

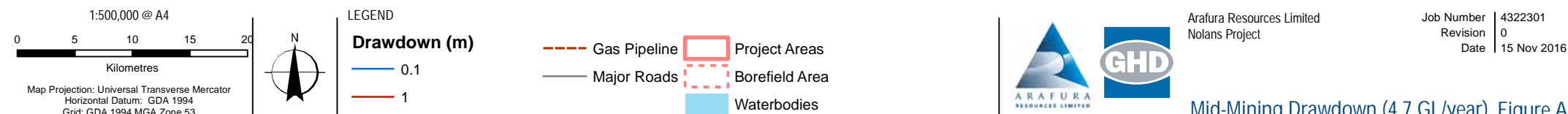
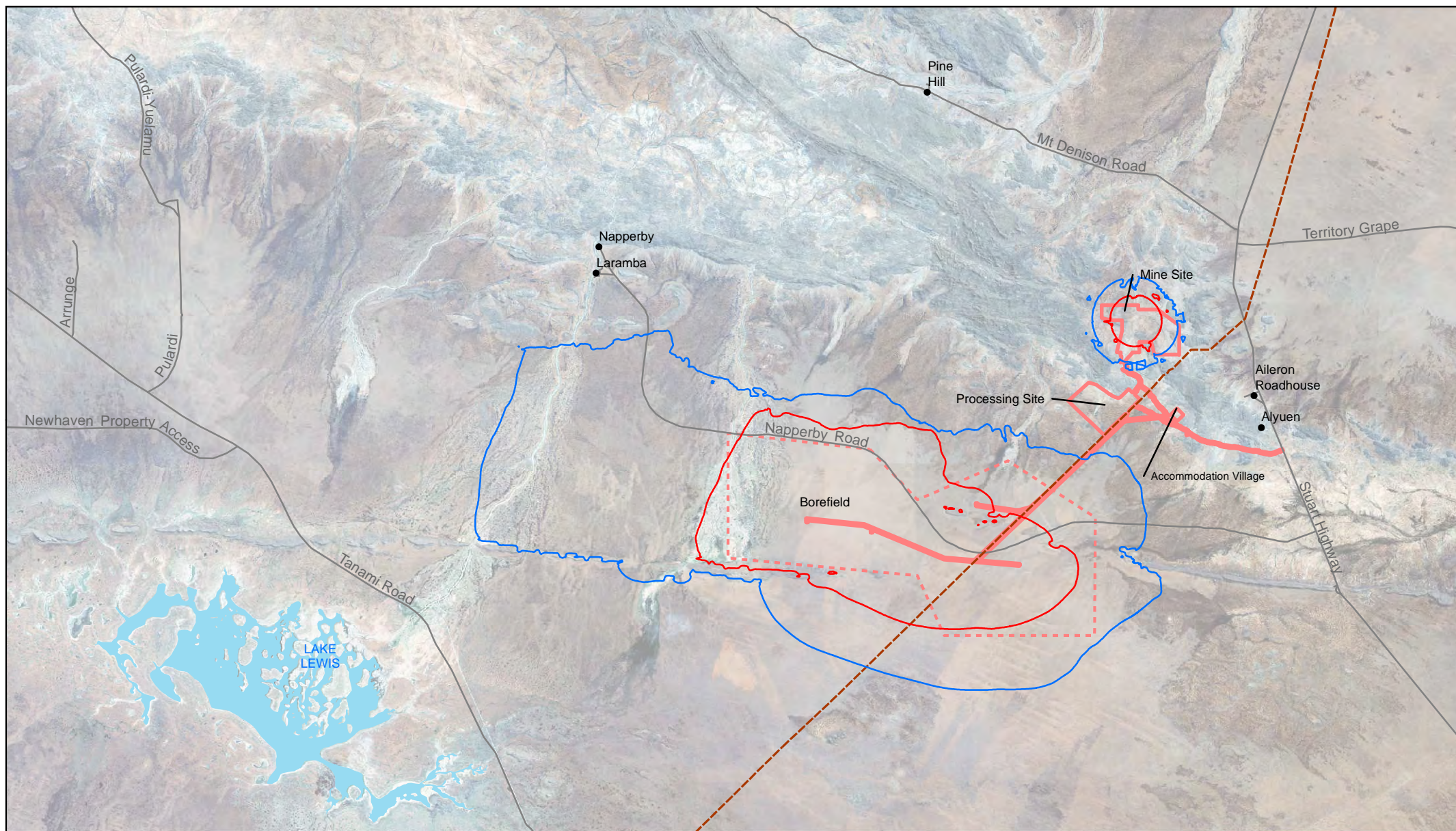
Appendix 10 EIS Groundwater Models (139, 307, 400) (GHD 2016)

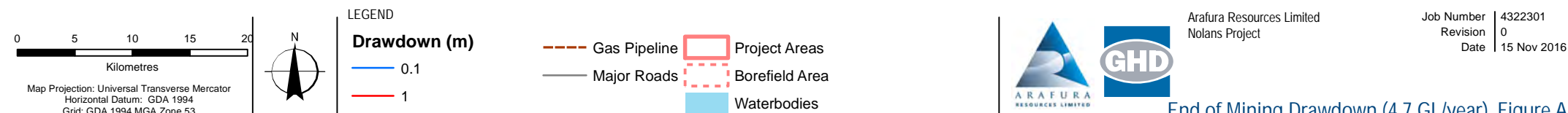
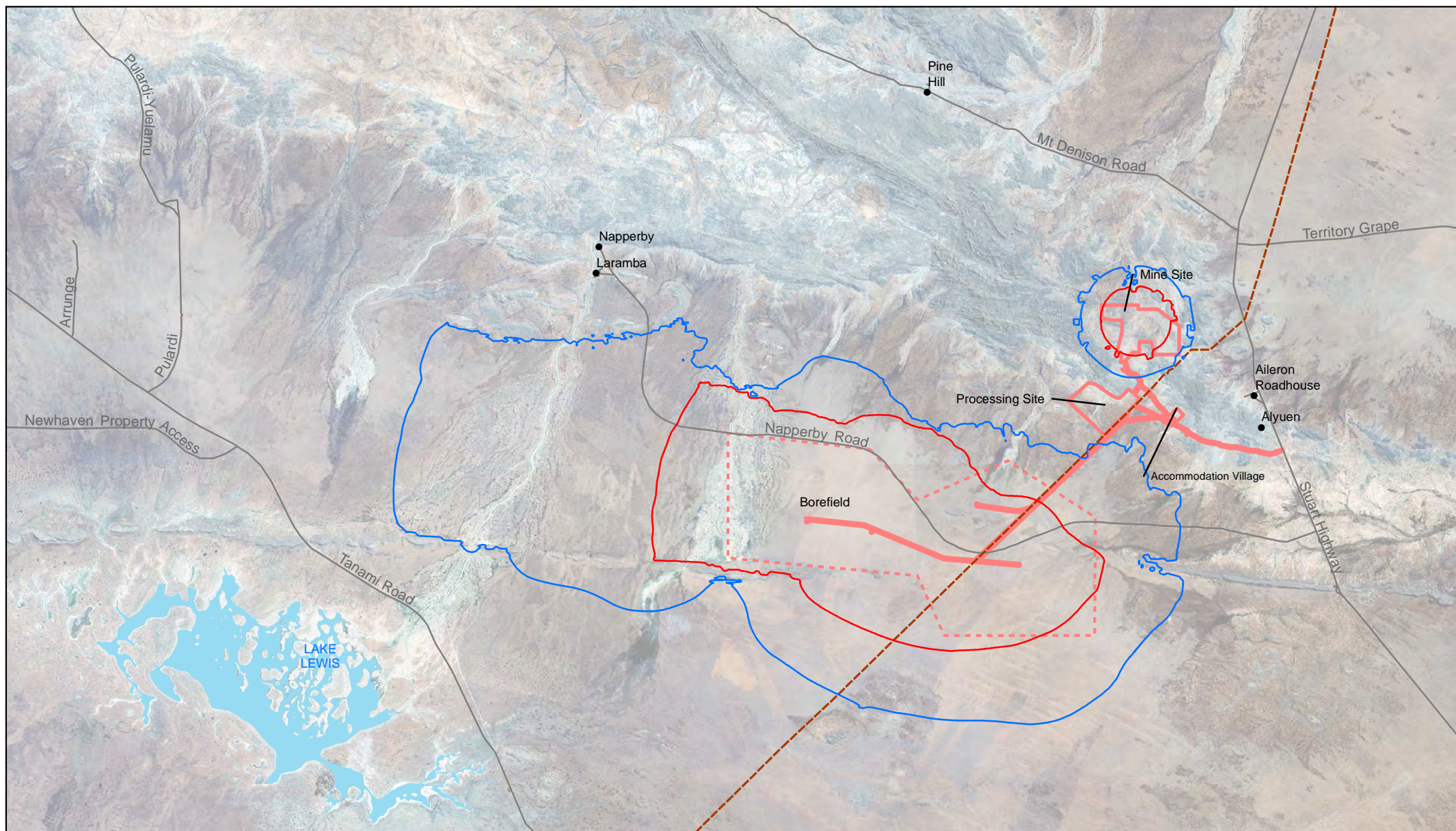
Groundwater Modelling Scenarios

The 0.1 m and 1 m drawdown contours for various times including mid-mining, end of mine, after 100 years of closure and after 1000 years of closure for the following drawdown scenarios:

- A. the EIS model [Model 139].
- B. a scenario with reduced flow rates and reduced bedrock hydraulic conductivity (on request from Arafura) [Model 307]; and
- C. a scenario with a reduced specific yield (from 0.10 used in the EIS model to 0.04, on request from the Water Resources Division, [Model 400]).

This supplementary report documents the changes to the EIS model only and therefore must be read in conjunction with the original Groundwater Report, and the limitations, assumptions and qualifications contained throughout the original Groundwater Report (Appendix K of EIS).





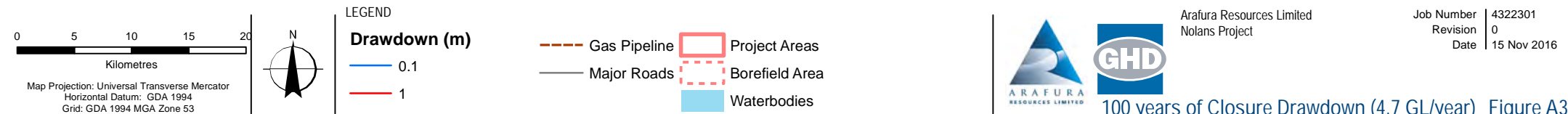
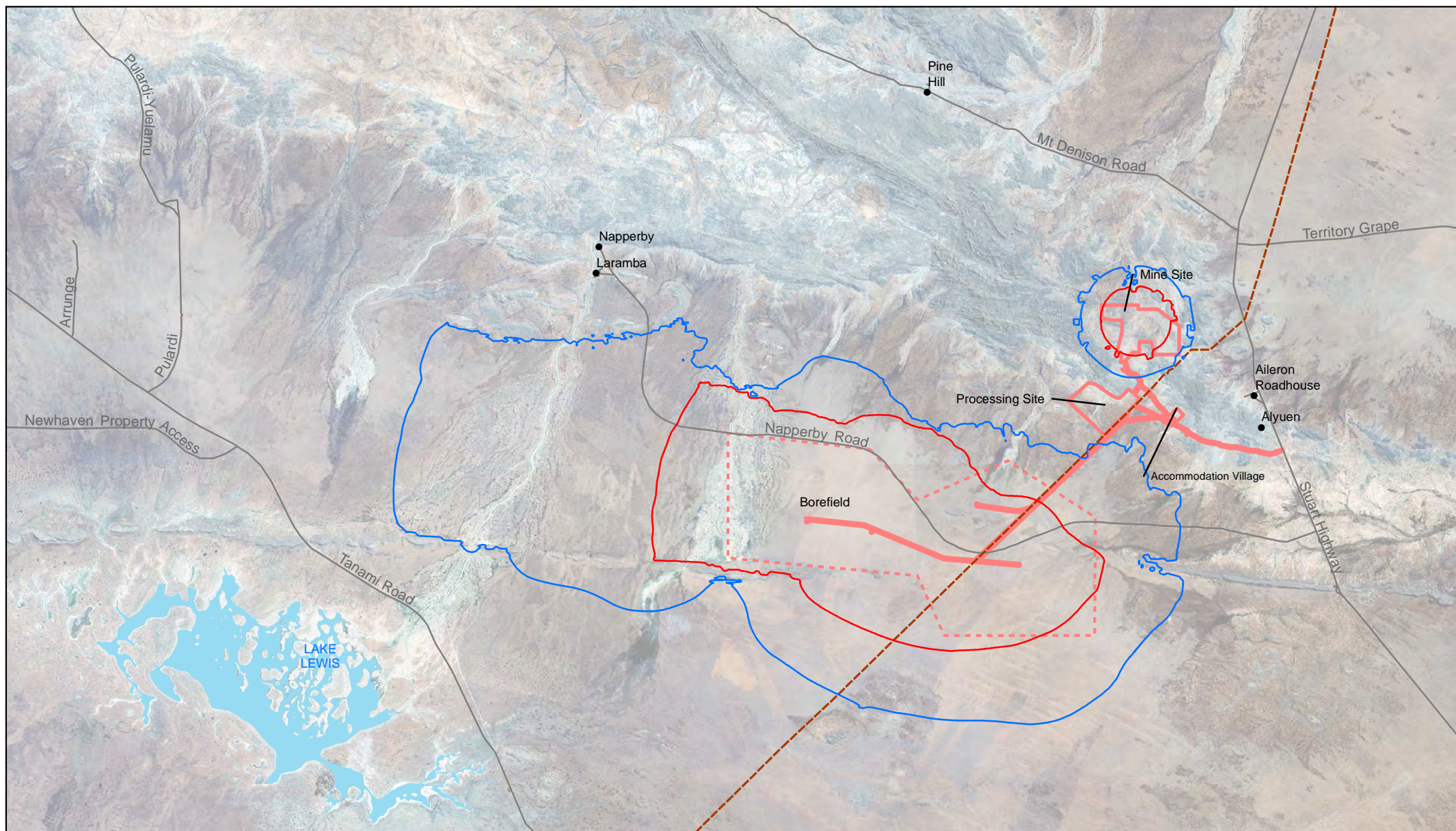
End of Mining Drawdown (4.7 GL/year) Figure A2

G:\43\22301\GIS\Maps\PDF\Lee Drawdown Maps\Figure A2 EOM.mxd

Level 5 66 Smith Street Darwin NT 0800 Australia T 61 8 8982 0100 F 61 8 8981 1075 E drwmail@ghd.com W www.ghd.com

© 2016. Whilst every care has been taken to prepare this map, GHD, Google, GA, Ride and Arafura Resources make no representations or warranties about its accuracy, reliability, completeness or suitability for any particular purpose and cannot accept liability and responsibility of any kind (whether in contract, tort or otherwise) for any expenses, losses, damages and/or costs (including indirect or consequential damage) which are or may be incurred by any party as a result of the map being inaccurate, incomplete or unsuitable in any way and for any reason.

Data source: Google Earth Pro - Imagery (Date extracted: 04/02/2015). Ride - Groundwater Data (2015). ARL - Project Areas (2015). GA - Placenames, Railways, Gas Pipeline, Major Roads, Waterbodies (2015). Created by: CM

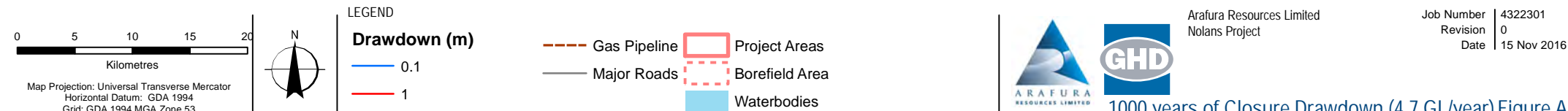
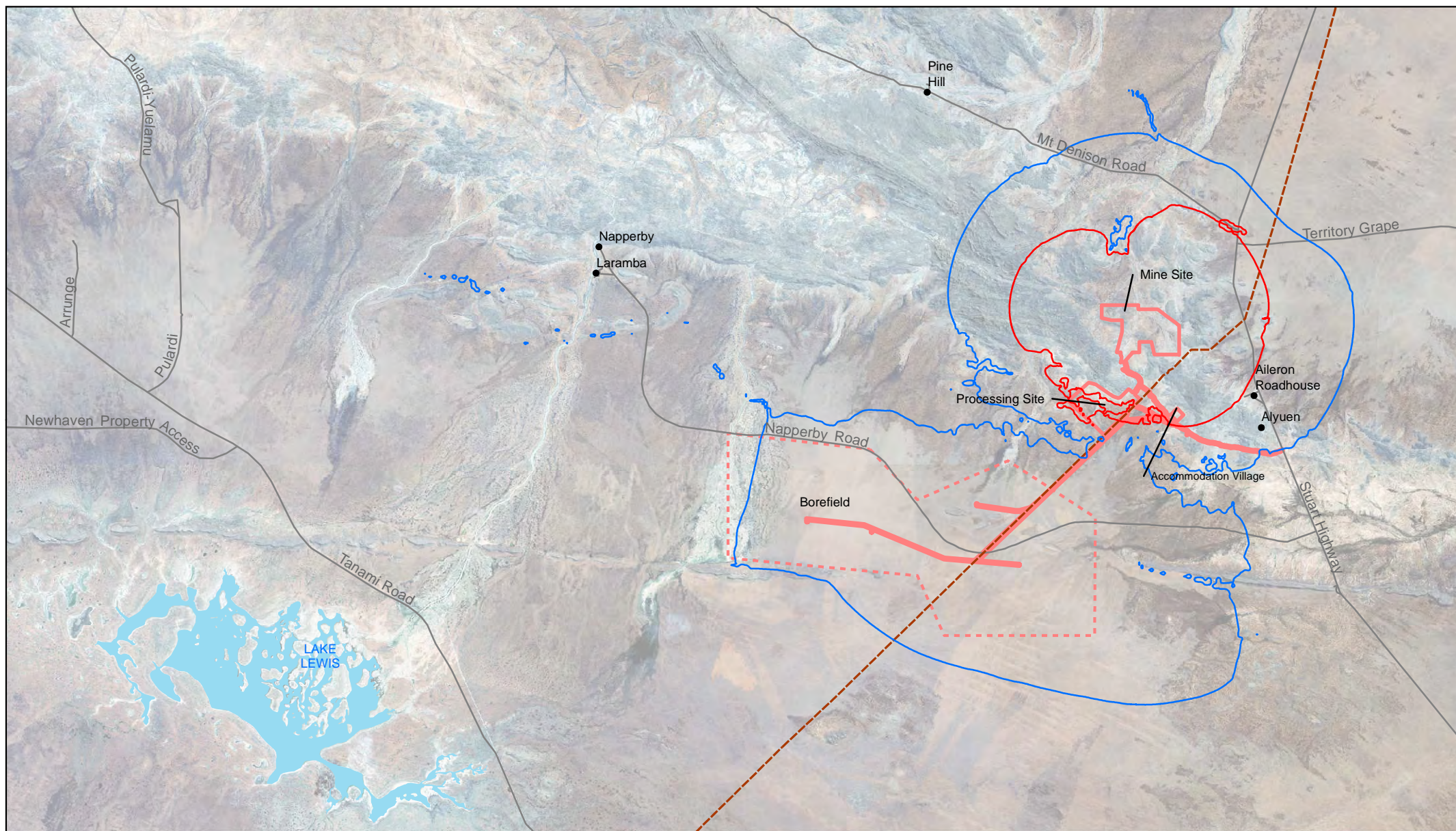


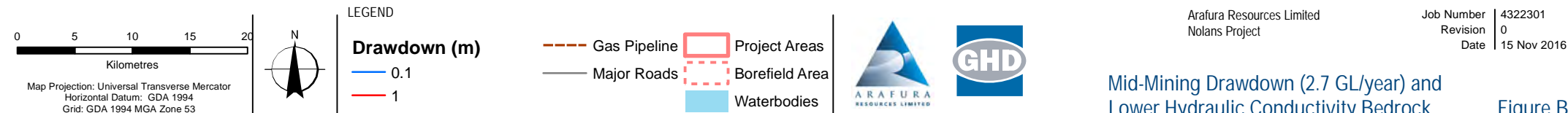
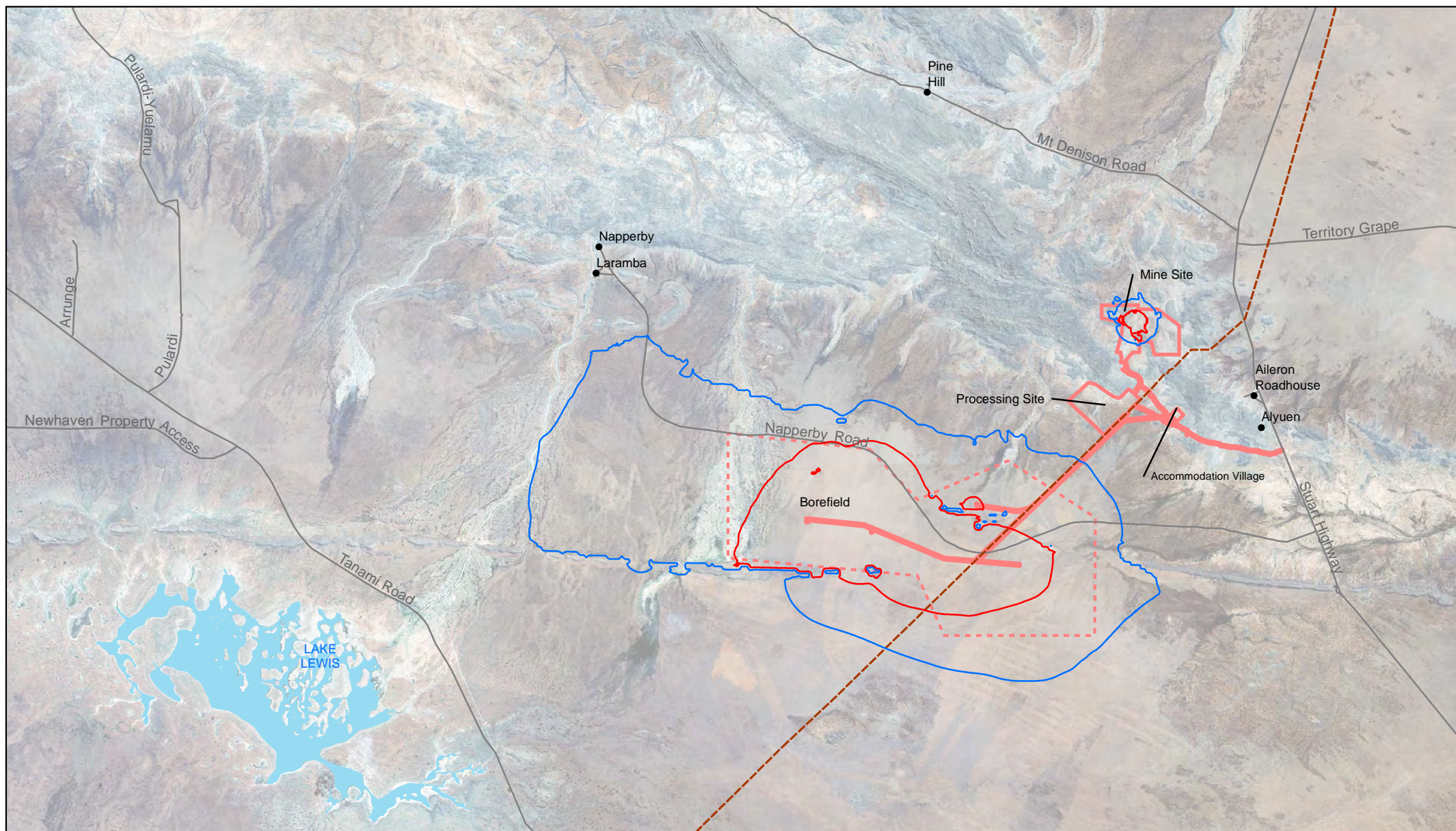
G:\43\22301\GIS\Maps\PDF\Lee Drawdown Maps\Figure A3 100 years.mxd

© 2016. Whilst every care has been taken to prepare this map, GHD, Google, GA, Ride and Arafura Resources make no representations or warranties about its accuracy, reliability, completeness or suitability for any particular purpose and cannot accept liability and responsibility of any kind (whether in contract, tort or otherwise) for any expenses, losses, damages and/or costs (including indirect or consequential damage) which are or may be incurred by any party as a result of the map being inaccurate, incomplete or unsuitable in any way and for any reason.

Data source: Google Earth Pro - Imagery (Date extracted: 04/02/2015). Ride - Groundwater Data (2015). ARL - Project Areas (2015). GA - Placenames, Railways, Gas Pipeline, Major Roads, Waterbodies (2015). Created by: CM

Level 5 66 Smith Street Darwin NT 0800 Australia T 61 8 8982 0100 F 61 8 8981 1075 E drwmail@ghd.com W www.ghd.com





Mid-Mining Drawdown (2.7 GL/year) and Lower Hydraulic Conductivity Bedrock

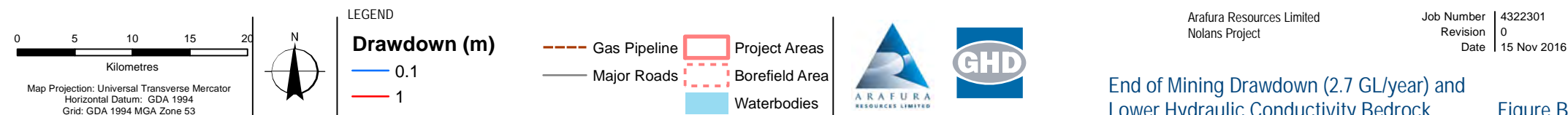
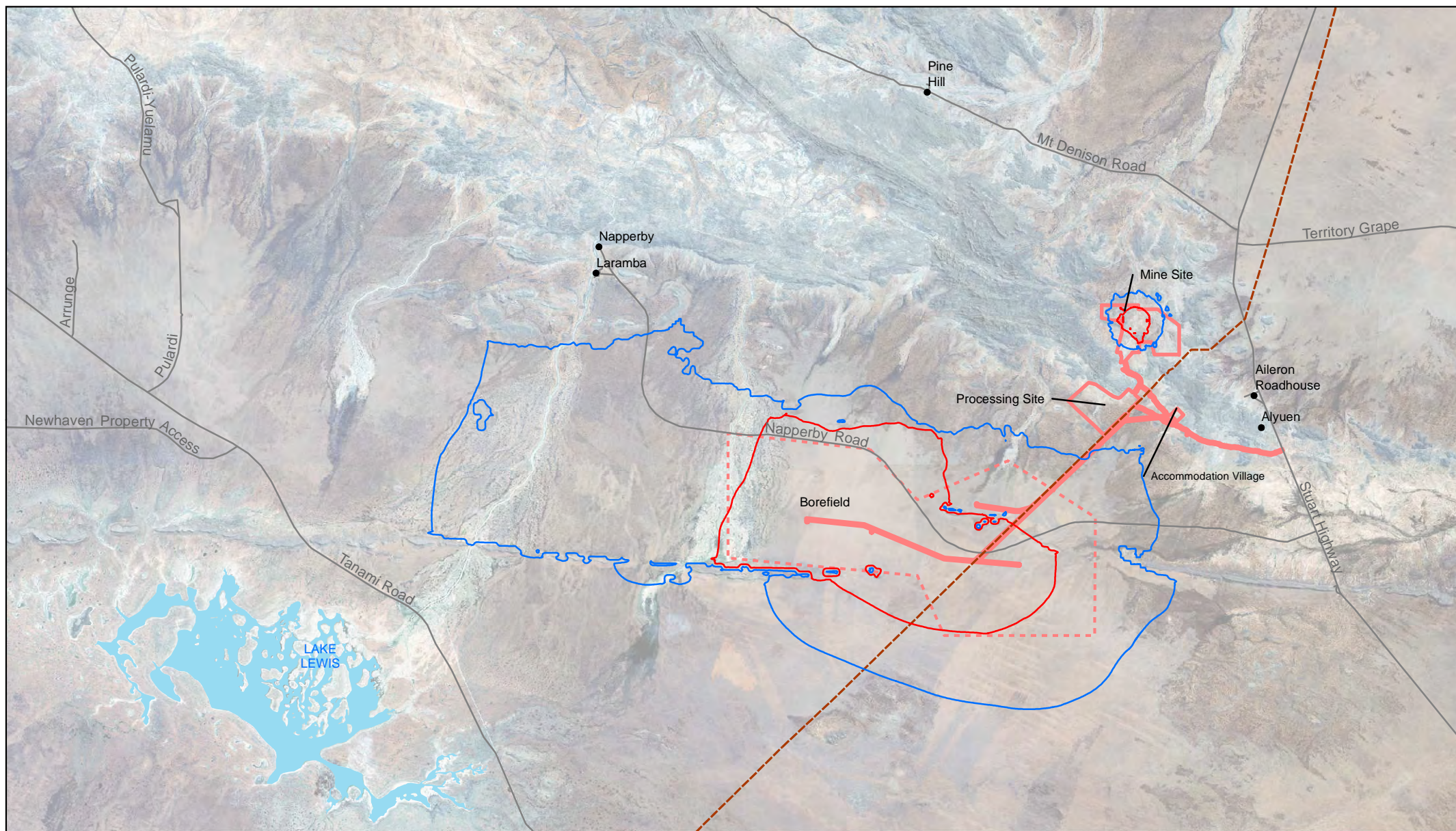
Figure B1

G:\43\22301\GIS\Maps\PDF\Lee Drawdown Maps\Figure B1 Mid-Mining.mxd

Level 5 66 Smith Street Darwin NT 0800 Australia T 61 8 8982 0100 F 61 8 8981 1075 E drwmail@ghd.com W www.ghd.com

© 2016. Whilst every care has been taken to prepare this map, GHD, Google, GA, Ride and Arafura Resources make no representations or warranties about its accuracy, reliability, completeness or suitability for any particular purpose and cannot accept liability and responsibility of any kind (whether in contract, tort or otherwise) for any expenses, losses, damages and/or costs (including indirect or consequential damage) which are or may be incurred by any party as a result of the map being inaccurate, incomplete or unsuitable in any way and for any reason.

Data source: Google Earth Pro - Imagery (Date extracted: 04/02/2015). Ride - Groundwater Data (2015). ARL - Project Areas (2015). GA - Placenames, Railways, Gas Pipeline, Major Roads, Waterbodies (2015). Created by: CM



End of Mining Drawdown (2.7 GL/year) and Lower Hydraulic Conductivity Bedrock

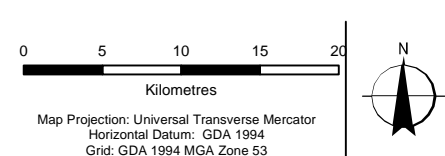
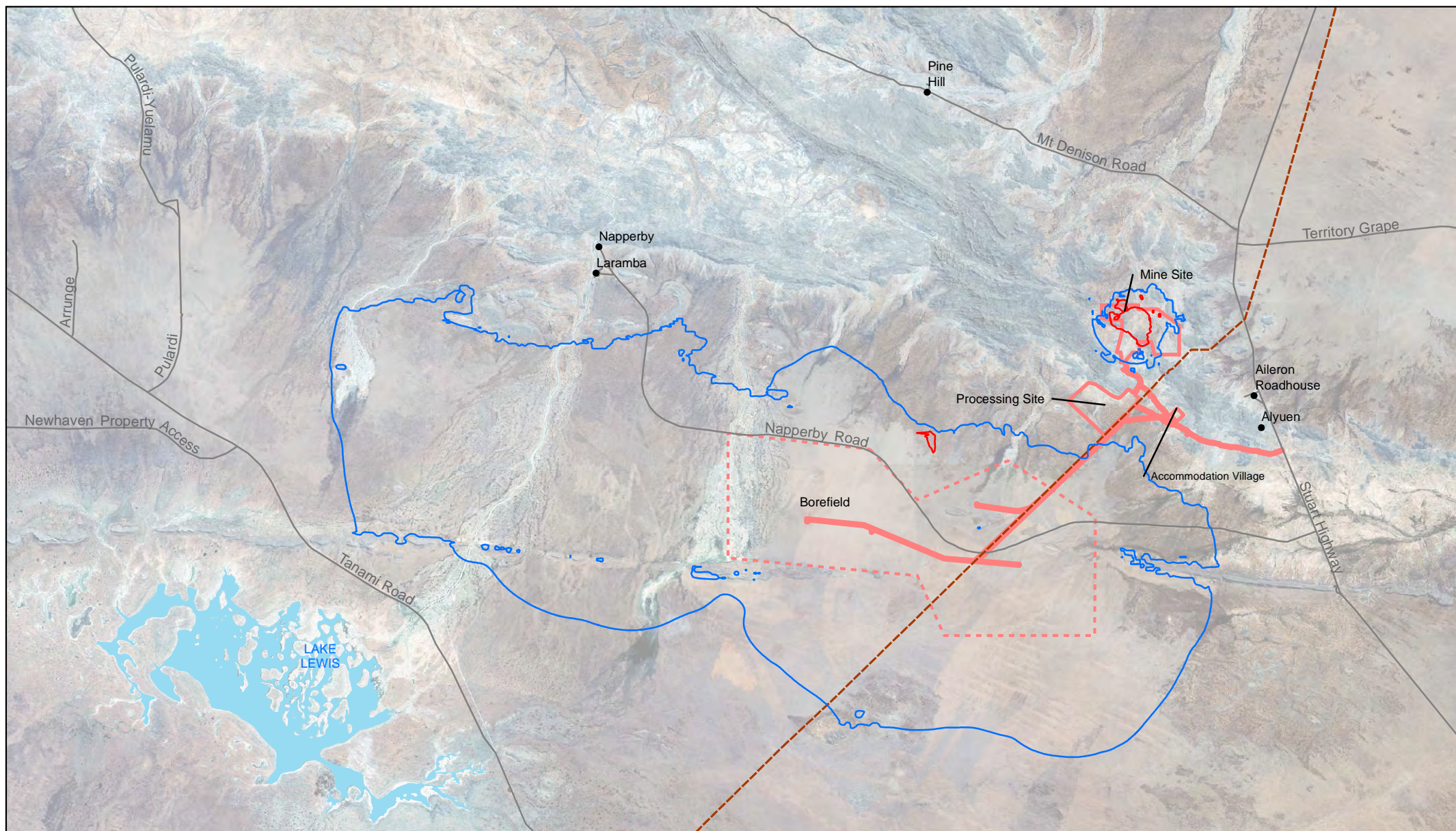
Figure B2

\\ghdnet\ghd\AU\hobart\Projects\4322301\GIS\Maps\PDF\Lee Drawdown Maps\Figure B2 EOM.mxd

Level 5 66 Smith Street Darwin NT 0800 Australia T 61 8 8982 0100 F 61 8 8981 1075 E drwmail@ghd.com W www.ghd.com

© 2016. Whilst every care has been taken to prepare this map, GHD, Google, GA, Ride and Arafura Resources make no representations or warranties about its accuracy, reliability, completeness or suitability for any particular purpose and cannot accept liability and responsibility of any kind (whether in contract, tort or otherwise) for any expenses, losses, damages and/or costs (including indirect or consequential damage) which are or may be incurred by any party as a result of the map being inaccurate, incomplete or unsuitable in any way and for any reason.

Data source: Google Earth Pro - Imagery (Date extracted: 04/02/2015). Ride - Groundwater Data (2015). ARL - Project Areas (2015). GA - Placenames, Railways, Gas Pipeline, Major Roads, Waterbodies (2015). Created by: CM



LEGEND



Arafura Resources Limited
Nolans Project

Job Number | 4322301
Revision | 0
Date | 15 Nov 2016

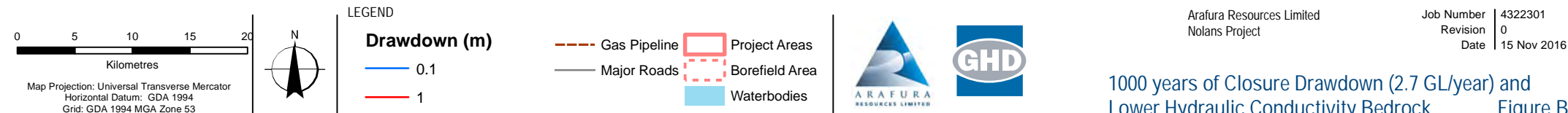
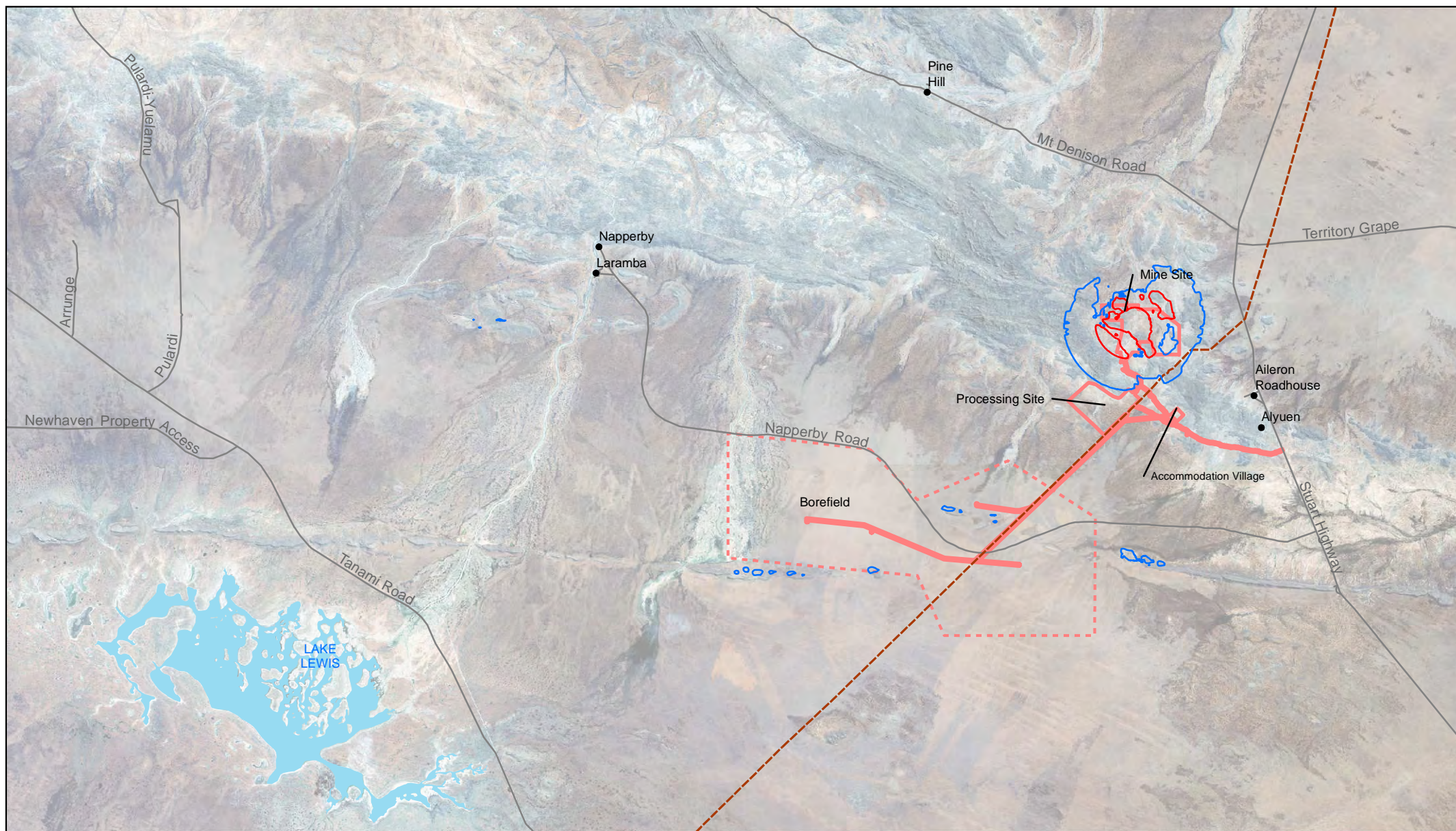
100 years of Closure Drawdown (2.7 GL/year) and Lower Hydraulic Conductivity Bedrock Figure B3

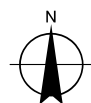
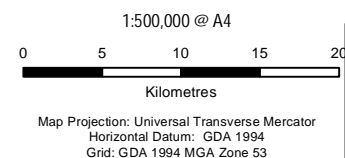
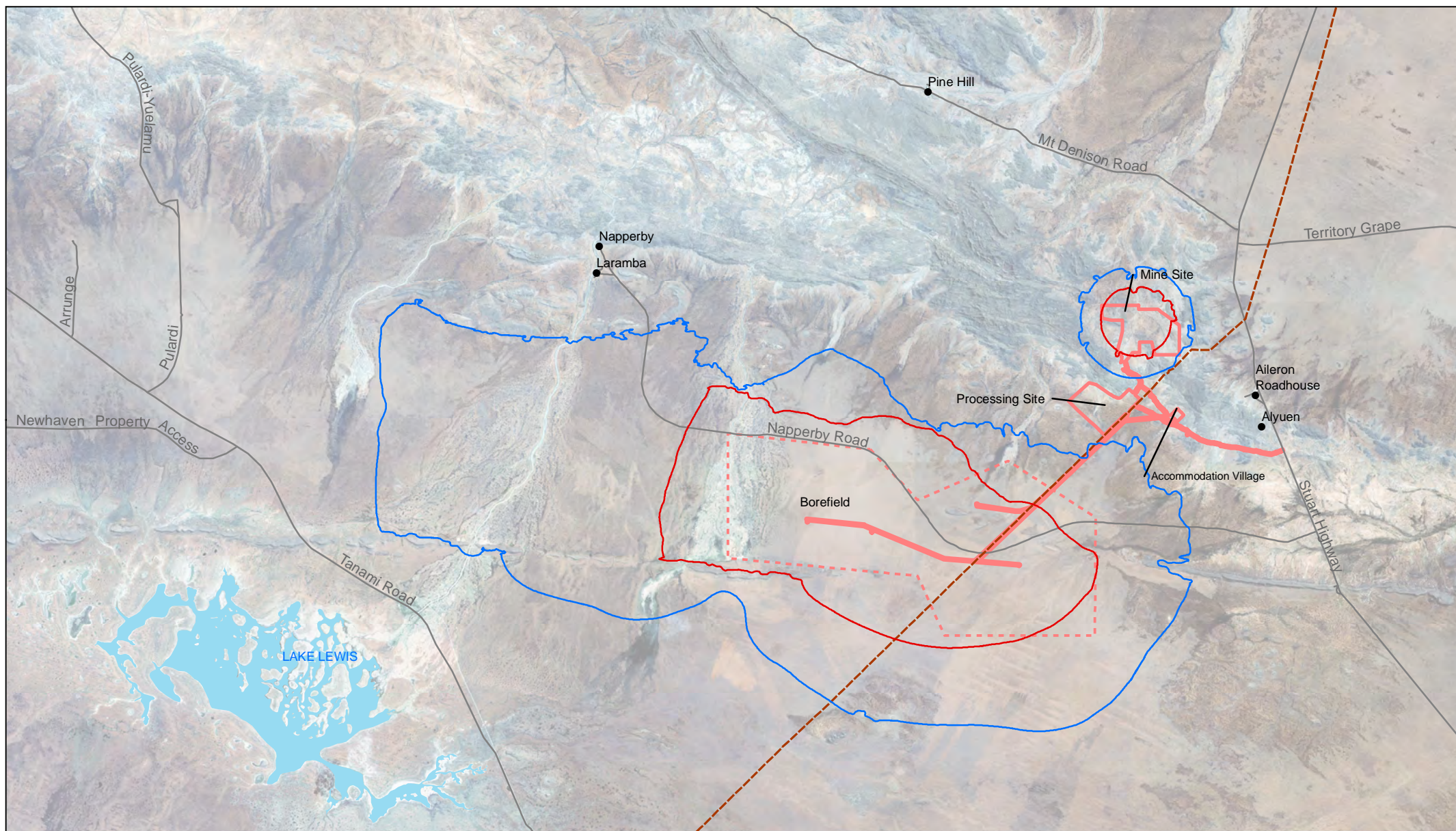
\\ghdnet\ghd\AU\hobart\Projects\43\22301\GIS\Maps\PDF\Lee Drawdown Maps\Figure B3 100 Years.mxd

Level 5 66 Smith Street Darwin NT 0800 Australia T 61 8 8982 0100 F 61 8 8981 1075 E drwmail@ghd.com W www.ghd.com

© 2016. Whilst every care has been taken to prepare this map, GHD, Google, GA, Ride and Arafura Resources make no representations or warranties about its accuracy, reliability, completeness or suitability for any particular purpose and cannot accept liability and responsibility of any kind (whether in contract, tort or otherwise) for any expenses, losses, damages and/or costs (including indirect or consequential damage) which are or may be incurred by any party as a result of the map being inaccurate, incomplete or unsuitable in any way and for any reason.

Data source: Google Earth Pro - Imagery (Date extracted: 04/02/2015). Ride - Groundwater Data (2015). ARL - Project Areas (2015). GA - Placenames, Railways, Gas Pipeline, Major Roads, Waterbodies (2015). Created by: CM





LEGEND

Drawdown(m)



Arafura Resources Limited
Nolans Project

Job Number 4322301
Revision 1
Date 28 Jul 2017

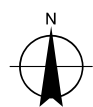
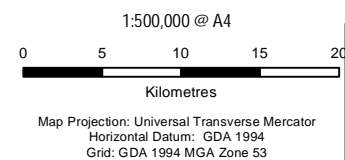
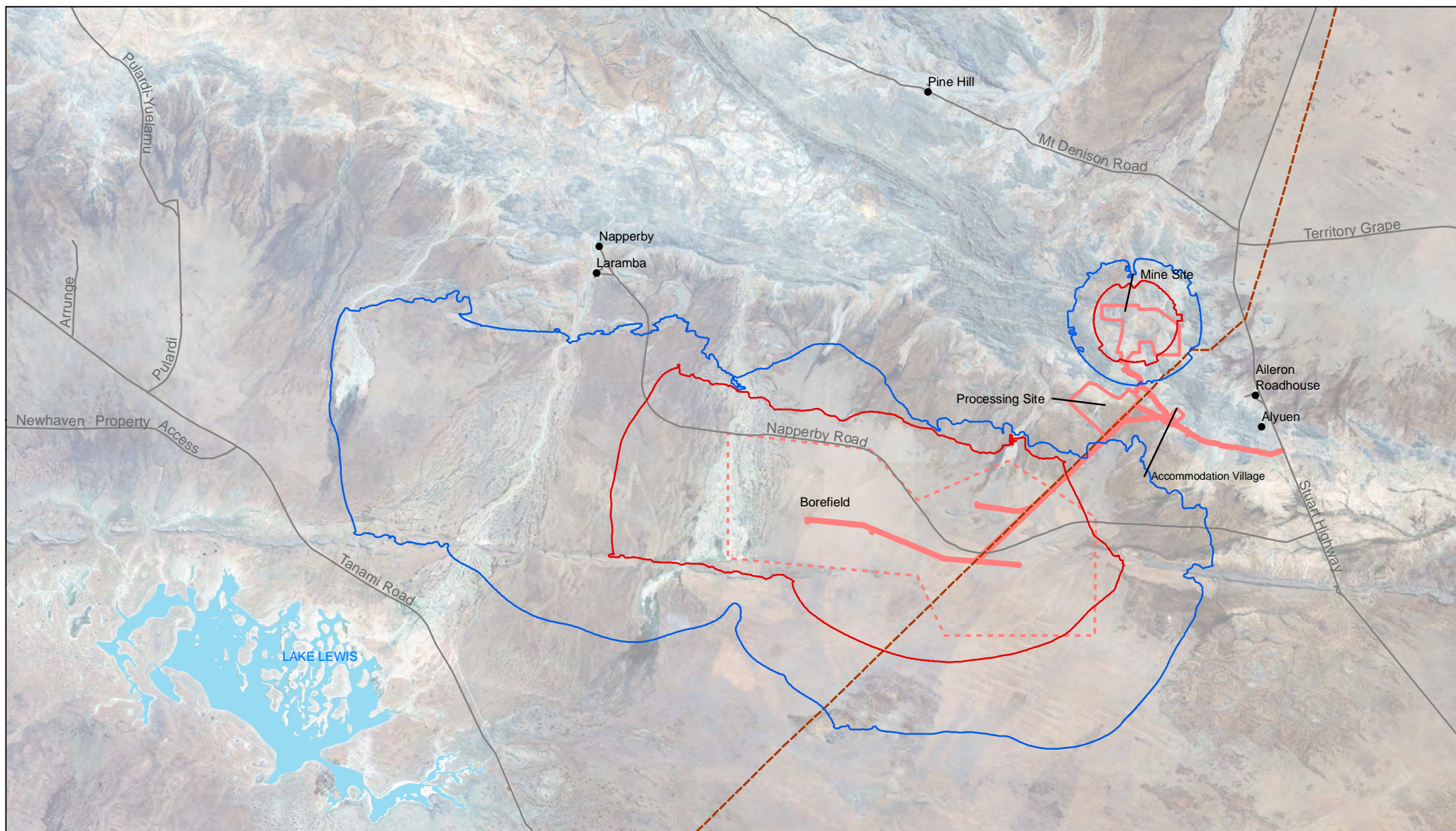
Mid-Mining Drawdown (2.7GL/year & Specific Yield 0.04) Figure C1

G:\4322301\GIS\Maps\Working\4322301_FigureC1 Mid Mining_Rev1.mxd

Level 5 66 Smith Street Darwin NT 0800 Australia T 61 8 8982 0100 F 61 8 8981 1075 E drwmail@ghd.com W www.ghd.com

© 2017. Whilst every care has been taken to prepare this map, GHD, Google, GA, Ride and Arafura Resources make no representations or warranties about its accuracy, reliability, completeness or suitability for any particular purpose and cannot accept liability and responsibility of any kind (whether in contract, tort or otherwise) for any expenses, losses, damages and/or costs (including indirect or consequential damage) which are or may be incurred by any party as a result of the map being inaccurate, incomplete or unsuitable in any way and for any reason.

Data source: Google Earth Pro - Imagery (Date extracted: 04/02/2015). Ride - Groundwater Data (2015). ARL - Project Areas (2015). GA - Placenames, Railways, Gas Pipeline, Major Roads, Waterbodies (2015). Created by: CM



LEGEND

Drawdown (m)



Arafura Resources Limited
Nolans Project

Job Number | 4322301
Revision | 0
Date | 28 Jul 2017

End of Mining Drawdown
(2.7GL/year & Specific Yield 0.04)

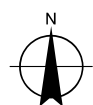
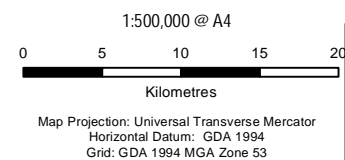
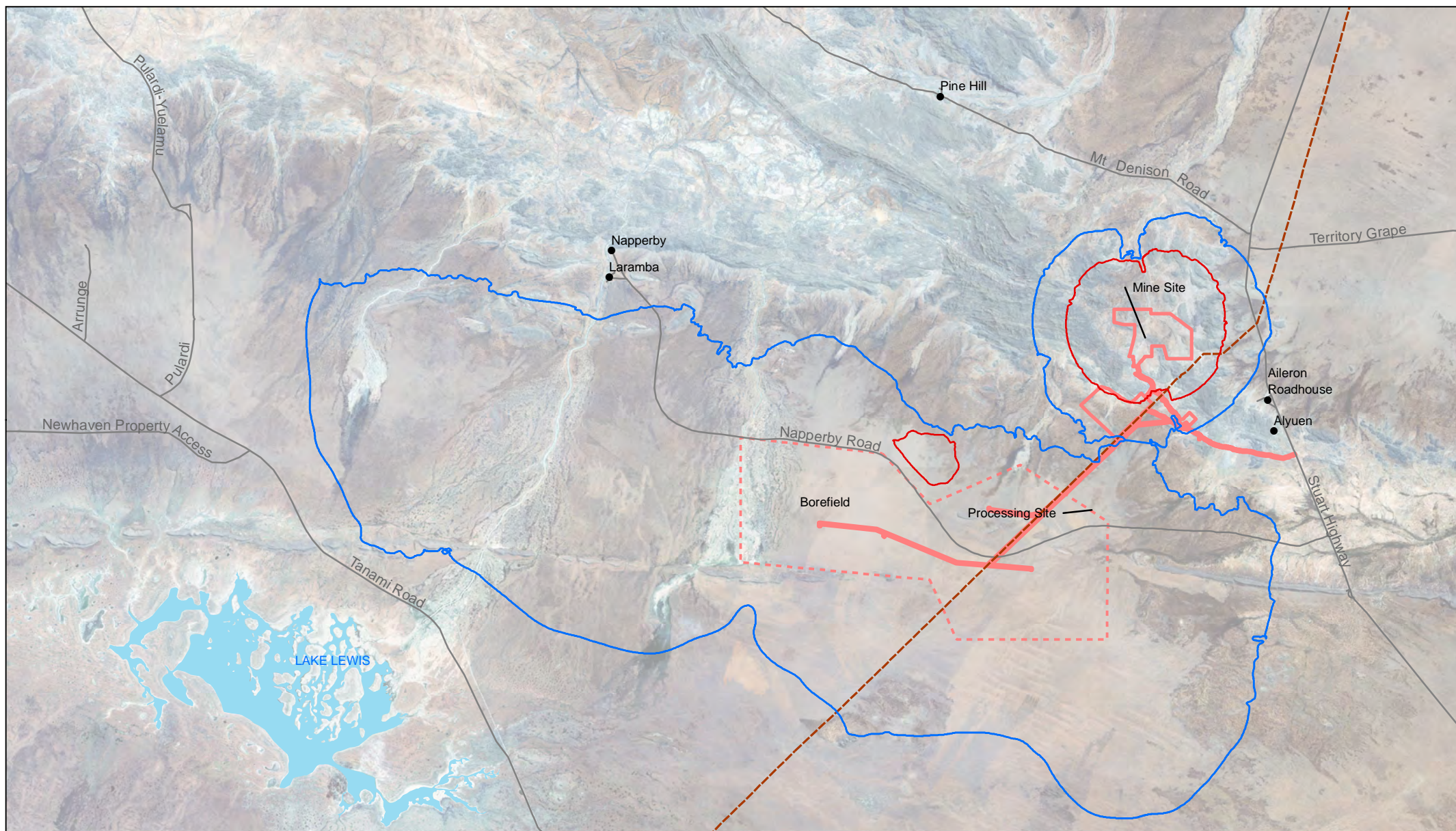
Figure C2

G:\4322301\GIS\Maps\Working\4322301_FigureC2_EOM_Rev1.mxd

Level 5 66 Smith Street Darwin NT 0800 Australia T 61 8 8982 0100 F 61 8 8981 1075 E drwmail@ghd.com W www.ghd.com

© 2017. Whilst every care has been taken to prepare this map, GHD, Google, GA, Ride and Arafura Resources make no representations or warranties about its accuracy, reliability, completeness or suitability for any particular purpose and cannot accept liability and responsibility of any kind (whether in contract, tort or otherwise) for any expenses, losses, damages and/or costs (including indirect or consequential damage) which are or may be incurred by any party as a result of the map being inaccurate, incomplete or unsuitable in any way and for any reason.

Data source: Google Earth Pro - Imagery (Date extracted: 04/02/2015). Ride - Groundwater Data (2015). ARL - Project Areas (2015). GA - Placenames, Railways, Gas Pipeline, Major Roads, Waterbodies (2015). Created by: CM



LEGEND

Drawdown (m)

0.1
1

Gas Pipeline
Major Roads
Project Areas
Borefield Area
Waterbodies

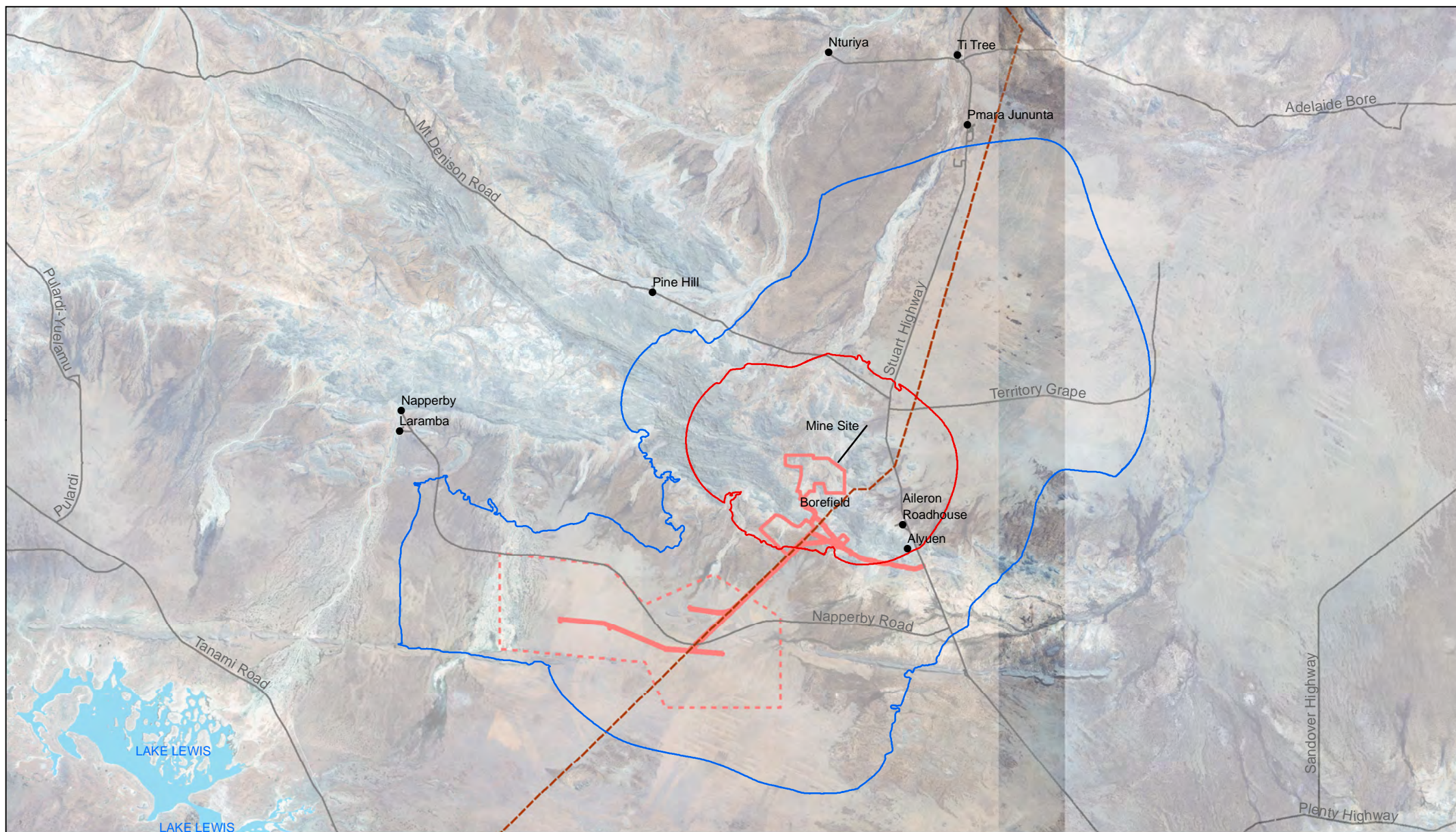


Arafura Resources Limited
Nolans Project

Job Number | 4322301
Revision | 0
Date | 28 Jul 2017

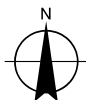
100 Years of Closure Drawdown
(2.7GL/year & Specific Yield 0.04)

Figure C3



1:500,000 @ A4
 0 5 10 15 20
 Kilometres

Map Projection: Universal Transverse Mercator
 Horizontal Datum: GDA 1994
 Grid: GDA 1994 MGA Zone 53



LEGEND

Drawdown (m)

— 0.1
 — 1

— Gas Pipeline
 — Major Roads
 — Project Areas
 — Borefield Area
 — Waterbodies



Arafura Resources Limited
 Nolans Project

Job Number | 4322301
 Revision | 0
 Date | 28 Jul 2017

1000 Years of Closure Drawdown
 (2.75GL/year & Specific Yield 0.04)

Figure C4

G:\4322301\GIS\Maps\Working\4322301_FigureC4_1000_Rev1.mxd

Level 5 66 Smith Street Darwin NT 0800 Australia T 61 8 8982 0100 F 61 8 8981 1075 E drwmail@ghd.com W www.ghd.com

© 2017. Whilst every care has been taken to prepare this map, GHD, Google, GA, Ride and Arafura Resources make no representations or warranties about its accuracy, reliability, completeness or suitability for any particular purpose and cannot accept liability and responsibility of any kind (whether in contract, tort or otherwise) for any expenses, losses, damages and/or costs (including indirect or consequential damage) which are or may be incurred by any party as a result of the map being inaccurate, incomplete or unsuitable in any way and for any reason.

Data source: Google Earth Pro - Imagery (Date extracted: 04/02/2015). Ride - Groundwater Data (2015). ARL - Project Areas (2015). GA - Placenames, Railways, Gas Pipeline, Major Roads, Waterbodies (2015). Created by: CM