50							<50	-	<100	<100	<100	-	<50
>C10-C16 Fraction	µg/L	50							<50	-	<100	<100	<100	-	<50
F3 (>C16-C34 Fraction)	µg/L	100							<100	-	<100	<100	<100	-	<100
F4 (>C34-C40 Fraction)	µg/L	100							<100	-	<100	<100	<100	-	<100
>C10-C40 (Sum of Total)	µg/L	100							-	-	<100	<100	<100	-	-
TRH - NEPM 1999															
C6-C9 Fraction	µg/L	20							<20	-	<20	<20	<20	-	<20
C10-C14 Fraction	µg/L	50							<50	-	<50	<50	<50	-	<50
C15-C28 Fraction	µg/L	100							<100	-	<100	<100	<100	-	<100
C29-C36 Fraction	µg/L	50							<100	-	<50	<50	<50	-	<100
C10-C36 (Sum of Total)	µg/L	50							<100	-	<50	<50	<50	-	<100
Nitrosoamines															
N-Nitrosodiphenyl & Diphenylamine	µg/L	4							-	-	<4	<4	<4	-	-
Unassigned															
CO2 (Free)	mg/L	5							-	91	-	-	-	-	8.3
Acidity & Alkalinity															
Alkalinity (Carbonate as CaCO3)	mg/L	1							<10	<10	<1	<1	<1	-	<10
Alkalinity (Bicarbonate as CaCO3)	mg/L	1							330	660	748	855	487	-	590
Alkalinity (Hydroxide as CaCO3)	mg/L	1							-	<20	<1	<1	<1	-	<20
Alkalinity (total as CaCO3)	mg/L	1							-	660	748	855	487	-	590
Hardness as CaCO3 (filtered)	mg/L	1							-	-	870	1,070	532	-	-
Nutrients															
Sulfite as S	µg/L	500							<1,000	-	-	-	-	-	-
Ammonia as N	mg/L	0.01		0.9	0.32				1.2	0.04	0.01	0.04	<0.01	-	<0.01
Nitrate (as N)	mg/L	0.01	90	7.2	4.9				<0.02	<0.02	1.58	0.10	4.39	-	4.2
Nitrite (as N)	mg/L	0.01	9.1						<0.02	<0.02	<0.01	<0.01	0.02	-	0.03
Nitrogen (Total Oxidised) (as N)	mg/L	0.01							-	<0.05	1.58	0.10	4.41	-	4.2
Nitrogen (Total)	mg/L	0.1					5		-	<0.2	1.8	0.1	5.0	-	4.7
Phosphorus (Total)	mg/L	0.01					0.05		-	-	0.10	0.09	0.04	-	-
Reactive Phosphorus as P	µg/L	10							-	<50	20	20	<10	-	<50
Phosphate total (P)	µg/L	50							-	110	-	-	-	-	<50
Kjeldahl Nitrogen Total	mg/L	0.1							1.7	<0.2	0.2	<0.1	0.6	-	0.5
Organic Indicators															
BOD	mg/L	5							<5	-	-	-	-	-	-
PAHs															
Pyrene	µg/L	1							<1	-	<2	<2	<2	-	<1
Acenaphthene	µg/L	1							<1	-	<2	<2	<2	-	<1
Acenaphthylene	µg/L	1							<1	-	<2	<2	<2	-	<1
Anthracene	µg/L	1							<1	-	<2	<2	<2	-	<1
Benz(a)anthracene	µg/L	1							<1	-	<2	<2	<2	-	<1
Benzo(a) pyrene	µg/L	1						0.1	<1	-	<2	<2	<2	-	<1
Benzo[b+j]fluoranthene	µg/L	1							<1	-	-	-	-	-	<1
Benzo(k)fluoranthene	µg/L	1							<1	-	-	-	-	-	<1
Benzo(b+j+k)fluoranthene	µg/L	4							-	-	<4	<4	<4	-	-
Benzo(g,h,i)perylene	µg/L	1							<1	-	<2	<2	<2	-	<1
Chrysene	µg/L	1							<1	-	<2	<2	<2	-	<1
Dibenz(a,h)anthracene	µg/L	1							<1	-	<2	<2	<2	-	<1
Fluoranthene	µg/L	1							<1	-	<2	<2	<2	-	<1
Fluorene	µg/L	1							<1	-	<2	<2	<2	-	<1
Indeno(1,2,3-c,d)pyrene	µg/L	1							<1	-	<2	<2	<2	-	<1
Naphthalene-PAH	µg/L	1		16	2.5				<1	-	-	-	-	-	<1
Naphthalene	µg/L	2		16	2.5				-	-	<2	<2	<2	-	-
Phenanthrene	µg/L	1							<1	-	<2	<2	<2	-	<1
PAHs (Sum of total) - Lab calc	µg/L	1							<1	-	<2	<2	<2	-	<1
Total 8 PAHs (as BaP TEQ)(zero LOR) - Lab Calc	µg/L	2							-	-	<2	<2	<2	-	-

	Unit	EQL	ANZECC 2000 - Stock Watering	ANZECC 2000 FW 95%	ANZECC 2000 FW 99%	PFAS NEMP 2018 Freshwater 99%	ANZECC 2000 Irrigation - Long-term Trigger Values	NHMRC Recreational Guidelines 2008								
Location Code									NEL-ENV-BH022	NEL-ENV-BH024	NEL-ENV-BH024	NEL-ENV-BH024	NEL-ENV-BH024	NEL-ENV-BH025	NEL-ENV-BH032	NEL-PB01A
Field ID									NEL-ENV-BH022	NEL-ENV-BH024_08052018	NEL-ENV-BH024_19072018	QC5000_08052018	QC6000_08052018	NEL-ENV-BH025_09052018	NEL-ENV-BH032_27062018	NEL-PB01A
Date									27/09/2018	8/05/2018	19/07/2018	8/05/2018	8/05/2018	9/05/2018	27/06/2018	6/07/2018
Sample Type									Normal	Normal	Normal	Field_D	Field_D	Normal	Normal	Normal
Lab Report Number									EM1815577	EM1807515	EM1811589	EM1807515	EM1807515	EM1807669	EM1810368	607533
BTEXN																
Naphthalene (BTEXN)	µg/L	5		16	2.5				-	<5	-	<5	<5	<5	<5	-
BTEX (Sum of Total) - Lab Calc	µg/L	1							37,200	<1	-	<1	<1	<1	<1	-
Benzene	µg/L	1		950	600			10	6,060	<1	-	<1	<1	<1	<1	-
Toluene	µg/L	1						8000	19,400	<2	-	<2	<2	<2	<2	-
Ethylbenzene	µg/L	1						3000	1,220	<2	-	<2	<2	<2	<2	-
Xylene (o)	µg/L	1		350	200				3,320	<2	-	<2	<2	<2	<2	-
Xylene (m & p)	µg/L	2							7,180	<2	-	<2	<2	<2	<2	-
Xylene Total	µg/L	2						6000	10,500	<2	-	<2	<2	<2	<2	-
TRH - NEPM 2013																
F1 (C6-C10 minus BTEXN)	µg/L	20							4,420	<20	-	<20	<20	360	<20	-
C6-C10 Fraction	µg/L	20							41,600	<20	-	<20	<20	360	<20	-
F2 (>C10-C16 minus Naphthalene)	µg/L	50							1,240	1,060	-	1,230	1,240	<100	<100	-
>C10-C16 Fraction	µg/L	50							1,410	1,060	-	1,230	1,240	<100	<100	-
F3 (>C16-C34 Fraction)	µg/L	100							180	180	-	200	210	<100	<100	-
F4 (>C34-C40 Fraction)	µg/L	100							<100	<100	-	<100	<100	<100	<100	-
>C10-C40 (Sum of Total)	µg/L	100							1,590	1,240	-	1,430	1,450	<100	<100	-
TRH - NEPM 1999																
C6-C9 Fraction	µg/L	20							42,800	<20	-	<20	<20	380	<20	-
C10-C14 Fraction	µg/L	50							3,090	1,000	-	1,170	1,180	<50	<50	-
C15-C28 Fraction	µg/L	100							230	270	-	290	300	<100	<100	-
C29-C36 Fraction	µg/L	50							<50	<50	-	<50	<50	<50	<50	-
C10-C36 (Sum of Total)	µg/L	50							3,320	1,270	-	1,460	1,480	<50	<50	-
Nitrosoamines																
N-Nitrosodiphenyl & Diphenylamine	µg/L	4							<4	<4	-	<4	<4	<4	<4	-
Unassigned									-							
CO2 (Free)	mg/L	5							-	-	-	-	-	-	-	-
Acidity & Alkalinity																
Alkalinity (Carbonate as CaCO3)	mg/L	1							<1	<1	-	<1	<1	<1	<1	<10
Alkalinity (Bicarbonate as CaCO3)	mg/L	1							698	1,040	-	1,020	1,040	1,150	962	550
Alkalinity (Hydroxide as CaCO3)	mg/L	1							<1	<1	-	<1	<1	<1	<1	<20
Alkalinity (total as CaCO3)	mg/L	1							698	1,040	-	1,020	1,040	1,150	962	550
Hardness as CaCO3 (filtered)	mg/L	1							527	442	-	439	446	583	864	-
Nutrients																
Sulfite as S	µg/L	500							-	-	-	-	-	-	-	-
Ammonia as N	mg/L	0.01		0.9	0.32				0.03	0.05	-	<0.01	<0.01	0.11	0.03	2.7
Nitrate (as N)	mg/L	0.01	90	7.2	4.9				0.03	0.30	-	0.27	0.28	0.78	2.56	<0.02
Nitrite (as N)	mg/L	0.01	9.1						<0.01	0.01	-	0.03	0.02	0.01	0.06	<0.02
Nitrogen (Total Oxidised) (as N)	mg/L	0.01							0.03	0.31	-	0.30	0.30	0.79	2.62	<0.05
Nitrogen (Total)	mg/L	0.1					5		0.7	0.6	-	0.3	0.7	1.4	2.9	4.7
Phosphorus (Total)	mg/L	0.01					0.05		0.23	0.08	-	0.08	0.11	0.18	0.07	-
Reactive Phosphorus as P	µg/L	10							<0.01	<10	-	<10	<10	20	<10	<50
Phosphate total (P)	µg/L	50							-	-	-	-	-	-	-	120
Kjeldahl Nitrogen Total	mg/L	0.1							0.7	0.3	-	<0.1	0.4	0.6	0.3	4.7
Organic Indicators																
BOD	mg/L	5							-	-	-	-	-	-	-	-
PAHs																
Pyrene	µg/L	1							<2	<2	-	<2	<2	<2	<2	-
Acenaphthene	µg/L	1							<2	<2	-	<2	<2	<2	<2	-
Acenaphthylene	µg/L	1							<2	<2	-	<2	<2	<2	<2	-
Anthracene	µg/L	1							<2	<2	-	<2	<2	<2	<2	-
Benz(a)anthracene	µg/L	1							<2	<2	-	<2	<2	<2	<2	-
Benzo(a) pyrene	µg/L	1						0.1	<2	<2	-	<2	<2	<2	<2	-
Benzo[b+j]fluoranthene	µg/L	1							-	-	-	-	-	-	-	-
Benzo(k)fluoranthene	µg/L	1							-	-	-	-	-	-	-	-
Benzo(b+j+k)fluoranthene	µg/L	4							<4	<4	-	<4	<4	<4	<4	-
Benzo(g,h,i)perylene	µg/L	1							<2	<2	-	<2	<2	<2	<2	-
Chrysene	µg/L	1							<2	<2	-	<2	<2	<2	<2	-
Dibenz(a,h)anthracene	µg/L	1							<2	<2	-	<2	<2	<2	<2	-
Fluoranthene	µg/L	1							<2	<2	-	<2	<2	<2	<2	-
Fluorene	µg/L	1							<2	<2	-	<2	<2	<2	<2	-
Indeno(1,2,3-c,d)pyrene	µg/L	1							<2	<2	-	<2	<2	<2	<2	-
Naphthalene-PAH	µg/L	1		16	2.5				-	-	-	-	-	-	-	-
Naphthalene	µg/L	2		16	2.5				166	<2	-	<2	<2	<2	<2	-
Phenanthrene	µg/L	1							<2	<2	-	<2	<2	<2	<2	-
PAHs (Sum of total) - Lab calc	µg/L	1							122	<2	-	<2	<2	<2	<2	-
Total 8 PAHs (as BaP TEQ)(zero LOR) - Lab Calc	µg/L	2							<2	<2	-	<2	<2	<2	<2	-

Appendix J
Table 5
Summary of Groundwater Analytical Results

	Unit	EQL	ANZECC 2000 - Stock Watering	ANZECC 2000 FW 95%	ANZECC 2000 FW 99%	PFAS NEMP 2018 Freshwater 99%	ANZECC 2000 Irrigation - Long-term Trigger Values	NHMRC Recreational Guidelines 2008	NEL-BH004	NEL-BH004A	NEL-BH031	NEL-BH031	NEL-BH037	NEL-BH038	NEL-BH039	NEL-BH039	NEL-BH039
Field ID									NEL-BH004 D/150218	NEL-BH004 S/150218	NEL-BH031/080318	NEL-BH031 / 130218	NEL-BH037 / 160418	NEL-BH038 / 140218	NEL-BH039/180418	QC1/180418	QC2 / 180418
Date									15/02/2018	15/02/2018	8/03/2018	13/02/2018	16/04/2018	14/02/2018	18/04/2018	18/04/2018	18/04/2018
Sample Type									Normal	Normal	Normal	Normal	Normal	Normal	Normal	Field_D	Field_D
Lab Report Number									585222 / EM1803079	585222 / EM1803079	588501	584938	594417 / EM1806339	584987 / EM1802989	594938 / EM1806473	594938 / EM1806473	EM1806473
Phenols																	
3,4-Methylphenol (m,p-cresol)	µg/L	4							-	-	<6	-	-	-	<6	<6	<4
2,3,4,6-Tetrachlorophenol	µg/L	10		20	10				-	-	<10	-	-	-	<10	<10	-
2,4,5-trichlorophenol	µg/L	2							-	-	<10	-	-	-	<10	<10	<2
2,4,6-trichlorophenol	µg/L	2		20	3			200	-	-	<10	-	-	-	<10	<10	<2
2,4-dichlorophenol	µg/L	2		160	120			2000	-	-	<3	-	-	-	<3	<3	<2
2,4-dimethylphenol	µg/L	2							-	-	<3	-	-	-	<3	<3	<2
2,4-dinitrophenol	µg/L	30		45	13				-	-	<30	-	-	-	<30	<30	-
2,6-dichlorophenol	µg/L	2							-	-	<3	-	-	-	<3	<3	<2
2-chlorophenol	µg/L	2		490	340			3000	-	-	<3	-	-	-	<3	<3	<2
2-methylnaphthalene	µg/L	2							-	-	<5	-	-	-	<5	<5	<2
2-methylphenol	µg/L	2							-	-	<3	-	-	-	<3	<3	<2
2-nitrophenol	µg/L	2							-	-	<10	-	-	-	<10	<10	<2
3-methylcholanthrene	µg/L	2							-	-	<5	-	-	-	<5	<5	<2
4,6-Dinitro-o-cyclohexyl phenol	µg/L	100							-	-	<100	-	-	-	<100	<100	-
4-chloro-3-methylphenol	µg/L	2							-	-	<10	-	-	-	<10	<10	<2
4-nitrophenol	µg/L	30							-	-	<30	-	-	-	<30	<30	-
Acetophenone	µg/L	2							-	-	<5	-	-	-	<5	<5	<2
Pentachlorophenol	µg/L	4		10	3.6			100	-	-	<10	-	-	-	<10	<10	<4
Phenol	µg/L	2		320	85				-	-	<3	-	-	-	<3	<3	<2
tetrachlorophenols	µg/L	30							-	-	<30	-	-	-	<30	<30	-
Phenols (Total Halogenated)	µg/L	10							-	-	<10	-	-	-	<10	<10	-
Phenols (Total Non Halogenated)	µg/L	100							-	-	<100	-	-	-	<100	<100	-
VOCs																	
1,1-dichloroethane	µg/L	1							-	-	-	-	-	-	<1	<1	<5
1,2,3-trichlorobenzene	µg/L	1		10	3				-	-	<1	-	-	-	<5	<5	<5
1,2,3-trichloropropane	µg/L	1							-	-	-	-	-	-	<1	<1	<5
1,2-dibromoethane	µg/L	1						10	-	-	-	-	-	-	<1	<1	<5
1,3-dichlorobenzene	µg/L	1		260	160				-	-	<1	-	-	-	<1	<1	<2
2-butanone (MEK)	µg/L	1							-	-	-	-	-	-	<1	<1	<50
2-hexanone (MBK)	µg/L	50							-	-	-	-	-	-	-	-	<50
4-methyl-2-pentanone (MIBK)	µg/L	1							-	-	-	-	-	-	<1	<1	<50
Acetone	µg/L	1							-	-	-	-	-	-	<1	<1	-
Allyl chloride	µg/L	1							-	-	-	-	-	-	<1	<1	-
Bromodichloromethane	µg/L	1							-	-	-	-	-	-	<1	<1	<5
Bromoform	µg/L	1							-	-	-	-	-	-	<1	<1	<5
Carbon disulfide	µg/L	1							-	-	-	-	-	-	<1	<1	<5
Chlorodibromomethane	µg/L	1							-	-	-	-	-	-	<1	<1	<5
Chloroethane	µg/L	1							-	-	-	-	-	-	<1	<1	<50
cis-1,3-dichloropropene	µg/L	1							-	-	-	-	-	-	<1	<1	<5
cis-1,4-Dichloro-2-butene	µg/L	5							-	-	-	-	-	-	-	-	<5
Dibromomethane	µg/L	1							-	-	-	-	-	-	<1	<1	<5
Iodomethane	µg/L	1							-	-	-	-	-	-	<1	<1	<5
n-butylbenzene	µg/L	5							-	-	-	-	-	-	-	-	<5
n-propylbenzene	µg/L	5							-	-	-	-	-	-	-	-	<5
Pentachloroethane	µg/L	5							-	-	-	-	-	-	-	-	<5
p-isopropyltoluene	µg/L	5							-	-	-	-	-	-	-	-	<5
sec-butylbenzene	µg/L	5							-	-	-	-	-	-	-	-	<5
Trichloroethene (TCE)	µg/L	1							-	-	-	-	-	-	<1	<1	<5
tert-butylbenzene	µg/L	5							-	-	-	-	-	-	-	-	<5
Tetrachloroethene	µg/L	1						500	-	-	-	-	-	-	<1	<1	<5
trans-1,2-dichloroethene	µg/L	1							-	-	-	-	-	-	<1	<1	<5
trans-1,3-dichloropropene	µg/L	1							-	-	-	-	-	-	<1	<1	<5
trans-1,4-Dichloro-2-butene	µg/L	5							-	-	-	-	-	-	-	-	<5
Trichlorofluoromethane	µg/L	1							-	-	-	-	-	-	<1	<1	<50
Vinyl acetate	µg/L	50							-	-	-	-	-	-	-	-	<50

Appendix J
Table 5
Summary of Groundwater Analytical Results

	Unit	EQL	ANZECC 2000 - Stock Watering	ANZECC 2000 FW 95%	ANZECC 2000 FW 99%	PFAS NEMP 2018 Freshwater 99%	ANZECC 2000 Irrigation - Long-term Trigger Values	NHMRC Recreational Guidelines 2008	NEL-BH040	NEL-BH040A	NEL-BH044	NEL-BH059	NEL-BH060	NEL-BH062	NEL-BH062	NEL-BH062A	NEL-BH062B	NEL-BH062B
Field ID									NEL-BH040 / 120218	NEL-BH040 A / 120218	NEL-BH044 / 130218	NEL-BH059 / 130218	NEL-BH060 / 140218	NEL-BH062/080318	NEL-BH062 / 140218	NEL-BH062 A / 160218	NEL-BH062B/080318	NEL-BH062 B / 140218
Date									12/02/2018	12/02/2018	13/02/2018	13/02/2018	14/02/2018	8/03/2018	14/02/2018	16/02/2018	8/03/2018	14/02/2018
Sample Type									Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
Lab Report Number									584938	584938	584938	584938	584987 / EM1802989	588501	584987 / EM1802989	585329 / EM1802989	588501	584987 / EM1802989
Phenols																		
3,4-Methylphenol (m,p-cresol)	µg/L	4							-	-	-	-	-	<6	-	<6	<6	-
2,3,4,6-Tetrachlorophenol	µg/L	10		20	10				-	-	-	-	-	<10	-	<10	<10	-
2,4,5-trichlorophenol	µg/L	2							-	-	-	-	-	<10	-	<10	<10	-
2,4,6-trichlorophenol	µg/L	2		20	3			200	-	-	-	-	-	<10	-	<10	<10	-
2,4-dichlorophenol	µg/L	2		160	120			2000	-	-	-	-	-	<3	-	<3	<3	-
2,4-dimethylphenol	µg/L	2							-	-	-	-	-	<3	-	<3	<3	-
2,4-dinitrophenol	µg/L	30		45	13				-	-	-	-	-	<30	-	<30	<30	-
2,6-dichlorophenol	µg/L	2							-	-	-	-	-	<3	-	<3	<3	-
2-chlorophenol	µg/L	2		490	340			3000	-	-	-	-	-	<3	-	<3	<3	-
2-methylnaphthalene	µg/L	2							-	-	-	-	-	<5	-	<5	<5	-
2-methylphenol	µg/L	2							-	-	-	-	-	<3	-	<3	<3	-
2-nitrophenol	µg/L	2							-	-	-	-	-	<10	-	<10	<10	-
3-methylcholanthrene	µg/L	2							-	-	-	-	-	<5	-	<5	<5	-
4,6-Dinitro-o-cyclohexyl phenol	µg/L	100							-	-	-	-	-	<100	-	<100	<100	-
4-chloro-3-methylphenol	µg/L	2							-	-	-	-	-	<10	-	<10	<10	-
4-nitrophenol	µg/L	30							-	-	-	-	-	<30	-	<30	<30	-
Acetophenone	µg/L	2							-	-	-	-	-	<5	-	<5	<5	-
Pentachlorophenol	µg/L	4		10	3.6			100	-	-	-	-	-	<10	-	<10	<10	-
Phenol	µg/L	2		320	85				-	-	-	-	-	<3	-	<3	<3	-
tetrachlorophenols	µg/L	30							-	-	-	-	-	<30	-	<30	<30	-
Phenols (Total Halogenated)	µg/L	10							-	-	-	-	-	<10	-	<10	<10	-
Phenols (Total Non Halogenated)	µg/L	100							-	-	-	-	-	<100	-	<100	<100	-
VOCs																		
1,1-dichloroethane	µg/L	1							-	-	-	-	-	-	-	<1	-	-
1,2,3-trichlorobenzene	µg/L	1		10	3				-	-	-	-	-	<1	-	<5	<1	-
1,2,3-trichloropropane	µg/L	1							-	-	-	-	-	-	-	<1	-	-
1,2-dibromoethane	µg/L	1						10	-	-	-	-	-	-	-	<1	-	-
1,3-dichlorobenzene	µg/L	1		260	160				-	-	-	-	-	<1	-	<1	<1	-
2-butanone (MEK)	µg/L	1							-	-	-	-	-	-	-	<1	-	-
2-hexanone (MBK)	µg/L	50							-	-	-	-	-	-	-	-	-	-
4-methyl-2-pentanone (MIBK)	µg/L	1							-	-	-	-	-	-	-	<1	-	-
Acetone	µg/L	1							-	-	-	-	-	-	-	<1	-	-
Allyl chloride	µg/L	1							-	-	-	-	-	-	-	<1	-	-
Bromodichloromethane	µg/L	1							-	-	-	-	-	-	-	<1	-	-
Bromoform	µg/L	1							-	-	-	-	-	-	-	<1	-	-
Carbon disulfide	µg/L	1							-	-	-	-	-	-	-	<1	-	-
Chlorodibromomethane	µg/L	1							-	-	-	-	-	-	-	<1	-	-
Chloroethane	µg/L	1							-	-	-	-	-	-	-	<1	-	-
cis-1,3-dichloropropene	µg/L	1							-	-	-	-	-	-	-	<1	-	-
cis-1,4-Dichloro-2-butene	µg/L	5							-	-	-	-	-	-	-	-	-	-
Dibromomethane	µg/L	1							-	-	-	-	-	-	-	<1	-	-
Iodomethane	µg/L	1							-	-	-	-	-	-	-	<1	-	-
n-butylbenzene	µg/L	5							-	-	-	-	-	-	-	-	-	-
n-propylbenzene	µg/L	5							-	-	-	-	-	-	-	-	-	-
Pentachloroethane	µg/L	5							-	-	-	-	-	-	-	-	-	-
p-isopropyltoluene	µg/L	5							-	-	-	-	-	-	-	-	-	-
sec-butylbenzene	µg/L	5							-	-	-	-	-	-	-	-	-	-
Trichloroethene (TCE)	µg/L	1							-	-	-	-	-	-	-	<1	-	-
tert-butylbenzene	µg/L	5							-	-	-	-	-	-	-	-	-	-
Tetrachloroethene	µg/L	1						500	-	-	-	-	-	-	-	<1	-	-
trans-1,2-dichloroethene	µg/L	1							-	-	-	-	-	-	-	<1	-	-
trans-1,3-dichloropropene	µg/L	1							-	-	-	-	-	-	-	<1	-	-
trans-1,4-Dichloro-2-butene	µg/L	5							-	-	-	-	-	-	-	-	-	-
Trichlorofluoromethane	µg/L	1							-	-	-	-	-	-	-	<1	-	-
Vinyl acetate	µg/L	50							-	-	-	-	-	-	-	-	-	-

Appendix J
Table 5
Summary of Groundwater Analytical Results

								Location Code	NEL-BH064	NEL-BH070	NEL-BH071	NEL-BH072	NEL-BH076	NEL-BH076A	NEL-BH078
								Field ID	NEL-BH064 / 140218	NEL-BH070 / 120218	NEL-BH071/170418	NEL-BH072 / 120218	NEL-BH076/170418	NEL-BH076A/170418	NEL-BH078/170418
								Date	14/02/2018	12/02/2018	17/04/2018	12/02/2018	17/04/2018	17/04/2018	17/04/2018
								Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal
								Lab Report Number	584987 / EM1802989	584938	594757 / EM1806408	584938	594757 / EM1806408	594757 / EM1806408	594757 / EM1806408
	Unit	EQL	ANZECC 2000 - Stock Watering	ANZECC 2000 FW 95%	ANZECC 2000 FW 99%	PFAS NEMP 2018 Freshwater 99%	ANZECC 2000 Irrigation - Long-term Trigger Values	NHMRC Recreational Guidelines 2008							
Phenols															
3,4-Methylphenol (m,p-cresol)	µg/L	4							-	-	-	-	-	-	-
2,3,4,6-Tetrachlorophenol	µg/L	10		20	10				-	-	-	-	-	-	-
2,4,5-trichlorophenol	µg/L	2							-	-	-	-	-	-	-
2,4,6-trichlorophenol	µg/L	2		20	3			200	-	-	-	-	-	-	-
2,4-dichlorophenol	µg/L	2		160	120			2000	-	-	-	-	-	-	-
2,4-dimethylphenol	µg/L	2							-	-	-	-	-	-	-
2,4-dinitrophenol	µg/L	30		45	13				-	-	-	-	-	-	-
2,6-dichlorophenol	µg/L	2							-	-	-	-	-	-	-
2-chlorophenol	µg/L	2		490	340			3000	-	-	-	-	-	-	-
2-methylnaphthalene	µg/L	2							-	-	-	-	-	-	-
2-methylphenol	µg/L	2							-	-	-	-	-	-	-
2-nitrophenol	µg/L	2							-	-	-	-	-	-	-
3-methylcholanthrene	µg/L	2							-	-	-	-	-	-	-
4,6-Dinitro-o-cyclohexyl phenol	µg/L	100							-	-	-	-	-	-	-
4-chloro-3-methylphenol	µg/L	2							-	-	-	-	-	-	-
4-nitrophenol	µg/L	30							-	-	-	-	-	-	-
Acetophenone	µg/L	2							-	-	-	-	-	-	-
Pentachlorophenol	µg/L	4		10	3.6			100	-	-	-	-	-	-	-
Phenol	µg/L	2		320	85				-	-	-	-	-	-	-
tetrachlorophenols	µg/L	30							-	-	-	-	-	-	-
Phenols (Total Halogenated)	µg/L	10							-	-	-	-	-	-	-
Phenols (Total Non Halogenated)	µg/L	100							-	-	-	-	-	-	-
VOCs															
1,1-dichloroethane	µg/L	1							-	-	-	-	-	-	-
1,2,3-trichlorobenzene	µg/L	1		10	3				-	-	-	-	-	-	-
1,2,3-trichloropropane	µg/L	1							-	-	-	-	-	-	-
1,2-dibromoethane	µg/L	1						10	-	-	-	-	-	-	-
1,3-dichlorobenzene	µg/L	1		260	160				-	-	-	-	-	-	-
2-butanone (MEK)	µg/L	1							-	-	-	-	-	-	-
2-hexanone (MBK)	µg/L	50							-	-	-	-	-	-	-
4-methyl-2-pentanone (MIBK)	µg/L	1							-	-	-	-	-	-	-
Acetone	µg/L	1							-	-	-	-	-	-	-
Allyl chloride	µg/L	1							-	-	-	-	-	-	-
Bromodichloromethane	µg/L	1							-	-	-	-	-	-	-
Bromoform	µg/L	1							-	-	-	-	-	-	-
Carbon disulfide	µg/L	1							-	-	-	-	-	-	-
Chlorodibromomethane	µg/L	1							-	-	-	-	-	-	-
Chloroethane	µg/L	1							-	-	-	-	-	-	-
cis-1,3-dichloropropene	µg/L	1							-	-	-	-	-	-	-
cis-1,4-Dichloro-2-butene	µg/L	5							-	-	-	-	-	-	-
Dibromomethane	µg/L	1							-	-	-	-	-	-	-
Iodomethane	µg/L	1							-	-	-	-	-	-	-
n-butylbenzene	µg/L	5							-	-	-	-	-	-	-
n-propylbenzene	µg/L	5							-	-	-	-	-	-	-
Pentachloroethane	µg/L	5							-	-	-	-	-	-	-
p-isopropyltoluene	µg/L	5							-	-	-	-	-	-	-
sec-butylbenzene	µg/L	5							-	-	-	-	-	-	-
Trichloroethene (TCE)	µg/L	1							-	-	-	-	-	-	-
tert-butylbenzene	µg/L	5							-	-	-	-	-	-	-
Tetrachloroethene	µg/L	1						500	-	-	-	-	-	-	-
trans-1,2-dichloroethene	µg/L	1							-	-	-	-	-	-	-
trans-1,3-dichloropropene	µg/L	1							-	-	-	-	-	-	-
trans-1,4-Dichloro-2-butene	µg/L	5							-	-	-	-	-	-	-
Trichlorofluoromethane	µg/L	1							-	-	-	-	-	-	-
Vinyl acetate	µg/L	50							-	-	-	-	-	-	-

Appendix J
Table 5
Summary of Groundwater Analytical Results

	Unit	EQL	ANZECC 2000 - Stock Watering	ANZECC 2000 FW 95%	ANZECC 2000 FW 99%	PFAS NEMP 2018 Freshwater 99%	ANZECC 2000 Irrigation - Long-term Trigger Values	NHMRC Recreational Guidelines 2008									
								Location Code	NEL-BH083	NEL-BH086	NEL-BH086	NEL-BH086	NEL-BH087	NEL-BH088	NEL-BH089	NEL-BH091	NEL-BH093
								Field ID	NEL-BH083 / 160418	NEL-BH086 / 120718	QC1 / 120718	QC2/120718	NEL-BH087 / 120718	NEL-BH088 / 120718	NEL-BH089 / 120718	NEL-BH091/160218	NEL-BH093 / 160418
								Date	16/04/2018	12/07/2018	12/07/2018	12/07/2018	12/07/2018	12/07/2018	12/07/2018	16/02/2018	16/04/2018
								Sample Type	Normal	Normal	Field_D	Field_D	Normal	Normal	Normal	Normal	Normal
								Lab Report Number	594417 / EM1806339	607533 / EM1811208	607533	EM1811208	607533 / EM1811208	607533 / EM1811208	607533 / EM1811208	585329 / EM1803154	594417 / EM1806339
Phenols																	
3,4-Methylphenol (m,p-cresol)	µg/L	4							-	<6	<6	<4	<6	<6	<6	<6	-
2,3,4,6-Tetrachlorophenol	µg/L	10		20	10				-	<10	<10	-	<10	<10	<10	<10	-
2,4,5-trichlorophenol	µg/L	2							-	<10	<10	<2	<10	<10	<10	<10	-
2,4,6-trichlorophenol	µg/L	2		20	3			200	-	<10	<10	<2	<10	<10	<10	<10	-
2,4-dichlorophenol	µg/L	2		160	120			2000	-	<3	<3	<2	<3	<3	<3	<3	-
2,4-dimethylphenol	µg/L	2							-	<3	<3	<2	<3	<3	<3	<3	-
2,4-dinitrophenol	µg/L	30		45	13				-	<30	<30	-	<30	<30	<30	<30	-
2,6-dichlorophenol	µg/L	2							-	<3	<3	<2	<3	<3	<3	<3	-
2-chlorophenol	µg/L	2		490	340			3000	-	<3	<3	<2	<3	<3	<3	<3	-
2-methylnaphthalene	µg/L	2							-	<5	<5	<2	<5	<5	<5	<5	-
2-methylphenol	µg/L	2							-	<3	<3	<2	<3	<3	<3	<3	-
2-nitrophenol	µg/L	2							-	<10	<10	<2	<10	<10	<10	<10	-
3-methylcholanthrene	µg/L	2							-	<5	<5	<2	<5	<5	<5	<5	-
4,6-Dinitro-o-cyclohexyl phenol	µg/L	100							-	<100	<100	-	<100	<100	<100	<100	-
4-chloro-3-methylphenol	µg/L	2							-	<10	<10	<2	<10	<10	<10	<10	-
4-nitrophenol	µg/L	30							-	<30	<30	-	<30	<30	<30	<30	-
Acetophenone	µg/L	2							-	<5	<5	<2	<5	<5	<5	<5	-
Pentachlorophenol	µg/L	4		10	3.6			100	-	<10	<10	<4	<10	<10	<10	<10	-
Phenol	µg/L	2		320	85				-	<3	<3	<2	<3	<3	7	<3	-
tetrachlorophenols	µg/L	30							-	<30	<30	-	<30	<30	<30	<30	-
Phenols (Total Halogenated)	µg/L	10							-	<10	<10	-	<10	<10	<10	<10	-
Phenols (Total Non Halogenated)	µg/L	100							-	<100	<100	-	<100	<100	<100	<100	-
VOCs																	
1,1-dichloroethane	µg/L	1							-	<1	<1	<5	<1	<1	<1	<1	-
1,2,3-trichlorobenzene	µg/L	1		10	3				-	<5	<5	<5	<5	<5	<5	<5	-
1,2,3-trichloropropane	µg/L	1							-	<1	<1	<5	<1	<1	<1	<1	-
1,2-dibromoethane	µg/L	1						10	-	<1	<1	<5	<1	<1	<1	<1	-
1,3-dichlorobenzene	µg/L	1		260	160				-	<1	<1	<2	<1	<1	<1	<1	-
2-butanone (MEK)	µg/L	1							-	<1	<1	<50	<1	<1	2	<1	-
2-hexanone (MBK)	µg/L	50							-	-	-	<50	-	-	-	-	-
4-methyl-2-pentanone (MIBK)	µg/L	1							-	<1	<1	<50	<1	<1	<1	<1	-
Acetone	µg/L	1							-	<1	<1	-	<1	<5	41	<1	-
Allyl chloride	µg/L	1							-	<1	<1	-	<1	<1	<1	<1	-
Bromodichloromethane	µg/L	1							-	<1	<1	<5	<1	<1	<1	1	-
Bromoform	µg/L	1							-	<1	<1	<5	<1	<1	<1	<1	-
Carbon disulfide	µg/L	1							-	<1	<1	<5	<1	<1	1	<1	-
Chlorodibromomethane	µg/L	1							-	<1	<1	<5	<1	<1	<1	<1	-
Chloroethane	µg/L	1							-	<1	<1	<50	<1	<1	<1	<1	-
cis-1,3-dichloropropene	µg/L	1							-	<1	<1	<5	<1	<1	<1	<1	-
cis-1,4-Dichloro-2-butene	µg/L	5							-	-	-	<5	-	-	-	-	-
Dibromomethane	µg/L	1							-	<1	<1	<5	<1	<1	<1	<1	-
Iodomethane	µg/L	1							-	<1	<1	<5	<1	<1	<1	<1	-
n-butylbenzene	µg/L	5							-	-	-	<5	-	-	-	-	-
n-propylbenzene	µg/L	5							-	-	-	<5	-	-	-	-	-
Pentachloroethane	µg/L	5							-	-	-	<5	-	-	-	-	-
p-isopropyltoluene	µg/L	5							-	-	-	<5	-	-	-	-	-
sec-butylbenzene	µg/L	5							-	-	-	<5	-	-	-	-	-
Trichloroethene (TCE)	µg/L	1							-	<1	<1	<5	<1	<1	<1	<1	-
tert-butylbenzene	µg/L	5							-	-	-	<5	-	-	-	-	-
Tetrachloroethene	µg/L	1						500	-	<1	<1	<5	<1	<1	<1	<1	-
trans-1,2-dichloroethene	µg/L	1							-	<1	<1	<5	<1	<1	<1	<1	-
trans-1,3-dichloropropene	µg/L	1							-	<1	<1	<5	<1	<1	<1	<1	-
trans-1,4-Dichloro-2-butene	µg/L	5							-	-	-	<5	-	-	-	-	-
Trichlorofluoromethane	µg/L	1							-	<1	<1	<50	<1	<1	<1	<1	-
Vinyl acetate	µg/L	50							-	-	-	<50	-	-	-	-	-

Appendix J
Table 5
Summary of Groundwater Analytical Results

	Unit	EQL	ANZECC 2000 - Stock Watering	ANZECC 2000 FW 95%	ANZECC 2000 FW 99%	PFAS NEMP 2018 Freshwater 99%	ANZECC 2000 Irrigation - Long-term Trigger Values	NHMRC Recreational Guidelines 2008								
								Location Code	NEL-BH095	NEL-BH097	NEL-BH098	NEL-BH106	NEL-BH107	NEL-BH125	NEL-BH125	NEL-BH125
								Field ID	NEL-BH095 / 130218	NEL-BH097/150218	NEL-BH098/150218	NEL-BH106 / 160418	NEL-BH107 / 160418	NEL-BH125/160218	QC1/160218	QC2/160218
								Date	13/02/2018	15/02/2018	15/02/2018	16/04/2018	16/04/2018	16/02/2018	16/02/2018	16/02/2018
								Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Field_D	Field_D
								Lab Report Number	584938	585222 / EM1803079	585222 / EM1803079	594417 / EM1806339	594417 / EM1806339	585329 / EM1803154	585329 / EM1803154	EM1803154
Phenols																
3,4-Methylphenol (m,p-cresol)	µg/L	4							-	-	-	-	-	<6	<6	<4
2,3,4,6-Tetrachlorophenol	µg/L	10		20	10				-	-	-	-	-	<10	<10	-
2,4,5-trichlorophenol	µg/L	2							-	-	-	-	-	<10	<10	<2
2,4,6-trichlorophenol	µg/L	2		20	3			200	-	-	-	-	-	<10	<10	<2
2,4-dichlorophenol	µg/L	2		160	120			2000	-	-	-	-	-	<3	<3	<2
2,4-dimethylphenol	µg/L	2							-	-	-	-	-	<3	<3	<2
2,4-dinitrophenol	µg/L	30		45	13				-	-	-	-	-	<30	<30	-
2,6-dichlorophenol	µg/L	2							-	-	-	-	-	<3	<3	<2
2-chlorophenol	µg/L	2		490	340			3000	-	-	-	-	-	<3	<3	<2
2-methylnaphthalene	µg/L	2							-	-	-	-	-	<5	<5	<2
2-methylphenol	µg/L	2							-	-	-	-	-	<3	<3	<2
2-nitrophenol	µg/L	2							-	-	-	-	-	<10	<10	<2
3-methylcholanthrene	µg/L	2							-	-	-	-	-	<5	<5	<2
4,6-Dinitro-o-cyclohexyl phenol	µg/L	100							-	-	-	-	-	<100	<100	-
4-chloro-3-methylphenol	µg/L	2							-	-	-	-	-	<10	<10	<2
4-nitrophenol	µg/L	30							-	-	-	-	-	<30	<30	-
Acetophenone	µg/L	2							-	-	-	-	-	<5	<5	<2
Pentachlorophenol	µg/L	4		10	3.6			100	-	-	-	-	-	<10	<10	<4
Phenol	µg/L	2		320	85				-	-	-	-	-	<3	<3	<2
tetrachlorophenols	µg/L	30							-	-	-	-	-	<30	<30	-
Phenols (Total Halogenated)	µg/L	10							-	-	-	-	-	<10	<10	-
Phenols (Total Non Halogenated)	µg/L	100							-	-	-	-	-	<100	<100	-
VOCs																
1,1-dichloroethane	µg/L	1							-	-	-	-	-	<1	<1	<5
1,2,3-trichlorobenzene	µg/L	1		10	3				-	-	-	-	-	<5	<5	<5
1,2,3-trichloropropane	µg/L	1							-	-	-	-	-	<1	<1	<5
1,2-dibromoethane	µg/L	1						10	-	-	-	-	-	<1	<1	<5
1,3-dichlorobenzene	µg/L	1		260	160				-	-	-	-	-	<1	<1	<2
2-butanone (MEK)	µg/L	1							-	-	-	-	-	<1	<1	<50
2-hexanone (MBK)	µg/L	50							-	-	-	-	-	-	-	<50
4-methyl-2-pentanone (MIBK)	µg/L	1							-	-	-	-	-	<1	<1	<50
Acetone	µg/L	1							-	-	-	-	-	<5	<5	-
Allyl chloride	µg/L	1							-	-	-	-	-	<1	<1	-
Bromodichloromethane	µg/L	1							-	-	-	-	-	<1	<1	<5
Bromoform	µg/L	1							-	-	-	-	-	<1	<1	<5
Carbon disulfide	µg/L	1							-	-	-	-	-	<1	<1	<5
Chlorodibromomethane	µg/L	1							-	-	-	-	-	<1	<1	<5
Chloroethane	µg/L	1							-	-	-	-	-	<1	<1	<50
cis-1,3-dichloropropene	µg/L	1							-	-	-	-	-	<1	<1	<5
cis-1,4-Dichloro-2-butene	µg/L	5							-	-	-	-	-	-	-	<5
Dibromomethane	µg/L	1							-	-	-	-	-	<1	<1	<5
Iodomethane	µg/L	1							-	-	-	-	-	<1	<1	<5
n-butylbenzene	µg/L	5							-	-	-	-	-	-	-	<5
n-propylbenzene	µg/L	5							-	-	-	-	-	-	-	<5
Pentachloroethane	µg/L	5							-	-	-	-	-	-	-	<5
p-isopropyltoluene	µg/L	5							-	-	-	-	-	-	-	<5
sec-butylbenzene	µg/L	5							-	-	-	-	-	-	-	<5
Trichloroethene (TCE)	µg/L	1							-	-	-	-	-	<1	<1	<5
tert-butylbenzene	µg/L	5							-	-	-	-	-	-	-	<5
Tetrachloroethene	µg/L	1						500	-	-	-	-	-	<1	<1	<5
trans-1,2-dichloroethene	µg/L	1							-	-	-	-	-	<1	<1	<5
trans-1,3-dichloropropene	µg/L	1							-	-	-	-	-	<1	<1	<5
trans-1,4-Dichloro-2-butene	µg/L	5							-	-	-	-	-	-	-	<5
Trichlorofluoromethane	µg/L	1							-	-	-	-	-	<1	<1	<50
Vinyl acetate	µg/L	50							-	-	-	-	-	-	-	<50

Appendix J
Table 5
Summary of Groundwater Analytical Results

								Location Code	NEL-BH128	NEL-BH140	NEL-ENV-BH006	NEL-ENV-BH008	NEL-ENV-BH009	NEL-ENV-BH009	NEL-ENV-BH014
								Field ID	NEL-BH128/080318	NEL-BH140/180418	NEL-ENV-BH006_27062018	NEL-ENV-BH008_08052018	NEL-ENV-BH009_27062018	NEL-ENV-BH009_19072018	ENV-BH014 / 130718
								Date	8/03/2018	18/04/2018	27/06/2018	8/05/2018	27/06/2018	19/07/2018	13/07/2018
								Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal
								Lab Report Number	588501	594938	EM1810368	EM1807515	EM1810368	EM1811589	607533 / EM1811208
	Unit	EQL	ANZECC 2000 - Stock Watering	ANZECC 2000 FW 95%	ANZECC 2000 FW 99%	PFAS NEMP 2018 Freshwater 99%	ANZECC 2000 Irrigation - Long-term Trigger Values	NHMRC Recreational Guidelines 2008							
Phenols															
3,4-Methylphenol (m,p-cresol)	µg/L	4							<6	-	<4	<4	<4	-	<6
2,3,4,6-Tetrachlorophenol	µg/L	10		20	10				<10	-	-	-	-	-	<10
2,4,5-trichlorophenol	µg/L	2							<10	-	<2	<2	<2	-	<10
2,4,6-trichlorophenol	µg/L	2		20	3			200	<10	-	<2	<2	<2	-	<10
2,4-dichlorophenol	µg/L	2		160	120			2000	<3	-	<2	<2	<2	-	<3
2,4-dimethylphenol	µg/L	2							<3	-	<2	<2	<2	-	<3
2,4-dinitrophenol	µg/L	30		45	13				<30	-	-	-	-	-	<30
2,6-dichlorophenol	µg/L	2							<3	-	<2	<2	<2	-	<3
2-chlorophenol	µg/L	2		490	340			3000	<3	-	<2	<2	<2	-	<3
2-methylnaphthalene	µg/L	2							<5	-	<2	<2	<2	-	<5
2-methylphenol	µg/L	2							<3	-	<2	<2	<2	-	<3
2-nitrophenol	µg/L	2							<10	-	<2	<2	<2	-	<10
3-methylcholanthrene	µg/L	2							<5	-	<2	<2	<2	-	<5
4,6-Dinitro-o-cyclohexyl phenol	µg/L	100							<100	-	-	-	-	-	<100
4-chloro-3-methylphenol	µg/L	2							<10	-	<2	<2	<2	-	<10
4-nitrophenol	µg/L	30							<30	-	-	-	-	-	<30
Acetophenone	µg/L	2							<5	-	<2	<2	<2	-	<5
Pentachlorophenol	µg/L	4		10	3.6			100	<10	-	<4	<4	<4	-	<10
Phenol	µg/L	2		320	85				<3	-	<2	<2	<2	-	<3
tetrachlorophenols	µg/L	30							<30	-	-	-	-	-	<30
Phenols (Total Halogenated)	µg/L	10							<10	-	-	-	-	-	<10
Phenols (Total Non Halogenated)	µg/L	100							<100	-	-	-	-	-	<100
VOCs															
1,1-dichloroethane	µg/L	1							-	-	<5	<5	<5	-	<1
1,2,3-trichlorobenzene	µg/L	1		10	3				<1	-	<5	<5	<5	-	<5
1,2,3-trichloropropane	µg/L	1							-	-	<5	<5	<5	-	<1
1,2-dibromoethane	µg/L	1						10	-	-	<5	<5	<5	-	<1
1,3-dichlorobenzene	µg/L	1		260	160				<1	-	<2	<2	<2	-	<1
2-butanone (MEK)	µg/L	1							-	-	<50	<50	<50	-	<1
2-hexanone (MBK)	µg/L	50							-	-	<50	<50	<50	-	-
4-methyl-2-pentanone (MIBK)	µg/L	1							-	-	<50	<50	<50	-	<1
Acetone	µg/L	1							-	-	-	-	-	-	<1
Allyl chloride	µg/L	1							-	-	-	-	-	-	<1
Bromodichloromethane	µg/L	1							-	-	<5	<5	<5	-	<1
Bromoform	µg/L	1							-	-	<5	<5	<5	-	<1
Carbon disulfide	µg/L	1							-	-	<5	<5	<5	-	<1
Chlorodibromomethane	µg/L	1							-	-	<5	<5	<5	-	<1
Chloroethane	µg/L	1							-	-	<50	<50	<50	-	<1
cis-1,3-dichloropropene	µg/L	1							-	-	<5	<5	<5	-	<1
cis-1,4-Dichloro-2-butene	µg/L	5							-	-	<5	<5	<5	-	-
Dibromomethane	µg/L	1							-	-	<5	<5	<5	-	<1
Iodomethane	µg/L	1							-	-	<5	<5	<5	-	<1
n-butylbenzene	µg/L	5							-	-	<5	<5	<5	-	-
n-propylbenzene	µg/L	5							-	-	<5	<5	<5	-	-
Pentachloroethane	µg/L	5							-	-	<5	<5	<5	-	-
p-isopropyltoluene	µg/L	5							-	-	<5	<5	<5	-	-
sec-butylbenzene	µg/L	5							-	-	<5	<5	<5	-	-
Trichloroethene (TCE)	µg/L	1							-	-	<5	<5	<5	-	<1
tert-butylbenzene	µg/L	5							-	-	<5	<5	<5	-	-
Tetrachloroethene	µg/L	1						500	-	-	<5	<5	<5	-	<1
trans-1,2-dichloroethene	µg/L	1							-	-	<5	<5	<5	-	<1
trans-1,3-dichloropropene	µg/L	1							-	-	<5	<5	<5	-	<1
trans-1,4-Dichloro-2-butene	µg/L	5							-	-	<5	<5	<5	-	-
Trichlorofluoromethane	µg/L	1							-	-	<50	<50	<50	-	<1
Vinyl acetate	µg/L	50							-	-	<50	<50	<50	-	-

Appendix J
Table 5
Summary of Groundwater Analytical Results

Location Code	Unit	EQL	ANZECC 2000 - Stock Watering	ANZECC 2000 FW 95%	ANZECC 2000 FW 99%	PFAS NEMP 2018 Freshwater 99%	ANZECC 2000 Irrigation - Long-term Trigger Values	NHMRC Recreational Guidelines 2008	NEL-ENV-BH022	NEL-ENV-BH024	NEL-ENV-BH024	NEL-ENV-BH024	NEL-ENV-BH024	NEL-ENV-BH025	NEL-ENV-BH032	NEL-PB01A
Field ID									NEL-ENV-BH022	NEL-ENV-BH024_08052018	NEL-ENV-BH024_19072018	QC5000_08052018	QC6000_08052018	NEL-ENV-BH025_09052018	NEL-ENV-BH032_27062018	NEL-PB01A
Date									27/09/2018	8/05/2018	19/07/2018	8/05/2018	8/05/2018	9/05/2018	27/06/2018	6/07/2018
Sample Type									Normal	Normal	Normal	Field_D	Field_D	Normal	Normal	Normal
Lab Report Number									EM1815577	EM1807515	EM1811589	EM1807515	EM1807515	EM1807669	EM1810368	607533
Phenols																
3,4-Methylphenol (m,p-cresol)	µg/L	4							14	<4	-	<4	<4	<4	<4	-
2,3,4,6-Tetrachlorophenol	µg/L	10		20	10				-	-	-	-	-	-	-	-
2,4,5-trichlorophenol	µg/L	2							<2	<2	-	<2	<2	<2	<2	-
2,4,6-trichlorophenol	µg/L	2		20	3			200	<2	<2	-	<2	<2	<2	<2	-
2,4-dichlorophenol	µg/L	2		160	120			2000	<2	<2	-	<2	<2	<2	<2	-
2,4-dimethylphenol	µg/L	2							6	<2	-	<2	<2	<2	<2	-
2,4-dinitrophenol	µg/L	30		45	13				-	-	-	-	-	-	-	-
2,6-dichlorophenol	µg/L	2							<2	<2	-	<2	<2	<2	<2	-
2-chlorophenol	µg/L	2		490	340			3000	<2	<2	-	<2	<2	<2	<2	-
2-methylnaphthalene	µg/L	2							36	<2	-	<2	<2	<2	<2	-
2-methylphenol	µg/L	2							32	<2	-	<2	<2	<2	<2	-
2-nitrophenol	µg/L	2							<2	<2	-	<2	<2	<2	<2	-
3-methylcholanthrene	µg/L	2							<2	<2	-	<2	<2	<2	<2	-
4,6-Dinitro-o-cyclohexyl phenol	µg/L	100							-	-	-	-	-	-	-	-
4-chloro-3-methylphenol	µg/L	2							<2	<2	-	<2	<2	<2	<2	-
4-nitrophenol	µg/L	30							-	-	-	-	-	-	-	-
Acetophenone	µg/L	2							86	<2	-	<2	<2	<2	<2	-
Pentachlorophenol	µg/L	4		10	3.6			100	<4	<4	-	<4	<4	<4	<4	-
Phenol	µg/L	2		320	85				4	<2	-	<2	<2	<2	<2	-
tetrachlorophenols	µg/L	30							-	-	-	-	-	-	-	-
Phenols (Total Halogenated)	µg/L	10							-	-	-	-	-	-	-	-
Phenols (Total Non Halogenated)	µg/L	100							-	-	-	-	-	-	-	-
VOCs																
1,1-dichloroethane	µg/L	1							<100	<5	-	<5	<5	<5	<5	-
1,2,3-trichlorobenzene	µg/L	1		10	3				<100	<5	-	<5	<5	<5	<5	-
1,2,3-trichloropropane	µg/L	1							<100	<5	-	<5	<5	<5	<5	-
1,2-dibromoethane	µg/L	1						10	<100	<5	-	<5	<5	<5	<5	-
1,3-dichlorobenzene	µg/L	1		260	160				<2	<2	-	<2	<2	<2	<2	-
2-butanone (MEK)	µg/L	1							<1,000	<50	-	<50	<50	<50	<50	-
2-hexanone (MBK)	µg/L	50							<1,000	<50	-	<50	<50	<50	<50	-
4-methyl-2-pentanone (MIBK)	µg/L	1							<1,000	<50	-	<50	<50	<50	<50	-
Acetone	µg/L	1							-	-	-	-	-	-	-	-
Allyl chloride	µg/L	1							-	-	-	-	-	-	-	-
Bromodichloromethane	µg/L	1							<100	<5	-	<5	<5	<5	<5	-
Bromoform	µg/L	1							<100	<5	-	<5	<5	<5	<5	-
Carbon disulfide	µg/L	1							<100	<5	-	<5	<5	<5	<5	-
Chlorodibromomethane	µg/L	1							<100	<5	-	<5	<5	<5	<5	-
Chloroethane	µg/L	1							<1,000	<50	-	<50	<50	<50	<50	-
cis-1,3-dichloropropene	µg/L	1							<100	<5	-	<5	<5	<5	<5	-
cis-1,4-Dichloro-2-butene	µg/L	5							<100	<5	-	<5	<5	<5	<5	-
Dibromomethane	µg/L	1							<100	<5	-	<5	<5	<5	<5	-
Iodomethane	µg/L	1							<100	<5	-	<5	<5	<5	<5	-
n-butylbenzene	µg/L	5							<100	<5	-	<5	<5	<5	<5	-
n-propylbenzene	µg/L	5							<100	<5	-	<5	<5	<5	<5	-
Pentachloroethane	µg/L	5							<100	<5	-	<5	<5	<5	<5	-
p-isopropyltoluene	µg/L	5							<100	<5	-	<5	<5	<5	<5	-
sec-butylbenzene	µg/L	5							<100	<5	-	<5	<5	<5	<5	-
Trichloroethene (TCE)	µg/L	1							<100	<5	-	<5	<5	<5	<5	-
tert-butylbenzene	µg/L	5							<100	<5	-	<5	<5	<5	<5	-
Tetrachloroethene	µg/L	1						500	<100	<5	-	<5	<5	382	<5	-
trans-1,2-dichloroethene	µg/L	1							<100	<5	-	<5	<5	<5	<5	-
trans-1,3-dichloropropene	µg/L	1							-	<5	-	<5	<5	<5	<5	-
trans-1,4-Dichloro-2-butene	µg/L	5							<100	<5	-	<5	<5	<5	<5	-
Trichlorofluoromethane	µg/L	1							<1,000	<50	-	<50	<50	<50	<50	-
Vinyl acetate	µg/L	50							<1,000	<50	-	<50	<50	<50	<50	-

Appendix J
Table 5
Summary of Groundwater Analytical Results

	Unit	EQL	ANZECC 2000 - Stock Watering	ANZECC 2000 FW 95%	ANZECC 2000 FW 99%	PFAS NEMP 2018 Freshwater 99%	ANZECC 2000 Irrigation - Long-term Trigger Values	NHMRC Recreational Guidelines 2008									
								Location Code	NEL-BH004	NEL-BH004A	NEL-BH031	NEL-BH031	NEL-BH037	NEL-BH038	NEL-BH039	NEL-BH039	NEL-BH039
								Field ID	NEL-BH004 D/150218	NEL-BH004 S/150218	NEL-BH031/080318	NEL-BH031 / 130218	NEL-BH037 / 160418	NEL-BH038 / 140218	NEL-BH039/180418	QC1/180418	QC2 / 180418
								Date	15/02/2018	15/02/2018	8/03/2018	13/02/2018	16/04/2018	14/02/2018	18/04/2018	18/04/2018	18/04/2018
								Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Field_D	Field_D
								Lab Report Number	585222 / EM1803079	585222 / EM1803079	588501	584938	594417 / EM1806339	584987 / EM1802989	594938 / EM1806473	594938 / EM1806473	EM1806473
SVOCs																	
1,2,3,4-tetrachlorobenzene	µg/L	0.1							-	-	<0.1	-	-	-	<10	<10	-
1,2,3,5-Tetrachlorobenzene	µg/L	0.1							-	-	<0.1	-	-	-	<5	<5	-
1,2,4,5-tetrachlorobenzene	µg/L	0.1							-	-	<0.1	-	-	-	<5	<5	-
1,3,5-Trichlorobenzene	µg/L	0.1							-	-	<0.1	-	-	-	<5	<5	-
1-Chloronaphthalene	µg/L	5							-	-	<5	-	-	-	<10	<10	-
1-naphthylamine	µg/L	2							-	-	<5	-	-	-	<10	<10	<2
2-(acetylamino) fluorene	µg/L	2							-	-	-	-	-	-	-	-	<2
2-naphthylamine	µg/L	5							-	-	<5	-	-	-	<10	<10	-
2-nitroaniline	µg/L	4							-	-	<5	-	-	-	<10	<10	<4
3,3-Dichlorobenzidine	µg/L	2							-	-	<5	-	-	-	<5	<5	<2
3-nitroaniline	µg/L	4							-	-	-	-	-	-	-	-	<4
4-(dimethylamino) azobenzene	µg/L	2							-	-	<5	-	-	-	<5	<5	<2
4,6-Dinitro-2-methylphenol	µg/L	30							-	-	<30	-	-	-	<30	<30	-
4-bromophenyl phenyl ether	µg/L	2							-	-	<5	-	-	-	<5	<5	<2
4-chloroaniline	µg/L	2							-	-	-	-	-	-	-	-	<2
4-chlorophenyl phenyl ether	µg/L	2							-	-	<5	-	-	-	<10	<10	<2
4-nitroaniline	µg/L	2							-	-	-	-	-	-	-	-	<2
4-Nitroquinoline-N-oxide	µg/L	2							-	-	-	-	-	-	-	-	<2
5-nitro-o-toluidine	µg/L	2							-	-	-	-	-	-	-	-	<2
7,12-dimethylbenz(a)anthracene	µg/L	2							-	-	<5	-	-	-	<5	<5	<2
Aniline	µg/L	2		250	8				-	-	<5	-	-	-	<5	<5	<2
Azobenzene	µg/L	2							-	-	-	-	-	-	-	-	<2
Benzyl chloride	µg/L	1							-	-	<1	-	-	-	<5	<5	-
Bis(2-chloroethoxy) methane	µg/L	2							-	-	<5	-	-	-	<5	<5	<2
Bis(2-chloroethyl)ether	µg/L	2							-	-	-	-	-	-	-	-	<2
Bis(2-chloroisopropyl) ether	µg/L	5							-	-	<5	-	-	-	<5	<5	-
Carbazole	µg/L	2							-	-	-	-	-	-	-	-	<2
Chlorobenzilate	µg/L	2							-	-	-	-	-	-	-	-	<2
Dibenz(a.j)acridine	µg/L	5							-	-	<5	-	-	-	<5	<5	-
Diphenylamine	µg/L	5							-	-	<5	-	-	-	<10	<10	-
Hexachlorocyclopentadiene	µg/L	0.1							-	-	<0.1	-	-	-	<5	<5	<10
Hexachloroethane	µg/L	0.1		360	290				-	-	<0.1	-	-	-	<5	<5	<2
Hexachloropropene	µg/L	2							-	-	-	-	-	-	-	-	<2
Isophorone	µg/L	2							-	-	-	-	-	-	-	-	<2
Methapyrilene	µg/L	2							-	-	-	-	-	-	-	-	<2
N-nitrosodiethylamine	µg/L	2							-	-	-	-	-	-	-	-	<2
N-nitrosodi-n-butylamine	µg/L	2							-	-	<5	-	-	-	<5	<5	<2
N-nitrosodi-n-propylamine	µg/L	2							-	-	<5	-	-	-	<5	<5	<2
N-Nitrosomethylethylamine	µg/L	2							-	-	-	-	-	-	-	-	<2
N-nitrosomorpholine	µg/L	2							-	-	-	-	-	-	-	-	<2
N-nitrosopiperidine	µg/L	2							-	-	<5	-	-	-	<5	<5	<2
N-nitrosopyrrolidine	µg/L	4							-	-	-	-	-	-	-	-	<4
Pentachlorobenzene	µg/L	0.1							-	-	<0.1	-	-	-	<10	<10	<2
Phenacetin	µg/L	2							-	-	-	-	-	-	-	-	<2
Trifluralin	µg/L	5		4.4	2.6			900	-	-	<5	-	-	-	<5	<5	-
OC Pesticides																	
Organochlorine pesticides EPAVic	µg/L	1							-	-	<1	-	-	-	<1	<1	-
Other organochlorine pesticides EPAVic	µg/L	1							-	-	<1	-	-	-	<1	<1	-
4,4-DDE	µg/L	0.1							-	-	<0.1	-	-	-	<0.1	<0.1	<0.5
a-BHC	µg/L	0.1							-	-	<0.1	-	-	-	<0.1	<0.1	<0.5
Aldrin	µg/L	0.1							-	-	<0.1	-	-	-	<0.1	<0.1	<0.5
Aldrin + Dieldrin	µg/L	0.1						3	-	-	<0.1	-	-	-	<0.1	<0.1	<0.5
b-BHC	µg/L	0.1							-	-	<0.1	-	-	-	<0.1	<0.1	<0.5
Chlordane	µg/L	0.5		0.08	0.03				-	-	<1	-	-	-	<1	<1	<0.5
Chlordane (cis)	µg/L	0.5							-	-	-	-	-	-	-	-	<0.5
Chlordane (trans)	µg/L	0.5							-	-	-	-	-	-	-	-	<0.5
d-BHC	µg/L	0.1							-	-	<0.1	-	-	-	<0.1	<0.1	<0.5
4,4 DDD	µg/L	0.1							-	-	<0.1	-	-	-	<0.1	<0.1	<0.5
4,4 DDT	µg/L	0.1		0.01	0.006			90	-	-	<0.1	-	-	-	<0.1	<0.1	<2.0
DDT+DDE+DDD - Lab Calc	µg/L	0.1							-	-	<0.1	-	-	-	<0.1	<0.1	<0.5
Dieldrin	µg/L	0.1							-	-	<0.1	-	-	-	<0.1	<0.1	<0.5
Endosulfan I	µg/L	0.1							-	-	<0.1	-	-	-	<0.1	<0.1	<0.5
Endosulfan II	µg/L	0.1							-	-	<0.1	-	-	-	<0.1	<0.1	<0.5
Endosulfan Sulfate	µg/L	0.1							-	-	<0.1	-	-	-	<0.1	<0.1	<0.5
Endrin	µg/L	0.1		0.02	0.01				-	-	<0.1	-	-	-	<0.1	<0.1	<0.5
Endrin aldehyde	µg/L	0.1							-	-	<0.1	-	-	-	<0.1	<0.1	<0.5
Endrin ketone	µg/L	0.1							-	-	<0.1	-	-	-	<0.1	<0.1	<0.5
g-BHC (Lindane)	µg/L	0.1		0.2	0.07			100	-	-	<0.1	-	-	-	<0.1	<0.1	<0.5
Heptachlor	µg/L	0.1		0.09	0.01			3	-	-	<0.1	-	-	-	<0.1	<0.1	<0.5
Heptachlor epoxide	µg/L	0.1							-	-	<0.1	-	-	-	<0.1	<0.1	<0.5
Hexachlorobenzene	µg/L	0.1							-	-	<0.1	-	-	-	<0.1	<0.1	<0.5
Methoxychlor	µg/L	0.1						3000	-	-	<0.1	-	-	-	<0.1	<0.1	<2.0
Toxaphene	µg/L	10		0.2	0.1				-	-	<10	-	-	-	<10	<10	-

Appendix J
Table 5
Summary of Groundwater Analytical Results

	Unit	EQL	ANZECC 2000 - Stock Watering	ANZECC 2000 FW 95%	ANZECC 2000 FW 99%	PFAS NEMP 2018 Freshwater 99%	ANZECC 2000 Irrigation - Long-term Trigger Values	NHMRC Recreational Guidelines 2008	NEL-BH040	NEL-BH040A	NEL-BH044	NEL-BH059	NEL-BH060	NEL-BH062	NEL-BH062	NEL-BH062A	NEL-BH062B	NEL-BH062B
Field ID									NEL-BH040 / 120218	NEL-BH040 A / 120218	NEL-BH044 / 130218	NEL-BH059 / 130218	NEL-BH060 / 140218	NEL-BH062/080318	NEL-BH062 / 140218	NEL-BH062 A / 160218	NEL-BH062B/080318	NEL-BH062 B / 140218
Date									12/02/2018	12/02/2018	13/02/2018	13/02/2018	14/02/2018	8/03/2018	14/02/2018	16/02/2018	8/03/2018	14/02/2018
Sample Type									Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
Lab Report Number									584938	584938	584938	584938	584987 / EM1802989	588501	584987 / EM1802989	585329 / EM1802989	588501	584987 / EM1802989
SVOCs																		
1,2,3,4-tetrachlorobenzene	μg/L	0.1							-	-	-	-	-	<0.1	-	<5	<0.1	-
1,2,3,5-Tetrachlorobenzene	μg/L	0.1							-	-	-	-	-	<0.1	-	<5	<0.1	-
1,2,4,5-tetrachlorobenzene	μg/L	0.1							-	-	-	-	-	<0.1	-	<5	<0.1	-
1,3,5-Trichlorobenzene	μg/L	0.1							-	-	-	-	-	<0.1	-	<5	<0.1	-
1-Chloronaphthalene	μg/L	5							-	-	-	-	-	<5	-	<5	<5	-
1-naphthylamine	μg/L	2							-	-	-	-	-	<5	-	<5	<5	-
2-(acetylamino) fluorene	μg/L	2							-	-	-	-	-	-	-	-	-	-
2-naphthylamine	μg/L	5							-	-	-	-	-	<5	-	<5	<5	-
2-nitroaniline	μg/L	4							-	-	-	-	-	<5	-	<5	<5	-
3,3-Dichlorobenzidine	μg/L	2							-	-	-	-	-	<5	-	<5	<5	-
3-nitroaniline	μg/L	4							-	-	-	-	-	-	-	-	-	-
4-(dimethylamino) azobenzene	μg/L	2							-	-	-	-	-	<5	-	<5	<5	-
4,6-Dinitro-2-methylphenol	μg/L	30							-	-	-	-	-	<30	-	<30	<30	-
4-bromophenyl phenyl ether	μg/L	2							-	-	-	-	-	<5	-	<5	<5	-
4-chloroaniline	μg/L	2							-	-	-	-	-	-	-	-	-	-
4-chlorophenyl phenyl ether	μg/L	2							-	-	-	-	-	<5	-	<5	<5	-
4-nitroaniline	μg/L	2							-	-	-	-	-	-	-	-	-	-
4-Nitroquinoline-N-oxide	μg/L	2							-	-	-	-	-	-	-	-	-	-
5-nitro-o-toluidine	μg/L	2							-	-	-	-	-	-	-	-	-	-
7,12-dimethylbenz(a)anthracene	μg/L	2							-	-	-	-	-	<5	-	<5	<5	-
Aniline	μg/L	2		250	8				-	-	-	-	-	<5	-	<5	<5	-
Azobenzene	μg/L	2							-	-	-	-	-	-	-	-	-	-
Benzyl chloride	μg/L	1							-	-	-	-	-	<1	-	<5	<1	-
Bis(2-chloroethoxy) methane	μg/L	2							-	-	-	-	-	<5	-	<5	<5	-
Bis(2-chloroethyl)ether	μg/L	2							-	-	-	-	-	-	-	-	-	-
Bis(2-chloroisopropyl) ether	μg/L	5							-	-	-	-	-	<5	-	<5	<5	-
Carbazole	μg/L	2							-	-	-	-	-	-	-	-	-	-
Chlorobenzilate	μg/L	2							-	-	-	-	-	-	-	-	-	-
Dibenz(a,j)acridine	μg/L	5							-	-	-	-	-	<5	-	<5	<5	-
Diphenylamine	μg/L	5							-	-	-	-	-	<5	-	<5	<5	-
Hexachlorocyclopentadiene	μg/L	0.1							-	-	-	-	-	<0.1	-	<5	<0.1	-
Hexachloroethane	μg/L	0.1		360	290				-	-	-	-	-	<0.1	-	<5	<0.1	-
Hexachloropropene	μg/L	2							-	-	-	-	-	-	-	-	-	-
Isophorone	μg/L	2							-	-	-	-	-	-	-	-	-	-
Methapyrilene	μg/L	2							-	-	-	-	-	-	-	-	-	-
N-nitrosodiethylamine	μg/L	2							-	-	-	-	-	-	-	-	-	-
N-nitrosodi-n-butylamine	μg/L	2							-	-	-	-	-	<5	-	<5	<5	-
N-nitrosodi-n-propylamine	μg/L	2							-	-	-	-	-	<5	-	<5	<5	-
N-Nitrosomethylethylamine	μg/L	2							-	-	-	-	-	-	-	-	-	-
N-nitrosomorpholine	μg/L	2							-	-	-	-	-	-	-	-	-	-
N-nitrosopiperidine	μg/L	2							-	-	-	-	-	<5	-	<5	<5	-
N-nitrosopyrrolidine	μg/L	4							-	-	-	-	-	-	-	-	-	-
Pentachlorobenzene	μg/L	0.1							-	-	-	-	-	<0.1	-	<5	<0.1	-
Phenacetin	μg/L	2							-	-	-	-	-	-	-	-	-	-
Trifluralin	μg/L	5		4.4	2.6			900	-	-	-	-	-	<5	-	<5	<5	-
OC Pesticides																		
Organochlorine pesticides EPAVic	μg/L	1							-	-	-	-	-	<1	-	<1	<1	-
Other organochlorine pesticides EPAVic	μg/L	1							-	-	-	-	-	<1	-	<1	<1	-
4,4-DDE	μg/L	0.1							-	-	-	-	-	<0.1	-	<0.1	<0.1	-
a-BHC	μg/L	0.1							-	-	-	-	-	<0.1	-	<0.1	<0.1	-
Aldrin	μg/L	0.1							-	-	-	-	-	<0.1	-	<0.1	<0.1	-
Aldrin + Dieldrin	μg/L	0.1						3	-	-	-	-	-	<0.1	-	<0.1	<0.1	-
b-BHC	μg/L	0.1							-	-	-	-	-	<0.1	-	<0.1	<0.1	-
Chlordane	μg/L	0.5		0.08	0.03				-	-	-	-	-	<1	-	<1	<1	-
Chlordane (cis)	μg/L	0.5							-	-	-	-	-	-	-	-	-	-
Chlordane (trans)	μg/L	0.5							-	-	-	-	-	-	-	-	-	-
d-BHC	μg/L	0.1							-	-	-	-	-	<0.1	-	<0.1	<0.1	-
4,4 DDD	μg/L	0.1							-	-	-	-	-	<0.1	-	<0.1	<0.1	-
4,4 DDT	μg/L	0.1		0.01	0.006			90	-	-	-	-	-	<0.1	-	<0.1	<0.1	-
DDT+DDE+DDD - Lab Calc	μg/L	0.1							-	-	-	-	-	<0.1	-	<0.1	<0.1	-
Dieldrin	μg/L	0.1							-	-	-	-	-	<0.1	-	<0.1	<0.1	-
Endosulfan I	μg/L	0.1							-	-	-	-	-	<0.1	-	<0.1	<0.1	-
Endosulfan II	μg/L	0.1							-	-	-	-	-	<0.1	-	<0.1	<0.1	-
Endosulfan Sulfate	μg/L	0.1							-	-	-	-	-	<0.1	-	<0.1	<0.1	-
Endrin	μg/L	0.1		0.02	0.01				-	-	-	-	-	<0.1	-	<0.1	<0.1	-
Endrin aldehyde	μg/L	0.1							-	-	-	-	-	<0.1	-	<0.1	<0.1	-
Endrin ketone	μg/L	0.1							-	-	-	-	-	<0.1	-	<0.1	<0.1	-
g-BHC (Lindane)	μg/L	0.1		0.2	0.07			100	-	-	-	-	-	<0.1	-	<0.1	<0.1	-
Heptachlor	μg/L	0.1		0.09	0.01			3	-	-	-	-	-	<0.1	-	<0.1	<0.1	-
Heptachlor epoxide	μg/L	0.1							-	-	-	-	-	<0.1	-	<0.1	<0.1	-
Hexachlorobenzene	μg/L	0.1							-	-	-	-	-	<0.1	-	<0.1	<0.1	-
Methoxychlor	μg/L	0.1						3000	-	-	-	-	-	<0.1	-	<0.1	<0.1	-
Toxaphene	μg/L	10		0.2	0.1				-	-	-	-	-	<10	-	<10	<10	-

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Table 5
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	Unit	EQL	ANZECC 2000 - Stock Watering	ANZECC 2000 FW 95%	ANZECC 2000 FW 99%	PFAS NEMP 2018 Freshwater 99%	ANZECC 2000 Irrigation - Long-term Trigger Values	NHMRC Recreational Guidelines 2008	NEL-BH064	NEL-BH070	NEL-BH071	NEL-BH072	NEL-BH076	NEL-BH076A	NEL-BH078
Field ID									NEL-BH064 / 140218	NEL-BH070 / 120218	NEL-BH071/170418	NEL-BH072 / 120218	NEL-BH076/170418	NEL-BH076A/170418	NEL-BH078/170418
Date									14/02/2018	12/02/2018	17/04/2018	12/02/2018	17/04/2018	17/04/2018	17/04/2018
Sample Type									Normal	Normal	Normal	Normal	Normal	Normal	Normal
Lab Report Number									584987 / EM1802989	584938	594757 / EM1806408	584938	594757 / EM1806408	594757 / EM1806408	594757 / EM1806408
SVOCs															
1,2,3,4-tetrachlorobenzene	µg/L	0.1							-	-	-	-	-	-	-
1,2,3,5-Tetrachlorobenzene	µg/L	0.1							-	-	-	-	-	-	-
1,2,4,5-tetrachlorobenzene	µg/L	0.1							-	-	-	-	-	-	-
1,3,5-Trichlorobenzene	µg/L	0.1							-	-	-	-	-	-	-
1-Chloronaphthalene	µg/L	5							-	-	-	-	-	-	-
1-naphthylamine	µg/L	2							-	-	-	-	-	-	-
2-(acetylamino) fluorene	µg/L	2							-	-	-	-	-	-	-
2-naphthylamine	µg/L	5							-	-	-	-	-	-	-
2-nitroaniline	µg/L	4							-	-	-	-	-	-	-
3,3-Dichlorobenzidine	µg/L	2							-	-	-	-	-	-	-
3-nitroaniline	µg/L	4							-	-	-	-	-	-	-
4-(dimethylamino) azobenzene	µg/L	2							-	-	-	-	-	-	-
4,6-Dinitro-2-methylphenol	µg/L	30							-	-	-	-	-	-	-
4-bromophenyl phenyl ether	µg/L	2							-	-	-	-	-	-	-
4-chloroaniline	µg/L	2							-	-	-	-	-	-	-
4-chlorophenyl phenyl ether	µg/L	2							-	-	-	-	-	-	-
4-nitroaniline	µg/L	2							-	-	-	-	-	-	-
4-Nitroquinoline-N-oxide	µg/L	2							-	-	-	-	-	-	-
5-nitro-o-toluidine	µg/L	2							-	-	-	-	-	-	-
7,12-dimethylbenz(a)anthracene	µg/L	2							-	-	-	-	-	-	-
Aniline	µg/L	2		250	8				-	-	-	-	-	-	-
Azobenzene	µg/L	2							-	-	-	-	-	-	-
Benzyl chloride	µg/L	1							-	-	-	-	-	-	-
Bis(2-chloroethoxy) methane	µg/L	2							-	-	-	-	-	-	-
Bis(2-chloroethyl)ether	µg/L	2							-	-	-	-	-	-	-
Bis(2-chloroisopropyl) ether	µg/L	5							-	-	-	-	-	-	-
Carbazole	µg/L	2							-	-	-	-	-	-	-
Chlorobenzilate	µg/L	2							-	-	-	-	-	-	-
Dibenz(a.j)acridine	µg/L	5							-	-	-	-	-	-	-
Diphenylamine	µg/L	5							-	-	-	-	-	-	-
Hexachlorocyclopentadiene	µg/L	0.1							-	-	-	-	-	-	-
Hexachloroethane	µg/L	0.1		360	290				-	-	-	-	-	-	-
Hexachloropropene	µg/L	2							-	-	-	-	-	-	-
Isophorone	µg/L	2							-	-	-	-	-	-	-
Methapyrilene	µg/L	2							-	-	-	-	-	-	-
N-nitrosodiethylamine	µg/L	2							-	-	-	-	-	-	-
N-nitrosodi-n-butylamine	µg/L	2							-	-	-	-	-	-	-
N-nitrosodi-n-propylamine	µg/L	2							-	-	-	-	-	-	-
N-Nitrosomethylethylamine	µg/L	2							-	-	-	-	-	-	-
N-nitrosomorpholine	µg/L	2							-	-	-	-	-	-	-
N-nitrosopiperidine	µg/L	2							-	-	-	-	-	-	-
N-nitrosopyrrolidine	µg/L	4							-	-	-	-	-	-	-
Pentachlorobenzene	µg/L	0.1							-	-	-	-	-	-	-
Phenacetin	µg/L	2							-	-	-	-	-	-	-
Trifluralin	µg/L	5		4.4	2.6			900	-	-	-	-	-	-	-
OC Pesticides															
Organochlorine pesticides EPAVic	µg/L	1							-	-	-	-	-	-	-
Other organochlorine pesticides EPAVic	µg/L	1							-	-	-	-	-	-	-
4,4-DDE	µg/L	0.1							-	-	-	-	-	-	-
a-BHC	µg/L	0.1							-	-	-	-	-	-	-
Aldrin	µg/L	0.1							-	-	-	-	-	-	-
Aldrin + Dieldrin	µg/L	0.1						3	-	-	-	-	-	-	-
b-BHC	µg/L	0.1							-	-	-	-	-	-	-
Chlordane	µg/L	0.5		0.08	0.03				-	-	-	-	-	-	-
Chlordane (cis)	µg/L	0.5							-	-	-	-	-	-	-
Chlordane (trans)	µg/L	0.5							-	-	-	-	-	-	-
d-BHC	µg/L	0.1							-	-	-	-	-	-	-
4,4 DDD	µg/L	0.1							-	-	-	-	-	-	-
4,4 DDT	µg/L	0.1		0.01	0.006			90	-	-	-	-	-	-	-
DDT+DDE+DDD - Lab Calc	µg/L	0.1							-	-	-	-	-	-	-
Dieldrin	µg/L	0.1							-	-	-	-	-	-	-
Endosulfan I	µg/L	0.1							-	-	-	-	-	-	-
Endosulfan II	µg/L	0.1							-	-	-	-	-	-	-
Endosulfan Sulfate	µg/L	0.1							-	-	-	-	-	-	-
Endrin	µg/L	0.1		0.02	0.01				-	-	-	-	-	-	-
Endrin aldehyde	µg/L	0.1							-	-	-	-	-	-	-
Endrin ketone	µg/L	0.1							-	-	-	-	-	-	-
g-BHC (Lindane)	µg/L	0.1		0.2	0.07			100	-	-	-	-	-	-	-
Heptachlor	µg/L	0.1		0.09	0.01			3	-	-	-	-	-	-	-
Heptachlor epoxide	µg/L	0.1							-	-	-	-	-	-	-
Hexachlorobenzene	µg/L	0.1							-	-	-	-	-	-	-
Methoxychlor	µg/L	0.1						3000	-	-	-	-	-	-	-
Toxaphene	µg/L	10		0.2	0.1				-	-	-	-	-	-	-

Appendix J
Table 5
Summary of Groundwater Analytical Results

								Location Code	NEL-BH083	NEL-BH086	NEL-BH086	NEL-BH086	NEL-BH087	NEL-BH088	NEL-BH089	NEL-BH091	NEL-BH093
								Field ID	NEL-BH083 / 160418	NEL-BH086 / 120718	QC1 / 120718	QC2/120718	NEL-BH087 / 120718	NEL-BH088 / 120718	NEL-BH089 / 120718	NEL-BH091/160218	NEL-BH093 / 160418
								Date	16/04/2018	12/07/2018	12/07/2018	12/07/2018	12/07/2018	12/07/2018	12/07/2018	16/02/2018	16/04/2018
								Sample Type	Normal	Normal	Field_D	Field_D	Normal	Normal	Normal	Normal	Normal
								Lab Report Number	594417 / EM1806339	607533 / EM1811208	607533	EM1811208	607533 / EM1811208	607533 / EM1811208	607533 / EM1811208	585329 / EM1803154	594417 / EM1806339
	Unit	EQL	ANZECC 2000 - Stock Watering	ANZECC 2000 FW 95%	ANZECC 2000 FW 99%	PFAS NEMP 2018 Freshwater 99%	ANZECC 2000 Irrigation - Long-term Trigger Values	NHMRC Recreational Guidelines 2008									
SVOCs																	
1,2,3,4-tetrachlorobenzene	µg/L	0.1							-	<5	<5	-	<5	<5	<5	<5	-
1,2,3,5-Tetrachlorobenzene	µg/L	0.1							-	<5	<5	-	<5	<5	<5	<5	-
1,2,4,5-tetrachlorobenzene	µg/L	0.1							-	<5	<5	-	<5	<5	<5	<5	-
1,3,5-Trichlorobenzene	µg/L	0.1							-	<5	<5	-	<5	<5	<5	<5	-
1-Chloronaphthalene	µg/L	5							-	<5	<5	-	<5	<5	<5	<5	-
1-naphthylamine	µg/L	2							-	<5	<5	<2	<5	<5	<5	<5	-
2-(acetylamino) fluorene	µg/L	2							-	-	-	<2	-	-	-	-	-
2-naphthylamine	µg/L	5							-	<5	<5	-	<5	<5	<5	<5	-
2-nitroaniline	µg/L	4							-	<5	<5	<4	<5	<5	<5	<5	-
3,3-Dichlorobenzidine	µg/L	2							-	<5	<5	<2	<5	<5	<5	<5	-
3-nitroaniline	µg/L	4							-	-	-	<4	-	-	-	-	-
4-(dimethylamino) azobenzene	µg/L	2							-	<5	<5	<2	<5	<5	<5	<5	-
4,6-Dinitro-2-methylphenol	µg/L	30							-	<30	<30	-	<30	<30	<30	<30	-
4-bromophenyl phenyl ether	µg/L	2							-	<5	<5	<2	<5	<5	<5	<5	-
4-chloroaniline	µg/L	2							-	-	-	<2	-	-	-	-	-
4-chlorophenyl phenyl ether	µg/L	2							-	<5	<5	<2	<5	<5	<5	<5	-
4-nitroaniline	µg/L	2							-	-	-	<2	-	-	-	-	-
4-Nitroquinoline-N-oxide	µg/L	2							-	-	-	<2	-	-	-	-	-
5-nitro-o-toluidine	µg/L	2							-	-	-	<2	-	-	-	-	-
7,12-dimethylbenz(a)anthracene	µg/L	2							-	<5	<5	<2	<5	<5	<5	<5	-
Aniline	µg/L	2		250	8				-	<5	<5	<2	<5	<5	<5	<5	-
Azobenzene	µg/L	2							-	-	-	<2	-	-	-	-	-
Benzyl chloride	µg/L	1							-	<5	<5	-	<5	<5	<5	<5	-
Bis(2-chloroethoxy) methane	µg/L	2							-	<5	<5	<2	<5	<5	<5	<5	-
Bis(2-chloroethyl)ether	µg/L	2							-	-	-	<2	-	-	-	-	-
Bis(2-chloroisopropyl) ether	µg/L	5							-	<5	<5	-	<5	<5	<5	<5	-
Carbazole	µg/L	2							-	-	-	<2	-	-	-	-	-
Chlorobenzilate	µg/L	2							-	-	-	<2	-	-	-	-	-
Dibenz(a,j)acridine	µg/L	5							-	<5	<5	-	<5	<5	<5	<5	-
Diphenylamine	µg/L	5							-	<5	<5	-	<5	<5	<5	<5	-
Hexachlorocyclopentadiene	µg/L	0.1							-	<5	<5	<10	<5	<5	<5	<5	-
Hexachloroethane	µg/L	0.1		360	290				-	<5	<5	<2	<5	<5	<5	<5	-
Hexachloropropene	µg/L	2							-	-	-	<2	-	-	-	-	-
Isophorone	µg/L	2							-	-	-	<2	-	-	-	-	-
Methapyrilene	µg/L	2							-	-	-	<2	-	-	-	-	-
N-nitrosodiethylamine	µg/L	2							-	-	-	<2	-	-	-	-	-
N-nitrosodi-n-butylamine	µg/L	2							-	<5	<5	<2	<5	<5	<5	<5	-
N-nitrosodi-n-propylamine	µg/L	2							-	<5	<5	<2	<5	<5	<5	<5	-
N-Nitrosomethylethylamine	µg/L	2							-	-	-	<2	-	-	-	-	-
N-nitrosomorpholine	µg/L	2							-	-	-	<2	-	-	-	-	-
N-nitrosopiperidine	µg/L	2							-	<5	<5	<2	<5	<5	<5	<5	-
N-nitrosopyrrolidine	µg/L	4							-	-	-	<4	-	-	-	-	-
Pentachlorobenzene	µg/L	0.1							-	<5	<5	<2	<5	<5	<5	<5	-
Phenacetin	µg/L	2							-	-	-	<2	-	-	-	-	-
Trifluralin	µg/L	5		4.4	2.6			900	-	<5	<5	-	<5	<5	<5	<5	-
OC Pesticides																	
Organochlorine pesticides EPAVic	µg/L	1							-	<1	<1	-	<1	<1	<1	<1	-
Other organochlorine pesticides EPAVic	µg/L	1							-	<1	<1	-	<1	<1	<1	<1	-
4,4-DDE	µg/L	0.1							-	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	-
a-BHC	µg/L	0.1							-	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	-
Aldrin	µg/L	0.1							-	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	-
Aldrin + Dieldrin	µg/L	0.1						3	-	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	-
b-BHC	µg/L	0.1							-	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	-
Chlordane	µg/L	0.5		0.08	0.03				-	<1	<1	<0.5	<1	<1	<1	<1	-
Chlordane (cis)	µg/L	0.5							-	-	-	<0.5	-	-	-	-	-
Chlordane (trans)	µg/L	0.5							-	-	-	<0.5	-	-	-	-	-
d-BHC	µg/L	0.1							-	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	-
4,4 DDD	µg/L	0.1							-	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	-
4,4 DDT	µg/L	0.1		0.01	0.006			90	-	<0.1	<0.1	<2.0	<0.1	<0.1	<0.1	<0.1	-
DDT+DDE+DDD - Lab Calc	µg/L	0.1							-	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	-
Dieldrin	µg/L	0.1							-	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	-
Endosulfan I	µg/L	0.1							-	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	-
Endosulfan II	µg/L	0.1							-	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	-
Endosulfan Sulfate	µg/L	0.1							-	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	-
Endrin	µg/L	0.1		0.02	0.01				-	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	-
Endrin aldehyde	µg/L	0.1							-	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	-
Endrin ketone	µg/L	0.1							-	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	-
g-BHC (Lindane)	µg/L	0.1		0.2	0.07			100	-	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	-
Heptachlor	µg/L	0.1		0.09	0.01			3	-	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	-
Heptachlor epoxide	µg/L	0.1							-	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	-
Hexachlorobenzene	µg/L	0.1							-	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	-
Methoxychlor	µg/L	0.1						3000	-	<0.1	<0.1	<2.0	<0.1	<0.1	<0.1	<0.1	-
Toxaphene	µg/L	10		0.2	0.1				-	<10	<10	-	<10	<10	<10	<10	-

Appendix J
Table 5
Summary of Groundwater Analytical Results

	Unit	EQL	ANZECC 2000 - Stock Watering	ANZECC 2000 FW 95%	ANZECC 2000 FW 99%	PFAS NEMP 2018 Freshwater 99%	ANZECC 2000 Irrigation - Long-term Trigger Values	NHMRC Recreational Guidelines 2008								
								Location Code	NEL-BH095	NEL-BH097	NEL-BH098	NEL-BH106	NEL-BH107	NEL-BH125	NEL-BH125	NEL-BH125
								Field ID	NEL-BH095 / 130218	NEL-BH097/150218	NEL-BH098/150218	NEL-BH106 / 160418	NEL-BH107 / 160418	NEL-BH125/160218	QC1/160218	QC2/160218
								Date	13/02/2018	15/02/2018	15/02/2018	16/04/2018	16/04/2018	16/02/2018	16/02/2018	16/02/2018
								Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Field_D	Field_D
								Lab Report Number	584938	585222 / EM1803079	585222 / EM1803079	594417 / EM1806339	594417 / EM1806339	585329 / EM1803154	585329 / EM1803154	EM1803154
SVOCs																
1,2,3,4-tetrachlorobenzene	µg/L	0.1							-	-	-	-	-	<5	<5	-
1,2,3,5-Tetrachlorobenzene	µg/L	0.1							-	-	-	-	-	<5	<5	-
1,2,4,5-tetrachlorobenzene	µg/L	0.1							-	-	-	-	-	<5	<5	-
1,3,5-Trichlorobenzene	µg/L	0.1							-	-	-	-	-	<5	<5	-
1-Chloronaphthalene	µg/L	5							-	-	-	-	-	<5	<5	-
1-naphthylamine	µg/L	2							-	-	-	-	-	<5	<5	<2
2-(acetylamino) fluorene	µg/L	2							-	-	-	-	-	-	-	<2
2-naphthylamine	µg/L	5							-	-	-	-	-	<5	<5	-
2-nitroaniline	µg/L	4							-	-	-	-	-	<5	<5	<4
3,3-Dichlorobenzidine	µg/L	2							-	-	-	-	-	<5	<5	<2
3-nitroaniline	µg/L	4							-	-	-	-	-	-	-	<4
4-(dimethylamino) azobenzene	µg/L	2							-	-	-	-	-	<5	<5	<2
4,6-Dinitro-2-methylphenol	µg/L	30							-	-	-	-	-	<30	<30	-
4-bromophenyl phenyl ether	µg/L	2							-	-	-	-	-	<5	<5	<2
4-chloroaniline	µg/L	2							-	-	-	-	-	-	-	<2
4-chlorophenyl phenyl ether	µg/L	2							-	-	-	-	-	<5	<5	<2
4-nitroaniline	µg/L	2							-	-	-	-	-	-	-	<2
4-Nitroquinoline-N-oxide	µg/L	2							-	-	-	-	-	-	-	<2
5-nitro-o-toluidine	µg/L	2							-	-	-	-	-	-	-	<2
7,12-dimethylbenz(a)anthracene	µg/L	2							-	-	-	-	-	<5	<5	<2
Aniline	µg/L	2		250	8				-	-	-	-	-	<5	<5	<2
Azobenzene	µg/L	2							-	-	-	-	-	-	-	<2
Benzyl chloride	µg/L	1							-	-	-	-	-	<5	<5	-
Bis(2-chloroethoxy) methane	µg/L	2							-	-	-	-	-	<5	<5	<2
Bis(2-chloroethyl)ether	µg/L	2							-	-	-	-	-	-	-	<2
Bis(2-chloroisopropyl) ether	µg/L	5							-	-	-	-	-	<5	<5	-
Carbazole	µg/L	2							-	-	-	-	-	-	-	<2
Chlorobenzilate	µg/L	2							-	-	-	-	-	-	-	<2
Dibenz(a,j)acridine	µg/L	5							-	-	-	-	-	<5	<5	-
Diphenylamine	µg/L	5							-	-	-	-	-	<5	<5	-
Hexachlorocyclopentadiene	µg/L	0.1							-	-	-	-	-	<5	<5	<10
Hexachloroethane	µg/L	0.1		360	290				-	-	-	-	-	<5	<5	<2
Hexachloropropene	µg/L	2							-	-	-	-	-	-	-	<2
Isophorone	µg/L	2							-	-	-	-	-	-	-	<2
Methapyrilene	µg/L	2							-	-	-	-	-	-	-	<2
N-nitrosodiethylamine	µg/L	2							-	-	-	-	-	-	-	<2
N-nitrosodi-n-butylamine	µg/L	2							-	-	-	-	-	<5	<5	<2
N-nitrosodi-n-propylamine	µg/L	2							-	-	-	-	-	<5	<5	<2
N-Nitrosomethylethylamine	µg/L	2							-	-	-	-	-	-	-	<2
N-nitrosomorpholine	µg/L	2							-	-	-	-	-	-	-	<2
N-nitrosopiperidine	µg/L	2							-	-	-	-	-	<5	<5	<2
N-nitrosopyrrolidine	µg/L	4							-	-	-	-	-	-	-	<4
Pentachlorobenzene	µg/L	0.1							-	-	-	-	-	<5	<5	<2
Phenacetin	µg/L	2							-	-	-	-	-	-	-	<2
Trifluralin	µg/L	5		4.4	2.6			900	-	-	-	-	-	<5	<5	-
OC Pesticides																
Organochlorine pesticides EPAVic	µg/L	1							-	-	-	-	-	<1	<1	-
Other organochlorine pesticides EPAVic	µg/L	1							-	-	-	-	-	<1	<1	-
4,4-DDE	µg/L	0.1							-	-	-	-	-	<0.1	<0.1	<0.5
a-BHC	µg/L	0.1							-	-	-	-	-	<0.1	<0.1	<0.5
Aldrin	µg/L	0.1							-	-	-	-	-	<0.1	<0.1	<0.5
Aldrin + Dieldrin	µg/L	0.1						3	-	-	-	-	-	<0.1	<0.1	<0.5
b-BHC	µg/L	0.1							-	-	-	-	-	<0.1	<0.1	<0.5
Chlordane	µg/L	0.5		0.08	0.03				-	-	-	-	-	<1	<1	<0.5
Chlordane (cis)	µg/L	0.5							-	-	-	-	-	-	-	<0.5
Chlordane (trans)	µg/L	0.5							-	-	-	-	-	-	-	<0.5
d-BHC	µg/L	0.1							-	-	-	-	-	<0.1	<0.1	<0.5
4,4 DDD	µg/L	0.1							-	-	-	-	-	<0.1	<0.1	<0.5
4,4 DDT	µg/L	0.1		0.01	0.006			90	-	-	-	-	-	<0.1	<0.1	<2.0
DDT+DDE+DDD - Lab Calc	µg/L	0.1							-	-	-	-	-	<0.1	<0.1	<0.5
Dieldrin	µg/L	0.1							-	-	-	-	-	<0.1	<0.1	<0.5
Endosulfan I	µg/L	0.1							-	-	-	-	-	<0.1	<0.1	<0.5
Endosulfan II	µg/L	0.1							-	-	-	-	-	<0.1	<0.1	<0.5
Endosulfan Sulfate	µg/L	0.1							-	-	-	-	-	<0.1	<0.1	<0.5
Endrin	µg/L	0.1		0.02	0.01				-	-	-	-	-	<0.1	<0.1	<0.5
Endrin aldehyde	µg/L	0.1							-	-	-	-	-	<0.1	<0.1	<0.5
Endrin ketone	µg/L	0.1							-	-	-	-	-	<0.1	<0.1	<0.5
g-BHC (Lindane)	µg/L	0.1		0.2	0.07			100	-	-	-	-	-	<0.1	<0.1	<0.5
Heptachlor	µg/L	0.1		0.09	0.01			3	-	-	-	-	-	<0.1	<0.1	<0.5
Heptachlor epoxide	µg/L	0.1							-	-	-	-	-	<0.1	<0.1	<0.5
Hexachlorobenzene	µg/L	0.1							-	-	-	-	-	<0.1	<0.1	<0.5
Methoxychlor	µg/L	0.1						3000	-	-	-	-	-	<0.1	<0.1	<2.0
Toxaphene	µg/L	10		0.2	0.1				-	-	-	-	-	<10	<10	-

Appendix J
Table 5
Summary of Groundwater Analytical Results

	Unit	EQL	ANZECC 2000 - Stock Watering	ANZECC 2000 FW 95%	ANZECC 2000 FW 99%	PFAS NEMP 2018 Freshwater 99%	ANZECC 2000 Irrigation - Long-term Trigger Values	NHMRC Recreational Guidelines 2008	NEL-BH128	NEL-BH140	NEL-ENV-BH006	NEL-ENV-BH008	NEL-ENV-BH009	NEL-ENV-BH009	NEL-ENV-BH014
Location Code									NEL-BH128	NEL-BH140	NEL-ENV-BH006	NEL-ENV-BH008	NEL-ENV-BH009	NEL-ENV-BH009	NEL-ENV-BH014
Field ID									NEL-BH128/080318	NEL-BH140/180418	NEL-ENV-BH006_27062018	NEL-ENV-BH008_08052018	NEL-ENV-BH009_27062018	NEL-ENV-BH009_19072018	ENV-BH014 / 130718
Date									8/03/2018	18/04/2018	27/06/2018	8/05/2018	27/06/2018	19/07/2018	13/07/2018
Sample Type									Normal	Normal	Normal	Normal	Normal	Normal	Normal
Lab Report Number									588501	594938	EM1810368	EM1807515	EM1810368	EM1811589	607533 / EM1811208
SVOCs															
1,2,3,4-tetrachlorobenzene	µg/L	0.1							<0.1	-	-	-	-	-	<5
1,2,3,5-Tetrachlorobenzene	µg/L	0.1							<0.1	-	-	-	-	-	<5
1,2,4,5-tetrachlorobenzene	µg/L	0.1							<0.1	-	-	-	-	-	<5
1,3,5-Trichlorobenzene	µg/L	0.1							<0.1	-	-	-	-	-	<5
1-Chloronaphthalene	µg/L	5							<5	-	-	-	-	-	<5
1-naphthylamine	µg/L	2							<5	-	<2	<2	<2	-	<5
2-(acetylamino) fluorene	µg/L	2							-	-	<2	<2	<2	-	-
2-naphthylamine	µg/L	5							<5	-	-	-	-	-	<5
2-nitroaniline	µg/L	4							<5	-	<4	<4	<4	-	<5
3,3-Dichlorobenzidine	µg/L	2							<5	-	<2	<2	<2	-	<5
3-nitroaniline	µg/L	4							-	-	<4	<4	<4	-	-
4-(dimethylamino) azobenzene	µg/L	2							<5	-	<2	<2	<2	-	<5
4,6-Dinitro-2-methylphenol	µg/L	30							<30	-	-	-	-	-	<30
4-bromophenyl phenyl ether	µg/L	2							<5	-	<2	<2	<2	-	<5
4-chloroaniline	µg/L	2							-	-	<2	<2	<2	-	-
4-chlorophenyl phenyl ether	µg/L	2							<5	-	<2	<2	<2	-	<5
4-nitroaniline	µg/L	2							-	-	<2	<2	<2	-	-
4-Nitroquinoline-N-oxide	µg/L	2							-	-	<2	<2	<2	-	-
5-nitro-o-toluidine	µg/L	2							-	-	<2	<2	<2	-	-
7,12-dimethylbenz(a)anthracene	µg/L	2							<5	-	<2	<2	<2	-	<5
Aniline	µg/L	2		250	8				<5	-	<2	<2	<2	-	<5
Azobenzene	µg/L	2							-	-	<2	<2	<2	-	-
Benzyl chloride	µg/L	1							<1	-	-	-	-	-	<5
Bis(2-chloroethoxy) methane	µg/L	2							<5	-	<2	<2	<2	-	<5
Bis(2-chloroethyl)ether	µg/L	2							-	-	<2	<2	<2	-	-
Bis(2-chloroisopropyl) ether	µg/L	5							<5	-	-	-	-	-	<5
Carbazole	µg/L	2							-	-	<2	<2	<2	-	-
Chlorobenzilate	µg/L	2							-	-	<2	<2	<2	-	-
Dibenz(a,j)acridine	µg/L	5							<5	-	-	-	-	-	<5
Diphenylamine	µg/L	5							<5	-	-	-	-	-	<5
Hexachlorocyclopentadiene	µg/L	0.1							<0.1	-	<10	<10	<10	-	<5
Hexachloroethane	µg/L	0.1		360	290				<0.1	-	<2	<2	<2	-	<5
Hexachloropropene	µg/L	2							-	-	<2	<2	<2	-	-
Isophorone	µg/L	2							-	-	<2	<2	<2	-	-
Methapyrilene	µg/L	2							-	-	<2	<2	<2	-	-
N-nitrosodiethylamine	µg/L	2							-	-	<2	<2	<2	-	-
N-nitrosodi-n-butylamine	µg/L	2							<5	-	<2	<2	<2	-	<5
N-nitrosodi-n-propylamine	µg/L	2							<5	-	<2	<2	<2	-	<5
N-Nitrosomethylethylamine	µg/L	2							-	-	<2	<2	<2	-	-
N-nitrosomorpholine	µg/L	2							-	-	<2	<2	<2	-	-
N-nitrosopiperidine	µg/L	2							<5	-	<2	<2	<2	-	<5
N-nitrosopyrrolidine	µg/L	4							-	-	<4	<4	<4	-	-
Pentachlorobenzene	µg/L	0.1							<0.1	-	<2	<2	<2	-	<5
Phenacetin	µg/L	2							-	-	<2	<2	<2	-	-
Trifluralin	µg/L	5		4.4	2.6			900	<5	-	-	-	-	-	<5
OC Pesticides															
Organochlorine pesticides EPAVic	µg/L	1							<1	-	-	-	-	-	<1
Other organochlorine pesticides EPAVic	µg/L	1							<1	-	-	-	-	-	<1
4,4-DDE	µg/L	0.1							<0.1	-	<0.5	<0.5	<0.5	-	<0.1
a-BHC	µg/L	0.1							<0.1	-	<0.5	<0.5	<0.5	-	<0.1
Aldrin	µg/L	0.1							<0.1	-	<0.5	<0.5	<0.5	-	<0.1
Aldrin + Dieldrin	µg/L	0.1						3	<0.1	-	<0.5	<0.5	<0.5	-	<0.1
b-BHC	µg/L	0.1							<0.1	-	<0.5	<0.5	<0.5	-	<0.1
Chlordane	µg/L	0.5		0.08	0.03				<1	-	<0.5	<0.5	<0.5	-	<1
Chlordane (cis)	µg/L	0.5							-	-	<0.5	<0.5	<0.5	-	-
Chlordane (trans)	µg/L	0.5							-	-	<0.5	<0.5	<0.5	-	-
d-BHC	µg/L	0.1							<0.1	-	<0.5	<0.5	<0.5	-	<0.1
4,4 DDD	µg/L	0.1							<0.1	-	<0.5	<0.5	<0.5	-	<0.1
4,4 DDT	µg/L	0.1		0.01	0.006			90	<0.1	-	<2.0	<2.0	<2.0	-	<0.1
DDT+DDE+DDD - Lab Calc	µg/L	0.1							<0.1	-	<0.5	<0.5	<0.5	-	<0.1
Dieldrin	µg/L	0.1							<0.1	-	<0.5	<0.5	<0.5	-	<0.1
Endosulfan I	µg/L	0.1							<0.1	-	<0.5	<0.5	<0.5	-	<0.1
Endosulfan II	µg/L	0.1							<0.1	-	<0.5	<0.5	<0.5	-	<0.1
Endosulfan Sulfate	µg/L	0.1							<0.1	-	<0.5	<0.5	<0.5	-	<0.1
Endrin	µg/L	0.1		0.02	0.01				<0.1	-	<0.5	<0.5	<0.5	-	<0.1
Endrin aldehyde	µg/L	0.1							<0.1	-	<0.5	<0.5	<0.5	-	<0.1
Endrin ketone	µg/L	0.1							<0.1	-	<0.5	<0.5	<0.5	-	<0.1
g-BHC (Lindane)	µg/L	0.1		0.2	0.07			100	<0.1	-	<0.5	<0.5	<0.5	-	<0.1
Heptachlor	µg/L	0.1		0.09	0.01			3	<0.1	-	<0.5	<0.5	<0.5	-	<0.1
Heptachlor epoxide	µg/L	0.1							<0.1	-	<0.5	<0.5	<0.5	-	<0.1
Hexachlorobenzene	µg/L	0.1							<0.1	-	<0.5	<0.5	<0.5	-	<0.1
Methoxychlor	µg/L	0.1						3000	<0.1	-	<2.0	<2.0	<2.0	-	<0.1
Toxaphene	µg/L	10		0.2	0.1				<10	-	-	-	-	-	<10

Appendix J
Table 5
Summary of Groundwater Analytical Results

	Unit	EQL	ANZECC 2000 - Stock Watering	ANZECC 2000 FW 95%	ANZECC 2000 FW 99%	PFAS NEMP 2018 Freshwater 99%	ANZECC 2000 Irrigation - Long-term Trigger Values	NHMRC Recreational Guidelines 2008								
								Location Code	NEL-ENV-BH022	NEL-ENV-BH024	NEL-ENV-BH024	NEL-ENV-BH024	NEL-ENV-BH024	NEL-ENV-BH025	NEL-ENV-BH032	NEL-PB01A
								Field ID	NEL-ENV-BH022	NEL-ENV-BH024_08052018	NEL-ENV-BH024_19072018	QC5000_08052018	QC6000_08052018	NEL-ENV-BH025_09052018	NEL-ENV-BH032_27062018	NEL-PB01A
								Date	27/09/2018	8/05/2018	19/07/2018	8/05/2018	8/05/2018	9/05/2018	27/06/2018	6/07/2018
								Sample Type	Normal	Normal	Normal	Field_D	Field_D	Normal	Normal	Normal
								Lab Report Number	EM1815577	EM1807515	EM1811589	EM1807515	EM1807515	EM1807669	EM1810368	607533
SVOCs																
1,2,3,4-tetrachlorobenzene	µg/L	0.1							-	-	-	-	-	-	-	-
1,2,3,5-Tetrachlorobenzene	µg/L	0.1							-	-	-	-	-	-	-	-
1,2,4,5-tetrachlorobenzene	µg/L	0.1							-	-	-	-	-	-	-	-
1,3,5-Trichlorobenzene	µg/L	0.1							-	-	-	-	-	-	-	-
1-Chloronaphthalene	µg/L	5							-	-	-	-	-	-	-	-
1-naphthylamine	µg/L	2							<2	<2	-	<2	<2	<2	<2	-
2-(acetylamino) fluorene	µg/L	2							<2	<2	-	<2	<2	<2	<2	-
2-naphthylamine	µg/L	5							-	-	-	-	-	-	-	-
2-nitroaniline	µg/L	4							<4	<4	-	<4	<4	<4	<4	-
3,3-Dichlorobenzidine	µg/L	2							<2	<2	-	<2	<2	<2	<2	-
3-nitroaniline	µg/L	4							<4	<4	-	<4	<4	<4	<4	-
4-(dimethylamino) azobenzene	µg/L	2							<2	<2	-	<2	<2	<2	<2	-
4,6-Dinitro-2-methylphenol	µg/L	30							-	-	-	-	-	-	-	-
4-bromophenyl phenyl ether	µg/L	2							<2	<2	-	<2	<2	<2	<2	-
4-chloroaniline	µg/L	2							<2	<2	-	<2	<2	<2	<2	-
4-chlorophenyl phenyl ether	µg/L	2							<2	<2	-	<2	<2	<2	<2	-
4-nitroaniline	µg/L	2							<2	<2	-	<2	<2	<2	<2	-
4-Nitroquinoline-N-oxide	µg/L	2							<2	<2	-	<2	<2	<2	<2	-
5-nitro-o-toluidine	µg/L	2							<2	<2	-	<2	<2	<2	<2	-
7,12-dimethylbenz(a)anthracene	µg/L	2							<2	<2	-	<2	<2	<2	<2	-
Aniline	µg/L	2		250	8				<2	<2	-	<2	<2	<2	<2	-
Azobenzene	µg/L	2							<2	<2	-	<2	<2	<2	<2	-
Benzyl chloride	µg/L	1							-	-	-	-	-	-	-	-
Bis(2-chloroethoxy) methane	µg/L	2							<2	<2	-	<2	<2	<2	<2	-
Bis(2-chloroethyl)ether	µg/L	2							<2	<2	-	<2	<2	<2	<2	-
Bis(2-chloroisopropyl) ether	µg/L	5							-	-	-	-	-	-	-	-
Carbazole	µg/L	2							<2	<2	-	<2	<2	<2	<2	-
Chlorobenzilate	µg/L	2							<2	<2	-	<2	<2	<2	<2	-
Dibenz(a,j)acridine	µg/L	5							-	-	-	-	-	-	-	-
Diphenylamine	µg/L	5							-	-	-	-	-	-	-	-
Hexachlorocyclopentadiene	µg/L	0.1							<10	<10	-	<10	<10	<10	<10	-
Hexachloroethane	µg/L	0.1		360	290				<2	<2	-	<2	<2	<2	<2	-
Hexachloropropene	µg/L	2							<2	<2	-	<2	<2	<2	<2	-
Isophorone	µg/L	2							<2	<2	-	<2	<2	<2	<2	-
Methapyrilene	µg/L	2							<2	<2	-	<2	<2	<2	<2	-
N-nitrosodiethylamine	µg/L	2							<2	<2	-	<2	<2	<2	<2	-
N-nitrosodi-n-butylamine	µg/L	2							<2	<2	-	<2	<2	<2	<2	-
N-nitrosodi-n-propylamine	µg/L	2							<2	<2	-	<2	<2	<2	<2	-
N-Nitrosomethylethylamine	µg/L	2							<2	<2	-	<2	<2	<2	<2	-
N-nitrosomorpholine	µg/L	2							<2	<2	-	<2	<2	<2	<2	-
N-nitrosopiperidine	µg/L	2							<2	<2	-	<2	<2	<2	<2	-
N-nitrosopyrrolidine	µg/L	4							<4	<4	-	<4	<4	<4	<4	-
Pentachlorobenzene	µg/L	0.1							<2	<2	-	<2	<2	<2	<2	-
Phenacetin	µg/L	2							<2	<2	-	<2	<2	<2	<2	-
Trifluralin	µg/L	5		4.4	2.6			900	-	-	-	-	-	-	-	-
OC Pesticides																
Organochlorine pesticides EPAVic	µg/L	1							-	-	-	-	-	-	-	-
Other organochlorine pesticides EPAVic	µg/L	1							-	-	-	-	-	-	-	-
4,4-DDE	µg/L	0.1							<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-
a-BHC	µg/L	0.1							<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-
Aldrin	µg/L	0.1							<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-
Aldrin + Dieldrin	µg/L	0.1						3	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-
b-BHC	µg/L	0.1							<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-
Chlordane	µg/L	0.5		0.08	0.03				<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-
Chlordane (cis)	µg/L	0.5							<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-
Chlordane (trans)	µg/L	0.5							<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-
d-BHC	µg/L	0.1							<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-
4,4 DDD	µg/L	0.1							<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-
4,4 DDT	µg/L	0.1		0.01	0.006			90	<2.0	<2.0	-	<2.0	<2.0	<2.0	<2.0	-
DDT+DDE+DDD - Lab Calc	µg/L	0.1							<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-
Dieldrin	µg/L	0.1							<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-
Endosulfan I	µg/L	0.1							<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-
Endosulfan II	µg/L	0.1							<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-
Endosulfan Sulfate	µg/L	0.1							<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-
Endrin	µg/L	0.1		0.02	0.01				<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-
Endrin aldehyde	µg/L	0.1							<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-
Endrin ketone	µg/L	0.1							<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-
g-BHC (Lindane)	µg/L	0.1		0.2	0.07			100	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-
Heptachlor	µg/L	0.1		0.09	0.01			3	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-
Heptachlor epoxide	µg/L	0.1							<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-
Hexachlorobenzene	µg/L	0.1							<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-
Methoxychlor	µg/L	0.1						3000	<2.0	<2.0	-	<2.0	<2.0	<2.0	<2.0	-
Toxaphene	µg/L	10		0.2	0.1				-	-	-	-	-	-	-	-

Appendix J
Table 5
Summary of Groundwater Analytical Results

	Unit	EQL	ANZECC 2000 - Stock Watering	ANZECC 2000 FW 95%	ANZECC 2000 FW 99%	PFAS NEMP 2018 Freshwater 99%	ANZECC 2000 Irrigation - Long-term Trigger Values	NHMRC Recreational Guidelines 2008	NEL-BH004	NEL-BH004A	NEL-BH031	NEL-BH031	NEL-BH037	NEL-BH038	NEL-BH039	NEL-BH039	NEL-BH039
Field ID									NEL-BH004 D/150218	NEL-BH004 S/150218	NEL-BH031/080318	NEL-BH031 / 130218	NEL-BH037 / 160418	NEL-BH038 / 140218	NEL-BH039/180418	QC1/180418	QC2 / 180418
Date									15/02/2018	15/02/2018	8/03/2018	13/02/2018	16/04/2018	14/02/2018	18/04/2018	18/04/2018	18/04/2018
Sample Type									Normal	Normal	Normal	Normal	Normal	Normal	Normal	Field_D	Field_D
Lab Report Number									585222 / EM1803079	585222 / EM1803079	588501	584938	594417 / EM1806339	584987 / EM1802989	594938 / EM1806473	594938 / EM1806473	EM1806473
OP Pesticides																	
Tokuthion	µg/L	2							-	-	<2	-	-	-	<2	<2	-
Azinphos methyl	µg/L	0.5		0.02	0.01			300	-	-	<2	-	-	-	<2	<2	<0.5
Bolstar (Sulprofos)	µg/L	2						100	-	-	<2	-	-	-	<2	<2	-
Bromophos-ethyl	µg/L	0.5						100	-	-	-	-	-	-	-	-	<0.5
Carbophenothion	µg/L	0.5							-	-	-	-	-	-	-	-	<0.5
Chlorfenvinphos	µg/L	0.5							-	-	<2	-	-	-	<2	<2	<0.5
Chlorpyrifos	µg/L	0.5		0.01	0.00004			100	-	-	<20	-	-	-	<20	<20	<0.5
Chlorpyrifos-methyl	µg/L	0.5							-	-	<2	-	-	-	<2	<2	<0.5
Coumaphos	µg/L	20							-	-	<20	-	-	-	<20	<20	-
Demeton-O	µg/L	2							-	-	<2	-	-	-	<2	<2	-
Demeton-S	µg/L	20							-	-	<20	-	-	-	<20	<20	-
Demeton-S-methyl	µg/L	0.5							-	-	-	-	-	-	-	-	<0.5
Diazinon	µg/L	0.5		0.01	0.00003			40	-	-	<2	-	-	-	<2	<2	<0.5
Dichlorvos	µg/L	0.5						50	-	-	<2	-	-	-	<2	<2	<0.5
Dimethoate	µg/L	0.5		0.15	0.1			70	-	-	<2	-	-	-	<2	<2	<0.5
Disulfoton	µg/L	2						40	-	-	<2	-	-	-	<2	<2	-
EPN	µg/L	2							-	-	<2	-	-	-	<2	<2	-
Ethion	µg/L	0.5						40	-	-	<2	-	-	-	<2	<2	<0.5
Ethoprop	µg/L	2						10	-	-	<2	-	-	-	<2	<2	-
Fenamiphos	µg/L	0.5						5	-	-	-	-	-	-	-	-	<0.5
Fenitrothion	µg/L	2		0.2	0.1			70	-	-	<2	-	-	-	<2	<2	-
Fensulfothion	µg/L	2						100	-	-	<2	-	-	-	<2	<2	-
Fenthion	µg/L	0.5						70	-	-	<2	-	-	-	<2	<2	<0.5
Malathion	µg/L	0.5		0.05	0.002			700	-	-	<2	-	-	-	<2	<2	<0.5
Merphos	µg/L	2							-	-	<2	-	-	-	<2	<2	-
Methyl parathion	µg/L	2						7	-	-	<2	-	-	-	<2	<2	<2.0
Mevinphos (Phosdrin)	µg/L	2						50	-	-	<2	-	-	-	<2	<2	-
Monocrotophos	µg/L	2						20	-	-	<2	-	-	-	<2	<2	<2.0
Naled (Dibrom)	µg/L	2							-	-	<2	-	-	-	<2	<2	-
Omethoate	µg/L	2						10	-	-	<2	-	-	-	<2	<2	-
Parathion	µg/L	2		0.004	0.0007			200	-	-	<2	-	-	-	<2	<2	<2.0
Phorate	µg/L	2							-	-	<2	-	-	-	<2	<2	-
Pirimiphos-methyl	µg/L	20						900	-	-	<20	-	-	-	<20	<20	-
Pirimphos-ethyl	µg/L	0.5						5	-	-	-	-	-	-	-	-	<0.5
Prothiofos	µg/L	0.5							-	-	-	-	-	-	-	-	<0.5
Pyrazophos	µg/L	2						200	-	-	<2	-	-	-	<2	<2	-
Ronnel	µg/L	2							-	-	<2	-	-	-	<2	<2	-
Terbufos	µg/L	2						9	-	-	<2	-	-	-	<2	<2	-
Trichloronate	µg/L	2							-	-	<2	-	-	-	<2	<2	-
Tetrachlorvinphos	µg/L	2						1000	-	-	<2	-	-	-	<2	<2	-
MAH																	
1,2,4-trimethylbenzene	µg/L	1							-	-	-	-	-	-	<1	<1	<5
1,3,5-trimethylbenzene	µg/L	1							-	-	-	-	-	-	<1	<1	<5
Isopropylbenzene	µg/L	1							-	-	<1	-	-	-	<1	<1	<5
Styrene	µg/L	1						300	-	-	<1	-	-	-	<1	<1	<5
Total MAH☐	µg/L	3							-	-	<3	-	-	-	<3	<3	-
Halogenated Hydrocarbons																	
Bromomethane	µg/L	1						10	-	-	-	-	-	-	<1	<1	<50
Dichlorodifluoromethane	µg/L	1							-	-	-	-	-	-	<1	<1	<50
PCBs																	
Arochlor 1016	µg/L	1							-	-	<1	-	-	-	<1	<1	-
Arochlor 1221	µg/L	1							-	-	<1	-	-	-	<1	<1	-
Arochlor 1232	µg/L	1							-	-	<1	-	-	-	<1	<1	-
Arochlor 1242	µg/L	1		0.6	0.3				-	-	<1	-	-	-	<1	<1	-
Arochlor 1248	µg/L	1							-	-	<1	-	-	-	<1	<1	-
Arochlor 1254	µg/L	1		0.03	0.01				-	-	<1	-	-	-	<1	<1	-
Arochlor 1260	µg/L	1							-	-	<1	-	-	-	<1	<1	-
PCBs (Total)	µg/L	1							-	-	<1	-	-	-	<1	<1	<1
Herbicides																	
Dinoseb	µg/L	100							-	-	<100	-	-	-	<100	<100	-
Pronamide	µg/L	2						700	-	-	<5	-	-	-	<5	<5	<2

Appendix J
Table 5
Summary of Groundwater Analytical Results

	Unit	EQL	ANZECC 2000 - Stock Watering	ANZECC 2000 FW 95%	ANZECC 2000 FW 99%	PFAS NEMP 2018 Freshwater 99%	ANZECC 2000 Irrigation - Long-term Trigger Values	NHMRC Recreational Guidelines 2008										
Location Code									NEL-BH040	NEL-BH040A	NEL-BH044	NEL-BH059	NEL-BH060	NEL-BH062	NEL-BH062	NEL-BH062A	NEL-BH062B	NEL-BH062B
Field ID									NEL-BH040 / 120218	NEL-BH040 A / 120218	NEL-BH044 / 130218	NEL-BH059 / 130218	NEL-BH060 / 140218	NEL-BH062/080318	NEL-BH062 / 140218	NEL-BH062 A / 160218	NEL-BH062B/080318	NEL-BH062 B / 140218
Date									12/02/2018	12/02/2018	13/02/2018	13/02/2018	14/02/2018	8/03/2018	14/02/2018	16/02/2018	8/03/2018	14/02/2018
Sample Type									Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
Lab Report Number									584938	584938	584938	584938	584987 / EM1802989	588501	584987 / EM1802989	585329 / EM1802989	588501	584987 / EM1802989
OP Pesticides																		
Tokuthion	µg/L	2							-	-	-	-	-	<2	-	<2	<2	-
Azinphos methyl	µg/L	0.5		0.02	0.01			300	-	-	-	-	-	<2	-	<2	<2	-
Bolstar (Sulprofos)	µg/L	2						100	-	-	-	-	-	<2	-	<2	<2	-
Bromophos-ethyl	µg/L	0.5						100	-	-	-	-	-	-	-	-	-	-
Carbophenothion	µg/L	0.5							-	-	-	-	-	-	-	-	-	-
Chlorfenvinphos	µg/L	0.5							-	-	-	-	-	<2	-	<2	<2	-
Chlorpyrifos	µg/L	0.5		0.01	0.00004			100	-	-	-	-	-	<20	-	<20	<20	-
Chlorpyrifos-methyl	µg/L	0.5							-	-	-	-	-	<2	-	<2	<2	-
Coumaphos	µg/L	20							-	-	-	-	-	<20	-	<20	<20	-
Demeton-O	µg/L	2							-	-	-	-	-	<2	-	<2	<2	-
Demeton-S	µg/L	20							-	-	-	-	-	<20	-	<20	<20	-
Demeton-S-methyl	µg/L	0.5							-	-	-	-	-	-	-	-	-	-
Diazinon	µg/L	0.5		0.01	0.00003			40	-	-	-	-	-	<2	-	<2	<2	-
Dichlorvos	µg/L	0.5						50	-	-	-	-	-	<2	-	<2	<2	-
Dimethoate	µg/L	0.5		0.15	0.1			70	-	-	-	-	-	<2	-	<2	<2	-
Disulfoton	µg/L	2						40	-	-	-	-	-	<2	-	<2	<2	-
EPN	µg/L	2							-	-	-	-	-	<2	-	<2	<2	-
Ethion	µg/L	0.5						40	-	-	-	-	-	<2	-	<2	<2	-
Ethoprop	µg/L	2						10	-	-	-	-	-	<2	-	<2	<2	-
Fenamiphos	µg/L	0.5						5	-	-	-	-	-	-	-	-	-	-
Fenitrothion	µg/L	2		0.2	0.1			70	-	-	-	-	-	<2	-	<2	<2	-
Fensulfothion	µg/L	2						100	-	-	-	-	-	<2	-	<2	<2	-
Fenthion	µg/L	0.5						70	-	-	-	-	-	<2	-	<2	<2	-
Malathion	µg/L	0.5		0.05	0.002			700	-	-	-	-	-	<2	-	<2	<2	-
Merphos	µg/L	2							-	-	-	-	-	<2	-	<2	<2	-
Methyl parathion	µg/L	2						7	-	-	-	-	-	<2	-	<2	<2	-
Mevinphos (Phosdrin)	µg/L	2						50	-	-	-	-	-	<2	-	<2	<2	-
Monocrotophos	µg/L	2						20	-	-	-	-	-	<2	-	<2	<2	-
Naled (Dibrom)	µg/L	2							-	-	-	-	-	<2	-	<2	<2	-
Omethoate	µg/L	2						10	-	-	-	-	-	<2	-	<2	<2	-
Parathion	µg/L	2		0.004	0.0007			200	-	-	-	-	-	<2	-	<2	<2	-
Phorate	µg/L	2							-	-	-	-	-	<2	-	<2	<2	-
Pirimiphos-methyl	µg/L	20						900	-	-	-	-	-	<20	-	<20	<20	-
Pirimphos-ethyl	µg/L	0.5						5	-	-	-	-	-	-	-	-	-	-
Prothiofos	µg/L	0.5							-	-	-	-	-	-	-	-	-	-
Pyrazophos	µg/L	2						200	-	-	-	-	-	<2	-	<2	<2	-
Ronnel	µg/L	2							-	-	-	-	-	<2	-	<2	<2	-
Terbufos	µg/L	2						9	-	-	-	-	-	<2	-	<2	<2	-
Trichloronate	µg/L	2							-	-	-	-	-	<2	-	<2	<2	-
Tetrachlorvinphos	µg/L	2						1000	-	-	-	-	-	<2	-	<2	<2	-
MAH																		
1,2,4-trimethylbenzene	µg/L	1							-	-	-	-	-	-	-	<1	-	-
1,3,5-trimethylbenzene	µg/L	1							-	-	-	-	-	-	-	<1	-	-
Isopropylbenzene	µg/L	1							-	-	-	-	-	<1	-	<1	<1	-
Styrene	µg/L	1						300	-	-	-	-	-	<1	-	<1	<1	-
Total MAH	µg/L	3							-	-	-	-	-	<3	-	9	<3	-
Halogenated Hydrocarbons																		
Bromomethane	µg/L	1						10	-	-	-	-	-	-	-	<1	-	-
Dichlorodifluoromethane	µg/L	1							-	-	-	-	-	-	-	<1	-	-
PCBs																		
Arochlor 1016	µg/L	1							-	-	-	-	-	<1	-	<1	<1	-
Arochlor 1221	µg/L	1							-	-	-	-	-	<1	-	<1	<1	-
Arochlor 1232	µg/L	1							-	-	-	-	-	<1	-	<1	<1	-
Arochlor 1242	µg/L	1		0.6	0.3				-	-	-	-	-	<1	-	<1	<1	-
Arochlor 1248	µg/L	1							-	-	-	-	-	<1	-	<1	<1	-
Arochlor 1254	µg/L	1		0.03	0.01				-	-	-	-	-	<1	-	<1	<1	-
Arochlor 1260	µg/L	1							-	-	-	-	-	<1	-	<1	<1	-
PCBs (Total)	µg/L	1							-	-	-	-	-	<1	-	<1	<1	-
Herbicides																		
Dinoseb	µg/L	100							-	-	-	-	-	<100	-	<100	<100	-
Pronamide	µg/L	2						700	-	-	-	-	-	<5	-	<5	<5	-

Appendix J
Table 5
Summary of Groundwater Analytical Results

								Location Code	NEL-BH064	NEL-BH070	NEL-BH071	NEL-BH072	NEL-BH076	NEL-BH076A	NEL-BH078
								Field ID	NEL-BH064 / 140218	NEL-BH070 / 120218	NEL-BH071/170418	NEL-BH072 / 120218	NEL-BH076/170418	NEL-BH076A/170418	NEL-BH078/170418
								Date	14/02/2018	12/02/2018	17/04/2018	12/02/2018	17/04/2018	17/04/2018	17/04/2018
								Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal
								Lab Report Number	584987 / EM1802989	584938	594757 / EM1806408	584938	594757 / EM1806408	594757 / EM1806408	594757 / EM1806408
	Unit	EQL	ANZECC 2000 - Stock Watering	ANZECC 2000 FW 95%	ANZECC 2000 FW 99%	PFAS NEMP 2018 Freshwater 99%	ANZECC 2000 Irrigation - Long-term Trigger Values	NHMRC Recreational Guidelines 2008							
OP Pesticides															
Tokuthion	µg/L	2							-	-	-	-	-	-	-
Azinphos methyl	µg/L	0.5		0.02	0.01			300	-	-	-	-	-	-	-
Bolstar (Sulprofos)	µg/L	2						100	-	-	-	-	-	-	-
Bromophos-ethyl	µg/L	0.5						100	-	-	-	-	-	-	-
Carbophenothion	µg/L	0.5							-	-	-	-	-	-	-
Chlorfenvinphos	µg/L	0.5							-	-	-	-	-	-	-
Chlorpyrifos	µg/L	0.5		0.01	0.00004			100	-	-	-	-	-	-	-
Chlorpyrifos-methyl	µg/L	0.5							-	-	-	-	-	-	-
Coumaphos	µg/L	20							-	-	-	-	-	-	-
Demeton-O	µg/L	2							-	-	-	-	-	-	-
Demeton-S	µg/L	20							-	-	-	-	-	-	-
Demeton-S-methyl	µg/L	0.5							-	-	-	-	-	-	-
Diazinon	µg/L	0.5		0.01	0.00003			40	-	-	-	-	-	-	-
Dichlorvos	µg/L	0.5						50	-	-	-	-	-	-	-
Dimethoate	µg/L	0.5		0.15	0.1			70	-	-	-	-	-	-	-
Disulfoton	µg/L	2						40	-	-	-	-	-	-	-
EPN	µg/L	2							-	-	-	-	-	-	-
Ethion	µg/L	0.5						40	-	-	-	-	-	-	-
Ethoprop	µg/L	2						10	-	-	-	-	-	-	-
Fenamiphos	µg/L	0.5						5	-	-	-	-	-	-	-
Fenitrothion	µg/L	2		0.2	0.1			70	-	-	-	-	-	-	-
Fensulfothion	µg/L	2						100	-	-	-	-	-	-	-
Fenthion	µg/L	0.5						70	-	-	-	-	-	-	-
Malathion	µg/L	0.5		0.05	0.002			700	-	-	-	-	-	-	-
Merphos	µg/L	2							-	-	-	-	-	-	-
Methyl parathion	µg/L	2						7	-	-	-	-	-	-	-
Mevinphos (Phosdrin)	µg/L	2						50	-	-	-	-	-	-	-
Monocrotophos	µg/L	2						20	-	-	-	-	-	-	-
Naled (Dibrom)	µg/L	2							-	-	-	-	-	-	-
Omethoate	µg/L	2						10	-	-	-	-	-	-	-
Parathion	µg/L	2		0.004	0.0007			200	-	-	-	-	-	-	-
Phorate	µg/L	2							-	-	-	-	-	-	-
Pirimiphos-methyl	µg/L	20						900	-	-	-	-	-	-	-
Pirimphos-ethyl	µg/L	0.5						5	-	-	-	-	-	-	-
Prothiofos	µg/L	0.5							-	-	-	-	-	-	-
Pyrazophos	µg/L	2						200	-	-	-	-	-	-	-
Ronnel	µg/L	2							-	-	-	-	-	-	-
Terbufos	µg/L	2						9	-	-	-	-	-	-	-
Trichloronate	µg/L	2							-	-	-	-	-	-	-
Tetrachlorvinphos	µg/L	2						1000	-	-	-	-	-	-	-
MAH															
1,2,4-trimethylbenzene	µg/L	1							-	-	-	-	-	-	-
1,3,5-trimethylbenzene	µg/L	1							-	-	-	-	-	-	-
Isopropylbenzene	µg/L	1							-	-	-	-	-	-	-
Styrene	µg/L	1						300	-	-	-	-	-	-	-
Total MAH☐	µg/L	3							-	-	-	-	-	-	-
Halogenated Hydrocarbons															
Bromomethane	µg/L	1						10	-	-	-	-	-	-	-
Dichlorodifluoromethane	µg/L	1							-	-	-	-	-	-	-
PCBs															
Arochlor 1016	µg/L	1							-	-	-	-	-	-	-
Arochlor 1221	µg/L	1							-	-	-	-	-	-	-
Arochlor 1232	µg/L	1							-	-	-	-	-	-	-
Arochlor 1242	µg/L	1		0.6	0.3				-	-	-	-	-	-	-
Arochlor 1248	µg/L	1							-	-	-	-	-	-	-
Arochlor 1254	µg/L	1		0.03	0.01				-	-	-	-	-	-	-
Arochlor 1260	µg/L	1							-	-	-	-	-	-	-
PCBs (Total)	µg/L	1							-	-	-	-	-	-	-
Herbicides															
Dinoseb	µg/L	100							-	-	-	-	-	-	-
Pronamide	µg/L	2						700	-	-	-	-	-	-	-

Appendix J
Table 5
Summary of Groundwater Analytical Results

	Unit	EQL	ANZECC 2000 - Stock Watering	ANZECC 2000 FW 95%	ANZECC 2000 FW 99%	PFAS NEMP 2018 Freshwater 99%	ANZECC 2000 Irrigation - Long-term Trigger Values	NHMRC Recreational Guidelines 2008									
Location Code									NEL-BH083	NEL-BH086	NEL-BH086	NEL-BH086	NEL-BH087	NEL-BH088	NEL-BH089	NEL-BH091	NEL-BH093
Field ID									NEL-BH083 / 160418	NEL-BH086 / 120718	QC1 / 120718	QC2/120718	NEL-BH087 / 120718	NEL-BH088 / 120718	NEL-BH089 / 120718	NEL-BH091/160218	NEL-BH093 / 160418
Date									16/04/2018	12/07/2018	12/07/2018	12/07/2018	12/07/2018	12/07/2018	12/07/2018	16/02/2018	16/04/2018
Sample Type									Normal	Normal	Field_D	Field_D	Normal	Normal	Normal	Normal	Normal
Lab Report Number									594417 / EM1806339	607533 / EM1811208	607533	EM1811208	607533 / EM1811208	607533 / EM1811208	607533 / EM1811208	585329 / EM1803154	594417 / EM1806339
OP Pesticides																	
Tokuthion	µg/L	2							-	<2	<2	-	<2	<2	<2	<2	-
Azinphos methyl	µg/L	0.5		0.02	0.01			300	-	<2	<2	<0.5	<2	<2	<2	<2	-
Bolstar (Sulprofos)	µg/L	2						100	-	<2	<2	-	<2	<2	<2	<2	-
Bromophos-ethyl	µg/L	0.5						100	-	-	-	<0.5	-	-	-	-	-
Carbophenothion	µg/L	0.5							-	-	-	<0.5	-	-	-	-	-
Chlorfenvinphos	µg/L	0.5							-	<2	<2	<0.5	<2	<2	<2	<2	-
Chlorpyrifos	µg/L	0.5		0.01	0.00004			100	-	<20	<20	<0.5	<20	<20	<20	<20	-
Chlorpyrifos-methyl	µg/L	0.5							-	<2	<2	<0.5	<2	<2	<2	<2	-
Coumaphos	µg/L	20							-	<20	<20	-	<20	<20	<20	<20	-
Demeton-O	µg/L	2							-	<2	<2	-	<2	<2	<2	<2	-
Demeton-S	µg/L	20							-	<20	<20	-	<20	<20	<20	<20	-
Demeton-S-methyl	µg/L	0.5							-	-	-	<0.5	-	-	-	-	-
Diazinon	µg/L	0.5		0.01	0.00003			40	-	<2	<2	<0.5	<2	<2	<2	<2	-
Dichlorvos	µg/L	0.5						50	-	<2	<2	<0.5	<2	<2	<2	<2	-
Dimethoate	µg/L	0.5		0.15	0.1			70	-	<2	<2	<0.5	<2	<2	<2	<2	-
Disulfoton	µg/L	2						40	-	<2	<2	-	<2	<2	<2	<2	-
EPN	µg/L	2							-	<2	<2	-	<2	<2	<2	<2	-
Ethion	µg/L	0.5						40	-	<2	<2	<0.5	<2	<2	<2	<2	-
Ethoprop	µg/L	2						10	-	<2	<2	-	<2	<2	<2	<2	-
Fenamiphos	µg/L	0.5						5	-	-	-	<0.5	-	-	-	-	-
Fenitrothion	µg/L	2		0.2	0.1			70	-	<2	<2	-	<2	<2	<2	<2	-
Fensulfothion	µg/L	2						100	-	<2	<2	-	<2	<2	<2	<2	-
Fenthion	µg/L	0.5						70	-	<2	<2	<0.5	<2	<2	<2	<2	-
Malathion	µg/L	0.5		0.05	0.002			700	-	<2	<2	<0.5	<2	<2	<2	<2	-
Merphos	µg/L	2							-	<2	<2	-	<2	<2	<2	<2	-
Methyl parathion	µg/L	2						7	-	<2	<2	<2.0	<2	<2	<2	<2	-
Mevinphos (Phosdrin)	µg/L	2						50	-	<2	<2	-	<2	<2	<2	<2	-
Monocrotophos	µg/L	2						20	-	<2	<2	<2.0	<2	<2	<2	<2	-
Naled (Dibrom)	µg/L	2							-	<2	<2	-	<2	<2	<2	<2	-
Omethoate	µg/L	2						10	-	<2	<2	-	<2	<2	<2	<2	-
Parathion	µg/L	2		0.004	0.0007			200	-	<2	<2	<2.0	<2	<2	<2	<2	-
Phorate	µg/L	2							-	<2	<2	-	<2	<2	<2	<2	-
Pirimiphos-methyl	µg/L	20						900	-	<20	<20	-	<20	<20	<20	<20	-
Pirimphos-ethyl	µg/L	0.5						5	-	-	-	<0.5	-	-	-	-	-
Prothiofos	µg/L	0.5							-	-	-	<0.5	-	-	-	-	-
Pyrazophos	µg/L	2						200	-	<2	<2	-	<2	<2	<2	<2	-
Ronnel	µg/L	2							-	<2	<2	-	<2	<2	<2	<2	-
Terbufos	µg/L	2						9	-	<2	<2	-	<2	<2	<2	<2	-
Trichloronate	µg/L	2							-	<2	<2	-	<2	<2	<2	<2	-
Tetrachlorvinphos	µg/L	2						1000	-	<2	<2	-	<2	<2	<2	<2	-
MAH																	
1,2,4-trimethylbenzene	µg/L	1							-	<1	<1	<5	<1	<1	25	<1	-
1,3,5-trimethylbenzene	µg/L	1							-	<1	<1	<5	<1	<1	4	<1	-
Isopropylbenzene	µg/L	1							-	<1	<1	<5	<1	<1	2	<1	-
Styrene	µg/L	1						300	-	<1	<1	<5	<1	<1	<1	<1	-
Total MAH☐	µg/L	3							-	<3	<3	-	<3	<3	101	<3	-
Halogenated Hydrocarbons																	
Bromomethane	µg/L	1						10	-	<1	<1	<50	<1	<1	<1	<1	-
Dichlorodifluoromethane	µg/L	1							-	<1	<1	<50	<1	<1	<1	<1	-
PCBs																	
Arochlor 1016	µg/L	1							-	<1	<1	-	<1	<1	<1	<1	-
Arochlor 1221	µg/L	1							-	<1	<1	-	<1	<1	<1	<1	-
Arochlor 1232	µg/L	1							-	<1	<1	-	<1	<1	<1	<1	-
Arochlor 1242	µg/L	1		0.6	0.3				-	<1	<1	-	<1	<1	<1	<1	-
Arochlor 1248	µg/L	1							-	<1	<1	-	<1	<1	<1	<1	-
Arochlor 1254	µg/L	1		0.03	0.01				-	<1	<1	-	<1	<1	<1	<1	-
Arochlor 1260	µg/L	1							-	<1	<1	-	<1	<1	<1	<1	-
PCBs (Total)	µg/L	1							-	<1	<1	<1	<1	<1	<1	<1	-
Herbicides																	
Dinoseb	µg/L	100							-	<100	<100	-	<100	<100	<100	<100	-
Pronamide	µg/L	2						700	-	<5	<5	<2	<5	<5	<5	<5	-

Appendix J
Table 5
Summary of Groundwater Analytical Results

								Location Code	NEL-BH095	NEL-BH097	NEL-BH098	NEL-BH106	NEL-BH107	NEL-BH125	NEL-BH125	NEL-BH125
								Field ID	NEL-BH095 / 130218	NEL-BH097/150218	NEL-BH098/150218	NEL-BH106 / 160418	NEL-BH107 / 160418	NEL-BH125/160218	QC1/160218	QC2/160218
								Date	13/02/2018	15/02/2018	15/02/2018	16/04/2018	16/04/2018	16/02/2018	16/02/2018	16/02/2018
								Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Field_D	Field_D
								Lab Report Number	584938	585222 / EM1803079	585222 / EM1803079	594417 / EM1806339	594417 / EM1806339	585329 / EM1803154	585329 / EM1803154	EM1803154
	Unit	EQL	ANZECC 2000 - Stock Watering	ANZECC 2000 FW 95%	ANZECC 2000 FW 99%	PFAS NEMP 2018 Freshwater 99%	ANZECC 2000 Irrigation - Long-term Trigger Values	NHMRC Recreational Guidelines 2008								
OP Pesticides																
Tokuthion	µg/L	2							-	-	-	-	-	<2	<2	-
Azinphos methyl	µg/L	0.5		0.02	0.01			300	-	-	-	-	-	<2	<2	<0.5
Bolstar (Sulprofos)	µg/L	2						100	-	-	-	-	-	<2	<2	-
Bromophos-ethyl	µg/L	0.5						100	-	-	-	-	-	-	-	<0.5
Carbophenothion	µg/L	0.5							-	-	-	-	-	-	-	<0.5
Chlorfenvinphos	µg/L	0.5							-	-	-	-	-	<2	<2	<0.5
Chlorpyrifos	µg/L	0.5		0.01	0.00004			100	-	-	-	-	-	<20	<20	<0.5
Chlorpyrifos-methyl	µg/L	0.5							-	-	-	-	-	<2	<2	<0.5
Coumaphos	µg/L	20							-	-	-	-	-	<20	<20	-
Demeton-O	µg/L	2							-	-	-	-	-	<2	<2	-
Demeton-S	µg/L	20							-	-	-	-	-	<20	<20	-
Demeton-S-methyl	µg/L	0.5							-	-	-	-	-	-	-	<0.5
Diazinon	µg/L	0.5		0.01	0.00003			40	-	-	-	-	-	<2	<2	<0.5
Dichlorvos	µg/L	0.5						50	-	-	-	-	-	<2	<2	<0.5
Dimethoate	µg/L	0.5		0.15	0.1			70	-	-	-	-	-	<2	<2	<0.5
Disulfoton	µg/L	2						40	-	-	-	-	-	<2	<2	-
EPN	µg/L	2							-	-	-	-	-	<2	<2	-
Ethion	µg/L	0.5						40	-	-	-	-	-	<2	<2	<0.5
Ethoprop	µg/L	2						10	-	-	-	-	-	<2	<2	-
Fenamiphos	µg/L	0.5						5	-	-	-	-	-	-	-	<0.5
Fenitrothion	µg/L	2		0.2	0.1			70	-	-	-	-	-	<2	<2	-
Fensulfothion	µg/L	2						100	-	-	-	-	-	<2	<2	-
Fenthion	µg/L	0.5						70	-	-	-	-	-	<2	<2	<0.5
Malathion	µg/L	0.5		0.05	0.002			700	-	-	-	-	-	<2	<2	<0.5
Merphos	µg/L	2							-	-	-	-	-	<2	<2	-
Methyl parathion	µg/L	2						7	-	-	-	-	-	<2	<2	<2.0
Mevinphos (Phosdrin)	µg/L	2						50	-	-	-	-	-	<2	<2	-
Monocrotophos	µg/L	2						20	-	-	-	-	-	<2	<2	<2.0
Naled (Dibrom)	µg/L	2							-	-	-	-	-	<2	<2	-
Omethoate	µg/L	2						10	-	-	-	-	-	<2	<2	-
Parathion	µg/L	2		0.004	0.0007			200	-	-	-	-	-	<2	<2	<2.0
Phorate	µg/L	2							-	-	-	-	-	<2	<2	-
Pirimiphos-methyl	µg/L	20						900	-	-	-	-	-	<20	<20	-
Pirimphos-ethyl	µg/L	0.5						5	-	-	-	-	-	-	-	<0.5
Prothiofos	µg/L	0.5							-	-	-	-	-	-	-	<0.5
Pyrazophos	µg/L	2						200	-	-	-	-	-	<2	<2	-
Ronnel	µg/L	2							-	-	-	-	-	<2	<2	-
Terbufos	µg/L	2						9	-	-	-	-	-	<2	<2	-
Trichloronate	µg/L	2							-	-	-	-	-	<2	<2	-
Tetrachlorvinphos	µg/L	2						1000	-	-	-	-	-	<2	<2	-
MAH																
1,2,4-trimethylbenzene	µg/L	1							-	-	-	-	-	<1	<1	<5
1,3,5-trimethylbenzene	µg/L	1							-	-	-	-	-	<1	<1	<5
Isopropylbenzene	µg/L	1							-	-	-	-	-	<1	<1	<5
Styrene	µg/L	1						300	-	-	-	-	-	<1	<1	<5
Total MAH□	µg/L	3							-	-	-	-	-	<3	<3	-
Halogenated Hydrocarbons																
Bromomethane	µg/L	1						10	-	-	-	-	-	<1	<1	<50
Dichlorodifluoromethane	µg/L	1							-	-	-	-	-	<1	<1	<50
PCBs																
Arochlor 1016	µg/L	1							-	-	-	-	-	<1	<1	-
Arochlor 1221	µg/L	1							-	-	-	-	-	<1	<1	-
Arochlor 1232	µg/L	1							-	-	-	-	-	<1	<1	-
Arochlor 1242	µg/L	1		0.6	0.3				-	-	-	-	-	<1	<1	-
Arochlor 1248	µg/L	1							-	-	-	-	-	<1	<1	-
Arochlor 1254	µg/L	1		0.03	0.01				-	-	-	-	-	<1	<1	-
Arochlor 1260	µg/L	1							-	-	-	-	-	<1	<1	-
PCBs (Total)	µg/L	1							-	-	-	-	-	<1	<1	<1
Herbicides																
Dinoseb	µg/L	100							-	-	-	-	-	<100	<100	-
Pronamide	µg/L	2						700	-	-	-	-	-	<5	<5	<2

Table 5
Summary of Groundwater Analytical Results

								Location Code	NEL-BH128	NEL-BH140	NEL-ENV-BH006	NEL-ENV-BH008	NEL-ENV-BH009	NEL-ENV-BH009	NEL-ENV-BH014
								Field ID	NEL-BH128/080318	NEL-BH140/180418	NEL-ENV-BH006_27062018	NEL-ENV-BH008_08052018	NEL-ENV-BH009_27062018	NEL-ENV-BH009_19072018	ENV-BH014 / 130718
								Date	8/03/2018	18/04/2018	27/06/2018	8/05/2018	27/06/2018	19/07/2018	13/07/2018
								Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal
								Lab Report Number	588501	594938	EM1810368	EM1807515	EM1810368	EM1811589	607533 / EM1811208
	Unit	EQL	ANZECC 2000 - Stock Watering	ANZECC 2000 FW 95%	ANZECC 2000 FW 99%	PFAS NEMP 2018 Freshwater 99%	ANZECC 2000 Irrigation - Long-term Trigger Values	NHMRC Recreational Guidelines 2008							
OP Pesticides															
Tokuthion	µg/L	2							<2	-	-	-	-	-	<2
Azinphos methyl	µg/L	0.5		0.02	0.01			300	<2	-	<0.5	<0.5	<0.5	-	<2
Bolstar (Sulprofos)	µg/L	2						100	<2	-	-	-	-	-	<2
Bromophos-ethyl	µg/L	0.5						100	-	-	<0.5	<0.5	<0.5	-	-
Carbophenothion	µg/L	0.5							-	-	<0.5	<0.5	<0.5	-	-
Chlorfenvinphos	µg/L	0.5							<2	-	<0.5	<0.5	<0.5	-	<2
Chlorpyrifos	µg/L	0.5		0.01	0.00004			100	<20	-	<0.5	<0.5	<0.5	-	<20
Chlorpyrifos-methyl	µg/L	0.5							<2	-	<0.5	<0.5	<0.5	-	<2
Coumaphos	µg/L	20							<20	-	-	-	-	-	<20
Demeton-O	µg/L	2							<2	-	-	-	-	-	<2
Demeton-S	µg/L	20							<20	-	-	-	-	-	<20
Demeton-S-methyl	µg/L	0.5							-	-	<0.5	<0.5	<0.5	-	-
Diazinon	µg/L	0.5		0.01	0.00003			40	<2	-	<0.5	<0.5	<0.5	-	<2
Dichlorvos	µg/L	0.5						50	<2	-	<0.5	<0.5	<0.5	-	<2
Dimethoate	µg/L	0.5		0.15	0.1			70	<2	-	<0.5	<0.5	<0.5	-	<2
Disulfoton	µg/L	2						40	<2	-	-	-	-	-	<2
EPN	µg/L	2							<2	-	-	-	-	-	<2
Ethion	µg/L	0.5						40	<2	-	<0.5	<0.5	<0.5	-	<2
Ethoprop	µg/L	2						10	<2	-	-	-	-	-	<2
Fenamiphos	µg/L	0.5						5	-	-	<0.5	<0.5	<0.5	-	-
Fenitrothion	µg/L	2		0.2	0.1			70	<2	-	-	-	-	-	<2
Fensulfothion	µg/L	2						100	<2	-	-	-	-	-	<2
Fenthion	µg/L	0.5						70	<2	-	<0.5	<0.5	<0.5	-	<2
Malathion	µg/L	0.5		0.05	0.002			700	<2	-	<0.5	<0.5	<0.5	-	<2
Merphos	µg/L	2							<2	-	-	-	-	-	<2
Methyl parathion	µg/L	2						7	<2	-	<2.0	<2.0	<2.0	-	<2
Mevinphos (Phosdrin)	µg/L	2						50	<2	-	-	-	-	-	<2
Monocrotophos	µg/L	2						20	<2	-	<2.0	<2.0	<2.0	-	<2
Naled (Dibrom)	µg/L	2							<2	-	-	-	-	-	<2
Omethoate	µg/L	2						10	<2	-	-	-	-	-	<2
Parathion	µg/L	2		0.004	0.0007			200	<2	-	<2.0	<2.0	<2.0	-	<2
Phorate	µg/L	2							<2	-	-	-	-	-	<2
Pirimiphos-methyl	µg/L	20						900	<20	-	-	-	-	-	<20
Pirimphos-ethyl	µg/L	0.5						5	-	-	<0.5	<0.5	<0.5	-	-
Prothiofos	µg/L	0.5							-	-	<0.5	<0.5	<0.5	-	-
Pyrazophos	µg/L	2						200	<2	-	-	-	-	-	<2
Ronnel	µg/L	2							<2	-	-	-	-	-	<2
Terbufos	µg/L	2						9	<2	-	-	-	-	-	<2
Trichloronate	µg/L	2							<2	-	-	-	-	-	<2
Tetrachlorvinphos	µg/L	2						1000	<2	-	-	-	-	-	<2
MAH															
1,2,4-trimethylbenzene	µg/L	1							-	-	<5	<5	<5	-	<1
1,3,5-trimethylbenzene	µg/L	1							-	-	<5	<5	<5	-	<1
Isopropylbenzene	µg/L	1							<1	-	<5	<5	<5	-	<1
Styrene	µg/L	1						300	<1	-	<5	<5	<5	-	<1
Total MAH□	µg/L	3							<3	-	-	-	-	-	<3
Halogenated Hydrocarbons															
Bromomethane	µg/L	1						10	-	-	<50	<50	<50	-	<1
Dichlorodifluoromethane	µg/L	1							-	-	<50	<50	<50	-	<1
PCBs															
Arochlor 1016	µg/L	1							<1	-	-	-	-	-	<1
Arochlor 1221	µg/L	1							<1	-	-	-	-	-	<1
Arochlor 1232	µg/L	1							<1	-	-	-	-	-	<1
Arochlor 1242	µg/L	1		0.6	0.3				<1	-	-	-	-	-	<1
Arochlor 1248	µg/L	1							<1	-	-	-	-	-	<1
Arochlor 1254	µg/L	1		0.03	0.01				<1	-	-	-	-	-	<1
Arochlor 1260	µg/L	1							<1	-	-	-	-	-	<1
PCBs (Total)	µg/L	1							<1	-	<1	<1	<1	-	<1
Herbicides															
Dinoseb	µg/L	100							<100	-	-	-	-	-	<100
Pronamide	µg/L	2						700	<5	-	<2	<2	<2	-	<5

Appendix J
Table 5
Summary of Groundwater Analytical Results

	Unit	EQL	ANZECC 2000 - Stock Watering	ANZECC 2000 FW 95%	ANZECC 2000 FW 99%	PFAS NEMP 2018 Freshwater 99%	ANZECC 2000 Irrigation - Long-term Trigger Values	NHMRC Recreational Guidelines 2008								
								Location Code	NEL-ENV-BH022	NEL-ENV-BH024	NEL-ENV-BH024	NEL-ENV-BH024	NEL-ENV-BH024	NEL-ENV-BH025	NEL-ENV-BH032	NEL-PB01A
								Field ID	NEL-ENV-BH022	NEL-ENV-BH024_08052018	NEL-ENV-BH024_19072018	QC5000_08052018	QC6000_08052018	NEL-ENV-BH025_09052018	NEL-ENV-BH032_27062018	NEL-PB01A
								Date	27/09/2018	8/05/2018	19/07/2018	8/05/2018	8/05/2018	9/05/2018	27/06/2018	6/07/2018
								Sample Type	Normal	Normal	Normal	Field_D	Field_D	Normal	Normal	Normal
								Lab Report Number	EM1815577	EM1807515	EM1811589	EM1807515	EM1807515	EM1807669	EM1810368	607533
OP Pesticides																
Tokuthion	µg/L	2							-	-	-	-	-	-	-	-
Azinphos methyl	µg/L	0.5		0.02	0.01			300	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-
Bolstar (Sulprofos)	µg/L	2						100	-	-	-	-	-	-	-	-
Bromophos-ethyl	µg/L	0.5						100	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-
Carbophenothion	µg/L	0.5							<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-
Chlorfenvinphos	µg/L	0.5							<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-
Chlorpyrifos	µg/L	0.5		0.01	0.00004			100	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-
Chlorpyrifos-methyl	µg/L	0.5							<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-
Coumaphos	µg/L	20							-	-	-	-	-	-	-	-
Demeton-O	µg/L	2							-	-	-	-	-	-	-	-
Demeton-S	µg/L	20							-	-	-	-	-	-	-	-
Demeton-S-methyl	µg/L	0.5							<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-
Diazinon	µg/L	0.5		0.01	0.00003			40	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-
Dichlorvos	µg/L	0.5						50	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-
Dimethoate	µg/L	0.5		0.15	0.1			70	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-
Disulfoton	µg/L	2						40	-	-	-	-	-	-	-	-
EPN	µg/L	2							-	-	-	-	-	-	-	-
Ethion	µg/L	0.5						40	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-
Ethoprop	µg/L	2						10	-	-	-	-	-	-	-	-
Fenamiphos	µg/L	0.5						5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-
Fenitrothion	µg/L	2		0.2	0.1			70	-	-	-	-	-	-	-	-
Fensulfothion	µg/L	2						100	-	-	-	-	-	-	-	-
Fenthion	µg/L	0.5						70	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-
Malathion	µg/L	0.5		0.05	0.002			700	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-
Merphos	µg/L	2							-	-	-	-	-	-	-	-
Methyl parathion	µg/L	2						7	<2.0	<2.0	-	<2.0	<2.0	<2.0	<2.0	-
Mevinphos (Phosdrin)	µg/L	2						50	-	-	-	-	-	-	-	-
Monocrotophos	µg/L	2						20	<2.0	<2.0	-	<2.0	<2.0	<2.0	<2.0	-
Naled (Dibrom)	µg/L	2							-	-	-	-	-	-	-	-
Omethoate	µg/L	2						10	-	-	-	-	-	-	-	-
Parathion	µg/L	2		0.004	0.0007			200	<2.0	<2.0	-	<2.0	<2.0	<2.0	<2.0	-
Phorate	µg/L	2							-	-	-	-	-	-	-	-
Pirimiphos-methyl	µg/L	20						900	-	-	-	-	-	-	-	-
Pirimphos-ethyl	µg/L	0.5						5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-
Prothiofos	µg/L	0.5							<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-
Pyrazophos	µg/L	2						200	-	-	-	-	-	-	-	-
Ronnel	µg/L	2							-	-	-	-	-	-	-	-
Terbufos	µg/L	2						9	-	-	-	-	-	-	-	-
Trichloronate	µg/L	2							-	-	-	-	-	-	-	-
Tetrachlorvinphos	µg/L	2						1000	-	-	-	-	-	-	-	-
MAH																
1,2,4-trimethylbenzene	µg/L	1							628	<5	-	<5	<5	<5	<5	-
1,3,5-trimethylbenzene	µg/L	1							185	<5	-	<5	<5	<5	<5	-
Isopropylbenzene	µg/L	1							<100	<5	-	<5	<5	<5	<5	-
Styrene	µg/L	1						300	<100	<5	-	<5	<5	<5	<5	-
Total MAH☐	µg/L	3							-	-	-	-	-	-	-	-
Halogenated Hydrocarbons																
Bromomethane	µg/L	1						10	<1,000	<50	-	<50	<50	<50	<50	-
Dichlorodifluoromethane	µg/L	1							<1,000	<50	-	<50	<50	<50	<50	-
PCBs																
Arochlor 1016	µg/L	1							-	-	-	-	-	-	-	-
Arochlor 1221	µg/L	1							-	-	-	-	-	-	-	-
Arochlor 1232	µg/L	1							-	-	-	-	-	-	-	-
Arochlor 1242	µg/L	1		0.6	0.3				-	-	-	-	-	-	-	-
Arochlor 1248	µg/L	1							-	-	-	-	-	-	-	-
Arochlor 1254	µg/L	1		0.03	0.01				-	-	-	-	-	-	-	-
Arochlor 1260	µg/L	1							-	-	-	-	-	-	-	-
PCBs (Total)	µg/L	1							<1	<1	-	<1	<1	<1	<1	-
Herbicides																
Dinoseb	µg/L	100							-	-	-	-	-	-	-	-
Pronamide	µg/L	2						700	<2	<2	-	<2	<2	<2	<2	-

Appendix J
Table 5
Summary of Groundwater Analytical Results

								Location Code	NEL-BH004	NEL-BH004A	NEL-BH031	NEL-BH031	NEL-BH037	NEL-BH038	NEL-BH039	NEL-BH039	NEL-BH039
								Field ID	NEL-BH004 D/150218	NEL-BH004 S/150218	NEL-BH031/080318	NEL-BH031 / 130218	NEL-BH037 / 160418	NEL-BH038 / 140218	NEL-BH039/180418	QC1/180418	QC2 / 180418
								Date	15/02/2018	15/02/2018	8/03/2018	13/02/2018	16/04/2018	14/02/2018	18/04/2018	18/04/2018	18/04/2018
								Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Field_D	Field_D
								Lab Report Number	585222 / EM1803079	585222 / EM1803079	588501	584938	594417 / EM1806339	584987 / EM1802989	594938 / EM1806473	594938 / EM1806473	EM1806473
	Unit	EQL	ANZECC 2000 - Stock Watering	ANZECC 2000 FW 95%	ANZECC 2000 FW 99%	PFAS NEMP 2018 Freshwater 99%	ANZECC 2000 Irrigation - Long-term Trigger Values	NHMRC Recreational Guidelines 2008									
PFAS																	
Perfluorodecanesulfonic acid (PFDS)	µg/L	0.002							-	-	<0.01	-	-	-	<0.01	<0.01	<0.02
Perfluoro-n-hexadecanoic acid (PFHxDA)	µg/L	0.005							-	-	-	-	-	-	-	-	-
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.002							-	-	<0.01	-	-	-	<0.01	<0.01	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.002							-	-	<0.05	-	-	-	<0.05	<0.05	<0.02
N-Methyl perfluorooctane sulfonamidoethanol	µg/L	0.005							-	-	<0.05	-	-	-	<0.05	<0.05	<0.05
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	µg/L	0.01							-	-	-	-	-	-	-	-	-
Sum of US EPA PFAS (PFOS + PFOA)*	µg/L	0.01							-	-	-	-	-	-	-	-	-
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.005							-	-	<0.01	-	-	-	<0.01	<0.01	<0.05
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.005							-	-	<0.01	-	-	-	<0.01	<0.01	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	µg/L	0.002							-	-	<0.05	-	-	-	<0.05	<0.05	<0.02
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.002							-	-	<0.01	-	-	-	<0.01	<0.01	<0.02
Perfluoropentanoic acid (PFPeA)	µg/L	0.002							-	-	<0.01	-	-	-	<0.01	<0.01	<0.02
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.002							-	-	<0.01	-	-	-	<0.01	<0.01	<0.02
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.005							-	-	<0.01	-	-	-	<0.01	<0.01	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.005							-	-	<0.05	-	-	-	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol	µg/L	0.005							-	-	<0.05	-	-	-	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.005							-	-	<0.05	-	-	-	<0.05	<0.05	<0.05
6:2 Fluorotelomer Sulfonate (6:2 FTS)	µg/L	0.005							-	-	<0.05	-	-	-	<0.05	<0.05	<0.05
Perfluorooctanoic acid (PFOA)	µg/L	0.002				19			-	-	<0.01	-	-	-	<0.01	<0.01	<0.01
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.002							-	-	<0.01	-	-	-	<0.01	<0.01	<0.02
Perfluorobutanoic acid (PFBA)	µg/L	0.01							-	-	<0.05	-	-	-	<0.05	<0.05	<0.1
Perfluorodecanoic acid (PFDA)	µg/L	0.002							-	-	<0.01	-	-	-	<0.01	<0.01	<0.02
Perfluorododecanoic acid (PFDoDA)	µg/L	0.002							-	-	<0.01	-	-	-	<0.01	<0.01	<0.02
Perfluoroheptanoic acid (PFHpA)	µg/L	0.002							-	-	<0.01	-	-	-	<0.01	<0.01	<0.02
Perfluorohexanoic acid (PFHxA)	µg/L	0.002							-	-	<0.01	-	-	-	<0.01	<0.01	<0.02
Perfluorononanoic acid (PFNA)	µg/L	0.002							-	-	<0.01	-	-	-	<0.01	<0.01	<0.02
Perfluorooctane sulfonic acid (PFOS)	µg/L	0.002				0.00023			-	-	<0.01	-	-	-	<0.01	<0.01	<0.01
Perfluorooctane sulfonamide (FOSA)	µg/L	0.002							-	-	<0.05	-	-	-	<0.05	<0.05	<0.02
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.005							-	-	<0.01	-	-	-	<0.01	<0.01	<0.05
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.002							-	-	<0.01	-	-	-	<0.01	<0.01	<0.02
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.002							-	-	<0.01	-	-	-	<0.01	<0.01	<0.02
PFAS (Sum of Total)	µg/L	0.002							-	-	<0.1	-	-	-	<0.1	<0.1	<0.01
PFAS (Sum of Total)(WA DER List)	µg/L	0.002							-	-	<0.05	-	-	-	<0.05	<0.05	<0.01
Sum of PFHxS and PFOS	µg/L	0.002							-	-	<0.01	-	-	-	<0.01	<0.01	<0.01
TPH																	
Oil & Grease	mg/L	10							-	-	<10	-	-	-	-	-	-
Biological																	
Sulfate Reducing Bacteria Population Estimate	pac/mL	20							320	120,000	-	-	320	27,000	6,000	27,000	6,000
Sulfate Reducing Bacteria Aggressivity	-	1							1	1	-	-	1	1	1	1	1
Chlorinated Hydrocarbons																	
Chlorinated hydrocarbons EPAVic	µg/L	5							-	-	-	-	-	-	<5	<5	-
Other chlorinated hydrocarbons (Total)	MG/L								-	-	-	-	-	-	<0.005	<0.005	-
1,1,1,2-tetrachloroethane	µg/L	1							-	-	-	-	-	-	<1	<1	<5
1,1,1-trichloroethane	µg/L	1							-	-	-	-	-	-	<1	<1	<5
1,1,2,2-tetrachloroethane	µg/L	1							-	-	-	-	-	-	<1	<1	<5
1,1,2-trichloroethane	µg/L	1		6500	5400				-	-	-	-	-	-	<1	<1	<5
1,1-dichloroethene	µg/L	1						300	-	-	-	-	-	-	<1	<1	<5
1,1-dichloropropene	µg/L	5							-	-	-	-	-	-	-	-	<5
1,2,4-trichlorobenzene	µg/L	1		170	85				-	-	<1	-	-	-	<5	<5	<2
1,2-dibromo-3-chloropropane	µg/L	5							-	-	-	-	-	-	-	-	<5
1,2-dichlorobenzene	µg/L	1		160	120			15000	-	-	<1	-	-	-	<1	<1	<2
1,2-dichloroethane	µg/L	1						30	-	-	-	-	-	-	<1	<1	<5
1,2-dichloropropane	µg/L	1							-	-	-	-	-	-	<1	<1	<5
1,3-dichloropropane	µg/L	1							-	-	-	-	-	-	<1	<1	<5
1,4-dichlorobenzene	µg/L	1		60	40			400	-	-	<1	-	-	-	<1	<1	<2
2,2-dichloropropane	µg/L	5							-	-	-	-	-	-	-	-	<5
2-chloronaphthalene	µg/L	2							-	-	<5	-	-	-	<10	<10	<2
2-chlorotoluene	µg/L	5							-	-	-	-	-	-	-	-	<5
4-chlorotoluene	µg/L	1							-	-	-	-	-	-	<1	<1	<5
Benzal Chloride	µg/L	0.1							-	-	<0.1	-	-	-	-	-	-
Benzotrichloride	µg/L	0.1							-	-	<0.1	-	-	-	-	-	-
Bromobenzene	µg/L	1							-	-	-	-	-	-	<1	<1	<5
Bromochloromethane	µg/L	1							-	-	-	-	-	-	<1	<1	-
Carbon tetrachloride	µg/L	1							-	-	-	-	-	-	<1	<1	<5
Chlorobenzene	µg/L	1							-	-	-	-	-	-	<1	<1	<5
Chloroform	µg/L	5							-	-	-	-	-	-	<5	<5	<5
Chloromethane	µg/L	1							-	-	-	-	-	-	<1	<1	<50
cis-1,2-dichloroethene	µg/L	1							-	-	-	-	-	-	<1	<1	<5
Dichloromethane	µg/L	1						40	-	-	-	-	-	-	<1	<1	-
Hexachlorobutadiene	µg/L	0.1						7	-	-	<0.1	-	-	-	<5	<5	<2
Vinyl chloride	µg/L	1						3	-	-	-	-	-	-	<1	<1	<50

Appendix J
Table 5
Summary of Groundwater Analytical Results

	Unit	EQL	ANZECC 2000 - Stock Watering	ANZECC 2000 FW 95%	ANZECC 2000 FW 99%	PFAS NEMP 2018 Freshwater 99%	ANZECC 2000 Irrigation - Long-term Trigger Values	NHMRC Recreational Guidelines 2008	NEL-BH040	NEL-BH040A	NEL-BH044	NEL-BH059	NEL-BH060	NEL-BH062	NEL-BH062	NEL-BH062A	NEL-BH062B	NEL-BH062B
Location Code									NEL-BH040	NEL-BH040A	NEL-BH044	NEL-BH059	NEL-BH060	NEL-BH062	NEL-BH062	NEL-BH062A	NEL-BH062B	NEL-BH062B
Field ID									NEL-BH040 / 120218	NEL-BH040 A / 120218	NEL-BH044 / 130218	NEL-BH059 / 130218	NEL-BH060 / 140218	NEL-BH062/080318	NEL-BH062 / 140218	NEL-BH062 A / 160218	NEL-BH062B/080318	NEL-BH062 B / 140218
Date									12/02/2018	12/02/2018	13/02/2018	13/02/2018	14/02/2018	8/03/2018	14/02/2018	16/02/2018	8/03/2018	14/02/2018
Sample Type									Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
Lab Report Number									584938	584938	584938	584938	584987 / EM1802989	588501	584987 / EM1802989	585329 / EM1802989	588501	584987 / EM1802989
PFAS																		
Perfluorodecanesulfonic acid (PFDS)	µg/L	0.002							-	-	-	-	-	<0.01	-	<0.01	<0.01	-
Perfluoro-n-hexadecanoic acid (PFHxDA)	µg/L	0.005							-	-	-	-	-	-	-	-	-	-
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.002							-	-	-	-	-	<0.01	-	0.02	<0.01	-
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.002							-	-	-	-	-	<0.05	-	<0.05	<0.05	-
N-Methyl perfluorooctane sulfonamidoethanol	µg/L	0.005							-	-	-	-	-	<0.05	-	<0.05	<0.05	-
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	µg/L	0.01							-	-	-	-	-	-	-	-	-	-
Sum of US EPA PFAS (PFOS + PFOA)*	µg/L	0.01							-	-	-	-	-	-	-	-	-	-
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.005							-	-	-	-	-	<0.01	-	<0.01	<0.01	-
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.005							-	-	-	-	-	<0.01	-	<0.01	<0.01	-
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	µg/L	0.002							-	-	-	-	-	<0.05	-	<0.05	<0.05	-
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.002							-	-	-	-	-	<0.01	-	0.38	<0.01	-
Perfluoropentanoic acid (PFPeA)	µg/L	0.002							-	-	-	-	-	<0.01	-	0.06	<0.01	-
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.002							-	-	-	-	-	<0.01	-	1.1	<0.01	-
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.005							-	-	-	-	-	<0.01	-	<0.01	<0.01	-
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.005							-	-	-	-	-	<0.05	-	<0.05	<0.05	-
N-Ethyl perfluorooctane sulfonamidoethanol	µg/L	0.005							-	-	-	-	-	<0.05	-	<0.05	<0.05	-
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.005							-	-	-	-	-	<0.05	-	<0.05	<0.05	-
6:2 Fluorotelomer Sulfonate (6:2 FTS)	µg/L	0.005							-	-	-	-	-	<0.05	-	<0.05	<0.05	-
Perfluorooctanoic acid (PFOA)	µg/L	0.002				19			-	-	-	-	-	<0.01	-	0.06	<0.01	-
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.002							-	-	-	-	-	<0.01	-	0.32	<0.01	-
Perfluorobutanoic acid (PFBA)	µg/L	0.01							-	-	-	-	-	<0.05	-	<0.05	<0.05	-
Perfluorodecanoic acid (PFDA)	µg/L	0.002							-	-	-	-	-	<0.01	-	<0.01	<0.01	-
Perfluorododecanoic acid (PFDoDA)	µg/L	0.002							-	-	-	-	-	<0.01	-	<0.01	<0.01	-
Perfluoroheptanoic acid (PFHpA)	µg/L	0.002							-	-	-	-	-	<0.01	-	0.05	<0.01	-
Perfluorohexanoic acid (PFHxA)	µg/L	0.002							-	-	-	-	-	<0.01	-	0.25	<0.01	-
Perfluorononanoic acid (PFNA)	µg/L	0.002							-	-	-	-	-	<0.01	-	<0.01	<0.01	-
Perfluorooctane sulfonic acid (PFOS)	µg/L	0.002				0.00023			-	-	-	-	-	<0.01	-	0.13	<0.01	-
Perfluorooctane sulfonamide (FOSA)	µg/L	0.002							-	-	-	-	-	<0.05	-	<0.05	<0.05	-
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.005							-	-	-	-	-	<0.01	-	<0.01	<0.01	-
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.002							-	-	-	-	-	<0.01	-	<0.01	<0.01	-
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.002							-	-	-	-	-	<0.01	-	<0.01	<0.01	-
PFAS (Sum of Total)	µg/L	0.002							-	-	-	-	-	<0.1	-	2.37	<0.1	-
PFAS (Sum of Total)(WA DER List)	µg/L	0.002							-	-	-	-	-	<0.05	-	2.03	<0.05	-
Sum of PFHxS and PFOS	µg/L	0.002							-	-	-	-	-	<0.01	-	1.23	<0.01	-
TPH																		
Oil & Grease	mg/L	10							-	-	-	-	-	<10	-	-	<10	-
Biological																		
Sulfate Reducing Bacteria Population Estimate	pac/mL	20							-	-	-	-	27,000	-	27,000	6,000	-	320
Sulfate Reducing Bacteria Aggressivity	-	1							-	-	-	-	1	-	1	1	-	1
Chlorinated Hydrocarbons																		
Chlorinated hydrocarbons EPAVic	µg/L	5							-	-	-	-	-	-	-	<5	-	-
Other chlorinated hydrocarbons (Total)	MG/L								-	-	-	-	-	-	-	<0.005	-	-
1,1,1,2-tetrachloroethane	µg/L	1							-	-	-	-	-	-	-	<1	-	-
1,1,1-trichloroethane	µg/L	1							-	-	-	-	-	-	-	<1	-	-
1,1,2,2-tetrachloroethane	µg/L	1							-	-	-	-	-	-	-	<1	-	-
1,1,2-trichloroethane	µg/L	1		6500	5400				-	-	-	-	-	-	-	<1	-	-
1,1-dichloroethene	µg/L	1						300	-	-	-	-	-	-	-	<1	-	-
1,1-dichloropropene	µg/L	5							-	-	-	-	-	-	-	-	-	-
1,2,4-trichlorobenzene	µg/L	1		170	85				-	-	-	-	-	<1	-	<5	<1	-
1,2-dibromo-3-chloropropane	µg/L	5							-	-	-	-	-	-	-	-	-	-
1,2-dichlorobenzene	µg/L	1		160	120			15000	-	-	-	-	-	<1	-	<1	<1	-
1,2-dichloroethane	µg/L	1						30	-	-	-	-	-	-	-	<1	-	-
1,2-dichloropropane	µg/L	1							-	-	-	-	-	-	-	<1	-	-
1,3-dichloropropane	µg/L	1							-	-	-	-	-	-	-	<1	-	-
1,4-dichlorobenzene	µg/L	1		60	40			400	-	-	-	-	-	<1	-	<1	<1	-
2,2-dichloropropane	µg/L	5							-	-	-	-	-	-	-	-	-	-
2-chloronaphthalene	µg/L	2							-	-	-	-	-	<5	-	<5	<5	-
2-chlorotoluene	µg/L	5							-	-	-	-	-	-	-	-	-	-
4-chlorotoluene	µg/L	1							-	-	-	-	-	-	-	<1	-	-
Benzal Chloride	µg/L	0.1							-	-	-	-	-	<0.1	-	-	<0.1	-
Benzotrichloride	µg/L	0.1							-	-	-	-	-	<0.1	-	-	<0.1	-
Bromobenzene	µg/L	1							-	-	-	-	-	-	-	<1	-	-
Bromochloromethane	µg/L	1							-	-	-	-	-	-	-	<1	-	-
Carbon tetrachloride	µg/L	1							-	-	-	-	-	-	-	<1	-	-
Chlorobenzene	µg/L	1							-	-	-	-	-	-	-	<1	-	-
Chloroform	µg/L	5							-	-	-	-	-	-	-	<5	-	-
Chloromethane	µg/L	1							-	-	-	-	-	-	-	<1	-	-
cis-1,2-dichloroethene	µg/L	1							-	-	-	-	-	-	-	<1	-	-
Dichloromethane	µg/L	1						40	-	-	-	-	-	-	-	<1	-	-
Hexachlorobutadiene	µg/L	0.1						7	-	-	-	-	-	<0.1	-	<5	<0.1	-
Vinyl chloride	µg/L	1						3	-	-	-	-	-	-	-	<1	-	-

Appendix J
Table 5
Summary of Groundwater Analytical Results

	Unit	EQL	ANZECC 2000 - Stock Watering	ANZECC 2000 FW 95%	ANZECC 2000 FW 99%	PFAS NEMP 2018 Freshwater 99%	ANZECC 2000 Irrigation - Long-term Trigger Values	NHMRC Recreational Guidelines 2008							
								Location Code	NEL-BH064	NEL-BH070	NEL-BH071	NEL-BH072	NEL-BH076	NEL-BH076A	NEL-BH078
								Field ID	NEL-BH064 / 140218	NEL-BH070 / 120218	NEL-BH071/170418	NEL-BH072 / 120218	NEL-BH076/170418	NEL-BH076A/170418	NEL-BH078/170418
								Date	14/02/2018	12/02/2018	17/04/2018	12/02/2018	17/04/2018	17/04/2018	17/04/2018
								Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal
								Lab Report Number	584987 / EM1802989	584938	594757 / EM1806408	584938	594757 / EM1806408	594757 / EM1806408	594757 / EM1806408
PFAS															
Perfluorodecanesulfonic acid (PFDS)	µg/L	0.002							-	-	-	-	-	-	-
Perfluoro-n-hexadecanoic acid (PFHxDA)	µg/L	0.005							-	-	-	-	-	-	-
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.002							-	-	-	-	-	-	-
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.002							-	-	-	-	-	-	-
N-Methyl perfluorooctane sulfonamidoethanol	µg/L	0.005							-	-	-	-	-	-	-
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	µg/L	0.01							-	-	-	-	-	-	-
Sum of US EPA PFAS (PFOS + PFOA)*	µg/L	0.01							-	-	-	-	-	-	-
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.005							-	-	-	-	-	-	-
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.005							-	-	-	-	-	-	-
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	µg/L	0.002							-	-	-	-	-	-	-
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.002							-	-	-	-	-	-	-
Perfluoropentanoic acid (PFPeA)	µg/L	0.002							-	-	-	-	-	-	-
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.002							-	-	-	-	-	-	-
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.005							-	-	-	-	-	-	-
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.005							-	-	-	-	-	-	-
N-Ethyl perfluorooctane sulfonamidoethanol	µg/L	0.005							-	-	-	-	-	-	-
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.005							-	-	-	-	-	-	-
6:2 Fluorotelomer Sulfonate (6:2 FTS)	µg/L	0.005							-	-	-	-	-	-	-
Perfluorooctanoic acid (PFOA)	µg/L	0.002				19			-	-	-	-	-	-	-
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.002							-	-	-	-	-	-	-
Perfluorobutanoic acid (PFBA)	µg/L	0.01							-	-	-	-	-	-	-
Perfluorodecanoic acid (PFDA)	µg/L	0.002							-	-	-	-	-	-	-
Perfluorododecanoic acid (PFDoDA)	µg/L	0.002							-	-	-	-	-	-	-
Perfluoroheptanoic acid (PFHpA)	µg/L	0.002							-	-	-	-	-	-	-
Perfluorohexanoic acid (PFHxA)	µg/L	0.002							-	-	-	-	-	-	-
Perfluorononanoic acid (PFNA)	µg/L	0.002							-	-	-	-	-	-	-
Perfluorooctane sulfonic acid (PFOS)	µg/L	0.002				0.00023			-	-	-	-	-	-	-
Perfluorooctane sulfonamide (FOSA)	µg/L	0.002							-	-	-	-	-	-	-
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.005							-	-	-	-	-	-	-
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.002							-	-	-	-	-	-	-
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.002							-	-	-	-	-	-	-
PFAS (Sum of Total)	µg/L	0.002							-	-	-	-	-	-	-
PFAS (Sum of Total)(WA DER List)	µg/L	0.002							-	-	-	-	-	-	-
Sum of PFHxS and PFOS	µg/L	0.002							-	-	-	-	-	-	-
TPH															
Oil & Grease	mg/L	10							-	-	-	-	-	-	-
Biological															
Sulfate Reducing Bacteria Population Estimate	pac/mL	20							27,000	-	6,000	-	<20	6,000	27,000
Sulfate Reducing Bacteria Aggressivity	-	1							1	-	1	-	1	1	1
Chlorinated Hydrocarbons															
Chlorinated hydrocarbons EPAVic	µg/L	5							-	-	-	-	-	-	-
Other chlorinated hydrocarbons (Total)	MG/L								-	-	-	-	-	-	-
1,1,1,2-tetrachloroethane	µg/L	1							-	-	-	-	-	-	-
1,1,1-trichloroethane	µg/L	1							-	-	-	-	-	-	-
1,1,2,2-tetrachloroethane	µg/L	1							-	-	-	-	-	-	-
1,1,2-trichloroethane	µg/L	1		6500	5400				-	-	-	-	-	-	-
1,1-dichloroethene	µg/L	1						300	-	-	-	-	-	-	-
1,1-dichloropropene	µg/L	5							-	-	-	-	-	-	-
1,2,4-trichlorobenzene	µg/L	1		170	85				-	-	-	-	-	-	-
1,2-dibromo-3-chloropropane	µg/L	5							-	-	-	-	-	-	-
1,2-dichlorobenzene	µg/L	1		160	120			15000	-	-	-	-	-	-	-
1,2-dichloroethane	µg/L	1						30	-	-	-	-	-	-	-
1,2-dichloropropane	µg/L	1							-	-	-	-	-	-	-
1,3-dichloropropane	µg/L	1							-	-	-	-	-	-	-
1,4-dichlorobenzene	µg/L	1		60	40			400	-	-	-	-	-	-	-
2,2-dichloropropane	µg/L	5							-	-	-	-	-	-	-
2-chloronaphthalene	µg/L	2							-	-	-	-	-	-	-
2-chlorotoluene	µg/L	5							-	-	-	-	-	-	-
4-chlorotoluene	µg/L	1							-	-	-	-	-	-	-
Benzal Chloride	µg/L	0.1							-	-	-	-	-	-	-
Benzotrichloride	µg/L	0.1							-	-	-	-	-	-	-
Bromobenzene	µg/L	1							-	-	-	-	-	-	-
Bromochloromethane	µg/L	1							-	-	-	-	-	-	-
Carbon tetrachloride	µg/L	1							-	-	-	-	-	-	-
Chlorobenzene	µg/L	1							-	-	-	-	-	-	-
Chloroform	µg/L	5							-	-	-	-	-	-	-
Chloromethane	µg/L	1							-	-	-	-	-	-	-
cis-1,2-dichloroethene	µg/L	1							-	-	-	-	-	-	-
Dichloromethane	µg/L	1						40	-	-	-	-	-	-	-
Hexachlorobutadiene	µg/L	0.1						7	-	-	-	-	-	-	-
Vinyl chloride	µg/L	1						3	-	-	-	-	-	-	-

Appendix J
Table 5
Summary of Groundwater Analytical Results

								Location Code	NEL-BH083	NEL-BH086	NEL-BH086	NEL-BH086	NEL-BH087	NEL-BH088	NEL-BH089	NEL-BH091	NEL-BH093
								Field ID	NEL-BH083 / 160418	NEL-BH086 / 120718	QC1 / 120718	QC2/120718	NEL-BH087 / 120718	NEL-BH088 / 120718	NEL-BH089 / 120718	NEL-BH091/160218	NEL-BH093 / 160418
								Date	16/04/2018	12/07/2018	12/07/2018	12/07/2018	12/07/2018	12/07/2018	12/07/2018	16/02/2018	16/04/2018
								Sample Type	Normal	Normal	Field_D	Field_D	Normal	Normal	Normal	Normal	Normal
								Lab Report Number	594417 / EM1806339	607533 / EM1811208	607533	EM1811208	607533 / EM1811208	607533 / EM1811208	607533 / EM1811208	585329 / EM1803154	594417 / EM1806339
	Unit	EQL	ANZECC 2000 - Stock Watering	ANZECC 2000 FW 95%	ANZECC 2000 FW 99%	PFAS NEMP 2018 Freshwater 99%	ANZECC 2000 Irrigation - Long-term Trigger Values	NHMRC Recreational Guidelines 2008									
PFAS																	
Perfluorodecanesulfonic acid (PFDS)	µg/L	0.002							-	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	-
Perfluoro-n-hexadecanoic acid (PFHxDA)	µg/L	0.005							-	-	-	-	-	-	-	-	-
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.002							-	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	-
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.002							-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-
N-Methyl perfluorooctane sulfonamidoethanol	µg/L	0.005							-	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	-
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	µg/L	0.01							-	<0.01	<0.01	-	<0.01	<0.01	<0.01	-	-
Sum of US EPA PFAS (PFOS + PFOA)*	µg/L	0.01							-	<0.01	<0.01	-	<0.01	<0.01	<0.01	-	-
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.005							-	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	-
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.005							-	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	-
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	µg/L	0.002							-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.002							-	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	-
Perfluoropentanoic acid (PFPeA)	µg/L	0.002							-	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	-
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.002							-	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	-
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.005							-	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	-
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.005							-	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	-
N-Ethyl perfluorooctane sulfonamidoethanol	µg/L	0.005							-	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	-
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.005							-	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	-
6:2 Fluorotelomer Sulfonate (6:2 FTS)	µg/L	0.005							-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-
Perfluorooctanoic acid (PFOA)	µg/L	0.002				19			-	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	0.02	-
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.002							-	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	-
Perfluorobutanoic acid (PFBA)	µg/L	0.01							-	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	-
Perfluorodecanoic acid (PFDA)	µg/L	0.002							-	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	-
Perfluorododecanoic acid (PFDoDA)	µg/L	0.002							-	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	-
Perfluoroheptanoic acid (PFHpA)	µg/L	0.002							-	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	-
Perfluorohexanoic acid (PFHxA)	µg/L	0.002							-	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	-
Perfluorononanoic acid (PFNA)	µg/L	0.002							-	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	-
Perfluorooctane sulfonic acid (PFOS)	µg/L	0.002				0.00023			-	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	-
Perfluorooctane sulfonamide (FOSA)	µg/L	0.002							-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.005							-	<0.01	<0.01	<0.12	<0.01	<0.01	<0.01	<0.01	-
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.002							-	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	-
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.002							-	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	-
PFAS (Sum of Total)	µg/L	0.002							-	<0.1	<0.1	<0.05	<0.1	<0.1	<0.1	<0.1	-
PFAS (Sum of Total)(WA DER List)	µg/L	0.002							-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-
Sum of PFHxS and PFOS	µg/L	0.002							-	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	-
TPH																	
Oil & Grease	mg/L	10							-	-	-	-	-	-	-	-	-
Biological																	
Sulfate Reducing Bacteria Population Estimate	pac/mL	20							1,400	320	-	320	120,000	120,000	120,000	27,000	120,000
Sulfate Reducing Bacteria Aggressivity	-	1							1	1	-	1	1	1	1	1	1
Chlorinated Hydrocarbons																	
Chlorinated hydrocarbons EPAVic	µg/L	5							-	<5	<5	-	<5	<5	<5	<5	-
Other chlorinated hydrocarbons (Total)	MG/L								-	<0.005	<0.005	-	<0.005	<0.005	<0.005	<0.005	-
1,1,1,2-tetrachloroethane	µg/L	1							-	<1	<1	<5	<1	<1	<1	<1	-
1,1,1-trichloroethane	µg/L	1							-	<1	<1	<5	<1	<1	<1	<1	-
1,1,2,2-tetrachloroethane	µg/L	1							-	<1	<1	<5	<1	<1	<1	<1	-
1,1,2-trichloroethane	µg/L	1		6500	5400				-	<1	<1	<5	<1	<1	<1	<1	-
1,1-dichloroethene	µg/L	1						300	-	<1	<1	<5	<1	<1	<1	<1	-
1,1-dichloropropene	µg/L	5							-	-	-	<5	-	-	-	-	-
1,2,4-trichlorobenzene	µg/L	1		170	85				-	<5	<5	<2	<5	<5	<5	<5	-
1,2-dibromo-3-chloropropane	µg/L	5							-	-	-	<5	-	-	-	-	-
1,2-dichlorobenzene	µg/L	1		160	120			15000	-	<1	<1	<2	<1	<1	<1	<1	-
1,2-dichloroethane	µg/L	1						30	-	<1	<1	<5	<1	<1	<1	<1	-
1,2-dichloropropane	µg/L	1							-	<1	<1	<5	<1	<1	<1	<1	-
1,3-dichloropropane	µg/L	1							-	<1	<1	<5	<1	<1	<1	<1	-
1,4-dichlorobenzene	µg/L	1		60	40			400	-	<1	<1	<2	<1	<1	<1	<1	-
2,2-dichloropropane	µg/L	5							-	-	-	<5	-	-	-	-	-
2-chloronaphthalene	µg/L	2							-	<5	<5	<2	<5	<5	<5	<5	-
2-chlorotoluene	µg/L	5							-	-	-	<5	-	-	-	-	-
4-chlorotoluene	µg/L	1							-	<1	<1	<5	<1	<1	<1	<1	-
Benzal Chloride	µg/L	0.1							-	-	-	-	-	-	-	-	-
Benzotrichloride	µg/L	0.1							-	-	-	-	-	-	-	-	-
Bromobenzene	µg/L	1							-	<1	<1	<5	<1	<1	<1	<1	-
Bromochloromethane	µg/L	1							-	<1	<1	-	<1	<1	<1	<1	-
Carbon tetrachloride	µg/L	1							-	<1	<1	<5	<1	<1	<1	<1	-
Chlorobenzene	µg/L	1							-	<1	<1	<5	<1	<1	<1	<1	-
Chloroform	µg/L	5							-	<5	<5	<5	<5	<5	<5	<5	-
Chloromethane	µg/L	1							-	<1	<1	<50	<1	<1	<1	<1	-
cis-1,2-dichloroethene	µg/L	1							-	<1	<1	<5	<1	<1	<1	<1	-
Dichloromethane	µg/L	1						40	-	<1	<1	-	<1	<1	<1	<1	-
Hexachlorobutadiene	µg/L	0.1						7	-	<5	<5	<2	<5	<5	<5	<5	-
Vinyl chloride	µg/L	1						3	-	<1	<1	<50	<1	<1	<1	<1	-

Appendix J
Table 5
Summary of Groundwater Analytical Results

								Location Code	NEL-BH095	NEL-BH097	NEL-BH098	NEL-BH106	NEL-BH107	NEL-BH125	NEL-BH125	NEL-BH125
								Field ID	NEL-BH095 / 130218	NEL-BH097/150218	NEL-BH098/150218	NEL-BH106 / 160418	NEL-BH107 / 160418	NEL-BH125/160218	QC1/160218	QC2/160218
								Date	13/02/2018	15/02/2018	15/02/2018	16/04/2018	16/04/2018	16/02/2018	16/02/2018	16/02/2018
								Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Field_D	Field_D
								Lab Report Number	584938	585222 / EM1803079	585222 / EM1803079	594417 / EM1806339	594417 / EM1806339	585329 / EM1803154	585329 / EM1803154	EM1803154
	Unit	EQL	ANZECC 2000 - Stock Watering	ANZECC 2000 FW 95%	ANZECC 2000 FW 99%	PFAS NEMP 2018 Freshwater 99%	ANZECC 2000 Irrigation - Long-term Trigger Values	NHMRC Recreational Guidelines 2008								
PFAS																
Perfluorodecanesulfonic acid (PFDS)	µg/L	0.002							-	-	-	-	-	<0.01	<0.01	<0.02
Perfluoro-n-hexadecanoic acid (PFHxDA)	µg/L	0.005							-	-	-	-	-	-	-	-
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.002							-	-	-	-	-	<0.01	<0.01	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.002							-	-	-	-	-	<0.05	<0.05	<0.02
N-Methyl perfluorooctane sulfonamidoethanol	µg/L	0.005							-	-	-	-	-	<0.05	<0.05	<0.05
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	µg/L	0.01							-	-	-	-	-	-	-	-
Sum of US EPA PFAS (PFOS + PFOA)*	µg/L	0.01							-	-	-	-	-	-	-	-
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.005							-	-	-	-	-	<0.01	<0.01	<0.05
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.005							-	-	-	-	-	<0.01	<0.01	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	µg/L	0.002							-	-	-	-	-	<0.05	<0.05	<0.02
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.002							-	-	-	-	-	<0.01	<0.01	<0.02
Perfluoropentanoic acid (PFPeA)	µg/L	0.002							-	-	-	-	-	<0.01	<0.01	<0.02
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.002							-	-	-	-	-	<0.01	<0.01	<0.02
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.005							-	-	-	-	-	<0.01	<0.01	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.005							-	-	-	-	-	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol	µg/L	0.005							-	-	-	-	-	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.005							-	-	-	-	-	<0.05	<0.05	<0.05
6:2 Fluorotelomer Sulfonate (6:2 FTS)	µg/L	0.005							-	-	-	-	-	<0.05	<0.05	<0.05
Perfluorooctanoic acid (PFOA)	µg/L	0.002				19			-	-	-	-	-	<0.01	<0.01	<0.01
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.002							-	-	-	-	-	<0.01	<0.01	<0.02
Perfluorobutanoic acid (PFBA)	µg/L	0.01							-	-	-	-	-	<0.05	<0.05	<0.1
Perflurodecanoic acid (PFDA)	µg/L	0.002							-	-	-	-	-	<0.01	<0.01	<0.02
Perfluorododecanoic acid (PFDoDA)	µg/L	0.002							-	-	-	-	-	<0.01	<0.01	<0.02
Perfluoroheptanoic acid (PFHpA)	µg/L	0.002							-	-	-	-	-	<0.01	<0.01	<0.02
Perfluorohexanoic acid (PFHxA)	µg/L	0.002							-	-	-	-	-	<0.01	<0.01	<0.02
Perfluorononanoic acid (PFNA)	µg/L	0.002							-	-	-	-	-	<0.01	<0.01	<0.02
Perfluorooctane sulfonic acid (PFOS)	µg/L	0.002				0.00023			-	-	-	-	-	<0.01	<0.01	<0.01
Perfluorooctane sulfonamide (FOSA)	µg/L	0.002							-	-	-	-	-	<0.05	<0.05	<0.02
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.005							-	-	-	-	-	<0.01	<0.01	<0.05
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.002							-	-	-	-	-	<0.01	<0.01	<0.02
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.002							-	-	-	-	-	<0.01	<0.01	<0.02
PFAS (Sum of Total)	µg/L	0.002							-	-	-	-	-	<0.1	<0.1	<0.01
PFAS (Sum of Total)(WA DER List)	µg/L	0.002							-	-	-	-	-	<0.05	<0.05	<0.01
Sum of PFHxS and PFOS	µg/L	0.002							-	-	-	-	-	<0.01	<0.01	<0.01
TPH																
Oil & Grease	mg/L	10							-	-	-	-	-	-	-	-
Biological																
Sulfate Reducing Bacteria Population Estimate	pac/mL	20							-	120,000	320	1,400	120,000	500,000	500,000	500,000
Sulfate Reducing Bacteria Aggressivity	-	1							-	1	1	1	1	1	1	1
Chlorinated Hydrocarbons																
Chlorinated hydrocarbons EPAVic	µg/L	5							-	-	-	-	-	<5	<5	-
Other chlorinated hydrocarbons (Total)	MG/L								-	-	-	-	-	<0.005	<0.005	-
1,1,1,2-tetrachloroethane	µg/L	1							-	-	-	-	-	<1	<1	<5
1,1,1-trichloroethane	µg/L	1							-	-	-	-	-	<1	<1	<5
1,1,2,2-tetrachloroethane	µg/L	1							-	-	-	-	-	<1	<1	<5
1,1,2-trichloroethane	µg/L	1		6500	5400				-	-	-	-	-	<1	<1	<5
1,1-dichloroethene	µg/L	1						300	-	-	-	-	-	<1	<1	<5
1,1-dichloropropene	µg/L	5							-	-	-	-	-	-	-	<5
1,2,4-trichlorobenzene	µg/L	1		170	85				-	-	-	-	-	<5	<5	<2
1,2-dibromo-3-chloropropane	µg/L	5							-	-	-	-	-	-	-	<5
1,2-dichlorobenzene	µg/L	1		160	120			15000	-	-	-	-	-	<1	<1	<2
1,2-dichloroethane	µg/L	1						30	-	-	-	-	-	<1	<1	<5
1,2-dichloropropane	µg/L	1							-	-	-	-	-	<1	<1	<5
1,3-dichloropropane	µg/L	1							-	-	-	-	-	<1	<1	<5
1,4-dichlorobenzene	µg/L	1		60	40			400	-	-	-	-	-	<1	<1	<2
2,2-dichloropropane	µg/L	5							-	-	-	-	-	-	-	<5
2-chloronaphthalene	µg/L	2							-	-	-	-	-	<5	<5	<2
2-chlorotoluene	µg/L	5							-	-	-	-	-	-	-	<5
4-chlorotoluene	µg/L	1							-	-	-	-	-	<1	<1	<5
Benzal Chloride	µg/L	0.1							-	-	-	-	-	-	-	-
Benzotrichloride	µg/L	0.1							-	-	-	-	-	-	-	-
Bromobenzene	µg/L	1							-	-	-	-	-	<1	<1	<5
Bromochloromethane	µg/L	1							-	-	-	-	-	<1	<1	-
Carbon tetrachloride	µg/L	1							-	-	-	-	-	<1	<1	<5
Chlorobenzene	µg/L	1							-	-	-	-	-	<1	<1	<5
Chloroform	µg/L	5							-	-	-	-	-	<5	<5	<5
Chloromethane	µg/L	1							-	-	-	-	-	<1	<1	<50
cis-1,2-dichloroethene	µg/L	1							-	-	-	-	-	<1	<1	<5
Dichloromethane	µg/L	1						40	-	-	-	-	-	<1	<1	-
Hexachlorobutadiene	µg/L	0.1						7	-	-	-	-	-	<5	<5	<2
Vinyl chloride	µg/L	1						3	-	-	-	-	-	<1	<1	<50

Appendix J
Table 5
Summary of Groundwater Analytical Results

	Unit	EQL	ANZECC 2000 - Stock Watering	ANZECC 2000 FW 95%	ANZECC 2000 FW 99%	PFAS NEMP 2018 Freshwater 99%	ANZECC 2000 Irrigation - Long-term Trigger Values	NHMRC Recreational Guidelines 2008	NEL-BH128	NEL-BH140	NEL-ENV-BH006	NEL-ENV-BH008	NEL-ENV-BH009	NEL-ENV-BH009	NEL-ENV-BH014
Location Code									NEL-BH128	NEL-BH140	NEL-ENV-BH006	NEL-ENV-BH008	NEL-ENV-BH009	NEL-ENV-BH009	NEL-ENV-BH014
Field ID									NEL-BH128/080318	NEL-BH140/180418	NEL-ENV-BH006_27062018	NEL-ENV-BH008_08052018	NEL-ENV-BH009_27062018	NEL-ENV-BH009_19072018	ENV-BH014 / 130718
Date									8/03/2018	18/04/2018	27/06/2018	8/05/2018	27/06/2018	19/07/2018	13/07/2018
Sample Type									Normal	Normal	Normal	Normal	Normal	Normal	Normal
Lab Report Number									588501	594938	EM1810368	EM1807515	EM1810368	EM1811589	607533 / EM1811208
PFAS															
Perfluorodecanesulfonic acid (PFDS)	µg/L	0.002							<0.01	-	<0.002	<0.002	<0.002	<0.002	<0.01
Perfluoro-n-hexadecanoic acid (PFHxDA)	µg/L	0.005							-	-	<0.005	<0.005	<0.005	<0.005	-
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.002							<0.01	-	<0.002	<0.002	0.032	0.018	<0.01
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.002							<0.05	-	<0.002	<0.002	<0.002	<0.002	<0.05
N-Methyl perfluorooctane sulfonamidoethanol	µg/L	0.005							<0.05	-	<0.005	<0.005	<0.005	<0.005	<0.05
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	µg/L	0.01							-	-	-	-	-	-	0.02
Sum of US EPA PFAS (PFOS + PFOA)*	µg/L	0.01							-	-	-	-	-	-	0.02
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.005							<0.01	-	<0.005	<0.005	<0.005	<0.005	<0.01
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.005							<0.01	-	<0.005	<0.005	<0.005	<0.005	<0.01
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	µg/L	0.002							<0.05	-	<0.002	<0.002	<0.002	<0.002	<0.05
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.002							<0.01	-	<0.002	<0.002	0.070	0.074	<0.01
Perfluoropentanoic acid (PFPeA)	µg/L	0.002							<0.01	-	<0.002	<0.002	0.249	0.400	0.02
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.002							<0.01	-	<0.002	<0.002	0.552	0.378	<0.01
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.005							<0.01	-	<0.005	<0.005	<0.005	<0.005	<0.01
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.005							<0.05	-	<0.005	<0.005	<0.005	<0.005	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol	µg/L	0.005							<0.05	-	<0.005	<0.005	<0.005	<0.005	<0.05
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.005							<0.05	-	<0.005	<0.005	<0.005	<0.005	<0.05
6:2 Fluorotelomer Sulfonate (6:2 FTS)	µg/L	0.005							<0.05	-	<0.005	<0.005	0.025	0.016	<0.05
Perfluorooctanoic acid (PFOA)	µg/L	0.002				19			<0.01	-	<0.002	<0.002	0.066	0.080	<0.01
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.002							<0.01	-	<0.002	<0.002	0.059	0.044	<0.01
Perfluorobutanoic acid (PFBA)	µg/L	0.01							<0.05	-	<0.01	<0.01	0.16	0.11	<0.05
Perfluorodecanoic acid (PFDA)	µg/L	0.002							<0.01	-	<0.002	<0.002	<0.002	<0.002	<0.01
Perfluorododecanoic acid (PFDoDA)	µg/L	0.002							<0.01	-	<0.002	<0.002	<0.002	<0.002	<0.01
Perfluoroheptanoic acid (PFHpA)	µg/L	0.002							<0.01	-	<0.002	<0.002	0.113	0.112	<0.01
Perfluorohexanoic acid (PFHxA)	µg/L	0.002							<0.01	-	<0.002	<0.002	0.180	0.440	0.01
Perfluorononanoic acid (PFNA)	µg/L	0.002							<0.01	-	<0.002	<0.002	0.005	0.004	<0.01
Perfluorooctane sulfonic acid (PFOS)	µg/L	0.002				0.00023			<0.01	-	<0.002	<0.002	0.146	0.150	0.02
Perfluorooctane sulfonamide (FOSA)	µg/L	0.002							<0.05	-	<0.002	<0.002	<0.002	<0.002	<0.05
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.005							<0.01	-	<0.005	<0.005	<0.005	<0.005	<0.01
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.002							<0.01	-	<0.002	<0.002	<0.002	<0.002	<0.01
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.002							<0.01	-	<0.002	<0.002	<0.002	<0.002	<0.01
PFAS (Sum of Total)	µg/L	0.002							<0.1	-	<0.002	<0.002	1.66	1.83	<0.1
PFAS (Sum of Total)(WA DER List)	µg/L	0.002							<0.05	-	<0.002	<0.002	1.56	1.76	0.05
Sum of PFHxS and PFOS	µg/L	0.002							<0.01	-	<0.002	<0.002	0.698	0.528	0.02
TPH															
Oil & Grease	mg/L	10							<10	-	-	-	-	-	-
Biological															
Sulfate Reducing Bacteria Population Estimate	pac/mL	20							-	-	120,000	6,000	6,000	-	120,000
Sulfate Reducing Bacteria Aggressivity	-	1							-	-	1	1	1	-	1
Chlorinated Hydrocarbons															
Chlorinated hydrocarbons EPAVic	µg/L	5							-	-	-	-	-	-	<5
Other chlorinated hydrocarbons (Total)	MG/L								-	-	-	-	-	-	<0.005
1,1,1,2-tetrachloroethane	µg/L	1							-	-	<5	<5	<5	-	<1
1,1,1-trichloroethane	µg/L	1							-	-	<5	<5	<5	-	<1
1,1,2,2-tetrachloroethane	µg/L	1							-	-	<5	<5	<5	-	<1
1,1,2-trichloroethane	µg/L	1		6500	5400				-	-	<5	<5	<5	-	<1
1,1-dichloroethene	µg/L	1						300	-	-	<5	<5	<5	-	<1
1,1-dichloropropene	µg/L	5							-	-	<5	<5	<5	-	-
1,2,4-trichlorobenzene	µg/L	1		170	85				<1	-	<2	<2	<2	-	<5
1,2-dibromo-3-chloropropane	µg/L	5							-	-	<5	<5	<5	-	-
1,2-dichlorobenzene	µg/L	1		160	120			15000	<1	-	<2	<2	<2	-	<1
1,2-dichloroethane	µg/L	1						30	-	-	<5	<5	<5	-	<1
1,2-dichloropropane	µg/L	1							-	-	<5	<5	<5	-	<1
1,3-dichloropropane	µg/L	1							-	-	<5	<5	<5	-	<1
1,4-dichlorobenzene	µg/L	1		60	40			400	<1	-	<2	<2	<2	-	<1
2,2-dichloropropane	µg/L	5							-	-	<5	<5	<5	-	-
2-chloronaphthalene	µg/L	2							<5	-	<2	<2	<2	-	<5
2-chlorotoluene	µg/L	5							-	-	<5	<5	<5	-	-
4-chlorotoluene	µg/L	1							-	-	<5	<5	<5	-	<1
Benzal Chloride	µg/L	0.1							<0.1	-	-	-	-	-	-
Benzotrichloride	µg/L	0.1							<0.1	-	-	-	-	-	-
Bromobenzene	µg/L	1							-	-	<5	<5	<5	-	<1
Bromochloromethane	µg/L	1							-	-	-	-	-	-	<1
Carbon tetrachloride	µg/L	1							-	-	<5	<5	<5	-	<1
Chlorobenzene	µg/L	1							-	-	<5	<5	<5	-	<1
Chloroform	µg/L	5							-	-	<5	<5	<5	-	<5
Chloromethane	µg/L	1							-	-	<50	<50	<50	-	<1
cis-1,2-dichloroethene	µg/L	1							-	-	<5	<5	<5	-	<1
Dichloromethane	µg/L	1						40	-	-	-	-	-	-	<1
Hexachlorobutadiene	µg/L	0.1						7	<0.1	-	<2	<2	<2	-	<5
Vinyl chloride	µg/L	1						3	-	-	<50	<50	<50	-	<1

Appendix J
Table 5
Summary of Groundwater Analytical Results

								Location Code	NEL-ENV-BH022	NEL-ENV-BH024	NEL-ENV-BH024	NEL-ENV-BH024	NEL-ENV-BH024	NEL-ENV-BH025	NEL-ENV-BH032	NEL-PB01A
								Field ID	NEL-ENV-BH022	NEL-ENV-BH024_08052018	NEL-ENV-BH024_19072018	QC5000_08052018	QC6000_08052018	NEL-ENV-BH025_09052018	NEL-ENV-BH032_27062018	NEL-PB01A
								Date	27/09/2018	8/05/2018	19/07/2018	8/05/2018	8/05/2018	9/05/2018	27/06/2018	6/07/2018
								Sample Type	Normal	Normal	Normal	Field_D	Field_D	Normal	Normal	Normal
								Lab Report Number	EM1815577	EM1807515	EM1811589	EM1807515	EM1807515	EM1807669	EM1810368	607533
	Unit	EQL	ANZECC 2000 - Stock Watering	ANZECC 2000 FW 95%	ANZECC 2000 FW 99%	PFAS NEMP 2018 Freshwater 99%	ANZECC 2000 Irrigation - Long-term Trigger Values	NHMRC Recreational Guidelines 2008								
PFAS																
Perfluorodecanesulfonic acid (PFDS)	µg/L	0.002							<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	-
Perfluoro-n-hexadecanoic acid (PFHxDA)	µg/L	0.005							<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	-
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.002							<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	-
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.002							<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	-
N-Methyl perfluorooctane sulfonamidoethanol	µg/L	0.005							<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	-
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	µg/L	0.01							-	-	-	-	-	-	-	-
Sum of US EPA PFAS (PFOS + PFOA)*	µg/L	0.01							-	-	-	-	-	-	-	-
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.005							<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	-
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.005							<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	-
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	µg/L	0.002							<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	-
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.002							<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	-
Perfluoropentanoic acid (PFPeA)	µg/L	0.002							<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	-
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.002							<0.002	<0.002	0.004	<0.002	<0.002	<0.002	<0.002	-
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.005							<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	-
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.005							<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	-
N-Ethyl perfluorooctane sulfonamidoethanol	µg/L	0.005							<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	-
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.005							<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	-
6:2 Fluorotelomer Sulfonate (6:2 FTS)	µg/L	0.005							<0.005	<0.005	0.007	<0.005	<0.005	<0.005	<0.005	-
Perfluorooctanoic acid (PFOA)	µg/L	0.002				19			<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	-
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.002							<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	-
Perfluorobutanoic acid (PFBA)	µg/L	0.01							<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-
Perfluorodecanoic acid (PFDA)	µg/L	0.002							<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	-
Perfluorododecanoic acid (PFDoDA)	µg/L	0.002							<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	-
Perfluoroheptanoic acid (PFHpA)	µg/L	0.002							<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	-
Perfluorohexanoic acid (PFHxA)	µg/L	0.002							<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	-
Perfluorononanoic acid (PFNA)	µg/L	0.002							<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	-
Perfluorooctane sulfonic acid (PFOS)	µg/L	0.002				0.00023			<0.002	0.002	0.003	0.002	0.002	<0.002	<0.002	-
Perfluorooctane sulfonamide (FOSA)	µg/L	0.002							<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	-
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.005							<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	-
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.002							<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	-
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.002							<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	-
PFAS (Sum of Total)	µg/L	0.002							<0.002	0.002	0.014	0.002	0.002	<0.002	<0.002	-
PFAS (Sum of Total)(WA DER List)	µg/L	0.002							<0.002	0.002	0.014	0.002	0.002	<0.002	<0.002	-
Sum of PFHxS and PFOS	µg/L	0.002							<0.002	0.002	0.007	0.002	0.002	<0.002	<0.002	-
TPH																
Oil & Grease	mg/L	10							-	-	-	-	-	-	-	-
Biological																
Sulfate Reducing Bacteria Population Estimate	pac/mL	20							27,000	120,000	-	6,000	6,000	500,000	500,000	-
Sulfate Reducing Bacteria Aggressivity	-	1							1	1	-	1	1	1	1	-
Chlorinated Hydrocarbons																
Chlorinated hydrocarbons EPAVic	µg/L	5							-	-	-	-	-	-	-	-
Other chlorinated hydrocarbons (Total)	MG/L								-	-	-	-	-	-	-	-
1,1,1,2-tetrachloroethane	µg/L	1							<100	<5	-	<5	<5	<5	<5	-
1,1,1-trichloroethane	µg/L	1							<100	<5	-	<5	<5	<5	<5	-
1,1,2,2-tetrachloroethane	µg/L	1							<100	<5	-	<5	<5	<5	<5	-
1,1,2-trichloroethane	µg/L	1		6500	5400				<100	<5	-	<5	<5	<5	<5	-
1,1-dichloroethene	µg/L	1						300	<100	<5	-	<5	<5	<5	<5	-
1,1-dichloropropene	µg/L	5							<100	<5	-	<5	<5	<5	<5	-
1,2,4-trichlorobenzene	µg/L	1		170	85				<2	<2	-	<2	<2	<2	<2	-
1,2-dibromo-3-chloropropane	µg/L	5							<100	<5	-	<5	<5	<5	<5	-
1,2-dichlorobenzene	µg/L	1		160	120			15000	<2	<2	-	<2	<2	<2	<2	-
1,2-dichloroethane	µg/L	1						30	<100	<5	-	<5	<5	<5	<5	-
1,2-dichloropropane	µg/L	1							<100	<5	-	<5	<5	<5	<5	-
1,3-dichloropropane	µg/L	1							<100	<5	-	<5	<5	<5	<5	-
1,4-dichlorobenzene	µg/L	1		60	40			400	<2	<2	-	<2	<2	<2	<2	-
2,2-dichloropropane	µg/L	5							<100	<5	-	<5	<5	<5	<5	-
2-chloronaphthalene	µg/L	2							<2	<2	-	<2	<2	<2	<2	-
2-chlorotoluene	µg/L	5							<100	<5	-	<5	<5	<5	<5	-
4-chlorotoluene	µg/L	1							<100	<5	-	<5	<5	<5	<5	-
Benzal Chloride	µg/L	0.1							-	-	-	-	-	-	-	-
Benzotrichloride	µg/L	0.1							-	-	-	-	-	-	-	-
Bromobenzene	µg/L	1							<100	<5	-	<5	<5	<5	<5	-
Bromochloromethane	µg/L	1							-	-	-	-	-	-	-	-
Carbon tetrachloride	µg/L	1							<100	<5	-	<5	<5	<5	<5	-
Chlorobenzene	µg/L	1							<100	<5	-	<5	<5	<5	<5	-
Chloroform	µg/L	5							<100	<5	-	<5	<5	<5	<5	-
Chloromethane	µg/L	1							<1,000	<50	-	<50	<50	<50	<50	-
cis-1,2-dichloroethene	µg/L	1							<100	<5	-	<5	<5	<5	<5	-
Dichloromethane	µg/L	1						40	-	-	-	-	-	-	-	-
Hexachlorobutadiene	µg/L	0.1						7	<2	<2	-	<2	<2	<2	<2	-
Vinyl chloride	µg/L	1						3	<50	<50	-	<50	<50	<50	<50	-

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Table 5
Summary of Groundwater Analytical Results

								Location Code	NEL-BH004	NEL-BH004A	NEL-BH031	NEL-BH031	NEL-BH037	NEL-BH038	NEL-BH039	NEL-BH039	NEL-BH039
								Field ID	NEL-BH004 D/150218	NEL-BH004 S/150218	NEL-BH031/080318	NEL-BH031 / 130218	NEL-BH037 / 160418	NEL-BH038 / 140218	NEL-BH039/180418	QC1/180418	QC2 / 180418
								Date	15/02/2018	15/02/2018	8/03/2018	13/02/2018	16/04/2018	14/02/2018	18/04/2018	18/04/2018	18/04/2018
								Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Field_D	Field_D
								Lab Report Number	585222 / EM1803079	585222 / EM1803079	588501	584938	594417 / EM1806339	584987 / EM1802989	594938 / EM1806473	594938 / EM1806473	EM1806473
	Unit	EQL	ANZECC 2000 - Stock Watering	ANZECC 2000 FW 95%	ANZECC 2000 FW 99%	PFAS NEMP 2018 Freshwater 99%	ANZECC 2000 Irrigation - Long-term Trigger Values	NHMRC Recreational Guidelines 2008									
Dioxins & Furans																	
Dibenzofuran	µg/L	2							-	-	<5	-	-	-	<10	<10	<2
Explosives																	
1,3,5-Trinitrobenzene	µg/L	2							-	-	-	-	-	-	-	-	<2
2,4-Dinitrotoluene	µg/L	4		65	16				-	-	<5	-	-	-	<10	<10	<4
2,6-dinitrotoluene	µg/L	4							-	-	<5	-	-	-	<10	<10	<4
Nitrobenzene	µg/L	2		550	230				-	-	<50	-	-	-	<50	<50	<2
Nitroaromatics																	
2-Picoline	µg/L	2							-	-	<5	-	-	-	<5	<5	<2
4-aminobiphenyl	µg/L	2							-	-	<5	-	-	-	<5	<5	<2
Pentachloronitrobenzene	µg/L	2						300	-	-	<5	-	-	-	<5	<5	<2
Gases																	
Free Carbon Dioxide as CO2	mg/L								-	-	-	-	-	-	-	-	192
Phthalates																	
Bis(2-ethylhexyl) phthalate	µg/L	5						100	-	-	<5	-	-	-	<5	<5	<10
Butyl benzyl phthalate	µg/L	2							-	-	<5	-	-	-	<5	<5	<2
Diethylphthalate	µg/L	2		1000	900				-	-	<5	-	-	-	<10	<10	<2
Dimethyl phthalate	µg/L	2		3700	3000				-	-	<5	-	-	-	<10	<10	<2
Di-n-butyl phthalate	µg/L	2		26	9.9				-	-	<5	-	-	-	<5	<5	<2
Di-n-octyl phthalate	µg/L	2							-	-	<5	-	-	-	<5	<5	<2

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Table 5
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								Location Code	NEL-BH040	NEL-BH040A	NEL-BH044	NEL-BH059	NEL-BH060	NEL-BH062	NEL-BH062	NEL-BH062A	NEL-BH062B	NEL-BH062B
								Field ID	NEL-BH040 / 120218	NEL-BH040 A / 120218	NEL-BH044 / 130218	NEL-BH059 / 130218	NEL-BH060 / 140218	NEL-BH062/080318	NEL-BH062 / 140218	NEL-BH062 A / 160218	NEL-BH062B/080318	NEL-BH062 B / 140218
								Date	12/02/2018	12/02/2018	13/02/2018	13/02/2018	14/02/2018	8/03/2018	14/02/2018	16/02/2018	8/03/2018	14/02/2018
								Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
								Lab Report Number	584938	584938	584938	584938	584987 / EM1802989	588501	584987 / EM1802989	585329 / EM1802989	588501	584987 / EM1802989
	Unit	EQL	ANZECC 2000 - Stock Watering	ANZECC 2000 FW 95%	ANZECC 2000 FW 99%	PFAS NEMP 2018 Freshwater 99%	ANZECC 2000 Irrigation - Long-term Trigger Values	NHMRC Recreational Guidelines 2008										
Dioxins & Furans																		
Dibenzofuran	µg/L	2							-	-	-	-	-	<5	-	<5	<5	-
Explosives																		
1,3,5-Trinitrobenzene	µg/L	2							-	-	-	-	-	-	-	-	-	-
2,4-Dinitrotoluene	µg/L	4		65	16				-	-	-	-	-	<5	-	<5	<5	-
2,6-dinitrotoluene	µg/L	4							-	-	-	-	-	<5	-	<5	<5	-
Nitrobenzene	µg/L	2		550	230				-	-	-	-	-	<50	-	<50	<50	-
Nitroaromatics																		
2-Picoline	µg/L	2							-	-	-	-	-	<5	-	<5	<5	-
4-aminobiphenyl	µg/L	2							-	-	-	-	-	<5	-	<5	<5	-
Pentachloronitrobenzene	µg/L	2						300	-	-	-	-	-	<5	-	<5	<5	-
Gases																		
Free Carbon Dioxide as CO2	mg/L								-	-	-	-	-	-	-	-	-	-
Phthalates																		
Bis(2-ethylhexyl) phthalate	µg/L	5						100	-	-	-	-	-	<5	-	<5	<5	-
Butyl benzyl phthalate	µg/L	2							-	-	-	-	-	<5	-	<5	<5	-
Diethylphthalate	µg/L	2		1000	900				-	-	-	-	-	<5	-	<5	<5	-
Dimethyl phthalate	µg/L	2		3700	3000				-	-	-	-	-	<5	-	<5	<5	-
Di-n-butyl phthalate	µg/L	2		26	9.9				-	-	-	-	-	<5	-	<5	<5	-
Di-n-octyl phthalate	µg/L	2							-	-	-	-	-	<5	-	<5	<5	-

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Table 5
Summary of Groundwater Analytical Results

								Location Code	NEL-BH064	NEL-BH070	NEL-BH071	NEL-BH072	NEL-BH076	NEL-BH076A	NEL-BH078
								Field ID	NEL-BH064 / 140218	NEL-BH070 / 120218	NEL-BH071/170418	NEL-BH072 / 120218	NEL-BH076/170418	NEL-BH076A/170418	NEL-BH078/170418
								Date	14/02/2018	12/02/2018	17/04/2018	12/02/2018	17/04/2018	17/04/2018	17/04/2018
								Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal
								Lab Report Number	584987 / EM1802989	584938	594757 / EM1806408	584938	594757 / EM1806408	594757 / EM1806408	594757 / EM1806408
	Unit	EQL	ANZECC 2000 - Stock Watering	ANZECC 2000 FW 95%	ANZECC 2000 FW 99%	PFAS NEMP 2018 Freshwater 99%	ANZECC 2000 Irrigation - Long-term Trigger Values	NHMRC Recreational Guidelines 2008							
Dioxins & Furans															
Dibenzofuran	µg/L	2							-	-	-	-	-	-	-
Explosives															
1,3,5-Trinitrobenzene	µg/L	2							-	-	-	-	-	-	-
2,4-Dinitrotoluene	µg/L	4		65	16				-	-	-	-	-	-	-
2,6-dinitrotoluene	µg/L	4							-	-	-	-	-	-	-
Nitrobenzene	µg/L	2		550	230				-	-	-	-	-	-	-
Nitroaromatics															
2-Picoline	µg/L	2							-	-	-	-	-	-	-
4-aminobiphenyl	µg/L	2							-	-	-	-	-	-	-
Pentachloronitrobenzene	µg/L	2						300	-	-	-	-	-	-	-
Gases															
Free Carbon Dioxide as CO2	mg/L								-	-	-	-	-	-	-
Phthalates															
Bis(2-ethylhexyl) phthalate	µg/L	5						100	-	-	-	-	-	-	-
Butyl benzyl phthalate	µg/L	2							-	-	-	-	-	-	-
Diethylphthalate	µg/L	2		1000	900				-	-	-	-	-	-	-
Dimethyl phthalate	µg/L	2		3700	3000				-	-	-	-	-	-	-
Di-n-butyl phthalate	µg/L	2		26	9.9				-	-	-	-	-	-	-
Di-n-octyl phthalate	µg/L	2							-	-	-	-	-	-	-

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Table 5
Summary of Groundwater Analytical Results

	Unit	EQL	ANZECC 2000 - Stock Watering	ANZECC 2000 FW 95%	ANZECC 2000 FW 99%	PFAS NEMP 2018 Freshwater 99%	ANZECC 2000 Irrigation - Long-term Trigger Values	NHMRC Recreational Guidelines 2008									
								Location Code	NEL-BH083	NEL-BH086	NEL-BH086	NEL-BH086	NEL-BH087	NEL-BH088	NEL-BH089	NEL-BH091	NEL-BH093
								Field ID	NEL-BH083 / 160418	NEL-BH086 / 120718	QC1 / 120718	QC2/120718	NEL-BH087 / 120718	NEL-BH088 / 120718	NEL-BH089 / 120718	NEL-BH091/160218	NEL-BH093 / 160418
								Date	16/04/2018	12/07/2018	12/07/2018	12/07/2018	12/07/2018	12/07/2018	12/07/2018	16/02/2018	16/04/2018
								Sample Type	Normal	Normal	Field_D	Field_D	Normal	Normal	Normal	Normal	Normal
								Lab Report Number	594417 / EM1806339	607533 / EM1811208	607533	EM1811208	607533 / EM1811208	607533 / EM1811208	607533 / EM1811208	585329 / EM1803154	594417 / EM1806339
Dioxins & Furans																	
Dibenzofuran	µg/L	2							-	<5	<5	<2	<5	<5	<5	<5	-
Explosives																	
1,3,5-Trinitrobenzene	µg/L	2							-	-	-	<2	-	-	-	-	-
2,4-Dinitrotoluene	µg/L	4		65	16				-	<5	<5	<4	<5	<5	<5	<5	-
2,6-dinitrotoluene	µg/L	4							-	<5	<5	<4	<5	<5	<5	<5	-
Nitrobenzene	µg/L	2		550	230				-	<50	<50	<2	<50	<50	<50	<50	-
Nitroaromatics																	
2-Picoline	µg/L	2							-	<5	<5	<2	<5	<5	<5	<5	-
4-aminobiphenyl	µg/L	2							-	<5	<5	<2	<5	<5	<5	<5	-
Pentachloronitrobenzene	µg/L	2						300	-	<5	<5	<2	<5	<5	<5	<20	-
Gases																	
Free Carbon Dioxide as CO2	mg/L								-	-	-	228	-	-	-	-	-
Phthalates																	
Bis(2-ethylhexyl) phthalate	µg/L	5						100	-	<5	<5	<10	<5	<5	<5	<5	-
Butyl benzyl phthalate	µg/L	2							-	<5	<5	<2	<5	<5	<5	<5	-
Diethylphthalate	µg/L	2		1000	900				-	<5	<5	<2	<5	<5	<5	<5	-
Dimethyl phthalate	µg/L	2		3700	3000				-	<5	<5	<2	<5	<5	<5	<5	-
Di-n-butyl phthalate	µg/L	2		26	9.9				-	<5	<5	<2	<5	<5	<5	<5	-
Di-n-octyl phthalate	µg/L	2							-	<5	<5	<2	<5	<5	<5	<5	-

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Summary of Groundwater Analytical Results

	Unit	EQL	ANZECC 2000 - Stock Watering	ANZECC 2000 FW 95%	ANZECC 2000 FW 99%	PFAS NEMP 2018 Freshwater 99%	ANZECC 2000 Irrigation - Long-term Trigger Values	NHMRC Recreational Guidelines 2008								
Location Code									NEL-BH095	NEL-BH097	NEL-BH098	NEL-BH106	NEL-BH107	NEL-BH125	NEL-BH125	NEL-BH125
Field ID									NEL-BH095 / 130218	NEL-BH097/150218	NEL-BH098/150218	NEL-BH106 / 160418	NEL-BH107 / 160418	NEL-BH125/160218	QC1/160218	QC2/160218
Date									13/02/2018	15/02/2018	15/02/2018	16/04/2018	16/04/2018	16/02/2018	16/02/2018	16/02/2018
Sample Type									Normal	Normal	Normal	Normal	Normal	Normal	Field_D	Field_D
Lab Report Number									584938	585222 / EM1803079	585222 / EM1803079	594417 / EM1806339	594417 / EM1806339	585329 / EM1803154	585329 / EM1803154	EM1803154
Dioxins & Furans																
Dibenzofuran	µg/L	2							-	-	-	-	-	<5	<5	<2
Explosives																
1,3,5-Trinitrobenzene	µg/L	2							-	-	-	-	-	-	-	<2
2,4-Dinitrotoluene	µg/L	4		65	16				-	-	-	-	-	<5	<5	<4
2,6-dinitrotoluene	µg/L	4							-	-	-	-	-	<5	<5	<4
Nitrobenzene	µg/L	2		550	230				-	-	-	-	-	<50	<50	<2
Nitroaromatics																
2-Picoline	µg/L	2							-	-	-	-	-	<5	<5	<2
4-aminobiphenyl	µg/L	2							-	-	-	-	-	<5	<5	<2
Pentachloronitrobenzene	µg/L	2						300	-	-	-	-	-	<5	<5	<2
Gases																
Free Carbon Dioxide as CO2	mg/L								-	-	-	-	-	-	-	-
Phthalates																
Bis(2-ethylhexyl) phthalate	µg/L	5						100	-	-	-	-	-	<5	<5	<10
Butyl benzyl phthalate	µg/L	2							-	-	-	-	-	<5	<5	<2
Diethylphthalate	µg/L	2		1000	900				-	-	-	-	-	<5	<5	<2
Dimethyl phthalate	µg/L	2		3700	3000				-	-	-	-	-	<5	<5	<2
Di-n-butyl phthalate	µg/L	2		26	9.9				-	-	-	-	-	<5	<5	3
Di-n-octyl phthalate	µg/L	2							-	-	-	-	-	<5	<5	<2

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Table 5
Summary of Groundwater Analytical Results

								Location Code	NEL-BH128	NEL-BH140	NEL-ENV-BH006	NEL-ENV-BH008	NEL-ENV-BH009	NEL-ENV-BH009	NEL-ENV-BH014
								Field ID	NEL-BH128/080318	NEL-BH140/180418	NEL-ENV-BH006_27062018	NEL-ENV-BH008_08052018	NEL-ENV-BH009_27062018	NEL-ENV-BH009_19072018	ENV-BH014 / 130718
								Date	8/03/2018	18/04/2018	27/06/2018	8/05/2018	27/06/2018	19/07/2018	13/07/2018
								Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal
								Lab Report Number	588501	594938	EM1810368	EM1807515	EM1810368	EM1811589	607533 / EM1811208
	Unit	EQL	ANZECC 2000 - Stock Watering	ANZECC 2000 FW 95%	ANZECC 2000 FW 99%	PFAS NEMP 2018 Freshwater 99%	ANZECC 2000 Irrigation - Long-term Trigger Values	NHMRC Recreational Guidelines 2008							
Dioxins & Furans															
Dibenzofuran	µg/L	2							<5	-	<2	<2	<2	-	<5
Explosives															
1,3,5-Trinitrobenzene	µg/L	2							-	-	<2	<2	<2	-	-
2,4-Dinitrotoluene	µg/L	4		65	16				<5	-	<4	<4	<4	-	<5
2,6-dinitrotoluene	µg/L	4							<5	-	<4	<4	<4	-	<5
Nitrobenzene	µg/L	2		550	230				<50	-	<2	<2	<2	-	<50
Nitroaromatics															
2-Picoline	µg/L	2							<5	-	<2	<2	<2	-	<5
4-aminobiphenyl	µg/L	2							<5	-	<2	<2	<2	-	<5
Pentachloronitrobenzene	µg/L	2						300	<5	-	<2	<2	<2	-	<5
Gases															
Free Carbon Dioxide as CO2	mg/L								-	-	-	-	-	-	-
Phthalates															
Bis(2-ethylhexyl) phthalate	µg/L	5						100	<5	-	<10	<10	<10	-	<5
Butyl benzyl phthalate	µg/L	2							<5	-	<2	<2	<2	-	<5
Diethylphthalate	µg/L	2		1000	900				<5	-	<2	<2	<2	-	<5
Dimethyl phthalate	µg/L	2		3700	3000				<5	-	<2	<2	<2	-	<5
Di-n-butyl phthalate	µg/L	2		26	9.9				<5	-	<2	<2	<2	-	<5
Di-n-octyl phthalate	µg/L	2							<5	-	<2	<2	<2	-	<5

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Table 5
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	Unit	EQL	ANZECC 2000 - Stock Watering	ANZECC 2000 FW 95%	ANZECC 2000 FW 99%	PFAS NEMP 2018 Freshwater 99%	ANZECC 2000 Irrigation - Long-term Trigger Values	NHMRC Recreational Guidelines 2008								
								Location Code	NEL-ENV-BH022	NEL-ENV-BH024	NEL-ENV-BH024	NEL-ENV-BH024	NEL-ENV-BH024	NEL-ENV-BH025	NEL-ENV-BH032	NEL-PB01A
								Field ID	NEL-ENV-BH022	NEL-ENV-BH024_08052018	NEL-ENV-BH024_19072018	QC5000_08052018	QC6000_08052018	NEL-ENV-BH025_09052018	NEL-ENV-BH032_27062018	NEL-PB01A
								Date	27/09/2018	8/05/2018	19/07/2018	8/05/2018	8/05/2018	9/05/2018	27/06/2018	6/07/2018
								Sample Type	Normal	Normal	Normal	Field_D	Field_D	Normal	Normal	Normal
								Lab Report Number	EM1815577	EM1807515	EM1811589	EM1807515	EM1807515	EM1807669	EM1810368	607533
Dioxins & Furans																
Dibenzofuran	µg/L	2							<2	<2	-	<2	<2	<2	<2	-
Explosives																
1,3,5-Trinitrobenzene	µg/L	2							<2	<2	-	<2	<2	<2	<2	-
2,4-Dinitrotoluene	µg/L	4		65	16				<4	<4	-	<4	<4	<4	<4	-
2,6-dinitrotoluene	µg/L	4							<4	<4	-	<4	<4	<4	<4	-
Nitrobenzene	µg/L	2		550	230				<2	<2	-	<2	<2	<2	<2	-
Nitroaromatics																
2-Picoline	µg/L	2							<2	<2	-	<2	<2	<2	<2	-
4-aminobiphenyl	µg/L	2							<2	<2	-	<2	<2	<2	<2	-
Pentachloronitrobenzene	µg/L	2						300	<2	<2	-	<2	<2	<2	<2	-
Gases																
Free Carbon Dioxide as CO2	mg/L								-	-	-	-	-	-	-	-
Phthalates																
Bis(2-ethylhexyl) phthalate	µg/L	5						100	<10	<10	-	<10	<10	<10	<10	-
Butyl benzyl phthalate	µg/L	2							<2	<2	-	<2	<2	<2	<2	-
Diethylphthalate	µg/L	2		1000	900				<2	<2	-	<2	<2	<2	<2	-
Dimethyl phthalate	µg/L	2		3700	3000				<2	<2	-	<2	<2	<2	<2	-
Di-n-butyl phthalate	µg/L	2		26	9.9				<2	<2	-	<2	<2	<2	<2	-
Di-n-octyl phthalate	µg/L	2							<2	<2	-	<2	<2	<2	<2	-

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Appendix J Table 6
Summary of Soil Analytical Results for Acid Sulphate Parameters

			Location Code	NEL-BH004	NEL-BH004	NEL-BH004	NEL-BH004	NEL-BH004	NEL-BH004	NEL-BH005	NEL-BH008	NEL-BH030	NEL-BH030	NEL-BH030	NEL-BH030
			Field ID	NEL-BH004_2.0-2.45m	NEL-BH004_9.05m	NEL-BH004_15.0-15.45m	NEL-BH004_19.5-19.95m	NEL-BH004_19.5-19.95m	NEL-BH004_23.9-24.0m	NEL-BH005_4.11-4.56m	NEL-BH008_10.0-10.1m	NEL-BH030 (17.02m)	NEL-BH030 (18.68m)	NEL-BH030 (26.71m)	NEL-BH030 (43.25m)
			Date	6/04/2018	6/04/2018	6/04/2018	6/04/2018	23/04/2018	23/04/2018	6/04/2018	6/04/2018	2/09/2017	2/09/2017	2/09/2017	9/09/2017
			Depth	2 - 2.45	9.05 - 9.15	15 - 15.45	19.5 - 19.95	19.5 - 19.95	23.9 - 24	4.11 - 4.56	10 - 10.1	17.02 - 17.12	18.68 - 18.78	26.71 - 26.81	43.25 - 43.35
			Matrix Type	Rock	Soil	Rock	Rock	Rock	Rock	Soil	Rock	Rock	Rock	Rock	Rock
			Lab Report Number	EM1805796	EM1805796	EM1805796	EM1805796	EM1806836	EM1806836	EM1805796	EM1805796	EM1712819	EM1712819	EM1712819	EM1712819
	Unit	**EQL**	**EPA Vic 655.1**												
ASS - ANC															
ANC as CaCO3	% CaCO3	0.1		-	-	-	-	0.4	-	-	0.7	-	-	-	-
ANC as H2SO4	kg H2SO4 eq/t	0.5		-	-	-	-	3.6	-	-	6.5	-	-	-	-
Fizz Rating	Fizz Unit	0		-	-	-	-	0	-	-	0	-	-	-	-
Acid Neutralising Capacity	% CaCO3	0.01		-	-	-	-	-	-	-	-	-	-	-	-
Acid Neutralising Capacity (acidity units)	mole H+/t	10		-	-	-	-	-	-	-	-	-	-	-	-
Acid Neutralising Capacity (sulfur units)	%S	0.01		-	-	-	-	-	-	-	-	-	-	-	-
NA															
Resistivity at 25°C	ohm cm	10		-	560	-	-	820	480	-	1,100	-	-	-	-
sulfidic - Titratable Sulfidic Acidity	% PYRITE S	0.02		-	<0.020	-	<0.020	-	-	<0.020	-	<0.020	0.094	0.076	<0.020
NAG (pH 4.5)	kg H2SO4/t	0.1		-	-	-	-	<0.1	-	-	<0.1	<0.1	0.3	<0.1	<0.1
NAG (pH 7.0)	kg H2SO4/t	0.1		-	-	-	-	<0.1	-	-	5.1	<0.1	2.0	1.1	<0.1
Net Acid Production Potential	kg H2SO4/t	0.5	< 4.5-	-	-	-	-	-3.0	-	-	-6.5	-6.2	-2.8	-4.1	-8.6
Inorganics															
Moisture (%)	%	1		-	20.6	-	-	18.3	18.2	-	<1.0	-	-	-	-
pH (Initial)	pH Units	0.1		-	-	-	-	-	-	-	-	-	-	-	-
pH (Final)	pH Units	0.1		-	-	-	-	-	-	-	-	3.3	3.4	3.5	3.7
pH (aqueous extract)	pH Units	0.1		-	-	-	-	-	-	-	-	2.9	2.9	2.9	2.9
pH (after HCL)	pH Units	0.1		-	-	-	-	-	-	-	-	-	-	-	-
Sulfur as S	%			-	-	-	-	0.02	-	-	<0.01	-	-	-	-
pH (Saturated Paste)															
pH (Saturated Paste)	pH Unit	0.1		-	7.0	-	-	6.7	6.6	-	7.3	-	-	-	-
ASS - pH															
pHKCl	pH Units	0.1		6.8	6.7	6.4	6.5	7.0	-	6.6	6.3	6.5	6.4	6.2	7.9
pH-OX	PH UNITS	0.1	0	-	6.8	-	6.4	7.2	-	7.3	6.3	7.2	4.1	4.6	7.5
ASS - Acidity Trail															
Titratable Actual Acidity	mole H+/t	2		<2	<2	<2	<2	<2	-	<2	<2	<2	<2	<2	<2
Titratable Actual Acidity (sulfur units)	%S	0.02		<0.02	<0.020	<0.02	<0.020	<0.02	-	<0.020	<0.02	<0.020	<0.020	<0.020	<0.020
Titratable Peroxide Acidity	mole H+/t	2		-	<2	-	2	-	-	<2	-	<2	58	48	<2
Titratable Peroxide Acidity (sulfur units)	%S	0.02		-	<0.020	-	<0.020	-	-	<0.020	-	<0.020	0.094	0.076	<0.020
Titratable Sulfidic Acidity	mole H+/t	2		-	<2	-	2	-	-	<2	-	<2	58	48	<2
ASS - Sulfur Trail															
KCl Extractable Sulfur	%S	0.02		-	<0.020	-	<0.020	-	-	<0.020	-	<0.020	<0.020	<0.020	<0.020
Peroxide Sulfur	%S	0.02		-	0.065	-	<0.020	-	-	<0.020	-	<0.020	0.132	0.110	0.021
Peroxide Oxidisable Sulfur (acidity units)	mole H+/t	10		-	41	-	<10	-	-	<10	-	<10	82	69	13
Peroxide Oxidisable Sulfur	%S	0.02		-	0.065	-	<0.020	-	-	<0.020	-	<0.020	0.132	0.110	0.021
ASS - Calcium Values															
KCl Extractable Calcium	%Ca	0.02		-	0.052	-	<0.020	-	-	0.041	-	0.028	0.026	0.027	0.054
Calcium in Peroxide	%Ca	0.02		-	0.057	-	<0.020	-	-	0.041	-	0.029	0.026	0.027	0.063
Acid Reacted Calcium	%Ca	0.02		-	<0.020	-	<0.020	-	-	<0.020	-	<0.020	<0.020	<0.020	<0.020
Acid Reacted Calcium (acidity units)	mole H+/t	10		-	<10	-	<10	-	-	<10	-	<10	<10	<10	<10
Acid Reacted Calcium (sulfur units)	%S	0.02		-	<0.020	-	<0.020	-	-	<0.020	-	<0.020	<0.020	<0.020	<0.020

Appendix J Table 6
Summary of Soil Analytical Results for Acid Sulphate Parameters

Location Code				NEL-BH031	NEL-BH031	NEL-BH033	NEL-BH033	NEL-BH033	NEL-BH033	NEL-BH033	NEL-BH034	NEL-BH034	NEL-BH034	NEL-BH034	NEL-BH034
Field ID				NEL-BH031_10.04-10.11m	NEL-BH031_20.03-20.13m	NEL-BH033 (12.4m)	NEL-BH033 (21.4m)	NEL-BH033 (24.68m)	NEL-BH033 (26.33m)	NEL-BH033 (29.74m)	NEL-BH034 (7.9m)	NEL-BH034 (9.28m)	NEL-BH034 (12.05m)	NEL-BH034 (15.95m)	NEL-BH034 (22.9m)
Date				6/04/2018	6/04/2018	11/07/2017	11/07/2017	11/07/2017	11/07/2017	11/07/2017	11/07/2017	11/07/2017	11/07/2017	11/07/2017	12/07/2017
Depth				10.04 - 10.11	20.03 - 20.13	12.4 - 12.5	21.4 - 21.5	24.68 - 24.78	26.33 - 26.43	29.74 - 29.84	7.9 - 8	9.28 - 9.38	12.05 - 12.15	15.95 - 16.05	22.9 - 23
Matrix Type				Rock	Rock	Rock	Rock	Rock	Rock	Rock	Rock	Rock	Rock	Rock	Rock
Lab Report Number				EM1805796	EM1805796	EM1712011	EM1712011	EM1712011	EM1712011	EM1712011	EM1712011	EM1712011	EM1712011	EM1712011	EM1712011
	Unit	EQL	EPA Vic 655.1												
ASS - ANC															
ANC as CaCO3	% CaCO3	0.1		0.5	1.5	-	-	-	-	-	-	-	-	-	-
ANC as H2SO4	kg H2SO4 eq/t	0.5		5.3	14.7	-	-	-	-	-	-	-	-	-	-
Fizz Rating	Fizz Unit	0		0	1	-	-	-	-	-	-	-	-	-	-
Acid Neutralising Capacity	% CaCO3	0.01		-	-	-	-	-	-	-	-	-	-	-	-
Acid Neutralising Capacity (acidity units)	mole H+/t	10		-	-	-	-	-	-	-	-	-	-	-	-
Acid Neutralising Capacity (sulfur units)	%S	0.01		-	-	-	-	-	-	-	-	-	-	-	-
NA															
Resistivity at 25°C	ohm cm	10		1,220	1,630	-	-	-	-	-	-	-	-	-	-
sulfidic - Titratable Sulfidic Acidity	% PYRITE S	0.02		-	-	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.054	<0.020	<0.020
NAG (pH 4.5)	kg H2SO4/t	0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
NAG (pH 7.0)	kg H2SO4/t	0.1		<0.1	0.4	<0.1	0.6	<0.1	<0.1	<0.1	0.2	<0.1	0.9	0.4	<0.1
Net Acid Production Potential	kg H2SO4/t	0.5	< 4.5-	-5.3	-7.4	-1.8	-2.0	-5.7	-5.2	-5.7	-5.8	-6.4	-2.6	-5.2	-8.8
Inorganics															
Moisture (%)	%	1		<1.0	<1.0	-	-	-	-	-	-	-	-	-	-
pH (Initial)	pH Units	0.1		-	-	6.7	6.5	6.9	6.8	6.7	6.5	6.3	5.9	6.2	6.3
pH (Final)	pH Units	0.1		-	-	5.4	5.4	5.4	5.2	5.6	5.3	5.5	5.1	5.1	5.2
pH (aqueous extract)	pH Units	0.1		-	-	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
pH (after HCL)	pH Units	0.1		-	-	1.7	1.7	1.7	1.7	1.8	1.8	1.8	1.7	1.7	1.7
Sulfur as S	%			<0.01	0.24	-	-	-	-	-	-	-	-	-	-
pH (Saturated Paste)															
pH (Saturated Paste)	pH Unit	0.1		7.6	8.3	-	-	-	-	-	-	-	-	-	-
ASS - pH															
pHKCl	pH Units	0.1		6.4	8.6	6.8	6.1	6.3	6.1	6.0	5.8	6.2	6.4	8.1	8.8
pH-OX	PH UNITS	0.1	0	7.3	6.8	7.2	6.6	7.1	7.2	7.0	7.0	8.5	4.8	6.8	7.6
ASS - Acidity Trail															
Titratable Actual Acidity	mole H+/t	2		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Titratable Actual Acidity (sulfur units)	%S	0.02		<0.02	<0.02	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Titratable Peroxide Acidity	mole H+/t	2		-	-	<2	9	<2	<2	8	<2	<2	34	9	<2
Titratable Peroxide Acidity (sulfur units)	%S	0.02		-	-	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.054	<0.020	<0.020
Titratable Sulfidic Acidity	mole H+/t	2		-	-	<2	9	<2	<2	8	<2	<2	34	9	<2
ASS - Sulfur Trail															
KCl Extractable Sulfur	%S	0.02		-	-	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Peroxide Sulfur	%S	0.02		-	-	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.083	0.069	0.268
Peroxide Oxidisable Sulfur (acidity units)	mole H+/t	10		-	-	<10	<10	<10	<10	<10	<10	<10	52	43	167
Peroxide Oxidisable Sulfur	%S	0.02		-	-	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.083	0.069	0.268
ASS - Calcium Values															
KCl Extractable Calcium	%Ca	0.02		-	-	<0.020	<0.020	<0.020	<0.020	<0.020	0.030	0.022	<0.020	0.021	0.043
Calcium in Peroxide	%Ca	0.02		-	-	<0.020	<0.020	<0.020	<0.020	<0.020	0.033	0.024	<0.020	0.037	0.268
Acid Reacted Calcium	%Ca	0.02		-	-	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.224
Acid Reacted Calcium (acidity units)	mole H+/t	10		-	-	<10	<10	<10	<10	<10	<10	<10	<10	<10	112
Acid Reacted Calcium (sulfur units)	%S	0.02		-	-	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.180

Appendix J Table 6
Summary of Soil Analytical Results for Acid Sulphate Parameters

	Unit	EQL															
			Location Code	NEL-BH037	NEL-BH037	NEL-BH037	NEL-BH037	NEL-BH039	NEL-BH039	NEL-BH039	NEL-BH039	NEL-BH039	NEL-BH042	NEL-BH042	NEL-BH042	NEL-BH042	NEL-BH042
			Field ID	NEL-BH037_0.45-0.5m	NEL-BH037_5m	NEL-BH037_14.98-15.10m	NEL-BH037_25.0-25.08m	NEL-BH039_2.40m	NEL-BH039_5.9m	NEL-BH039_9.80m	NEL-BH039_14.5-14.91m	NEL-BH039_19.0-19.45m	NEL-BH042 (15.5m)	NEL-BH042 (31.46m)	NEL-BH042 (45.75m)	NEL-BH042_14.97-15.08m	NEL-BH042_25.15-25.25m
			Date	23/04/2018	6/04/2018	6/04/2018	6/04/2018	6/04/2018	6/04/2018	6/04/2018	23/04/2018	23/04/2018	16/09/2017	16/09/2017	16/09/2017	6/04/2018	6/04/2018
			Depth	0.45 - 0.5	5 - 5.1	14.98 - 15.1	25 - 25.08	2.4 - 2.5	5.9 - 6	9.8 - 9.9	14.5 - 14.91	19 - 19.45	15.5 - 15.6	31.46 - 31.56	45.75 - 45.85	14.97 - 15.08	25.15 - 25.25
			Matrix Type	Rock	Rock	Rock	Rock	Rock	Soil	Soil	Rock	Rock	Rock	Rock	Rock	Rock	Rock
			Lab Report Number	EM1806836	EM1805796	EM1805796	EM1805796	EM1805796	EM1805796	EM1805796	EM1806836	EM1806836	EM1712819	EM1712819	EM1712819	EM1805796	EM1805796
			EPA Vic 655.1														
ASS - ANC																	
ANC as CaCO3	% CaCO3	0.1		-	-	0.3	0.4	-	-	-	-	-	-	-	-	0.8	-
ANC as H2SO4	kg H2SO4 eq/t	0.5		-	-	2.6	4.4	-	-	-	-	-	-	-	-	7.7	-
Fizz Rating	Fizz Unit	0		-	-	0	0	-	-	-	-	-	-	-	-	0	-
Acid Neutralising Capacity	% CaCO3	0.01		-	-	-	-	-	-	-	-	-	-	-	-	-	-
Acid Neutralising Capacity (acidity units)	mole H+/t	10		-	-	-	-	-	-	-	-	-	-	-	-	-	-
Acid Neutralising Capacity (sulfur units)	%S	0.01		-	-	-	-	-	-	-	-	-	-	-	-	-	-
NA																	
Resistivity at 25°C	ohm cm	10		-	1,340	2,100	790	-	1,040	1,110	1,000	680	-	-	-	3,160	830
sulfidic - Titratable Sulfidic Acidity	% PYRITE S	0.02		-	-	-	-	-	<0.020	-	-	-	<0.020	0.108	0.227	-	-
NAG (pH 4.5)	kg H2SO4/t	0.1		-	-	<0.1	3.7	-	-	-	-	-	<0.1	0.4	3.2	<0.1	-
NAG (pH 7.0)	kg H2SO4/t	0.1		-	-	<0.1	6.6	-	-	-	-	-	<0.1	2.1	6.0	<0.1	-
Net Acid Production Potential	kg H2SO4/t	0.5	< 4.5-	-	-	-2.6	3.9	-	-	-	-	-	-7.2	-3.1	2.5	-7.1	-
Inorganics																	
Moisture (%)	%	1		-	9.4	<1.0	<1.0	-	15.5	21.1	37.4	27.9	-	-	-	-	-
pH (Initial)	pH Units	0.1		-	-	-	-	-	-	-	-	-	-	-	-	-	-
pH (Final)	pH Units	0.1		-	-	-	-	-	-	-	-	-	4.6	4.1	4.2	-	-
pH (aqueous extract)	pH Units	0.1		-	-	-	-	-	-	-	-	-	2.9	2.9	2.9	-	-
pH (after HCL)	pH Units	0.1		-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sulfur as S	%			-	-	<0.01	0.27	-	-	-	-	-	-	-	-	0.02	-
pH (Saturated Paste)																	
pH (Saturated Paste)	pH Unit	0.1		-	7.5	6.9	6.3	-	7.0	6.2	6.6	4.5	-	-	-	7.6	6.9
ASS - pH																	
pHKCl	pH Units	0.1		7.0	-	6.4	6.0	7.1	6.6	5.9	-	-	6.3	6.5	6.5	-	-
pH-OX	PH UNITS	0.1	0	-	-	7.1	3.3	-	7.0	-	-	-	7.1	4.1	3.3	7.2	-
ASS - Acidity Trail																	
Titratable Actual Acidity	mole H+/t	2		<2	-	<2	<2	<2	<2	5	-	-	<2	<2	<2	-	-
Titratable Actual Acidity (sulfur units)	%S	0.02		<0.02	-	<0.02	<0.02	<0.02	<0.020	<0.02	-	-	<0.020	<0.020	<0.020	-	-
Titratable Peroxide Acidity	mole H+/t	2		-	-	-	-	-	<2	-	-	-	<2	67	142	-	-
Titratable Peroxide Acidity (sulfur units)	%S	0.02		-	-	-	-	-	<0.020	-	-	-	<0.020	0.108	0.227	-	-
Titratable Sulfidic Acidity	mole H+/t	2		-	-	-	-	-	<2	-	-	-	<2	67	142	-	-
ASS - Sulfur Trail																	
KCl Extractable Sulfur	%S	0.02		-	-	-	-	-	<0.020	-	-	-	<0.020	<0.020	<0.020	-	-
Peroxide Sulfur	%S	0.02		-	-	-	-	-	<0.020	-	-	-	<0.020	0.139	0.269	-	-
Peroxide Oxidisable Sulfur (acidity units)	mole H+/t	10		-	-	-	-	-	<10	-	-	-	<10	86	168	-	-
Peroxide Oxidisable Sulfur	%S	0.02		-	-	-	-	-	<0.020	-	-	-	<0.020	0.139	0.269	-	-
ASS - Calcium Values																	
KCl Extractable Calcium	%Ca	0.02		-	-	-	-	-	0.120	-	-	-	0.036	0.020	<0.020	-	-
Calcium in Peroxide	%Ca	0.02		-	-	-	-	-	0.120	-	-	-	0.039	0.025	0.024	-	-
Acid Reacted Calcium	%Ca	0.02		-	-	-	-	-	<0.020	-	-	-	<0.020	<0.020	0.024	-	-
Acid Reacted Calcium (acidity units)	mole H+/t	10		-	-	-	-	-	<10	-	-	-	<10	<10	12	-	-
Acid Reacted Calcium (sulfur units)	%S	0.02		-	-	-	-	-	<0.020	-	-	-	<0.020	<0.020	<0.020	-	-

Appendix J Table 6
Summary of Soil Analytical Results for Acid Sulphate Parameters

Location Code				NEL-BH043	NEL-BH043	NEL-BH043	NEL-BH043	NEL-BH043	NEL-BH057	NEL-BH057	NEL-BH057	NEL-BH057	NEL-BH057	NEL-BH058	NEL-BH058	NEL-BH058	NEL-BH059	NEL-BH059	NEL-BH059
Field ID				NEL-BH043 (5.95m)	NEL-BH043 (11.00m)	NEL-BH043 (11.57m)	NEL-BH043 (18.4m)	NEL-BH043 (34.6m)	NEL-BH057 (5.64m)	NEL-BH057 (15.43m)	NEL-BH057 (21.0m)	NEL-BH057 (40.85m)	NEL-BH057 (48.0m)	NEL-BH058 (18.22m)	NEL-BH058 (19.07m)	NEL-BH058 (22.85m)	NEL-BH059_5.5m	NEL-BH059_10.04-10.18m	NEL-BH059_20.0-20.21m
Date				12/07/2017	12/07/2017	12/07/2017	12/07/2017	11/07/2017	2/09/2017	2/09/2017	2/09/2017	2/09/2017	2/09/2017	24/07/2017	24/07/2017	24/07/2017	6/04/2018	6/04/2018	6/04/2018
Depth				5.95 - 6.05	11 - 11.1	11.57 - 11.67	18.4 - 18.5	34.6 - 34.7	5.64 - 5.74	15.43 - 15.53	21 - 21.1	40.85 - 40.95	48 - 48.1	18.22 - 18.32	19.07 - 19.17	22.85 - 22.95	5.5 - 5.6	10.04 - 10.18	20 - 20.21
Matrix Type				Rock	Rock	Rock	Rock	Rock	Rock	Rock	Rock	Rock	Rock	Rock	Rock	Rock	Rock	Rock	Rock
Lab Report Number				EM1712011	EM1712011	EM1712011	EM1712011	EM1712011	EM1712819	EM1712819	EM1712819	EM1712819	EM1712819	EM1712011	EM1712011	EM1712011	EM1805796	EM1805796	EM1805796
	Unit	EQL	EPA Vic 655.1																
ASS - ANC																			
ANC as CaCO3	% CaCO3	0.1		-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.8	0.8
ANC as H2SO4	kg H2SO4 eq/t	0.5		-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.6	7.7
Fizz Rating	Fizz Unit	0		-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0
Acid Neutralising Capacity	% CaCO3	0.01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Acid Neutralising Capacity (acidity units)	mole H+/t	10		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Acid Neutralising Capacity (sulfur units)	%S	0.01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NA																			
Resistivity at 25°C	ohm cm	10		-	-	-	-	-	-	-	-	-	-	-	-	-	540	1,320	1,150
sulfidic - Titratable Sulfidic Acidity	% PYRITE S	0.02		<0.020	<0.020	0.086	0.140	0.148	<0.020	<0.020	0.131	<0.020	0.058	<0.020	0.056	0.120	<0.020	-	-
NAG (pH 4.5)	kg H2SO4/t	0.1		<0.1	<0.1	0.5	2.1	1.9	<0.1	<0.1	1.5	<0.1	<0.1	<0.1	<0.1	1.5	-	<0.1	<0.1
NAG (pH 7.0)	kg H2SO4/t	0.1		<0.1	<0.1	2.0	3.6	3.6	0.4	<0.1	3.2	<0.1	0.2	0.7	0.9	3.7	-	<0.1	0.9
Net Acid Production Potential	kg H2SO4/t	0.5	< 4.5-	-6.2	-6.2	-0.9	<0.5	<0.5	-3.7	-4.1	1.4	-10.4	<0.5	-4.6	-6.0	-1.5	-	-7.6	-5.6
Inorganics																			
Moisture (%)	%	1		-	-	-	-	-	-	-	-	-	-	-	-	-	19.1	1.1	<1.0
pH (Initial)	pH Units	0.1		6.7	6.7	5.7	5.9	5.8	-	-	-	-	-	6.1	6.0	5.8	-	-	-
pH (Final)	pH Units	0.1		5.6	5.4	5.6	5.4	5.6	4.4	4.2	3.3	3.8	4.4	5.3	5.1	5.4	-	-	-
pH (aqueous extract)	pH Units	0.1		5.0	5.0	5.0	5.0	5.0	2.9	2.9	2.9	2.9	2.9	5.0	5.0	5.0	-	-	-
pH (after HCL)	pH Units	0.1		1.8	1.8	1.8	1.8	1.7	-	-	-	-	-	1.7	1.7	1.7	-	-	-
Sulfur as S	%			-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	0.07
pH (Saturated Paste)																			
pH (Saturated Paste)	pH Unit	0.1		-	-	-	-	-	-	-	-	-	-	-	-	-	7.4	7.8	7.7
ASS - pH																			
pHKCl	pH Units	0.1		6.1	6.3	6.1	6.4	6.2	6.3	6.4	6.2	6.3	6.5	5.7	6.7	6.4	6.8	7.0	6.6
pH-OX	PH UNITS	0.1	0	7.4	8.2	4.2	3.4	4.0	6.9	7.1	3.6	7.8	6.2	6.5	5.1	3.7	7.1	7.6	6.7
ASS - Acidity Trail																			
Titratable Actual Acidity	mole H+/t	2		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	2	<2	<2	<2	<2	<2
Titratable Actual Acidity (sulfur units)	%S	0.02		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.02	<0.02
Titratable Peroxide Acidity	mole H+/t	2		<2	<2	54	87	92	6	<2	82	4	36	7	35	75	<2	-	-
Titratable Peroxide Acidity (sulfur units)	%S	0.02		<0.020	<0.020	0.086	0.140	0.148	<0.020	<0.020	0.131	<0.020	0.058	<0.020	0.056	0.120	<0.020	-	-
Titratable Sulfidic Acidity	mole H+/t	2		<2	<2	54	87	92	6	<2	82	4	36	5	35	75	<2	-	-
ASS - Sulfur Trail																			
KCl Extractable Sulfur	%S	0.02		<0.020	<0.020	<0.020	<0.020	0.022	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	-	-
Peroxide Sulfur	%S	0.02		<0.020	<0.020	0.147	0.186	0.276	<0.020	<0.020	0.160	0.061	0.094	<0.020	0.083	0.168	<0.020	-	-
Peroxide Oxidisable Sulfur (acidity units)	mole H+/t	10		<10	<10	92	116	158	<10	<10	100	38	59	<10	52	105	<10	-	-
Peroxide Oxidisable Sulfur	%S	0.02		<0.020	<0.020	0.147	0.186	0.253	<0.020	<0.020	0.160	0.061	0.094	<0.020	0.083	0.168	<0.020	-	-
ASS - Calcium Values																			
KCl Extractable Calcium	%Ca	0.02		0.025	0.026	<0.020	<0.020	<0.020	0.042	<0.020	<0.020	<0.020	<0.020	0.026	0.022	<0.020	0.049	-	-
Calcium in Peroxide	%Ca	0.02		0.042	0.038	<0.020	<0.020	0.030	0.042	0.021	<0.020	<0.020	<0.020	0.029	0.025	<0.020	0.050	-	-
Acid Reacted Calcium	%Ca	0.02		<0.020	<0.020	<0.020	<0.020	0.030	<0.020	0.021	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	-	-
Acid Reacted Calcium (acidity units)	mole H+/t	10		<10	<10	<10	<10	15	<10	10	<10	<10	<10	<10	<10	<10	<10	-	-
Acid Reacted Calcium (sulfur units)	%S	0.02		<0.020	<0.020	<0.020	<0.020	0.024	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	-	-

Appendix J Table 6
Summary of Soil Analytical Results for Acid Sulphate Parameters

	Unit	EQL	EPA Vic 655.1														
Location Code				NEL-BH067	NEL-BH067	NEL-BH068	NEL-BH068	NEL-BH068	NEL-BH070	NEL-BH070	NEL-BH073	NEL-BH073	NEL-BH074	NEL-BH074	NEL-BH074	NEL-BH076	NEL-BH076
Field ID				NEL-BH067_12.06-12.21m	NEL-BH067_25.0-25.13m	NEL-BH068_8.20-8.30m	NEL-BH068_14.96-15.06m	NEL-BH068_19.97-20.05m	NEL-BH070_2.0m	NEL-BH070_5.0m	NEL-BH073_12.0-12.75m	NEL-BH073_24.90-25.06m	NEL-BH074_20.0-20.14m	NEL-BH074_30.0m	NEL-BH074_41.89-42.0m	NEL-BH076_19.88-20.03m	NEL-BH076_30.0-30.13m
Date				6/04/2018	6/04/2018	6/04/2018	6/04/2018	6/04/2018	6/04/2018	6/04/2018	23/04/2018	6/04/2018	6/04/2018	6/04/2018	6/04/2018	6/04/2018	6/04/2018
Depth				12.06 - 12.21	25 - 25.13	8.2 - 8.3	14.96 - 15.06	19.97 - 20.05	2 - 2.1	5 - 5.1	12 - 12.75	24.9 - 25.06	20 - 20.14	30 - 30.1	41.89 - 42	19.88 - 20.03	30 - 30.13
Matrix Type				Rock	Rock	Soil	Rock	Rock	Soil	Rock	Rock	Rock	Rock	Rock	Rock	Rock	Rock
Lab Report Number				EM1805796	EM1805796	EM1805796	EM1805796	EM1805796	EM1805796	EM1805796	EM1806836	EM1805796	EM1805796	EM1805796	EM1805796	EM1805796	EM1805796
ASS - ANC																	
ANC as CaCO3	% CaCO3	0.1		0.3	0.4	0.2	-	-	-	-	-	0.8	0.7	0.8	1.1	-	3.2
ANC as H2SO4	kg H2SO4 eq/t	0.5		3.2	4.0	1.8	-	-	-	-	-	8.2	7.1	7.8	10.4	-	31.8
Fizz Rating	Fizz Unit	0		0	0	0	-	-	-	-	-	1	0	0	1	-	2
Acid Neutralising Capacity	% CaCO3	0.01		-	-	-	-	-	-	-	-	-	-	-	-	-	-
Acid Neutralising Capacity (acidity units)	mole H+/t	10		-	-	-	-	-	-	-	-	-	-	-	-	-	-
Acid Neutralising Capacity (sulfur units)	%S	0.01		-	-	-	-	-	-	-	-	-	-	-	-	-	-
NA																	
Resistivity at 25°C	ohm cm	10		5,680	670	11,200	2,650	1,850	-	1,890	2,340	2,160	1,520	1,770	1,880	770	840
sulfidic - Titratable Sulfidic Acidity	% PYRITE S	0.02		-	-	-	-	-	<0.020	<0.020	-	0.145	-	0.042	-	-	-
NAG (pH 4.5)	kg H2SO4/t	0.1		<0.1	<0.1	<0.1	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	-	<0.1
NAG (pH 7.0)	kg H2SO4/t	0.1		0.4	0.6	<0.1	-	-	-	-	-	0.9	0.9	0.7	0.8	-	<0.1
Net Acid Production Potential	kg H2SO4/t	0.5	< 4.5-	-3.2	0.9	-1.8	-	-	-	-	-	-2.7	-4.6	-5.4	-6.1	-	-29.0
Inorganics																	
Moisture (%)	%	1		<1.0	<1.0	<1.0	<1.0	-	-	-	27.6	<1.0	<1.0	<1.0	<1.0	<1.0	4.7
pH (Initial)	pH Units	0.1		-	-	-	-	-	-	-	-	-	-	-	-	-	-
pH (Final)	pH Units	0.1		-	-	-	-	-	-	-	-	-	-	-	-	-	-
pH (aqueous extract)	pH Units	0.1		-	-	-	-	-	-	-	-	-	-	-	-	-	-
pH (after HCL)	pH Units	0.1		-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sulfur as S	%			<0.01	0.16	<0.01	-	-	-	-	-	0.18	0.08	0.08	0.14	-	0.09
pH (Saturated Paste)																	
pH (Saturated Paste)	pH Unit	0.1		5.2	5.8	5.2	6.9	7.5	-	5.2	4.0	7.4	7.6	7.7	7.7	5.6	8.1
ASS - pH																	
pHKCl	pH Units	0.1		4.9	5.7	4.8	-	-	8.6	5.1	-	6.6	6.5	6.7	6.7	-	7.0
pH-OX	PH UNITS	0.1	0	6.9	6.7	7.0	-	-	7.7	4.9	-	5.7	6.6	6.4	6.7	-	7.7
ASS - Acidity Trail																	
Titratable Actual Acidity	mole H+/t	2		6	<2	6	-	-	<2	9	-	<2	<2	<2	<2	-	<2
Titratable Actual Acidity (sulfur units)	%S	0.02		<0.02	<0.02	<0.02	-	-	<0.020	<0.020	-	<0.020	<0.02	<0.020	<0.02	-	<0.02
Titratable Peroxide Acidity	mole H+/t	2		-	-	-	-	-	<2	15	-	90	-	26	-	-	-
Titratable Peroxide Acidity (sulfur units)	%S	0.02		-	-	-	-	-	<0.020	0.024	-	0.145	-	0.042	-	-	-
Titratable Sulfidic Acidity	mole H+/t	2		-	-	-	-	-	<2	6	-	90	-	26	-	-	-
ASS - Sulfur Trail																	
KCl Extractable Sulfur	%S	0.02		-	-	-	-	-	<0.020	<0.020	-	<0.020	-	<0.020	-	-	-
Peroxide Sulfur	%S	0.02		-	-	-	-	-	<0.020	<0.020	-	0.152	-	0.065	-	-	-
Peroxide Oxidisable Sulfur (acidity units)	mole H+/t	10		-	-	-	-	-	<10	<10	-	95	-	40	-	-	-
Peroxide Oxidisable Sulfur	%S	0.02		-	-	-	-	-	<0.020	<0.020	-	0.152	-	0.065	-	-	-
ASS - Calcium Values																	
KCl Extractable Calcium	%Ca	0.02		-	-	-	-	-	0.202	0.026	-	<0.020	-	<0.020	-	-	-
Calcium in Peroxide	%Ca	0.02		-	-	-	-	-	0.246	0.033	-	<0.020	-	<0.020	-	-	-
Acid Reacted Calcium	%Ca	0.02		-	-	-	-	-	0.044	<0.020	-	<0.020	-	<0.020	-	-	-
Acid Reacted Calcium (acidity units)	mole H+/t	10		-	-	-	-	-	22	<10	-	<10	-	<10	-	-	-
Acid Reacted Calcium (sulfur units)	%S	0.02		-	-	-	-	-	0.035	<0.020	-	<0.020	-	<0.020	-	-	-

Appendix J Table 6
Summary of Soil Analytical Results for Acid Sulphate Parameters

			Location Code	NEL-BH076	NEL-BH083	NEL-BH083	NEL-BH084	NEL-BH084	NEL-BH084	NEL-BH084	NEL-BH085	NEL-BH085	NEL-BH087	NEL-BH087
			Field ID	NEL-BH076_39.79-40.02m	NEL-BH083_14.84-15.0m	NEL-BH083_25.0-25.22m	NEL-BH084_15.3-15.40m	NEL-BH084_20.0-20.08m	NEL-BH084_29.63-29.79m	NEL-BH084_37.95-38.05m	NEL-BH085_5.0-5.12m	NEL-BH085_15.0-15.1m	NEL-BH087_5.60-5.79m	NEL-BH087_14.90-15.10m
			Date	6/04/2018	6/04/2018	6/04/2018	6/04/2018	6/04/2018	6/04/2018	6/04/2018	6/04/2018	6/04/2018	6/04/2018	6/04/2018
			Depth	39.79 - 40.02	14.84 - 15	25 - 25.22	15.3 - 15.4	20 - 20.08	29.63 - 29.79	37.95 - 38.05	5 - 5.12	15 - 15.1	5.6 - 5.79	14.9 - 15.1
			Matrix Type	Rock	Rock	Rock	Rock	Rock	Rock	Rock	Rock	Rock	Rock	Rock
			Lab Report Number	EM1805796	EM1805796	EM1805796	EM1805796	EM1805796	EM1805796	EM1805796	EM1805796	EM1805796	EM1805796	EM1805796
	Unit	EQL	EPA Vic 655.1											
ASS - ANC														
ANC as CaCO3	% CaCO3	0.1		-	0.7	0.7	0.7	-	0.5	0.5	-	-	0.4	0.7
ANC as H2SO4	kg H2SO4 eq/t	0.5		-	7.0	7.0	6.6	-	4.9	4.6	-	-	3.6	6.6
Fizz Rating	Fizz Unit	0		-	0	0	0	-	0	0	-	-	0	0
Acid Neutralising Capacity	% CaCO3	0.01		-	-	-	-	-	-	-	-	-	-	-
Acid Neutralising Capacity (acidity units)	mole H+/t	10		-	-	-	-	-	-	-	-	-	-	-
Acid Neutralising Capacity (sulfur units)	%S	0.01		-	-	-	-	-	-	-	-	-	-	-
NA														
Resistivity at 25°C	ohm cm	10		510	1,860	3,460	-	1,110	1,530	780	1,410	1,260	1,200	1,320
sulfidic - Titratable Sulfidic Acidity	% PYRITE S	0.02		-	-	-	-	-	0.140	-	-	-	-	-
NAG (pH 4.5)	kg H2SO4/t	0.1		-	1.6	2.0	<0.1	-	2.0	8.0	-	-	<0.1	<0.1
NAG (pH 7.0)	kg H2SO4/t	0.1		-	3.6	4.1	<0.1	-	4.9	10.2	-	-	0.2	<0.1
Net Acid Production Potential	kg H2SO4/t	0.5	< 4.5-	-	<0.5	<0.5	-6.6	-	-1.2	10.1	-	-	-3.6	-6.6
Inorganics														
Moisture (%)	%	1		<1.0	<1.0	<1.0	-	<1.0	<1.0	<1.0	-	-	<1.0	<1.0
pH (Initial)	pH Units	0.1		-	-	-	-	-	-	-	-	-	-	-
pH (Final)	pH Units	0.1		-	-	-	-	-	-	-	-	-	-	-
pH (aqueous extract)	pH Units	0.1		-	-	-	-	-	-	-	-	-	-	-
pH (after HCL)	pH Units	0.1		-	-	-	-	-	-	-	-	-	-	-
Sulfur as S	%			-	0.23	0.24	<0.01	-	0.12	0.48	-	-	<0.01	<0.01
pH (Saturated Paste)														
pH (Saturated Paste)	pH Unit	0.1		7.5	8.0	8.4	-	6.4	6.9	6.9	7.3	7.2	7.6	7.8
ASS - pH														
pHKCl	pH Units	0.1		-	6.7	6.7	6.3	-	6.2	5.3	-	-	6.5	6.8
pH-OX	PH UNITS	0.1	0	-	3.6	3.6	7.1	-	4.0	3.0	-	-	7.0	7.8
ASS - Acidity Trail														
Titratable Actual Acidity	mole H+/t	2		-	<2	<2	<2	-	<2	2	-	-	<2	<2
Titratable Actual Acidity (sulfur units)	%S	0.02		-	<0.02	<0.02	<0.02	-	<0.020	<0.02	-	-	<0.02	<0.02
Titratable Peroxide Acidity	mole H+/t	2		-	-	-	-	-	87	-	-	-	-	-
Titratable Peroxide Acidity (sulfur units)	%S	0.02		-	-	-	-	-	0.140	-	-	-	-	-
Titratable Sulfidic Acidity	mole H+/t	2		-	-	-	-	-	87	-	-	-	-	-
ASS - Sulfur Trail														
KCl Extractable Sulfur	%S	0.02		-	-	-	-	-	<0.020	-	-	-	-	-
Peroxide Sulfur	%S	0.02		-	-	-	-	-	0.110	-	-	-	-	-
Peroxide Oxidisable Sulfur (acidity units)	mole H+/t	10		-	-	-	-	-	69	-	-	-	-	-
Peroxide Oxidisable Sulfur	%S	0.02		-	-	-	-	-	0.110	-	-	-	-	-
ASS - Calcium Values														
KCl Extractable Calcium	%Ca	0.02		-	-	-	-	-	<0.020	-	-	-	-	-
Calcium in Peroxide	%Ca	0.02		-	-	-	-	-	<0.020	-	-	-	-	-
Acid Reacted Calcium	%Ca	0.02		-	-	-	-	-	<0.020	-	-	-	-	-
Acid Reacted Calcium (acidity units)	mole H+/t	10		-	-	-	-	-	<10	-	-	-	-	-
Acid Reacted Calcium (sulfur units)	%S	0.02		-	-	-	-	-	<0.020	-	-	-	-	-

Appendix J Table 6
Summary of Soil Analytical Results for Acid Sulphate Parameters

	Unit	EQL	EPA Vic 655.1									
Location Code				NEL-BH089	NEL-BH089	NEL-BH092	NEL-BH092	NEL-BH093	NEL-BH095	NEL-BH095	NEL-BH099	NEL-BH099
Field ID				NEL-BH089_8.70-8.90m	NEL-BH089_15.0-15.7m	NEL-BH092_5.0-5.10m	NEL-BH092_9.85-10.0m	NEL-BH093_5.05-5.17m	NEL-BH095_5.45-5.55m	NEL-BH095_9.97-10.11m	NEL-BH099_10.0-10.10m	NEL-BH099_20.04-20.18m
Date				6/04/2018	6/04/2018	6/04/2018	6/04/2018	6/04/2018	6/04/2018	6/04/2018	6/04/2018	6/04/2018
Depth				8.7 - 8.9	15 - 15.7	5 - 5.1	9.85 - 10	5.05 - 5.17	5.45 - 5.55	9.97 - 10.11	10 - 10.1	20.04 - 20.18
Matrix Type				Rock	Rock	Rock	Rock	Rock	Soil	Rock	Rock	Rock
Lab Report Number				EM1805796	EM1805796	EM1805796	EM1805796	EM1805796	EM1805796	EM1805796	EM1805796	EM1805796
ASS - ANC												
ANC as CaCO3	% CaCO3	0.1		0.3	0.5	0.6	0.5	0.3	0.6	0.6	0.7	0.6
ANC as H2SO4	kg H2SO4 eq/t	0.5		2.9	5.0	6.2	4.7	3.0	6.4	5.9	6.8	5.9
Fizz Rating	Fizz Unit	0		0	0	0	0	0	0	0	0	0
Acid Neutralising Capacity	% CaCO3	0.01		-	-	-	-	-	-	-	-	-
Acid Neutralising Capacity (acidity units)	mole H+/t	10		-	-	-	-	-	-	-	-	-
Acid Neutralising Capacity (sulfur units)	%S	0.01		-	-	-	-	-	-	-	-	-
NA												
Resistivity at 25°C	ohm cm	10		1,130	1,370	-	910	1,530	2,310	-	1,860	1,800
sulfidic - Titratable Sulfidic Acidity	% PYRITE S	0.02		-	-	-	-	-	-	-	-	-
NAG (pH 4.5)	kg H2SO4/t	0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.6
NAG (pH 7.0)	kg H2SO4/t	0.1		0.8	1.1	<0.1	<0.1	<0.1	<0.1	1.7	4.8	3.9
Net Acid Production Potential	kg H2SO4/t	0.5	< 4.5-	-2.9	-5.0	-6.2	-4.7	-3.0	-5.8	-5.9	-6.8	-1.9
Inorganics												
Moisture (%)	%	1		<1.0	<1.0	-	21.4	<1.0	18.3	-	<1.0	<1.0
pH (Initial)	pH Units	0.1		-	-	-	-	-	-	-	-	-
pH (Final)	pH Units	0.1		-	-	-	-	-	-	-	-	-
pH (aqueous extract)	pH Units	0.1		-	-	-	-	-	-	-	-	-
pH (after HCL)	pH Units	0.1		-	-	-	-	-	-	-	-	-
Sulfur as S	%			<0.01	<0.01	<0.01	<0.01	<0.01	0.02	<0.01	<0.01	0.13
pH (Saturated Paste)												
pH (Saturated Paste)	pH Unit	0.1		7.4	7.4	-	7.5	7.3	7.4	-	7.6	7.3
ASS - pH												
pHKCl	pH Units	0.1		6.6	6.2	7.5	6.8	6.4	6.3	6.2	6.4	6.4
pH-OX	PH UNITS	0.1	0	6.7	6.7	7.9	7.4	7.1	7.4	6.7	6.3	4.1
ASS - Acidity Trail												
Titratable Actual Acidity	mole H+/t	2		<2	<2	<2	<2	<2	<2	<2	<2	<2
Titratable Actual Acidity (sulfur units)	%S	0.02		<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Titratable Peroxide Acidity	mole H+/t	2		-	-	-	-	-	-	-	-	-
Titratable Peroxide Acidity (sulfur units)	%S	0.02		-	-	-	-	-	-	-	-	-
Titratable Sulfidic Acidity	mole H+/t	2		-	-	-	-	-	-	-	-	-
ASS - Sulfur Trail												
KCl Extractable Sulfur	%S	0.02		-	-	-	-	-	-	-	-	-
Peroxide Sulfur	%S	0.02		-	-	-	-	-	-	-	-	-
Peroxide Oxidisable Sulfur (acidity units)	mole H+/t	10		-	-	-	-	-	-	-	-	-
Peroxide Oxidisable Sulfur	%S	0.02		-	-	-	-	-	-	-	-	-
ASS - Calcium Values												
KCl Extractable Calcium	%Ca	0.02		-	-	-	-	-	-	-	-	-
Calcium in Peroxide	%Ca	0.02		-	-	-	-	-	-	-	-	-
Acid Reacted Calcium	%Ca	0.02		-	-	-	-	-	-	-	-	-
Acid Reacted Calcium (acidity units)	mole H+/t	10		-	-	-	-	-	-	-	-	-
Acid Reacted Calcium (sulfur units)	%S	0.02		-	-	-	-	-	-	-	-	-

Appendix J Table 6
Summary of Soil Analytical Results for Acid Sulphate Parameters

Location Code				NEL-BH100	NEL-BH100	NEL-BH108	NEL-BH110	NEL-BH114	NEL-BH122	NEL-BH124	NEL-BH124	NEL-BH124	NEL-BH137	NEL-BH137	NEL-BH150	NEL-BH101	NEL-BH101	NEL-EF-BH009	NEL-EF-BH014
Field ID				NEL-BH100_5.10-5.30m	NEL-BH100_17.34-17.44m	NEL-BH108_5.7-5.79m	NEL-BH110_5.0-5.20m	NEL-BH114_5.22-5.30m	NEL-BH122_4.56-4.64m	NEL-BH124_25.0-25.12m	NEL-BH124_35.03-35.12m	NEL-BH124_45.0-45.1m	NEL-BH137_5.0m	NEL-BH137_14.87-15.0m	NEL-BH150_5.35-5.45m	NEL-BH101_1.90m	NEL-BH101_7.50m	NEL-EF-BH009_2.9m	NEL-EF-BH014_1.5m
Date				6/04/2018	6/04/2018	6/04/2018	6/04/2018	6/04/2018	6/04/2018	6/04/2018	6/04/2018	6/04/2018	6/04/2018	6/04/2018	23/04/2018	29/06/2018	29/06/2018	4/07/2018	29/06/2018
Depth				5.1 - 5.3	17.34 - 17.44	5.7 - 5.79	5 - 5.2	5.22 - 5.3	4.56 - 4.64	25 - 25.12	35.03 - 35.12	45 - 45.1	5 - 5.1	14.87 - 15	5.35 - 5.45	1.9	7.5	2.9	1.5
Matrix Type				Rock	Rock	Rock	Soil	Rock	Rock	Rock	Rock	Rock	Soil	Rock	Rock	Soil	Soil	Soil	Soil
Lab Report Number				EM1805796	EM1805796	EM1805796	EM1805796	EM1805796	EM1805796	EM1805796	EM1805796	EM1805796	EM1805796	EM1805796	EM1806836	EM1813212	EM1813212	EM1813212	EM1813212
	Unit	EQL	EPA Vic 655.1																
ASS - ANC																			
ANC as CaCO3	% CaCO3	0.1		0.6	0.9	0.5	-	0.5	0.7	0.4	1.0	0.8	-	0.6	-	0.8	0.6	-	-
ANC as H2SO4	kg H2SO4 eq/t	0.5		6.0	8.9	5.3	-	4.6	6.6	3.5	9.4	7.5	-	5.9	-	8.1	6.4	-	-
Fizz Rating	Fizz Unit	0		0	1	0	-	0	0	0	1	1	-	0	-	0	0	-	-
Acid Neutralising Capacity	% CaCO3	0.01		-	-	-	-	-	-	-	-	-	-	-	-	0.40	0.30	2.00	-
Acid Neutralising Capacity (acidity units)	mole H+/t	10		-	-	-	-	-	-	-	-	-	-	-	-	79	59	399	-
Acid Neutralising Capacity (sulfur units)	%S	0.01		-	-	-	-	-	-	-	-	-	-	-	-	0.13	0.09	0.64	-
NA																			
Resistivity at 25°C	ohm cm	10		2,430	1,040	-	-	1,040	-	1,420	1,720	1,570	-	-	14,300	520	730	950	1,160
sulfidic - Titratable Sulfidic Acidity	% PYRITE S	0.02		-	-	-	-	-	-	-	-	-	-	-	<0.020	-	-	-	-
NAG (pH 4.5)	kg H2SO4/t	0.1		<0.1	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	-	<0.1	<0.1	-	-
NAG (pH 7.0)	kg H2SO4/t	0.1		<0.1	0.4	<0.1	-	0.8	<0.1	0.8	<0.1	0.7	-	0.7	-	<0.1	<0.1	-	-
Net Acid Production Potential	kg H2SO4/t	0.5	< 4.5-	-6.0	-4.9	-4.7	-	-4.6	-6.6	-3.5	-7.6	-3.8	-	-5.9	-	-7.5	-5.8	-	-
Inorganics																			
Moisture (%)	%	1		<1.0	<1.0	-	-	<1.0	-	<1.0	<1.0	<1.0	-	-	21.2	18.2	19.2	9.0	5.3
pH (Initial)	pH Units	0.1		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
pH (Final)	pH Units	0.1		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
pH (aqueous extract)	pH Units	0.1		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
pH (after HCL)	pH Units	0.1		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sulfur as S	%			<0.01	0.13	0.02	-	<0.01	<0.01	<0.01	0.06	0.12	-	<0.01	-	200	200	-	-
pH (Saturated Paste)																			
pH (Saturated Paste)	pH Unit	0.1		8.0	7.6	-	-	6.8	-	7.2	7.4	7.1	-	-	5.7	7.3	7.4	8.0	6.8
ASS - pH																			
pHKCl	pH Units	0.1		6.4	6.7	6.4	6.3	6.2	6.6	6.1	6.6	6.4	7.0	6.1	5.9	6.6	6.7	7.5	5.8
pH-OX	PH UNITS	0.1	0	7.4	6.9	7.2	-	6.9	7.6	6.7	7.1	6.6	-	6.8	5.9	7.4	7.2	-	6.4
ASS - Acidity Trail																			
Titratable Actual Acidity	mole H+/t	2		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	2
Titratable Actual Acidity (sulfur units)	%S	0.02		<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.020	<0.02	<0.020	<0.02	<0.020
Titratable Peroxide Acidity	mole H+/t	2		-	-	-	-	-	-	-	-	-	-	-	9	-	<2	-	4
Titratable Peroxide Acidity (sulfur units)	%S	0.02		-	-	-	-	-	-	-	-	-	-	-	<0.020	-	<0.020	-	<0.020
Titratable Sulfidic Acidity	mole H+/t	2		-	-	-	-	-	-	-	-	-	-	-	9	-	<2	-	2
ASS - Sulfur Trail																			
KCl Extractable Sulfur	%S	0.02		-	-	-	-	-	-	-	-	-	-	-	<0.020	-	<0.020	-	<0.020
Peroxide Sulfur	%S	0.02		-	-	-	-	-	-	-	-	-	-	-	<0.020	-	<0.020	-	<0.020
Peroxide Oxidisable Sulfur (acidity units)	mole H+/t	10		-	-	-	-	-	-	-	-	-	-	-	<10	-	<10	-	<10
Peroxide Oxidisable Sulfur	%S	0.02		-	-	-	-	-	-	-	-	-	-	-	<0.020	-	<0.020	-	<0.020
ASS - Calcium Values																			
KCl Extractable Calcium	%Ca	0.02		-	-	-	-	-	-	-	-	-	-	-	<0.020	-	0.020	-	<0.020
Calcium in Peroxide	%Ca	0.02		-	-	-	-	-	-	-	-	-	-	-	<0.020	-	0.025	-	<0.020
Acid Reacted Calcium	%Ca	0.02		-	-	-	-	-	-	-	-	-	-	-	<0.020	-	<0.020	-	<0.020
Acid Reacted Calcium (acidity units)	mole H+/t	10		-	-	-	-	-	-	-	-	-	-	-	<10	-	<10	-	<10
Acid Reacted Calcium (sulfur units)	%S	0.02		-	-	-	-	-	-	-	-	-	-	-	<0.020	-	<0.020	-	<0.020

Appendix J Table 6
Summary of Soil Analytical Results for Acid Sulphate Parameters

			Location Code	NEL-EF-BH015	NEL-EF-BH017	NEL-EF-BH017	NEL-EF-BH017	NEL-EF-BH018	NEL-EF-BH018	NEL-EF-BH018	NEL-EF-BH019	NEL-EF-BH019	NEL-EF-BH019
			Field ID	NEL-EF-BH015_6.5m	NEL-EF-BH017_2m	NEL-EF-BH017_10m	NEL-EF-BH017_20m	NEL-EF-BH018_1.90m	NEL-EF-BH018_10m	NEL-EF-BH018_20m	NEL-EF-BH019_5m	NEL-EF-BH019_10m	NEL-EF-BH019_20m
			Date	29/06/2018	15/06/2018	14/08/2018	14/08/2018	25/06/2018	17/07/2018	17/07/2018	4/07/2018	13/07/2018	13/07/2018
			Depth	6.5	2	10	20	1.9	10	20	5	10	20
			Matrix Type	Soil	Soil	Rock	Rock	Soil	Rock	Rock	Soil	Rock	Rock
			Lab Report Number	EM1813212	EM1813212	EM1813212	EM1813212	EM1813212	EM1813212	EM1813212	EM1813212	EM1813212	EM1813212
	Unit	**EQL**	**EPA Vic 655.1**										
ASS - ANC													
ANC as CaCO3	% CaCO3	0.1		-	-	0.9	0.9	-	0.9	1.0	-	0.9	0.7
ANC as H2SO4	kg H2SO4 eq/t	0.5		-	-	9.0	8.9	-	8.6	10.0	-	9.0	7.0
Fizz Rating	Fizz Unit	0		-	-	0	0	-	0	1	-	1	0
Acid Neutralising Capacity	% CaCO3	0.01		-	-	0.42	0.65	0.36	-	0.37	-	-	0.31
Acid Neutralising Capacity (acidity units)	mole H+/t	10		-	-	84	130	72	-	75	-	-	62
Acid Neutralising Capacity (sulfur units)	%S	0.01		-	-	0.13	0.21	0.11	-	0.12	-	-	0.10
NA													
Resistivity at 25°C	ohm cm	10		790	1,490	-	-	800	-	-	-	-	-
sulfidic - Titratable Sulfidic Acidity	% PYRITE S	0.02		-	-	-	-	-	-	-	-	-	-
NAG (pH 4.5)	kg H2SO4/t	0.1		-	-	2.1	0.6	-	<0.1	0.6	-	<0.1	<0.1
NAG (pH 7.0)	kg H2SO4/t	0.1		-	-	4.8	2.6	-	<0.1	2.9	-	<0.1	0.2
Net Acid Production Potential	kg H2SO4/t	0.5	< 4.5-	-	-	-0.1	-3.1	-	-7.7	-3.6	-	-8.4	-6.4
Inorganics													
Moisture (%)	%	1		16.5	16.5	-	-	8.7	-	-	-	-	-
pH (Initial)	pH Units	0.1		-	-	-	-	-	-	-	-	-	-
pH (Final)	pH Units	0.1		-	-	-	-	-	-	-	-	-	-
pH (aqueous extract)	pH Units	0.1		-	-	-	-	-	-	-	-	-	-
pH (after HCL)	pH Units	0.1		-	-	-	-	-	-	-	-	-	-
Sulfur as S	%			-	-	2,900	1,900	-	300	2,100	-	200	200
pH (Saturated Paste)													
pH (Saturated Paste)	pH Unit	0.1		7.1	6.9			7.3					
ASS - pH													
pHKCl	pH Units	0.1		6.4	5.9	6.9	7.0	6.7	6.4	6.8	6.4	6.4	6.6
pH-OX	PH UNITS	0.1	0	-	6.3	3.5	4.0	7.7	7.1	4.0	-	7.3	6.9
ASS - Acidity Trail													
Titratable Actual Acidity	mole H+/t	2		<2	2	<2	<2	<2	<2	<2	<2	<2	<2
Titratable Actual Acidity (sulfur units)	%S	0.02		<0.02	<0.020	<0.02	<0.02	<0.020	<0.02	<0.02	<0.02	<0.02	<0.02
Titratable Peroxide Acidity	mole H+/t	2		-	7	-	-	<2	-	-	-	-	-
Titratable Peroxide Acidity (sulfur units)	%S	0.02		-	<0.020	-	-	<0.020	-	-	-	-	-
Titratable Sulfidic Acidity	mole H+/t	2		-	4	-	-	<2	-	-	-	-	-
ASS - Sulfur Trail													
KCl Extractable Sulfur	%S	0.02		-	<0.020	-	-	<0.020	-	-	-	-	-
Peroxide Sulfur	%S	0.02		-	<0.020	-	-	<0.020	-	-	-	-	-
Peroxide Oxidisable Sulfur (acidity units)	mole H+/t	10		-	<10	-	-	<10	-	-	-	-	-
Peroxide Oxidisable Sulfur	%S	0.02		-	<0.020	-	-	<0.020	-	-	-	-	-
ASS - Calcium Values													
KCl Extractable Calcium	%Ca	0.02		-	0.037	-	-	<0.020	-	-	-	-	-
Calcium in Peroxide	%Ca	0.02		-	0.039	-	-	0.021	-	-	-	-	-
Acid Reacted Calcium	%Ca	0.02		-	<0.020	-	-	0.021	-	-	-	-	-
Acid Reacted Calcium (acidity units)	mole H+/t	10		-	<10	-	-	11	-	-	-	-	-
Acid Reacted Calcium (sulfur units)	%S	0.02		-	<0.020	-	-	<0.020	-	-	-	-	-

Appendix J Table 6
Summary of Soil Analytical Results for Acid Sulphate Parameters

			Location Code	NEL-BH004	NEL-BH004	NEL-BH004	NEL-BH004	NEL-BH004	NEL-BH004	NEL-BH005	NEL-BH008	NEL-BH030	NEL-BH030	NEL-BH030	NEL-BH030
			Field ID	NEL-BH004_2.0-2.45m	NEL-BH004_9.05m	NEL-BH004_15.0-15.45m	NEL-BH004_19.5-19.95m	NEL-BH004_19.5-19.95m	NEL-BH004_23.9-24.0m	NEL-BH005_4.11-4.56m	NEL-BH008_10.0-10.1m	NEL-BH030 (17.02m)	NEL-BH030 (18.68m)	NEL-BH030 (26.71m)	NEL-BH030 (43.25m)
			Date	6/04/2018	6/04/2018	6/04/2018	6/04/2018	23/04/2018	23/04/2018	6/04/2018	6/04/2018	2/09/2017	2/09/2017	2/09/2017	9/09/2017
			Depth	2 - 2.45	9.05 - 9.15	15 - 15.45	19.5 - 19.95	19.5 - 19.95	23.9 - 24	4.11 - 4.56	10 - 10.1	17.02 - 17.12	18.68 - 18.78	26.71 - 26.81	43.25 - 43.35
			Matrix Type	Rock	Soil	Rock	Rock	Rock	Rock	Soil	Rock	Rock	Rock	Rock	Rock
			Lab Report Number	EM1805796	EM1805796	EM1805796	EM1805796	EM1806836	EM1806836	EM1805796	EM1805796	EM1712819	EM1712819	EM1712819	EM1712819
ASS - Magnesium Values															
KCl Extractable Magnesium	%Mg	0.02		-	0.097	-	0.037	-	-	0.087	-	0.039	0.037	0.033	0.035
Magnesium in Peroxide	%Mg	0.02		-	0.116	-	0.037	-	-	0.087	-	0.039	0.046	0.045	0.047
Acid Reacted Magnesium	%Mg	0.02		-	<0.020	-	<0.020	-	-	<0.020	-	<0.020	<0.020	<0.020	<0.020
Acid Reacted Magnesium (acidity units)	mole H+/t	10		-	15	-	<10	-	-	<10	-	<10	<10	10	<10
Acid Reacted Magnesium (sulfur units)	%S	0.02		-	0.024	-	<0.020	-	-	<0.020	-	<0.020	<0.020	<0.020	<0.020
ASS - Potential Acidity															
Chromium Reducible Sulfur	%S	0.005		0.011	-	0.024	-	0.011	-	-	0.007	-	-	-	-
Chromium Reducible Sulphur (acidity units)	mole H+/t	10		<10	-	15	-	<10	-	-	<10	-	-	-	-
ASS - Excess ANC															
Excess Acid Neutralising Capacity	%CaCO3	0.02		-	0.029	-	-	-	-	<0.020	-	-	-	-	0.162
Excess Acid Neutralising Capacity (acidity units)	mole H+/t	10		-	<10	-	-	-	-	<10	-	-	-	-	32
Excess Acid Neutralising Capacity (sulfur units)	%S	0.02		-	<0.020	-	-	-	-	<0.020	-	-	-	-	0.052
ASS - Acid Base Accounting															
ANC Fineness Factor	-	0.5		1.5	1.5	1.5	1.5	1.5	-	1.5	1.5	1.5	1.5	1.5	1.5
Net Acidity (acidity units)	mole H+/t	10		<10	<10	15	<10	<10	-	<10	<10	<10	82	69	<10
Net Acidity (sulfur units)	%S	0.02	0.03	<0.02	<0.02	0.02	<0.02	<0.02	-	<0.02	<0.02	<0.02	0.13	0.11	<0.02
Liming Rate	kg CaCO3/t	1		<1	<1	1	<1	<1	-	<1	<1	<1	6	5	<1
Net Acidity excluding ANC (acidity units)	mole H+/t	10	18	<10	41	15	<10	<10	-	<10	<10	<10	82	69	13
Net Acidity excluding ANC (sulfur units)	%S	0.02		<0.02	0.06	0.02	<0.02	<0.02	-	<0.02	<0.02	<0.02	0.13	0.11	0.02
Liming Rate excluding ANC	kg CaCO3/t	1		<1	3	1	<1	<1	-	<1	<1	<1	6	5	<1
Major Ions															
Calcium	mg/kg	10		-	<10	-	-	<10	<10	-	<10	-	-	-	-
Magnesium	mg/kg	10		-	<10	-	-	<10	10	-	<10	-	-	-	-
Potassium	mg/kg	10		-	<10	-	-	10	20	-	<10	-	-	-	-
Sodium	mg/kg	10		-	350	-	-	360	270	-	250	-	-	-	-
Chloride	mg/kg	10		-	380	-	-	450	200	-	310	-	-	-	-
Sulfate	mg/kg	10		-	120	-	-	60	260	-	20	-	-	-	-
TOC															
Total Organic Carbon	%			-	0.8	-	-	-	-	-	-	-	-	-	-
Metals															
Arsenic (filtered)	mg/L	0.1		-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1
Cadmium (filtered)	mg/L	0.05		-	-	-	-	-	-	-	-	<0.05	<0.05	<0.05	<0.05
Chromium (III+VI) (filtered)	mg/L	0.1		-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1
Copper (filtered)	mg/L	0.1		-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1
Lead (filtered)	mg/L	0.1		-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1
Mercury (filtered)	mg/L	0.001		-	-	-	-	-	-	-	-	<0.0010	<0.0010	<0.0010	<0.0010
Nickel (filtered)	mg/L	0.1		-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1
Zinc (filtered)	mg/L	0.1		-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1
Biological															
Sulfate Reducing Bacteria Population Estimate	pac/g			-	<200	-	-	-	-	-	-	-	-	-	-
Sulfate Reducing Bacteria Aggressivity	-	1		-	1	-	-	-	-	-	-	-	-	-	-
SPOCAS															
Acid Neutralising Capacity	% CaCO3			0.40	-	-	-	0.53	-	-	-	-	-	-	-
Acid Neutralising Capacity (acidity units)	mole H+/t	10		80	-	-	-	106	-	-	-	-	-	-	-
Acid Neutralising Capacity (sulfur units)	%S	0.01		0.13	-	-	-	0.17	-	-	-	-	-	-	-

			Location Code	NEL-BH031	NEL-BH031	NEL-BH033	NEL-BH033	NEL-BH033	NEL-BH033	NEL-BH033	NEL-BH034	NEL-BH034	NEL-BH034	NEL-BH034	NEL-BH034
			Field ID	NEL-BH031_10.04-10.11m	NEL-BH031_20.03-20.13m	NEL-BH033 (12.4m)	NEL-BH033 (21.4m)	NEL-BH033 (24.68m)	NEL-BH033 (26.33m)	NEL-BH033 (29.74m)	NEL-BH034 (7.9m)	NEL-BH034 (9.28m)	NEL-BH034 (12.05m)	NEL-BH034 (15.95m)	NEL-BH034 (22.9m)
			Date	6/04/2018	6/04/2018	11/07/2017	11/07/2017	11/07/2017	11/07/2017	11/07/2017	11/07/2017	11/07/2017	11/07/2017	11/07/2017	12/07/2017
			Depth	10.04 - 10.11	20.03 - 20.13	12.4 - 12.5	21.4 - 21.5	24.68 - 24.78	26.33 - 26.43	29.74 - 29.84	7.9 - 8	9.28 - 9.38	12.05 - 12.15	15.95 - 16.05	22.9 - 23
			Matrix Type	Rock	Rock	Rock	Rock	Rock	Rock	Rock	Rock	Rock	Rock	Rock	Rock
			Lab Report Number	EM1805796	EM1805796	EM1712011	EM1712011	EM1712011	EM1712011	EM1712011	EM1712011	EM1712011	EM1712011	EM1712011	EM1712011
ASS - Magnesium Values															
KCl Extractable Magnesium	%Mg	0.02		-	-	<0.020	0.032	0.041	0.057	0.055	0.074	0.047	0.024	0.022	0.026
Magnesium in Peroxide	%Mg	0.02		-	-	0.025	0.032	0.052	0.066	0.057	0.087	0.051	0.032	0.036	0.120
Acid Reacted Magnesium	%Mg	0.02		-	-	0.025	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.094
Acid Reacted Magnesium (acidity units)	mole H+/t	10		-	-	21	<10	<10	<10	<10	11	<10	<10	11	77
Acid Reacted Magnesium (sulfur units)	%S	0.02		-	-	0.034	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.124
ASS - Potential Acidity															
Chromium Reducible Sulfur	%S	0.005		0.012	0.222	-	-	-	-	-	-	-	-	-	-
Chromium Reducible Sulphur (acidity units)	mole H+/t	10		<10	139	-	-	-	-	-	-	-	-	-	-
ASS - Excess ANC															
Excess Acid Neutralising Capacity	%CaCO3	0.02		-	-	0.109	-	0.135	0.137	-	0.158	0.271	-	-	0.366
Excess Acid Neutralising Capacity (acidity units)	mole H+/t	10		-	-	22	-	27	27	-	31	54	-	-	73
Excess Acid Neutralising Capacity (sulfur units)	%S	0.02		-	-	0.035	-	0.043	0.044	-	0.050	0.087	-	-	0.117
ASS - Acid Base Accounting															
ANC Fineness Factor	-	0.5		1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Net Acidity (acidity units)	mole H+/t	10		<10	88	<10	<10	<10	<10	<10	<10	<10	52	20	<10
Net Acidity (sulfur units)	%S	0.02	0.03	<0.02	0.14	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.08	0.03	<0.02
Liming Rate	kg CaCO3/t	1		<1	7	<1	<1	<1	<1	<1	<1	<1	4	2	<1
Net Acidity excluding ANC (acidity units)	mole H+/t	10	18	<10	139	<10	<10	<10	<10	<10	<10	<10	52	20	167
Net Acidity excluding ANC (sulfur units)	%S	0.02		<0.02	0.22	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.08	0.03	0.27
Liming Rate excluding ANC	kg CaCO3/t	1		<1	10	<1	<1	<1	<1	<1	<1	<1	4	2	12
Major Ions															
Calcium	mg/kg	10		<10	<10	-	-	-	-	-	-	-	-	-	-
Magnesium	mg/kg	10		<10	<10	-	-	-	-	-	-	-	-	-	-
Potassium	mg/kg	10		<10	30	-	-	-	-	-	-	-	-	-	-
Sodium	mg/kg	10		180	170	-	-	-	-	-	-	-	-	-	-
Chloride	mg/kg	10		210	60	-	-	-	-	-	-	-	-	-	-
Sulfate	mg/kg	10		40	200	-	-	-	-	-	-	-	-	-	-
TOC															
Total Organic Carbon	%			-	-	-	-	-	-	-	-	-	-	-	-
Metals															
Arsenic (filtered)	mg/L	0.1		-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Cadmium (filtered)	mg/L	0.05		-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Chromium (III+VI) (filtered)	mg/L	0.1		-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Copper (filtered)	mg/L	0.1		-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Lead (filtered)	mg/L	0.1		-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1
Mercury (filtered)	mg/L	0.001		-	-	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Nickel (filtered)	mg/L	0.1		-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Zinc (filtered)	mg/L	0.1		-	-	0.3	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.6	0.2
Biological															
Sulfate Reducing Bacteria Population Estimate	pac/g			-	-	-	-	-	-	-	-	-	-	-	-
Sulfate Reducing Bacteria Aggressivity	-	1		-	-	-	-	-	-	-	-	-	-	-	-
SPOCAS															
Acid Neutralising Capacity	% CaCO3			-	0.38	-	-	-	-	-	-	-	-	-	-
Acid Neutralising Capacity (acidity units)	mole H+/t	10		-	75	-	-	-	-	-	-	-	-	-	-
Acid Neutralising Capacity (sulfur units)	%S	0.01		-	0.12	-	-	-	-	-	-	-	-	-	-

Appendix J Table 6
Summary of Soil Analytical Results for Acid Sulphate Parameters

			Location Code	NEL-BH037	NEL-BH037	NEL-BH037	NEL-BH037	NEL-BH039	NEL-BH039	NEL-BH039	NEL-BH039	NEL-BH039	NEL-BH042	NEL-BH042	NEL-BH042	NEL-BH042	NEL-BH042
			Field ID	NEL-BH037_0.45-0.5m	NEL-BH037_5m	NEL-BH037_14.98-15.10m	NEL-BH037_25.0-25.08m	NEL-BH039_2.40m	NEL-BH039_5.9m	NEL-BH039_9.80m	NEL-BH039_14.5-14.91m	NEL-BH039_19.0-19.45m	NEL-BH042 (15.5m)	NEL-BH042 (31.46m)	NEL-BH042 (45.75m)	NEL-BH042_14.97-15.08m	NEL-BH042_25.15-25.25m
			Date	23/04/2018	6/04/2018	6/04/2018	6/04/2018	6/04/2018	6/04/2018	6/04/2018	23/04/2018	23/04/2018	16/09/2017	16/09/2017	16/09/2017	6/04/2018	6/04/2018
			Depth	0.45 - 0.5	5 - 5.1	14.98 - 15.1	25 - 25.08	2.4 - 2.5	5.9 - 6	9.8 - 9.9	14.5 - 14.91	19 - 19.45	15.5 - 15.6	31.46 - 31.56	45.75 - 45.85	14.97 - 15.08	25.15 - 25.25
			Matrix Type	Rock	Rock	Rock	Rock	Rock	Soil	Soil	Rock	Rock	Rock	Rock	Rock	Rock	Rock
			Lab Report Number	EM1806836	EM1805796	EM1805796	EM1805796	EM1805796	EM1805796	EM1805796	EM1806836	EM1806836	EM1712819	EM1712819	EM1712819	EM1805796	EM1805796
ASS - Magnesium Values																	
KCl Extractable Magnesium	%Mg	0.02		-	-	-	-	-	0.118	-	-	-	0.076	0.040	0.037	-	-
Magnesium in Peroxide	%Mg	0.02		-	-	-	-	-	0.118	-	-	-	0.079	0.047	0.052	-	-
Acid Reacted Magnesium	%Mg	0.02		-	-	-	-	-	<0.020	-	-	-	<0.020	<0.020	<0.020	-	-
Acid Reacted Magnesium (acidity units)	mole H+/t	10		-	-	-	-	-	<10	-	-	-	<10	<10	12	-	-
Acid Reacted Magnesium (sulfur units)	%S	0.02		-	-	-	-	-	<0.020	-	-	-	<0.020	<0.020	<0.020	-	-
ASS - Potential Acidity																	
Chromium Reducible Sulfur	%S	0.005		0.014	-	0.009	0.213	0.011	-	0.244	-	-	-	-	-	-	-
Chromium Reducible Sulphur (acidity units)	mole H+/t	10		<10	-	<10	133	<10	-	152	-	-	-	-	-	-	-
ASS - Excess ANC																	
Excess Acid Neutralising Capacity	%CaCO3	0.02		-	-	-	-	-	<0.020	-	-	-	0.119	-	-	-	-
Excess Acid Neutralising Capacity (acidity units)	mole H+/t	10		-	-	-	-	-	<10	-	-	-	24	-	-	-	-
Excess Acid Neutralising Capacity (sulfur units)	%S	0.02		-	-	-	-	-	<0.020	-	-	-	0.038	-	-	-	-
ASS - Acid Base Accounting																	
ANC Fineness Factor	-	0.5		1.5	-	1.5	1.5	1.5	1.5	1.5	-	-	1.5	1.5	1.5	-	-
Net Acidity (acidity units)	mole H+/t	10		<10	-	<10	133	<10	<10	158	-	-	<10	74	150	-	-
Net Acidity (sulfur units)	%S	0.02	0.03	<0.02	-	<0.02	0.21	<0.02	<0.02	0.25	-	-	<0.02	0.12	0.24	-	-
Liming Rate	kg CaCO3/t	1		<1	-	<1	10	<1	<1	12	-	-	<1	6	11	-	-
Net Acidity excluding ANC (acidity units)	mole H+/t	10	18	<10	-	<10	133	<10	<10	158	-	-	<10	74	150	-	-
Net Acidity excluding ANC (sulfur units)	%S	0.02		<0.02	-	<0.02	0.21	<0.02	<0.02	0.25	-	-	<0.02	0.12	0.24	-	-
Liming Rate excluding ANC	kg CaCO3/t	1		<1	-	<1	10	<1	<1	12	-	-	<1	6	11	-	-
Major Ions																	
Calcium	mg/kg	10		-	<10	<10	30	-	<10	<10	<10	<10	-	-	-	<10	<10
Magnesium	mg/kg	10		-	<10	<10	70	-	<10	<10	<10	20	-	-	-	<10	<10
Potassium	mg/kg	10		-	<10	<10	40	-	<10	<10	10	10	-	-	-	<10	70
Sodium	mg/kg	10		-	190	140	280	-	290	80	390	510	-	-	-	50	270
Chloride	mg/kg	10		-	200	130	260	-	140	50	470	730	-	-	-	10	20
Sulfate	mg/kg	10		-	30	40	620	-	30	90	130	240	-	-	-	20	680
TOC																	
Total Organic Carbon	%			-	-	-	-	-	0.6	-	-	-	-	-	-	-	-
Metals																	
Arsenic (filtered)	mg/L	0.1		-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	-	-
Cadmium (filtered)	mg/L	0.05		-	-	-	-	-	-	-	-	-	<0.05	<0.05	<0.05	-	-
Chromium (III+VI) (filtered)	mg/L	0.1		-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	-	-
Copper (filtered)	mg/L	0.1		-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	-	-
Lead (filtered)	mg/L	0.1		-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	-	-
Mercury (filtered)	mg/L	0.001		-	-	-	-	-	-	-	-	-	<0.0010	<0.0010	<0.0010	-	-
Nickel (filtered)	mg/L	0.1		-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	-	-
Zinc (filtered)	mg/L	0.1		-	-	-	-	-	-	-	-	-	0.6	<0.1	<0.1	-	-
Biological																	
Sulfate Reducing Bacteria Population Estimate	pac/g			-	-	-	-	-	<200	-	-	-	-	-	-	-	-
Sulfate Reducing Bacteria Aggressivity	-	1		-	-	-	-	-	1	-	-	-	-	-	-	-	-
SPOCAS																	
Acid Neutralising Capacity	% CaCO3			2.94	-	-	-	1.07	-	-	-	-	-	-	-	-	-
Acid Neutralising Capacity (acidity units)	mole H+/t	10		587	-	-	-	214	-	-	-	-	-	-	-	-	-
Acid Neutralising Capacity (sulfur units)	%S	0.01		0.94	-	-	-	0.34	-	-	-	-	-	-	-	-	-

Appendix J Table 6
Summary of Soil Analytical Results for Acid Sulphate Parameters

			Location Code	NEL-BH043	NEL-BH043	NEL-BH043	NEL-BH043	NEL-BH043	NEL-BH057	NEL-BH057	NEL-BH057	NEL-BH057	NEL-BH057	NEL-BH058	NEL-BH058	NEL-BH058	NEL-BH059	NEL-BH059	NEL-BH059
			Field ID	NEL-BH043 (5.95m)	NEL-BH043 (11.00m)	NEL-BH043 (11.57m)	NEL-BH043 (18.4m)	NEL-BH043 (34.6m)	NEL-BH057 (5.64m)	NEL-BH057 (15.43m)	NEL-BH057 (21.0m)	NEL-BH057 (40.85m)	NEL-BH057 (48.0m)	NEL-BH058 (18.22m)	NEL-BH058 (19.07m)	NEL-BH058 (22.85m)	NEL-BH059_5.5m	NEL-BH059_10.04-10.18m	NEL-BH059_20.0-20.21m
			Date	12/07/2017	12/07/2017	12/07/2017	12/07/2017	11/07/2017	2/09/2017	2/09/2017	2/09/2017	2/09/2017	2/09/2017	24/07/2017	24/07/2017	24/07/2017	6/04/2018	6/04/2018	6/04/2018
			Depth	5.95 - 6.05	11 - 11.1	11.57 - 11.67	18.4 - 18.5	34.6 - 34.7	5.64 - 5.74	15.43 - 15.53	21 - 21.1	40.85 - 40.95	48 - 48.1	18.22 - 18.32	19.07 - 19.17	22.85 - 22.95	5.5 - 5.6	10.04 - 10.18	20 - 20.21
			Matrix Type	Rock	Rock	Rock	Rock	Rock	Rock	Rock	Rock	Rock	Rock	Rock	Rock	Rock	Rock	Rock	Rock
			Lab Report Number	EM1712011	EM1712011	EM1712011	EM1712011	EM1712011	EM1712819	EM1712819	EM1712819	EM1712819	EM1712819	EM1712011	EM1712011	EM1712011	EM1805796	EM1805796	EM1805796
ASS - Magnesium Values																			
KCl Extractable Magnesium	%Mg	0.02		0.046	0.061	0.032	0.023	0.047	0.051	0.033	0.021	0.034	0.029	0.041	0.039	0.033	0.067	-	-
Magnesium in Peroxide	%Mg	0.02		0.058	0.070	0.044	0.034	0.073	0.052	0.041	0.030	0.068	0.032	0.043	0.044	0.046	0.079	-	-
Acid Reacted Magnesium	%Mg	0.02		<0.020	<0.020	<0.020	<0.020	0.026	<0.020	<0.020	<0.020	0.034	<0.020	<0.020	<0.020	<0.020	<0.020	-	-
Acid Reacted Magnesium (acidity units)	mole H+/t	10		<10	<10	<10	<10	21	<10	<10	<10	28	<10	<10	<10	10	<10	-	-
Acid Reacted Magnesium (sulfur units)	%S	0.02		<0.020	<0.020	<0.020	<0.020	0.034	<0.020	<0.020	<0.020	0.044	<0.020	<0.020	<0.020	<0.020	<0.020	-	-
ASS - Potential Acidity																			
Chromium Reducible Sulfur	%S	0.005		-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.017	0.066
Chromium Reducible Sulphur (acidity units)	mole H+/t	10		-	-	-	-	-	-	-	-	-	-	-	-	-	-	11	41
ASS - Excess ANC																			
Excess Acid Neutralising Capacity	%CaCO3	0.02		0.090	0.272	-	-	-	-	0.122	-	-	-	-	-	-	0.039	-	-
Excess Acid Neutralising Capacity (acidity units)	mole H+/t	10		18	54	-	-	-	-	24	-	-	-	-	-	-	<10	-	-
Excess Acid Neutralising Capacity (sulfur units)	%S	0.02		0.029	0.087	-	-	-	-	0.039	-	-	-	-	-	-	<0.020	-	-
ASS - Acid Base Accounting																			
ANC Fineness Factor	-	0.5		1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Net Acidity (acidity units)	mole H+/t	10		<10	<10	92	116	158	<10	<10	100	38	44	<10	40	105	<10	<10	<10
Net Acidity (sulfur units)	%S	0.02	0.03	<0.02	<0.02	0.15	0.18	0.25	<0.02	<0.02	0.16	0.06	0.07	<0.02	0.06	0.17	<0.02	<0.02	<0.02
Liming Rate	kg CaCO3/t	1		<1	<1	7	9	12	<1	<1	7	3	3	<1	3	8	<1	<1	<1
Net Acidity excluding ANC (acidity units)	mole H+/t	10	18	<10	<10	92	116	158	<10	<10	100	38	44	<10	40	105	<10	11	41
Net Acidity excluding ANC (sulfur units)	%S	0.02		<0.02	<0.02	0.15	0.18	0.25	<0.02	<0.02	0.16	0.06	0.07	<0.02	0.06	0.17	<0.02	<0.02	0.07
Liming Rate excluding ANC	kg CaCO3/t	1		<1	<1	7	9	12	<1	<1	7	3	3	<1	3	8	<1	<1	3
Major Ions																			
Calcium	mg/kg	10		-	-	-	-	-	-	-	-	-	-	-	-	-	<10	<10	<10
Magnesium	mg/kg	10		-	-	-	-	-	-	-	-	-	-	-	-	-	<10	<10	<10
Potassium	mg/kg	10		-	-	-	-	-	-	-	-	-	-	-	-	-	<10	<10	<10
Sodium	mg/kg	10		-	-	-	-	-	-	-	-	-	-	-	-	-	590	170	220
Chloride	mg/kg	10		-	-	-	-	-	-	-	-	-	-	-	-	-	690	190	200
Sulfate	mg/kg	10		-	-	-	-	-	-	-	-	-	-	-	-	-	80	30	130
TOC																			
Total Organic Carbon	%			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Metals																			
Arsenic (filtered)	mg/L	0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-
Cadmium (filtered)	mg/L	0.05		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-	-
Chromium (III+VI) (filtered)	mg/L	0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-
Copper (filtered)	mg/L	0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-
Lead (filtered)	mg/L	0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-
Mercury (filtered)	mg/L	0.001		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	-	-	-
Nickel (filtered)	mg/L	0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	0.4	<0.1	<0.1	<0.1	<0.1	-	-	-
Zinc (filtered)	mg/L	0.1		0.2	0.3	0.2	0.2	0.2	0.2	<0.1	0.2	0.1	0.1	0.2	0.2	0.2	-	-	-
Biological																			
Sulfate Reducing Bacteria Population Estimate	pac/g			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sulfate Reducing Bacteria Aggressivity	-	1		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SPOCAS																			
Acid Neutralising Capacity	% CaCO3			-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.72	0.57
Acid Neutralising Capacity (acidity units)	mole H+/t	10		-	-	-	-	-	-	-	-	-	-	-	-	-	-	143	113
Acid Neutralising Capacity (sulfur units)	%S	0.01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.23	0.18

Appendix J Table 6
Summary of Soil Analytical Results for Acid Sulphate Parameters

			Location Code	NEL-BH067	NEL-BH067	NEL-BH068	NEL-BH068	NEL-BH068	NEL-BH070	NEL-BH070	NEL-BH073	NEL-BH073	NEL-BH074	NEL-BH074	NEL-BH074	NEL-BH076	NEL-BH076
			Field ID	NEL-BH067_12.06-12.21m	NEL-BH067_25.0-25.13m	NEL-BH068_8.20-8.30m	NEL-BH068_14.96-15.06m	NEL-BH068_19.97-20.05m	NEL-BH070_2.0m	NEL-BH070_5.0m	NEL-BH073_12.0-12.75m	NEL-BH073_24.90-25.06m	NEL-BH074_20.0-20.14m	NEL-BH074_30.0m	NEL-BH074_41.89-42.0m	NEL-BH076_19.88-20.03m	NEL-BH076_30.0-30.13m
			Date	6/04/2018	6/04/2018	6/04/2018	6/04/2018	6/04/2018	6/04/2018	6/04/2018	23/04/2018	6/04/2018	6/04/2018	6/04/2018	6/04/2018	6/04/2018	6/04/2018
			Depth	12.06 - 12.21	25 - 25.13	8.2 - 8.3	14.96 - 15.06	19.97 - 20.05	2 - 2.1	5 - 5.1	12 - 12.75	24.9 - 25.06	20 - 20.14	30 - 30.1	41.89 - 42	19.88 - 20.03	30 - 30.13
			Matrix Type	Rock	Rock	Soil	Rock	Rock	Soil	Rock	Rock	Rock	Rock	Rock	Rock	Rock	Rock
			Lab Report Number	EM1805796	EM1805796	EM1805796	EM1805796	EM1805796	EM1805796	EM1805796	EM1806836	EM1805796	EM1805796	EM1805796	EM1805796	EM1805796	EM1805796
ASS - Magnesium Values																	
KCl Extractable Magnesium	%Mg	0.02		-	-	-	-	-	0.038	0.044	-	0.020	-	0.040	-	-	-
Magnesium in Peroxide	%Mg	0.02		-	-	-	-	-	0.074	0.049	-	0.034	-	0.044	-	-	-
Acid Reacted Magnesium	%Mg	0.02		-	-	-	-	-	0.036	<0.020	-	<0.020	-	<0.020	-	-	-
Acid Reacted Magnesium (acidity units)	mole H+/t	10		-	-	-	-	-	30	<10	-	12	-	<10	-	-	-
Acid Reacted Magnesium (sulfur units)	%S	0.02		-	-	-	-	-	0.048	<0.020	-	<0.020	-	<0.020	-	-	-
ASS - Potential Acidity																	
Chromium Reducible Sulfur	%S	0.005		0.007	0.118	0.014	-	-	-	-	-	0.182	0.080	0.072	0.138	-	0.075
Chromium Reducible Sulphur (acidity units)	mole H+/t	10		<10	74	<10	-	-	-	-	-	113	50	45	86	-	47
ASS - Excess ANC																	
Excess Acid Neutralising Capacity	%CaCO3	0.02		-	-	-	-	-	0.369	-	-	-	-	-	-	-	-
Excess Acid Neutralising Capacity (acidity units)	mole H+/t	10		-	-	-	-	-	74	-	-	-	-	-	-	-	-
Excess Acid Neutralising Capacity (sulfur units)	%S	0.02		-	-	-	-	-	0.118	-	-	-	-	-	-	-	-
ASS - Acid Base Accounting																	
ANC Fineness Factor	-	0.5		1.5	1.5	1.5	-	-	1.5	1.5	-	1.5	1.5	1.5	1.5	-	1.5
Net Acidity (acidity units)	mole H+/t	10		10	74	15	-	-	<10	<10	-	92	<10	31	<10	-	<10
Net Acidity (sulfur units)	%S	0.02	0.03	<0.02	0.12	0.02	-	-	<0.02	<0.02	-	0.15	<0.02	0.05	<0.02	-	<0.02
Liming Rate	kg CaCO3/t	1		<1	6	1	-	-	<1	<1	-	7	<1	2	<1	-	<1
Net Acidity excluding ANC (acidity units)	mole H+/t	10	18	10	74	15	-	-	<10	<10	-	113	50	45	86	-	47
Net Acidity excluding ANC (sulfur units)	%S	0.02		<0.02	0.12	0.02	-	-	<0.02	<0.02	-	0.18	0.08	0.07	0.14	-	0.08
Liming Rate excluding ANC	kg CaCO3/t	1		<1	6	1	-	-	<1	<1	-	8	4	3	6	-	4
Major Ions																	
Calcium	mg/kg	10		<10	40	<10	<10	20	-	<10	<10	<10	<10	<10	<10	60	<10
Magnesium	mg/kg	10		<10	260	<10	<10	20	-	20	<10	<10	<10	<10	<10	90	<10
Potassium	mg/kg	10		<10	50	<10	20	110	-	10	<10	20	10	<10	<10	40	10
Sodium	mg/kg	10		20	50	<10	20	20	-	120	130	80	130	130	120	210	490
Chloride	mg/kg	10		30	30	<10	<10	<10	-	30	180	20	70	80	50	110	220
Sulfate	mg/kg	10		<10	1,210	20	100	240	-	90	<10	160	160	130	150	810	530
TOC																	
Total Organic Carbon	%			-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-
Metals																	
Arsenic (filtered)	mg/L	0.1		-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cadmium (filtered)	mg/L	0.05		-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium (III+VI) (filtered)	mg/L	0.1		-	-	-	-	-	-	-	-	-	-	-	-	-	-
Copper (filtered)	mg/L	0.1		-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead (filtered)	mg/L	0.1		-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mercury (filtered)	mg/L	0.001		-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nickel (filtered)	mg/L	0.1		-	-	-	-	-	-	-	-	-	-	-	-	-	-
Zinc (filtered)	mg/L	0.1		-	-	-	-	-	-	-	-	-	-	-	-	-	-
Biological																	
Sulfate Reducing Bacteria Population Estimate	pac/g			-	-	<200	-	-	-	-	-	-	-	-	-	-	-
Sulfate Reducing Bacteria Aggressivity	-	1		-	-	1	-	-	-	-	-	-	-	-	-	-	-
SPOCAS																	
Acid Neutralising Capacity	% CaCO3			-	-	-	-	-	-	-	-	0.89	0.66	0.77	0.68	-	5.27
Acid Neutralising Capacity (acidity units)	mole H+/t	10		-	-	-	-	-	-	-	-	178	132	154	136	-	1,050
Acid Neutralising Capacity (sulfur units)	%S	0.01		-	-	-	-	-	-	-	-	0.28	0.21	0.25	0.22	-	1.69

Appendix J Table 6
Summary of Soil Analytical Results for Acid Sulphate Parameters

			Location Code	NEL-BH076	NEL-BH083	NEL-BH083	NEL-BH084	NEL-BH084	NEL-BH084	NEL-BH084	NEL-BH085	NEL-BH085	NEL-BH087	NEL-BH087
			Field ID	NEL-BH076_39.79-40.02m	NEL-BH083_14.84-15.0m	NEL-BH083_25.0-25.22m	NEL-BH084_15.3-15.40m	NEL-BH084_20.0-20.08m	NEL-BH084_29.63-29.79m	NEL-BH084_37.95-38.05m	NEL-BH085_5.0-5.12m	NEL-BH085_15.0-15.1m	NEL-BH087_5.60-5.79m	NEL-BH087_14.90-15.10m
			Date	6/04/2018	6/04/2018	6/04/2018	6/04/2018	6/04/2018	6/04/2018	6/04/2018	6/04/2018	6/04/2018	6/04/2018	6/04/2018
			Depth	39.79 - 40.02	14.84 - 15	25 - 25.22	15.3 - 15.4	20 - 20.08	29.63 - 29.79	37.95 - 38.05	5 - 5.12	15 - 15.1	5.6 - 5.79	14.9 - 15.1
			Matrix Type	Rock	Rock	Rock	Rock	Rock	Rock	Rock	Rock	Rock	Rock	Rock
			Lab Report Number	EM1805796	EM1805796	EM1805796	EM1805796	EM1805796	EM1805796	EM1805796	EM1805796	EM1805796	EM1805796	EM1805796
ASS - Magnesium Values														
KCl Extractable Magnesium	%Mg	0.02		-	-	-	-	-	<0.020	-	-	-	-	-
Magnesium in Peroxide	%Mg	0.02		-	-	-	-	-	0.020	-	-	-	-	-
Acid Reacted Magnesium	%Mg	0.02		-	-	-	-	-	0.020	-	-	-	-	-
Acid Reacted Magnesium (acidity units)	mole H+/t	10		-	-	-	-	-	16	-	-	-	-	-
Acid Reacted Magnesium (sulfur units)	%S	0.02		-	-	-	-	-	0.026	-	-	-	-	-
ASS - Potential Acidity														
Chromium Reducible Sulfur	%S	0.005		-	0.182	0.222	0.011	-	0.114	0.364	-	-	0.008	0.007
Chromium Reducible Sulphur (acidity units)	mole H+/t	10		-	113	138	<10	-	71	227	-	-	<10	<10
ASS - Excess ANC														
Excess Acid Neutralising Capacity	%CaCO3	0.02		-	-	-	-	-	-	-	-	-	-	-
Excess Acid Neutralising Capacity (acidity units)	mole H+/t	10		-	-	-	-	-	-	-	-	-	-	-
Excess Acid Neutralising Capacity (sulfur units)	%S	0.02		-	-	-	-	-	-	-	-	-	-	-
ASS - Acid Base Accounting														
ANC Fineness Factor	-	0.5		-	1.5	1.5	1.5	-	1.5	1.5	-	-	1.5	1.5
Net Acidity (acidity units)	mole H+/t	10		-	38	67	<10	-	72	230	-	-	<10	<10
Net Acidity (sulfur units)	%S	0.02	0.03	-	0.06	0.11	<0.02	-	0.11	0.37	-	-	<0.02	<0.02
Liming Rate	kg CaCO3/t	1		-	3	5	<1	-	5	17	-	-	<1	<1
Net Acidity excluding ANC (acidity units)	mole H+/t	10	18	-	113	138	<10	-	72	230	-	-	<10	<10
Net Acidity excluding ANC (sulfur units)	%S	0.02		-	0.18	0.22	<0.02	-	0.11	0.37	-	-	<0.02	<0.02
Liming Rate excluding ANC	kg CaCO3/t	1		-	8	10	<1	-	5	17	-	-	<1	<1
Major Ions														
Calcium	mg/kg	10		<10	<10	<10	-	20	<10	30	<10	<10	<10	<10
Magnesium	mg/kg	10		<10	<10	<10	-	50	20	100	<10	<10	<10	<10
Potassium	mg/kg	10		20	20	<10	-	50	40	80	<10	30	<10	<10
Sodium	mg/kg	10		180	110	60	-	190	110	170	160	180	250	160
Chloride	mg/kg	10		40	40	20	-	100	80	50	110	80	300	160
Sulfate	mg/kg	10		320	140	70	-	530	260	850	70	260	30	30
TOC														
Total Organic Carbon	%			-	-	-	-	-	-	-	-	-	-	-
Metals														
Arsenic (filtered)	mg/L	0.1		-	-	-	-	-	-	-	-	-	-	-
Cadmium (filtered)	mg/L	0.05		-	-	-	-	-	-	-	-	-	-	-
Chromium (III+VI) (filtered)	mg/L	0.1		-	-	-	-	-	-	-	-	-	-	-
Copper (filtered)	mg/L	0.1		-	-	-	-	-	-	-	-	-	-	-
Lead (filtered)	mg/L	0.1		-	-	-	-	-	-	-	-	-	-	-
Mercury (filtered)	mg/L	0.001		-	-	-	-	-	-	-	-	-	-	-
Nickel (filtered)	mg/L	0.1		-	-	-	-	-	-	-	-	-	-	-
Zinc (filtered)	mg/L	0.1		-	-	-	-	-	-	-	-	-	-	-
Biological														
Sulfate Reducing Bacteria Population Estimate	pac/g			-	-	-	-	-	-	-	-	-	-	-
Sulfate Reducing Bacteria Aggressivity	-	1		-	-	-	-	-	-	-	-	-	-	-
SPOCAS														
Acid Neutralising Capacity	% CaCO3			-	0.57	0.54	-	-	-	-	-	-	0.28	0.64
Acid Neutralising Capacity (acidity units)	mole H+/t	10		-	113	107	-	-	-	-	-	-	56	128
Acid Neutralising Capacity (sulfur units)	%S	0.01		-	0.18	0.17	-	-	-	-	-	-	0.09	0.20

Appendix J Table 6
Summary of Soil Analytical Results for Acid Sulphate Parameters

			Location Code	NEL-BH089	NEL-BH089	NEL-BH092	NEL-BH092	NEL-BH093	NEL-BH095	NEL-BH095	NEL-BH099	NEL-BH099
			Field ID	NEL-BH089_8.70-8.90m	NEL-BH089_15.0-15.7m	NEL-BH092_5.0-5.10m	NEL-BH092_9.85-10.0m	NEL-BH093_5.05-5.17m	NEL-BH095_5.45-5.55m	NEL-BH095_9.97-10.11m	NEL-BH099_10.0-10.10m	NEL-BH099_20.04-20.18m
			Date	6/04/2018	6/04/2018	6/04/2018	6/04/2018	6/04/2018	6/04/2018	6/04/2018	6/04/2018	6/04/2018
			Depth	8.7 - 8.9	15 - 15.7	5 - 5.1	9.85 - 10	5.05 - 5.17	5.45 - 5.55	9.97 - 10.11	10 - 10.1	20.04 - 20.18
			Matrix Type	Rock	Rock	Rock	Rock	Rock	Soil	Rock	Rock	Rock
			Lab Report Number	EM1805796	EM1805796	EM1805796	EM1805796	EM1805796	EM1805796	EM1805796	EM1805796	EM1805796
ASS - Magnesium Values												
KCl Extractable Magnesium	%Mg	0.02		-	-	-	-	-	-	-	-	-
Magnesium in Peroxide	%Mg	0.02		-	-	-	-	-	-	-	-	-
Acid Reacted Magnesium	%Mg	0.02		-	-	-	-	-	-	-	-	-
Acid Reacted Magnesium (acidity units)	mole H+/t	10		-	-	-	-	-	-	-	-	-
Acid Reacted Magnesium (sulfur units)	%S	0.02		-	-	-	-	-	-	-	-	-
ASS - Potential Acidity												
Chromium Reducible Sulfur	%S	0.005		0.006	0.005	0.007	0.006	0.006	0.006	0.007	0.006	0.122
Chromium Reducible Sulphur (acidity units)	mole H+/t	10		<10	<10	<10	<10	<10	<10	<10	<10	76
ASS - Excess ANC												
Excess Acid Neutralising Capacity	%CaCO3	0.02		-	-	-	-	-	-	-	-	-
Excess Acid Neutralising Capacity (acidity units)	mole H+/t	10		-	-	-	-	-	-	-	-	-
Excess Acid Neutralising Capacity (sulfur units)	%S	0.02		-	-	-	-	-	-	-	-	-
ASS - Acid Base Accounting												
ANC Fineness Factor	-	0.5		1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Net Acidity (acidity units)	mole H+/t	10		<10	<10	<10	<10	<10	<10	<10	<10	76
Net Acidity (sulfur units)	%S	0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.12
Liming Rate	kg CaCO3/t	1		<1	<1	<1	<1	<1	<1	<1	<1	6
Net Acidity excluding ANC (acidity units)	mole H+/t	10	18	<10	<10	<10	<10	<10	<10	<10	<10	76
Net Acidity excluding ANC (sulfur units)	%S	0.02		<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.12
Liming Rate excluding ANC	kg CaCO3/t	1		<1	<1	<1	<1	<1	<1	<1	<1	6
Major Ions												
Calcium	mg/kg	10		<10	<10	-	<10	<10	<10	-	<10	<10
Magnesium	mg/kg	10		<10	<10	-	<10	<10	<10	-	<10	<10
Potassium	mg/kg	10		<10	<10	-	<10	<10	<10	-	<10	30
Sodium	mg/kg	10		320	320	-	390	240	140	-	110	110
Chloride	mg/kg	10		460	460	-	520	320	100	-	120	20
Sulfate	mg/kg	10		20	30	-	20	10	100	-	<10	230
TOC												
Total Organic Carbon	%			-	-	-	-	-	-	-	-	-
Metals												
Arsenic (filtered)	mg/L	0.1		-	-	-	-	-	-	-	-	-
Cadmium (filtered)	mg/L	0.05		-	-	-	-	-	-	-	-	-
Chromium (III+VI) (filtered)	mg/L	0.1		-	-	-	-	-	-	-	-	-
Copper (filtered)	mg/L	0.1		-	-	-	-	-	-	-	-	-
Lead (filtered)	mg/L	0.1		-	-	-	-	-	-	-	-	-
Mercury (filtered)	mg/L	0.001		-	-	-	-	-	-	-	-	-
Nickel (filtered)	mg/L	0.1		-	-	-	-	-	-	-	-	-
Zinc (filtered)	mg/L	0.1		-	-	-	-	-	-	-	-	-
Biological												
Sulfate Reducing Bacteria Population Estimate	pac/g			-	-	-	-	-	-	-	-	-
Sulfate Reducing Bacteria Aggressivity	-	1		-	-	-	-	-	-	-	-	-
SPOCAS												
Acid Neutralising Capacity	% CaCO3			0.24	-	0.67	0.31	-	-	-	-	-
Acid Neutralising Capacity (acidity units)	mole H+/t	10		49	-	134	62	-	-	-	-	-
Acid Neutralising Capacity (sulfur units)	%S	0.01		0.08	-	0.21	0.10	-	-	-	-	-

Appendix J Table 6
Summary of Soil Analytical Results for Acid Sulphate Parameters

			Location Code	NEL-BH100	NEL-BH100	NEL-BH108	NEL-BH110	NEL-BH114	NEL-BH122	NEL-BH124	NEL-BH124	NEL-BH124	NEL-BH137	NEL-BH137	NEL-BH150	NEL-BH101	NEL-BH101	NEL-EF-BH009	NEL-EF-BH014
			Field ID	NEL-BH100_5.10-5.30m	NEL-BH100_17.34-17.44m	NEL-BH108_5.7-5.79m	NEL-BH110_5.0-5.20m	NEL-BH114_5.22-5.30m	NEL-BH122_4.56-4.64m	NEL-BH124_25.0-25.12m	NEL-BH124_35.03-35.12m	NEL-BH124_45.0-45.1m	NEL-BH137_5.0m	NEL-BH137_14.87-15.0m	NEL-BH150_5.35-5.45m	NEL-BH101_1.90m	NEL-BH101_7.50m	NEL-EF-BH009_2.9m	NEL-EF-BH014_1.5m
			Date	6/04/2018	6/04/2018	6/04/2018	6/04/2018	6/04/2018	6/04/2018	6/04/2018	6/04/2018	6/04/2018	6/04/2018	6/04/2018	23/04/2018	29/06/2018	29/06/2018	4/07/2018	29/06/2018
			Depth	5.1 - 5.3	17.34 - 17.44	5.7 - 5.79	5 - 5.2	5.22 - 5.3	4.56 - 4.64	25 - 25.12	35.03 - 35.12	45 - 45.1	5 - 5.1	14.87 - 15	5.35 - 5.45	1.9	7.5	2.9	1.5
			Matrix Type	Rock	Rock	Rock	Soil	Rock	Rock	Rock	Rock	Rock	Soil	Rock	Rock	Soil	Soil	Soil	Soil
			Lab Report Number	EM1805796	EM1805796	EM1805796	EM1805796	EM1805796	EM1805796	EM1805796	EM1805796	EM1805796	EM1805796	EM1805796	EM1806836	EM1813212	EM1813212	EM1813212	EM1813212
ASS - Magnesium Values																			
KCl Extractable Magnesium	%Mg	0.02		-	-	-	-	-	-	-	-	-	-	-	<0.020	-	0.067	-	0.045
Magnesium in Peroxide	%Mg	0.02		-	-	-	-	-	-	-	-	-	-	-	<0.020	-	0.081	-	0.051
Acid Reacted Magnesium	%Mg	0.02		-	-	-	-	-	-	-	-	-	-	-	<0.020	-	<0.020	-	<0.020
Acid Reacted Magnesium (acidity units)	mole H+/t	10		-	-	-	-	-	-	-	-	-	-	-	<10	-	11	-	<10
Acid Reacted Magnesium (sulfur units)	%S	0.02		-	-	-	-	-	-	-	-	-	-	-	<0.020	-	<0.020	-	<0.020
ASS - Potential Acidity																			
Chromium Reducible Sulfur	%S	0.005		0.006	0.131	0.013	0.007	<0.005	0.005	0.011	0.064	0.112	0.010	0.010	-	<0.005	<0.005	<0.005	-
Chromium Reducible Sulphur (acidity units)	mole H+/t	10		<10	82	<10	<10	<10	<10	<10	40	70	<10	<10	-	<10	<10	<10	
ASS - Excess ANC																			
Excess Acid Neutralising Capacity	%CaCO3	0.02		-	-	-	-	-	-	-	-	-	-	-	-	-	0.096	-	-
Excess Acid Neutralising Capacity (acidity units)	mole H+/t	10		-	-	-	-	-	-	-	-	-	-	-	-	-	19	-	-
Excess Acid Neutralising Capacity (sulfur units)	%S	0.02		-	-	-	-	-	-	-	-	-	-	-	-	-	0.031	-	-
ASS - Acid Base Accounting																			
ANC Fineness Factor	-	0.5		1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Net Acidity (acidity units)	mole H+/t	10		<10	<10	<10	<10	<10	<10	<10	<10	70	<10	<10	<10	<10	<10	<10	<10
Net Acidity (sulfur units)	%S	0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.11	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Liming Rate	kg CaCO3/t	1		<1	<1	<1	<1	<1	<1	<1	<1	5	<1	<1	<1	<1	<1	<1	<1
Net Acidity excluding ANC (acidity units)	mole H+/t	10	18	<10	82	<10	<10	<10	<10	<10	40	70	<10	<10	<10	<10	<10	<10	<10
Net Acidity excluding ANC (sulfur units)	%S	0.02		<0.02	0.13	<0.02	<0.02	<0.02	<0.02	<0.02	0.06	0.11	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Liming Rate excluding ANC	kg CaCO3/t	1		<1	6	<1	<1	<1	<1	<1	3	5	<1	<1	<1	<1	<1	<1	<1
Major Ions																			
Calcium	mg/kg	10		<10	<10	-	-	<10	-	<10	<10	<10	-	-	<10	<10	<10	<10	<10
Magnesium	mg/kg	10		<10	<10	-	-	<10	-	<10	<10	<10	-	-	<10	<10	<10	<10	<10
Potassium	mg/kg	10		<10	20	-	-	<10	-	<10	10	20	-	-	<10	<10	10	<10	<10
Sodium	mg/kg	10		150	260	-	-	260	-	170	120	140	-	-	20	600	600	190	170
Chloride	mg/kg	10		150	160	-	-	350	-	180	90	60	-	-	20	730	720	80	170
Sulfate	mg/kg	10		50	260	-	-	10	-	40	90	220	-	-	20	190	160	130	40
TOC																			
Total Organic Carbon	%			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Metals																			
Arsenic (filtered)	mg/L	0.1		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cadmium (filtered)	mg/L	0.05		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium (III+VI) (filtered)	mg/L	0.1		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Copper (filtered)	mg/L	0.1		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead (filtered)	mg/L	0.1		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mercury (filtered)	mg/L	0.001		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nickel (filtered)	mg/L	0.1		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Zinc (filtered)	mg/L	0.1		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Biological																			
Sulfate Reducing Bacteria Population Estimate	pac/g			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sulfate Reducing Bacteria Aggressivity	-	1		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SPOCAS																			
Acid Neutralising Capacity	% CaCO3			-	3.29	-	-	-	0.51	-	1.24	-	0.22	-	-	-	-	-	-
Acid Neutralising Capacity (acidity units)	mole H+/t	10		-	657	-	-	-	102	-	247	-	44	-	-	-	-	-	-
Acid Neutralising Capacity (sulfur units)	%S	0.01		-	1.05	-	-	-	0.16	-	0.40	-	0.07	-	-	-	-	-	-

Appendix J Table 6
Summary of Soil Analytical Results for Acid Sulphate Parameters

			Location Code	NEL-EF-BH015	NEL-EF-BH017	NEL-EF-BH017	NEL-EF-BH017	NEL-EF-BH018	NEL-EF-BH018	NEL-EF-BH018	NEL-EF-BH019	NEL-EF-BH019	NEL-EF-BH019
			Field ID	NEL-EF-BH015_6.5m	NEL-EF-BH017_2m	NEL-EF-BH017_10m	NEL-EF-BH017_20m	NEL-EF-BH018_1.90m	NEL-EF-BH018_10m	NEL-EF-BH018_20m	NEL-EF-BH019_5m	NEL-EF-BH019_10m	NEL-EF-BH019_20m
			Date	29/06/2018	15/06/2018	14/08/2018	14/08/2018	25/06/2018	17/07/2018	17/07/2018	4/07/2018	13/07/2018	13/07/2018
			Depth	6.5	2	10	20	1.9	10	20	5	10	20
			Matrix Type	Soil	Soil	Rock	Rock	Soil	Rock	Rock	Soil	Rock	Rock
			Lab Report Number	EM1813212	EM1813212	EM1813212	EM1813212	EM1813212	EM1813212	EM1813212	EM1813212	EM1813212	EM1813212
ASS - Magnesium Values													
KCl Extractable Magnesium	%Mg	0.02		-	0.128	-	-	0.055	-	-	-	-	-
Magnesium in Peroxide	%Mg	0.02		-	0.132	-	-	0.072	-	-	-	-	-
Acid Reacted Magnesium	%Mg	0.02		-	<0.020	-	-	<0.020	-	-	-	-	-
Acid Reacted Magnesium (acidity units)	mole H+/t	10		-	<10	-	-	14	-	-	-	-	-
Acid Reacted Magnesium (sulfur units)	%S	0.02		-	<0.020	-	-	0.023	-	-	-	-	-
ASS - Potential Acidity													
Chromium Reducible Sulfur	%S	0.005		<0.005	-	0.211	0.164	<0.005	<0.005	0.179	<0.005	<0.005	<0.005
Chromium Reducible Sulphur (acidity units)	mole H+/t	10		<10		132	102	<10	<10	112	<10	<10	<10
ASS - Excess ANC													
Excess Acid Neutralising Capacity	%CaCO3	0.02		-	-	-	-	0.145	-	-	-	-	-
Excess Acid Neutralising Capacity (acidity units)	mole H+/t	10		-	-	-	-	29	-	-	-	-	-
Excess Acid Neutralising Capacity (sulfur units)	%S	0.02		-	-	-	-	0.046	-	-	-	-	-
ASS - Acid Base Accounting													
ANC Fineness Factor	-	0.5		1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Net Acidity (acidity units)	mole H+/t	10		<10	<10	76	16	<10	<10	62	<10	<10	<10
Net Acidity (sulfur units)	%S	0.02	0.03	<0.02	<0.02	0.12	0.02	<0.02	<0.02	0.10	<0.02	<0.02	<0.02
Liming Rate	kg CaCO3/t	1		<1	<1	6	1	<1	<1	5	<1	<1	<1
Net Acidity excluding ANC (acidity units)	mole H+/t	10	18	<10	<10	132	102	<10	<10	112	<10	<10	<10
Net Acidity excluding ANC (sulfur units)	%S	0.02		<0.02	<0.02	0.21	0.16	<0.02	<0.02	0.18	<0.02	<0.02	<0.02
Liming Rate excluding ANC	kg CaCO3/t	1		<1	<1	10	8	<1	<1	8	<1	<1	<1
Major Ions													
Calcium	mg/kg	10		<10	<10	-	-	<10	-	-	-	-	-
Magnesium	mg/kg	10		<10	<10	-	-	<10	-	-	-	-	-
Potassium	mg/kg	10		<10	<10	-	-	<10	-	-	-	-	-
Sodium	mg/kg	10		350	110	-	-	130	-	-	-	-	-
Chloride	mg/kg	10		410	40	-	-	490	-	-	-	-	-
Sulfate	mg/kg	10		60	20	-	-	20	-	-	-	-	-
TOC													
Total Organic Carbon	%			-	-	-	-	-	-	-	-	-	-
Metals													
Arsenic (filtered)	mg/L	0.1		-	-	-	-	-	-	-	-	-	-
Cadmium (filtered)	mg/L	0.05		-	-	-	-	-	-	-	-	-	-
Chromium (III+VI) (filtered)	mg/L	0.1		-	-	-	-	-	-	-	-	-	-
Copper (filtered)	mg/L	0.1		-	-	-	-	-	-	-	-	-	-
Lead (filtered)	mg/L	0.1		-	-	-	-	-	-	-	-	-	-
Mercury (filtered)	mg/L	0.001		-	-	-	-	-	-	-	-	-	-
Nickel (filtered)	mg/L	0.1		-	-	-	-	-	-	-	-	-	-
Zinc (filtered)	mg/L	0.1		-	-	-	-	-	-	-	-	-	-
Biological													
Sulfate Reducing Bacteria Population Estimate	pac/g			-	-	-	-	-	-	-	-	-	-
Sulfate Reducing Bacteria Aggressivity	-	1		-	-	-	-	-	-	-	-	-	-
SPOCAS													
Acid Neutralising Capacity	% CaCO3			-	-	-	-	-	-	-	-	-	-
Acid Neutralising Capacity (acidity units)	mole H+/t	10		-	-	-	-	-	-	-	-	-	-
Acid Neutralising Capacity (sulfur units)	%S	0.01		-	-	-	-	-	-	-	-	-	-

Appendix K – Landfill gas report

North East Link Project

Phase 3 Landfill Assessment

Surface Methane Emissions Monitoring

Surface Emissions Scan May 2018

April 2019

Table of contents

Annexures

1. Introduction

The existing conditions assessment conducted as part of the Environmental Effects Statement (EES) Technical report O – Contamination and soil identified an increased potential for soil and groundwater contamination at a number of sites within the North East Link project boundary. A number of landfills and localised fill sites were identified within or partly within the project boundary, and it was recommended that further assessment was undertaken at six locations to characterise the potential risk to human health and the environment associated with constructing North East Link.

Due to access restrictions, two of the six sites were unable to be monitored. The four sites where landfill gas monitoring was undertaken are:

- M80 Ring Road/Greensborough Bypass
- AK Lines Reserve, Watsonia
- Borlase Reserve, Yallambie
- Bulleen Oval in Bulleen Park, Bulleen.

The landfill gas monitoring consisted of surface methane emissions monitoring and monitoring of underground services for methane.

1.1 Purpose

This report presents the details, results and analysis of the landfill gas (methane) monitoring undertaken in May 2018. Landfill gas monitoring was undertaken to assist in characterising risk and to inform the EES.

1.2 Scope and method

The landfill gas monitoring at the four sites consisted of:

- Surface methane emissions monitoring across the ground surface areas
- Monitoring of all identified underground services on the sites for methane.

Landfill gas monitoring was conducted in general accordance with Environment Protection Authority (EPA) Publication 1684: *Landfill gas fugitive emissions monitoring guidelines* (February 2018). All monitoring was conducted by an appropriately qualified and experienced person.

A Laser One low concentration methane detector was used for the monitoring works. The calibration certificate for this instrument is presented in Annexure B.

A portable anemometer was used to measure wind speed during monitoring and an ArcGIS phone application with GPS tracking was used to assist in walking transects across the sites and to log methane emission locations.

1.1 Limitations

The opinions, conclusions and any recommendations in this report are based on site conditions encountered and information reviewed at the date of preparation of this document. Site conditions may change after the date of this document. GHD does not accept responsibility arising from, or in connection with, any change to the site conditions or to account for events or changes occurring subsequent to the date that this document was prepared.

2. Landfill conditions

2.1 Landfill locations

2.1.1 M80 Ring Road/Greensborough Bypass

Waste material was found at this location during test pitting undertaken as part of geotechnical investigations for the M80 Ring Road upgrade project (VicRoads 2015). The waste material encountered consisted of putrescible waste, glass bottles, plastics, car body parts, concrete and ash. A strong ammonia odour was also noted in the geotechnical logs. Historical aerial photographs of the M80 Ring Road/Greensborough Bypass site indicated a potential quarry that was backfilled with waste material. The period in which the quarry was backfilled with waste is unknown.

The M80 Ring Road/Greensborough Bypass site is shown in Figure 4 in Annexure A, with the boundary of the monitoring area shown in red.

2.1.2 AK Lines Reserve

Banyule City Council provided a register of potentially contaminated sites that listed AK Lines Reserve as a former landfill site. Historical aerials of the AK Lines Reserve indicate that filling commenced in the late 1950s and ceased in the mid-1960s. It is unlikely the landfill was lined or suitably capped, as this was not standard practice at the time of its operation.

AK Lines Reserve is shown in Figure 5 in Annexure A, with the boundary of the monitoring area shown in red.

2.1.3 Borlase Reserve

VicRoads Report No. 91-01-15-01 (VicRoads, 2010) indicated that a possible former landfill is located at Borlase Reserve, Yallambie. Historical aerial photographs indicated that earthworks occurred at the reserve, but it is unclear whether the works were associated with deposition of waste. Drilling at the reserve undertaken as part of the geotechnical investigation for North East Link indicated minor fill consisting of construction and demolition waste, which confirms that filling most likely occurred in the area.

Borlase Reserve is shown in Figure 6 in Annexure A, with the boundary of the monitoring area shown in red.

2.1.4 Bulleen Oval

The geotechnical investigations for North East Link encountered uncontrolled fill material (including some asbestos sheeting) in boreholes surrounding Bulleen Oval in Bulleen Park. Historical aerial photographs confirm the presence of a former landfill in the area.

Bulleen Park is shown in Figure 7 in Annexure A, with the boundary of the monitoring area shown in red.

2.2 Atmospheric pressure

Atmospheric pressure can influence landfill gas monitoring results. Rapid alterations in atmospheric pressure (increasing or decreasing) over short time periods immediately before or during monitoring can decrease or increase landfill gas emissions from a landfill site. When the atmospheric pressure is very low, methane fluxes can be higher than normal, and vice versa. Ideally, methane emissions surveys should be conducted when atmospheric pressure is neither extreme but preferable when atmospheric pressure is falling, to represent the worst-case scenario. Meteorological effects can be self-cancelling because low atmospheric pressure is usually accompanied by rainfall, which reduces the permeability of the soil and can reduce surface emissions. According to EPA Victoria Publication 1684: *Landfill gas fugitive emissions monitoring guidelines*, methane surface emissions monitoring should not be conducted if atmospheric pressure at the site is rising sharply or is very much higher than the average for the geographical area of the landfill.

With reference to the UK Environment Agency Publication LFTGN 03, *Guidance on the management of landfill gas*, it is considered that falling atmospheric pressure over a three-hour period is critical to the rate of gas migration/venting. Based on UK monitoring records, a drop in atmospheric pressure of 5 mbar over three hours represents a typical 'worst-case' scenario (although it is noted this data is specific to climate conditions at locations in the UK).

Guidance from EPA NSW in its 2012 publication *Guidelines for the Assessment and Management of Sites Impacted by Hazardous Ground Gases* also emphasises that landfill gas monitoring should include measurements taken during falling atmospheric pressure conditions, stating:

> *'For Australian conditions, a worst-case meteorological scenario can be estimated from the fifth percentile three-hour pressure decrease rate for the site, based on a two-year data set for the nearest Bureau of Meteorology site with continuous pressure recording.'*

Based upon GHD's experience at other sites around Victoria, a reasonably significant pressure drop is considered to be in the order of 4 mbar/hPa over three hours.

The sites were monitored on 9 and 10 May 2018. GHD endeavours to undertake landfill gas monitoring following a drop in atmospheric pressure. Atmospheric pressure data (as measured at Viewbank Bureau of Meteorology (BoM) weather station (the closest weather station to all the sites) is shown in Figure 1 and Figure 2. Atmospheric pressure was relatively stable with only a slight increased from 1019 mbar to 1020.5 mbar in the three hours leading up to the start of monitoring on 9 May 2018. The atmospheric pressure decreased throughout the monitoring that day, from 1020.5 mbar to 1015 mbar. On 10 May 2018, atmospheric pressure was relatively stable in the three hours prior to monitoring, and decreasing for the duration of the monitoring event, from 1011 mbar to 1009 mbar.

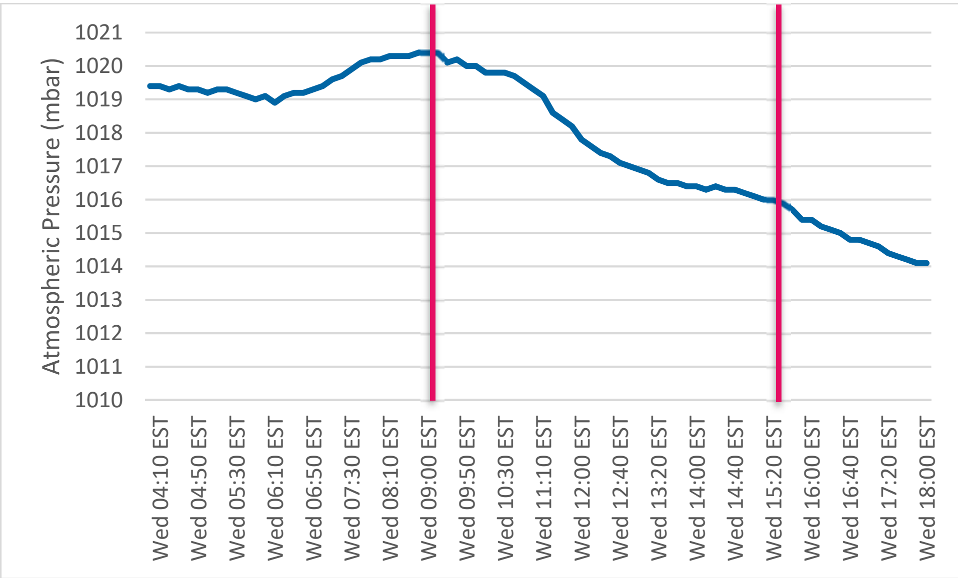

Figure 1 Atmospheric pressure data (m bar) 9 May 2018

Note: Monitoring period shown in red

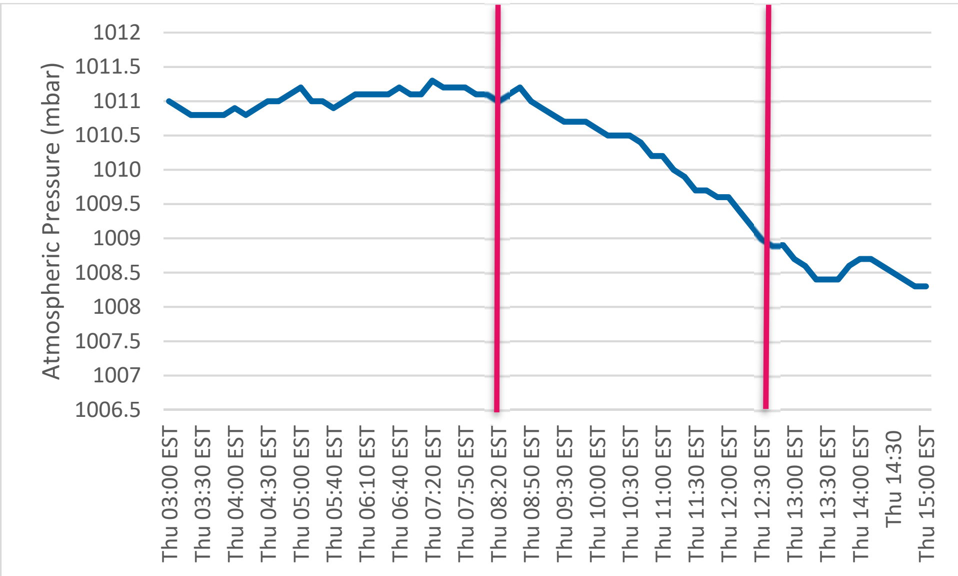

Figure 2 Atmospheric pressure data (m bar) 10 May 2018

Note: Monitoring period shown in red

2.3 Rainfall

Rainfall can also play a significant role in landfill gas emissions, as a saturated surface will restrict the surface emission of methane and so theoretically increase the subsurface migration of methane.

The weather station recorded no rainfall in the 24 hours prior to, and during, the monitoring on Wednesday 9 May 2018. A total of 13.8 millimetres of rainfall was recorded overnight prior to monitoring at AK Lines Reserve on Thursday 10 May 2018. This rainfall may have reduced the permeability of the soil and so reduce surface emissions. The ground was observed to be moist but no water pooling was observed at the reserve.

2.4 Wind speed

According to EPA Victoria Publication 1684: *Landfill gas fugitive emissions monitoring guidelines*, high wind speeds (greater than 10 km/hr) can cause landfill surface gas emissions to be diluted, making landfill gas emissions appear falsely low.

Wind speed measurements were taken with a handheld anemometer, held five centimetres from the surface approximately every 15 minutes while undertaking surface scanning.

Winds were settled during monitoring on 9 and 10 May 2018, with all surface readings below 10 km/hr. At times of strong gusts, monitoring was paused.

Overall wind is not expected to have impacted on surface methane emissions monitoring results.

2.5 Conclusions

During the monitoring, atmospheric pressure was falling prior to and during monitoring. There was some rainfall recorded prior to monitoring one site—AK Lines Reserve—which may result in underestimating the risk of surface methane emissions at the reserve during normal site conditions. Wind during the monitoring days were not expected to have affected monitoring results.

3. Underground services monitoring

3.1 Monitoring network

Monitoring of all identified underground services on the sites was undertaken on 9 and 10 May 2018. All identified and monitored underground services are shown in Figure 4 to Figure 7 in Annexure A.

3.2 Assessment levels

EPA Victoria Publication 788.3: *Siting, design, operation and rehabilitation of landfills* (the Landfill Best Practice Environmental Management – Landfill BPEM) provides landfill gas action levels for licensed landfills to meet compliance. EPA Victoria Publication 1490.1: *Closed landfill guidelines* states that closed landfills which present unacceptable landfill gas risks may also be required to meet these Landfill BPEM landfill gas action levels through post closure pollution abatement notices (PC PANs). As the sites monitored during this work are not licensed landfills or under an above referred PC PAN, the action levels do not apply, but they can provide a guide to the landfill gas levels that may increase risk to people or the environment.

The Landfill BPEM action level for subsurface services is 10,000 ppm methane (or 1% v/v methane).

3.3 Results and discussion

Underground services were monitored inside the service where there was access to insert the instrument, and otherwise around the edges of the service lid.

No elevated results (≥10000 ppm) were recorded during underground service monitoring at the M80 Ring Road/Greensborough Bypass, AK Lines Reserve and Borlase Reserve sites (refer to Figure 4, Figure 5 and Figure 6 in Annexure A). It is noted that one sewer pit at Borlase Reserve recorded a methane reading of 486 ppm, which is above ambient level, but this is well below the Landfill BPEM action level for subsurface services and is likely attributed to sources other than landfill gas, such as the contents of the sewer.

One underground electricity service pit monitored at Bulleen Oval recorded an elevated result of 16,000 ppm or 1.6 % v/v), which is above the Landfill BPEM action level. The location of this elevated reading is shown in Figure 7 in Annexure A. Nearby underground services monitored did not record methane concentrations above ambient levels. As discussed in Section 3.2, the Landfill BPEM action levels are not applicable to this site, but as part of the site occupational health and safety all site staff and contractors should be made aware of the potential risks associated with landfill gas when entering/working around underground service pits and other confined spaces. The lower explosive limit is 5% v/v methane. While still below this, higher concentrations of methane may migrate to the service pit after a significant drop in atmospheric pressure.

4. Surface methane emissions monitoring

4.1 Monitoring network

Surface methane emissions monitoring was undertaken across the four sites in the areas shown in Figure 4 to Figure 7 in Annexure A.

4.2 Assessment levels

The Landfill BPEM provides landfill gas action levels for licensed landfills to meet compliance. EPA Victoria Publication 1490.1: *Closed landfill guidelines* states that closed landfills that present unacceptable landfill gas risks may also be required to meet these Landfill BPEM landfill gas action levels through post closure pollution abatement notices (PC PANs). As the sites monitored during this work are not licensed landfills or under an above referred PC PAN, the action levels do not apply, but they can provide a guide to the landfill gas levels that may increase risk to people or the environment.

The Landfill BPEM action level for surface emissions over a final cap is 100 ppm methane, measured five centimetres from the ground surface.

EPA Victoria will accept an average of the surface emissions data to be used for reporting compliance where the maximum concentration below is not exceeded:

- Final cap – a mean of 100 ppm with no individual result exceeding 200 ppm.

4.3 Results and discussion

Surface methane emissions monitoring was undertaken from 9 to 10 May 2018.
The environmental conditions at the time of monitoring are addressed in Section 2.

Methane concentrations were monitored continuously along 25-metre transects at a height of 50 millimetres above ground level. EPA Victoria Publication 1684: *Landfill gas fugitive emissions monitoring guidelines* recommends transects at 50-metre intervals for final caps, but to be conservative, transects were spaced 25 metres apart. The methane levels were continuously monitored and concentrations above ambient levels (> 3 ppm) were recorded. A point was plotted every 30 seconds along the transects walked. The accuracy of the plotted points are limited to the accuracy of the GPS (± 5 metres) and the software.

No elevated results (≥100 ppm) were recorded during surface emissions scanning at the M80 Ring Road/Greensborough Bypass, Borlase Reserve and Bulleen Oval sites (refer to Figure 4, Figure 6 and Figure 7 in Annexure A).

Only one location at AK Lines Reserve recorded a reading above 100 ppm, with 160 ppm methane detected to the north-east of the centre of the sports oval. The location of this elevated reading is shown in Figure 5 in Annexure A. No obvious cracks or protrusions in the ground were identified where the elevated reading was recorded that may have created a preferential pathway for the methane from the ground to the surface (refer to Figure 3 below). All other readings at AK Lines Reserve were ambient (~2 ppm methane).

Figure 3 Ground surface at AK Lines Reserve where methane reading of 160 ppm was recorded

Atmospheric conditions that are expected to cause a ‘worst-case scenario’ in methane emissions is a drop in atmospheric pressure of 4 mbar in the three hours prior to monitoring. Atmospheric pressure was decreasing during the monitoring of AK Lines Reserve when this concentration was recorded, but the decrease in atmospheric pressure was less than 4 mbar. The rainfall recorded prior to monitoring and wet ground conditions observed during monitoring may have resulted in lower surface methane emissions than would otherwise be recorded during dry ground conditions, as the saturated ground reduces its permeability and thus the movement of methane through the ground surface.

While above the 100 ppm Landfill BPEM action level, the reading is not considered an exceedance. As noted in EPA Victoria Publication 1684, EPA Victoria will accept an average of the surface emissions data to be used for reporting compliance where the maximum concentration (100 ppm with no individual result exceeding 200 ppm for final caps) is not exceeded.

The Landfill BPEM notes that landfill gas can cause potential risks following cessation of filling for at least 30 years. The concentration recorded suggests that landfilled waste is still decomposing, with methane being generated. However, as it has been over 40 years since the cessation of waste deposition at AK Lines Reserve, it is expected that peak landfill gas generation has already occurred (usually peaks immediately following the closure of a landfill). The methane concentration detected does not indicate a significant risk to users of the reserve. Being out in the open, any methane emissions would be expected to rapidly dissipate and the 160 ppm reading is well below the lower explosive limit for methane (50,000 ppm).

5. Quality assurance and quality control

Landfill gas monitoring conducted by GHD is subject to a number of quality control measures and is undertaken as per EPA Victoria Publication 1684: *Landfill gas fugitive emissions monitoring guidelines* (2018).

Monitoring was undertaken by a suitably qualified and experienced staff member. A Laser One (serial # 16709.16) and anemometer were used, with the instruments being calibrated prior to use (calibration certificate is attached in Annexure B). The calibration was undertaken by the instrument manufacturer, Huberg.

The landfill gas monitoring was conducted in accordance with a number of quality control considerations, including:

- All monitoring was conducted by a suitably qualified and trained GHD engineer
- Appropriate instruments were used for each monitoring task, consistent with the requirements of EPA Victoria Publication 1684
- Monitoring staff were trained in the use of the particular instruments used
- Operation manuals for the instruments were reviewed and available on-site in case of instrument malfunction
- Field staff had read and were familiar with the landfill gas section of the Landfill BPEM
- Instruments were calibrated by the instrument suppliers prior to the start of monitoring
- Instruments were used in accordance with manufacturers' specifications
- Appropriate landfill gas monitoring techniques and methods were used for each monitoring task
- Ongoing assessment of results during monitoring was conducted to identify areas of risk and target additional monitoring.

As identified in Section 2, meteorological conditions are generally considered to have been appropriate for the landfill gas monitoring undertaken and so the results obtained are considered representative of prevailing conditions at the time of monitoring.

6. Conclusions and recommendations

6.1 Conclusions

The following conclusions are made in relation to the May 2018 landfill gas monitoring.

6.1.1 Site conditions

Atmospheric pressure was stable/falling prior to and during both days of monitoring. Wind speeds were below 10 km/hr, and thus are not expected to have diluted gases at the ground level. There was some rainfall prior to monitoring of AK Lines Reserve on 10 May 2018, which may have resulted in under-estimating the risk of surface methane emissions at the site during normal site conditions, but no areas of pooled water were observed during monitoring.

The site conditions are taken into consideration in the analysis and discussion of the results of this monitoring.

6.1.2 Underground services monitoring

No elevated results (≥10,000 ppm) were recorded during underground service monitoring at the M80 Ring Road/Greensborough Bypass, AK Lines Reserve and Borlase Reserve sites.

One underground electricity service pit monitored at Bulleen Oval recorded an elevated result of 16,000 ppm (or 1.6 % v/v). This result is below the lower explosive limit of methane (5% v/v).

6.1.3 Surface methane emission monitoring

No elevated results (≥100 ppm) were recorded during surface emissions scanning at the M80 Ring Road/Greensborough Bypass, Borlase Reserve and Bulleen Oval.

One location at AK Lines Reserve recorded a reading of 160 ppm methane to the north east of the centre of the sports oval. This is not expected to pose any significant risk to users of the reserve.

Annexures

Annexure A – Figures

Paper Size A3

0 10 20 30 40

Metres

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 55

N

Monitored subsurface service

- Above Ambient methane concentration
- Above ambient methane concentration
- Monitored Area

NOTE: Surface emissions monitored in 25 m transects across the site. Surface methane emissions recorded at ambient concentrations unless otherwise noted on the figure.

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Date	27 Feb 2019

Surface methane gas emissions scan
M80/Greensborough Hwy Bypass, Nth Watsonia **Figure 4**

G:\31\35006\GIS\Maps\Working\Specialist Submission\EES\Contaminated Land\Methane_Monitoring\3135006_Surface_Methane Emmisions_A3L_RevD.mxd

Job Ref: 20180523A

180 Lonsdale Street Melbourne VIC 3000 Australia **T** 61 3 8687 8000 **F** 61 3 8687 8111 **E** melmail@ghd.com **W** www.ghd.com

Data source: DELWP: CIP Imagery 2018; Roads, waterways, rail, parks, localities - Vicmap - 2019. Survey Data - GHD - 2018. Created by:trighetti

Paper Size A3

0 10 20 30 40

Metres

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 55

N

Monitored subsurface service
- Above Ambient methane concentration
- Above ambient methane concentration

Surface emissions monitoring
- Above ambient methane concentration

Monitored Area
Railway

NOTE: Surface emissions monitored in 25 m transects across the site. Surface methane emissions recorded at ambient concentrations unless otherwise noted on the figure.

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North East Link Project
Environment Effects Statement (EES)

Job Number 31-35006
Revision D
Date 27 Feb 2019

Surface methane gas emissions scan
AK Line Reserve, Watsonia.

Figure 5

G:\31\35006\GIS\Maps\Working\Specialist Submission\EES\Contaminated Land\Methane_Monitoring\3135006_Surface_Methane Emmisions_A3L_RevD.mxd

Job Ref: 20180523A

180 Lonsdale Street Melbourne VIC 3000 Australia T 61 3 8687 8000 F 61 3 8687 8111 E melmail@ghd.com W www.ghd.com

Data source: DELWP: CIP Imagery 2018; Roads, waterways, rail, parks, localities - Vicmap - 2019. Survey Data - GHD - 2018. Created by:trighetti

Paper Size A3

0 10 20 30 40

Metres

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 55

N

Monitored subsurface service

- Above Ambient methane concentration
- Above ambient methane concentration
- Monitored Area
- Stream
- Drain or channel

NOTE: Surface emissions monitored in 25 m transects across the site. Surface methane emissions recorded at ambient concentrations unless otherwise noted on the figure.

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Environment Effects Statement (EES)

Job Number 31-35006
Revision D
Date 27 Feb 2019

Surface methane gas emissions scan
Borlase St Reserve, Yallambie.

Figure 6

G:\31\35006\GIS\Maps\Working\Specialist Submission\EES\Contaminated Land\Methane_Monitoring\3135006_Surface_Methane Emmisions_A3L_RevD.mxd

Job Ref: 20180523A

180 Lonsdale Street Melbourne VIC 3000 Australia T 61 3 8687 8000 F 61 3 8687 8111 E melmail@ghd.com W www.ghd.com

Data source: DELWP: CIP Imagery 2018; Roads, waterways, rail, parks, localities - Vicmap - 2019. Survey Data - GHD - 2018. Created by:trighetti

Paper Size A3

0 10 20 30 40

Metres

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 55

N

Monitored subsurface service

- Above Ambient methane concentration
- Above ambient methane concentration
- Monitored Area
- Watercourse

NOTE: Surface emissions monitored in 25 m transects across the site. Surface methane emissions recorded at ambient concentrations unless otherwise noted on the figure.

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Revision	D
Date	27 Feb 2019

Surface methane gas emissions scan
Bulleen Park Football Oval, Bulleen

Figure 7

G:\31\35006\GIS\Maps\Working\Specialist Submission\EES\Contaminated Land\Methane_Monitoring\3135006_Surface_Methane Emmisions_A3L_RevD.mxd

Job Ref: 20180523A

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Data source: DELWP: CIP Imagery 2018; Roads, waterways, rail, parks, localities - Vicmap - 2019. Survey Data - GHD - 2018. Created by:trighetti

Annexure B – Calibration certificates

Calibration certificate number 41584

Instrument LaserOne01 Serial number Huberg 16709.16

Calibration procedure description

UNI IEC ISO 14253-1: 2013 states that the measurement uncertainty has to be less than the maximum admissible error limits; calibration of the instrument is performed by measuring the response of the detection sensor compared to known concentrations. When the detected uncertainty is less than the maximum admisibble error limits of the measuring equipment, the calibration is complant.

Check of the instrument between 0 ÷ 10000 ppm CH4

Full scale (ppm)	Gas concentration (ppm)	Response1 (ppm)	Response2 (ppm)	Response3 (ppm)	Average response (ppm)	Max error (ppm)	Max error (% F.s.)
1000	0	0	0	0	0,00	0,00	0,00
1000	100	100	99	100	99,67	1,00	0,10
1000	1000	997	998	998	997,67	3,00	0,30

Uncertainty	0,30	%
Max % error	0,30	% Fs

Check of the instrument between 0 ÷ 100 % vol CH4

Full scale (%vol)	Gas concentration (%vol)	Response1 (%vol)	Response2 (%vol)	Response3 (%vol)	Average response (%vol)	Max error (%vol)	Max error (% F.s.)
10	0	0	0	0	0,00	0,00	0,00
10	2,2	2,1	2,2	2,2	2,17	0,10	1,00
100	100	100	100	100	100,00	0,00	0,00

Uncertainty	1,00	%
Max % error	1,00	% Fs

Ambient condition by calibration

Temperature : 21 °C
Pressure : 1013 mBar
U.R. : 42 %

HUBERG S.a.s.- Huber Günther & C. • Gas and Water Safety Systems • Via Copernico, 18 • I-39100 Bolzano
Tel: (+39) 0471 / 936011 • Fax: (+39) 0471 / 205037 • E-Mail: huberg@huberg.com • Web: http://www.huberg.com
Register of commerce BZ, tax and VAT no.: 01279940215

Calibration gas cylinders[1]

Concentration	Serial Number	Date of expire	GAS
Air	010212	26/01/2022	AIR
99,9 PPM	084549	26/03/2018	CH4
996 PPM	126837	26/01/2018	CH4
2,19 % VOL	011632	08/09/2019	CH4
100 % VOL	003655	12/11/2018	CH4

Calibration results : POSITIVE
Calibration date : 30/10/2017

Next scheduled calibration : 30/10/2018
Calibration supervisor : Randi Mirco

Randi Mirco

[1] The certificate of the gases could be downloaded at the following address http://www.huberg.com/certificati

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Tel: (+39) 0471 / 936011 • Fax: (+39) 0471 / 205037 • E-Mail: huberg@huberg.com • Web: http://www.huberg.com
Register of commerce BZ, tax and VAT no.: 01279940215

Report number 38220

Instrument **LaserOne01** Serial no. Huberg **16709.16**

With this document we certify that the following work has been carried out:

Calibration
System check

Repair result POSITIVE

Date of next control 30/10/2018

Repair date 30/10/2017

Responsible for repair Randi Mirco

Signature Randi Mirco

HUBERG KG-Huber Günther & C. • Gas and Water Safety Systems • Via Copernico 18
I-39100 Bolzano • Tel: +39-0471-936011 • Fax: +39-0471-205037 • E-Mail: huberg@huberg.com
www.huberg.com • Register of commerce BZ, tax and VAT no. 01279940215

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Appendix L – GEM report

North East Link Project

Bulleen Oval GEM Survey

April 2019

This publication is prepared to inform the public about the North East Link. This publication may be of assistance to you but the North East Link Project (a division of the Major Transport Infrastructure Authority) and its employees, contractors or consultants (including the issuer of this report) do not guarantee that the publication is without any defect, error or omission of any kind or is appropriate for your particular purposes and therefore disclaims all liability for any error, loss or other consequence which may arise from you relying on any information in this publication.

Table of contents

Figure index

Annexures

1. Introduction

1.1 Background

Boreholes drilled by GHD at Bulleen Oval have identified waste fill overlain by a thin layer of topsoil at the site. This waste appears to be commercial in nature. As a result, a frequency domain electromagnetic survey using a Geophex GEM2 terrain conductivity meter was undertaken to investigate the lateral extent of the fill. This document details the findings from the GEM survey.

1.2 Study area

Bulleen Oval is located in Bulleen Park on Bulleen Road, Bulleen, as shown in Figure 1. The survey extent included all non-paved areas within the boundary of the site. A site walk around was conducted prior to commencing the survey. A metal fence around the perimeter of the oval, multiple metal waste water grates and lighting poles were noted. These objects are conductive and ferromagnetic in nature and will result in anomalous readings from the survey equipment when in close proximity.

1.3 Limitations

The opinions, conclusions and any recommendations in this report are based on site conditions encountered and information reviewed at the date of preparation of this document. Site conditions may change after the date of this document. GHD does not accept responsibility arising from, or in connection with, any change to the site conditions or to account for events or changes occurring subsequent to the date that this document was prepared.

Figure 1 The Bulleen Oval site

2. Geophysical survey

2.1 Methodology

The GEM2 electromagnetic (EM) method was chosen for rapid geophysical reconnaissance surveying of the apparent electrical conductivity over the site. It was anticipated the GEM2 method would be effective at identifying anomalies for follow up investigations using higher resolution geophysical methods.

On the basis of typical electromagnetic properties of landfill, the anticipated electromagnetic anomalies were anticipated to be either:

- High conductivity features associated with high clay content, refuse containing waste fill, high moisture, and/or water filled cavities, or
- Low conductivity features associated with air filled cavities, fresh limestone or dry sand.

The GEM2 is a multi-frequency broadband electromagnetic sensor that operates in a frequency range of 330 Hz to 40 kHz and can measure up to 15 frequencies simultaneously. Figure 2 shows the survey instrument in use.

The GEM2 measures the apparent conductivity as well as the magnetic susceptibility at each location. The apparent conductivity measures changes in the electrical conductivity of the soil, which is governed primarily by the clay content, water saturation, and the concentration of dissolved ions in solution.

The GEM2 instrument takes a series of measurements in rapid succession (up to 10 times per second) along a survey line, measuring the ground response at several operator determined transmitter frequencies which is called frequency sounding.

Figure 2 The GEM 2 frequency domain electromagnetic survey instrument

2.2 Data acquisition

The geophysical survey was conducted between 23 April 2018 and 24 April 2018. The GEM2 was set to operate at five sounding frequencies; 34,824, 14,625, 9825, 4225 and 1875 Hertz (Hz). The GEM2 was couple with a RTK DGPS system recording locations in GDA94 Zone 55 at 1-second intervals. Data was acquired with the GEM2 along parallel lines spaced at approximately five metres. A total of 33,492 data points were collected at an elevation of one metre. A map of the collected data is shown in Figure 1 in Appendix A.

2.3 EM data quality

The quality of the GEM2 data can be affected by electromagnetic interference. To account for this, the background electromagnetic noise was monitored with the instrument stationary prior to and during each section of the survey.

The presence of metal fencing, buildings and buried metal objects resulted in localised high anomalies on the GEM2 data.

2.4 Processing

Field data was processed, analysed and presented using Surfer13, Geophex and ArcGis software packages.

The GEM 2 electrical conductivity response maps were generated by gridding the output data in the Surfer software package. The Minimum Curvature gridding routine was used to interpolate between data points. After consideration of all possible data products, the electrical conductivity (E_C) maps for each frequency and the Q_{Sum} apparent (qualitative) conductivity map were used to present the EM results in this report.

The EC maps shown in Figures 2 to 6 in Appendix A contain the summed values of the Quadrature (Q) and Inphase (I) components of the target frequency in mS/m.

The Q_{Sum} data shown in Figure 7 in Appendix A are more sensitive to variations in ground conductivity due to geology and moisture content than other analysis methods. This style of map was selected for presentation as it will best represent the anomalies potentially caused by the fill. The values on the map refer to PPM (part per million) and are derived from the instrument as raw data.

3. Geophysical survey results and interpretation

3.1 Results

The sounding frequency is the key parameter controlling the depth of investigation. Lower frequencies equate to a greater depth of investigation with high frequencies equating to shallow depths of investigation. Figures 2 to 6 in Appendix A display the EC of the ground at decreasing frequencies, this equates to an increasing depth of investigation as you proceed through the figures.

Common to all EC figures is the outer perimeter of the Bullen Oval field. This is represented as high (white) EC values which are a direct reflection of the conductivity of the metallic fence that encompasses the oval. Other isolated highs within the data that can be attributed to metallic objects observed on-site have been omitted from the results and interpretation.

Three zones of moderate to high EC can be observed within the confines of the field and are more pronounced at higher frequencies. Drainage pipes and channels can also be observed in the high frequency data, particularly in the north-eastern section of the oval, and is represented as linear orthogonally crossing features.

At lower frequencies, high EC values are also observed along the eastern perimeter of the survey area.

The Q Sum image displayed in Figure 7 in Appendix A clearly displays high PPM values correlating with high EC values observed throughout the various frequency EC images.

3.2 Interpretation

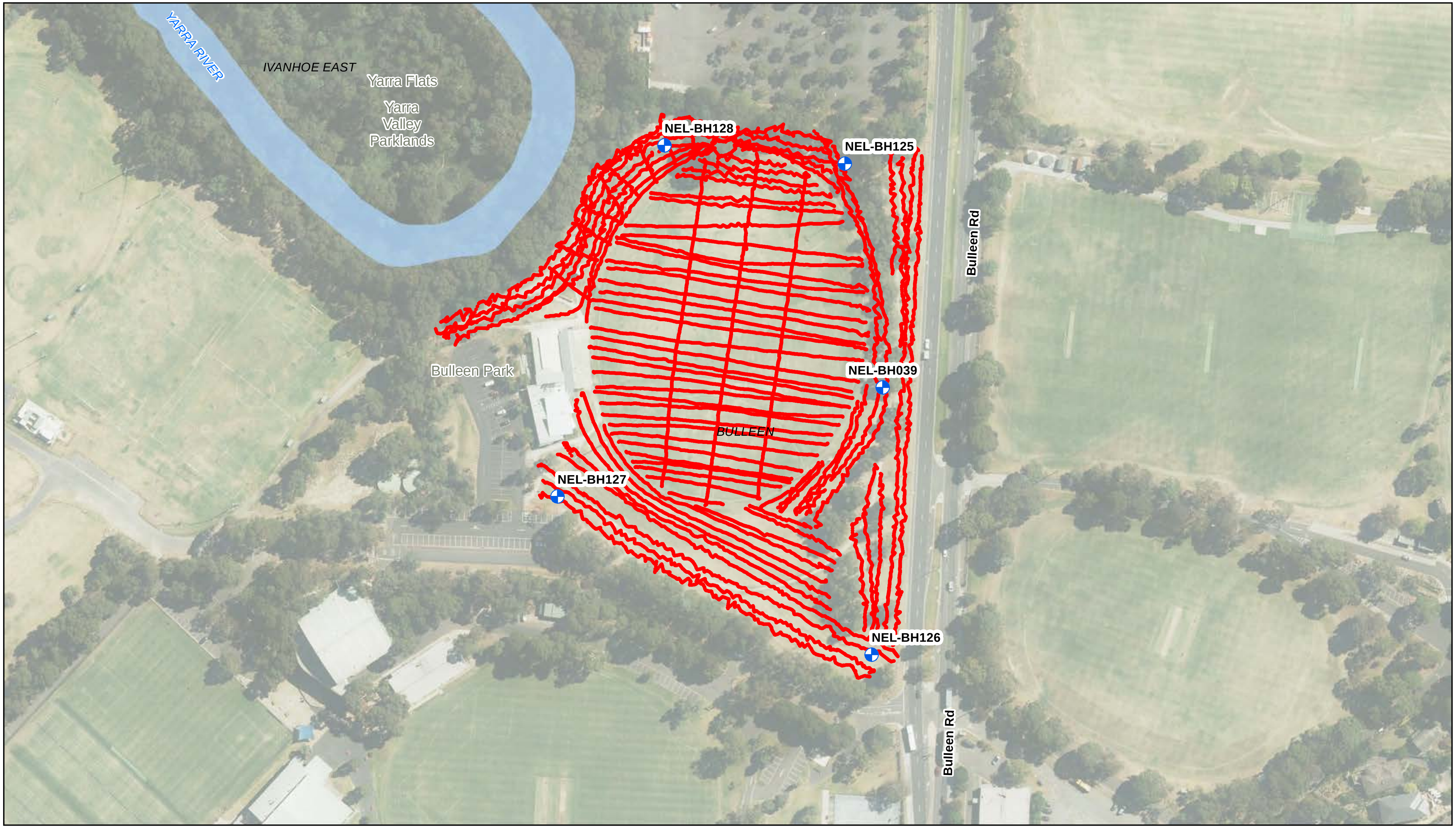
Interpreted landfill extents are displayed in Figure 8 in Appendix A and have been constructed from high EC and Q Sum values commonly associated with land fill. The extent of these zones correlate with boreholes BH128, BH125 and BH039 where approximately three metres of fill was intersected. The interpreted fill zone to the east correlates with BH126 where approximately one metre of fill was intersected. No high EC values are observed in proximity to BH127, where one metre of fill was intersected. This implies the fill at this location has a similar EC to the surrounding materials and cannot be mapped by this method.

3.3 Discussion

The Bulleen Oval proved to be a complex site with regard to the GEM2 electromagnetic survey. Large metallic structures were prevalent and isolated metallic objects were observed throughout the area. High EC and Q Sum values observed on the field are interpreted to result from waste fill. Caution must be taken with this interpretation, as an increase in these values could also result from an increase in moisture content or presence of clay. The GEM2 EM technique produced reasonable results in this scenario but failed to image one zone, where waste is known to exist from borehole data.

Annexures

Annexure A – GEM survey images



Paper Size A4

0 15 30 60

Metres

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 55

N

Legend

- GEM coverage
- Boreholes
- Watercourse

NORTH EAST LINK PROJECT

North East Link Project
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Revision A
Date 28/02/2019

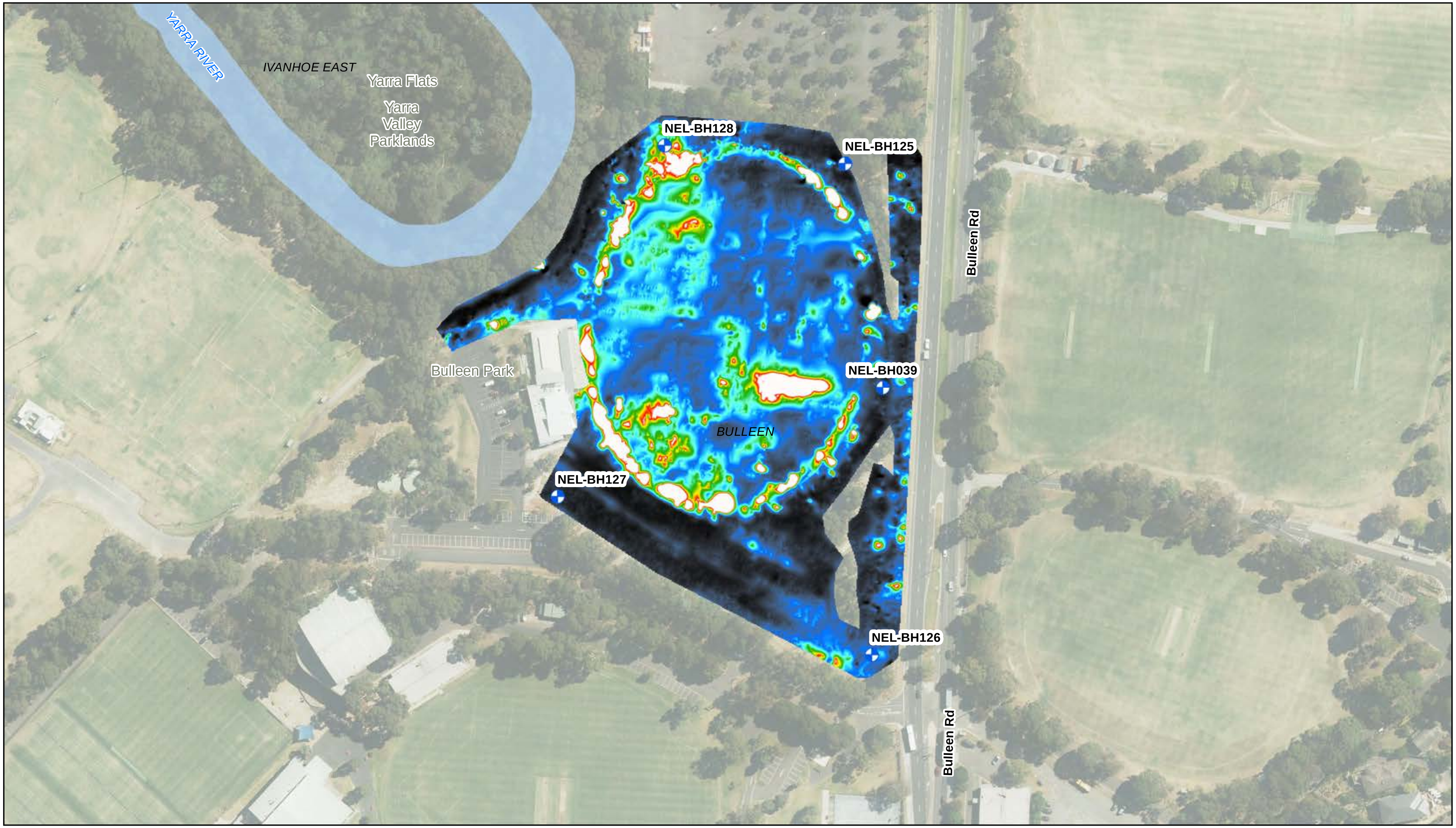
Bulleen Oval GEM Survey
Survey Area

Figure 1

G:\31\35006\GIS\Maps\Working\KBM\EES_PER_Technical_Report\EES_Technical_Reports_A4L_TR.mxd

180 Lonsdale Street Melbourne VIC 3000 Australia **T** 61 3 8687 8000 **F** 61 3 8687 8111 **E** melmail@ghd.com **W** www.ghd.com

Data source: CIP Imagery - DELWP - 2018 | roads, watercourses, parks, rail, localities, planning zones - Vicmap - 2019 | precinct, project infrastructure - GHD, AECOM - 2019 Created by: trighetti



Paper Size A4

0 15 30 60

Metres

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 55

N

Legend

Boreholes
Watercourse

150 mS/m
75 mS/m
0 mS/m

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Revision A
Date 28/02/2019

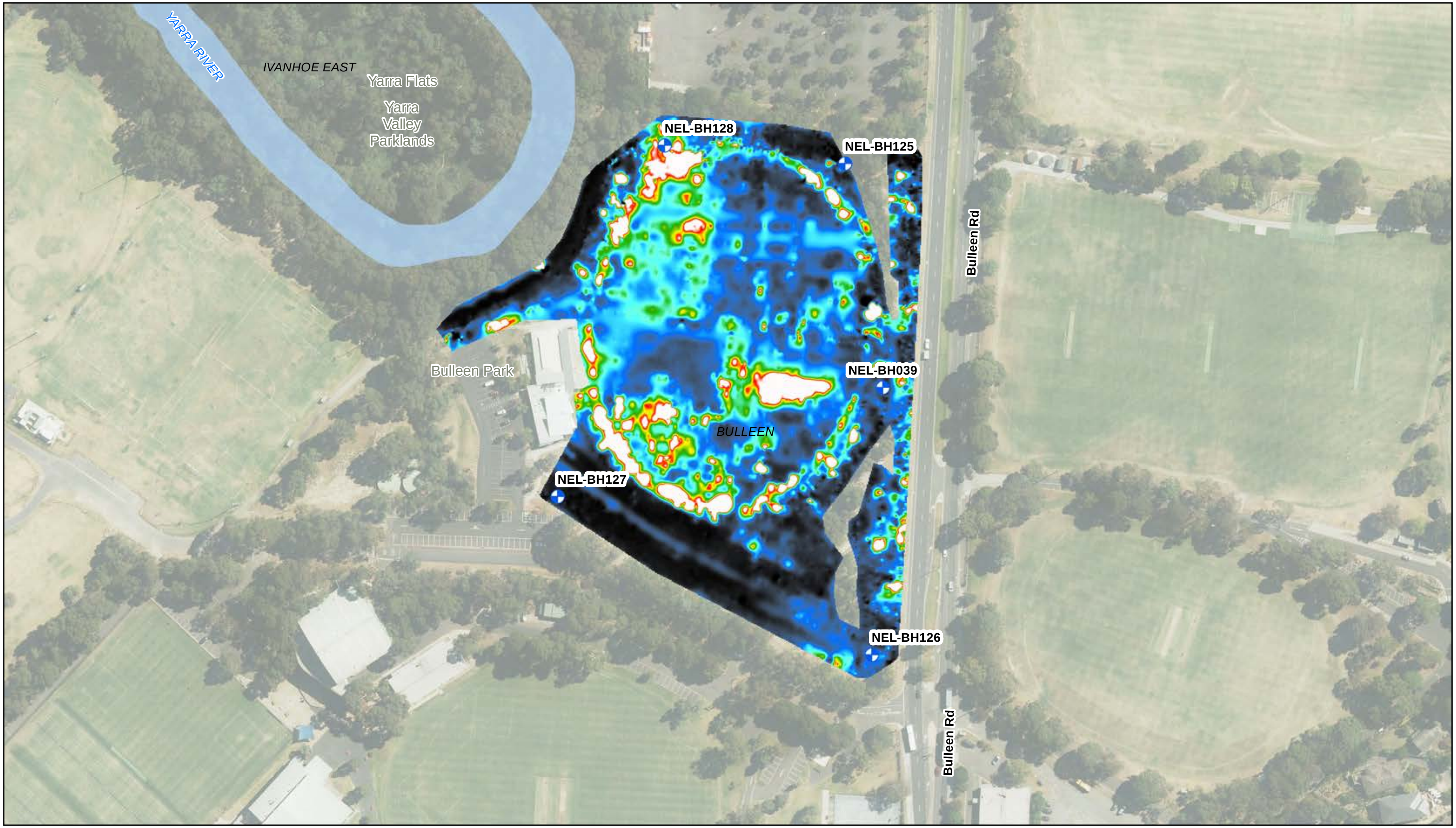
Bulleen Oval GEM Survey
Electrical Conductivity 34825 Hz

Figure 2

G:\31\35006\GIS\Maps\Working\KBM\EES_PER_Technical_Report\EES_Technical_Reports_A4L_TR.mxd

180 Lonsdale Street Melbourne VIC 3000 Australia T 61 3 8687 8000 F 61 3 8687 8111 E melmail@ghd.com W www.ghd.com

Data source: CIP Imagery - DELWP - 2018 | roads, watercourses, parks, rail, localities, planning zones - Vicmap - 2019 | precinct, project infrastructure - GHD, AECOM - 2019 Created by: trighetti



Paper Size A4

0 15 30 60
Metres

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 55

N

Legend

Boreholes
Watercourse
200 mS/m
50 mS/m
0 mS/m

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Bulleen Oval GEM Survey
Electrical Conductivity 14625 Hz

Figure 3

G:\31\35006\GIS\Maps\Working\KBM\EES_PER_Technical_Report\EES_Technical_Reports_A4L_TR.mxd

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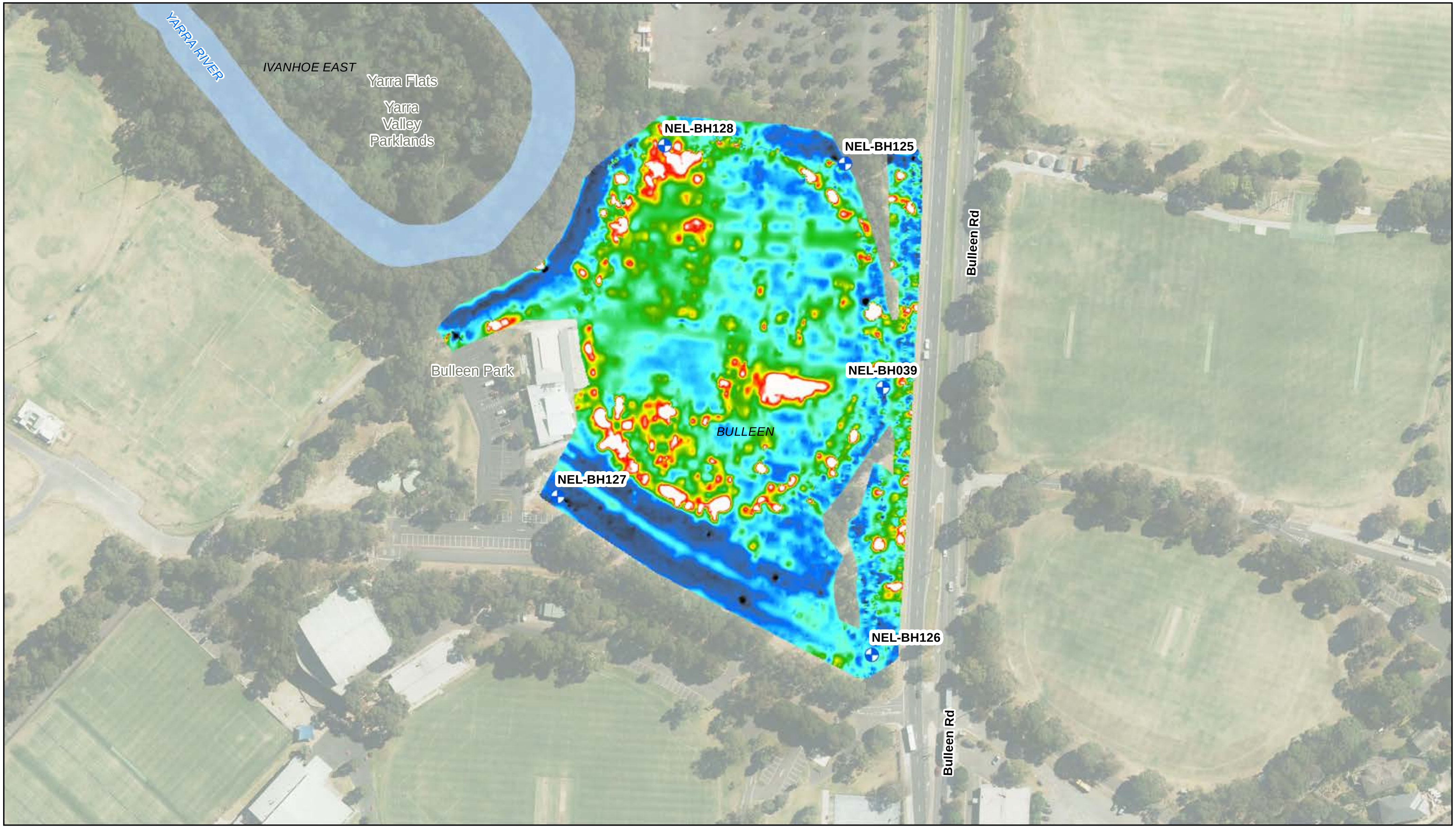
Data source: CIP Imagery - DELWP - 2018 | roads, watercourses, parks, rail, localities, planning zones - Vicmap - 2019 | precinct, project infrastructure - GHD, AECOM - 2019 Created by: trighetti



Paper Size A4

0 15 30 60

Metres

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 55

N

Legend

Boreholes

Watercourse

300 mS/m
150 mS/m
0 mS/m

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Bulleen Oval GEM Survey
Electrical Conductivity 9825 Hz

Figure 4

G:\31\35006\GIS\Maps\Working\KBM\EES_PER_Technical_Report\EES_Technical_Reports_A4L_TR.mxd

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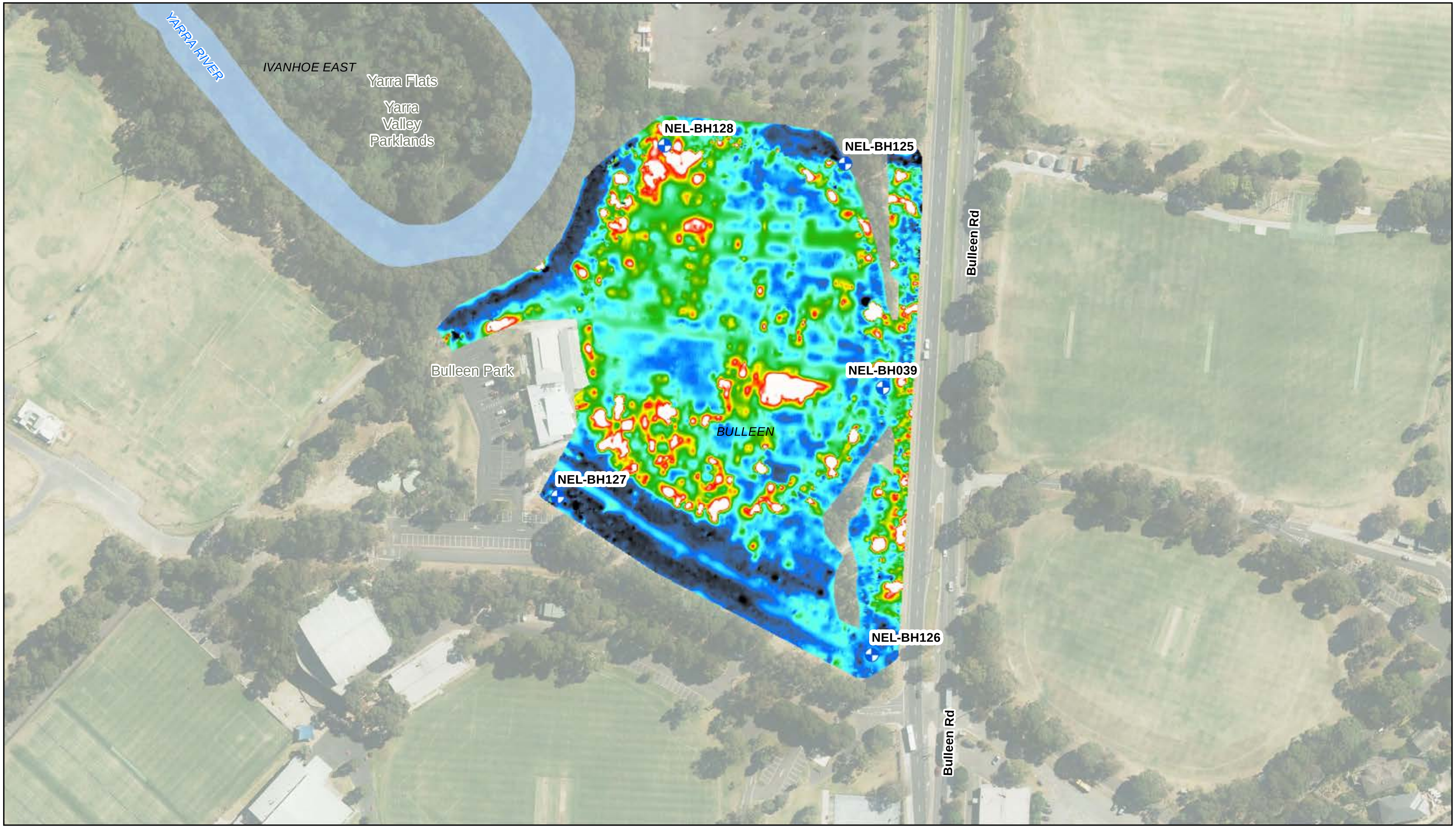
Data source: CIP Imagery - DELWP - 2018 | roads, watercourses, parks, rail, localities, planning zones - Vicmap - 2019 | precinct, project infrastructure - GHD, AECOM - 2019 Created by: trighetti



Paper Size A4

0 15 30 60

Metres

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 55

N

Legend

Boreholes

Watercourse

500 mS/m
250 mS/m
0 mS/m

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Date	28/02/2019

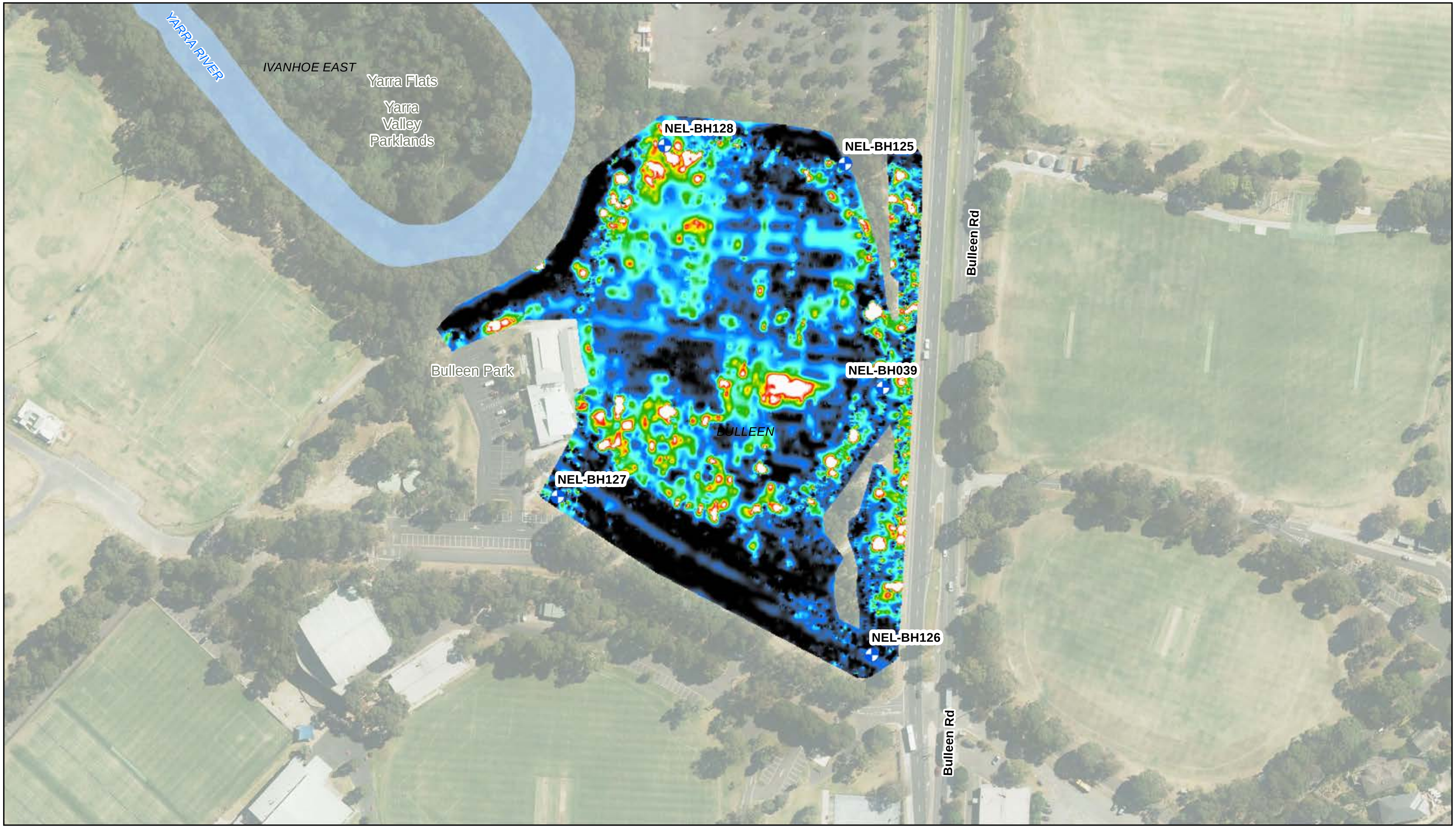
Bulleen Oval GEM Survey
Electrical Conductivity 4225 Hz

Figure 5

G:\31\35006\GIS\Maps\Working\KBM\EES_PER_Technical_Report\EES_Technical_Reports_A4L_TR.mxd

180 Lonsdale Street Melbourne VIC 3000 Australia **T** 61 3 8687 8000 **F** 61 3 8687 8111 **E** melmail@ghd.com **W** www.ghd.com

Data source: CIP Imagery - DELWP - 2018 | roads, watercourses, parks, rail, localities, planning zones - Vicmap - 2019 | precinct, project infrastructure - GHD, AECOM - 2019 Created by: trighetti



Paper Size A4

0 15 30 60

Metres

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 55

N

Legend

Boreholes

Watercourse

1000 mS/m
500 mS/m
0 mS/m

NORTH EAST LINK PROJECT

North East Link Project
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Date	28/02/2019

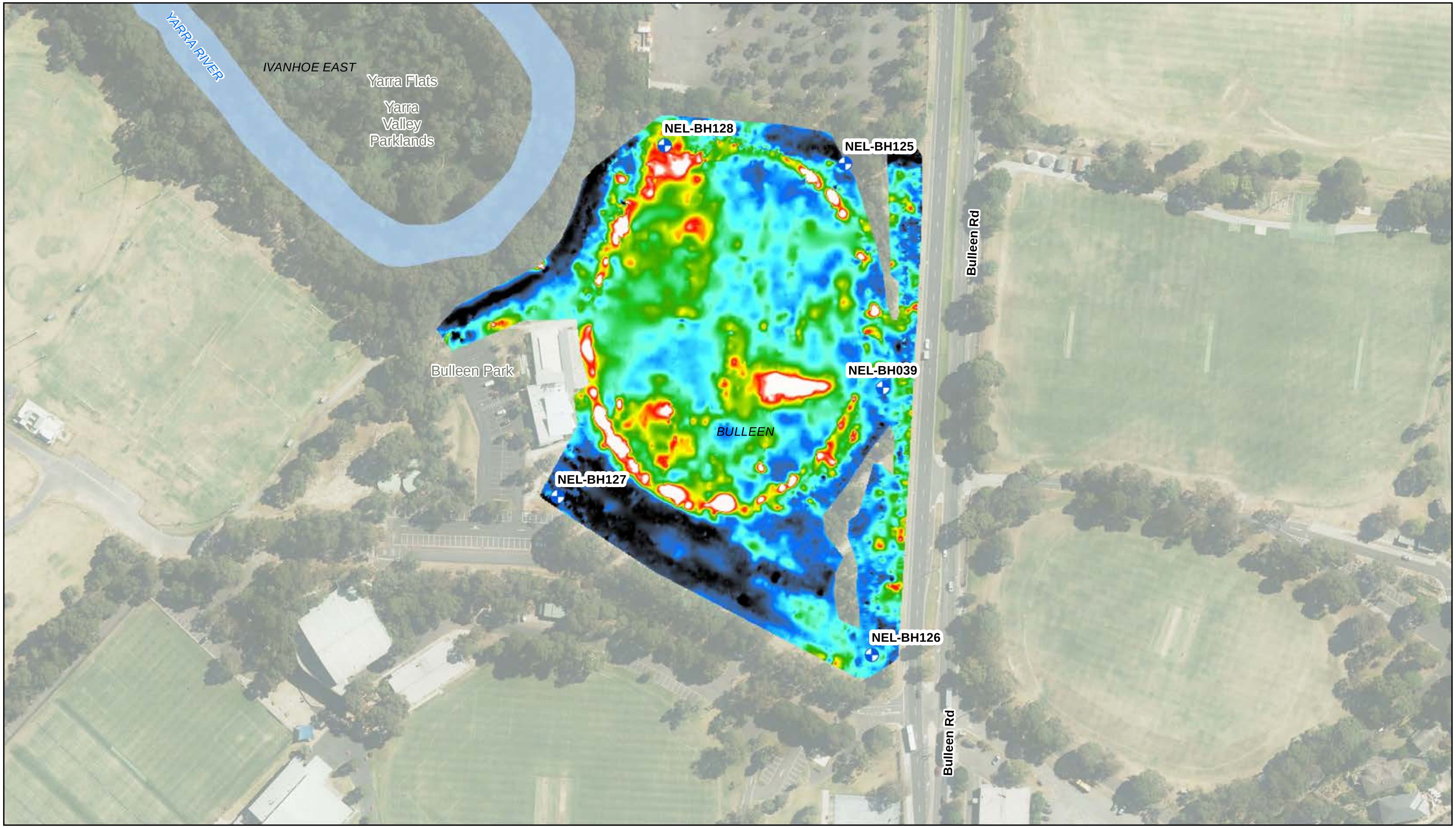
Bulleen Oval GEM Survey
Electrical Conductivity 1875 Hz

Figure 6

G:\31\35006\GIS\Maps\Working\KBM\EES_PER_Technical_Report\EES_Technical_Reports_A4L_TR.mxd

180 Lonsdale Street Melbourne VIC 3000 Australia **T** 61 3 8687 8000 **F** 61 3 8687 8111 **E** melmail@ghd.com **W** www.ghd.com

Data source: CIP Imagery - DELWP - 2018 | roads, watercourses, parks, rail, localities, planning zones - Vicmap - 2019 | precinct, project infrastructure - GHD, AECOM - 2019 Created by: trighetti



Paper Size A4

0 15 30 60

Metres

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 55

N

Legend

Boreholes
Watercourse
85,000 PPM
42,500PPM
0 PPM

NORTH EAST LINK PROJECT

North East Link Project
Environment Effects Statement (EES)

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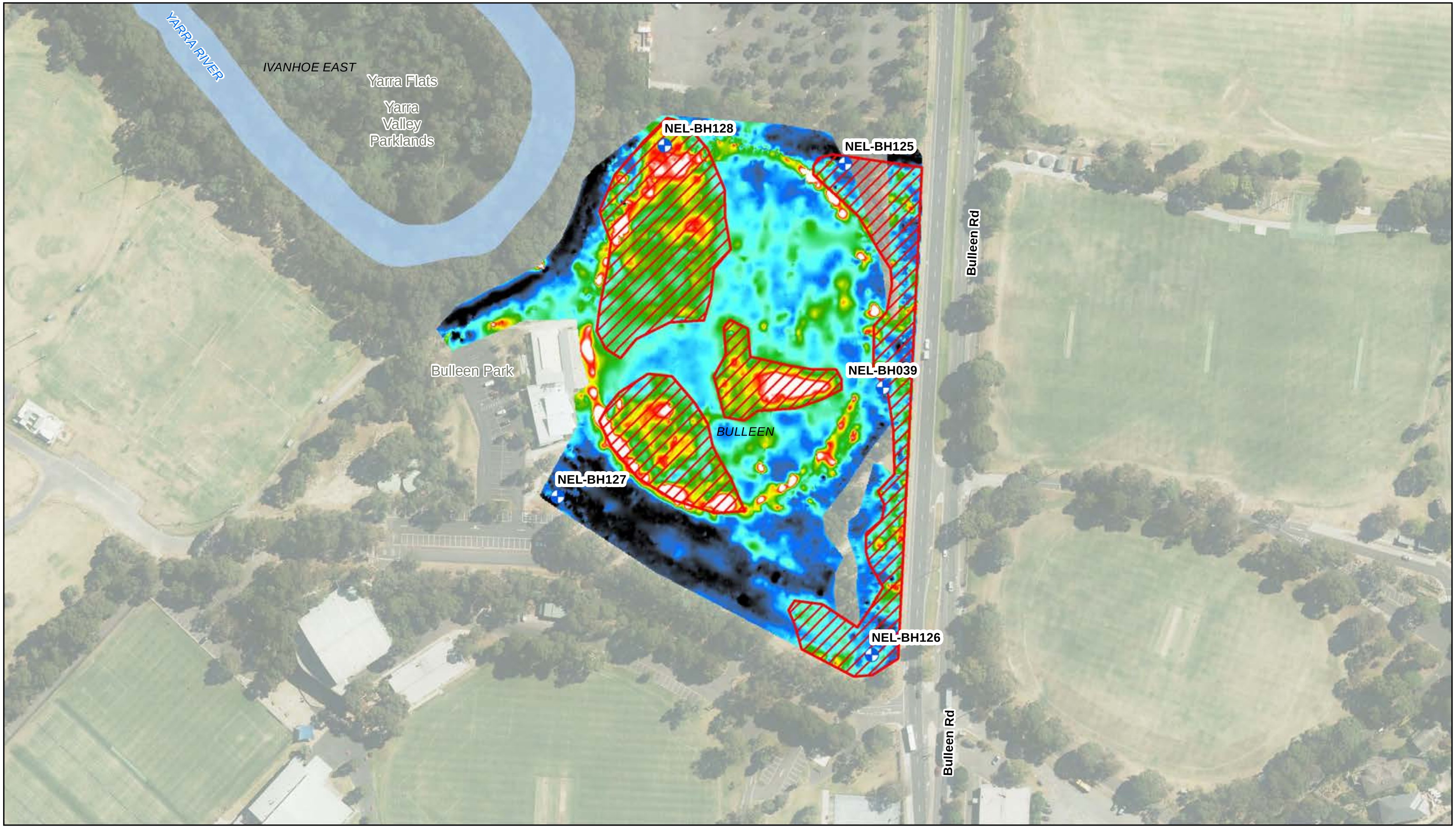
Bulleen Oval GEM Survey
Electrical Conductivity Q Sum

Figure 7

G:\31\35006\GIS\Maps\Working\KBM\EES_PER_Technical_Report\EES_Technical_Reports_A4L_TR.mxd

180 Lonsdale Street Melbourne VIC 3000 Australia **T** 61 3 8687 8000 **F** 61 3 8687 8111 **E** melmail@ghd.com **W** www.ghd.com

Data source: CIP Imagery - DELWP - 2018 | roads, watercourses, parks, rail, localities, planning zones - Vicmap - 2019 | precinct, project infrastructure - GHD, AECOM - 2019 Created by: trighetti



Paper Size A4

0 15 30 60

Metres

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 55

N

Legend

Interpreted fill extents
Boreholes
Watercourse

85,000 PPM
42,500PPM
0 PPM

NORTH EAST LINK PROJECT

North East Link Project
Environment Effects Statement (EES)

Job Number 31-35006
Revision A
Date 28/02/2019

Bulleen Oval GEM Survey
Interpreted Fill Extents Q Sum

Figure 8

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Appendix M – Spoil volume report

North East Link Project

Spoil Volume Estimates

April 2019

Executive summary

The purpose of this Spoil Volume Estimate report for North East Link (‘the project’) is to:

- Present a total spoil volume estimate for the reference project
- Outline the approach for classifying soils in accordance with the Industrial Waste Resource Guidelines (IWRG) Publication 621 *Soil Hazard Categorisation and Management*
- Present a soil volume estimate for prescribed industrial waste (PIW) and waste acid sulfate soil (WASS).

The following assumptions and limitations have been applied to this strategy:

- No bulking factor has been applied for volume estimation, so unless otherwise noted the volumes discussed in this strategy are in-situ soil and rock/dense volumes. The excavated spoil volume would be greater than the in situ volume. A bulking factor of approximately 1.3 would be expected.
- The total spoil estimates contained within this document are based on cut volumes from the reference project (dated 17 August 2018). The volumes presented in this report are estimates only based on the 17 August 2018 reference project with an accuracy of plus or minus 20 per cent.
- The acid sulfate soil estimates contained within this report are based on geological volume estimates prepared by the geotechnical team. These estimates are based on a 3D visual estimation.

Based on the works outlined in Section 3.4 and Section 4.1 of this report, the spoil and prescribed industrial waste volumes have been estimated in the tables below. **NOTE** – the values in the tables below have been rounded from those in Table 4-2 within the report.

Indicative spoil volumes estimate (m^3 in-situ)

Project element	Estimated volumes (m^3)
M80 Ring Road to northern portal	2,155,000
Northern to southern portal	3,265,000
Eastern Freeway	680,000
Total	**6,100,000**

Indicative PIW volumes estimate (m^3 in-situ) – values generated by rounding those in Table 4-2

Location by project element	Estimated volumes (m^3 in situ)					
	Fill material	Contaminated spoil (PIW)				Sub total
		Cat A	Cat B	Cat C	Total PIW	
M80 Ring Road to northern portal	2,120,000	-	3,000	32,000	35,000	2,155,000
Northern portal to southern portal	3,111,000	5,500	11,500	137,000	154,000	3,265,000
Eastern Freeway	612,000	500	1,500	66,000	68,000	680,000
Total	5,843,000	6000	16,000	235,000	**257,000**	**6,100,000**

Based on the works outlined in Section 4.2 of this report, the following estimates of waste acid sulfate soil and rock have been estimated in the table below.

Acid sulfate soil volume estimate (m^3 in-situ)

Location by project element	Chainage (approximate)		Potential acid sulfate materials		Approximate WAAS volume (m^3)		
	Start	End	% Recent alluvial soil	% MW, SW, FR Siltstone	ASS	ASR	ASS/ASR (Total)
M80 Ring Road to northern portal			**0%**	**0%**	-	-	-
Northern portal to LPR - ZONE 2A	**42,900**	**43,300**	**0%**	**40%**	-	161,000	161,000
	43,300	**43,600**	**0%**	**70%**	-	281,000	281,000
TBM tunnel (LPR to Bridge Street) - ZONE 2B	**43,600**	**46,620**	**0%**	**100%**	-	1,185,000	1,185,000
Manningham Road /Banksia interchange - ZONE 2C	**43,900**	**47,280**	**30%**	**33%**	207,000	227,000	434,000
Mined tunnel (under Bulleen Road and property) - ZONE 2D	**47,280**	**47,700**	**0%**	**90%**	-	139,000	139,000
Mined tunnel to southern portal - ZONE 2E	**47,700**	**48,400**	**90%**	**10%**	387,000	43,000	430,000
Eastern Freeway			**Minor**	**minor**			
				Total	**594,000**	**2,036,000**	**2,630,000**

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Annexures

1. Introduction

1.1 Project description

North East Link ('the project') is a proposed new freeway-standard road connection that would complete the 'missing link' in Melbourne's metropolitan ring road, giving the city a fully completed orbital connection for the first time. North East Link would connect the M80 Ring Road (otherwise known as the Metropolitan Ring Road) to the Eastern Freeway, and include works along the Eastern Freeway.

The project would also support a range of complementary and associated works, separate from the project. These would be subject to separate regulatory and planning assessment and approval processes.

To facilitate delivery, North East Link would require temporary and permanent land occupation, drainage and flood mitigation works, and the use of tunnel boring machines (TBMs) to construct most of the tunnel length. These works would generate a significant volume of excavated spoil that would need to be managed since:

- The spoil cannot be placed back in the excavations
- There may be limited opportunities within the project for reuse
- A portion of the spoil would be contaminated and not suitable for reuse on-site or off-site.

For planning purposes, it is therefore important to understand the magnitude of spoil likely to be generated by the project and the level of contamination within the spoil.

1.2 Purpose of this report

The purpose of this Spoil Volume Estimate report is to:

- Present an indicative estimate of the total spoil volume predicted to be generated by the project
- Present an indicative estimate of the volume of the various waste categories of the spoil based on EPA Victoria Publication *Industrial Waste Resource Guidelines* (IWRG) 621 *Soil Hazard Categorisation and Management* (IWRG621)
- Present spoil volume estimate for prescribed industrial waste (PIW) and waste acid sulfate soil (WASS).

1.3 Scope

This spoil volume estimate has been structured to provide the following details for the project:

- Preliminary spoil categorisation in accordance with the *Environment Protection Act 1970 (Vic)* ('EP Act') and Environment Protection (Industrial Waste Resource) Regulations 2009 (Vic)
- Estimate of WASS volume.

This estimate would continue to be developed and revised during the detailed design and construction planning for North East Link as additional data became available.

1.4 Project elements

The North East Link has been separated into three key elements for the Environment Effects Statement (EES):

- **M80 Ring Road to the northern portal** – from the M80 Ring Road at Plenty Road, and the Greensborough Bypass at Plenty River Drive, North East Link would extend to the northern portal near Blamey Road utilising a mixture of above, below and at surface road sections. This would include new road interchanges at the M80 Ring Road and Grimshaw Street.
- **Northern portal to southern portal** – from the northern portal the road would transition into twin tunnels that would connect to Lower Plenty Road via a new interchange, before travelling under residential areas, Banyule Flats and the Yarra River to a new interchange at Manningham Road. The tunnels would then continue to the southern portal located south of the Veneto Club.
- **Eastern Freeway** – from around Hoddle Street in the west through to Springvale Road in the east, modifications to the Eastern Freeway would include widening to accommodate future traffic volumes and new dedicated bus lanes for the Doncaster Busway. There would also be a new interchange at Bulleen Road to connect North East Link to the Eastern Freeway.

These elements are illustrated in Figure 1-1

The project would also improve existing bus services from Doncaster Road to Hoddle Street through the Doncaster Busway as well as pedestrian connections and the bicycle network with connected walking and cycling paths from the M80 Ring Road to the Eastern Freeway.

For a detailed description of the project, refer to EES Chapter 8 – Project description.

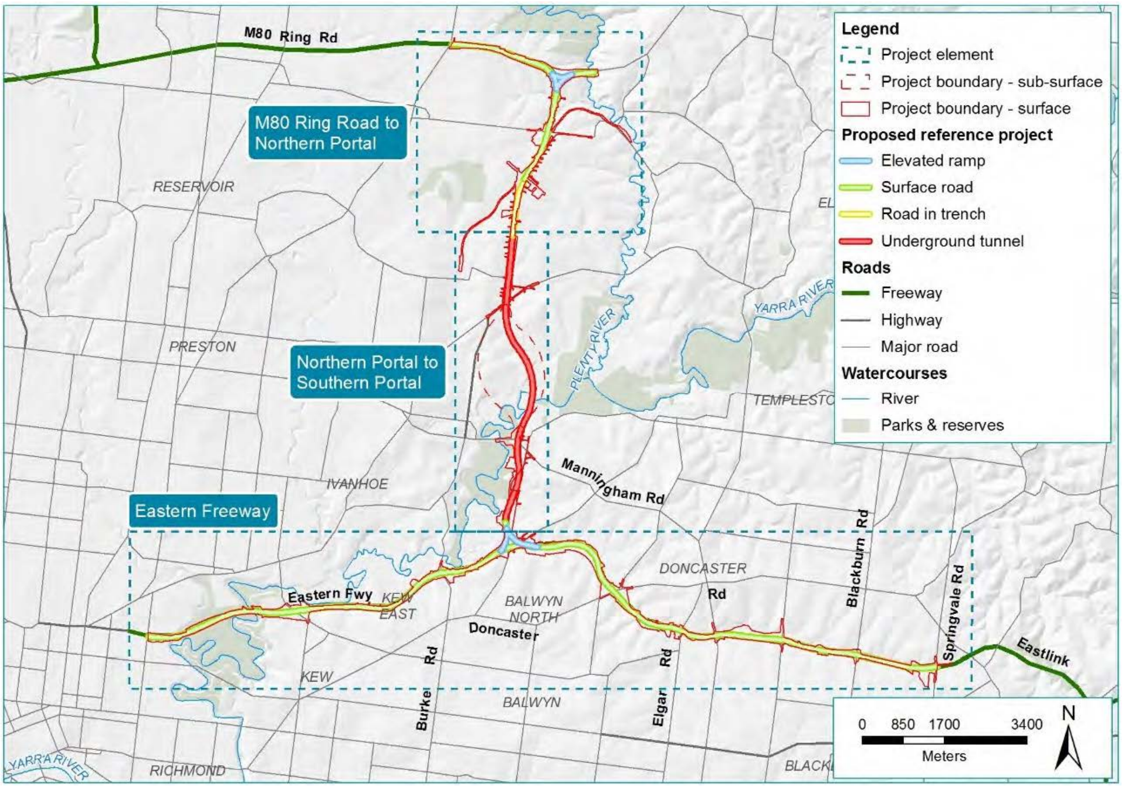


Figure 1-1 Overview of North East Link

1.5 Assumptions and limitations

The following assumptions and limitations apply to this strategy:

- No bulking factor has been applied for volume estimation, so unless otherwise noted the volumes discussed in this strategy are in-situ soil and rock/dense volumes. The excavated spoil volume would be greater than the in situ volume. A bulking factor of approximately 1.3 would be expected.
- The current sampling density provides indicative estimates of waste categories only and does not currently meet:
  - The minimum number of samples to characterise potentially contaminated soil for reuse or disposal, as detailed in EPA Victoria Publication IWRG 702 *Soil Sampling*, 2009 (IWRG702).
  - The minimum number of samples specified in the Australian Standard 4482.1-2005 to identify a contamination hotspot of a specified size, based on the size of the project.

Further sampling would be required to meet these sampling densities.

1.6 Report structure

The development of indicative spoil volume estimates and preliminary waste classification has involved a two-stage approach:

1. Stage 1 involved estimating the total volume of spoil that would likely be generated during North East Link's construction. This stage did not consider waste categories. The methodology and results are presented in Section 3.
2. Stage 2 involved estimating the relative amounts of each waste category within the total spoil volume. The methodology and results are presented in Section 4.

2. Areas of interest

EES Technical report O – Contamination and soil describes the process whereby areas considered to have the most potential for contaminated soil to be present were identified. These ‘areas of interest’ were considered more likely to contain contamination than other areas of the alignment as they are associated with industrial activities and historical landfilling.

The historical assessment identified 11 areas of interest along the North East Link alignment. These areas were highlighted as requiring consideration for the potential for contamination in the assessment of waste volumes. The quantity of spoil within each of the potentially contaminated areas has been estimated based on limited available analytical data and assumptions regarding the distribution of contamination and land activities. It is envisaged the extent of contamination in these areas would be characterised more fully as part of the detailed design process for North East Link.

The 11 areas of concern within each project element include:

M80 Ring Road to northern portal

- Fuel service station located at the corner of Yallambie and Greensborough Road, Greensborough
- Former quarry (backfilled with solid inert and putrescible waste material) located at the M80 Ring Road and Greensborough Bypass, Greensborough
- Former landfill located at AK Lines Reserve, Watsonia.

Northern portal to southern portal

- Bulleen Industrial Precinct area in the vicinity of Bulleen Road and Manningham Road intersection, Bulleen
- Former landfill located at Borlase Reserve, Yallambie
- Former landfill located at Bulleen Park, Bulleen.

Eastern Freeway

- Former Camberwell Landfill located at Musca Street Reserve and Freeway Public Golf Course, Balwyn North
- Former Greythorn Landfill located at the corner of Doncaster Road and the Eastern Freeway, Balwyn North
- Former quarry (potentially backfilled with uncontrolled fill) located near Rocklea Road and Yarraleen Place, Bulleen
- Potential former landfill located at Koonung Creek Linear Reserve.

The desktop assessment also identified the potential for soil (particularly Quaternary aged alluvial soil) and Silurian aged siltstone (fresh to moderately weathered) to present a risk of actual or potential acid sulfate soil. This is discussed in Section 4.2, although no specific assessment data was available.

3. Indicative spoil volume estimates

The indicative spoil volume estimates have been developed to provide an understanding of the likely spoil to be generated during North East Link's construction. The estimates were used to:

- Provide a basis on which to estimate waste categories
- Inform the Spoil Management Strategy being prepared by the EES contaminated land specialist team and incorporated in EES Technical report O – Contamination and soil
- Estimate the number of trucks needed to transport spoil from the works site – which would be an input to EES Technical report A – Traffic and transport.

3.1 Methodology

MX 3D modelling software was used to model the road design and earthworks for the entire North East Link project. The MX model includes all structural overpasses and underpasses and footpaths. To estimate the excavated volume, all overpass and underpass, like bridges, roads and walking and cycling paths are removed to create a separate surface model.

Calculating the volumes for an isopachyte triangulation is an extension to that for a simple triangulation. The isopachyte triangulation is the combination of two triangulations whereby the triangles of one surface are totally reflected in the other. The 'level' associated with each vertex of the combined triangulation is actually a level difference from one surface to the other. Due to the sophistication in the isopachyte algorithms, the resulting triangulation may be thought of as a simple triangulation for which the 'level difference' of zero represents the intersection of the two surfaces. Consequently, calculating the volumes to an assumed level datum of zero provides the cut and fill volumes for an ISOS triangulation.

3.2 Design base

The existing surface terrain has been merged into a single model using VicRoads Lidar and Feature Survey, supplied by the North East Link Project (NELP) at the start of the project in 2017.

The design surface version is based on the project's *Draft Reference Design – Rev A and Rev B* issued on 18 May 2018 and 25 May 2018 respectively.

3.3 Assumptions

The following assumptions were made in estimating the spoil volumes:

- Estimated volumes are bank volumes and are not bulked.
- The MX model calculates excavation volumes from the finished road level. A one-metre pavement depth or structural depth is assumed below the finished road level. The extra one metre was manually calculated and added to the MX generated volumes.
- In trough sections, the MX model calculates spoil volume from face to structural walls. The reference project does not include structural design. For the purpose of this report, trough structural walls are assumed to be 1.2-metres thick. The extra 1.2 metres on both sides of a tough section was manually calculated and added to the MX generated volumes.

- The TBM tunnels are assumed to have an outer diameter of 15.7 metres, equalling 193.62 m^2
- The mined tunnels are assumed to have an outer diameter of 15.7 metres above road with reduced excavation under road. Tunnel drawings were used to calculate a tunnel cross-sectional area of 180 m^2.

3.4 Model results – indicative spoil volume estimates

The total indicative spoil volume estimates for the project are presented in Table 3-1. **NOTE** – the values have been rounded from those in Table 4-2.

Table 3-1 Indicative volume estimates of excavated material

Project element	Estimated excavated volume (m^3)
M80 Ring Road to northern portal	2,155,000
Northern to southern portal	3,265,000
Eastern Freeway	680,000
Total	**6,100,000**

The volumes of soil estimated to be excavated from the areas of interest described in Section 2 are summarised in Table 3-2. These areas are considered most likely to contain contaminated soil.

Table 3-2 Indicative volume estimates of excavated material per area of interest

Project element	Area	Type	Estimated excavated volume (m^3)
M80 Ring Road to northern portal	M80 Greensborough Bypass intersection	Landfill	25,700
	AK Lines Reserve	Landfill	9,000
	Watsonia railway station	Contaminated land	93,100
	Coles Express fuel on Yallambie Road	Contaminated land	86,000
Northern portal to southern portal	Borlase Reserve	Landfill	193,300
	Bulleen Park Football Oval*	Landfilling	31,000
	Bulleen Industrial Precinct including the former Bulleen Drive-in	Contaminated land	874,000
	Former Bulleen quarry	Contaminated land	80,000
Eastern Freeway	Bulleen Oval*	Landfilling	31,000
*Estimates for this area of interest are divided evenly across the northern portal to southern portal and the Eastern Freeway project elements.			

3.5 Limitations

The following limitation have been identified:

- The MX model does not include walking and cycling paths and structural elements such as retaining walls. For the purpose of these estimates, retaining walls in all trough sections were manually calculated.
- In isolated areas, the outer MX model string (verge or interface) does not intersect with the natural ground surface level. The model creates a 'vertical' line until it intersects with existing triangulation model. The volume error created by the model is minor.
- The calculated volumes are based on Lidar survey. There may be discrepancies between the model Lidar survey and feature survey.
- Tunnel cross passages do not form part of the current MX model, and have not been included in the volume calculations. Manual calculations estimate cross passages will generate approximately 10,000 m^3 of spoil.
- Along the Eastern Freeway, the new road design is simply draped across the existing with an assumed 200-metre asphalt overlay. A detailed pavement design does not form part of the reference project, and the vertical profile does not represent the final design. The spoil volumes have allowed for new carriageways to be constructed.

4. Preliminary waste classification

EPA Victoria Publication IWRG621 – *Soil hazard categorisation and management* provides the criteria for the categorisation of waste in Victoria. It defines three categories of prescribed industrial waste (PIW) and Fill Material (often referred to as 'clean fill'). The categories are based on specified upper and lower threshold levels (concentrations) of a number of contaminants which are determined through sampling and analysis of soils.

Categorisation of waste soil is required to:

- Provide an indication of likely waste management requirements, noting there are different options for management of each category, which are set out in Table 4-1.
- Demonstrate to landfills the soil meets the relevant criteria.

Table 4-1 Contaminated soil management options (from IWRG621)

Category	General options	Landfill
A	On-site remediation Off-site remediation Storage pending availability of treatment	No disposal to landfill EPA Victoria transport certificates must be used. Vehicles must hold EPA Victoria permit (unless exemption issued)
B	On-site remediation Off-site remediation Licensed facility	Disposal to licensed facility EPA Victoria transport certificate system must be used Vehicles must hold EPA Victoria permit (unless exemption issued)
C	On-site remediation Off-site remediation Licensed landfill	Disposal to licensed landfill EPA Victoria transport certificates must be used Vehicles must hold EPA Victoria permit (unless exemption issued)
Fill Material	Reuse, off-site disposal. Not regulated by EPA Victoria. However, the *Environment Protection Act 1970 (Vic)* places general obligations to prevent adverse impacts on the environment and human health. Where there is potential for adverse impacts from the deposit of Fill Material, advice should be sought from EPA Victoria.	

The indicative estimates of waste volumes described below are based partly on the results of a preliminary site historical investigation and limited soil and rock sampling and analysis along the North East Link alignment plus a number of assumptions regarding depth and area of contamination and judgements on how much volume to assign to the various IWRG Categories.

Quantifiable levels of certainty regarding these assumptions and judgements are not assigned and the Contractor must conduct their own due diligence in the assigning of volumes to waste categories. This would likely require additional sampling and analysis to meet at least minimum sampling densities defined in EPA Victoria Publication IWRG702 – *Soil sampling*.

This sampling and analytical work which informed the development of these estimates were developed was undertaken by the Land Contamination team and is detailed in EES Technical report O – Contamination and soil.

4.1 Areas of interest

The volumes estimated and presented in Section 3.4 and Table 3-2 provide an understanding of the total volume of spoil to be removed from the project area. The following sections assign waste categories to all or part of those volumes based on a number of assumptions and judgements regarding distribution of contamination within the spoil.

4.1.1 M80 Ring Road to northern portal

Former quarry, M80 Ring Road and Greensborough Bypass, Greensborough

A former quarry that was backfilled with waste is located at the Metropolitan Ring Road and Greensborough Bypass. VicRoads test pitting for the M80 Ring Road upgrade project identified the presence of historical waste deposition. Historical aerials photographs indicate the quarry was likely backfilled with waste in the 1950s. Planned construction types in this area consist of surface and structure viaducts. In situ cut volumes for North East Link at the location of the former quarry are estimated to be 25,700 m^3 (in-situ) (refer to **Figure 1 – Annexure A**). No sampling of soil/waste for contamination assessment has been undertaken in this area. Therefore, to provide some indication of the possible volumes of each waste category to be managed, the following assumptions have been made:

- 50 per cent of the landfill comprises Fill Material (12,850 m^3)
- 50 per cent of the landfill comprises PIW (12,850 m^3)
- 90 per cent of the PIW volume is classified as Category C (11,565 m^3)
- 10 per cent of the PIW volume is classified as Category B (1,285 m^3).

The main geological unit likely to be encountered in this area is the Silurian siltstones. Sampling elsewhere along the North East Link alignment has indicated this material is either Category (based on fluoride in particular) or Fill Material. Therefore, the greatest proportion of the PIW has been assigned Category C. A smaller percentage of Category B PIW (10 per cent) is assigned to account for any unidentified more highly contaminated waste contained within the former landfill.

Reclassification of most or a portion the Silurian siltstone material to Fill Material could potentially be achieved based on the likelihood that fluoride in particular is naturally occurring. This would reduce the volume of PIW considerably and allow for lower disposal/treatment costs.

The estimates of PIW would need to be verified by soil sampling on-site at the detailed design stage of North East Link.

Fuel service station, corner of Yallambie Road and Greensborough Road, Greensborough

The indicative volume estimate for excavated material at the Coles fuel service station on the corner of Yallambie Road and Greensborough Road is approximately 86,000 m^3, based on a cut area of approximately 5,574 m^2 (refer to Section 3.4). Of that, the service station footprint covers approximately 1,650 m^2. The service station is considered the main location of potentially contaminated land in this area. Based on an area of 1,650 m^2 and an excavation depth of 10 metres, it is assumed that approximately 16,500 m^3 (in-situ) of spoil is expected to be excavated from the service station (refer to **Figure 2 – Annexure A**). No sampling of soil/waste for contamination assessment has been undertaken on the service station. Therefore, to provide some indication of the possible volumes of each waste category to be managed, the following assumptions have been made:

- 50 per cent of the spoil excavated from the service station footprint comprises PIW (8,250 m^3) with the other 50 per cent being Fill Material
- 90 per cent of the PIW volume is classified as Category C (7,425 m^3)
- 10 per cent of the PIW volume is classified as Category B (825 m^3).

Not all of the soil beneath the service station foot print will be contaminated. Most of any impacted soil will be located close to underground storage tanks (USTs) and bowsers. It is assumed these might occupy up to half of the site. It is further assumed the most contaminated material (Category B) will be localised closer to the USTs and bowsers where leaks have occurred and that the concentrations of petroleum hydrocarbons decrease away from those areas. This would result in a wider area of somewhat less contaminated material (Category C) hence the assumption around higher volumes of Category C material.

The main geological unit likely to be encountered in this area is the Silurian siltstones. Sampling around the service station has indicated this material is either Category (based on fluoride in particular) or Fill Material – with Category C based on fluoride and, to a lesser extent, nickel. Hence the remaining spoil is assigned Fill Material classification.

The estimates of PIW would need to be verified by soil sampling on-site at the detailed design stage of North East Link.

Former landfill, AK Lines Reserve, Watsonia

A former landfill was identified at AK Lines Reserve, Watsonia. Historical aerials indicate that filling likely commenced in the late 1950s and ceased in the mid-1960s. Planned construction types at this location are surface and a walking and cycling path underpass planned through the eastern section of the reserve. Excavation volumes at the location of AK Lines Reserve are estimated to be 9,000 m^3 (in-situ) (refer to **Figure 3 – Annexure A**). No sampling of soil/waste for contamination assessment has been undertaken in this area but a geotechnical borehole in the north-east of the Reserve, immediately adjacent the North East Link alignment (NEL-BH044) did not indicate landfill material. Therefore, to provide some indication of the possible volumes of each waste category to be managed, the following assumptions have been made:

- 50 per cent of the proposed excavation area comprises Fill Material (4,500 m^3)
- 50 per cent of the proposed excavation area comprises PIW (4,500 m^3)
- 90 per cent of the PIW volume is classified as Category C (4,050 m^3)
- 10 per cent of the PIW volume is classified as Category B (450 m^3).

While no landfill material was observed, it was decided to take a conservative approach with this area due to the lack of analytical data and assign 50 per cent of the spoil as PIW. In addition, the main geological unit likely to be encountered in this area is the Silurian siltstones, which have been classified along the North East Link alignment as either Category C or Fill Material. Therefore, the greatest proportion of the PIW has been assigned Category C. A smaller percentage of Category B PIW (10 per cent) is assigned to account for any unidentified more highly contaminated waste that might be present within the former landfill.

The estimates of PIW would need to be verified by soil sampling on-site.

Watsonia railway station/commercial area

Historical aerial photographs from the Watsonia railway station and car park area identified that a fuel service station was previously located towards the southern end of the car park area and that several small sheds, potentially connected with the railway were located close to the railway building itself. The car park area does not appear to have been used as a railway siding and so the potential for impact is low. Limited soil sampling undertaken across the car park identified concentrations of fluoride and nickel exceeding Fill Material criteria, but this is considered likely to represent natural background concentrations. Natural soil/weathered rock was encountered at shallow depths across the car park and outcrops at the surface in some areas.

The spoil estimate is based on the car park area of approximately 35,000 m^2 (refer to **Figure 4 – Annexure A**) and a total depth of impacted material of 0.5 metres (allowing for averaging across the site). This results in a total spoil volume of 15,000 m^3. To provide some indication of the possible volumes of each waste category to be managed, the following assumptions have been made:

- 50 per cent of the spoil in the 35,000 m^2 car park area comprises PIW (8,750 m^3) with the remainder comprised of Fill Material
- 100 per cent of the PIW is classified as Category C (8,750 m^3).

The main geological unit likely to be encountered in this area is the Silurian siltstones. Sampling in this area and along the North East Link alignment has indicated this material is either Category C (based on fluoride in particular) or Fill Material. Therefore, a proportion of PIW has been assigned as a conservative approach. As there has been no former landfills or significant industrial activity in this area, all of the PIW was assigned as Category C. However, the volume of Category C would likely be able to be reduced through reclassification as Fill material based on the fluoride in the rock being naturally occurring.

The estimates of PIW would need to be verified by further soil sampling on-site and application to the EPA for reclassification of the Category C material to Fill Material.

4.1.2 Northern portal to southern portal

Former landfill, Borlase Reserve, Yallambie

A former landfill has been identified at Borlase Reserve, Yallambie. Historical aerial photographs indicate that filling likely commenced in the 1960s and ceased in the mid-1960s. Minor amounts of construction and demolition (C&D) waste were observed during limited geotechnical investigative drilling in boreholes at the reserve. The C&D waste was shallow with a maximum depth of 3.0 mbgl observed. Preliminary soil analysis from BH100, BH106 and BH107 indicated the soil meets Fill Material criteria in accordance with IWRG 621. However, the presence of C&D waste would suggest that contamination of soil is likely and that PIW is present. It is also noted that soil containing C&D waste cannot be characterised as Fill Material and may require disposal to landfill as inert waste.

The spoil estimate is based on an area of approximately 35,000 m^2 (refer to **Figure 5 – Annexure A**), an average depth of fill soils of 2 metres (70,000 m^3). To provide an indication of the possible volumes of each waste category to be managed, the following assumptions have been made:

- 50 per cent of the 35,000 m^2 area comprises PIW (35,000 m^3) with the remainder comprised of Fill Material
- 100 per cent of the PIW is classified as Category C (35,000 m^3).

It is noted that the quantity of Category C waste could increase if asbestos containing materials are identified within the C&D waste, although ACM has not been encountered to date.

The estimates of PIW and quantity of C&D waste need to be verified by soil sampling on-site. It is possible that inert waste could be separated from the soils and recycled, but that may not be possible due to availability of space and time.

Bulleen Industrial Precinct, vicinity of Bulleen Road and Manningham Road intersection, Bulleen

Approximately 874,000 m^3 (in-situ) of spoil would be generated within the Bulleen Industrial Precinct including the former Bulleen Drive-in. However, it is estimated the precinct covers approximately 100,000 m^2 and contamination extend to a depth of generally less than 2 metres (a total of 200,000 m$^{3)}$ (refer to **Figure 6 – Annexure A**). Due to restrictions in accessing private property within the commercial/industrial in Bulleen, targeted soil sampling was unable to be undertaken and drilling has been conducted in the surrounding public land. To provide some indication of the possible volumes of each waste category to be managed, the following assumptions have been made:

- 50 per cent of the spoil in the 100,000 m^2 area comprises PIW (100,000 m^3) with the remainder comprised of Fill Material
- 85 per cent of the PIW is classified as Category C (85,000 m^3)
- 10 per cent of the PIW is classified as Category B (10,000 m^3)
- 5 per cent of the PIW is classified as Category A (5,000 m^3).

Industrial areas are likely to contain localised ‘hot spots’ of contamination associated with various industrial activities. As the Bulleen Industrial Precinct contains fuel service stations and a dry cleaner, there is a high likelihood of the presence of contamination from petroleum hydrocarbons and volatile organic compounds (VOCs), notably perchloroethene (PCE). Typically, this type of material can result in highly contaminated soil, albeit localised around source areas. Hence, a conservative approach has been taken to assign a proportion of PIW to Category B and A. The majority of any PIW is likely to be Category C given that the main geological unit likely to be encountered in this area is the Silurian siltstones, the sampling of which in this area has indicated either Category C (based on fluoride in particular) or Fill Material.

The estimates of PIW would need to be verified by targeted soil sampling across the Bulleen Industrial Precinct.

Former quarry, Bulleen

The desktop historical investigation identified the presence of a former quarry and potentially brick/tile factory in the vicinity of Rocklea Road, Bulleen. The area has since been redeveloped and is now currently used for low density residential land use. It is not clear what the final depth of excavation in the quarry was, but it would have been expected to be less than 10 metres to avoid encountering weathered siltstone rock (as outlined on the *Geological Plan & Section Drawing No. 3135006-rd-drg-w00-01-gt-00001*). It is not clear whether the quarry has been backfilled with any waste or simply smoothed using overburden and other materials on-site. It is noted that the quarry escarpment is still clearly visible within the residential lots. On the basis It is not expected the North East Link tunnels would encounter the former quarry, no spoil volume has been calculated.

Former landfill at Bulleen Park, Bulleen

A former landfill has been identified at Bulleen Park. Investigative geotechnical drilling encountered waste material (uncontrolled fill) consisting predominately of construction and demolition waste interspersed with soil. Based upon the four boreholes drilled to date, the depth of waste material has been observed to be present at a shallow depth with waste encountered at 0.1 metres in some boreholes and a maximum depth of three metres.

Preliminary soil investigation undertaken indicated that concentrations of metals exceeded Fill Material, Category B and Category C upper limits in selected soil samples. This indicated the presence of PIW in the landfill area and would include some Category B and Category A material, albeit of limited extent.

It is also noted that fragments of cement sheet considered likely to contain asbestos were observed in boreholes. Based on results from the limited sampling undertaken, it is assumed that 100 per cent of excavated spoil is contaminated. The impacted area is estimated to cover approximately 20,000 m^2 at an average depth of fill of two metres (40,000 $m^{3)}$ of spoil (refer to **Figure 7 – Annexure A**). To provide some indication of the possible volumes of each waste category to be managed, the following assumptions have been made:

- All of the spoil is categorised as PIW (40,000 $m^{3)}$
- 85 per cent of the PIW is classified as Category C (34,000 m^3)
- 12.5 per cent of the PIW is classified as Category B (3,000 m^3)
- 2.5 per cent of the PIW is classified as Category A (1,000 m^3).

The estimate assumptions have tried to account for the known presence of Category A and B material in the landfill. They also recognise that samples from the same location as those designated Category A and B were quite variable, suggesting that the volumes of Category B and A may not be extensive.

It is noted that C&D waste could be separated from soils and disposed under a different category.

The estimates of PIW and quantity of C&D waste need to be verified by soil sampling on-site. **NOTE** — As the Bulleen Park landfill is understood to straddle the northern portal to southern portal and Eastern Freeway elements of North East Link, for this estimate the volume was split 50:50 between the two elements (refer to Section 4.1.3). This is further indicated in Table 4-2.

4.1.3 Eastern Freeway

Bulleen Park landfill

As noted above, a former landfill beneath Bulleen Park is understood to straddle the northern portal to southern portal and Eastern Freeway elements of North East Link. For this estimate, the volume was split 50:50 between the two project elements. The indicative waste volume estimates for the area of concern therefore constitute half the volume reported in Section 4.1.2, and this is further indicated in Table 4-2.

Former Camberwell landfill, Musca Street Reserve and Freeway Public Golf Course (west section), Balwyn North

Historical aerial photos and Melway maps indicate the City of Camberwell municipal landfill operated from 1966 to 1977. The historical aerial photographs indicate the landfill extends into the current day Musca Reserve and western end of the Freeway Public Golf Course and it is likely a section of the Eastern Freeway was built over the former landfill during the roadway's circa 1977 construction. Planned construction at this location is limited to minor road widening and modifications for the bus lane. It is assumed that widening would need to involve initial removal of compressible landfill materials. An area of approximately 2,000 m^2 has been estimated based on proposed road alignment (refer to **Figure 8 – Annexure A**). No sampling had been undertaken as part of this project to assess soil quality or landfill content at the time of drafting this report.

To provide some indication of the possible volumes of each waste category to be managed, the following assumptions have been made:

- Landfill soils will require excavation to approximately five metres depth (10,000 m^3).
- 100 per cent will be considered PIW Category C.

It is acknowledged that fill materials encountered may comprise putrescible or C&D wastes, which may not be classified as PIW.

The assumptions are by necessity conservative, based on the lack of analytical data available. They assume the spoil would be impacted to some extent by landfilling material and possibly by some backfilling with locally sourced soil derived from the Silurian siltstone. As discussed earlier, this siltstone material has been classified as Category C or Fill Material elsewhere along the North East Link alignment.

The estimates of PIW and potential for putrescible and or C&D waste (including ACM) would need to be verified by soil sampling on-site.

Former Greythorn landfill, corner of Doncaster Road and Eastern Freeway, Balwyn North

The former Greythorn landfill is located at the intersection of the Eastern Freeway and Doncaster Road in Balwyn North. EPA Victoria records indicate the former landfill operated for a limited period in the late 1970s. A 1978 aerial photograph shows an area where earth disturbance has occurred, which is likely the location of the former landfill site. Therefore, it is likely the Eastern Freeway was built over the former landfill, although it is not known what remedial works were undertaken at that time.

The construction types at this location include surface and surface viaduct. Excavation volumes for North East Link at the location of the Greythorn landfill are estimated to be approximately 6,500 m^3 (in-situ) based on an area of 3,250 m^2 and an assumed depth of two metres (refer to **Figure 9 – Annexure A**). No sampling of soil/waste for contamination assessment has been undertaken in this area.

To provide some indication of the possible volumes of each waste category to be managed, the following assumptions have been made:

- 50 per cent of the spoil is categorised as PIW (3,250 $m^{3)}$
- 100 per cent of the PIW is classified as Category C (3,250 m^3).

The assumptions are by necessity conservative, based on the lack of analytical data available. They assume the spoil would be impacted to some extent by landfilling material and possibly by some backfilling with locally sourced soil derived from the Silurian siltstone. As discussed earlier, this siltstone material has been classified as Category C or Fill Material elsewhere along the North East Link alignment.

The estimates of PIW and potential for putrescible and or C&D waste (including ACM) would need to be verified by soil sampling on-site.

Potential former landfill, Koonung Creek Linear Park

Koonung Creek Linear Park is located to the north of the Eastern Freeway, between Tram Road and Wetherby Road. Historical aerial photographs indicate significant previous earth disturbance which locates the potential former landfill at the current day Koonung Creek Linear Park. North East Link construction works here would be surface roads, the structure viaduct and the walking and cycling path at surface as well as an overpass. No sampling had been undertaken as part of this project to assess soil quality or landfill content at the time of completing this report. It is estimated the area of the park to be disturbed is approximately 17,000 m^2 and the fill extends to a depth of two metres (34,000 $m^{3)}$ (refer to **Figure 10 – Annexure A)**. To provide some indication of the possible volumes of each waste category to be managed, the following assumptions have been made:

- 50 per cent of the spoil is categorised as PIW (17,000 $m^{3)}$
- 100 per cent of the PIW is classified as Category C (17,000 m^3).

The assumptions are by necessity conservative, based on the lack of analytical data available. They assume the spoil would be impacted to some extent by landfilling material and possibly by some backfilling with locally sourced soil derived from the Silurian siltstone. As discussed earlier, this siltstone material has been classified as Category C or Fill Material elsewhere along the North East Link alignment.

The estimates of PIW and potential for putrescible and or C&D waste (including ACM) would need to be verified by soil sampling on-site.

Camberwell Public Golf course/Freeway Public Golf Course (East section)

Historical aerials indicate that filling likely occurred in the eastern portion of the Freeway Public Golf Course located approximately 200 metres to the south of the Bulleen Oval in Bulleen Park. This is confirmed by VicRoads Geological Plan (Drawing 206066) and Section through Camberwell Landfill (Drawing 206068) (VicRoads, 1970) which indicate that filling occurred in the east of the Freeway Public Golf Course adjacent to Bulleen Road. The North East Link project boundary in this area encroaches on the east and south-eastern edges of the Freeway Public Golf Course site. No sampling had been undertaken to assess soil quality or landfill content at the time of completing this report. The planned construction types at the Freeway Public Golf Course includes surface and structure viaduct. Due to the likely unstable nature of the waste material it is estimated that a two-metre thickness of waste would need to be excavated over an area of approximately 18,500 m^2 (37,000 $m^{3)}$ before the placement of fill (refer to **Figure 11 – Annexure A**). To provide some indication of the possible volumes of each waste category to be managed, the following assumptions have been made:

- 50 per cent of the spoil is categorised as PIW (18,500 $m^{3)}$
- 100 per cent of the PIW is classified as Category C (18,500 m^3).

The assumptions are by necessity conservative, based on the lack of analytical data available. They assume the spoil would be impacted to some extent by landfilling material and possibly by some backfilling with locally sourced soil derived from the Silurian siltstone. As discussed earlier, this siltstone material has been classified as Category C or Fill Material elsewhere along the North East Link alignment.

The estimates of PIW and potential for putrescible and or C&D waste (including ACM) would need to be verified by soil sampling on-site.

4.1.4 Project spoil categorisation summary

Based on the discussion above, the indicative in-situ spoil volumes for North East Link are summarised in Table 4-2.

Table 4-2 Indicative spoil categorisation estimates (m^3 in situ)

Location	Estimated in situ volumes (m^3)					
	Fill	Cat A	Cat B	Cat C	Total PIW	Sub Total
M80 Ring Road to northern portal	**2,120,000**	**-**	**3,000**	**32,000**	**35,000**	**2,155,000**
Greensborough landfill	12,850		1285	11,565	12,850	25,700
Watsonia landfill (AK Lines Reserve)	4500		450	4050	4500	9,000
Watsonia railway station	84,350			8750	8,750	93,100
Yallambie Road fuel station	77,750		825	7425	8250	86,000
Northern portal to southern portal	**3,111,000**	**5,500**	**11,500**	**137,000**	**154,000**	**3,265,000**
Yallambie landfill (Borlase	158,300	-	-	35,000	35,000	193,300

Location	Estimated in situ volumes (m^3)					
	Fill	Cat A	Cat B	Cat C	Total PIW	Sub Total
Reserve)						
Bulleen Industrial Precinct	774,000	5000	10,000	85,000	100,000	874,000
Former Bulleen quarry	-	-	-	-	-	-
Bulleen Park (landfill)	11,000	500	1,500	17,000	19,000	30,000
Eastern Freeway	**612,000**	**500**	**1,500**	**66,000**	**68,000**	**680,000**
Bulleen Park (landfill)	11,000	500	1,500	17,000	19,000	30,000
Former landfill at Camberwell Golf Club	N/A*	-	-	18,500	18,500	18,500
Greythorn landfill	3250	-	-	3250	3250	6500
Koonung Creek Linear Park	63,010	-	-	17,000	17,000	80,010
Former City of Camberwell landfill	N/A*	-	-	10,000	10,000	10,000
TOTALS	**5,843,000**	**6,000**	**16,000**	**235,000**	**257,000**	**6,100,000**
*N/A –no excavation is required						

In consideration of these volumes, it is noted that much of the classification of Category C for the Silurian basement rocks is based on fluoride exceeding the upper limit for Fill Material in the EPA Victoria Publication IWRG621. A number of lines of evidence suggest this material could be re-categorised to Fill Material, notably:

- The widespread occurrence of elevated fluoride throughout the North East Link alignment in the Silurian rocks
- The lack of anthropogenic fluoride sources along the alignment
- The lack of other compounds indicating Category C
- The widespread occurrence of elevated fluoride in the Silurian rocks in other project areas throughout Melbourne.

Re-classification would need to be obtained from EPA Victoria. A reduction of the volume of Category C PIW would have a significant beneficial impact on the project.

4.2 Waste acid sulfate soil

Technical report O – Contamination and soil identified the potential for waste acid sulfate soil (WASS) within:

- Quaternary aged organic rich alluvial soils, located in proximity to the Yarra River in the northern portal to southern portal element of North East Link
- Silurian aged Siltstone rock, located along the entire alignment.

The Silurian aged siltstone rock forms the basement lithology within the Melbourne region and is present either at the surface or underlying the alluvial soils.

The soil assessment undertaken and as outlined in Section 6.2.3 of Technical report O – Contamination and soil confirmed the moderately weathered to fresh Silurian aged Siltstone rock would likely be classified as a WASS and the Quaternary aged alluvial soil would also likely be classified as a WASS.

4.2.1 M80 Ring Road to northern portal

Earthworks associated with road widening, construction of viaducts and land bridges for North East Link would likely be limited to surface and footing excavations and are not expected to encounter acid sulfate soil (ASS) materials. Based on preliminary 2D geological interpretation, undertaken by the geotechnical investigation team, it is predicted that potentially acid sulfate soils would not be encountered during earthworks associated with the trench section between Elder Street and the cut and cover tunnels section.

The key activity within the M80 Ring Road to northern portal element that has the potential to encounter or activate acid sulfate soil and ASR is the installation of drilled piles. On the basis this would represent a very minor quantity, a volume estimate has not been prepared at this stage. Once all pile excavations were identified and the quality of siltstone is determined, a quantity of acid sulfate soil could be calculated.

4.2.2 Northern portal to southern portal

Based on preliminary field investigation results, it is considered likely that acid sulfate soil and acid sulfate rock (ASR) would be encountered during tunnel boring within the northern portal to southern portal project element. Preliminary field investigation undertaken to date indicated that 14 samples of Silurian aged siltstone collected taken at depths between 11.6 mbgs and 45.8 mbgs could be classified as WASS and one sample of alluvial soil collected near Bulleen Park was classified as PASS in accordance with EPA Victoria Publication 655.1-2009 *Acid Sulfate Soil and Rock*.

Based on a percentage breakdown of materials, including weathering of siltstone, a preliminary estimate of WASS volume that North East Link construction works would intersect has been calculated and is summarised in Table 4-3.

Table 4-3 WASS volume estimate (m^3 in situ)

Location	Potential acid sulfate materials		Approximate WASS volume (m^3)		
	% Recent alluvial soil	% MW, SW, FR Siltstone	ASS	ASR	ASS/ASR (Total)
M80 Ring Road to northern portal	**0%**	**0%**	-	-	-
Northern portal to LPR - ZONE 2A	**0%**	**40%**	-	161,000	161,000
	0%	**70%**	-	281,000	281,000
TBM tunnel (LPR to Bridge Street) - ZONE 2B	**0%**	**100%**	-	1,185,000	1,185,000
Manningham road /Banksia interchange - ZONE 2C	**30%**	**33%**	207,000	227,000	434,000
Mined tunnel (under Bulleen Road and property) - ZONE 2D	**0%**	**90%**	-	139,000	139,000
Mined tunnel to southern portal - ZONE 2E	**90%**	**10%**	387,000	43,000	430,000
Eastern Freeway	**minor**	**minor**			
		Total	**594,000**	**2,036,000**	**2,630,000**

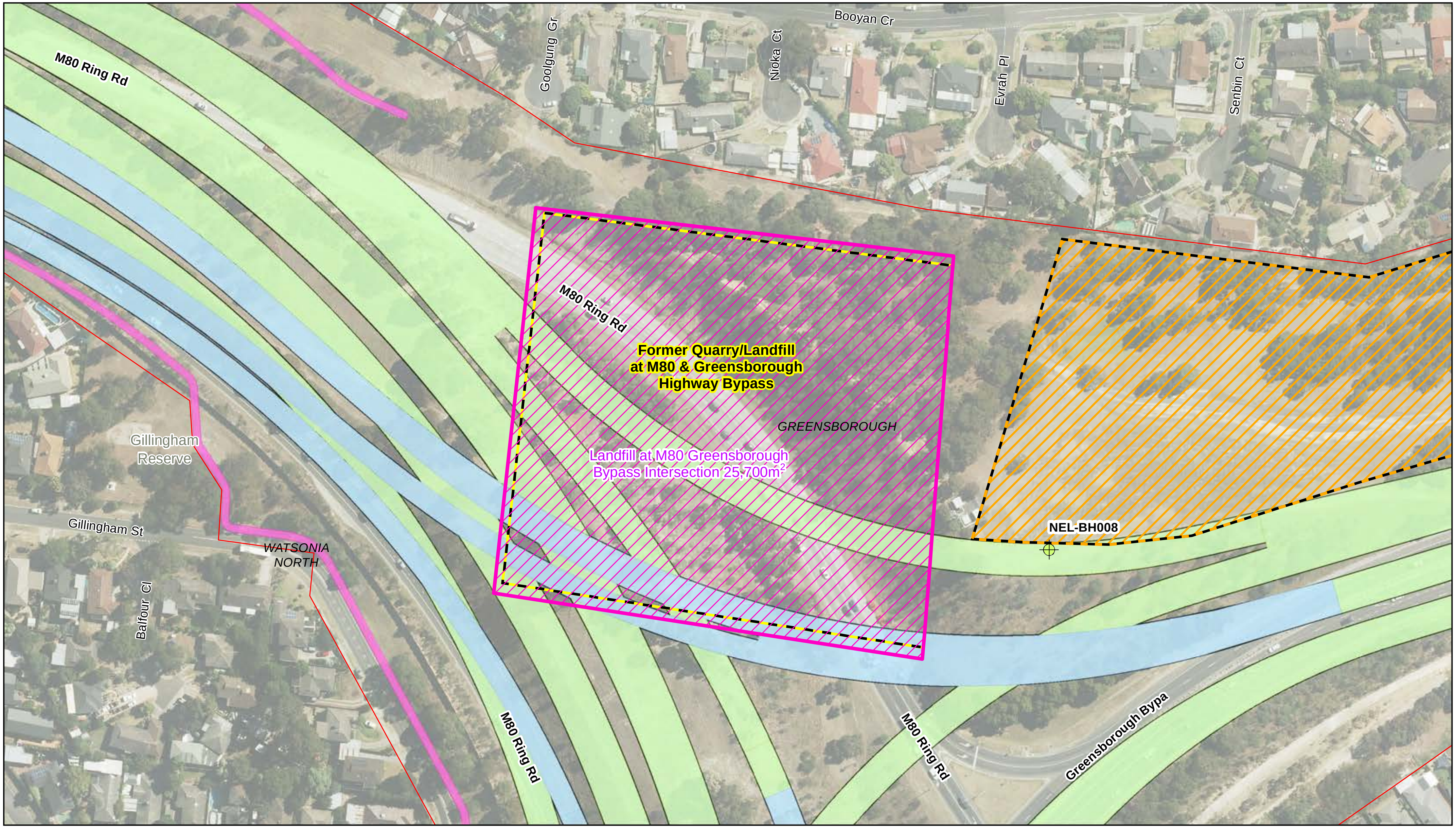
The spoil estimate data shows that approximately 2,888,203 m^3 (in-situ) of WASS may require management from this project element. This estimate is based on regional geology as well as the preliminary sampling program results.

4.2.3 Eastern Freeway

The disturbance of acid sulfate soil and ASR within the Eastern Freeway project element by excavation is likely be limited. Construction of the bus lane, road widening and upgrade of interchanges are likely to be within weathered Silurian soil/rock, basaltic soils/basalt rock (Newer Volcanics Formation). It is noted the construction of the North East Link interchange at the Eastern Freeway may require removal of limited alluvial soils, which have the potential to be ASS, but the quantity of soils has not been estimated at the time of writing this report. It is expected that limited soil would require excavation/management in this area based on the largely elevated structure proposed (viaduct).

Annexures

Annexure A – Figures



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Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 55

N

Legend

- Project boundary - surface
- Construction compound
- Contaminated soil areas of interest
- Inferred former landfill extent
- Geotechnical bores

Proposed reference project

- Shared use path
- Surface road
- Elevated road, ramp or structure

NORTH EAST LINK PROJECT

North East Link Project
Environment Effects Statement (EES)

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Landfill at M80 Greensborough Bypass Intersection

Figure 1

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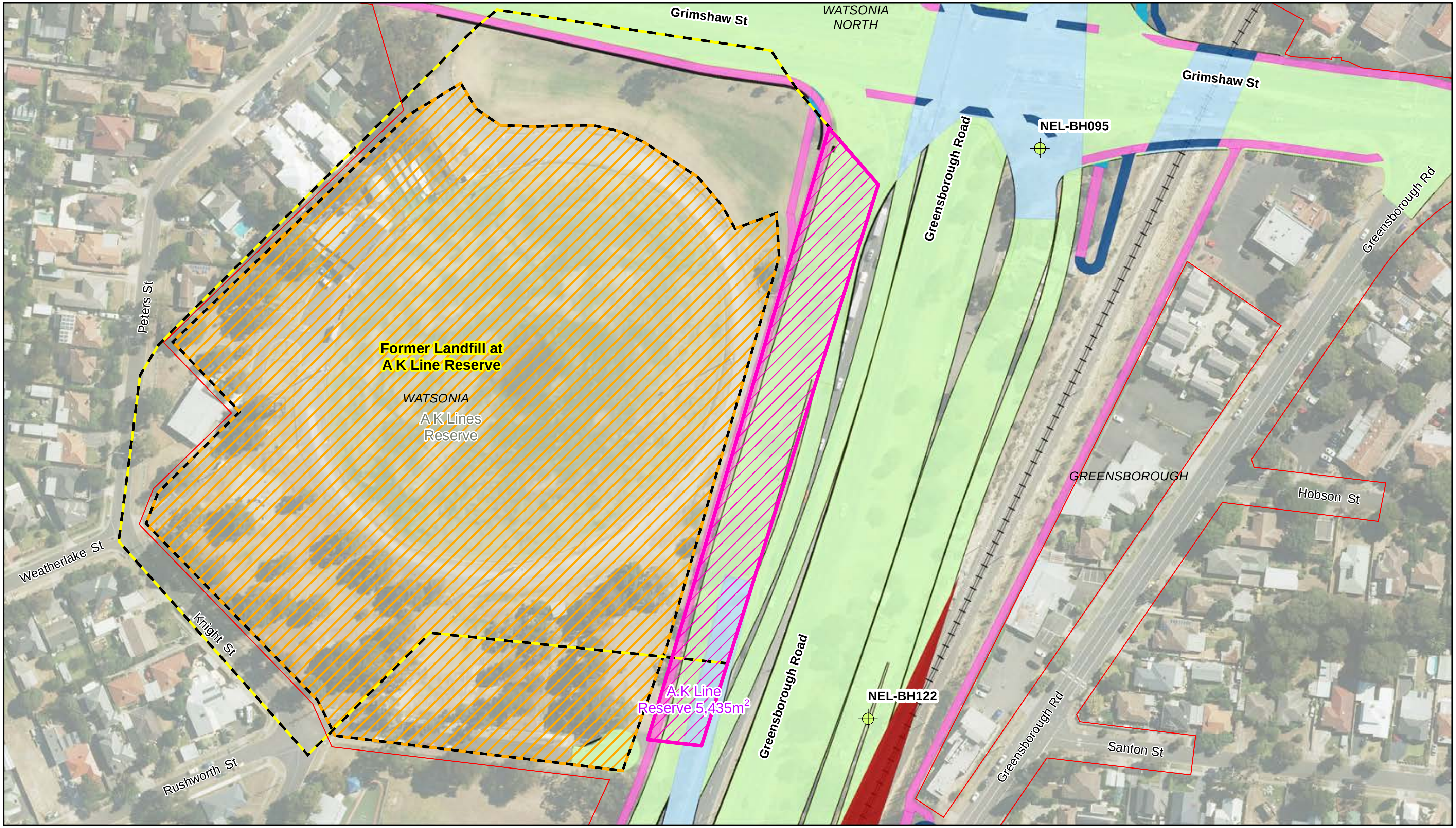

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Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 55

N

Legend

- Project boundary - surface
- Construction compound
- Contaminated soil areas of interest
- Inferred former landfill extent
- Geotechnical bores

Proposed reference project

- Shared use path overpass
- Shared use path
- Shared use path underpass
- Surface road
- Elevated road, ramp or structure

- Rail tunnel
- Railway

North East Link Project
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A.K Line Reserve

Figure 2

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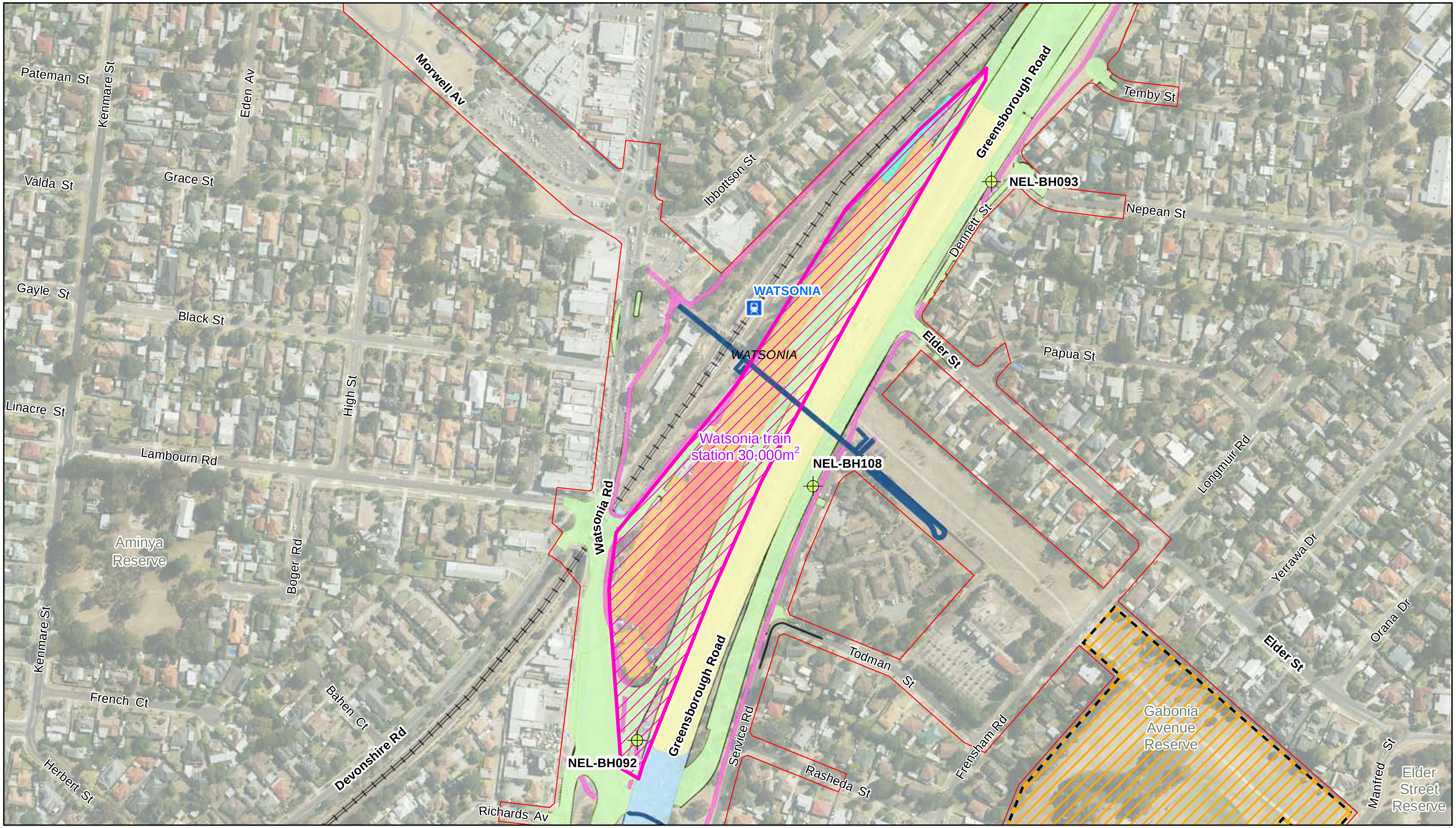

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Metres

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 55

N

Legend

- Project boundary - surface
- Construction compound
- Contaminated soil areas of interest
- Geotechnical bores

Proposed reference project

- Proposed area for substation
- Shared use path overpass
- Shared use path
- Surface road
- Multi-deck car park
- Public transport infrastructure upgrade
- Elevated road, ramp or structure
- Road in trench
- Rail tunnel
- Railway
- Train station

North East Link Project
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Watsonia train station

Figure 3

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Paper Size A4

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Metres

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 55

N

Legend

- Project boundary - surface
- Construction compound
- Contaminated soil areas of interest
- Geotechnical bores

Proposed reference project

- Shared use path
- Surface road
- Elevated road, ramp or structure
- Road in trench

NORTH EAST LINK PROJECT

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Coles Express fuel on Yallambie Rd

Figure 4

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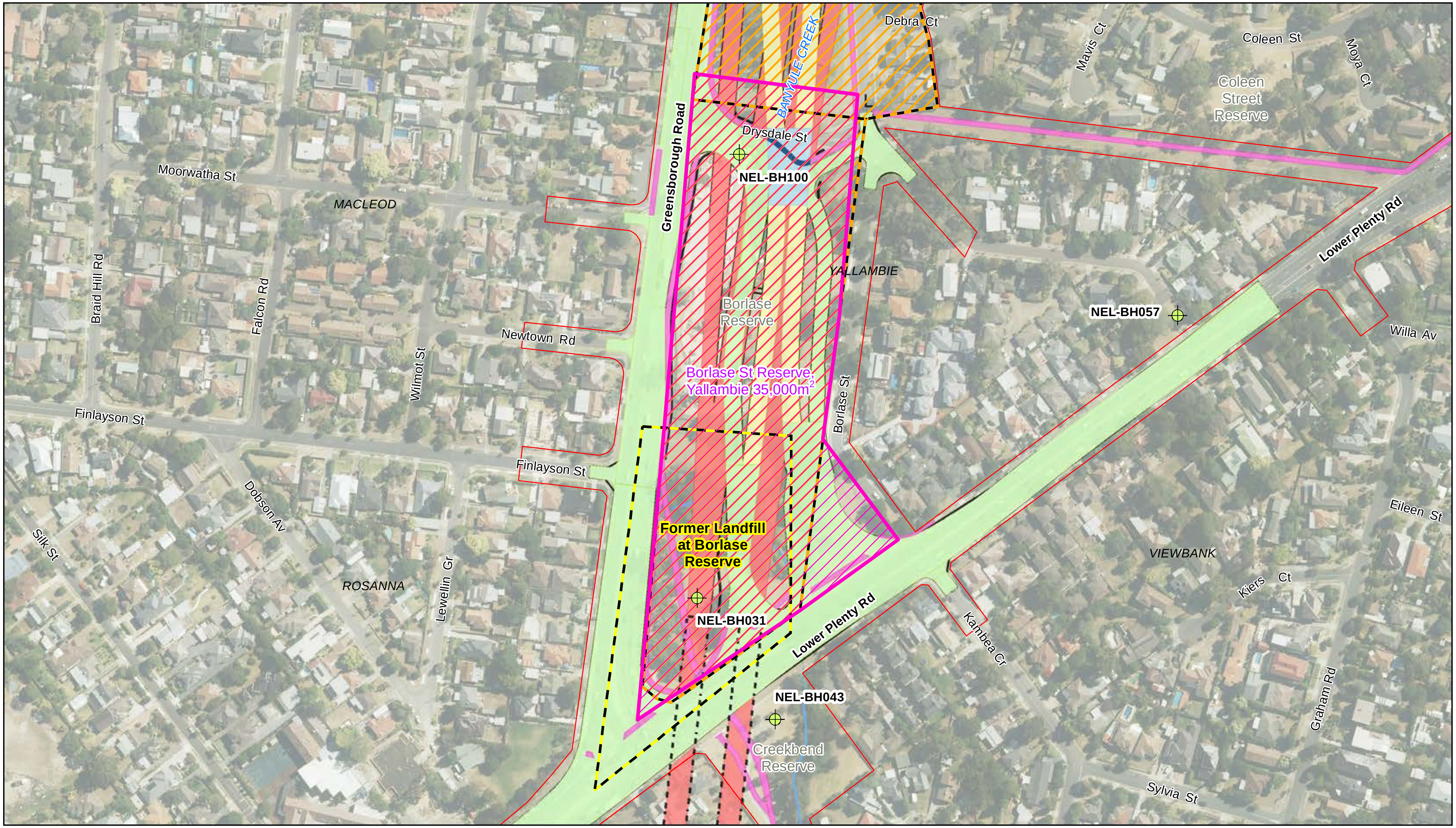

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Metres

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 55

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Legend

- Project boundary - sub-surface
- Project boundary - surface
- Construction compound
- Contaminated soil areas of interest
- Inferred former landfill extent
- Geotechnical bores
- Proposed tunnel alignment

Proposed reference project

- Shared use path overpass
- Shared use path
- Shared use path underpass
- Surface road
- Elevated road, ramp or structure
- Road in trench
- Underground tunnel
- Stream
- Drain or channel

NORTH EAST LINK PROJECT

North East Link Project
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Borlase St Reserve, Yallambie

Figure 5

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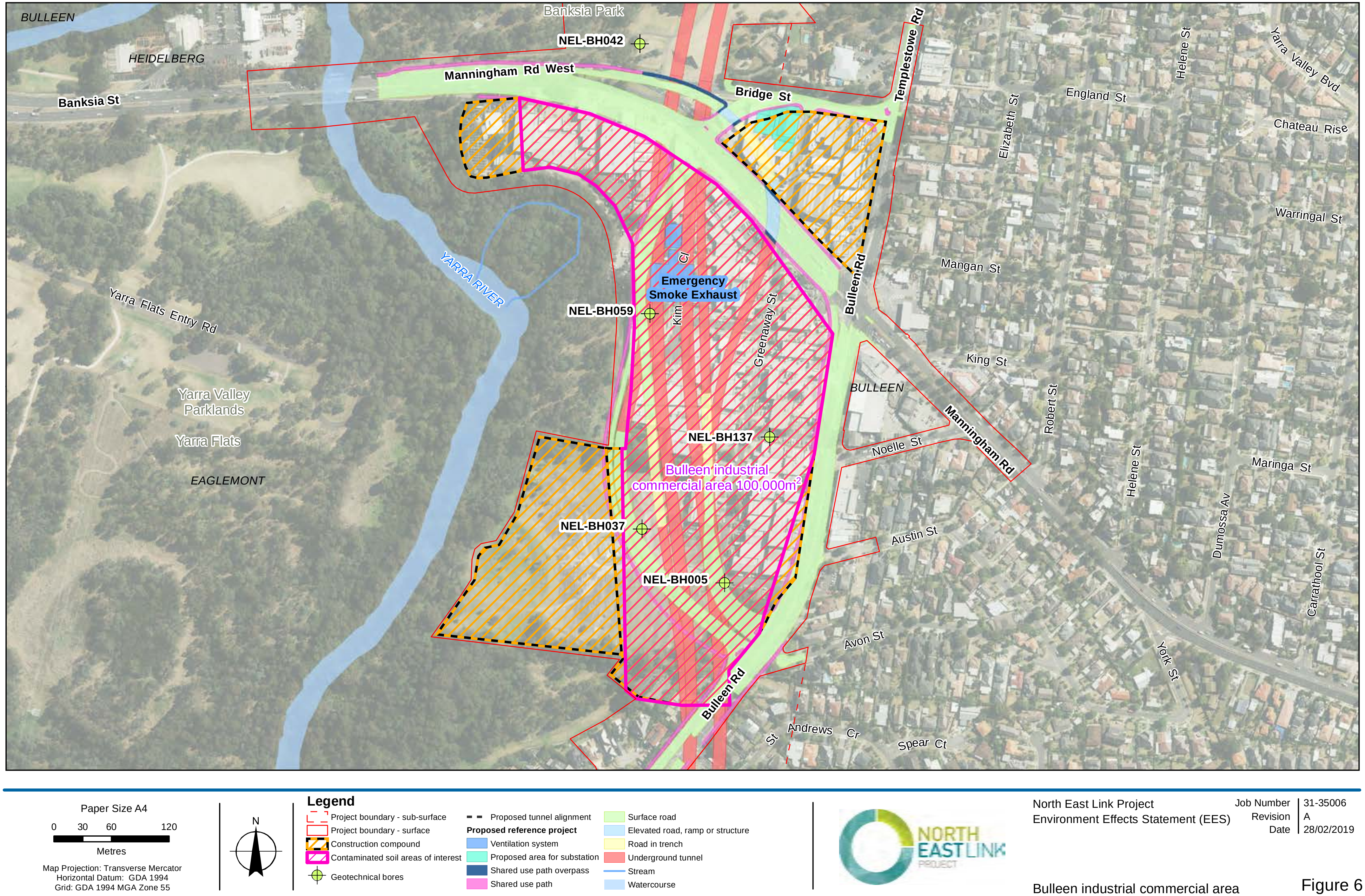

North East Link Project
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Bulleen industrial commercial area

Figure 6

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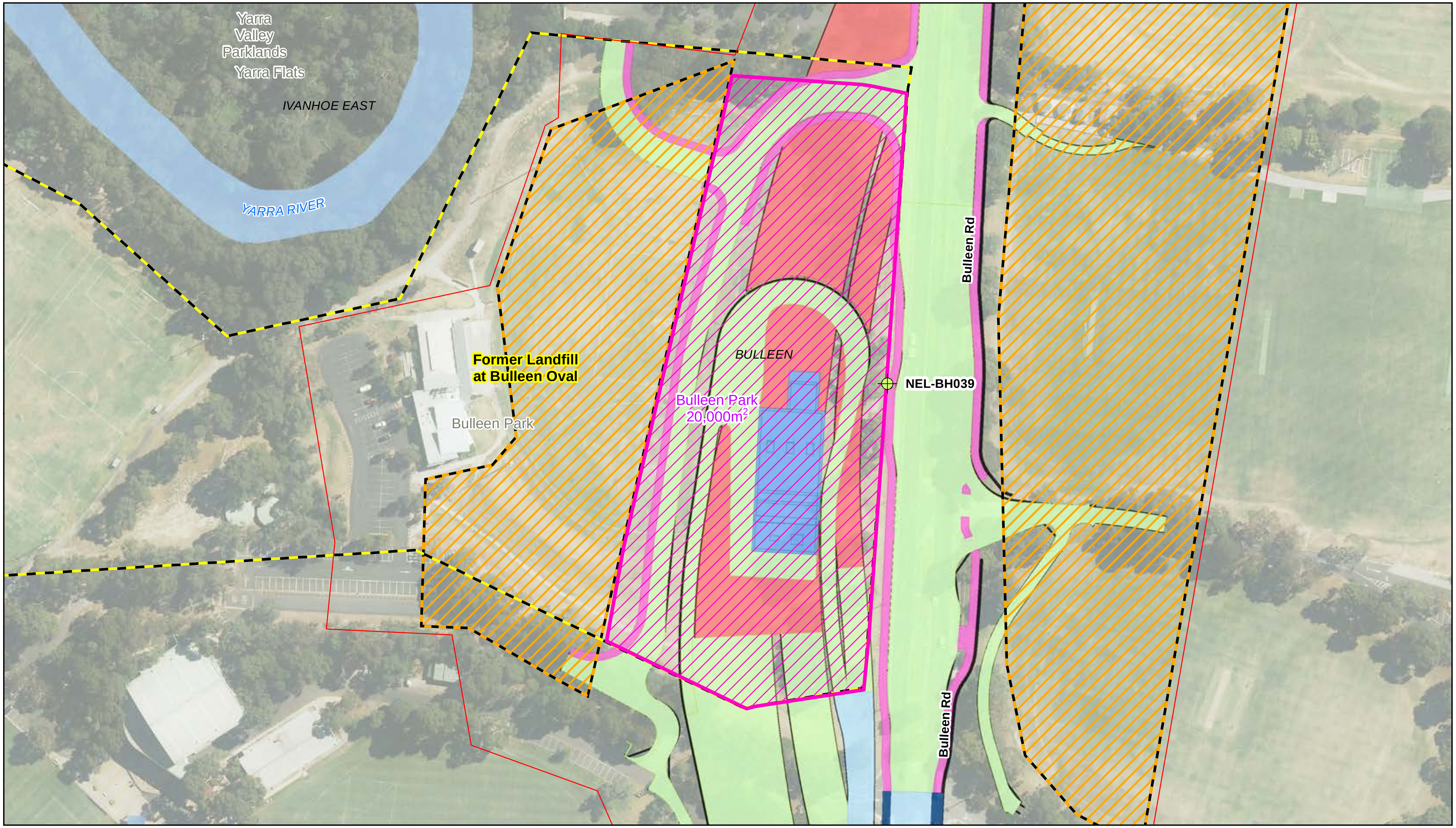

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Metres

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 55

N

Legend

- Project boundary - surface
- Construction compound
- Contaminated soil areas of interest
- Inferred former landfill extent
- Geotechnical bores

Proposed reference project

- Ventilation system
- Shared use path overpass
- Shared use path
- Surface road
- Elevated road, ramp or structure
- Underground tunnel
- Watercourse

North East Link Project
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Bulleen Park

Figure 7

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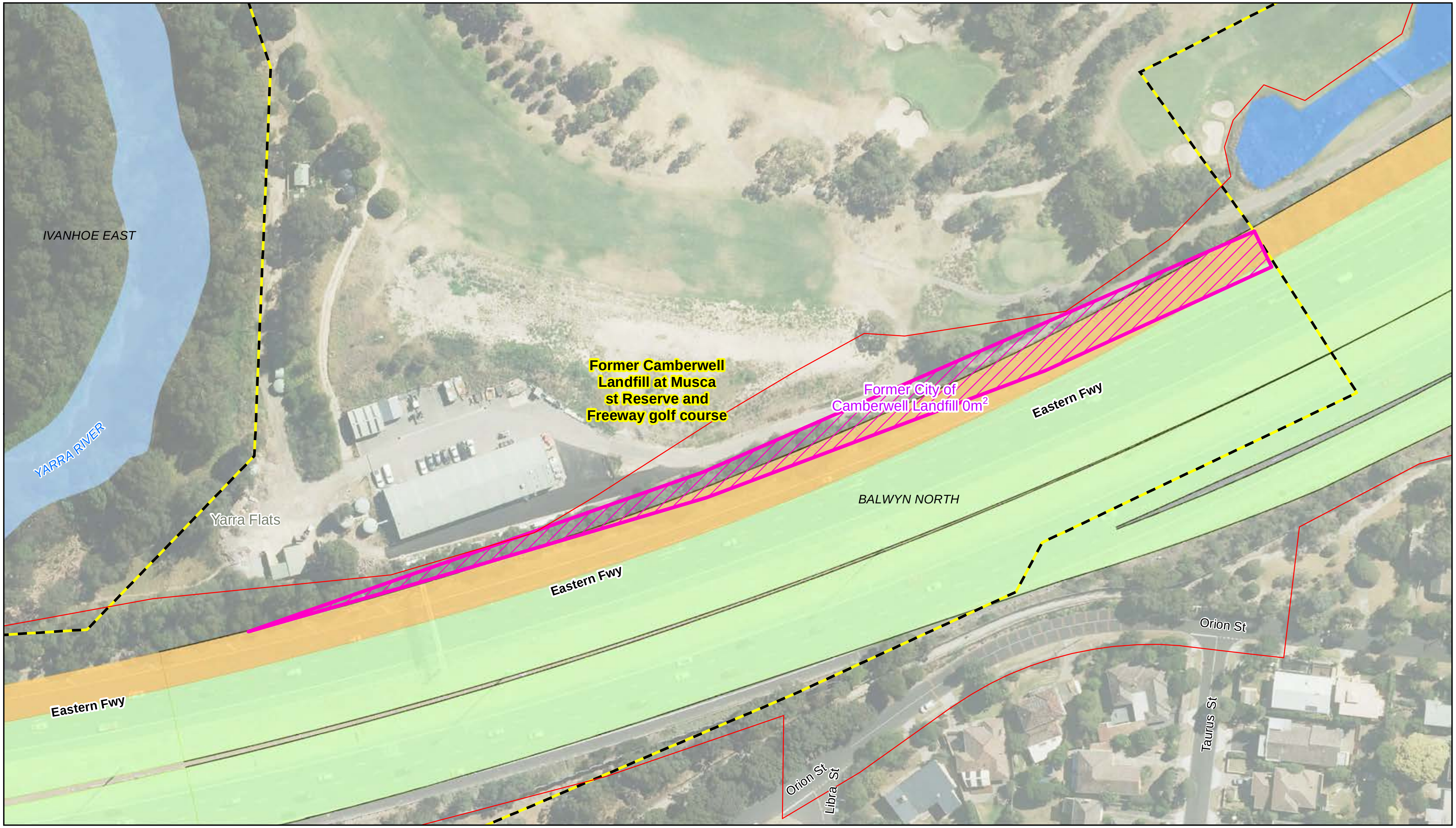

Paper Size A4

0 10 20 40

Metres

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 55

N

Legend

- Project boundary - surface
- Contaminated soil areas of interest
- Inferred former landfill extent

Proposed reference project

- Surface road
- Public transport infrastructure upgrade
- Watercourse
- Lake

North East Link Project
Environment Effects Statement (EES)

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Revision A
Date 28/02/2019

Former City of Camberwell Landfill

Figure 8

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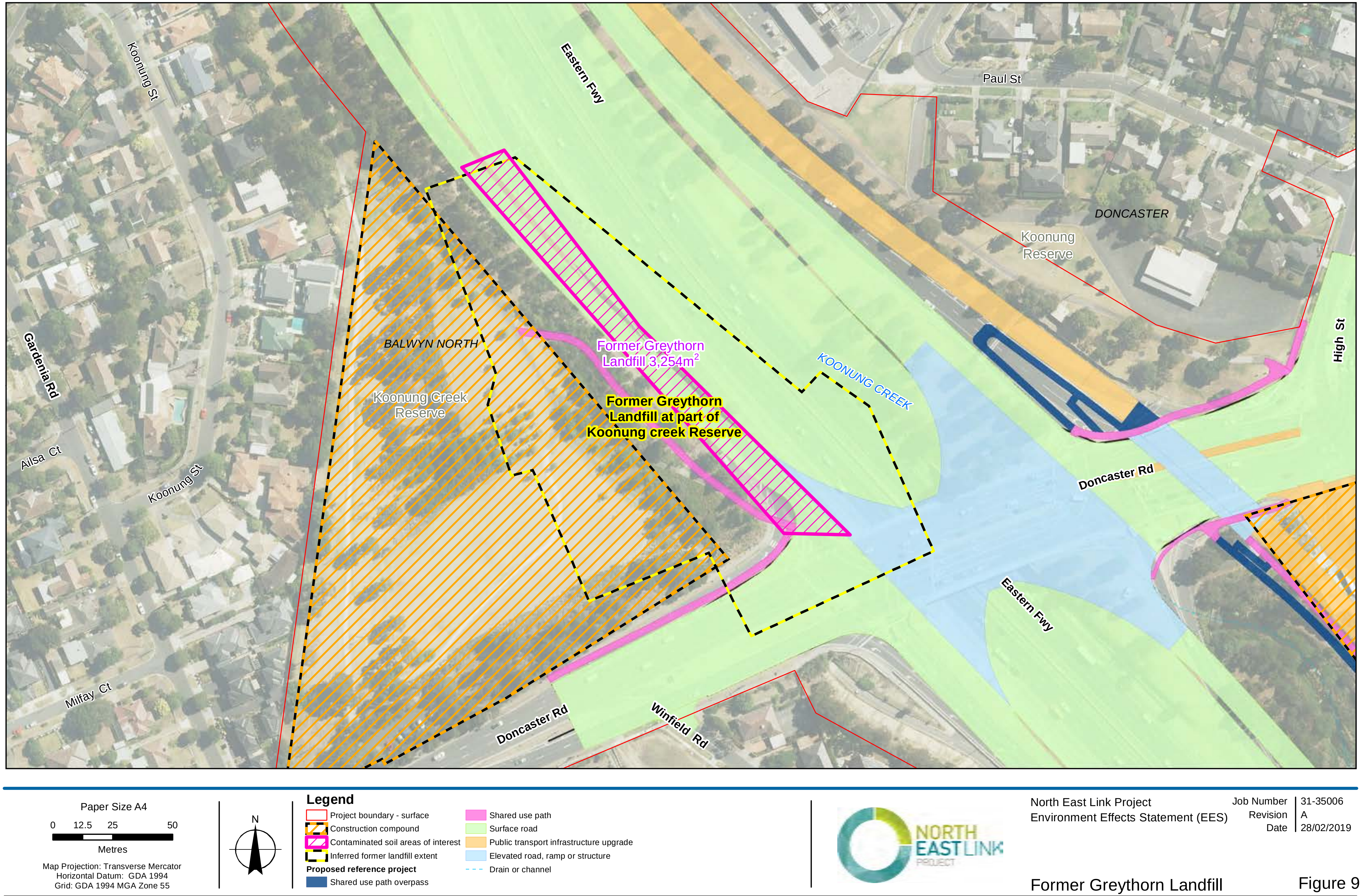

North East Link Project
Environment Effects Statement (EES)

Job Number	31-35006
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Date	28/02/2019

Former Greythorn Landfill

Figure 9

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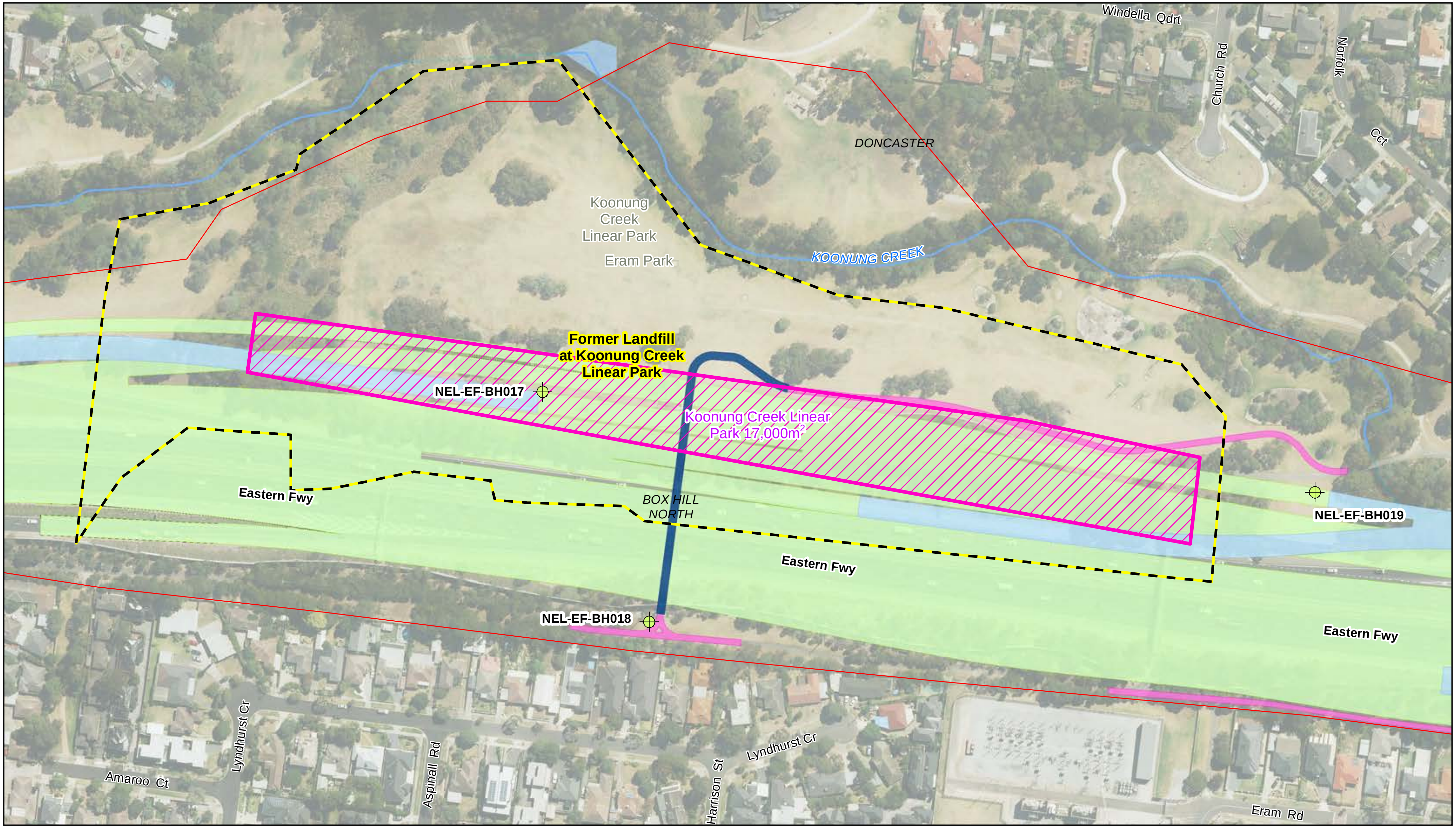
Data source: CIP Imagery - DELWP - 2018 | roads, watercourses, parks, rail, localities, planning zones - Vicmap - 2019 | precinct, project infrastructure - GHD, AECOM - 2019 Created by: trighetti



Paper Size A4

0 15 30 60

Metres

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 55

N

Legend

- Project boundary - surface
- Contaminated soil areas of interest
- Inferred former landfill extent
- Geotechnical bores

Proposed reference project

- Shared use path overpass
- Shared use path
- Surface road
- Elevated road, ramp or structure
- Stream
- Drain or channel
- Watercourse

North East Link Project
Environment Effects Statement (EES)

Job Number	31-35006
Revision	A
Date	28/02/2019

Koonung Creek Linear Park

Figure 10

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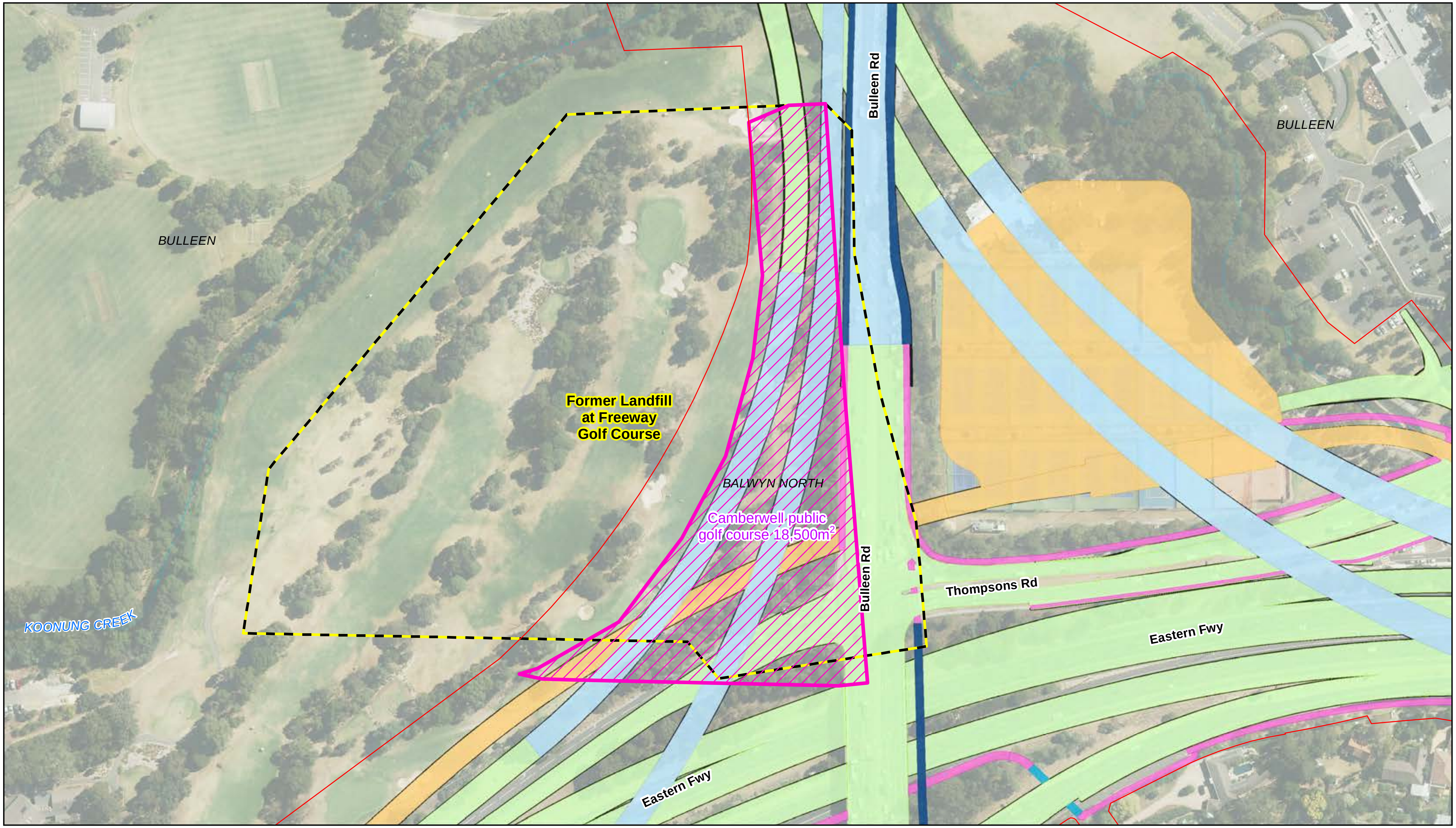
Data source: CIP Imagery - DELWP - 2018 | roads, watercourses, parks, rail, localities, planning zones - Vicmap - 2019 | precinct, project infrastructure - GHD, AECOM - 2019 Created by: trighetti



Paper Size A4

0 15 30 60

Metres

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 55

N

Legend

- Project boundary - surface
- Contaminated soil areas of interest
- Inferred former landfill extent

Proposed reference project

- Shared use path overpass
- Shared use path
- Shared use path underpass
- Surface road
- Public transport infrastructure upgrade
- Elevated road, ramp or structure
- Drain or channel

NORTH EAST LINK PROJECT

North East Link Project
Environment Effects Statement (EES)

Job Number	31-35006
Revision	A
Date	28/02/2019

Camberwell public golf course

Figure 11

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Data source: CIP Imagery - DELWP - 2018 | roads, watercourses, parks, rail, localities, planning zones - Vicmap - 2019 | precinct, project infrastructure - GHD, AECOM - 2019 Created by: trighetti

Annexure B – Material types

NEL
Geological material percentage estimates

Note:
Approximate only
Based on current version of geological model which is subject to change
Assessed by visual methods on a 2D plane only
Where fill volumes are to be estimated, the fill should take the place of either the soil or the HW or worse rock

Chainage		Material				
From	**To**	**Soil (Quaternary alluvium - PASS)**	**Soil (weathered rock - RS,XW, HW)**	**Rock (MW, SW of Fresh) - possible acid sulfate rock**	**FILL**	**Notes**
Start	43000	0	100	0	TBC	Above grade mostly
43000	43300	0	60	40	TBC	Greensborough Highway cutting/cut and cover
43300	43600	0	30	70	TBC	Greensborough Highway cutting/cut and cover
43600	46900	0	0	100	TBC	TBM tunnel
46900	47200	100	0	0	TBC	Manningham interchange
47200	47700	0	10	90	TBC	Mined tunnel
47700	48400	90	0	10	TBC	Bulleen Road cutting/cut and cover
48400	onwards	TBC	TBC	TBC	TBC	mostly foundation excavations only

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Appendix N – Risk assessment

Risk ID	Potential impact pathway	Environmental Performance Requirements (EPRs)	Initial Risk Rating						Reasoning	Environmental Performance Requirements (EPRs)	Residual Risk Rating						Reasoning
			Magnitude of consequence			Overall Consequence	Likelihood	Risk Level			Magnitude of consequence			Overall Consequence	Likelihood	Risk Level	
			Extent	Severity	Duration						Extent	Severity	Duration				
Risk CT01	Earthworks requiring excavation, stockpiling, transport and treatment/disposal of contaminated soil causes impacts to human health (via direct contact and vapour inhalation) and the environment	EPR CL1 Implement a Spoil Management Plan	Local	Medium	3 months to 2 years	Minor	Likely	Medium	Impacts to human health (via direct contact and vapour/dust inhalation) and the environment	EPR CL1 Implement a Spoil Management Plan	Local	Medium	3 months to 2 years	Minor	Possible	Low	SMP designed to reduce the likelihood of an impact
Risk CT02	Earthworks requiring excavation, stockpiling, transport and treatment/disposal of acid sulfate soil and rock causes impacts to human health (via direct contact and vapour inhalation) and the environment	EPR CL2 Minimise impacts from disturbance of acid sulfate soil	Corridor	Medium	2–7 years	Moderate	Possible	Medium	Impacts to human health (via direct contact and vapour/dust inhalation) and the environment	EPR CL2 Minimise impacts from disturbance of acid sulfate soil	Corridor	Medium	2–7 years	Moderate	Unlikely	Low	Acid Sulfate Plan designed to reduce the likelihood of an impact
Risk CT03	Encountering asbestos-containing materials that had not been assessed and identified prior to/during excavation results in adverse health (via direct contact and vapour inhalation) and the environment impacts	EPR CL1 Implement a Spoil Management Plan	Local	High	3 months to 2 years	Moderate	Possible	Medium	Adverse health impacts via direct contact and vapour inhalation	EPR CL1 Implement a Spoil Management Plan	Local	High	3 months to 2 years	Moderate	Unlikely	Low	SMP designed to reduce the likelihood of an impact
Risk CT04	Encountering waste materials containing hazardous substances in former landfill(s) and/or uncontrolled fill site(s) (known or unknown) causes impacts to human health	EPR CL1 Implement a Spoil Management Plan	Local	High	3 months to 2 years	Moderate	Possible	Medium	Impacts to human health (via direct contact and vapour/dust inhalation) and the environment	EPR CL1 Implement a Spoil Management Plan	Local	High	3 months to 2 years	Minor	Possible	Low	SMP designed to reduce the consequence of an impact an occurrence
Risk CT05	Excavation of contaminated soil generates offensive odour causing impacts to human health and loss of amenity to sensitive receptors	EPR CL3 Minimise odour impacts during spoil management	Local	Low	3 months to 2 years	Minor	Possible	Low	Impacts to human health and loss of amenity to sensitive receptors	EPR CL3 Minimise odour impacts during spoil management	Local	Low	3 months to 2 years	Minor	Possible	Low	Low initial risk

Risk ID	Potential impact pathway	Environmental Performance Requirements (EPRs)	Initial Risk Rating						Reasoning	Environmental Performance Requirements (EPRs)	Residual Risk Rating						Reasoning
			Magnitude of consequence			Overall Consequence	Likelihood	Risk Level			Magnitude of consequence			Overall Consequence	Likelihood	Risk Level	
			Extent	Severity	Duration						Extent	Severity	Duration				
Risk CT06	Earthworks leading to movement of underground gases that have the potential to build up in enclosed spaces and present a public safety risk		Local	High	3 months to 2 years	Moderate	Unlikely	Low	Potential to build in enclosed spaces and present a public safety risk	EPR CL4 Minimise risks from vapour and ground gas intrusion	Local	High	3 months to 2 years	Moderate	Rare	Low	Low initial risk
Risk CT07	Spills and leaks from construction equipment causes contamination of soil leading to impacts to public health and the environment	EPR CL5 Manage chemicals, fuels and hazardous materials	Local	Very low	3 months to 2 years	Negligible	Likely	Low	Contamination of soil leading to impacts to public health and the environment	EPR CL5 Manage chemicals, fuels and hazardous materials	Local	Very low	3 months to 2 years	Negligible	Likely	Low	Low initial risk
Risk CT08	Abstraction of groundwater causes migration of contamination onto sites that otherwise may not have been impacted, resulting in soil impact off site and causes an impact to human health and the environment	EPR GW3 Minimise changes to groundwater levels through tunnel and trench drainage design and construction methods EPR GW4 Implement a Groundwater Management Plan to Protect groundwater quality and manage groundwater interception	Municipality	Medium	7+ years	Moderate	Possible	Medium	Resulting in groundwater impact off site, possible vapour inhalation risk	EPR GW3 Minimise changes to groundwater levels through tunnel and trench drainage design and construction methods EPR GW4 Implement a Groundwater Management Plan to Protect groundwater quality and manage groundwater interception	Municipality	Medium	7+ years	Moderate	Unlikely	Low	EPRs designed to reduce the likelihood of an impact
Risk CT09	Underground construction causes migration of hazardous vapours, ground gases and/or dissolved methane and causes an impact to human health and the environment	EPR CL3 Minimise odour impacts during spoil management	Municipality	Medium	7+ years	Moderate	Possible	Medium	Impact to human health via inhalation and the environment	EPR CL3 Minimise odour impacts during spoil management EPR CL4 Minimise risks from vapour and ground gas intrusion EPR CL6 Minimise contamination risks during operation	Municipality	Medium	7+ years	Moderate	Unlikely	Low	EPRs designed to reduce the likelihood of an impact

Risk ID	Potential impact pathway	Environmental Performance Requirements (EPRs)	Initial Risk Rating						Reasoning	Environmental Performance Requirements (EPRs)	Residual Risk Rating						Reasoning
			Magnitude of consequence			Overall Consequence	Likelihood	Risk Level			Magnitude of consequence			Overall Consequence	Likelihood	Risk Level	
			Extent	Severity	Duration						Extent	Severity	Duration				
Risk CT10	Disturbance of contaminated soil in long-term stockpile or disturbance of contamination that remains in situ, notably within landfills, causes impacts to human health (via direct contact and inhalation) and the environment	EPR CL1 Implement a Spoil Management Plan	Local	Low	7+ years	Minor	Possible	Low	Impacts to human health (via direct contact and inhalation) and the environment	EPR CL1 Implement a Spoil Management Plan EPR CL6 Minimise contamination risks during operation	Local	Low	7+ years	Minor	Possible	Low	Low initial risk
Risk CT11	Ongoing abstraction of groundwater causes migration of contamination onto sites that otherwise may not have been impacted, resulting in soil contamination off site and causes an impact to human health and the environment	EPR GW3 Minimise changes to groundwater levels through tunnel and trench drainage design and construction methods EPR GW4 Implement a Groundwater Management Plan to Protect groundwater quality and manage groundwater interception	Municip ality	Medium	7+ years	Moderate	Possible	Medium	Groundwater impact off site and causes an impact to human health and the environment	EPR GW3 Minimise changes to groundwater levels through tunnel and trench drainage design and construction methods EPR GW4 Implement a Groundwater Management Plan to Protect groundwater quality and manage groundwater interception EPR GW5 Manage groundwater during operation	Municipal ity	Low	7+ years	Moderate	Unlikely	Low	EPRs designed to reduce the likelihood of an impact
Risk CT12	Ongoing abstraction of groundwater causes migration of hazardous vapours, ground gases and/or dissolved methane and causes an impact to human health and the environment	EPR CL6 Minimise contamination risks during operation EPR GW5 Manage groundwater during operation	Local	Low	7+ years	Minor	Possible	Low	Impact to human health of local residents and loss of amenity to sensitive receptors	EPR CL4 Minimise risks from vapour and ground gas intrusion EPR CL6 Minimise contamination risks during operation EPR GW5 Manage groundwater during operation	Local	Low	7+ years	Moderate	Unlikely	Low	Low initial risk

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Document Status

Revision	Author	Reviewer		Approved for Issue		
		Name	Signature	Name	Signature	Date
FINAL	M Clough	K Aldous		M Roser	MRoser	April 2019

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