
Abbreviations

Abbreviations

Term	Description
$\mu\text{g}/\text{m}^3$	Micrograms per cubic metre
$\mu\text{Gy}/\text{h}$	Micrograys per hour
$\mu\text{J}/\text{m}^3$	Microjoules per cubic metre
μm	Micrometre, or micron
$\mu\text{Sv}/\text{h}$	Microsieverts per hour
$\mu\text{Sv}/\text{y}$	Microsieverts per year
AADT	Average annual daily traffic
AAPA	Aboriginal Areas Protection Authority
AAPA	Aboriginal Areas Protection Authority
ABS	Australian Bureau of Statistics
AE Act	Atomic Energy Act
AIPA	Australian Industry Participation Authority
ALARA	As Low As Reasonably Achievable
AMD	Acid Metalliferous or Saline Drainage
ANCOLD	Australian National Committee on Large Dams Incorporated
ANFO	Ammonium nitrate fuel oil
ANSTO	Australian Nuclear Science and Technology Organisation (Australian Government)
ANZECC	The Australian and New Zealand Environment Conservation Council
ARI	Average recurrence interval
ARPANSA	Australian Radiation Protection and Nuclear Safety Agency (Australian Government)
ASL	Above sea level
ATSIHP	Aboriginal and Torres Strait Islander Heritage Protection Act
AUD or \$	Australian dollars
BAL	Basic auxiliary left (turn treatment)
BAR	Basic auxiliary right (turn treatment)
BIBO	Bus-in/bus-out

Term	Description
billion	Billion measured by 1×10^9 (or 1,000 million) as per the US convention
BMP	Biodiversity Management Plan
BOM	Bureau of Meteorology
Bq	Becquerel (one disintegration per second)
Bq/g	Becquerels per gram
Bq/kg	Becquerels per kilogram
Bq/L	Becquerels per litre
Bq/m ² /s	Becquerels per square metre per second
Bq/m ³	Becquerels per cubic metre
BRT	Burt Plain Bioregion
Ce	Cerium
CEO	Chief Executive Officer
CHMP	Cultural Heritage Management Plan
CHMP	Cultural Heritage Management Plan
CLC	Central Land Council
CO	Carbon monoxide
CSIRO	Commonwealth Scientific and Industrial Research Organisation
Cth	Commonwealth
dB	Decibel is the unit used for expressing the sound pressure level or power level in acoustics
dB(A)	Frequency weighting filter used to measure 'A-weighted' sound pressure levels,
DFS	Definitive feasibility study
DG Act	Dangerous Goods (National Uniform Legislation) Act
DG Reg	Dangerous Goods (National Uniform Legislation) Regulation
DLRM	Department of Land Resource Management (Northern Territory Government)
DME	Department of Mines and Energy (Northern Territory Government)
DMP	Dust Management Plan
DotE	Department of the Environment (Australian Government)

Term	Description
DSP	Double Sulfate Precipitation
EA Act	Environmental Assessment Act 1982 (Northern Territory Government)
EA Act	Environmental Assessment Act
EAD	Equivalent Aerodynamic Diameter
EIS	Environmental impact statement
EL	Exploration licence
EMEL	Extractive mineral exploration licence
EMP	Environmental Management Plan
EPBC Act	Environment Protection and Biodiversity Conservation Act 1999 (Australian Government)
EPCM	Engineering, procurement and construction management
ERICA	Environmental Risk from Ionising Contaminants: Assessment and Management
ESCP	Environment and Sediment Control Plan
ESD	Ecologically Sustainable Development
FIFO	Fly-in/fly-out
FMP	Fire Management Plan
FOPS	Falling object protection systems
g/m ²	Grams per square metre
g/m ² /month	Grams per square metre per month
GL	Gigalitre (billion litres)
GPS	Global positioning system
GSP	Gross State Product
GWA	Genesee Wyoming Australia (rail operator between Tarcoola (SA) and Berrimah (NT))
ha	Hectare
HDPE	High density polyethylene
HPRG	High pressure roller grinding
HV	High voltage
IAEA	International Atomic Energy Agency
ICN	Industry Capability Network

Term	Description
ICRP	International Commission on Radiological Protection
ILUA	Indigenous land use agreement.
ILUA	Indigenous Land Use Agreements
ISO	International Organisation for Standardisation
JORC	Joint Ore Reserves Committee
kg/y	Kilograms per year
km ²	Square kilometre
kV	Kilovolt (thousand volts)
L/s	Litres per second
L _{A10(period)}	The sound pressure level that is exceeded for 10% of the measurement period.
L _{A90(period)}	The sound pressure level that is exceeded for 90% of the measurement period.
L _{Aeq(period)}	Equivalent sound pressure level
Land Rights Act	Aboriginal Land Rights (Northern Territory) Act
LOM	Life of mine
LTS	Long term stockpile
M&I	Measured and Indicated (Mineral Resources)
m/s	Metres per second
m ³ /day	Cubic metres per day
m ³ /s	Cubic metres per second
mAHD	Australian Height Datum in metres
mASL	Metres Above Sea Level
MBq/s	Megabecquerel per second (million becquerels per second)
MCA	Minerals Council of Australia
mg/m ³	Milligrams per cubic metre
ML	Mineral lease
ML/y	Mega Litre per year (million litres per year)
Mlcm	Million loose cubic metres
MM Act	Mining Management Act
mm/s	Millimetres per second

Term	Description
MMP	Mining Management Plan
MMP	Mining Management Plan
MNES	Matters of National Environmental Significance
MRCP	Mine rehabilitation and closure plan
mSv	One thousandth of a sievert
mSv/y	Millisieverts per year
Mt	Million tonnes
MT Act	Mineral Titles Act
Mtpa	Million tonnes per annum
MW	Megawatt (million watts)
NAG	Net Acid Generation
NAPP	Net Acid Producing Potential
NdPr Oxide or Didymium Oxide	Neodymium and praseodymium mixed oxide
NE	North East
NGERA	National Greenhouse Energy Reporting Act
NNTT	National Native Title Tribunal
NO ₂	Nitrogen dioxide
NORM	Naturally occurring radioactive material
NPI 2012	National Pollution Inventory emission estimation guidelines
NRETAS	Natural Resources Environment and the Arts and Sport
NT	Northern Territory (of Australia)
NT EPA	NT Environment Protection Authority
NTA	Native Title Act
NW	North West
OEM	Original equipment manufacturer
P ₂ O ₅	Phosphate
PAEC	Potential alpha energy concentration
PAF	Potential acid forming
PAR	Population at risk

Term	Description
PAS	Personal air samplers
Pb	Lead
PEHA	Public and Environmental Health Act
PEHR	Public and Environmental Health Regulations
PFS	Preliminary feasibility study
PLL	Potential lives lost
PM ₁₀	Particulate Matter 10 micrometres or less in diameter
PMF	Possible maximum flood
PMP	Probable maximum precipitation
PMST	Protected matters search tool
Po	Polonium
ppm	Parts per million
PPV	Peak Particle Velocity
Ra	Radium
RBL	Rating Background Level.
RE	Rare Earth
REO	Rare earth oxide
RL	Reduced level
RMP	Radiation Management Plan
Rn	Radon
Rn220	Radon isotope known as Thoron
Rn222	Radon isotope
RnDP	Radon decay product
ROM	Run of Mine
RPA	Radiation Protection Act
RQ	Risk Quotient
RSF	Residues storage facility
Sacred Sites Act	Northern Territory Aboriginal Sacred Sites Act
SAPL	Sulfuric acid pre-leach
SE	South East

Term	Description
SIA	Social Impact Assessment
SIMP	Social impact management plan
SO ₂	Sulphur dioxide
Sv	Sievert
Sv/y	Sieverts per year
SW	South West
t	Tonne
TDG Act	Transport of Dangerous Goods Act
TDG Act	Transport of Dangerous Goods by Road and Rail (National Uniform Legislation) Act
TDG Regs	Transport of Dangerous Goods Regulations
TDG Regulations	Transport of Dangerous Goods by Road and Rail (National Uniform Legislation) Regulations
TEU	Twenty-foot equivalent containers (intermodal shipping container)
Th	Thorium
TLD	Thermoluminescent Dosimeter
TnDP	Thoron Decay Product
TOR	Terms of Reference
tpa	Tonnes per annum
TPWC	Territory Parks and Wildlife Conservation Act 2000
TREO	Total RE oxide
TSF	Tailings storage facility
TSP	Total suspended particulates
U	Uranium
U ₃ O ₈ or UO ₄	Uranium oxide
UNSCEAR	United Nations Scientific Committee on the Effects of Atomic Radiation
US	United States
UV	Ultra violet
V	Volts
VoIP	Voice over Internet Protocol

Term	Description
vpd	Vehicles per day
vph	Vehicles per hour
WA	Western Australia
WHIMS	Wet high intensity magnetic separation
WHS Act	Work Health and Safety (National Uniform Legislation) Act
WHS Regulations	Work Health and Safety (National Uniform Legislation) Regulations
WM Act	Weeds Management Act
WM Act	Weeds Management Act
WMP	Water Management Plan
WMPCA	Waste Management and Pollution Control Act
WRD	Waste Rock Dump
α dps/m ³	Alpha decays per second per cubic metre

Glossary

Glossary

Term	Description
Acidity	Latent acidity is a hidden stock of potential or future acid generation, based on a range of factors including local environmental geochemical conditions
AMD	A result of the exposure of some sulfide minerals to oxygen and water, resulting in drainage waters that can be acidic and/or have high concentrations of dissolved metals. The drainage produced from the oxidation process may be acidic or neutral, with or without dissolved heavy metals, but always contains sulfate.
Burra Charter	The Australia ICOMOS Charter for Places of Cultural Significance, 2013
Curtilage	The area of land occupied by a dwelling and its yard and outbuildings, actually enclosed or considered as enclosed
dB(A)	Frequency weighting filter used to measure 'A-weighted' sound pressure levels, which conforms approximately to the human ear response, as our hearing is less sensitive at very low and very high frequencies
Decibel	The unit used for expressing the sound pressure level (SPL) or power level (SWL) in acoustics
Endorheic basin	Closed drainage basin retains water and allows no outflow
Equivalent sound pressure level	The steady sound level that, over a specified period of time, would produce the same energy equivalence as the fluctuating sound level actually occurring
Gangue	Valueless rock or mineral aggregates in ore
Indigenous land use agreement.	A formal agreement under the Native Title Act that contemplates access to land for the purposes of mining, mineral processing, and the placement of associated infrastructure
JORC Code	Guidelines for public reporting of Exploration Results, Mineral Resources and Ore Reserves
Long term stockpile	Stockpiled ore scheduled for processing during life of mine
Mine site	Area comprising Mineral Lease Application ML 26659 lodged with the Northern Territory Government by Arafura in February 2008. Includes the mine, concentrator and associated infrastructure.
Mineral Resources	Defined under the JORC Code as concentration of solid material of economic interest in such form, quality and quantity that there are reasonable prospects of economic extraction

Term	Description
Mineral Titles Act	Legislation that regulates mineral exploration and mining titles in the Northern Territory
Monazite	A phosphate mineral that may contain up to 70 wt% REO
Nolans Bore	The Nolans Bore deposit, resource or mineral resources
Nolans Project or the project	Comprises the development of the proposed Nolans site
Nolans site	The collective term refers to the project site including all components - mine site, processing site, borefield area, accommodation village, access roads, utilities corridors (potable water pipeline, water supply pipeline, power lines)
Ore	Ore used in the context of this document is a generic term for mineralisation, or metal-bearing mineral or rock
Ore Reserves	Defined under the JORC Code as the economically mineable part of Measured and/or Indicated Mineral Resources
Processing plant	The plant within which the RE extraction processes are undertaken to produce the RE intermediate products
Processing site	Area comprising the processing plant, ancillary plants and supporting infrastructure
Pyrite oxidation	Pyrite oxidation by atmospheric and/or aqueous oxygen occurs through a complicated sequence of biologically mediated reactions
Rating Background Level.	The overall single-figure background level representing each assessment period (day / evening / night) over the whole monitoring period
RE extraction	Process converting RE concentrate to the RE intermediate product for RE separation
RE intermediate	The product from the RE extraction process in the form of a mixed RE compound which is the feed for the RE separation process
RE separation plant	Comprises the plant and associated ancillaries for processing RE intermediate to separated REO products. Note this will be an offshore plant and is not part of the EIS scope of work.
Reject gangue	Valueless rock or mineral aggregates in an ore
Section	A section reference within the report
Southern Basins	Northern Burt and Eastern Whitcherry basins
The project	Nolans Rare Earth Project

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