

URS Australia Pty Ltd Phone 08 92211630
20 Terrace Rd, East Perth, 6004 Fax 08 92211639

PROJECT NAME: **MRM EIS Groundwater Modelling**

PROJECT NUMBER: **42905628**

DRILLING CO: **H2O Drilling**
DRILL METHOD: **Mud-rotary, Air-hammer**

CLIENT: **Xstrata PLC**

LOCATION: **McArthur River Mine**

TOTAL DRILLED DEPTH: **46m**
TOTAL CASSED DEPTH: **43.89**
CASING DIAMETER: **160mm, 208mm**
SCREEN DIAMETER: **160mm, 208mm**

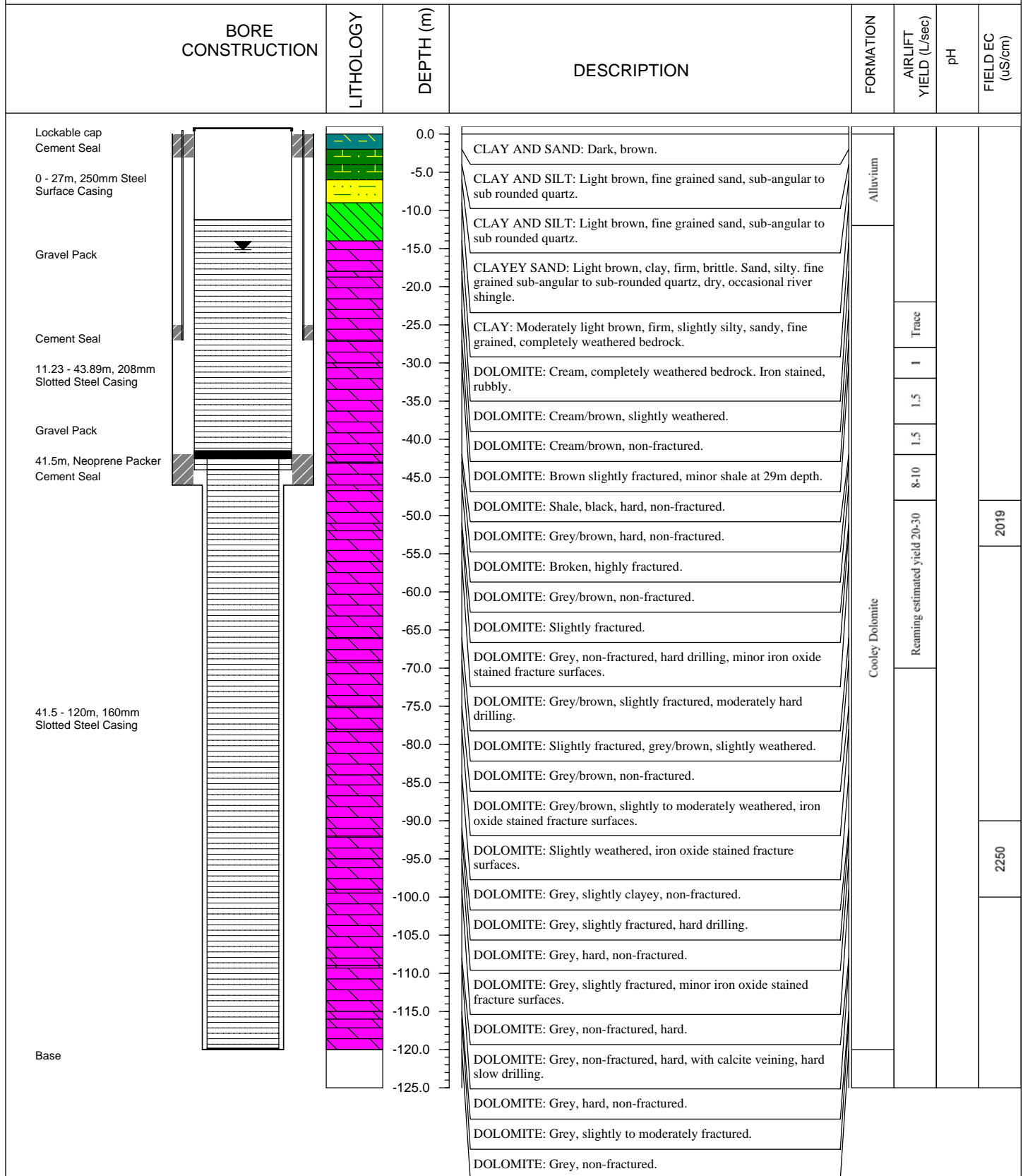
OPEN INTERVAL: **11.23 - 43.89m**
STATIC WATER LEVEL (mbgs): **14.88 mbtc**
DATE OF MEASUREMENT: **17/11/04**
PUMPING TEST: **9hrs @ 433kL/day**
FINAL SALINITY: **1130mg/L**

R.L OF COLLAR: **36.1 (AHD)**
COORDINATES: **618470.68**
8182092.13
DATUM: **AMG Zone 53**

START DATE: **26/10/04**

FINISH DATE: **6/11/04**

LOGGED BY: **CM**



DRAWN BY: CE
CHECKED BY: GRB

DATE: 17/12/04
DATE: 22/12/04

PROJECT NAME:	MRM EIS Groundwater Modelling
PROJECT NUMBER:	42905628
CLIENT:	Xstrata PLC
LOCATION:	McArthur River Mine

LEVEL (mbtc):	11.62 - 119.62m	R.L OF COLLAR:	37.13 (mAHD)
REMENT:	16.08	COORDINATES:	618449.61
	17/11/04		8182176.56
		DATUM:	AMG Zone 53

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DRAWN BY: CE DATE: 17/12/04
CHECKED BY GRB DATE: 22/12/04

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PROJECT NAME: **MRM EIS Groundwater modelling**
PROJECT NUMBER: **42905628**
CLIENT: **Xstrata PLC**
LOCATION: **McArthur River Mine**

DRILLING CO: **H2O Drilling**
DRILL METHOD: **Blade**

TOTAL DRILLED DEPTH: 31.5m	OPEN INTERVAL: 20.35 - 26.5m	R.L OF COLLAR: 32.93 (mAHD)
TOTAL CASSED DEPTH: 26.5m	STATIC WATER LEVEL (mbgs): 11.37m	COORDINATES: 617105.21
CASING DIAMETER: 147mm	DATE OF MEASUREMENT: 17/11/04	8181502.23
SCREEN DIAMETER: 0.8mm	PUMPING TEST: 48 hrs@393kL/day	DATUM: AMG Zone 53
	FINAL SALINITY: 720 mg/L	

START DATE: **10/11/04** FINISH DATE: **11/1104** LOGGED BY: **CM**

BORE CONSTRUCTION	LITHOLOGY	DEPTH (m)	DESCRIPTION	FORMATION	AIRLIFT YIELD (L/sec)	pH	FIELD EC (uS/cm)
Lockable cap		0.0	CLAY: Brown, brittle, sandy.	Alluvium	1.5 - 2		1729
Cement grout 218mm OD Steel Surface Casing (-0.55 - 2.5m)			CLAY AND SAND: Brown, medium quartz sand, angular.				
			CLAY AND SAND: Dark grey, stiff gravelly, angular.				
Bentonite pellets		-5.0	CLAY AND SAND: Grey, fine quartz sand, loose, interbedded with stiff clay.				
			CLAY AND SAND: Grey to brown, plastic.				
PVC Casing (-0.49 - 20.35m)		-10.0	SILT: Brown, clay interbedded with sand, some gravel, sub-angular to moderately rounded.	Coolley Dolomite			
Gravel Pack		-15.0	GRAVEL AND SAND: Brown, fine to coarse, poorly sorted, large boulders 21, 23 and 24m, well rounded.				
		-20.0					
S/S Screen (0.8mm aperture) (20.35 - 26.5m)		-25.0	DOLOMITE: Yellow brown, dolomite fragments, river sands/gravels, clayey, hard, dolomite?				
			SHALE/CLAYSTONE: Dark grey to yellow brown, interbedded shale and weathered bedrock.				
Fallback		-30.0	DOLOMITE: Yellow brown, minor bands of hard dolomite.				

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MAC4

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PROJECT NAME:	MRM EIS Groundwater modelling
PROJECT NUMBER:	42905628
CLIENT:	Xstrata PLC
LOCATION:	McArthur River Mine

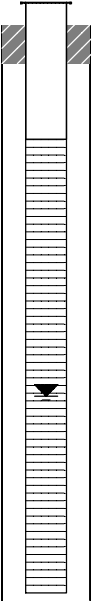
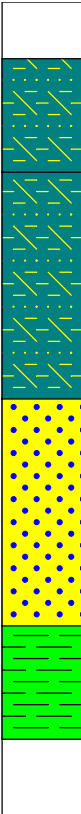
DRILLING CO:	H2O Drilling
DRILL METHOD:	Rotary

TOTAL DRILLED DEPTH:	18m
TOTAL CASED DEPTH:	15m
CASING DIAMETER:	53mm
SCREEN DIAMETER:	53mm

OPEN INTERVAL:	3 - 15m
STATIC WATER LEVEL (mbtc):	10.50
DATE OF MEASUREMENT:	23/11/04

R.L OF COLLAR:	32.74 (AHD)
COORDINATES:	616332.95
	8180808.62
DATUM:	AMG Zone 53

START DATE: 17/11/04 FINISH DATE: 18/11/04 LOGGED BY: CM

BORE CONSTRUCTION	LITHOLOGY	DEPTH (m)	DESCRIPTION	FORMATION	AIRLIFT YIELD (L/sec)	pH	FIELD EC (uS/cm)
Lockable cap Cement grout Bentonite Seal (1 - 3m) Slotted PVC Class 12 (0 - 15m) Base			0.0 CLAY AND SAND: Moderate brown, firm, plastic. -5.0 CLAY AND SAND: Cream/brown, soft, weathered bedrock, calcretised. -10.0 SANDSTONE: Grey, slightly to moderately fractured, hard, fine to medium grained. -15.0 SHALE: Black/grey, hard, non-fractured. -20.0	Alluvium Coolie Dolomite	Trace 0.1		1465

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DATE: 17/12/04

DATE: 22/12/04

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<div>URS</div>		BORE COMPLETION REPORT		BOREHOLE: MAC5				
URS Australia Pty Ltd 20 Terrace Rd, East Perth, 6004		Phone 08 92211630 Fax 08 92211639		PROJECT NAME: MRM EIS Groundwater modelling PROJECT NUMBER: 42905628 CLIENT: Xstrata PLC LOCATION: McArthur River Mine				
DRILLING CO: H2O Drilling DRILL METHOD: Blade								
TOTAL DRILLED DEPTH: 18m TOTAL CASED DEPTH: 18m CASING DIAMETER: 53mm SCREEN DIAMETER: 53mm		OPEN INTERVAL: 6 - 18m STATIC WATER LEVEL (mbtc): 11.32 DATE OF MEASUREMENT: 23/11/04		R.L OF COLLAR: 34.59 (mAHD) COORDINATES: 615809.99 8180946.29 DATUM: AMG Zone 53				
START DATE: 18/11/04		FINISH DATE: 18/11/04		LOGGED BY: CM				
BORE CONSTRUCTION		LITHOLOGY	DEPTH (m)	DESCRIPTION	FORMATION	AIRLIFT YIELD (L/sec)	pH	FIELD EC (uS/cm)
<div><div>Lockable cap Cement grout (0 - 1m)</div><div>Bentonite Seal (1 - 3m)</div><div>PVC Class 12 (0 - 3m)</div><div>Slotted PVC Class 12 (0 - 18m)</div><div>Base</div></div>			<div>0.0</div> <div>-5.0</div> <div>-10.0</div> <div>-15.0</div>	<div>CLAY AND SAND: Brown, stiff.</div> <div>DOLOMITE: Cream, highly weathered, broken, minor sandstone beds, very fine grained, angular.</div> <div>DOLOMITE: Cream, hard, slightly fractured at 18m depth.</div>	<div>Alluvium</div> <div>Cooley Dolomite</div>			
DRAWN BY: CE		DATE: 17/12/04		Page 1 of 1				
CHECKED BY: GRB		DATE: 22/12/04						

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PROJECT NAME:	MRM EIS Groundwater modelling
PROJECT NUMBER:	42905628
CLIENT:	Xstrata PLC
LOCATION:	McArthur River Mine

DRILLING CO:	H2O Drilling
DRILL METHOD:	Blade

TOTAL DRILLED DEPTH:	102m
TOTAL CASED DEPTH:	101.5m
CASING DIAMETER:	53mm
SCREEN DIAMETER:	1mm

OPEN INTERVAL:	11.50 - 101.5m
STATIC WATER LEVEL (mbtc):	12.71
DATE OF MEASUREMENT:	17/11/04

R.L OF COLLAR:	32.39 (AHD)
COORDINATES:	618352.20 8182559.93
DATUM:	AMG Zone 53

START DATE: 12/11/04

FINISH DATE:13/11/04


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BORE CONSTRUCTION		LITHOLOGY	DEPTH (m)	DESCRIPTION	FORMATION	AIRLIFT YIELD (L/sec)	pH	FIELD EC (uS/cm)
Lockable cap			0.0	CLAY AND SAND: Brown, sandy/silty, brittle.	Alluvium			
Backfill (0 - 4m) Steel pre-collar (0.15 - 6.35m)			-5.0	SAND: Red brown, very fine, well sorted, loose, slightly clayey.				
Bridged (6m) Steel surface casing (0.58 - 101.5m)			-10.0	DOLOMITE: Light grey to yellow brown, slighty clayey, well fractured, moderate to hard and weathered.	Cooley Dolomite			
Cement (0 - 6.5m) Bentonite seal (4 - 6m)			-15.0	DOLOMITE: Pale grey minor fractures.				
Gravel (6 - 11.5m)			-20.0	DOLOMITE: Pale grey, minor fractures, iron stained fracture planes.				
PVC Class 12 (0.58 - 101.5)			-25.0	DOLOMITE: Mid grey, minor fractures, iron staining.				
Slotted PVC Class 12 (1mm aperture, 11.50 - 101.5m)			-30.0	DOLOMITE: Mid grey, little fracturing.				
			-35.0	DOLOMITE: Dark grey, non-fractured, hard.				
			-40.0	DOLOMITE: Mid grey, minor fractures.				
			-45.0	DOLOMITE: Mid to pale grey, minor fractures, iron stained fracture planes, mottled dark grey in part.				
			-50.0	DOLOMITE: Dark grey, non-fractured, hard.				
			-55.0	DOLOMITE: Mid to pale grey, minor fracture zone, iron staining, minor quartz				
			-60.0	DOLOMITE: Dark grey, non-fractured.				
			-65.0	DOLOMITE: Mid grey, fractured, iron staining.				
-70.0			DOLOMITE: Mid to pale grey, quartz veining, non-fractured.					
-75.0			DOLOMITE: Mid to dark grey, fractured in part, iron staining.					
-80.0			DOLOMITE: Dark grey, non-fractured.					
-85.0			DOLOMITE: Dark grey, non-fractured.					
-90.0								
-95.0								
-100.0								
-105.0								
-110.0								

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BORE COMPLETION REPORT

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BOREHOLE: MAC7

PROJECT NAME: MRM EIS Groundwater modelling

PROJECT NUMBER: 42905628

CLIENT: Xstrata PLC

LOCATION: McArthur River Mine

DRILLING CO: H2O Drilling

DRILL METHOD: Blade (0 - 13.5m), Hammer (13.5 - 121m)

TOTAL DRILLED DEPTH: 121m

TOTAL CASSED DEPTH: 120.92m

CASING DIAMETER: 53mm

SCREEN DIAMETER: 1mm

OPEN INTERVAL: 12.97 - 120.92m

STATIC WATER LEVEL (mbtc): 11.19

DATE OF MEASUREMENT: 17/11/04

R.L OF COLLAR: 29.68 (AHD)

COORDINATES: 618362.49

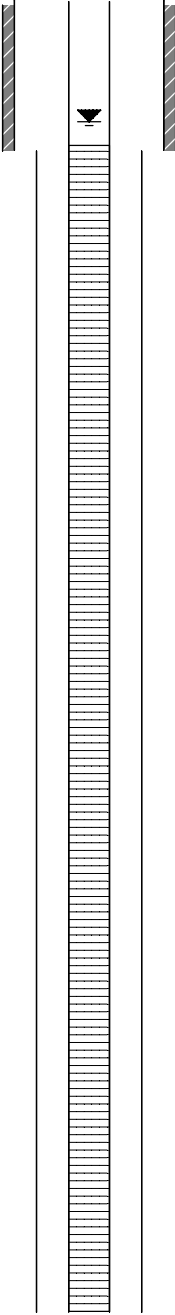

8182962.61

DATUM: AMG Zone 53

START DATE: 13/11/04

FINISH DATE: 15/11/04

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BORE CONSTRUCTION	LITHOLOGY	DEPTH (m)	DESCRIPTION	FORMATION	AIRLIFT YIELD (L/sec)	pH	FIELD EC (uS/cm)						
<div> <div>Lockable Cap</div> <div>Cement Grout</div> <div>Bentonite Seal (4-6m)</div> <div>Back fill (0-4m)</div> <div>PVC Class 12</div> <div>Steel Surface Casing (0.38-13.42m)</div> <div>Slotted PVC (Class 12, 1mm aperture, 12.97-120.97m)</div> <div>Base (121m)</div> </div> 		0.0	CLAY AND SAND: Brown, very fine to medium sand with clay, minor dark olive green clay nodules.	Alluvium									
		-5.0	CLAYEY SAND: Brown, minor to fine sand, soft.										
		-10.0	DOLOMITE: Yellow brown, clayey, very well fractured, highly weathered.	Coolie Dolomite		Trace							
		-15.0	DOLOMITE: Yellow brown highly fractured, vuggy, becoming blue grey.										
		-20.0	DOLOMITE: Blue grey, fractured iron staining on fractures.										
		-25.0	DOLOMITE: Blue grey to yellow brown, highly fractured zones, vuggy, calcarenite, iron-staining.										
		-30.0	DOLOMITE: Grey, non-fractured.										
		-35.0	DOLOMITE: Mid to dark grey, minor fractures, iron-staining and fracture planes.										
		-40.0	DOLOMITE: Mid grey, very minor fractures.										
		-45.0	DOLOMITE: Pale grey, hard, minor quartz, very minor fractures, tight.										
		-50.0	DOLOMITE: Mid grey, very minor fractures, Breccia?, hard.										
		-55.0	DOLOMITE: Mid grey, as above, minor fractures with sugary fracture contents.										
		-60.0	DOLOMITE: Mid grey, hard, very minor tight fractures.										
		-65.0	DOLOMITE: Pale grey, non-fractured.										
		-70.0	DOLOMITE: Pale grey to mid grey, hard very minor fractures.										
		-75.0											
		-80.0											
-85.0													
-90.0													
-95.0													
-100.0													
-105.0													
-110.0													
-115.0													
-120.0													

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