

OLYMPIC DAM EXPANSION

DRAFT ENVIRONMENTAL IMPACT STATEMENT 2009

MAIN REPORT VOLUME 1



bhpbilliton

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PREFACE

BHP Billiton has published this Draft Environmental Impact Statement (Draft EIS) to seek approvals from the Australian, South Australian and Northern Territory governments to undertake a major expansion of the Olympic Dam mine and minerals processing operation in northern South Australia and to develop associated infrastructure.

Community views are a very important consideration for BHP Billiton and government in planning and assessing the proposed Olympic Dam Expansion.

BHP Billiton has undertaken extensive community consultation and engagement to help prepare the Draft EIS. Its publication now provides the community with the opportunity to comment directly to government on BHP Billiton's plans to further unlock the potential of the ore body at Olympic Dam.

Our future plans for Olympic Dam are based on continuing its sustainable development, building on the work that has been done since production began 20 years ago following previous approvals provided by the Australian and South Australian governments.

For BHP Billiton, sustainable development is about ensuring our business remains viable and contributes lasting benefits to society through the consideration of social, environmental, cultural and economic aspects in all that we do.

Environmental and social performance is a critical success factor for us. We are well aware of the costs of getting it wrong. As importantly, we recognise the value that can be created by getting it right.

We thank all those who have contributed to this point and now we welcome any comments you may wish to make about this Draft EIS.



Dean Dalla Valle
Chief Operating Officer
Uranium Australia, BHP Billiton

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APPENDIX T	REHABILITATION AND CLOSURE
APPENDIX U	DRAFT ENVIRONMENTAL MANAGEMENT PROGRAM

ABBREVIATIONS

UNITS OF MEASUREMENT

Abbreviation	Expansion
a	year (annum)
Bq	becquerel
°C	degrees Celsius
cm	centimetre
d	day
g	gram
GL	gigalitres
GWh	gigawatt hours
h	hour
ha	hectare
Hz	hertz
kg	kilogram
km	kilometre
km ²	square kilometre(s)
kV	kilovolt
L	litre
LA ₉₀	level of ambient noise present 90 per cent of the time
m	metre
m ²	square metre(s)
m ³	cubic metre(s)
ML	megalitre(s)
ML/d	megalitre(s) per day
mm	millimetre
mg	milligrams
m/s	metre(s) per second
mSv	millisieverts
Mtpa	million tonnes per annum
MW	megawatt
oz	ounce
pH	degree of alkalinity/acidity
ppm	parts per million
Nm ³	normal cubic metre(s) (gas volume at 0°C and 1 atmosphere)
t	tonne
tpa	tonne(s) per annum
tpd	tonne(s) per day
\$	dollar(s) (Australian)
US\$	United States dollar(s)
%	per cent
PM ₁₀	particles of less than 10 micron diameter
PM _{2.5}	particles of less than 2.5 micron diameter

ABBREVIATIONS

Abbreviation	Expansion
e.g.	for example
et al.	and others
i.e.	in other words; that is
kp	kilometre point
n.a.	not available/not applicable
No.	number
pers. comm.	personal communication

ACRONYMS

Acronym	Expansion
AASS	actual acid sulfate soils
ABARE	Australian Bureau of Agricultural and Resource Economics
ABS	Australian Bureau of Statistics
ADCP	acoustic Doppler current profiler
ADU	ammonium diuranate
AHD	Australian Height Datum
ALARA	as low as reasonably achievable
ANCOLD	Australian National Committee on Large Dams
ANFO	ammonium nitrate/fuel oil (mixture)
ANZECC	Australian and New Zealand Environment and Conservation Council
ARI	average recurrence interval
ARMCANZ	Agriculture and Resource Management Council of Australia and New Zealand
ARPANSA	Australian Radiation Protection and Nuclear Safety Agency
ARTC	Australian Rail Track Corporation
AS	Australian Standard
ASS	acid sulfate soils
AWS	automatic weather station (at Olympic Dam)
BOM	Bureau of Meteorology
CAF	cemented aggregate fill
CAMBA	China – Australia Migratory Birds Agreement
CASA	Civil Aviation Safety Authority
CCD	countercurrent decantation
CCGT	combined cycle gas turbine
CEMT	Crisis and Emergency Management Team
CFS	Country Fire Service
CIFR	classified incident frequency rate
CORMIX	Cornell mixing zone expert system
CPF	cathodic protection facilities
CPTED	crime prevention through environmental design
CSIRO	Commonwealth Scientific and Industrial Research Organisation
CTA	Cultana Training Area
CuSX	copper solvent extraction
DEH	SA Department for Environment and Heritage
DEWHA	Department of the Environment, Water, Heritage and the Arts
DIRN	defined interstate rail network
DTED	SA Department of Trade and Economic Development
DTEI	SA Department for Transport, Energy and Infrastructure
DWLBC	Department of Water, Land and Biodiversity Conservation

ACRONYMS (cont'd)

Acronym	Expansion
EIS	Environmental Impact Statement
ELCOM	estuary, lake and coastal ocean model
EMM	Environmental Management Manual
EMMR	Environmental management and monitoring report
EM Program	Environmental Management Program
EM Framework	Environmental Management Framework
EMS	Environmental Management System
EPBC Act	Environment Protection and Biodiversity Conservation Act
ESCP	erosion and sediment control plan
ESD	ecologically sustainable development
FTE	full-time equivalent
GAB	Great Artesian Basin
GDP	gross domestic product
GHG	greenhouse gas
GPS	global positioning system
GRP	gross regional product
GSP	gross state product
GST	goods and services tax
HDPE	high-density polyethylene
HRSR	heat recovery steam generator
HSEC	Health, Safety, Environment and Community
IAEA	International Atomic Energy Agency
ICRP	International Commission on Radiological Protection
IMO	International Maritime Organisation
IPCC	Intergovernmental Panel on Climate Change
ISO	International Organization for Standardization
ISR	Intelligence, Surveillance and Reconnaissance
IUCN	International Union for Conservation of Nature and Natural Resources
JAMBA	Japan-Australia Migratory Birds Agreement
LDC	long distance commute
LDC	Land Development Corporation
LGA	Local Government Area
LME	London Metal Exchange
LNG	liquid natural gas
LPG	liquefied petroleum gas
LTIFR	lost time incident frequency rate
MMRF	Monash multi-regional forecasting model
MP	Monitoring Programs
NATA	National Association of Testing Authorities
NEM	national electricity market
NEPC	National Environmental Protection Council
NEPM	National Environment Protection Measure
NES	national environmental significance
NHMRC	National Health and Medical Research Council
NNTT	National Native Title Tribunal
NOAA	National Oceanic and Atmospheric Administration
NOEC	no observable effect concentration
NOHSC	National Occupational Health and Safety Commission
NPI	National Pollutant Inventory
NPV	net present value
NRM	natural resource management

ACRONYMS (cont'd)

Acronym	Expansion
ODBC	Olympic Dam Breccia Complex
ODO	Olympic Dam Operation
OH&S	occupational health and safety
PASS	potential acid sulfate soils
PIRSA	Department of Primary Industries and Resources of South Australia
PLS	pregnant liquor solution
PPE	personal protective equipment
RNE	Register of National Estate
ROM	run-of-mine
RSF	rock storage facility
SA EPA	South Australian Environment Protection Authority
SAHR	South Australian Heritage Register
SARDI	South Australian Research and Development Institute
SEB	significant environmental benefit
SES	State Emergency Service
SML	special mining lease
SPTV	species protection trigger value
TAFE	Technical and Further Education
TRS	tailings retention system
TSF	tailings storage facility
TSP	total suspended particulates
USG	Upper Spencer Gulf
USX	uranium solvent extraction
WET	whole-of-effluent toxicity
WHO	World Health Organisation
WMC	Western Mining Corporation Limited
WPA	Woomera Prohibited Area
WQEPP	Environment Protection (Water Quality) Policy

