**HEADER DATA**

**BOREHOLE TYPE**

Fully cored FC

Open / chip OC

Partly cored PC

Reverse Circulation RC

**DATA STATUS**

Raw / Uncorrected R

Adjusted to geophysics A

Seams adjusted to geophysics S

Corrected to verticality V

Final F

Unknown U

**BOREHOLE PURPOSE**

Blasthole BH

Coal Quality CQ

large diameter CL

slim core testing CS

spontaneous combustion testing CC

Environmental EN

acid leachate testing EA

stygofauna monitoring ES

Gas GS

compliance gas testing GC

controlled pressure well GL

end of borehole well GE

gas drainage undifferentiated GD

goaf drainage GG

ranging well GR

surface to in-seam well GI

underground in-seam gas-riser GU

vertical production well GZ

virgin gas testing GV

Geotech TG

extensometer TE

geotechnical properties TR

penetrometer TP

primary hydraulic fracturing TF

stress test cell / stress overcore TX

tiltmeter TL

Hydrological HY

multi-channel vibrating wire HM

piezometer

nested standpipe piezometer HN

production water bore HW

standpipe piezometer HS

vibrating wire piezometer HV

Lox LX

Service SV

ballast SB

cement SC

electricity SE

nitrogen SN

refuge SR

plug SP

stone dust SD

Structure ST

fault delineation SF

intrusion delineation SI

**GEODETIC DATUM**

Australian Geodetic Datum AGD

Australian Mapping Grid AMG

Geocentric Datum Australia GDA

Local Datum LOC

Map Grid Australia MGA

Universal Transverse Mercator UTM

**HEIGHT DATUM**

Australian Height Datum AHD

Approximate Level APX

Local Datum LOC

**LOCATION ACCURACY**

approximate A

barometric B

digitized D

GPS (hand held) G

surveyed S

**LOGS RUN**

Acoustic Scanner A

Caliper C

Cement Bond Log B

Density D

Dipmeter I

Downhole Camera M

Full Waveform Sonic F

Gyroscopic Verticality Y

Natural Gamma G

Neutron N

Resistivity R

Spontaneous Potential P

Sonic S

Temperature T

Verticality V

X-Ray X

**BOREHOLE STATUS**

backfilled B

casing removed X

cemented N

completed C

equipment in borehole E

hazard in borehole H

infrastructure I

in progress P

mined M

piezometer Z

plugged G

rehabilitated R

unknown U

water bore W

**CASING DATA**

**CASING MATERIAL**

fibreglass FB

not recorded NR

pvc PV

stainless steel SS

steel ST

uncased UC

**CASING TYPE**

perforated P

slotted S

threaded T

**CASING NAME**

HWT thread class HWT

Ozcon casing OZCO

PN06 class UPVC PN06

PN09 class UPVC PN09

PN12 class UPVC PN12

PN18 class UPVC PN18

SFJ thread class SFJ

**CASING GROUT**

bentonite BE

cement slurry CS

concrete aggregate AG

cuttings CT

gypsum GY

pressure grouted slurry PG

soil SO

two pack foam FO

washed gravel GV

**CEMENTING DATA**

**CEMENT METHOD**

from surface FS

poly reel PR

sacrifice poly SP

through drill rods TR

**DRILLING DATA**

**BIT TYPE**

**Non-Coring Bits**

auger AG

blades / drag blade BL

hammer HA

mill claw MC

poly crystalline diamond open PO

rock roller / tricone TR

surface / wing SF

unknown UN

**Coring Bits**

diamond core (wireline) DW

poly crystalline diamond core PC

(conventional)

poly crystalline diamond core PW

(wireline)

tungsten carbide core TC

(conventional)

**FLUID TYPE**

air A

bentonic mud M

polymer P

soluble oil S

water W

water injection I

**DRILL SIZE NAME**

**Wireline Barrel**

NQ (48mm / 76mm) NQ

HQ (64mm / 96mm) HQ

PQ (85mm / 123mm) PQ

NQ triple tube (45mm / 76mm) NQ3

HQ triple tube (61mm / 96mm) HQ3

PQ triple tube (83mm / 123mm) PQ3

**Conventional Core Barrel**

NMLC triple tube (52mm / 76mm) NMLC

HMLC triple tube (64mm / 99mm) HMLC

PMLC triple tube ( / ) PMLC

3” conventional (76mm / 111mm) 3C

4” conventional (102mm / 140mm) 4C

6” conventional ( / ) 6C

8” conventional (203mm / 260mm) 8C

10” conventional ( / ) 10C

12” conventional (305mm / ) 12C

**WATER OBSERVATION DATA**

**TEST TYPE**

305mm Board 3

610mm Board 6

914mm Board 9

driller injected I

dry D

estimate E

observed damp M

observed wet W

v-notch V

**SAMPLE PURPOSE**

**Coal Quality**

raw ply (coal, roof, floor or parting) QP

bulk sample QB

channel sample (underground) QU

**Loxline**

raw ply (coal, roof, floor or parting) LP

**Spontaneous Combustion**

raw ply (coal, roof, floor or parting) SP

bulk sample SB

channel sample SU

**Geotechnical Sample**

laboratory tested GT

field tested GF

**Water Quality Sample**

laboratory tested WT

field tested WF

**Gas Sample**

exploration (virgin) ME

compliance (drained) MD

**Environmental Sample**

soil ES

overburden characterisation EO

(compliance)

reactive ground ER

**Other**

age dating AD

palynology PN petrology PE

**INTERVAL STATUS**

raw / uncorrected R

adjusted to geophysics A

unknown U

**LITHOLGY**

**Unconsolidated Sediments**

Clay CL

Mud MD

Silt SI

Sand SA

Gravel GV

Cobbles OB

Boulders BO

Alluvium AL

Colluvium CV

Diatomaceous Earth DE

Fill / Spoil FI

Fireclay FC

Loam LO

Soil SO

**Carbonaceous Sediments**

Coal CO

Lignite LG

Brown Coal BC

Peat PE

Burnt Wood / Charcoal BW

Weathered Coal CW

Oil Shale OS

Tar Sand TS

Coaly Claystone ZC

Coaly Mudstone ZM

Coaly Shale ZH

Coaly Siltstone ZT

Coaly Sandstone ZS

Carbonaceous Claystone XC

Carbonaceous Mudstone XM

Carbonaceous Shale XH

Carbonaceous Siltstone XT

Carbonaceous Sandstone XS

**Clastic Sedimentary Rocks**

Sedimentary Rock, undifferentiated SU

Claystone CS

Pellet Claystone PC

Mudstone MS

Shale SH

Siltstone ST

Sandstone SS

Conglomerate CG

Conglomerate (>65% matrix) M1

Conglomerate (35-65% matrix) M2

Conglomerate (<35% matrix) M3

Breccia BR

Fault Breccia FB

Diamictite DI

Tillite TI

**Chemical Sedimentary Rocks**

Calcrete CC

Carbonate CB

Chalk CK

Chert CH

Cone in Cone Carbonate KK

Dolomite DM

Ferricrete FK

Fossil Wood FW

Ironstone IS

Kaolinite KA

Laterite LA

Limestone LS

Limonite LI

Silcrete SC

Tonstein TN

**Igneous**

Igneous Rock, undifferentiated IG

Volcanic Rock, undifferentiated VR

Intrusive Rock, undifferentiated IN

Acid / Felsic Volcanic AV

Intermediate Volcanic IV

Basic / Mafic Volcanic BV

Acid / Felsic Intrusive AI

Intermediate Intrusive II

Basic / Mafic Intrusive BI

Andesite AN

Basalt BS

Dolerite DO

Gabbro GB

Granite GR

Granodiorite GD

Rhyolite RH

Tuff TF

Tuffite TT

Volcanic Breccia VB

**Metamorphic**

Metamorphic Rock, undifferentiated MM

Basement Undifferentiated BU

Mylonite MY

Quartzite QT

Slate SL

Phyllite PH

Schist SZ

Gneiss GN

**Minerals**

Calcite CA

Pyrite PY

Quartz QZ

Siderite SD

Talc TA

**Other**

Core Loss KL

Lost Coal (from geophysics) LC

Missing Record MR

Non Coal NC

No Recovery NR

Not Logged NL

Old Workings OW

Void VD

**LITHOLOGY QUALIFIER**

**Coal Brightness**

bright (>90%) BR

bright with dull bands (60-90%) BB

interbanded dull and bright BD

(40-60%)

mainly dull with frequent bright DB

bands (10-40%)

dull with minor bright bands (1-10%) DM

dull (<1%) DD

mid-lustrous to bright M1

mid-lustrous M2

mid-lustrous to dull M3

**Other Coal**

undifferentiated CU

heat affected HA coked KC

cindered CI

fusainous FU

anthracite AN

cannel (torbanite, bog) CT

dull conchoidal DC

inferior IF

sapropelic (incl. cannel, torbanite, SP

boghead)

stony SY

**Grain Size**

**Unconsolidated Sediments**

clayey CL

silty SI

sandy SA

gravelly GV

**Sandstone / Sand / Gravel**

very fine grained VV

very fine to fine grained VF

very fine to medium grained VM

very fine to coarse grained VC

very fine to very coarse grained VX

fine grained FF

fine to medium grained FM

fine to coarse grained FC

fine to very coarse grained FX

medium grained MM

medium to coarse grained MC

medium to very coarse grained MX

coarse grained CC

coarse to very coarse grained CX

very coarse grained XX

**Conglomerate**

granular GG

granular to pebbly GP

granular to cobbly GO

granular to bouldery GU

pebbly PP

pebbly to cobbly PO

pebbly to bouldery PU

cobbly OO

cobbly to bouldery OU

bouldery UU

**Tuff / Tuffite**

clay sized CS

mud sized MS

silt sized TS

sand sized SS

**SHADE**

light L

light to medium A

light to dark C

medium E

medium to dark B

dark D

banded N

mottled M

speckled S

variegated V

**HUE / COLOUR**

blackish / black K

bluish / blue L

brownish / brown B

buff F

creamy / cream C

greenish / green E

greyish / grey G

multi-coloured M

off white X

orangey / orange O

pinkish / pink P

purplish / purple U

reddish / red R

whitish / white W

yellowish / yellow Y

**ADJECTIVE**

**Quantity**

abundant (30-60%) AB

common (15-30%) CM

decreasing in abundance DA

dominant (>60%) DO

highly HI

in part IP

increasing in abundance IA

large LR

minor (1-15%) MN

partially PR

rare (<1%) RA

slightly TY

strongly TG

thick TK

thin TH

very VE

**Appearance**

altered AL

bright BR

clear LC

coarser (<10% of unit) XC

conchoidal CC

dull DD

fault gouge FT

finer (<10% of unit) FF

hard HR

heat affected HA

interbanded IB

irregular IR

lustrous LU

moderately MO

opaque OP

resinous RS

soft SO

translucent TL

**Lithological**

acidic AC

arenitic AR

arkosic AK

basaltic BS

basic BC

bentonitic BE

calcareous CA

carbonaceous XX

carbonate CB

chloritic CR

clayey CL

claystone CS

coal stringers CX

coaly CO

conglomeratic CG

detrital DE

dolomitic DM

feldspathic FS

ferruginous FE

fossiliferous FO

fusainous FU

glauconitic GC

graphitic GP

illitic IL

intermediate IM

intrusive IN

iron stained ID

kaolinitic KA

lateritic LA

limonitic LI

lithic LT

loamy LO

manganiferous MG

marly MR

metamorphosed MM

micaceous MI

muddy MD

mudstone MS

oxidised OX

peaty PE

phosphatic PP

pyritic PY

quartzose QZ

sandstone SS

sandy SA

shaly SH

shelly HY

sideritic SD

siliceous SC

silicified SF

siltstone ST

silty SI

smectitic SM

sooty SX

stony SY

sub arenitic AM

tillitic TI

tonsteinous TN

tuffaceous TF

vitrainous VI

volcanic VO

**Inclusions**

bands BN

blebs BL

clasts CT

cobbles OO

concretions CI

disseminated DS

fragments FR

grains GN

granules GG

gravelly GV

laminae (2-20mm) LM

layers LY

lenses LN

matrix MX

nodules ND

partings PA

pebbles PB

pellets PT

penny bands (<2mm) PN

phases PH

pods PO

stringers SG

traces TR

wisps WP

**Preposition**

and ET

as AS

of OF

on ON

with WI

**Position**

alternating AT

near base of unit BU

near middle of unit MU

near top and base of unit XU

near top of unit TU

tends to TT

throughout TO

**LITHOLOGY INTERRELATIONSHIP**

coarsening up to CU

coarsely interbedded (> 200mm) with CB

disseminated with DS

fining up to FU

grading into GD

interbedded with IB

intercalated with IC

interlaminated (< 60mm) with IL

intermixed with IM

irregularly interbedded with IR

thinly interbedded (60-200mm) with TB

with bands of BN

with boulders of BO

with cement of CM

with clasts of CT

with cobbles of OO

with fragments of FR

with granules of GG

with lenses of LN

with matrix of MX

with nodules of ND

with pebbles of PB

with pods of PO

with wisps of WP

**WEATHERING**

residual soil R

extremely weathered E

highly weathered H

distinctly weathered D

moderately weathered M

slightly weathered S

weathered W

fresh F

**ESTIMATED STRENGTH**

**Unconsolidated Cohesive**

very soft C1

soft C2

firm C3

stiff C4

very stiff C5

hard C6

**Unconsolidated Cohesionless**

very loose S1

loose S2

medium dense S3

dense S4

very dense S5

**Rock**

extremely low strength rock R1

very low strength rock R2

low strength rock R3

medium strength rock R4

high strength rock R5

very high strength rock R6

extremely high strength rock R7

**BED SPACING**

massive / absent bedding MA

very thickly bedded (>2m) VB

thickly bedded (600-2000mm) CB

medium bedded (200-600mm) MB

thinly bedded (60-200mm) TB

very thinly bedded (20-60mm) UB

thickly laminated (6-20mm) LM

thinly laminated (<6mm) LL

irregular spaced bedding IR

**DEFECT TYPE**

**Natural**

bedding plane BP

broken zone BZ

clay band CL

coal cleat CE

contraction fracture CF

cross bedding XB

dyke DY

fault FT

foliation FO

fracture (undifferentiated) FR

joint JN

shear zone SH

sill SI

softened zone (non-tectonic) SO

vein VN

**Induced and Non-Intact**

discing DS

drilling induced break DB

drilling induced broken zone DZ

**DEFECT INTACT**

intact I

**DEFECT SPACING**

extremely wide (>2m) EW

very wide (600-2000mm) VW

wide (200-600mm) WI

moderately wide (60-200mm) MW

moderately narrow (20-60mm) MN

narrow (6-20mm) NA

very narrow (<6mm) VN

**CORE STATE**

overdrilled core O

solid core S

broken core B

very broken core V

fragmented core F

crushed core C

cuttings K

**MECHANICAL STATE**

**Slaking**

non slaking NS

low slaking LS

medium slaking MS

high slaking HS

**Plasticity**

non plastic NP

low plasticity LP

intermediate plasticity IP

high plasticity HP

**Other**

blocky BK

brecciated BR

brittle BL

cleated CE

disintegrates on wetting DW

expanding clay EX

fissile FS

fissured FI

flaggy FG

flaky FL

fractured FR

fretted FT

friable FB

indurated IN

micro faulted MF

non-cleated NC

powdery PO

puggy PU

sheared SH

slabby SL

slickensided SK

sticky ST

subfissile SF

**TEXTURE**

amorphous AM

amygdaloidal AG

aphanitic AP

chalky CK

cherty CH

clast supported CS

concretionary CI

crystalline XL

earthy EA

equigranular EQ

fibrous FB

flow banded FL

glassy GS

granular GG

gritty GT

matrix supported MS

nodular ND

oolitic OO

pelletal PT

pisolitic PS

platey PL

porphyritic PR

schistose SZ

soapy SO

vesicular VS

vitreous VT

vuggy VU

waxy WX

**BASAL CONTACT**

adheres at base A

basal contact open or readily parts B

basal contact deformed D

erosional basal contact E

faulted at basal contact F

gradational basal contact G

sharp and irregular basal contact I

jointed at basal contact J

sharp and oblique basal contact O

sharp and planar basal contact P

fractured at basal contact R

sheared at basal contact S

sharp and undulose basal contact U

**SEDIMENTARY FEATURE**

**Bedding**

contorted bedding CT

convoluted bedding CV

current bedding CB

diffuse bedding DF

disturbed bedding DB

flasar bedding FL

graded bedding GB

lenticular bedding LB

planar bedding PL

poorly developed bedding PD

ripple bedding RI

wavy bedding WB

well-developed bedding WD

**Cross Bedding**

high angle cross bedding (>30°) HX

medium angle cross bedding MX

(10°-30°)

low angle cross bedding (<10°) LX

cross bedding XB

fine cross bedding FX

tabular cross bedding TX

trough cross bedding RX

**Laminations**

large scale cross laminations (>2m) LL

medium scale cross laminations ML

(200 – 2000mm)

small scale cross laminations SL

(<200mm)

wavy laminations WL

**Shape**

very angular grains VG angular grains AG

subangular grains GG

well rounded grains WG

rounded grains RG

subrounded grains BG

bladed grains DG

prolate grains LG

tabular grains TG

very angular fragments VF

angular fragments AF

subangular fragments GF

well rounded fragments WF

rounded fragments RF

subrounded fragments BF

very angular pebbles VP

angular pebbles AP

subangular pebbles GP

well rounded pebbles WP

rounded pebbles RP

subrounded pebbles BP

**Sorting**

well sorted WS

moderately sorted MS

poorly sorted PS

bimodal sorting BS

polymodal sorting YS

coarsening upwards CU

fining upwards FU

**Permeability / Porosity**

impermeable (<0.1mD) IR

low permeability (0.1-10mD) LP

medium permeability MP

(10-10000mD)

high permeability (>10000mD) HP

permeable PE

porous PO

**Cracks**

dessication cracks DC

intraformational cracks IC

mud casts / cracks MC

shrinkage cracks SC

syneresis cracks YC

**Structures**

bioturbated BT

boudinage BD

bounce marks / prod casts PC

burrowing BW

climbing ripples CR

colloidal iron deposit CI

compaction feature CF

flame structures FS

imbricate clasts IM

load cast LC

pebble lag PG

reworked RW

ripple marks RM

rip-up clasts RU

rootlet beds RB

scour and fill SF

sedimentary dyke DY

slumping SP

soft sediment deformation DE

stylolites ST

varving VV

water escape structures WE

**Position**

in part IP

near base of unit BU

near middle of unit MU

near top and base of unit XU

near top of unit TU

throughout TO

**ABUNDANCE**

abundant (30-60%) A

accessory E

common (15-30%) C

dominant (>60%) O

minor (1-15%) M

rare (<1%) R

secondary D

**MINERAL / FOSSIL**

**Minerals**

ankerite AN

apatite AP

bauxite BA

biotite BT

calcite CA

carbonate CB

chalcedony CD

chalcopyrite CC

chert CH

chlorite CR

clay CL

common opal OP

dickite DI

dolomite DM

epidote EP

feldspar FS

galena GA

garnet GR

glauconite GC

goethite GO

graphite GP

gypsum GY

haematite HE

heavy minerals HM

illite IL

ilmenite IM

iron oxide IO

ironstone IS

kaolinite KA

limonite LI

magnetite MT

manganese MG

marcasite MC

mica MI

montmorillonite ML

muscovite MV

olivine OL

opaque minerals OM

orthoclase OR

phosphates PP

plagioclase PG

pyrite PY

quartz QZ

siderite SD

silica SC

sulphides SU

talc TA

unidentified mineral UN

vivianite VV

zeolite ZE

**Fossils**

bivalves BI

brachiopods BR

bryozoans BZ

carbonaceous remains XR

carbonaceous root traces RC

charcoal FB

coprolites CP

faecal remains FR

foraminifera FM

fossil wood FW

fossils FO

gastropods GT

marine fossils MF

pelycepods PE

plant fragments PF

plant impressions PI

resin RS

resin aggregates RA

root traces RT

rootlets RO

sediment filled root traces SR

shells HY

woody fragments WF

**MINERAL ASSOCIATION**

amorphous AM

in amygdules AG

bands BN

cement CM

clasts CT

coarse grains CC

coating OU

concentrated at base CB

concentrated at top CN

concretions CI

cone in cone structure KK

crystals XL

detrital DE

disseminated DS

fibrous FB

fine grains FF

fragments FR

glendonites GD

grains GN

in blebs BL

in cavities CV

in cleat CE

in pods PO

in veins VN

in vesicles VS

in vughs VU

infilling fault discontinuities FD

infilling of burrows IB

infilling vesicles IV

intercalations IC

laminae LM

lenses LN

matrix MX

microflakes MF

nodules ND

on bedding planes BP

on fracture planes FP

on joints JN

oolites OO

pebbles PB

pellets PT

phenocrysts PH

radial filaments FL

replacement RE

replacing fossils RF

resinous RS

rhombs RH

staining SN

traces TR

wisps WP

**GAS**

trace (<1m3/t) T

low gas present (1-5m3/t) L

moderate gas present (5-10m3/t) M

high gas present (10-15m3/t) H

very high gas present (>15m3/t) V

H2S not detected N

H2S present P

**RMU DATA**

**RMU TYPE**

broken zone B

core loss L

core with defects D

not recorded N

open O

soil properties S

unbroken core U

**WEATHERING**

residual soil R

extremely weathered E

highly weathered H

distinctly weathered D

moderately weathered M

slightly weathered S

weathered W

fresh F

**ALTERATION**

extremely altered E

distinctly altered D

slightly altered S

altered A

fresh F

**ESTIMATED STRENGTH**

**Unconsolidated Cohesive**

very soft C1

soft C2

firm C3

stiff C4

very stiff C5

hard C6

**Unconsolidated Cohesionless**

very loose S1

loose S2

medium dense S3

dense S4

very dense S5

**Rock**

extremely low strength rock R1

very low strength rock R2

low strength rock R3

medium strength rock R4

high strength rock R5

very high strength rock R6

extremely high strength rock R7

**BED SPACING**

massive / absent bedding MA

very thickly bedded (>2m) VB

thickly bedded (600-2000mm) CB

medium bedded (200-600mm) MB

thinly bedded (60-200mm) TB

very thinly bedded (20-60mm) UB

thickly laminated (6-20mm) LM

thinly laminated (<6mm) LL

irregular spaced bedding IR

**MOISTURE SENSITIVITY**

not sensitive N

low sensitivity L

medium sensitivity M

high sensitivity H

**PLASTICITY**

non plastic N

brittle B

low plasticity L

intermediate plasticity I

high plasticity H

**DEFECT DATA**

**DEFECT TYPE**

**Natural**

bedding plane BP

broken zone BZ

clay band CL

coal cleat CE

contraction fracture CF

cross bedding XB

dyke DY

fault FT

foliation FO

fracture (undifferentiated) FR

joint JN

shear zone SH

sill SI

softened zone (non-tectonic) SO

vein VN

**Induced and Non-Intact**

discing DS

drilling induced break DB

drilling induced broken zone DZ

**DEFECT INTACT**

intact I

**DEFECT CONTINUITY**

continuous across core width C

discontinuous across core width D

divaricates (splits) V

truncated within core width T

**DIP ORIENTATION METHOD**

directly measured from reference line D

estimated E

indirectly measured I

measured from televiewer A

**SURFACE SHAPE**

concave / convex C

irregular I

planar P

stepped S

undulose U

**SURFACE ROUGHNESS**

polished P

rough R

slickensided K

smooth S

**JRC**

1 … 10

**INFILL TYPE**

apatite AP

calcite CA

carbonaceous remains XR

carbonate CB

chlorite CR

clay CL

coal CO

crushed rock CU

dickite DI

fossils FO

glauconite GC

gypsum GY

haematite HE

illite IL

iron oxide IO

kaolinite KA

limonite LI

magnetite MT

manganese MG

marcasite MC

mica MI

montmorillonite ML

other OT

plant fragments PF

pyrite PY

quartz QZ

sand SA

siderite SD

silt SI

talc TA

zeolite ZE

**INFILL MODE**

absent A

blebs L

breccia B

gouge G

healed (cemented) H

open O

rubble R

surface completely coated C

surface partly coated P

surface staining S

trace T

**POINT LOAD DATA**

**SAMPLE STATE**

dry D

wet W

**TEST TYPE**

axial A

diametral D

irregular I

**FAILURE MODE**

bedding plane B

invalid I

joint J

penetrative P

valid V