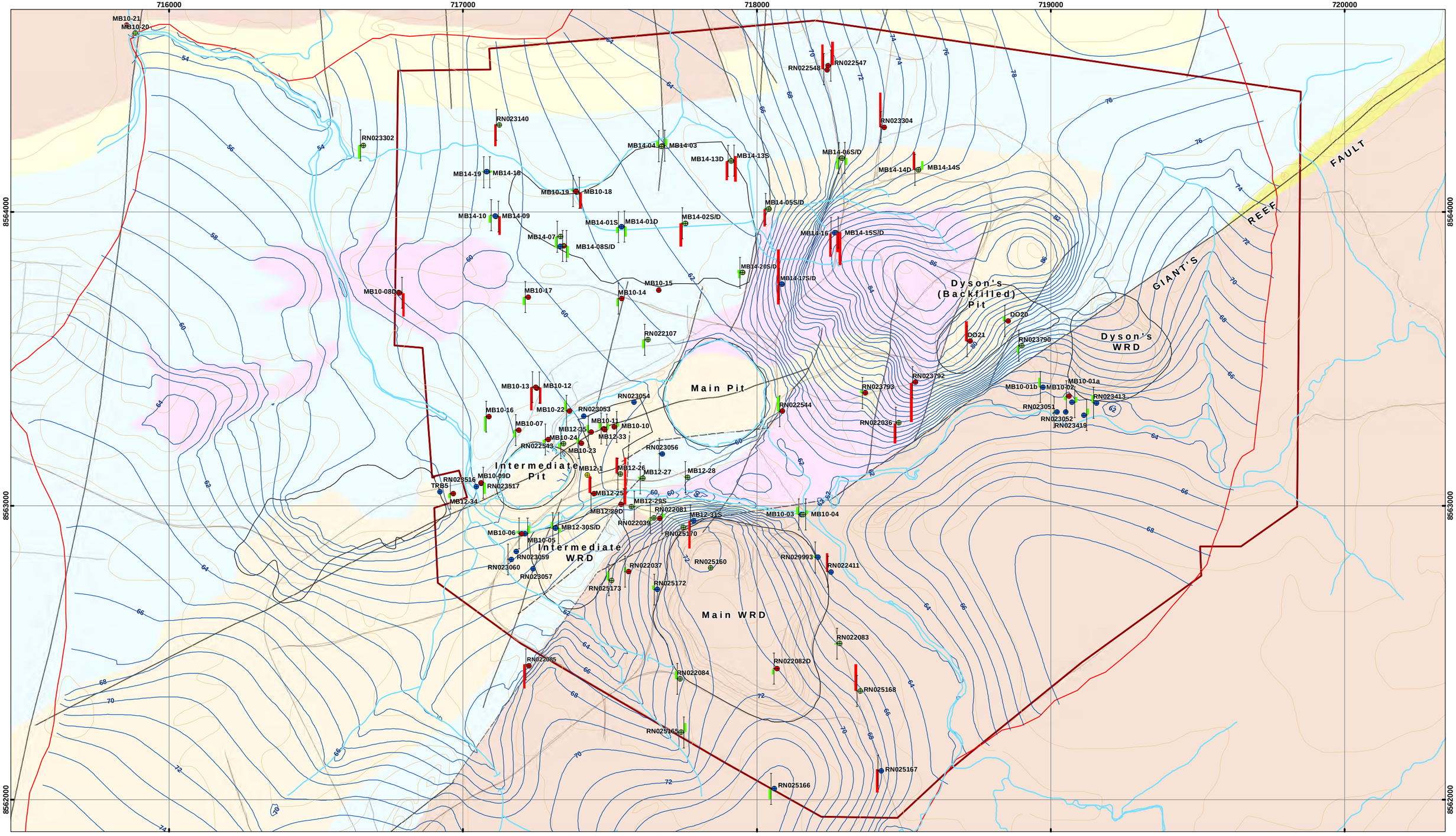
Appendix 28.

Robertson GeoConsultants (2016) *Groundwater Flow and Transport Model for Current Conditions, Rum Jungle*. Report to the Department of Mines and Energy, Northern Territory. PART B

NORTHERN TERRITORY GOVERNMENT

Department of **Primary Industry and Resources**



LEGEND

- Groundwater Bore (Depth <5m)
- Groundwater Bore (Depth from 5 to 15m)
- Groundwater Bore (Depth >15m)
- Groundwater Bore (Unclassified)
- Drainage
- Road
- Fault
- Mine Site Boundary
- Model Domain
- GWL Contour

Lithology

- Whites Formation
- Geolsec Formation
- Coomalie Dolostone
- Crater Formation
- Quartz Vein
- Rum Jungle Complex

- Simulated vs Observed (< ± 1)
- Simulated vs Observed (> ± 1)

Simulated Head Contours and Computed Residuals for Wet Season (March 2014)

Rum Jungle Mine Site

Scale 1:12,000

0 50 100 200 300 400 500 600 700 800 900 1,000 1,100 Metres

Projection: GDA 1994 MGA Zone 52 (m)

N W E S

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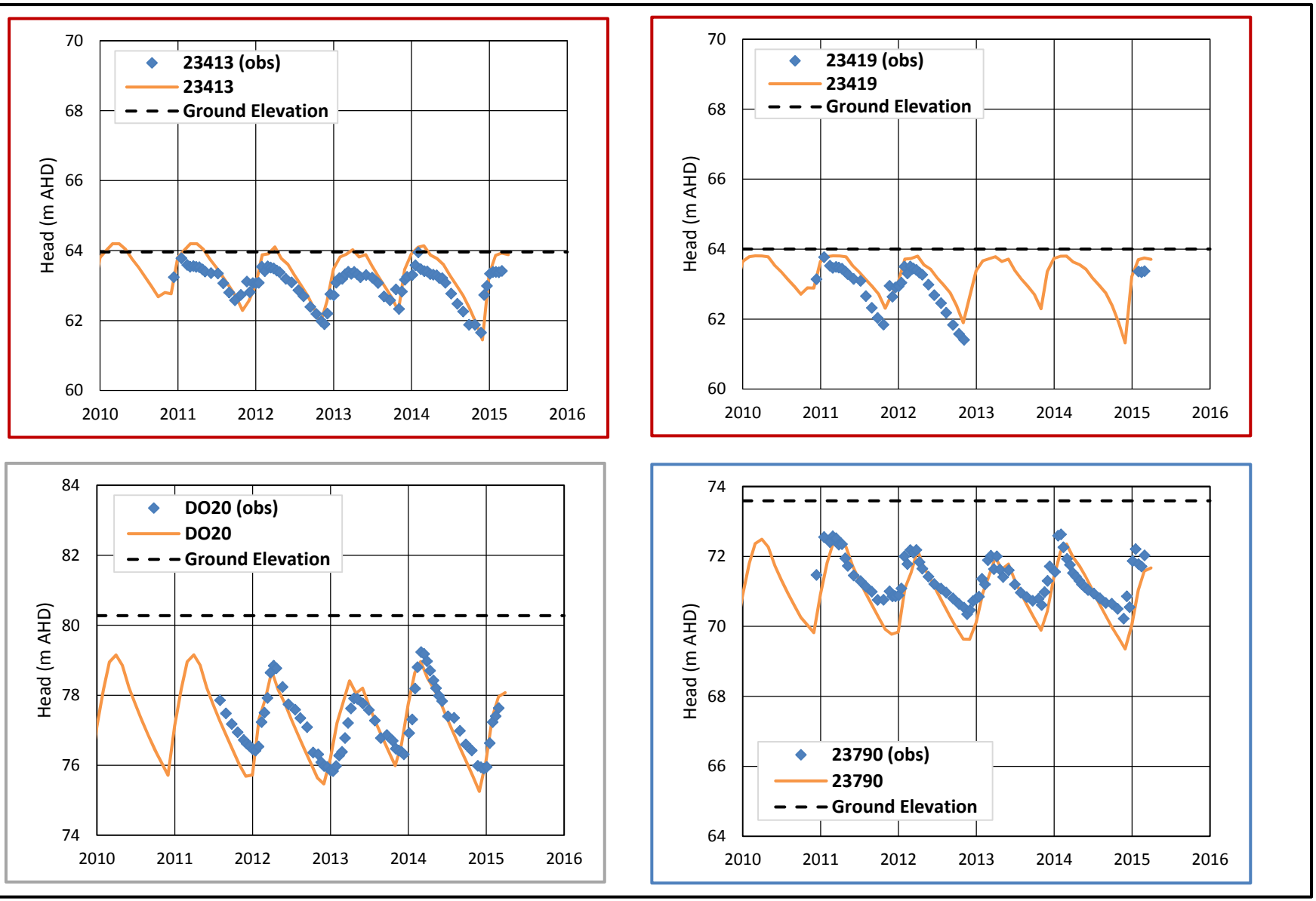
Client: Northern Territory Government, Department of Resources - Minerals and Energy	**Figure: 6-2b**
Project: Rum Jungle Rehabilitation Project	Project No: 183006
Report: RGC 183006/6	Last Update: May 31, 2016
Rum Jungle Mine Site, NT, Australia	Drawn: L.R.
Original File: Figure6-2b_RJ_CalibrationStats_Wet_Jan2016.mxd	



Observed vs Simulated Heads for Dyson's Area

Client: Northern Territory Government, Department of Resources - Minerals and Energy	Figure: 6-3
Rum Jungle Rehabilitation Planning	Project No: 183006
Report No: 183006/6	Last Update : 27 May 2016
Original File: Section 6 Figures.pptx	

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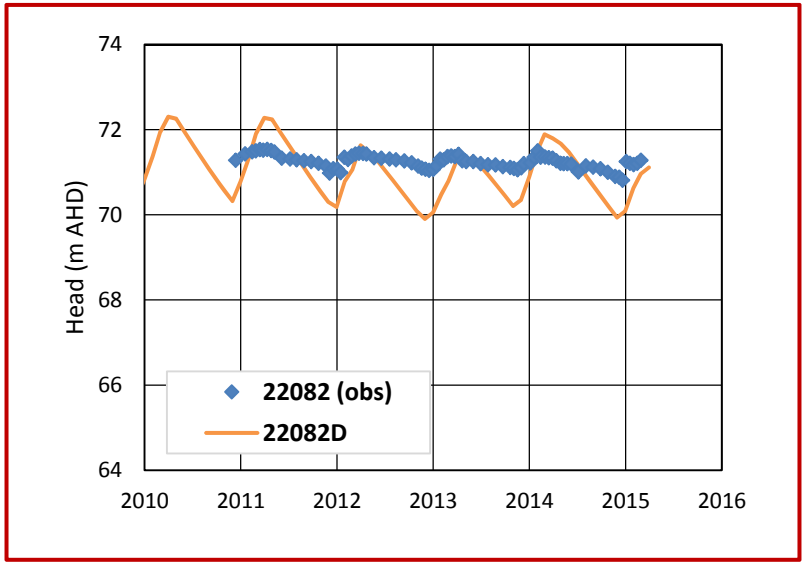

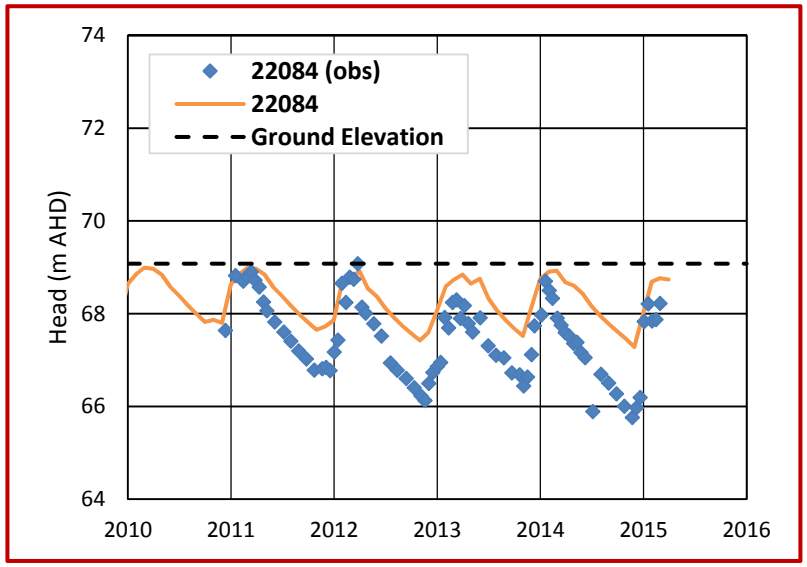

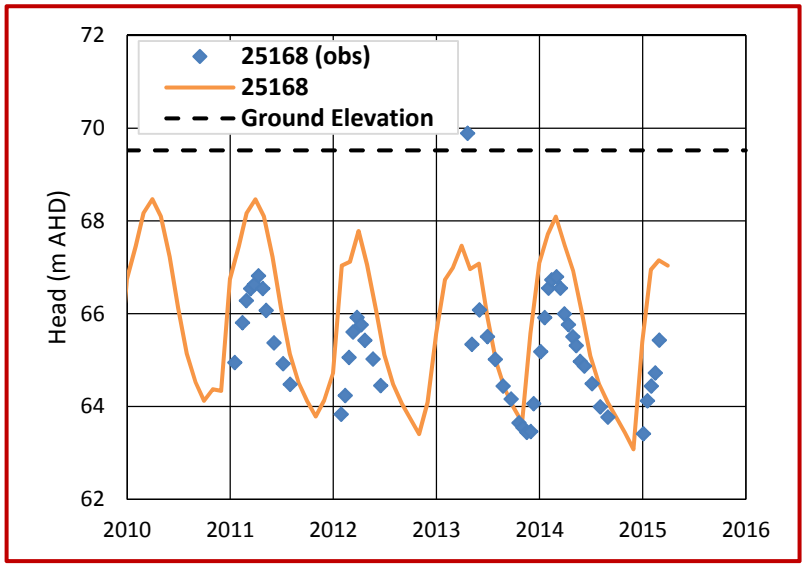

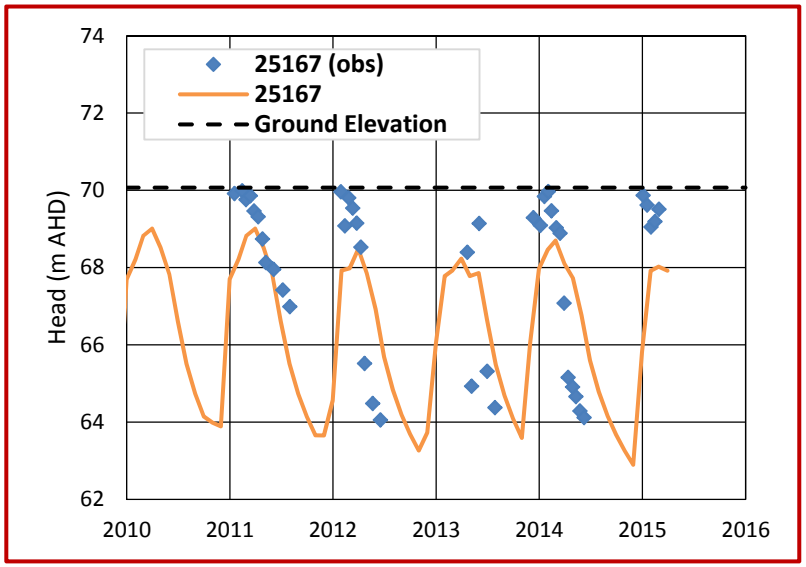

Observed vs Simulated Heads for Main and Intermediate WRD Area

Client: Northern Territory Government, Department of Resources - Minerals and Energy	Figure: 6-4
Rum Jungle Rehabilitation Planning	Project No: 183006
Report No: 183006/6	Last Update : 27 May 2016
Original File: Section 6 Figures.pptx	

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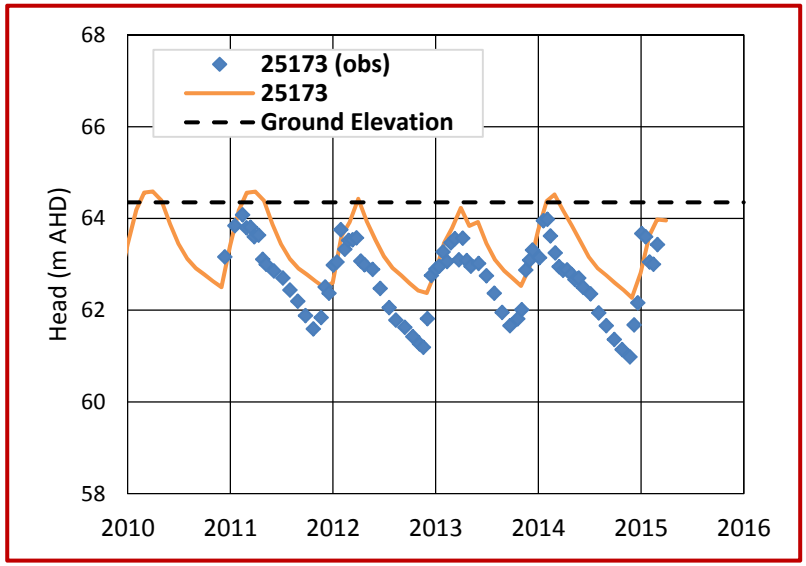

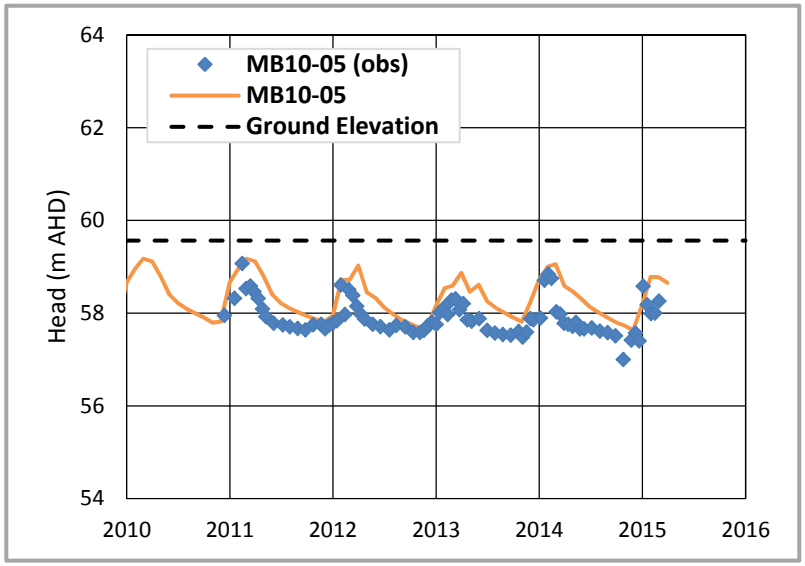

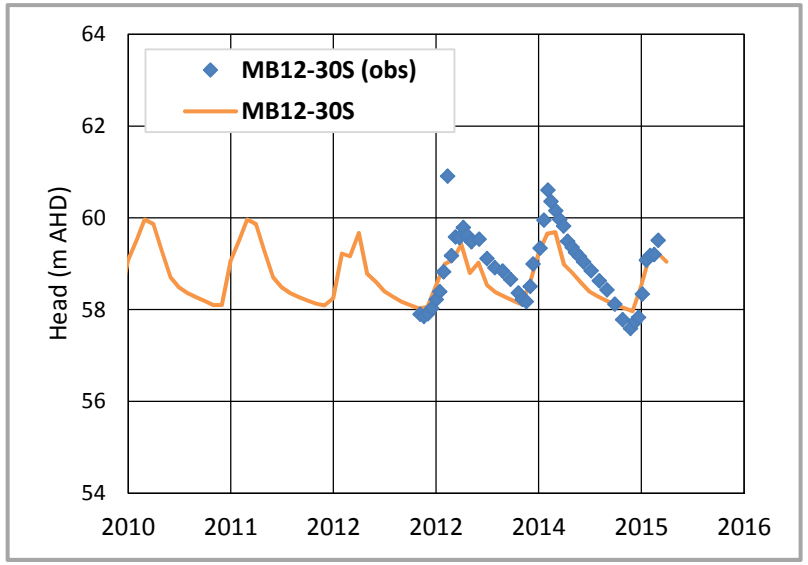

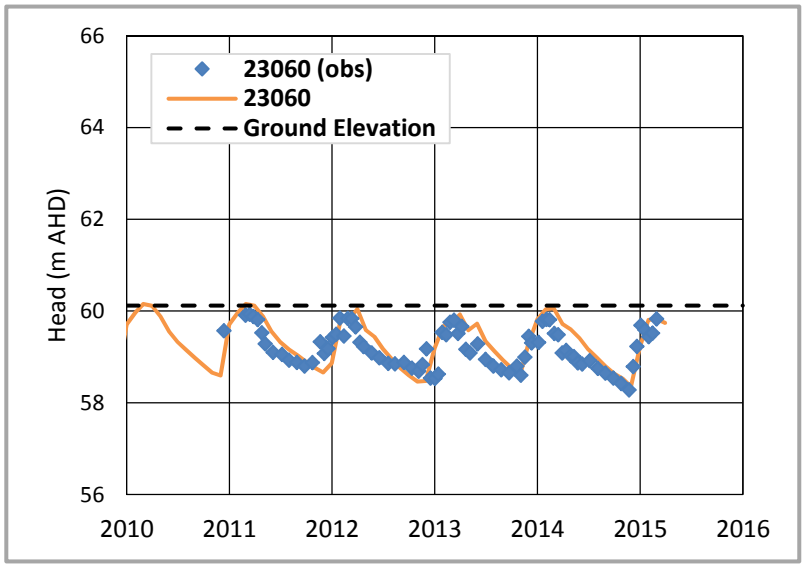

Observed vs Simulated Heads between Main and Intermediate WRD Area

Client: Northern Territory Government, Department of Resources - Minerals and Energy	Figure: 6-5
Rum Jungle Rehabilitation Planning	Project No: 183006
Report No: 183006/6	Last Update : 27 May 2016
Original File: Section 6 Figures.pptx	

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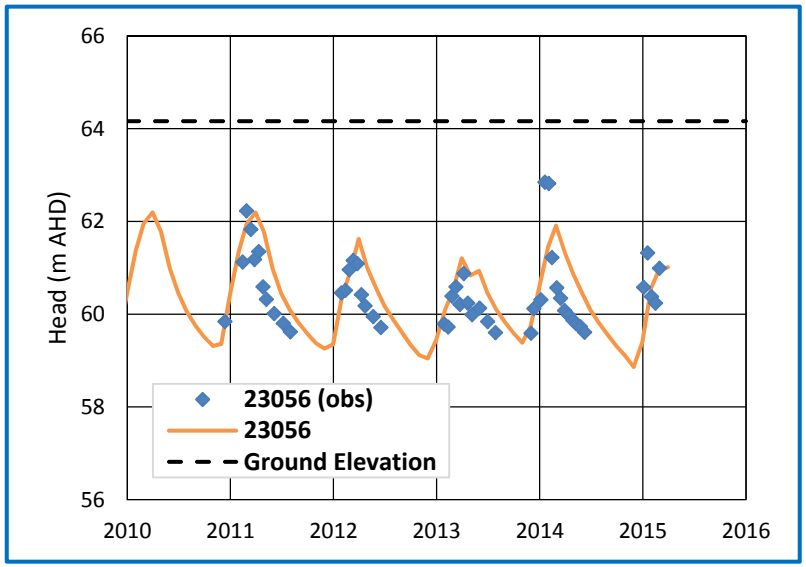

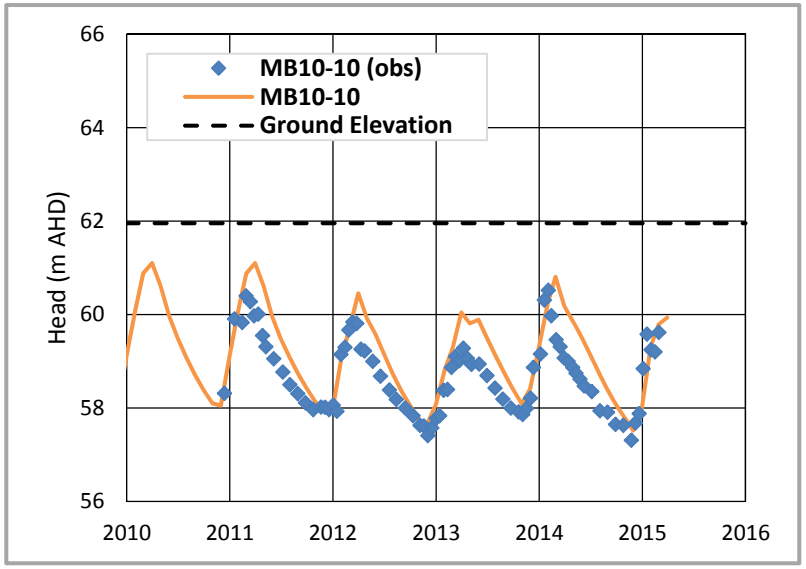

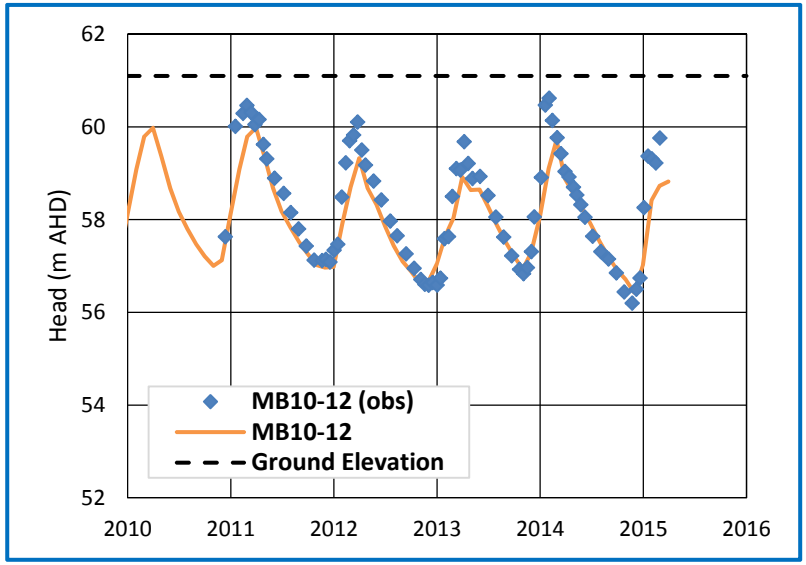

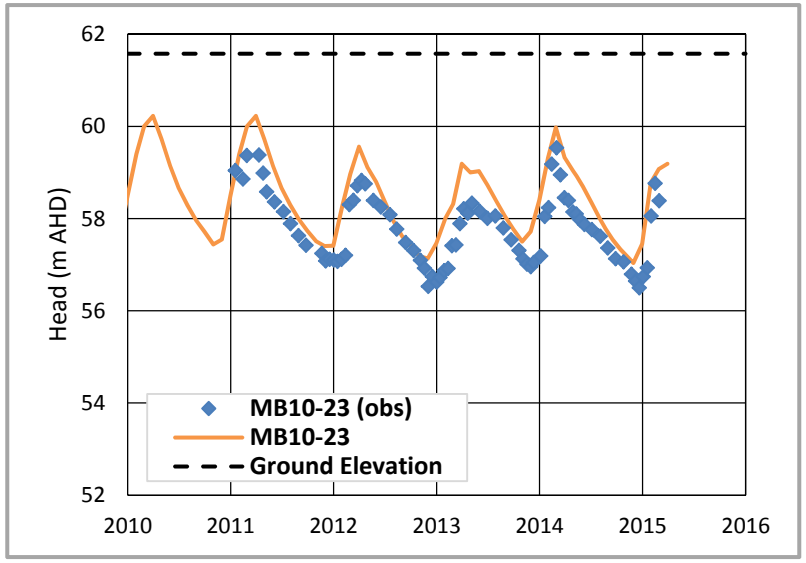

Observed vs Simulated Heads for Central Mining Area

Client: Northern Territory Government, Department of Resources - Minerals and Energy	Figure: 6-6
Rum Jungle Rehabilitation Planning	Project No: 183006
Report No: 183006/6	Last Update : 27 May 2016
Original File: Section 6 Figures.pptx	

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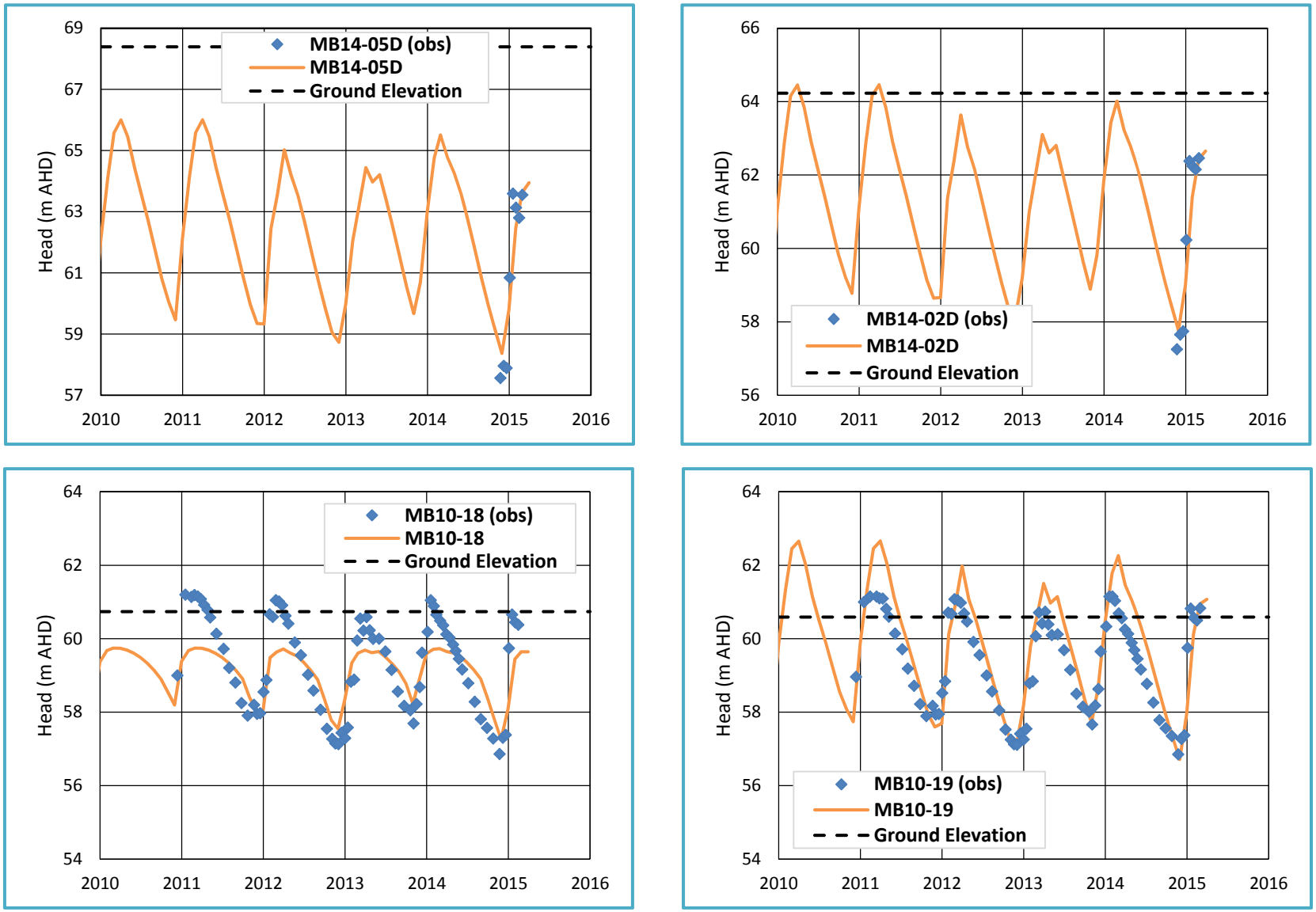

Observed vs Simulated Heads for Old Tailings Dam Area

Client: Northern Territory Government, Department of Resources - Minerals and Energy	Figure: 6-7
Rum Jungle Rehabilitation Planning	Project No: 183006
Report No: 183006/6	Last Update : 27 May 2016
Original File: Section 6 Figures.pptx	

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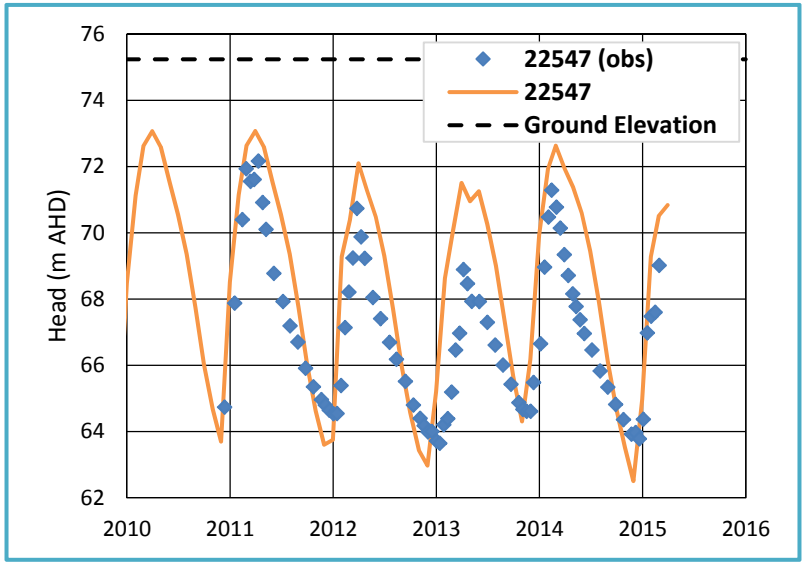

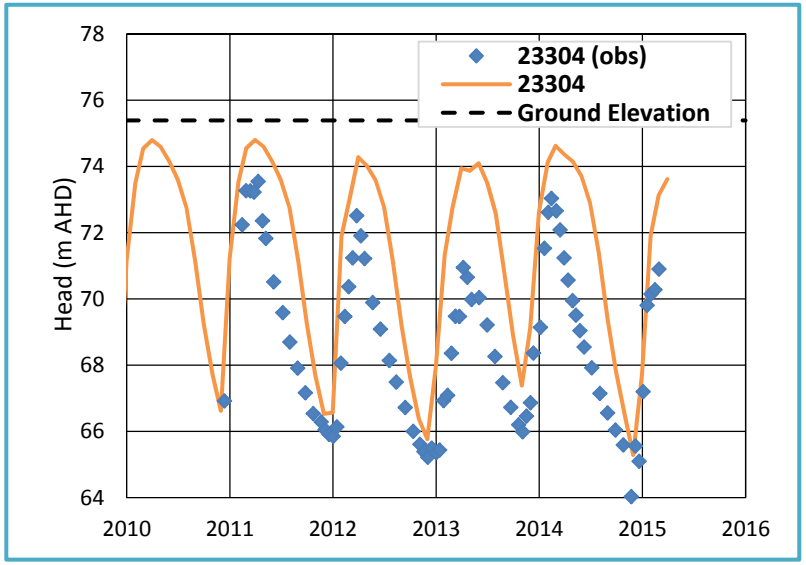

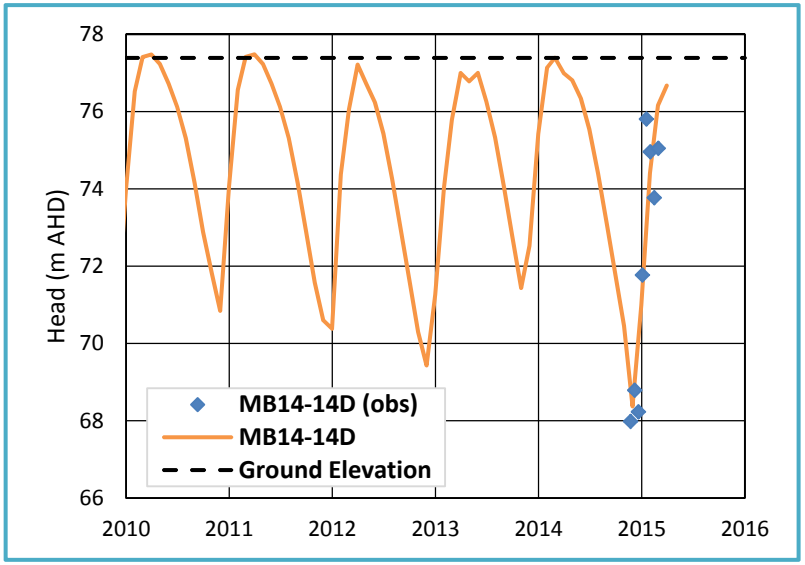

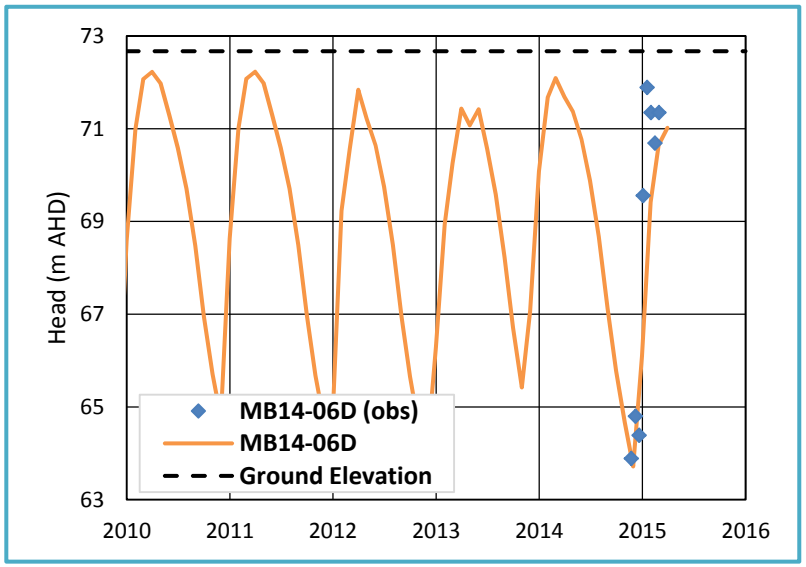

Observed vs Simulated Heads for North-Eastern Area

Client: Northern Territory Government, Department of Resources - Minerals and Energy	Figure: 6-8
Rum Jungle Rehabilitation Planning	Project No: 183006
Report No: 183006/6	Last Update : 27 May 2016
Original File: Section 6 Figures.pptx	

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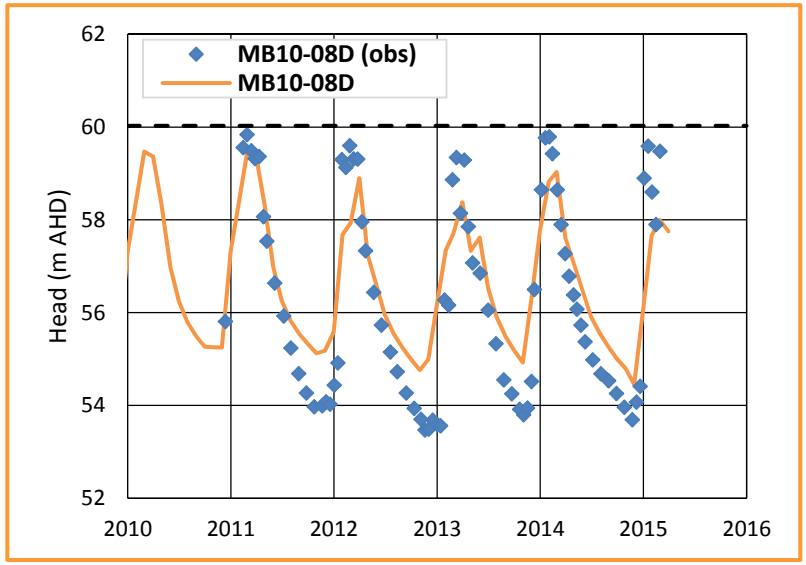

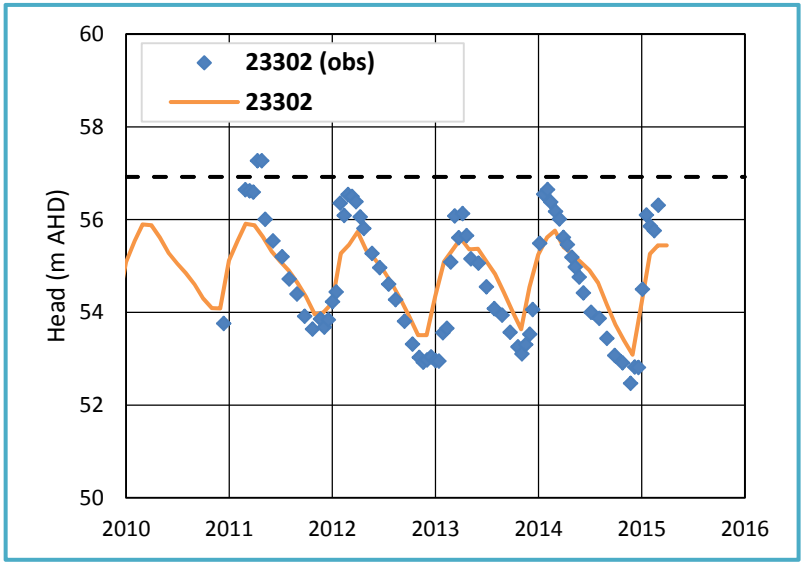

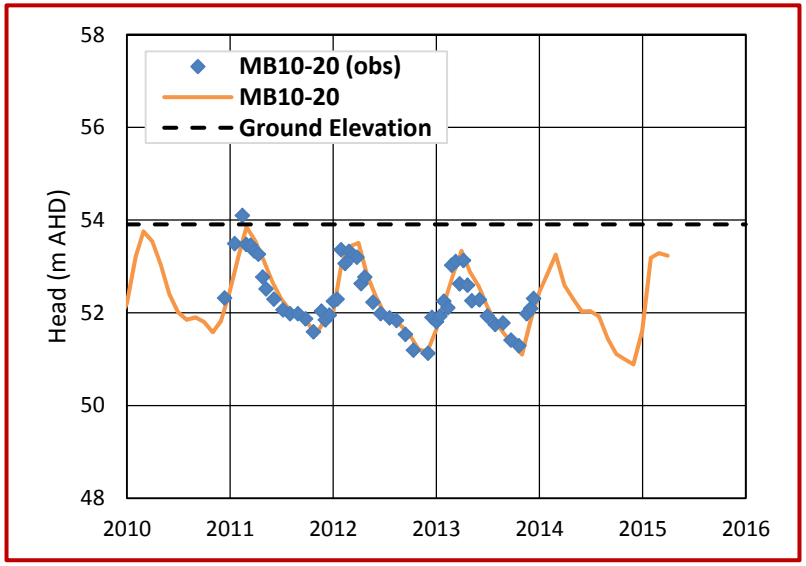

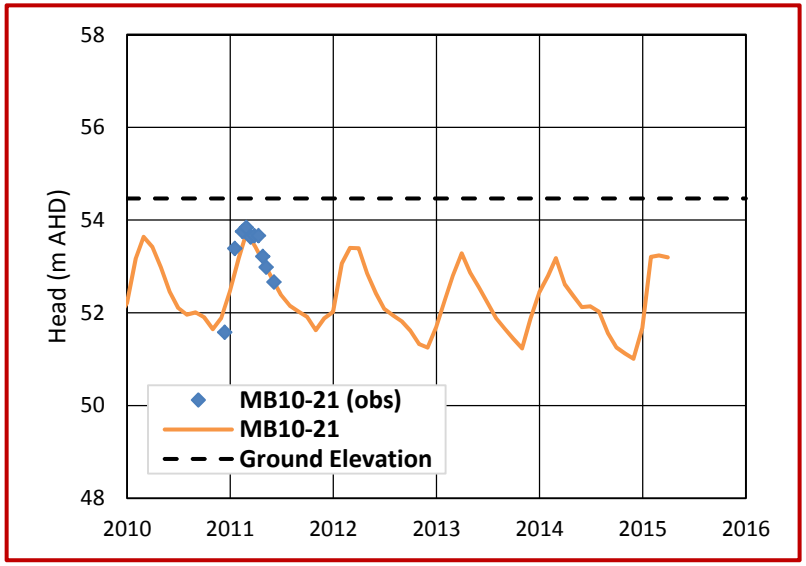

Observed vs Simulated Heads
South and West of Old Tailings Dam Area

Client: Northern Territory Government, Department of Resources - Minerals and Energy	**Figure: 6-9**
Rum Jungle Rehabilitation Planning	Project No: 183006
Report No: 183006/6	Last Update : 27 May 2016
Original File: Section 6 Figures.pptx	

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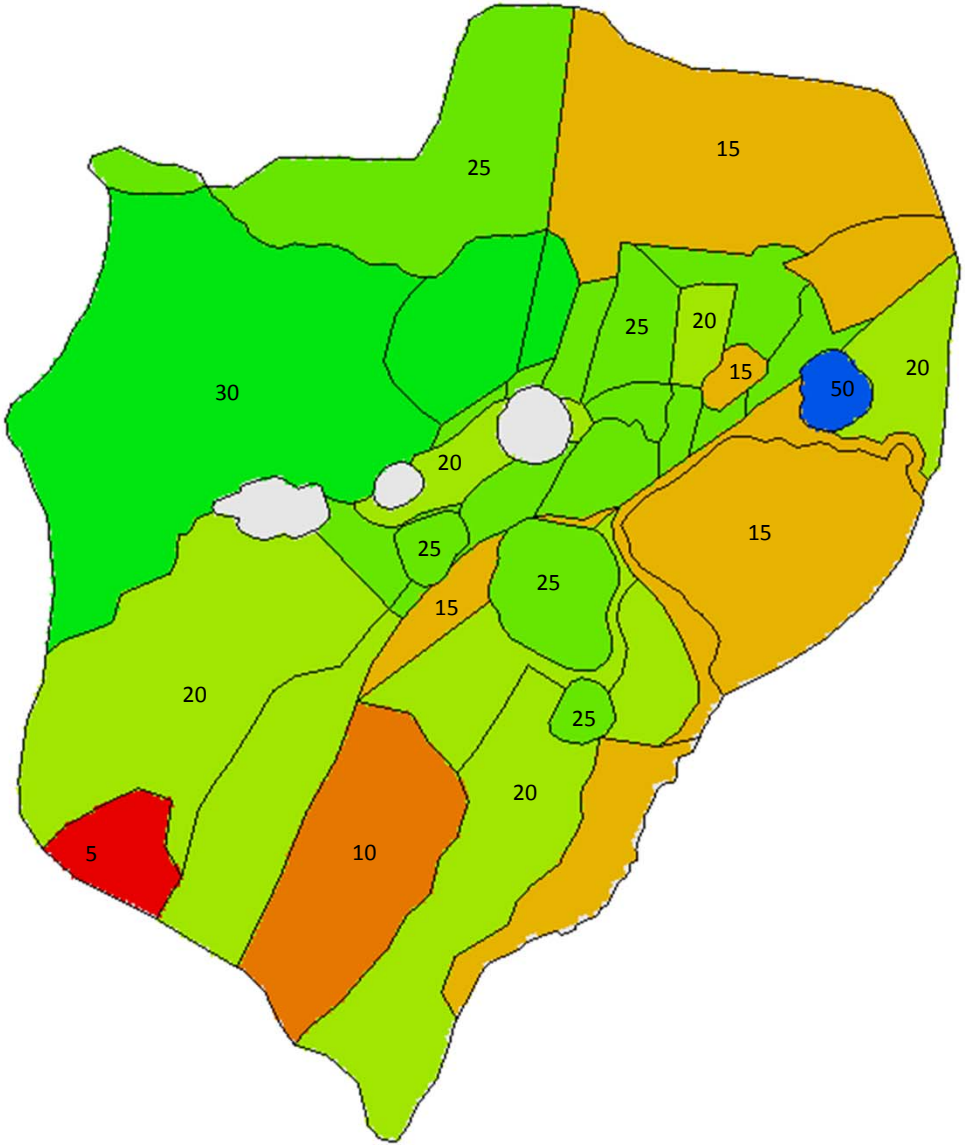

Model Recharge Zones

Recharge as a Percentage of Incident Precipitation

Client: Northern Territory Government, Department of Resources - Minerals and Energy	**Figure: 6-10**
Rum Jungle Rehabilitation Planning	Project No: 183006
Report No: 183006/6	Last Update: 7 Dec 2015
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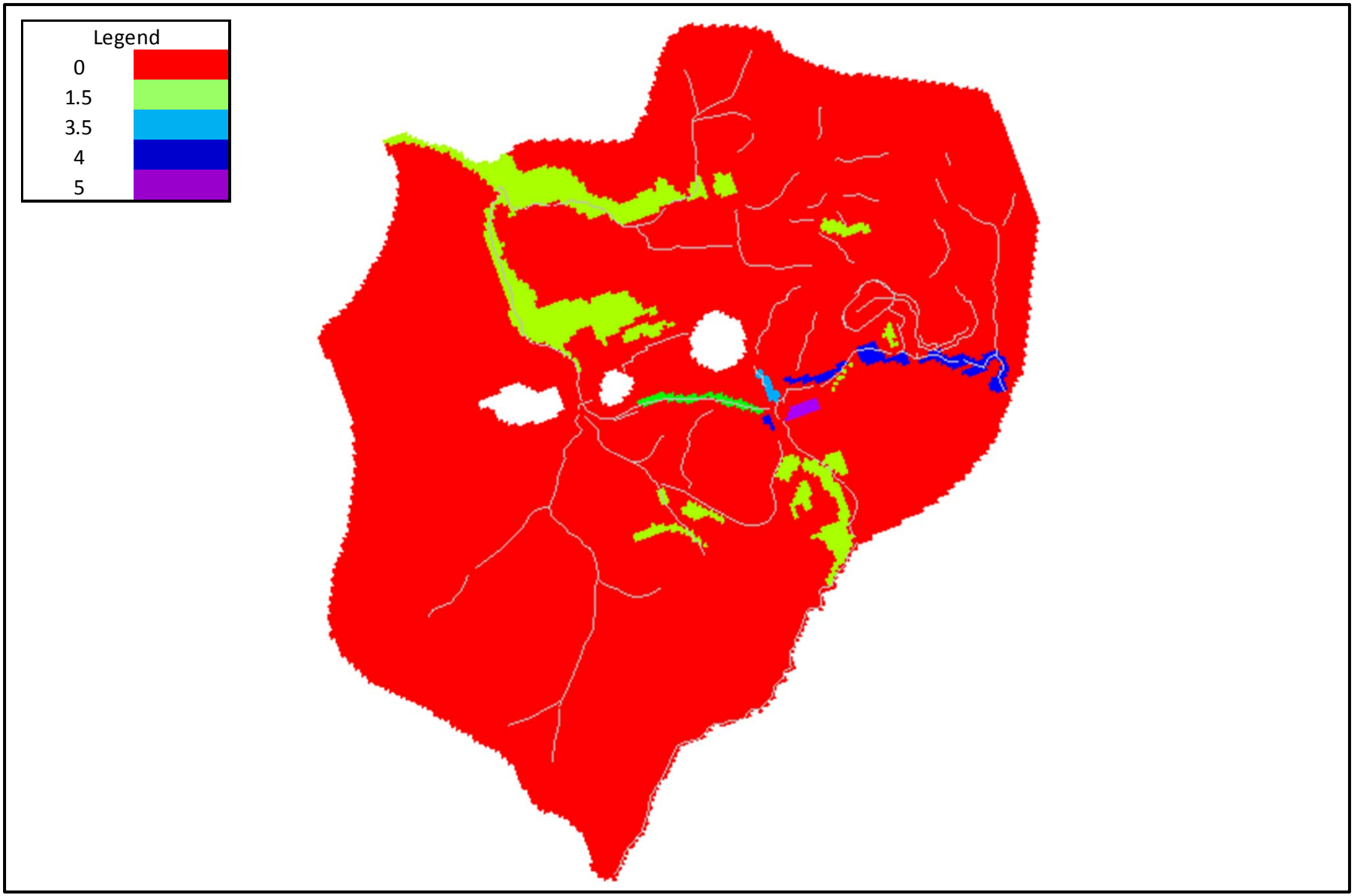

Model Evapotranspiration Zones
(mm/d)

Client: Northern Territory Government, Department of Resources - Minerals and Energy	**Figure: 6-11**
Rum Jungle Rehabilitation Planning	Project No: 183006
Report No: 183006/6	Last Update: 8 Dec 2015
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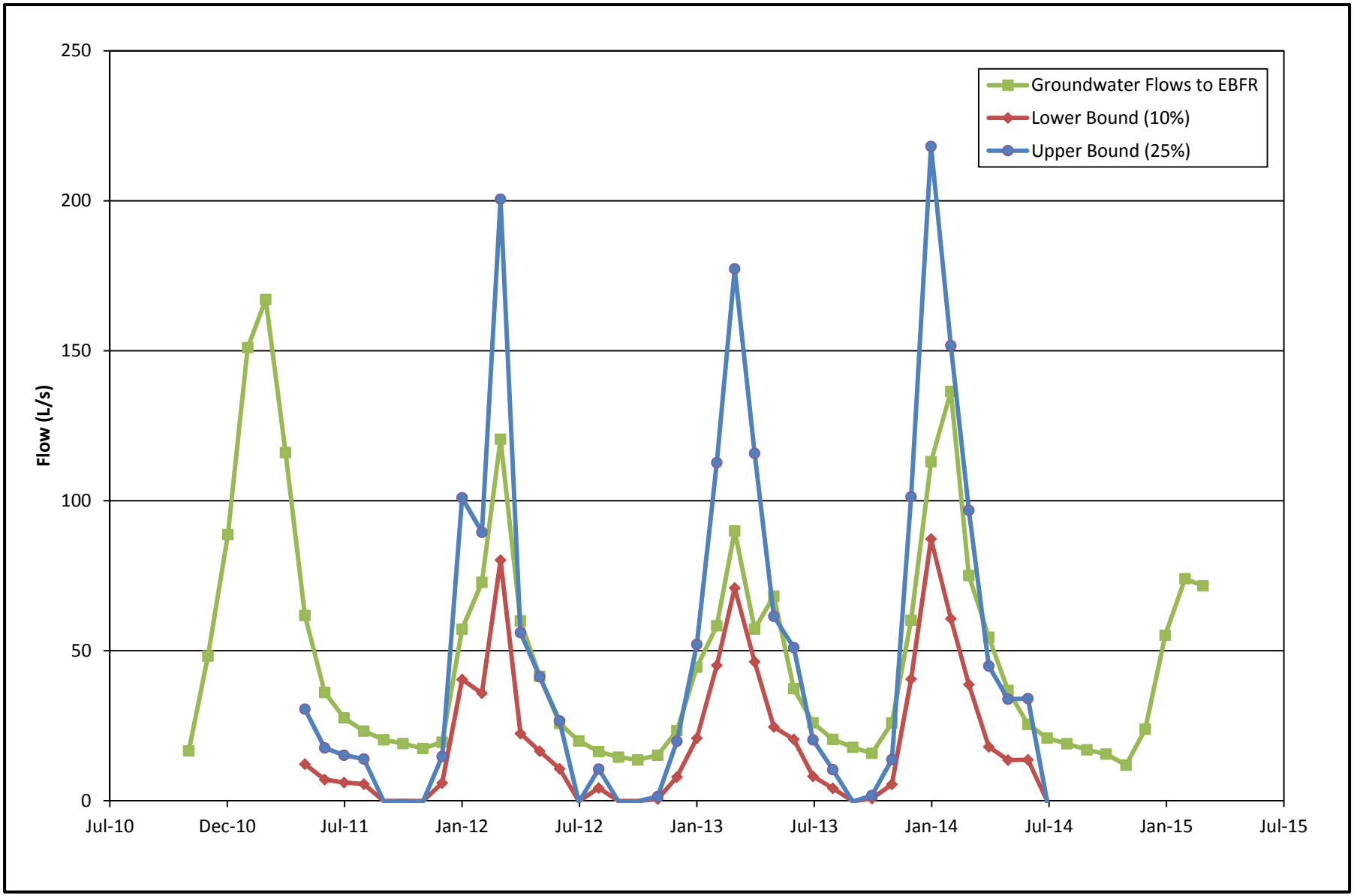

Simulated Flow to the East Branch of the Finniss River vs Flow Targets

Client: Northern Territory Government, Department of Resources - Minerals and Energy	**Figure: 6-12**
Rum Jungle Rehabilitation Planning	Project No: 183006
Report No: 183006/6	Last Update: 27 May 2016
Original File: Section 6 Figures.pptx	

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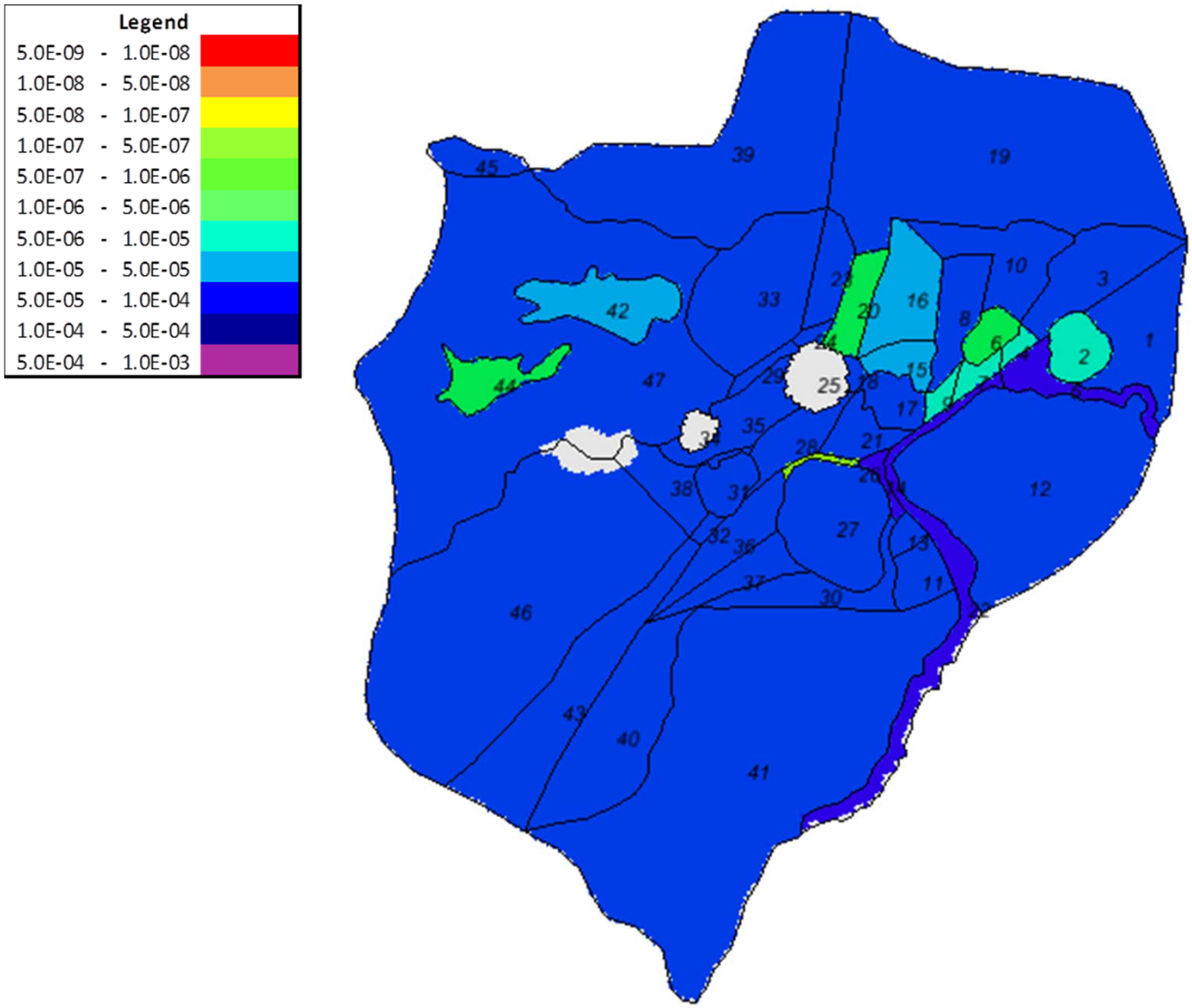

Layer 1 Model K Zones (m/s)

Client: Northern Territory Government, Department of Resources - Minerals and Energy	**Figure: 6-13a**
Rum Jungle Rehabilitation Planning	Project No: 183006
Report No: 183006/6	Last Update: 6 Dec 2015
Original File: Section 6 Figures.pptx	

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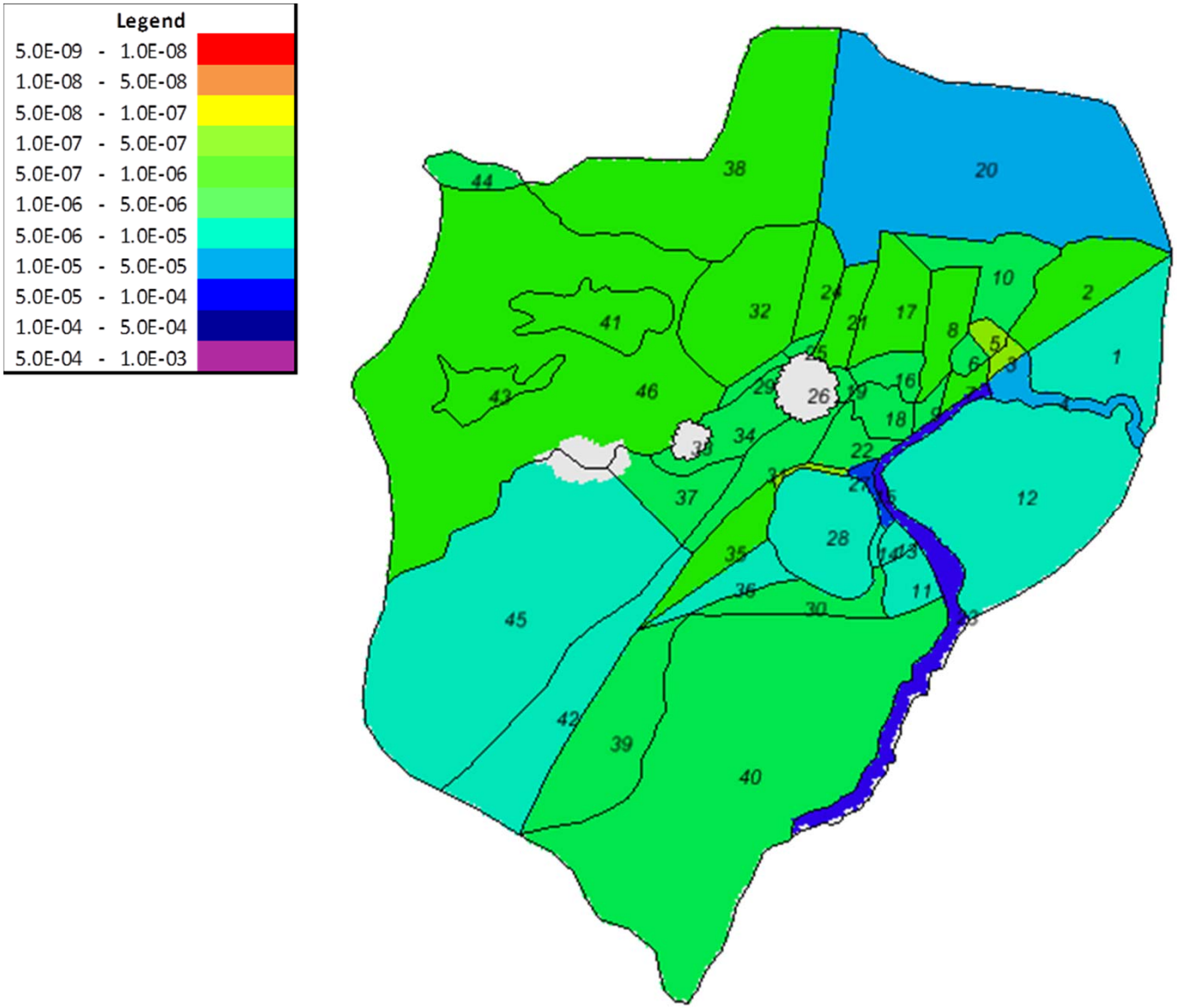

Layer 2 Model K Zones (m/s)

Client: Northern Territory Government, Department of Resources - Minerals and Energy	**Figure: 6-13b**
Rum Jungle Rehabilitation Planning	Project No: 183006
Report No: 183006/6	Last Update: 6 Dec 2015
Original File: Section 6 Figures.pptx	

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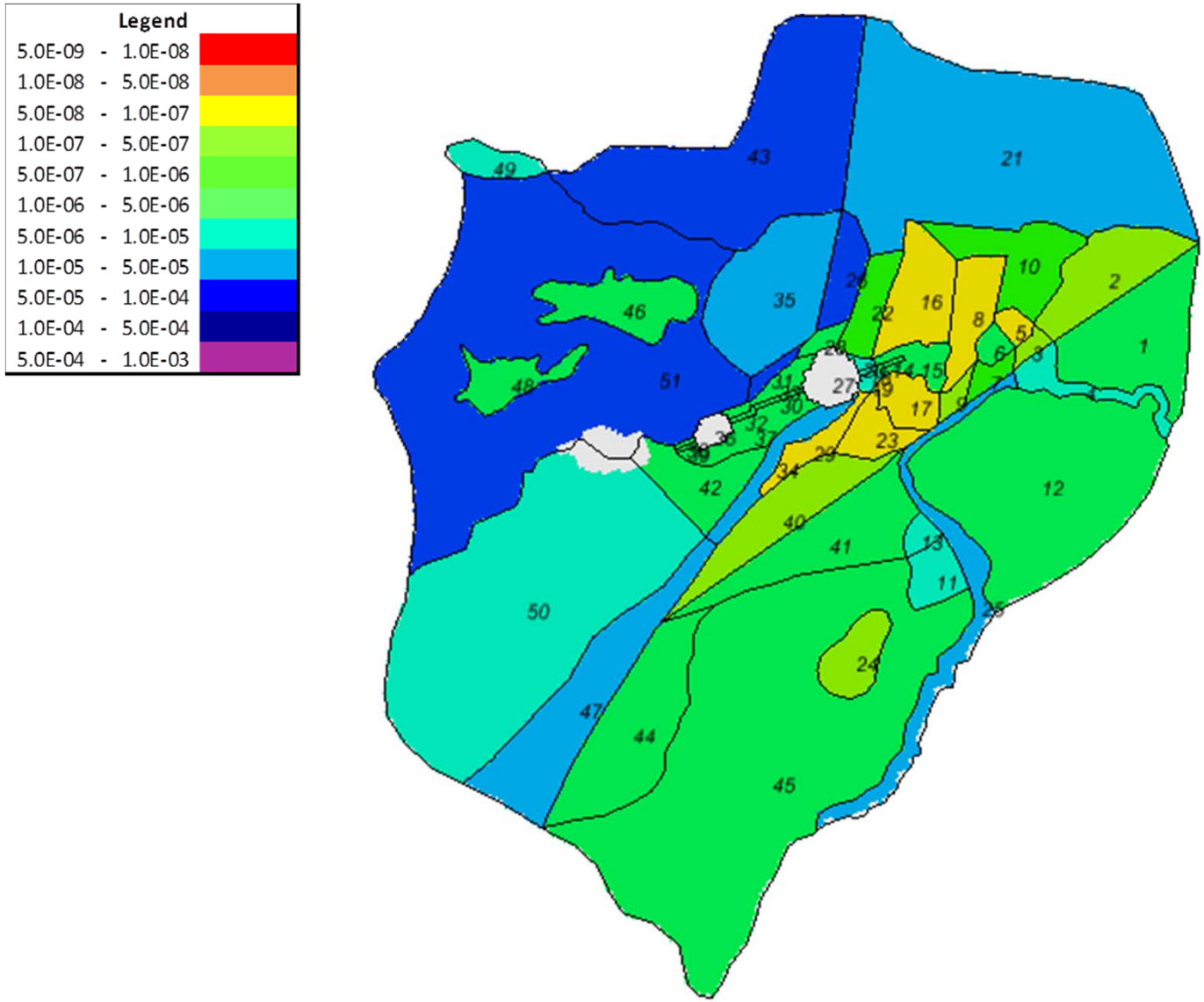

Layer 3 Model K Zones (m/s)

Client: Northern Territory Government, Department of Resources - Minerals and Energy	**Figure: 6-13c**
Rum Jungle Rehabilitation Planning	Project No: 183006
Report No: 183006/6	Last Update: 6 Dec 2015
Original File: Section 6 Figures.pptx	

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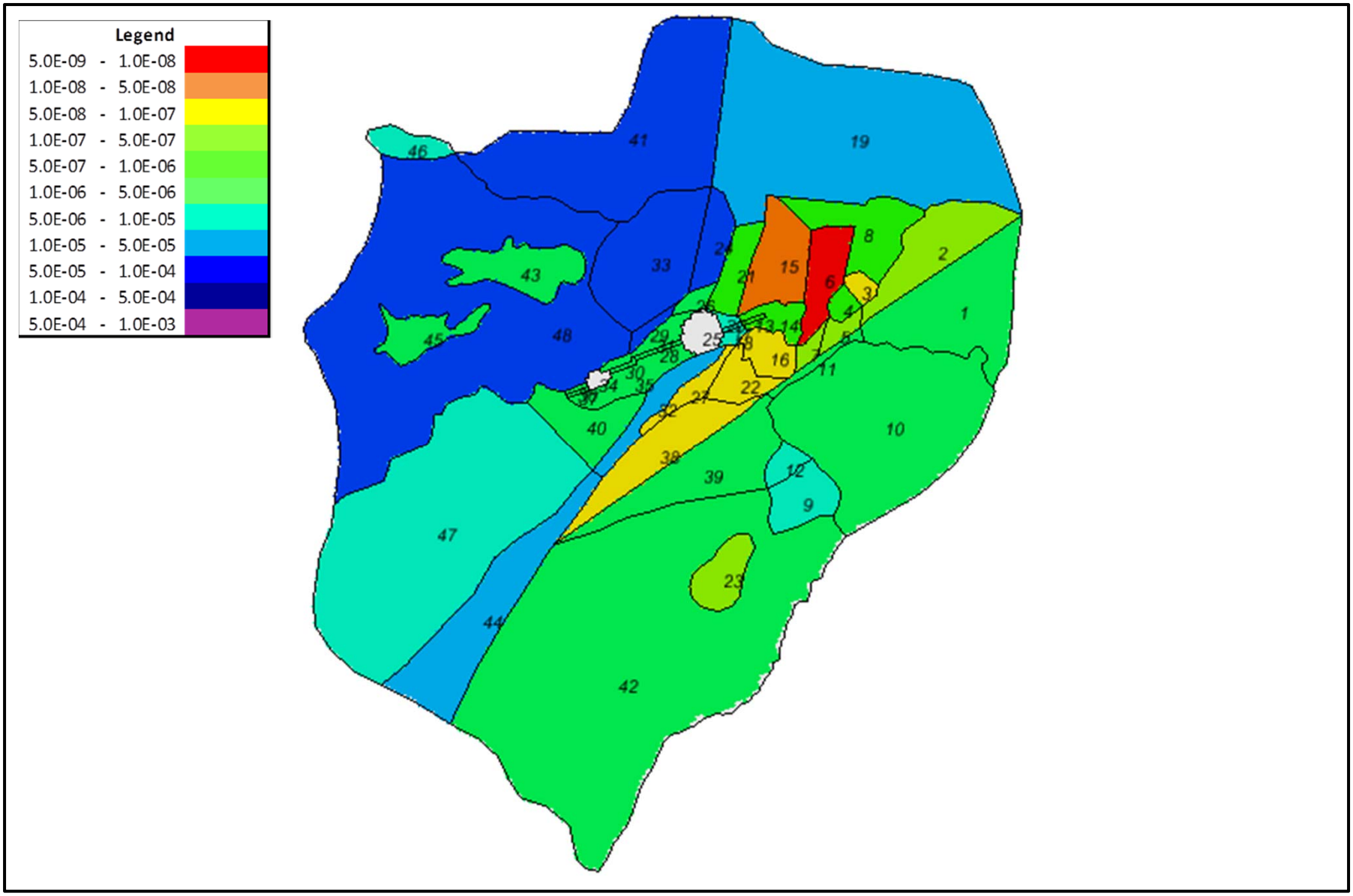

Layer 4 Model K Zones (m/s)

Client: Northern Territory Government, Department of Resources - Minerals and Energy	**Figure: 6-13d**
Rum Jungle Rehabilitation Planning	Project No: 183006
Report No: 183006/6	Last Update: 6 Dec 2015
Original File: Section 6 Figures.pptx	

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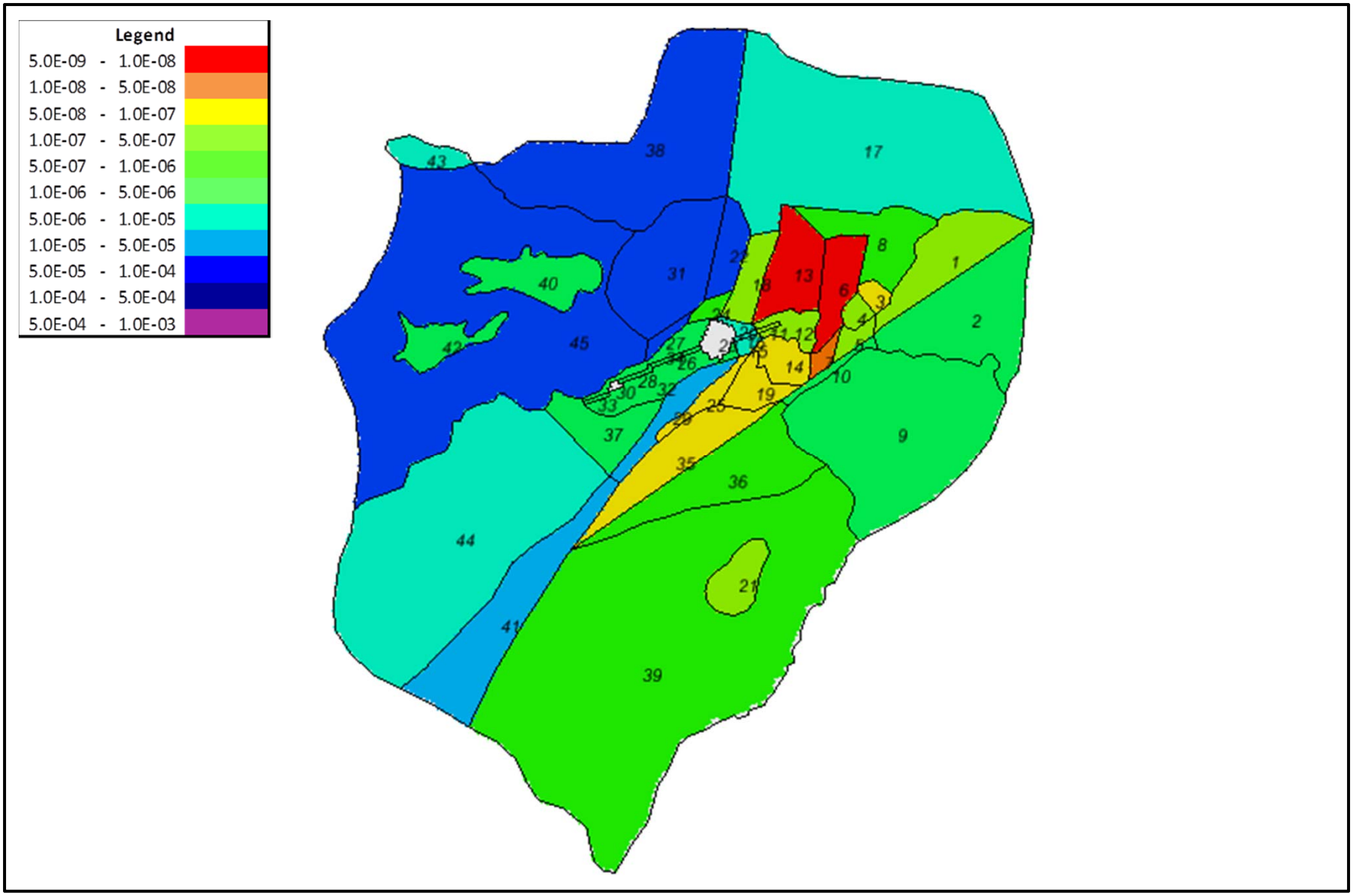

Layer 5 Model K Zones (m/s)

Client: Northern Territory Government, Department of Resources - Minerals and Energy	**Figure: 6-13e**
Rum Jungle Rehabilitation Planning	Project No: 183006
Report No: 183006/6	Last Update: 6 Dec 2015
Original File: Section 6 Figures.pptx	

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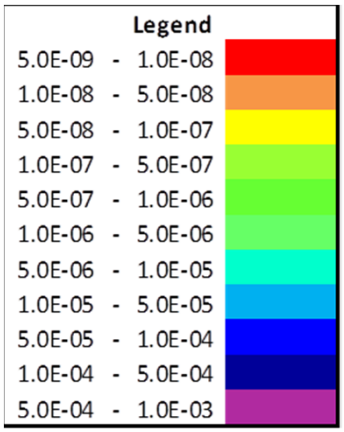

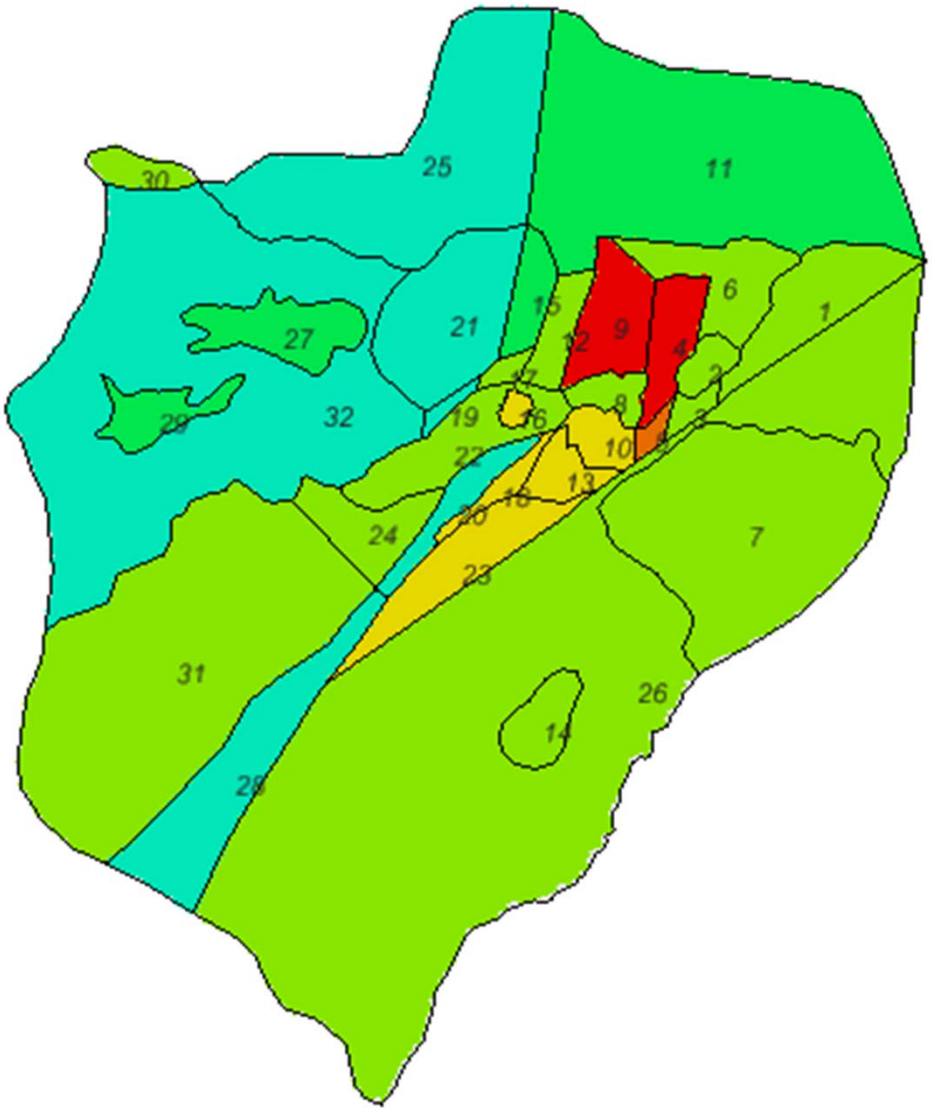

Layer 6 Model K Zones (m/s)

Client: Northern Territory Government, Department of Resources - Minerals and Energy	**Figure: 6-13f**
Rum Jungle Rehabilitation Planning	Project No: 183006
Report No: 183006/6	Last Update: 6 Dec 2015
Original File: Section 6 Figures.pptx	

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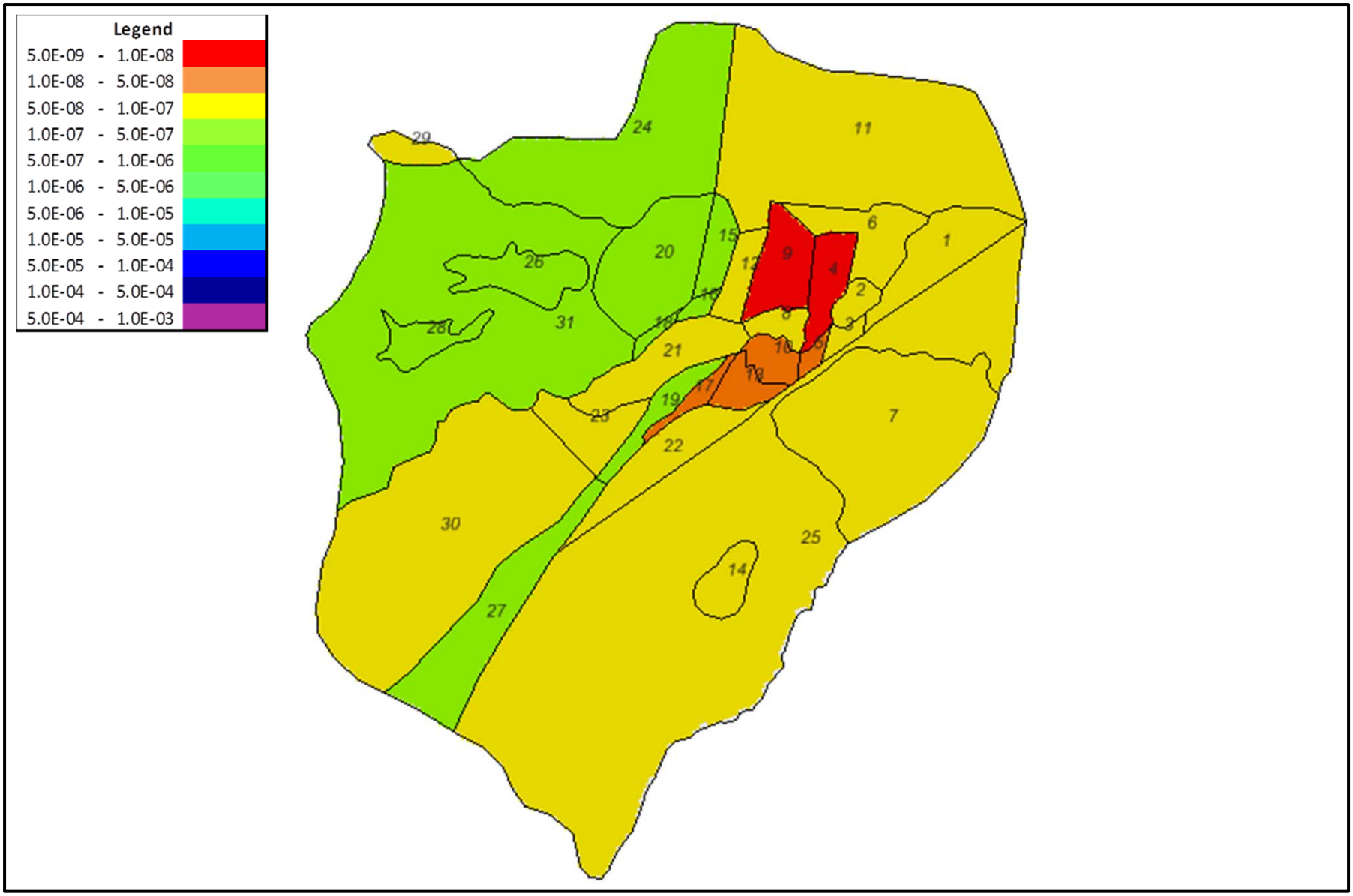

Layer 7 Model K Zones (m/s)

Client: Northern Territory Government, Department of Resources - Minerals and Energy	**Figure: 6-13g**
Rum Jungle Rehabilitation Planning	Project No: 183006
Report No: 183006/6	Last Update: 6 Dec 2015
Original File: Section 6 Figures.pptx	

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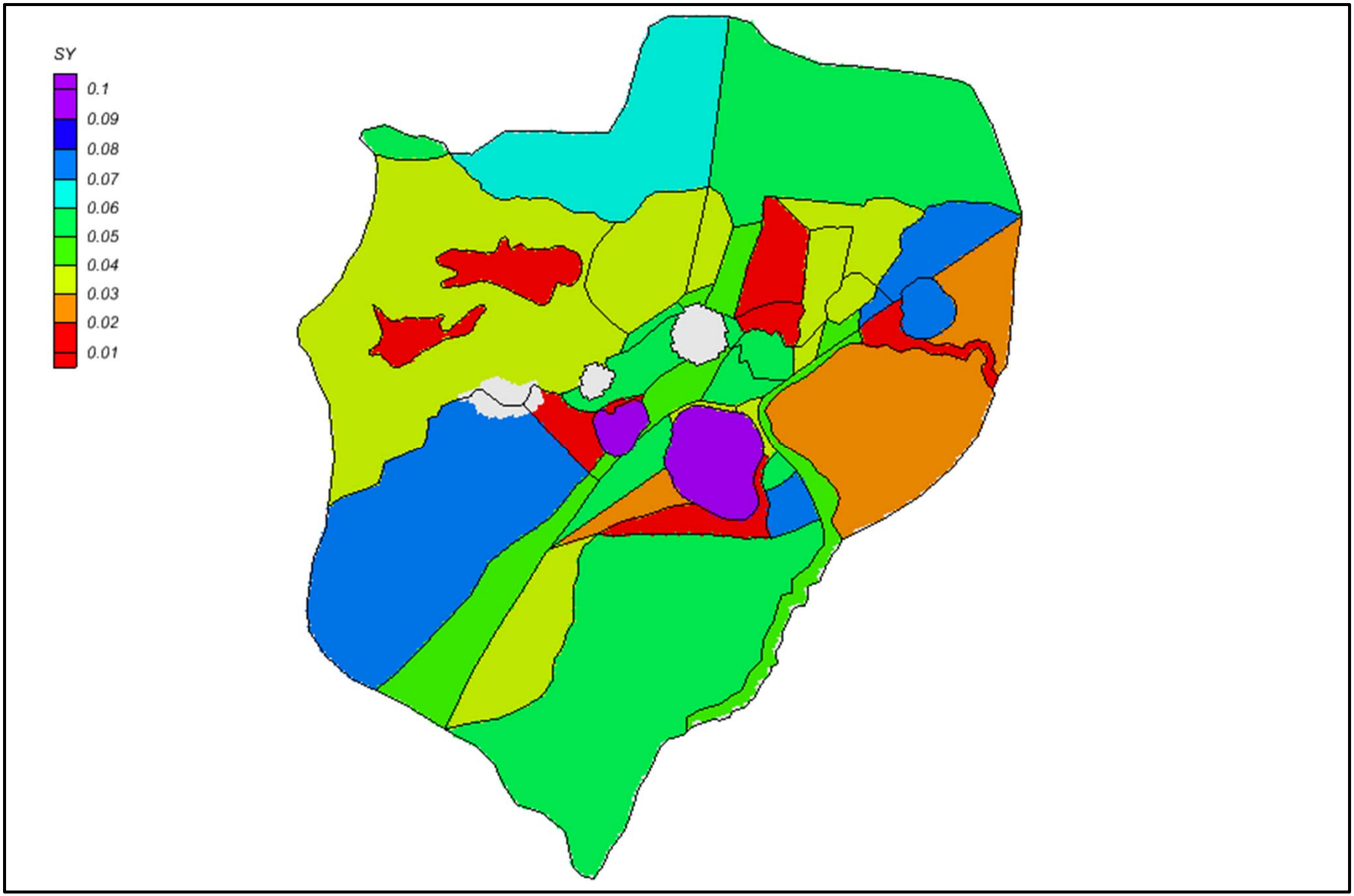

Layer 1 Model Specific Yield (S_y)

Client: Northern Territory Government, Department of Resources - Minerals and Energy	**Figure: 6-14a**
Rum Jungle Rehabilitation Planning	Project No: 183006
Report No: 183006/6	Last Update: 6 Dec 2015
Original File: Section 6 Figures.pptx	

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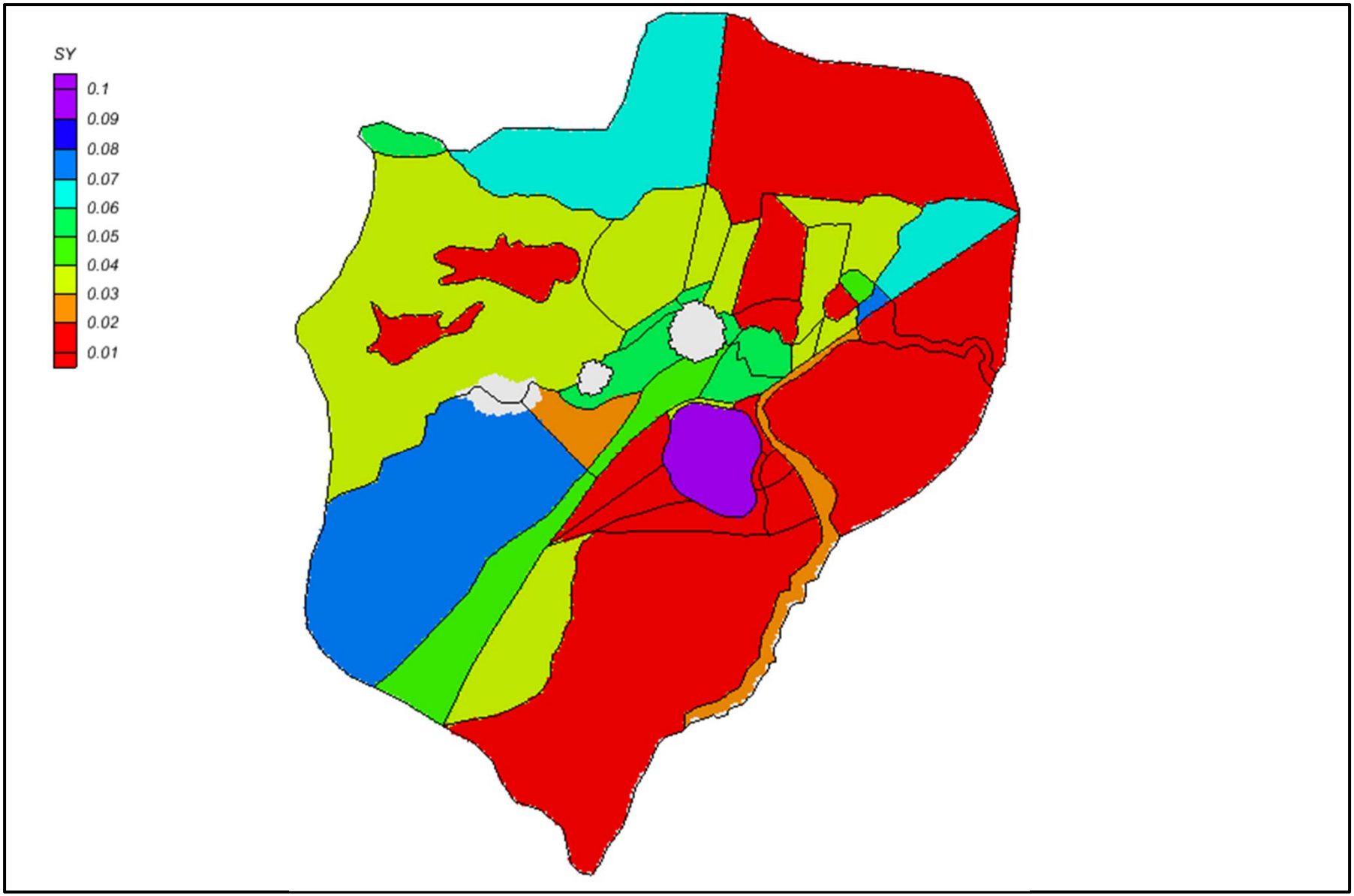

Layer 2 Model Specific Yield (S_y)

Client: Northern Territory Government, Department of Resources - Minerals and Energy	**Figure: 6-14b**
Rum Jungle Rehabilitation Planning	Project No: 183006
Report No: 183006/6	Last Update: 6 Dec 2015
Original File: Section 6 Figures.pptx	

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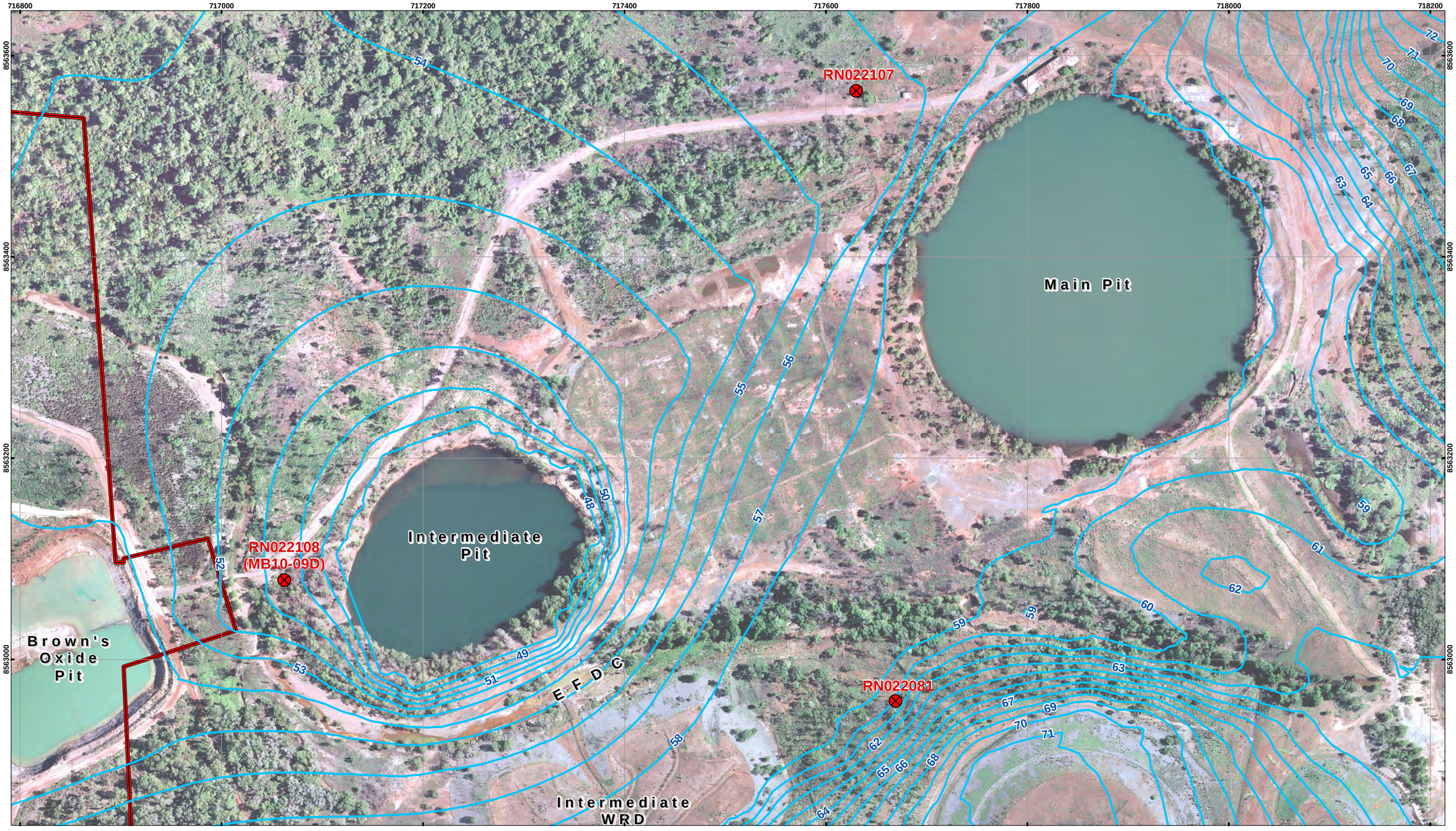

Simulated Groundwater Contours at End of 2008 Intermediate Pit Dewatering Trial

Rum Jungle Mine Site

Scale 1:3,500

0 50 100 200 Metres

Projection: GDA 1994 MGA Zone 52 (m)

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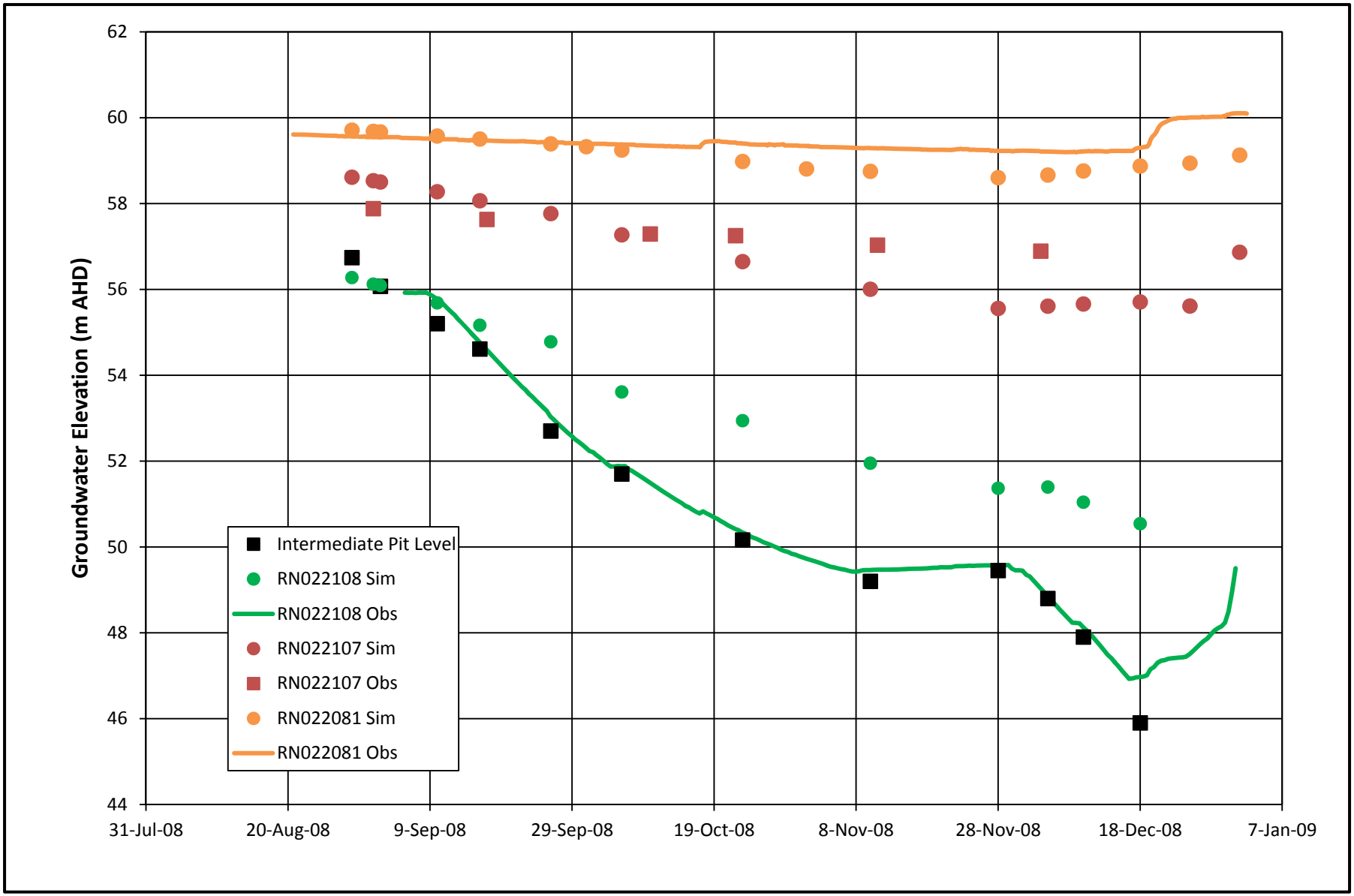
LEGEND

- Monitoring Bore
- Groundwater Elevation Contour

Client: Northern Territory Government, Department of Resources - Minerals and Energy	**Figure: 6-15**
Rum Jungle Rehabilitation Project	Project No: 183006
Report No: 183006/6	Last Update: May 31, 2016
Rum Jungle Mine Site, NT, Australia	Drawn: L.R.
Original File: Figure6-15_RJ_March2016.mxd	



Simulated and Observed Groundwater Trends for Intermediate Pit Dewatering Trial

Client: Northern Territory Government, Department of Resources - Minerals and Energy	Figure: 6-16
Rum Jungle Rehabilitation Planning	Project No: 183006
Report No: 183006/6	Last Update : 27 May 2016
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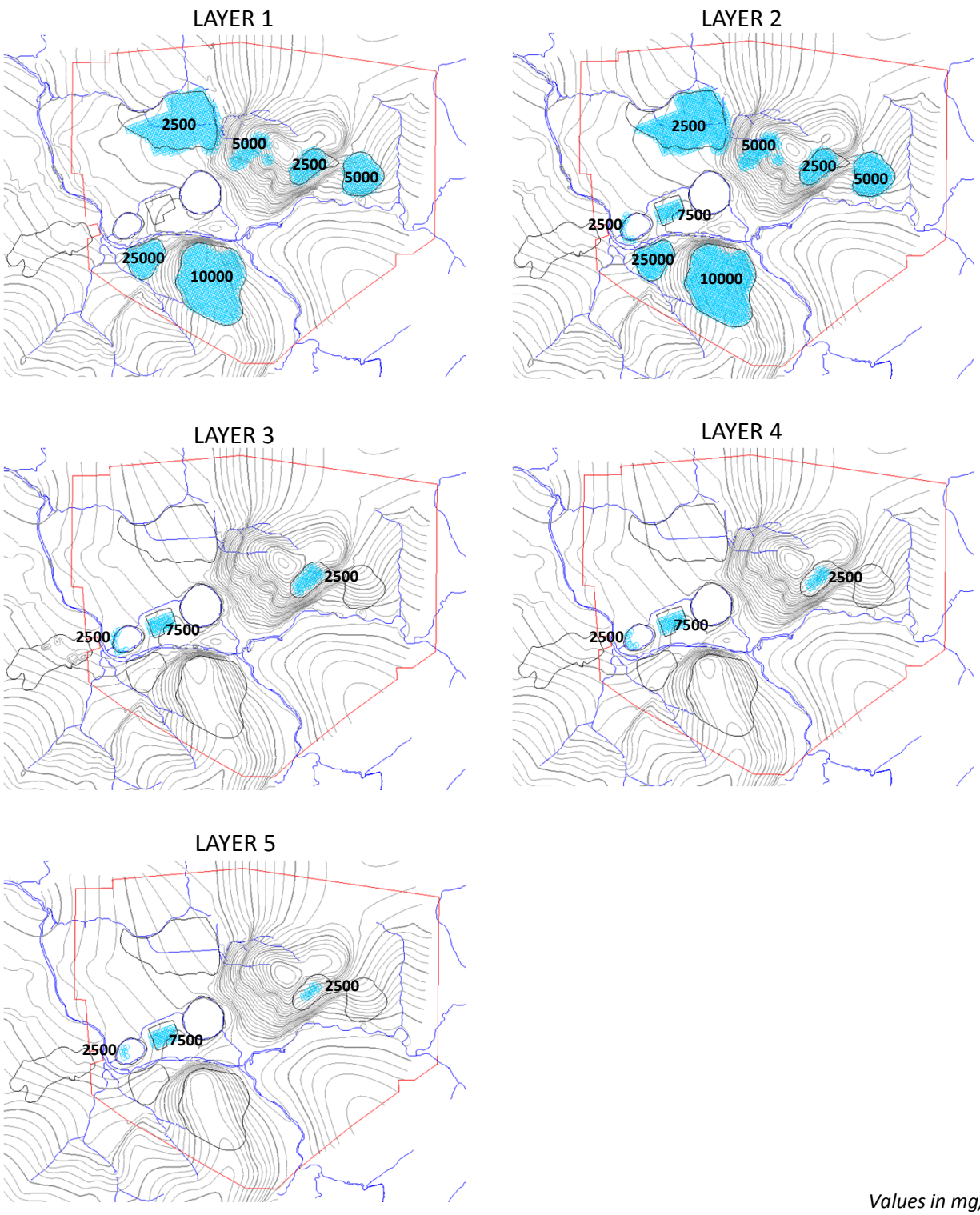

Values in mg/L

Sulphate Source Terms for Historic Transport Model

Client: Northern Territory Government, Department of Resources - Minerals and Energy	**Figure: 7-1a**
Project: Las Tortolas Phase 2 Work	Project No: 183006
Report No: 183006/6	Last Update: Jun 06, 2016
Original File: SO4 June 3.pptx	

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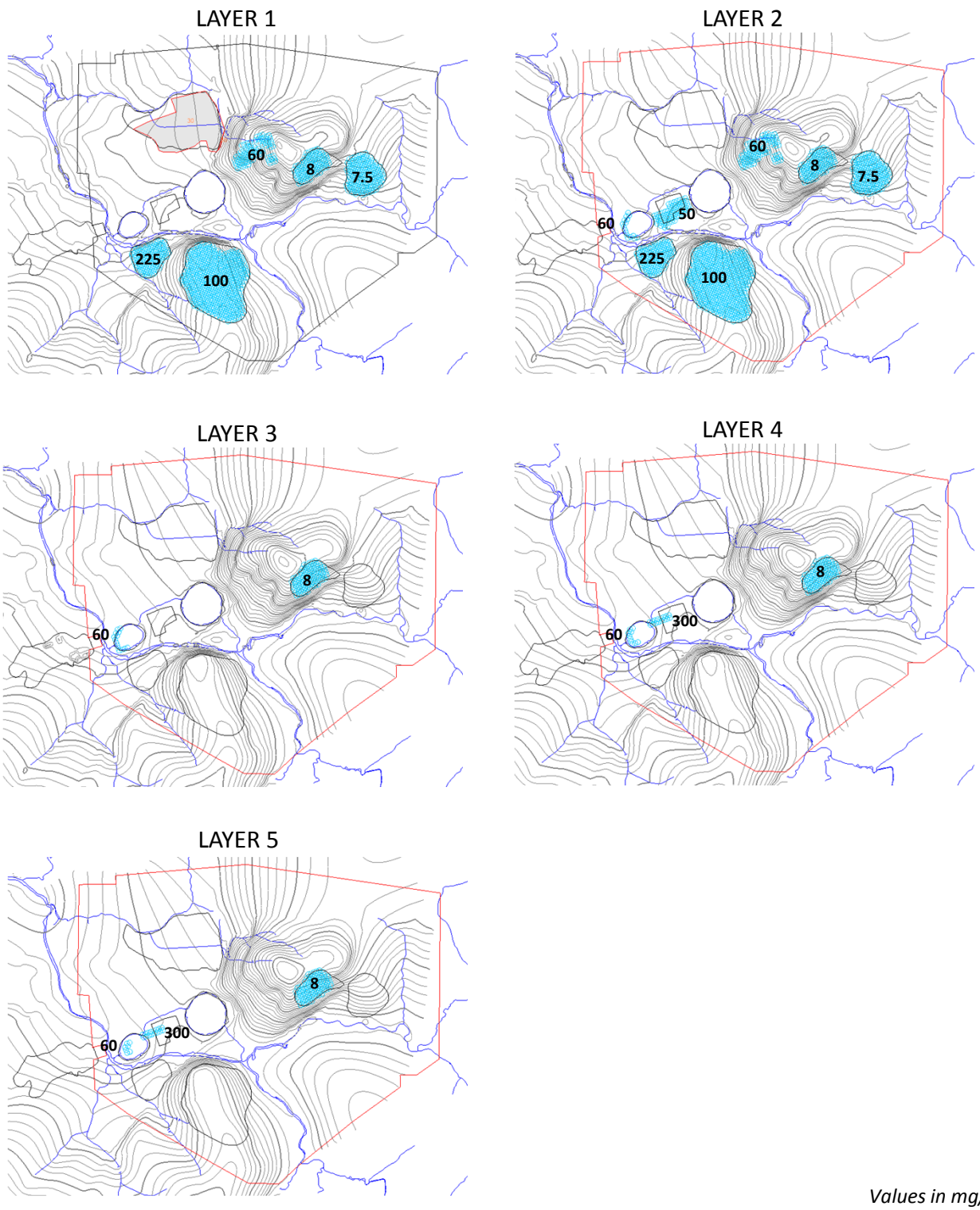

Copper Source Terms for Historic Transport Model

Client: Northern Territory Government, Department of Resources - Minerals and Energy	**Figure: 7-1b**
Project: Las Tortolas Phase 2 Work	Project No: 183006
Report No: 183006/6	Last Update: Jun 06, 2016
Original File: Cu June 2.pptx	

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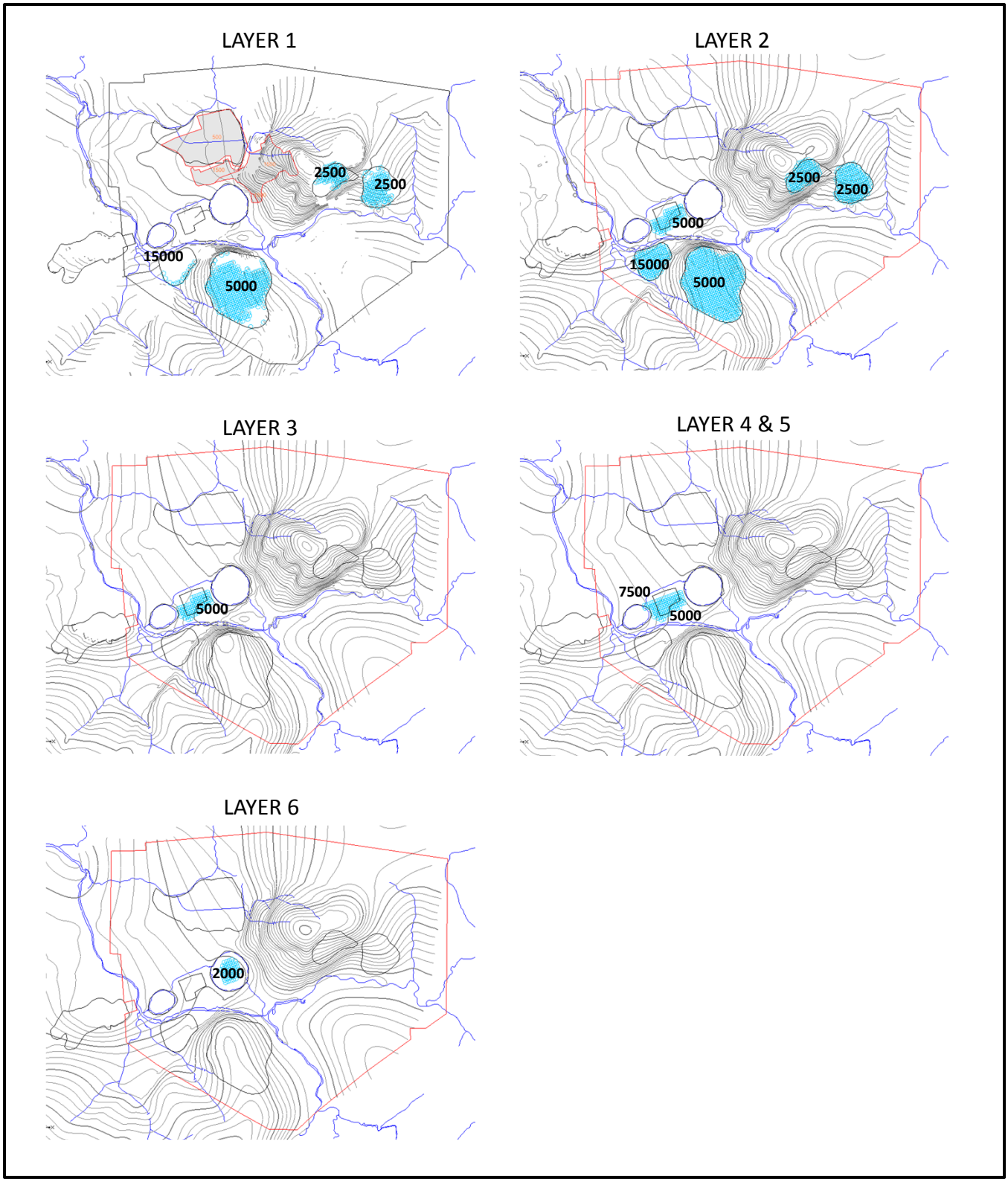

Sulphate Source Terms for Current Transport Model

Client: Northern Territory Government, Department of Resources - Minerals and Energy	**Figure: 7-2a**
Project: Las Tortolas Phase 2 Work	Project No: 183006
Report No: 183006/6	Last Update: Jun 06, 2016
Original File: SO4 June 3.pptx	

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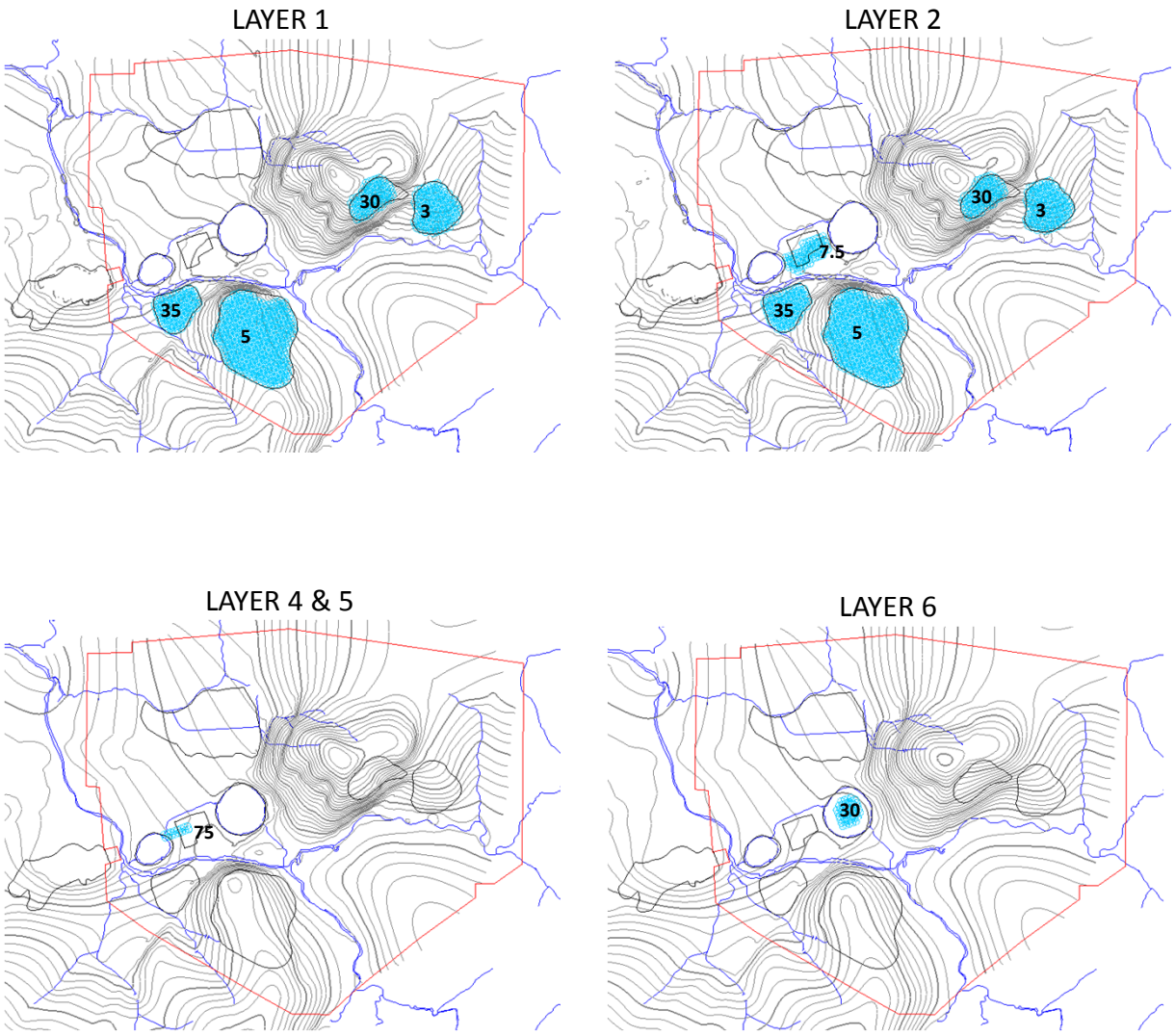

Copper Source Terms
for Current Transport Model

Client: Northern Territory Government, Department of Resources - Minerals and Energy	**Figure: 7-2b**
Project: Las Tortolas Phase 2 Work	Project No: 183006
Report No: 183006/6	Last Update: Jun 06, 2016
Original File: Cu June 2.pptx	

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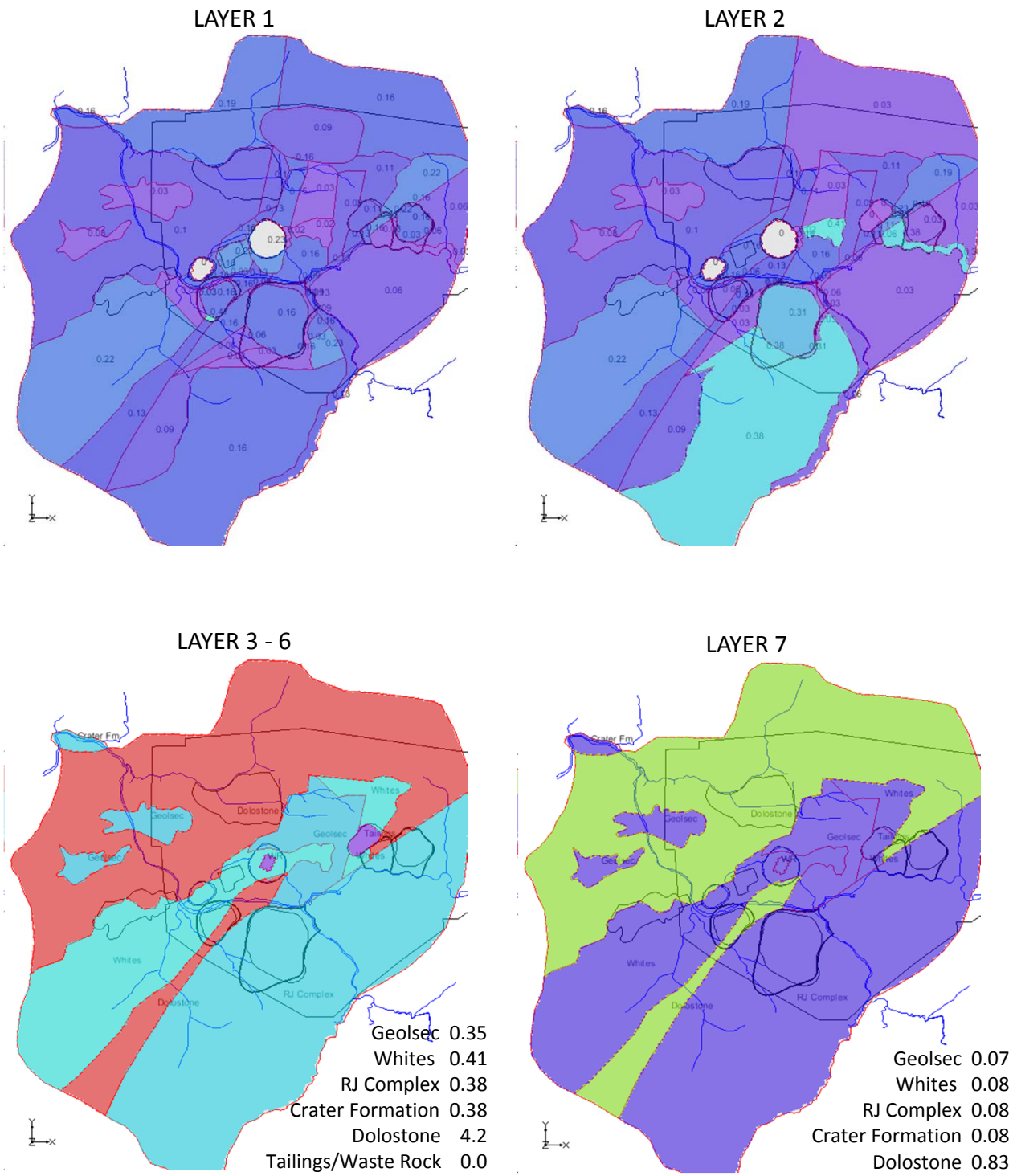

Sorption Distribution Coefficients (K_D) for Copper Transport Model (in L/kg) Moderate Attenuation Scenario

Client: Northern Territory Government, Department of Resources - Minerals and Energy	**Figure: 7-3**
Project: Las Tortolas Phase 2 Work	Project No: 183006
Report No: 183006/6	Last Update: Jun 06, 2016
Original File: Cu June 2.pptx	

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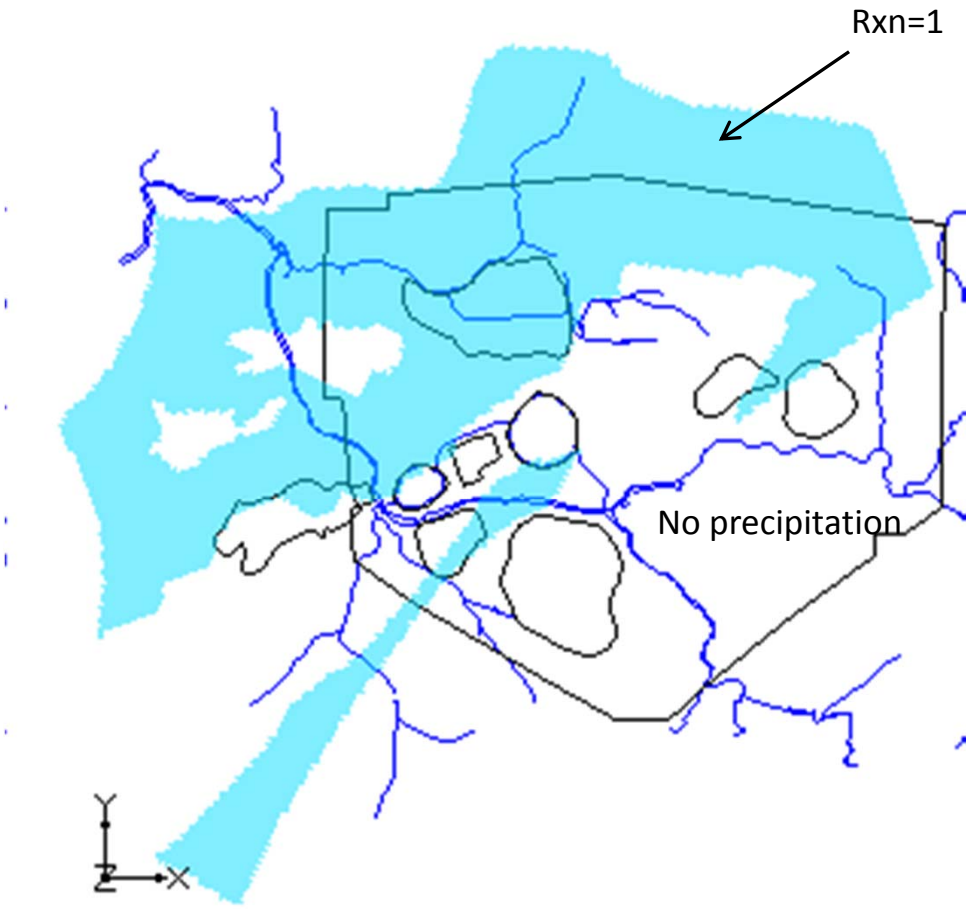
Layer 3 – 7:



*No precipitation in Layers 1 & 2

Bedrock Zones Assigned Chemical Properties ($\beta = 1\ s^{-1}$)
Moderate Attenuation Scenario

Client: Northern Territory Government, Department of Resources - Minerals and Energy	**Figure: 7-4**
Project: Las Tortolas Phase 2 Work	Project No: 183006
Report No: 183006/6	Last Update: Jun 06, 2016
Original File: Cu June 2.pptx	

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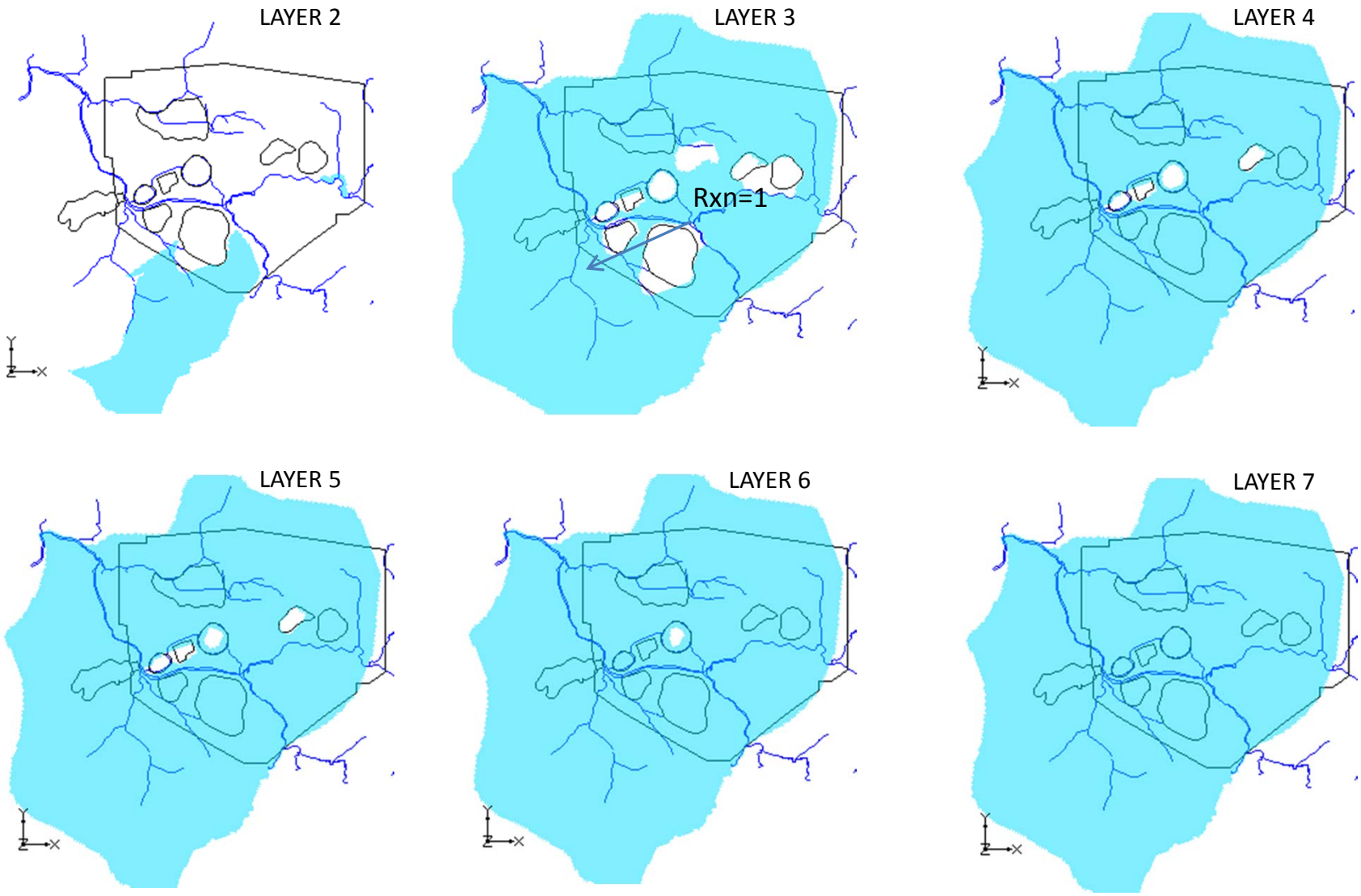

*No precipitation in Layers 1

Bedrock Zones Assigned Chemical Properties ($\beta = 1\ s^{-1}$)
High Attenuation Scenario

Client: Northern Territory Government, Department of Resources - Minerals and Energy	**Figure: 7-5**
Project: Rum Jungle Rehab. Project	Project No: 183006
Report No: 183006/6	Last Update: Jun 06, 2016
Original File: Cu June 2.pptx	

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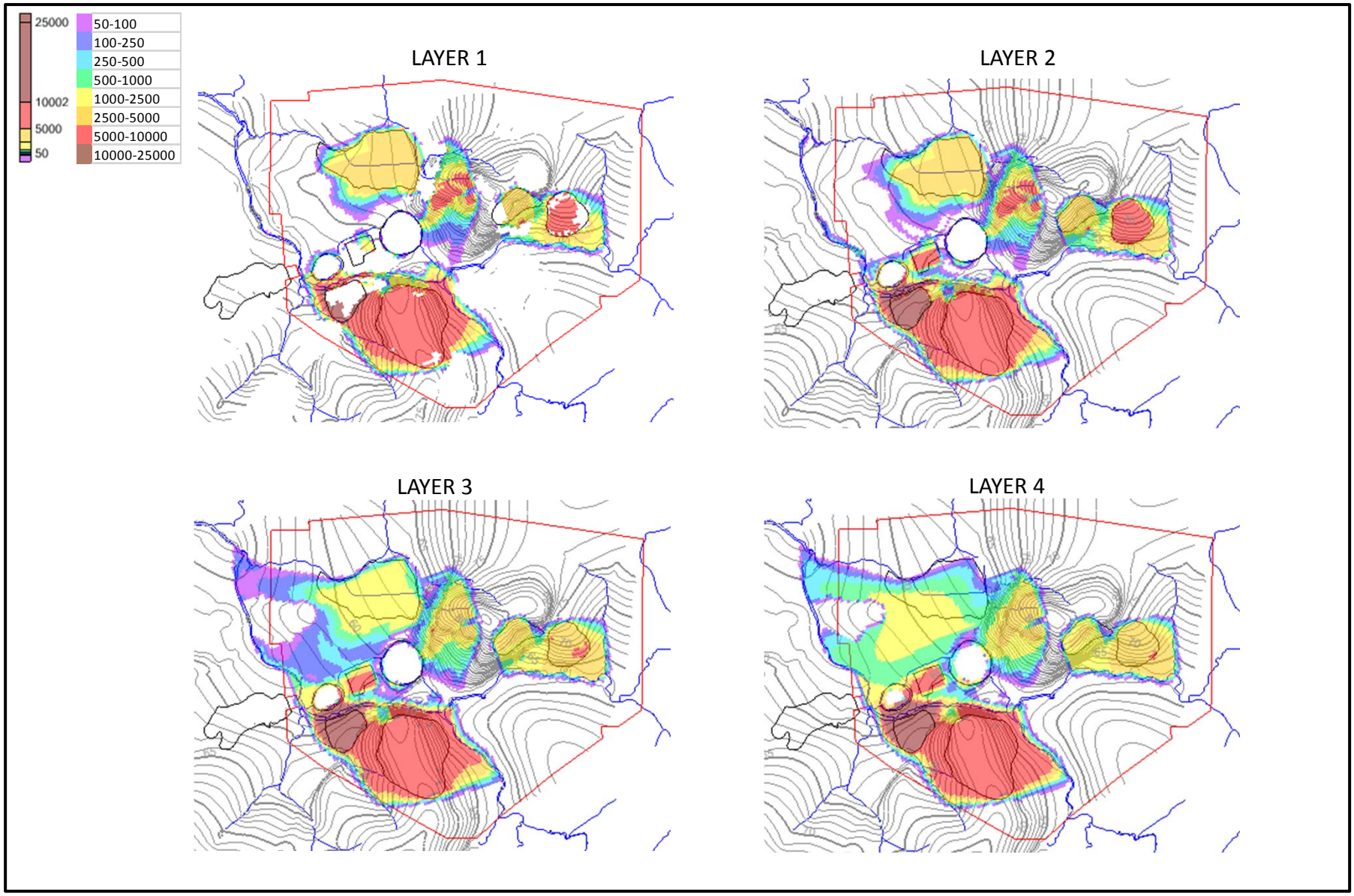

Simulated Sulphate Concentrations (in mg/L) for Historic Conditions (Year 1984)

Client: Northern Territory Government, Department of Resources - Minerals and Energy	**Figure: 7-6a**
Project: Rum Jungle Rehab. Project	Project No: 183006
Report No: 183006/6	Last Update: Jun 03, 2016
Original File: SO4 June 3.pptx	

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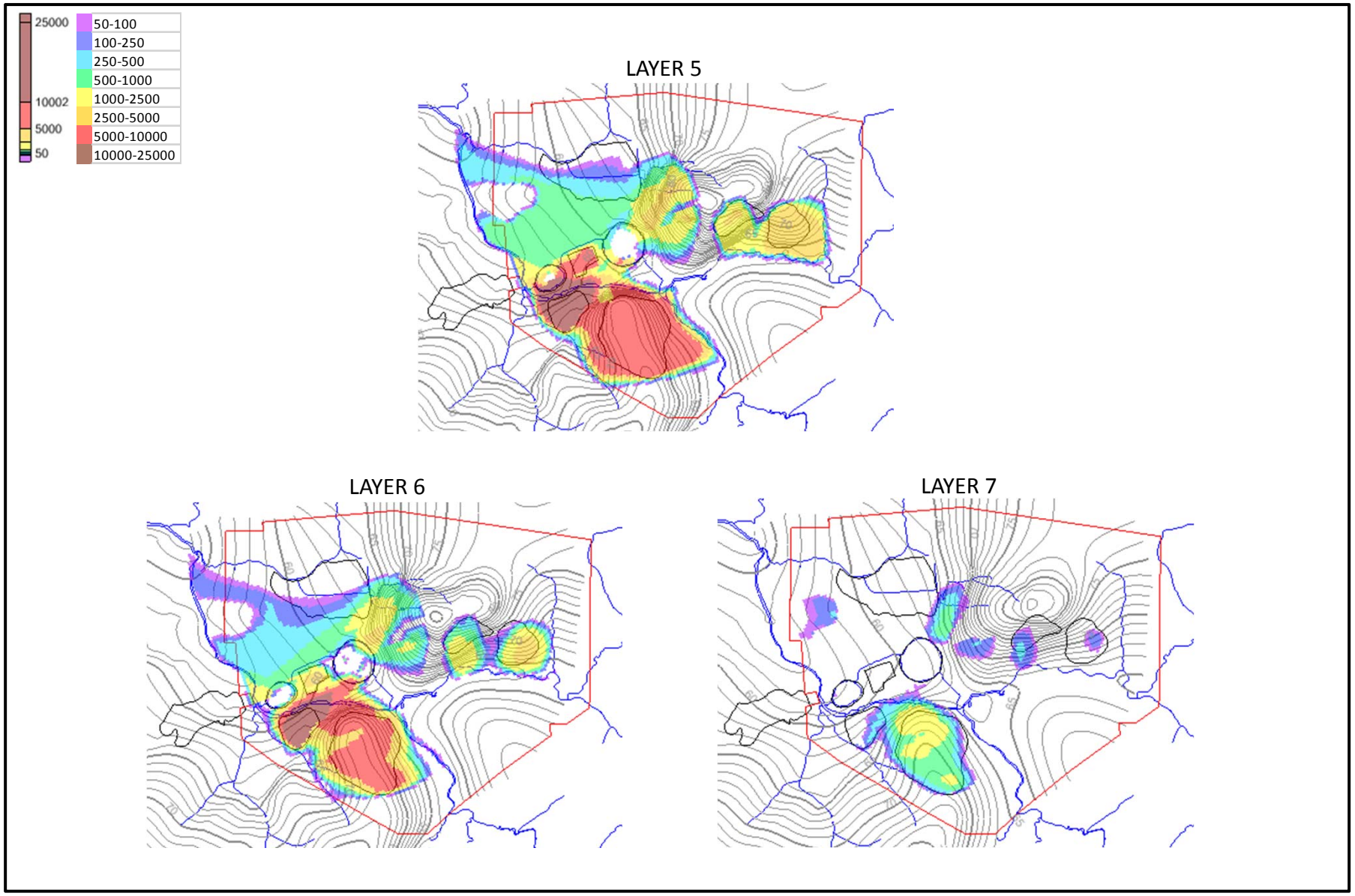

Simulated Sulphate Concentrations (in mg/L) for Historic Conditions (Year 1984)

Client: Northern Territory Government, Department of Resources - Minerals and Energy	**Figure: 7-6b**
Project: Rum Jungle Rehab. Project	Project No: 183006
Report No: 183006/6	Last Update: Jun 03, 2016
Original File: SO4 June 3.pptx	

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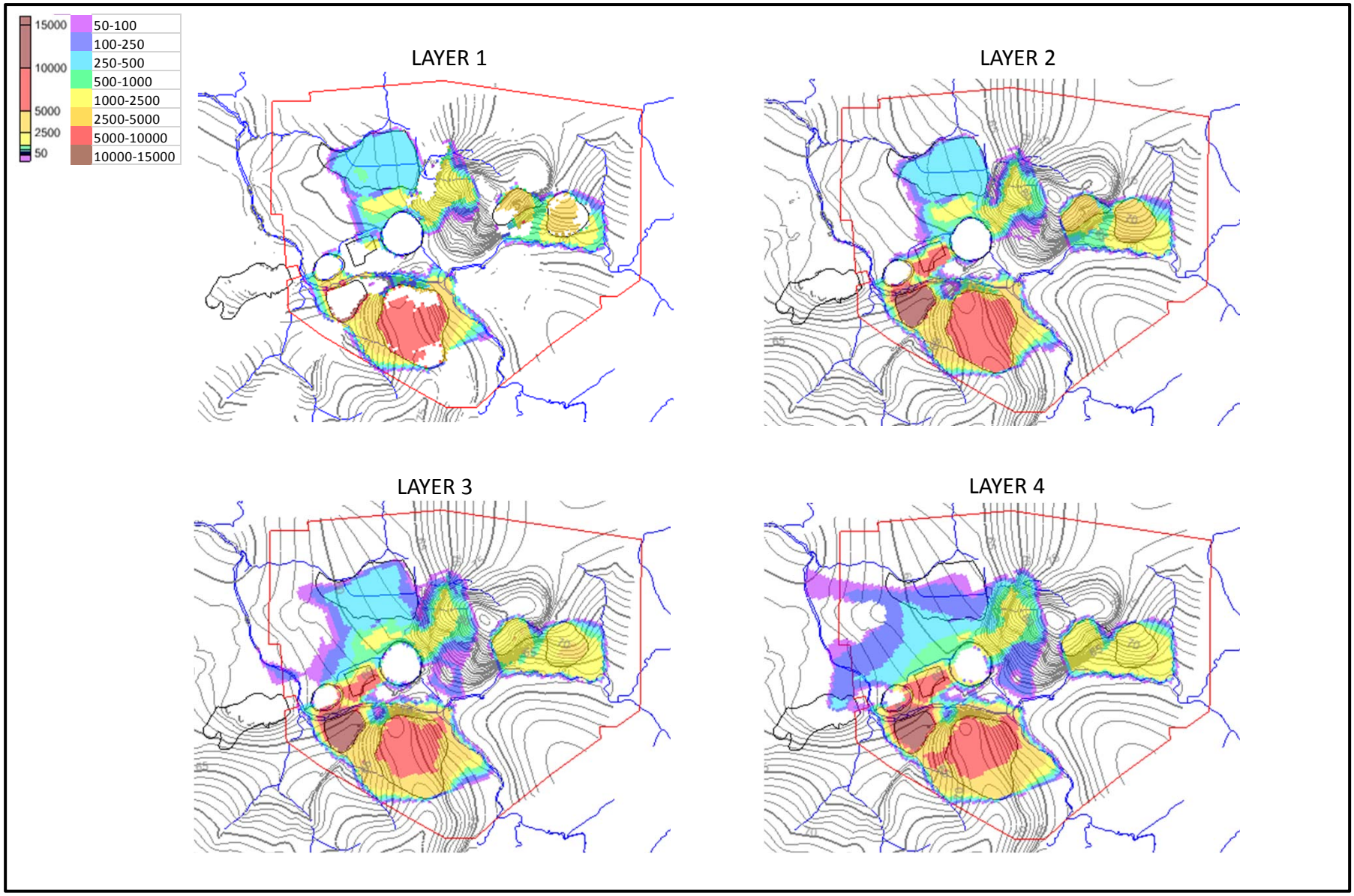

Simulated Sulphate Concentrations (in mg/L) for Current Conditions (Year 2015)

Client: Northern Territory Government, Department of Resources - Minerals and Energy	**Figure: 7-7a**
Project: Rum Jungle Rehab. Project	Project No: 183006
Report No: 183006/6	Last Update: Jun 03, 2016
Original File: SO4 June 3.pptx	

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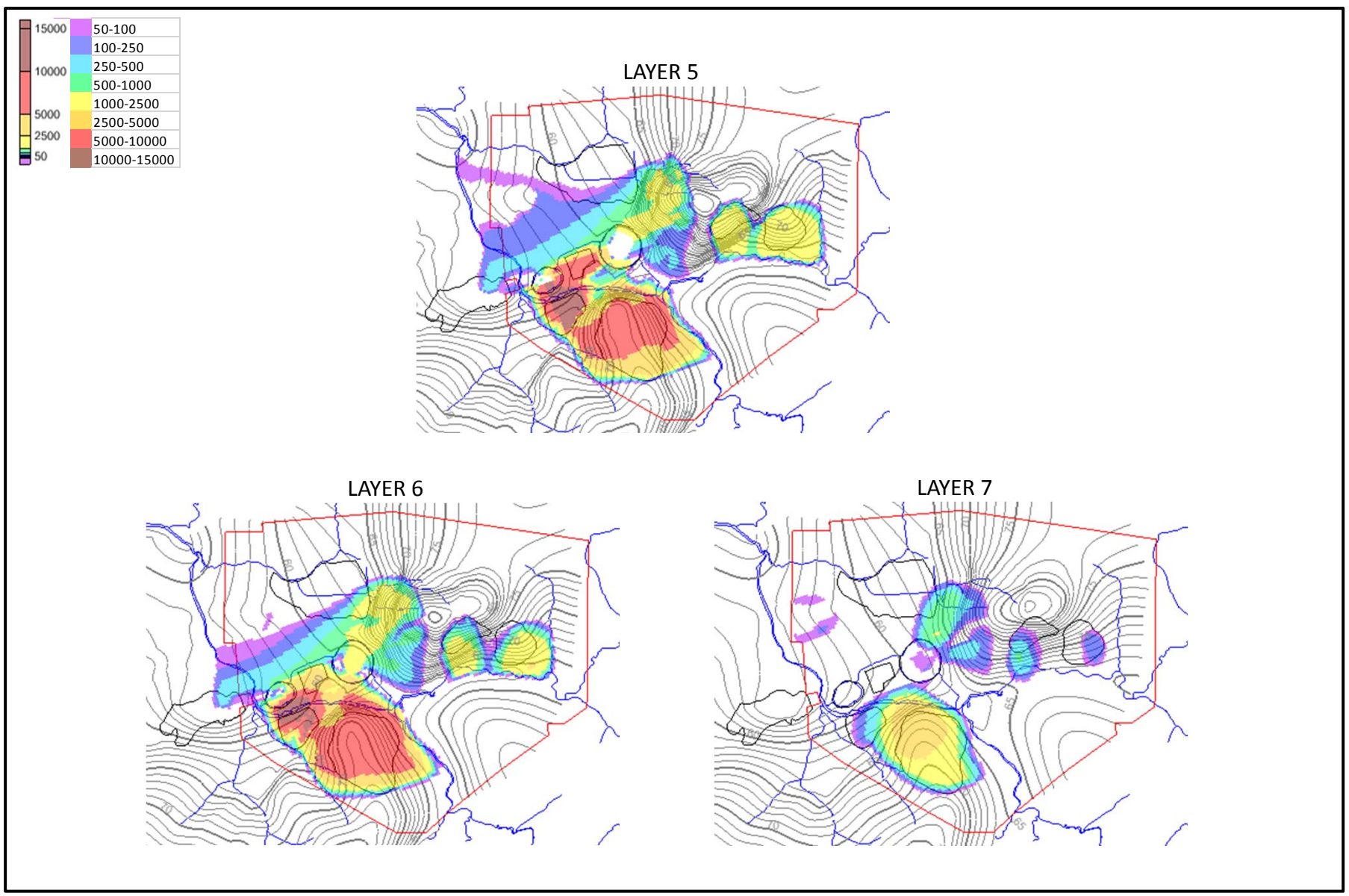

Simulated Sulphate Concentrations (in mg/L) for Current Conditions (Year 2015)

Client: Northern Territory Government, Department of Resources - Minerals and Energy	**Figure: 7-7b**
Project: Rum Jungle Rehab. Project	Project No: 183006
Report No: 183006/6	Last Update: Jun 03, 2016
Original File: SO4 June 3.pptx	

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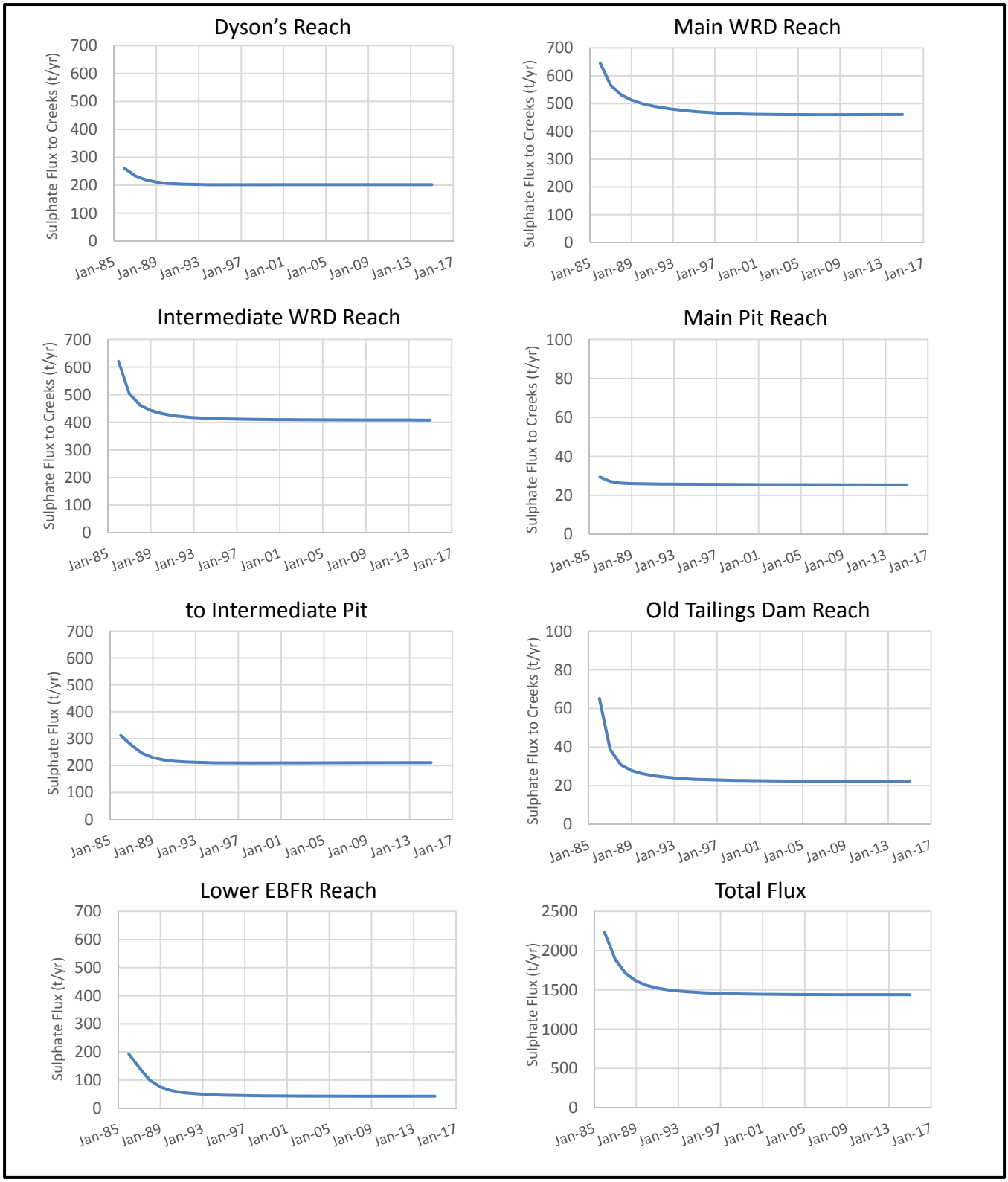

Simulated Transient Sulphate Mass Fluxes to Surface Water (1985 to 2015)

Client: Northern Territory Government, Department of Resources - Minerals and Energy	**Figure: 7-8**
Project: Las Tortolas Phase 2 Work	Project No: 183006
Report No: 183006/6	Last Update: Jun 06, 2016
Original File: Fluxes SO4 to 2046 – correct sources.xlsx	

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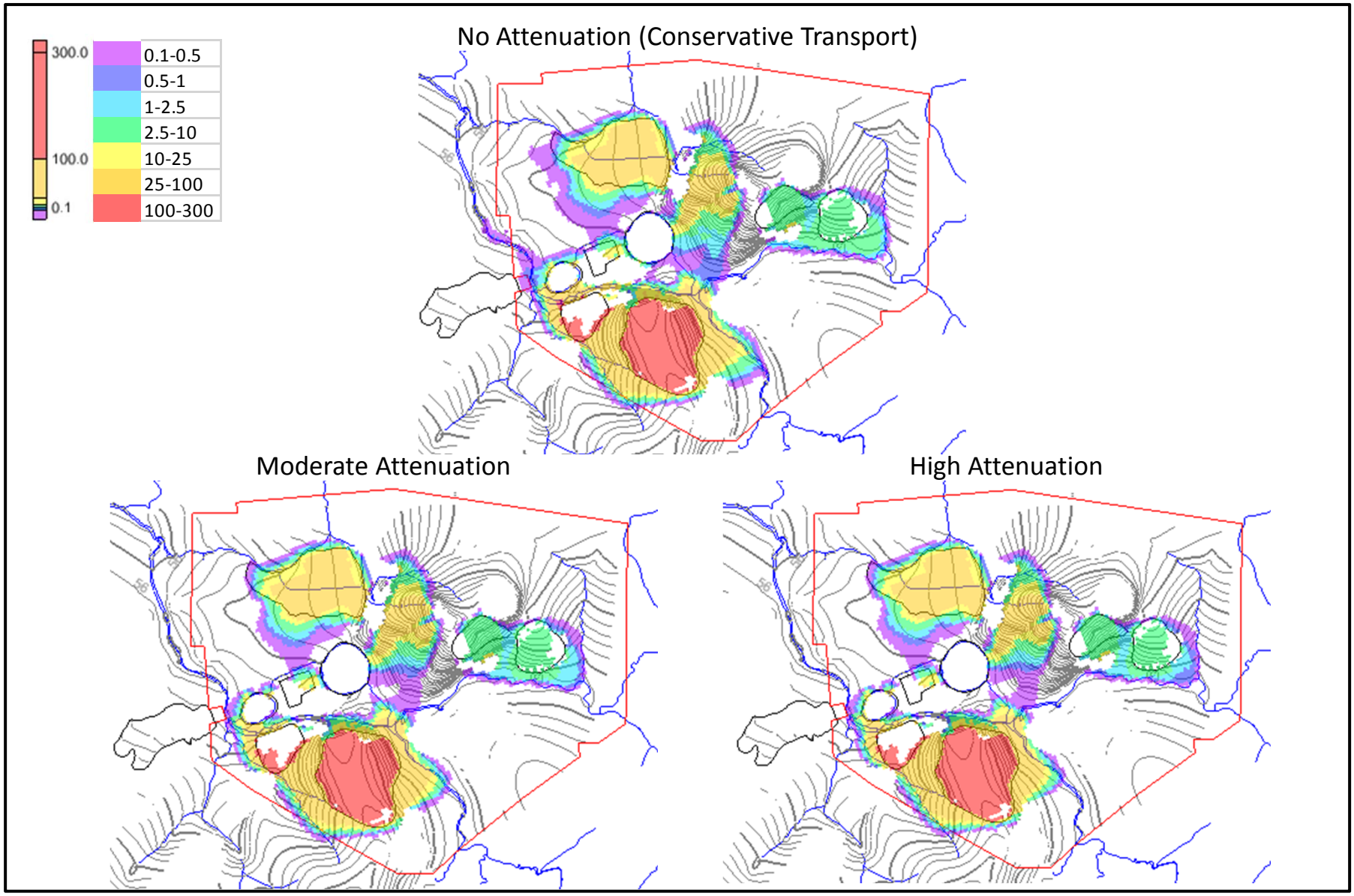

Simulated Copper Concentrations (in mg/L)
for Historic Conditions (Year 1984)
Model Layer 1

Client: Northern Territory Government, Department of Resources - Minerals and Energy	**Figure: 7-9a**
Project: Rum Jungle Rehab. Project	Project No: 183006
Report No: 183006/6	Last Update: Jun 03, 2016
Original File: Cu June 2.pptx	

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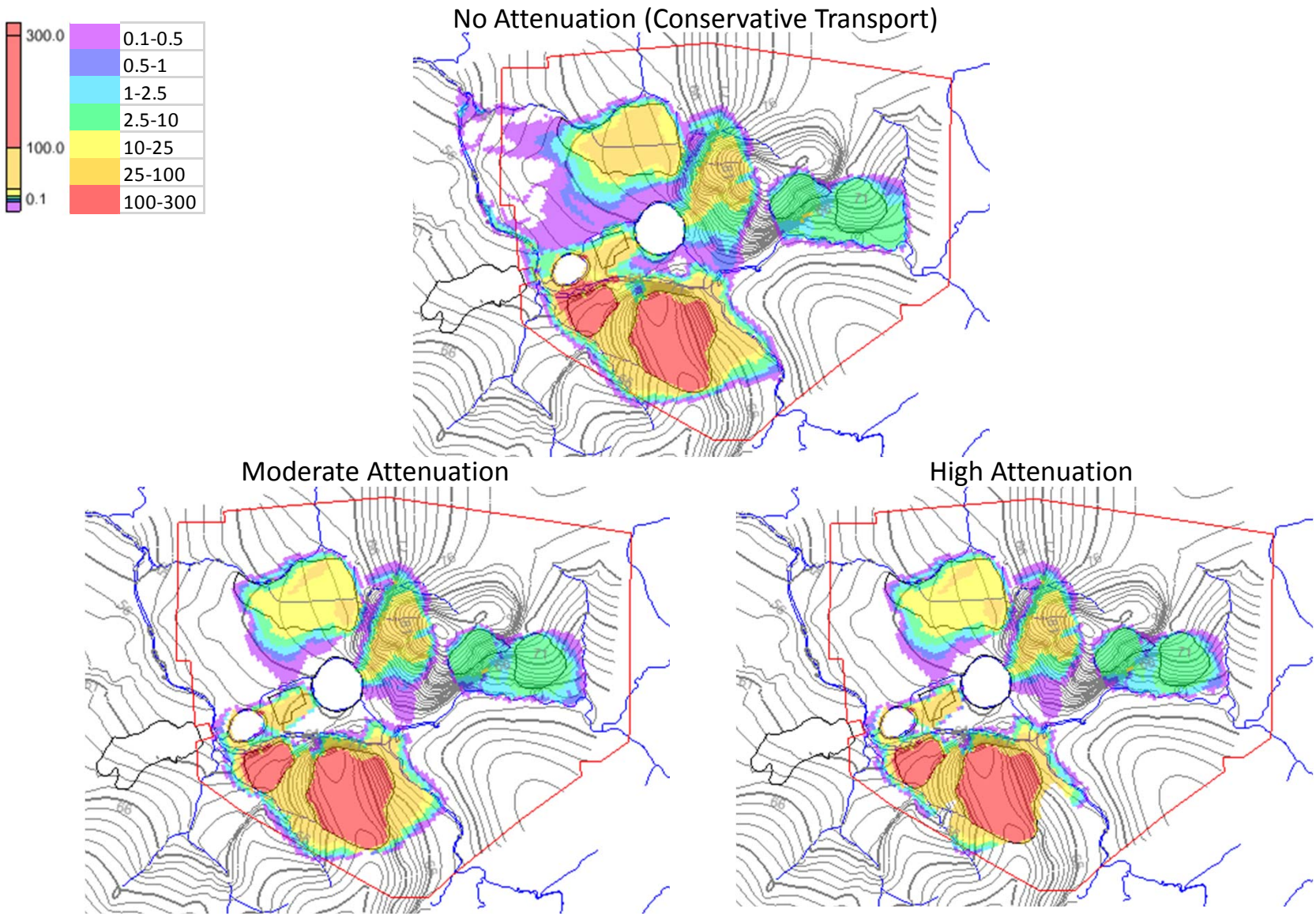

Simulated Copper Concentrations (in mg/L)
for Historic Conditions (Year 1984)
Model Layer 2

Client: Northern Territory Government, Department of Resources - Minerals and Energy	**Figure: 7-9b**
Project: Rum Jungle Rehab. Project	Project No: 183006
Report No: 183006/6	Last Update: Jun 03, 2016
Original File: Cu June 2.pptx	

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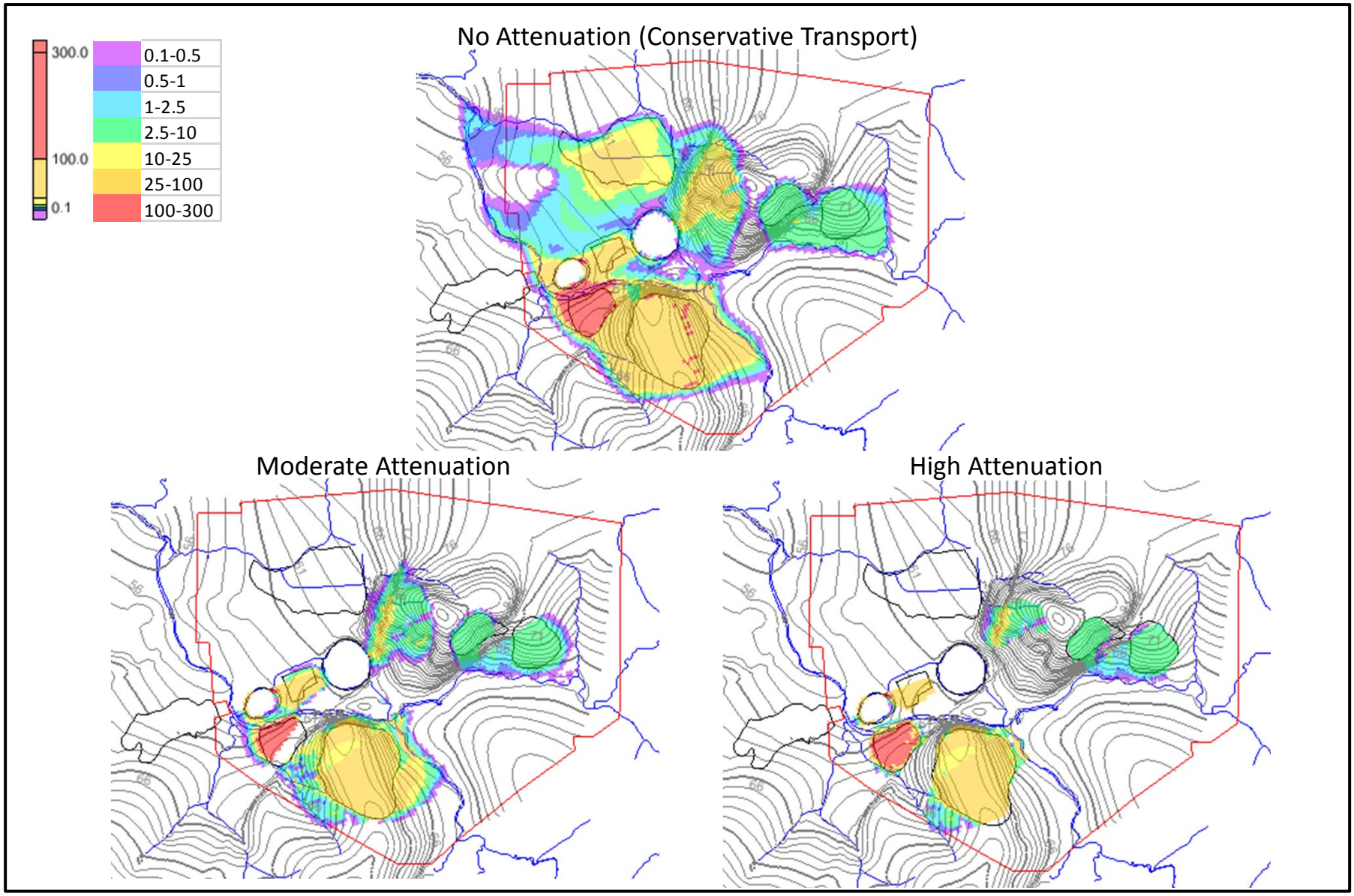

Simulated Copper Concentrations (in mg/L)
for Historic Conditions (Year 1984)
Model Layer 3

Client: Northern Territory Government, Department of Resources - Minerals and Energy	**Figure: 7-9c**
Project: Rum Jungle Rehab. Project	Project No: 183006
Report No: 183006/6	Last Update: Jun 03, 2016
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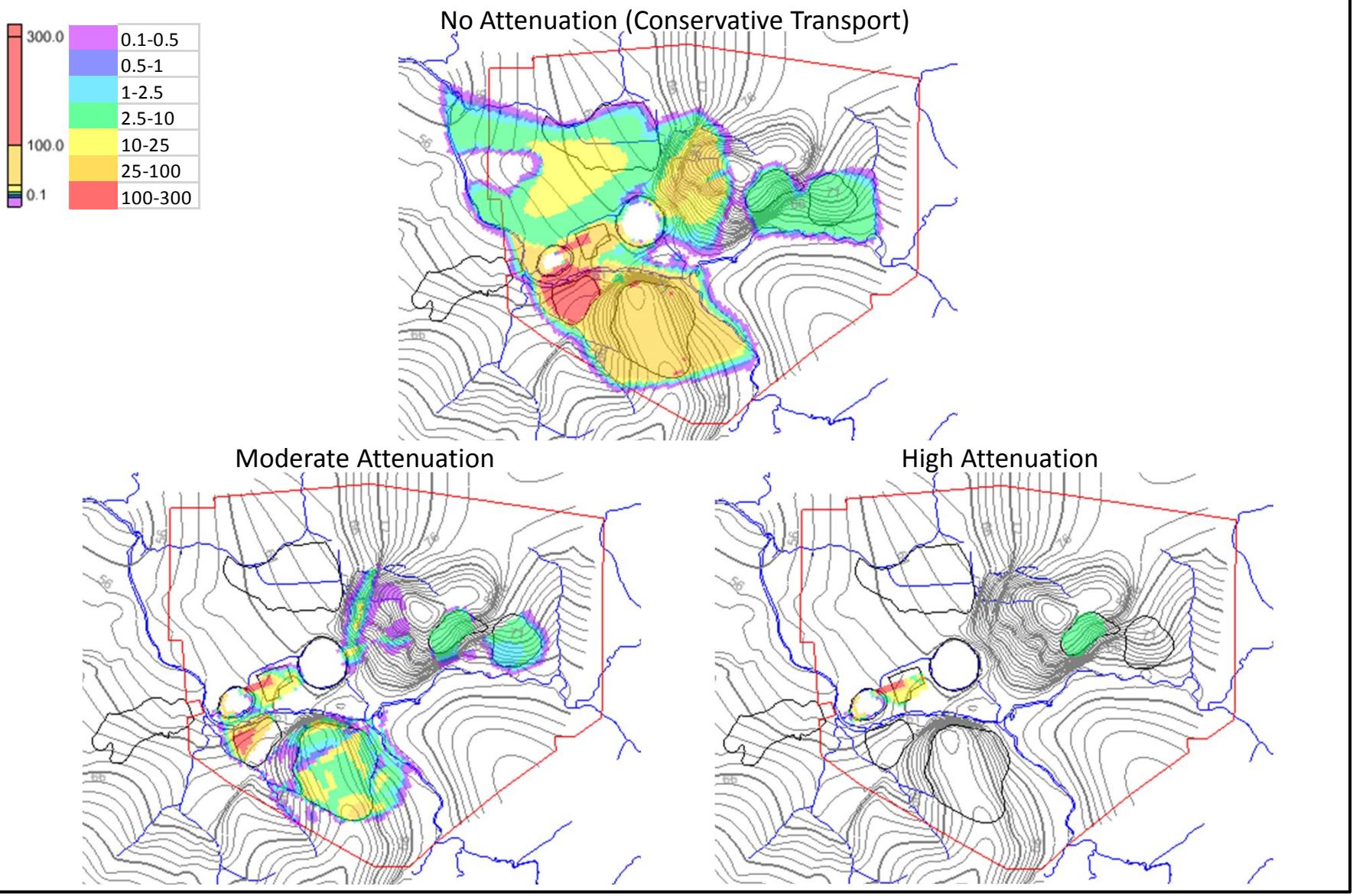

Simulated Copper Concentrations (in mg/L)
for Historic Conditions (Year 1984)
Model Layer 4

Client: Northern Territory Government, Department of Resources - Minerals and Energy	**Figure: 7-9d**
Project: Rum Jungle Rehab. Project	Project No: 183006
Report No: 183006/6	Last Update: Jun 03, 2016
Original File: Cu June 2.pptx	

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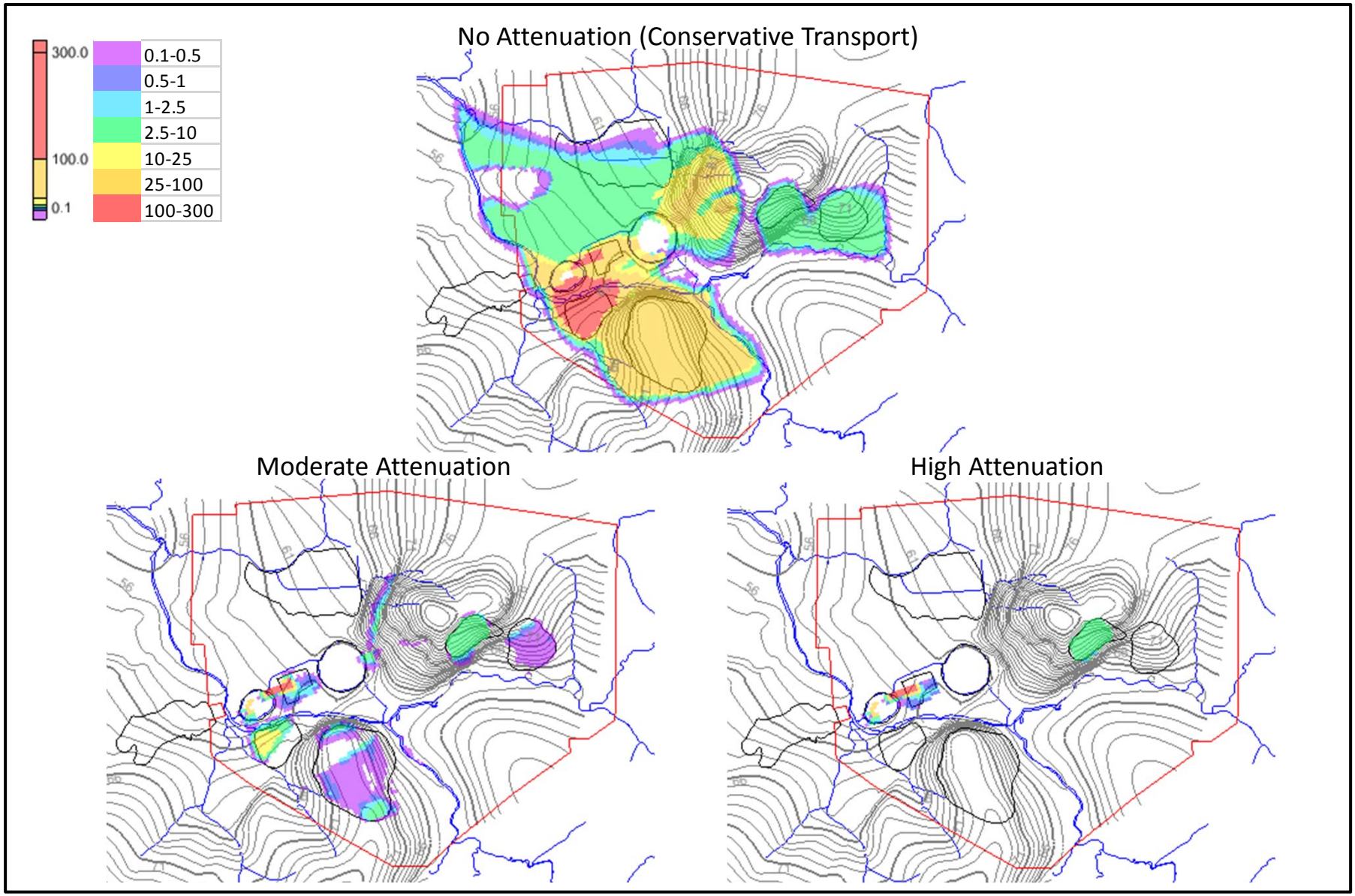

Simulated Copper Concentrations (in mg/L)
for Historic Conditions (Year 1984)
Model Layer 5

Client: Northern Territory Government, Department of Resources - Minerals and Energy	**Figure: 7-9e**
Project: Rum Jungle Rehab. Project	Project No: 183006
Report No: 183006/6	Last Update: Jun 03, 2016
Original File: Cu June 2.pptx	

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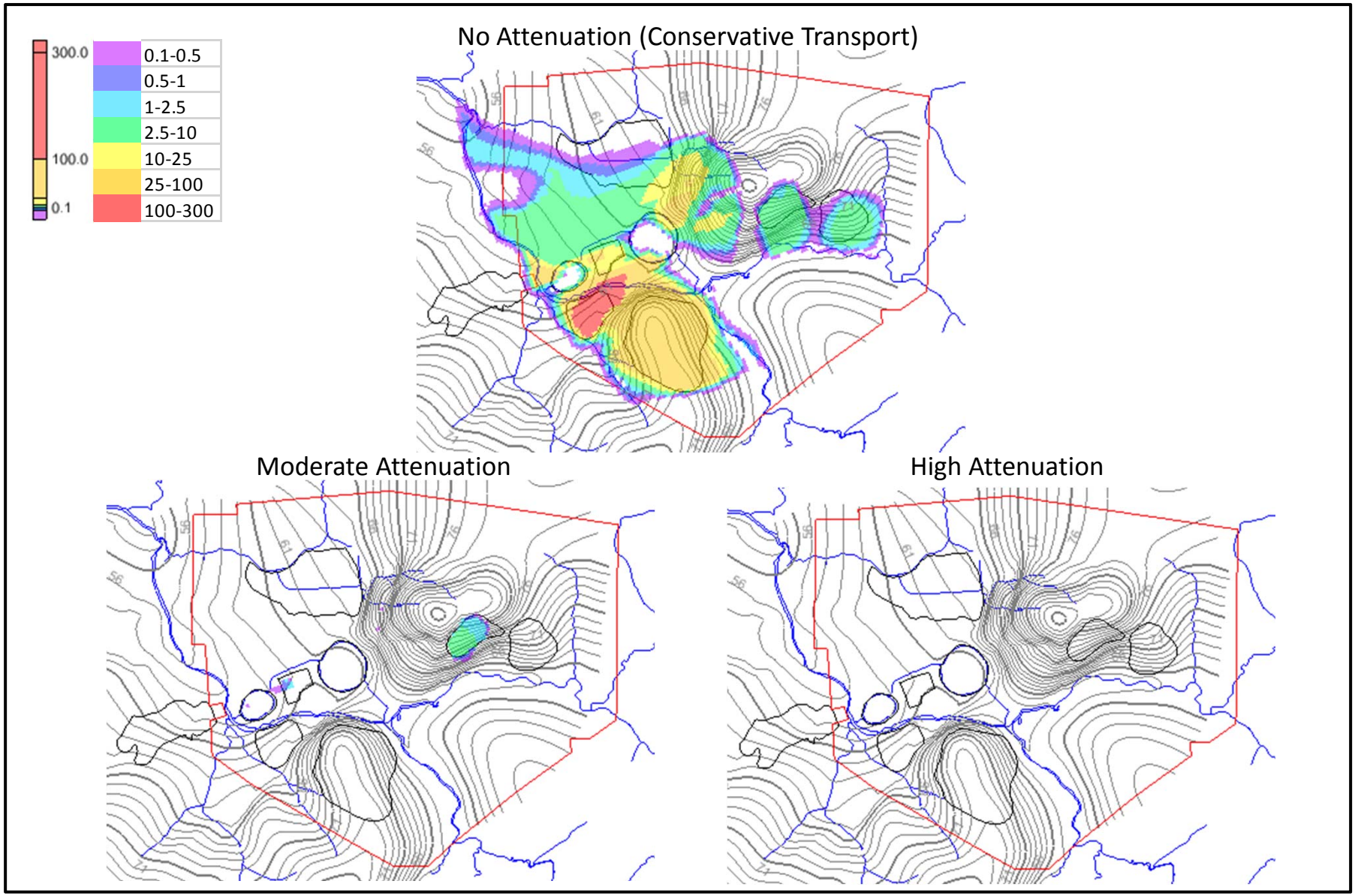

Simulated Copper Concentrations (in mg/L)
for Historic Conditions (Year 1984)
Model Layer 6

Client: Northern Territory Government, Department of Resources - Minerals and Energy	**Figure: 7-9f**
Project: Rum Jungle Rehab. Project	Project No: 183006
Report No: 183006/6	Last Update: Jun 03, 2016
Original File: Cu June 2.pptx	

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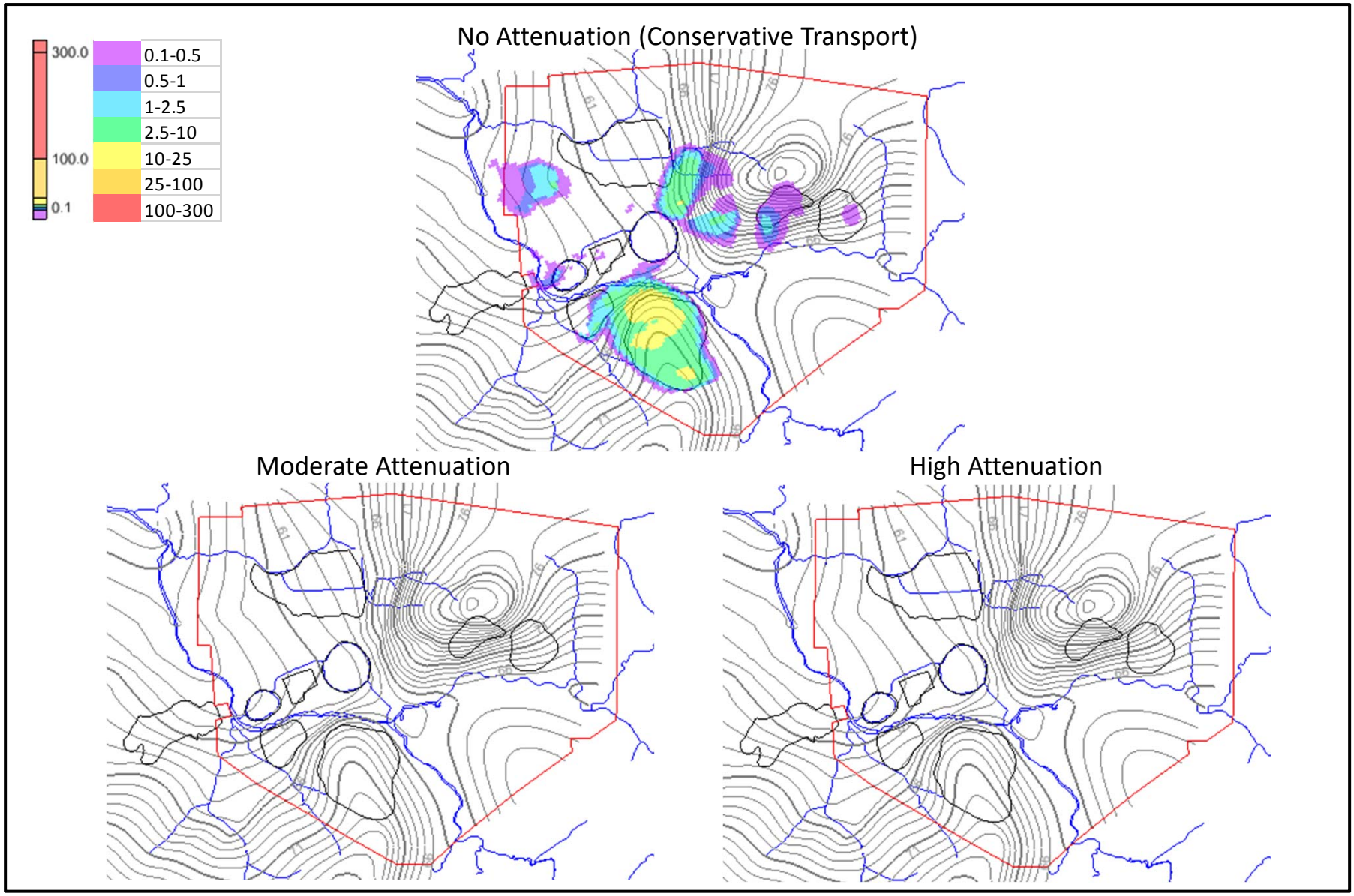

Simulated Copper Concentrations (in mg/L)
for Historic Conditions (Year 1984)
Model Layer 7

Client: Northern Territory Government, Department of Resources - Minerals and Energy	**Figure: 7-9g**
Project: Rum Jungle Rehab. Project	Project No: 183006
Report No: 183006/6	Last Update: Jun 03, 2016
Original File: Cu June 2.pptx	

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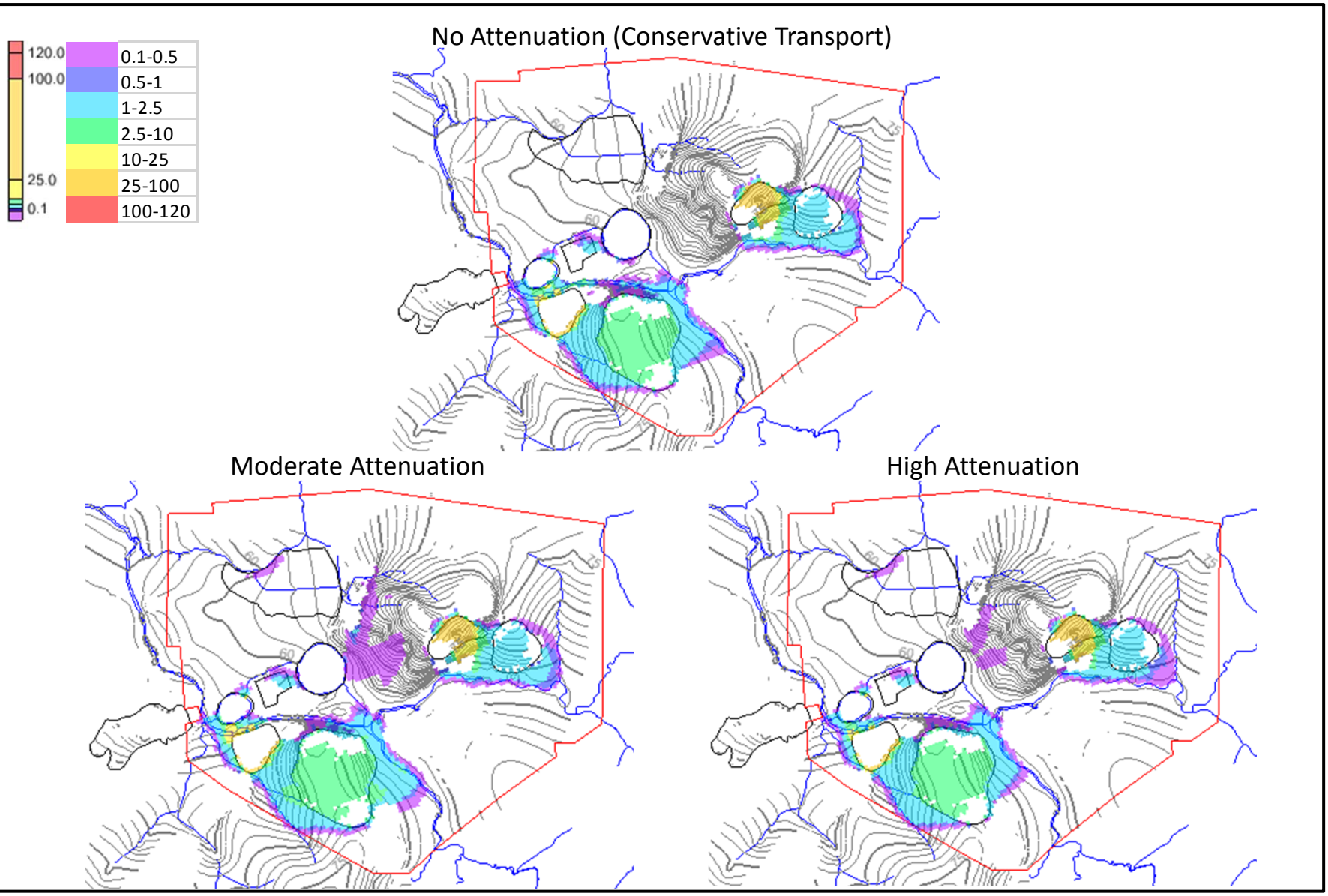

Simulated Copper Concentrations (in mg/L)
for Current Conditions (Year 2015)
Model Layer 1

Client: Northern Territory Government, Department of Resources - Minerals and Energy	**Figure: 7-10a**
Project: Rum Jungle Rehab. Project	Project No: 183006
Report No: 183006/6	Last Update: Jun 03, 2016
Original File: Cu June 2.pptx	

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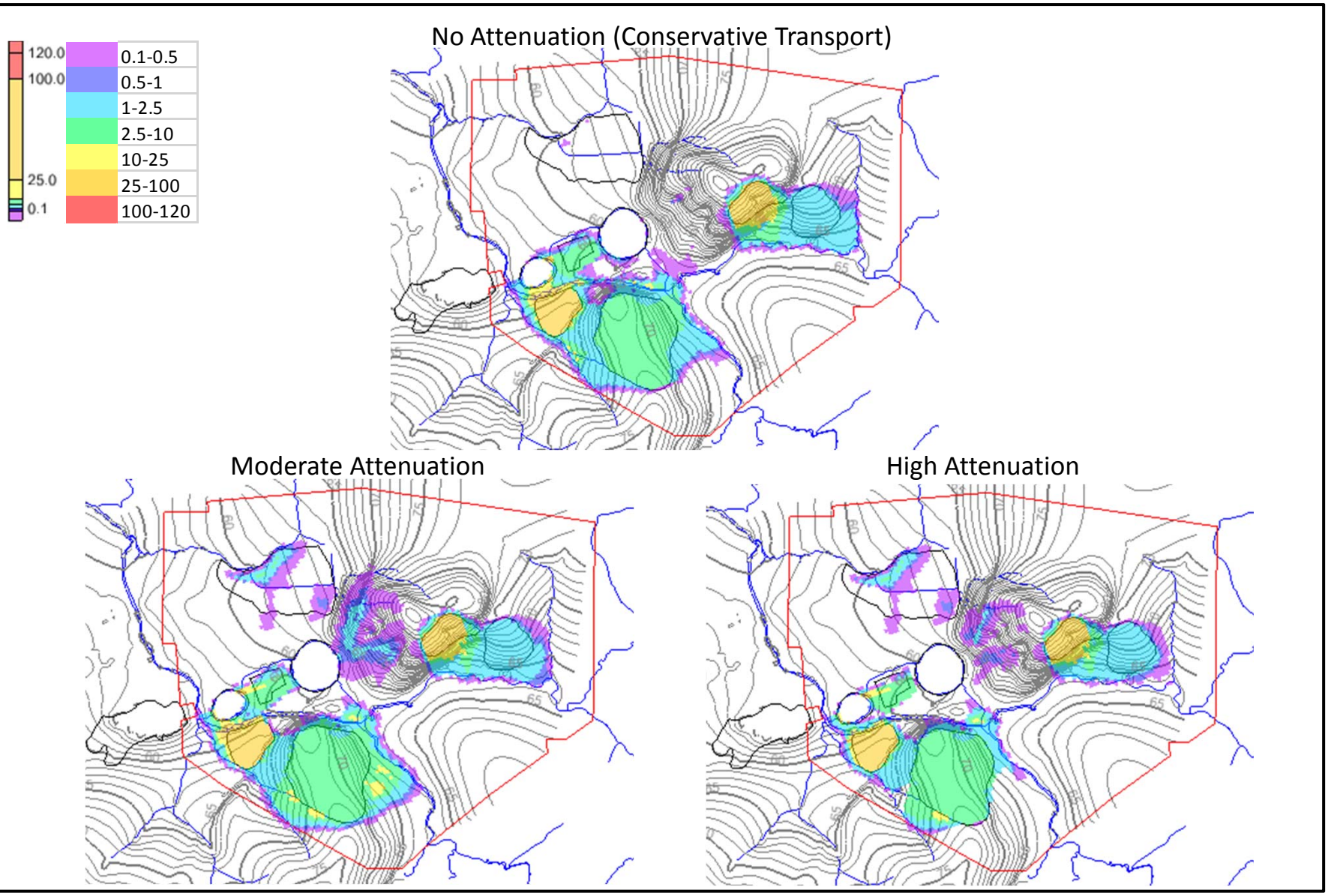

Simulated Copper Concentrations (in mg/L)
for Current Conditions (Year 2015)
Model Layer 2

Client: Northern Territory Government, Department of Resources - Minerals and Energy	**Figure: 7-10b**
Project: Rum Jungle Rehab. Project	Project No: 183006
Report No: 183006/6	Last Update: Jun 03, 2016
Original File: Cu June 2.pptx	

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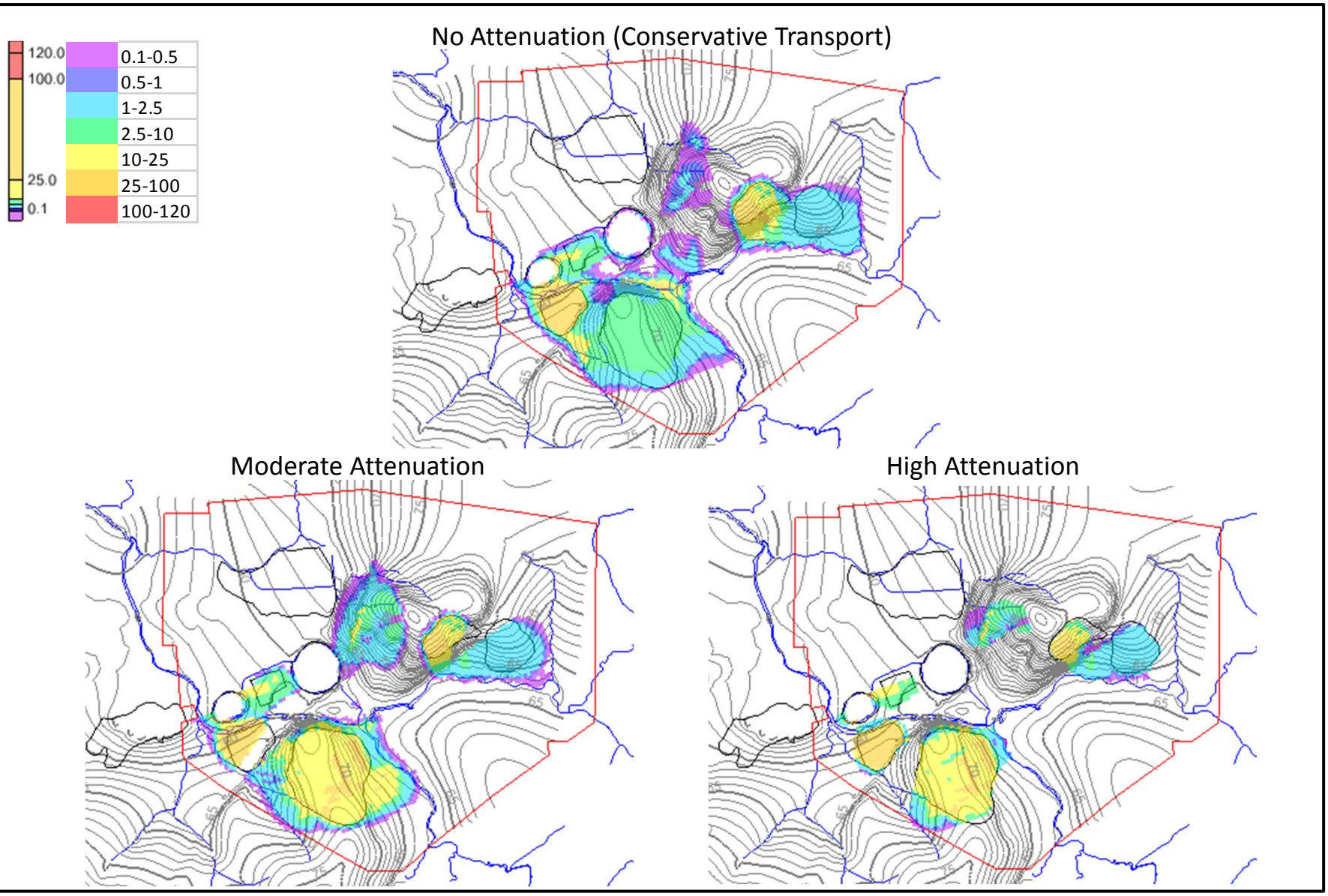

Simulated Copper Concentrations (in mg/L)
for Current Conditions (Year 2015)
Model Layer 3

Client: Northern Territory Government, Department of Resources - Minerals and Energy	**Figure: 7-10c**
Project: Rum Jungle Rehab. Project	Project No: 183006
Report No: 183006/6	Last Update: Jun 03, 2016
Original File: Cu June 2.pptx	

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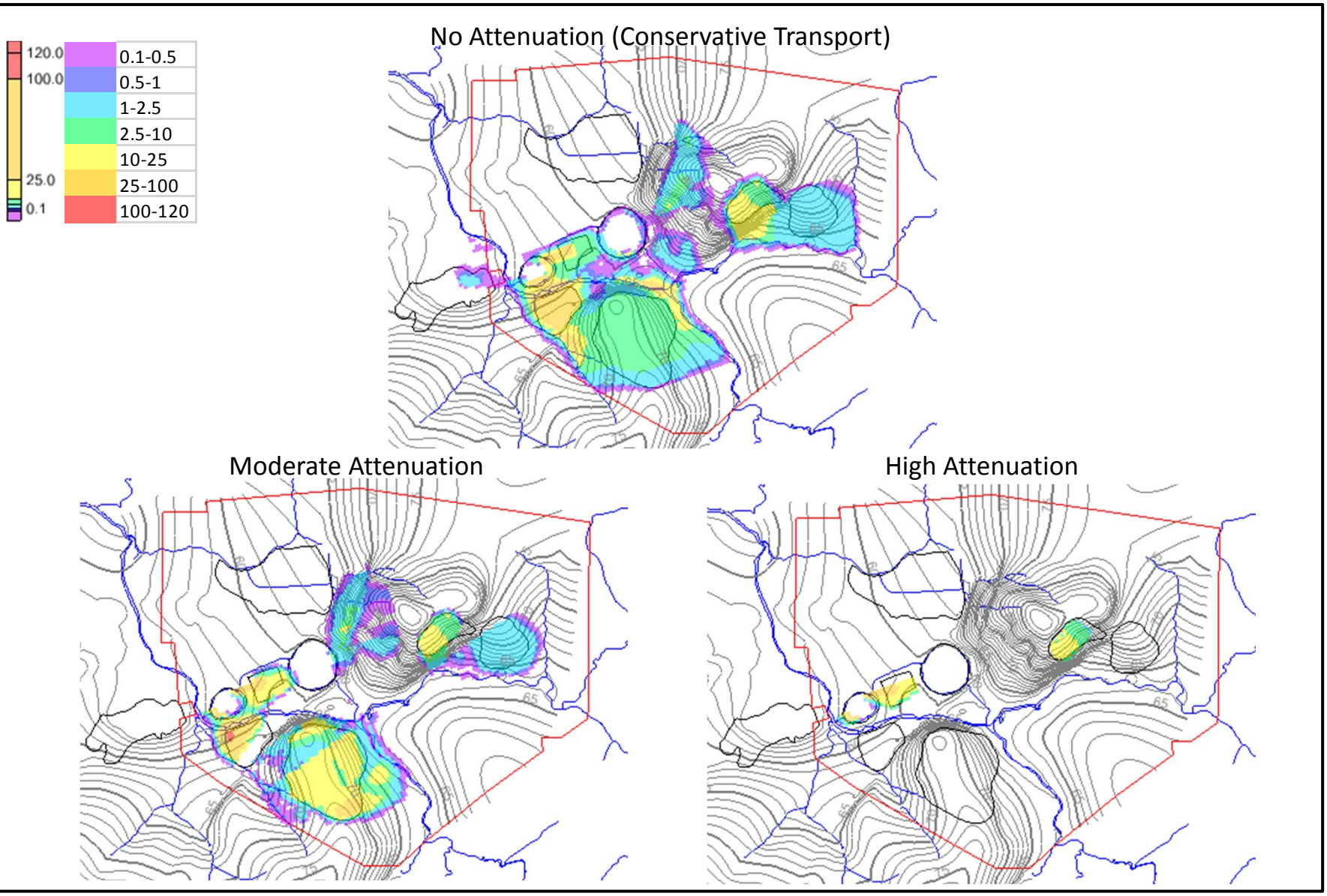

Simulated Copper Concentrations (in mg/L)
for Current Conditions (Year 2015)
Model Layer 4

Client: Northern Territory Government, Department of Resources - Minerals and Energy	**Figure: 7-10d**
Project: Rum Jungle Rehab. Project	Project No: 183006
Report No: 183006/6	Last Update: Jun 03, 2016
Original File: Cu June 2.pptx	

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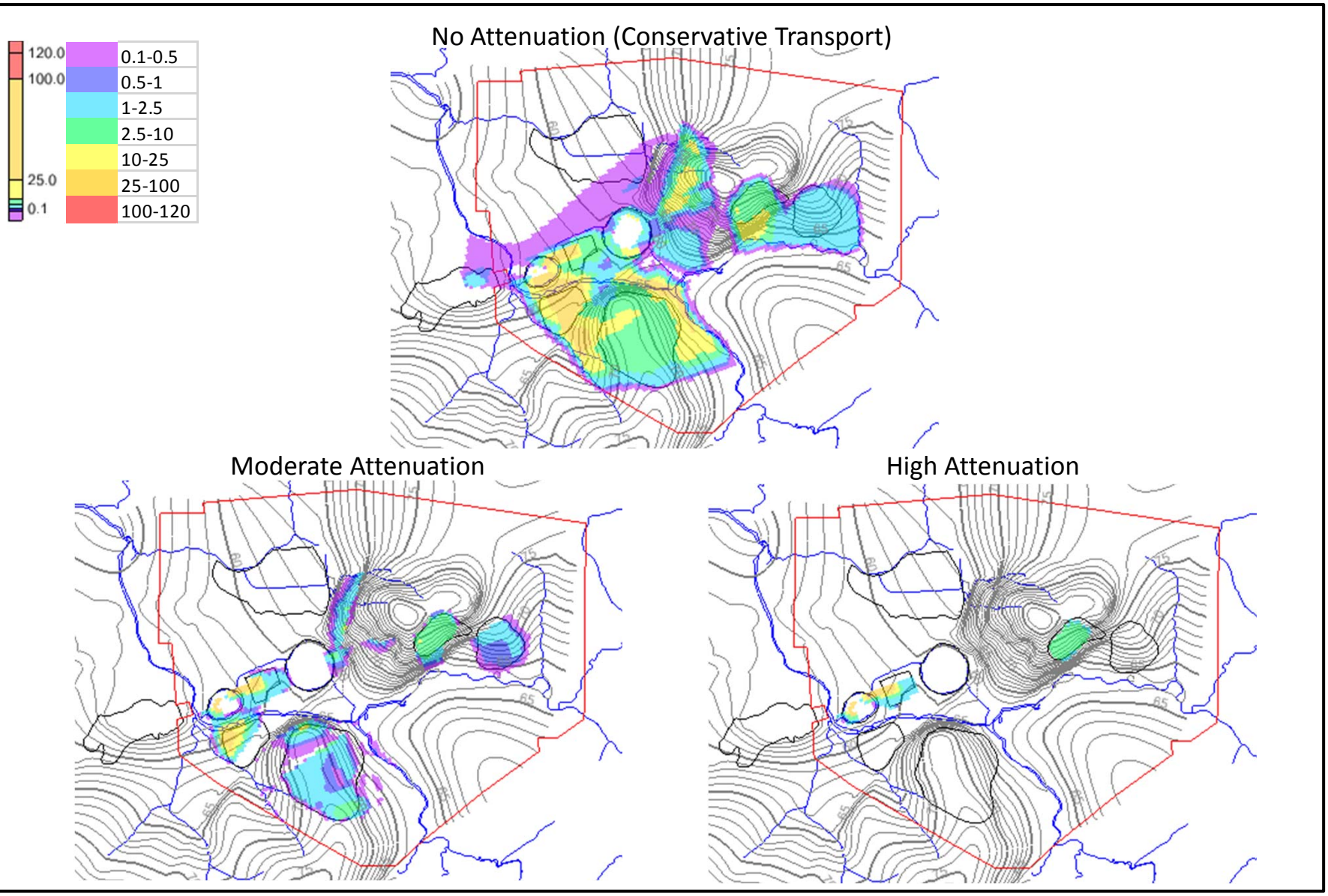

Simulated Copper Concentrations (in mg/L)
for Current Conditions (Year 2015)
Model Layer 5

Client: Northern Territory Government, Department of Resources - Minerals and Energy	**Figure: 7-10e**
Project: Rum Jungle Rehab. Project	Project No: 183006
Report No: 183006/6	Last Update: Jun 03, 2016
Original File: Cu June 2.pptx	

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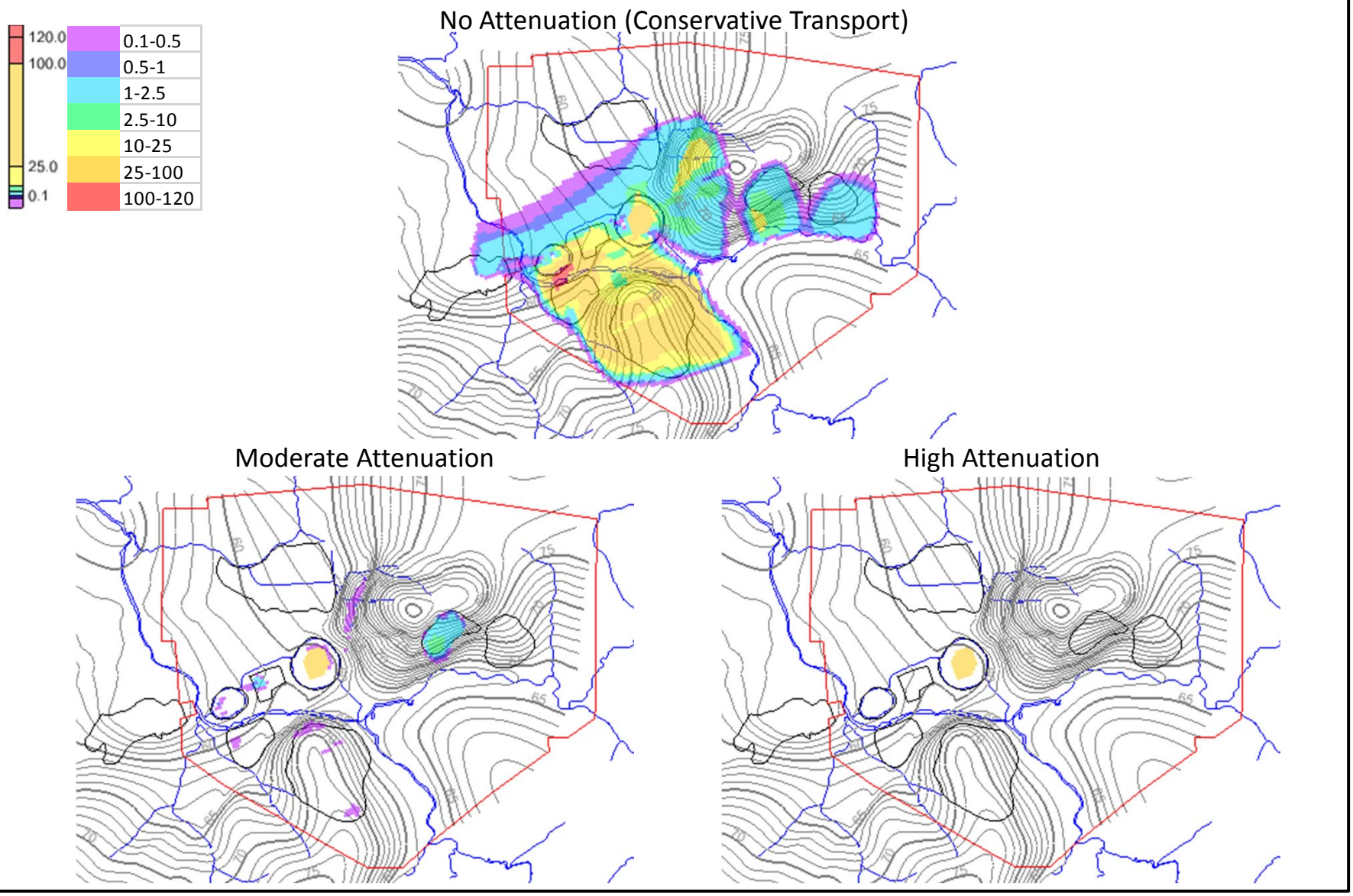

Simulated Copper Concentrations (in mg/L)
for Current Conditions (Year 2015)
Model Layer 6

Client: Northern Territory Government, Department of Resources - Minerals and Energy	**Figure: 7-10f**
Project: Rum Jungle Rehab. Project	Project No: 183006
Report No: 183006/6	Last Update: Jun 03, 2016
Original File: Cu June 2.pptx	

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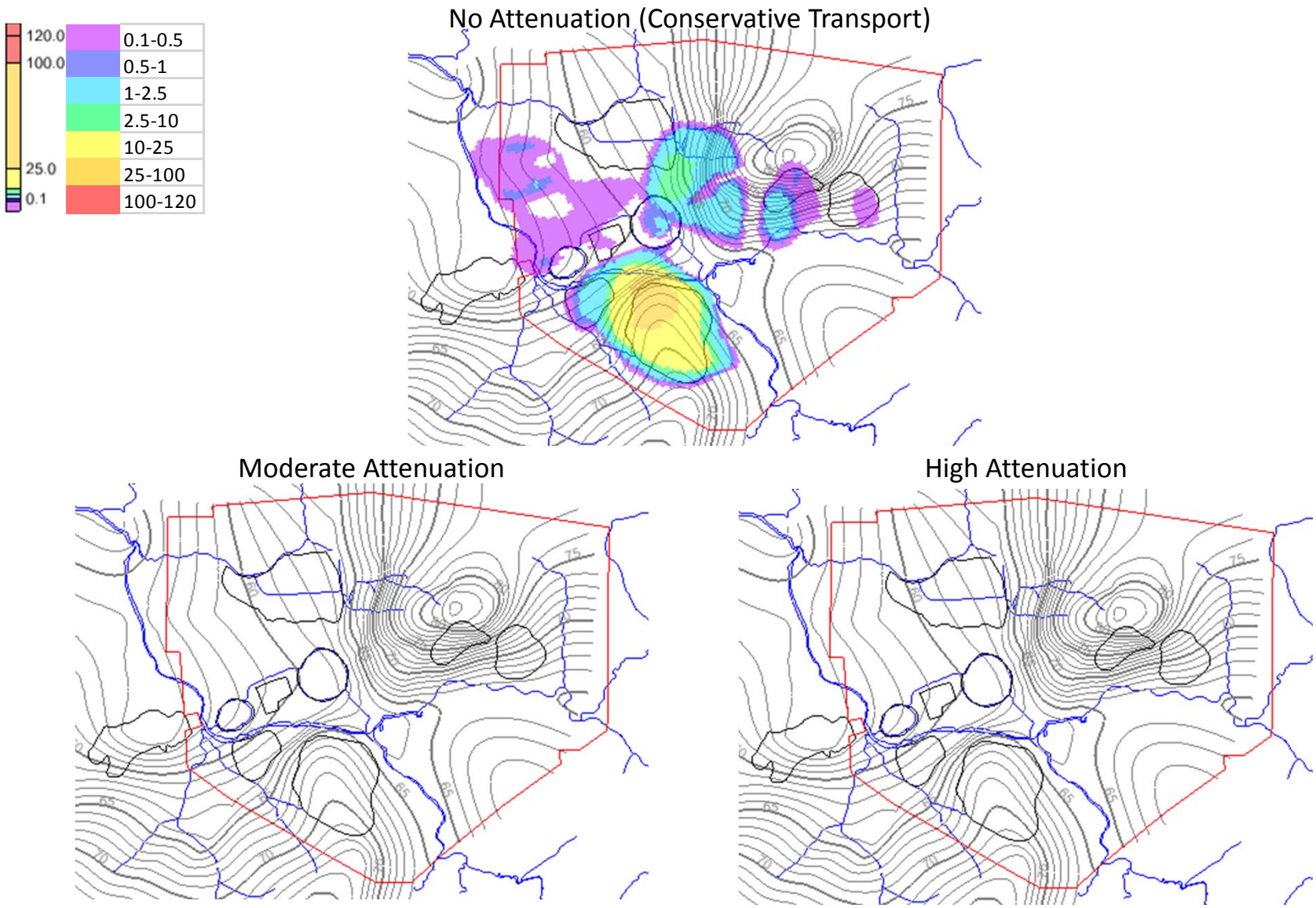

Simulated Copper Concentrations (in mg/L)
for Current Conditions (Year 2015)
Model Layer 7

Client: Northern Territory Government, Department of Resources - Minerals and Energy	**Figure: 7-10g**
Project: Rum Jungle Rehab. Project	Project No: 183006
Report No: 183006/6	Last Update: Jun 03, 2016
Original File: Cu June 2.pptx	

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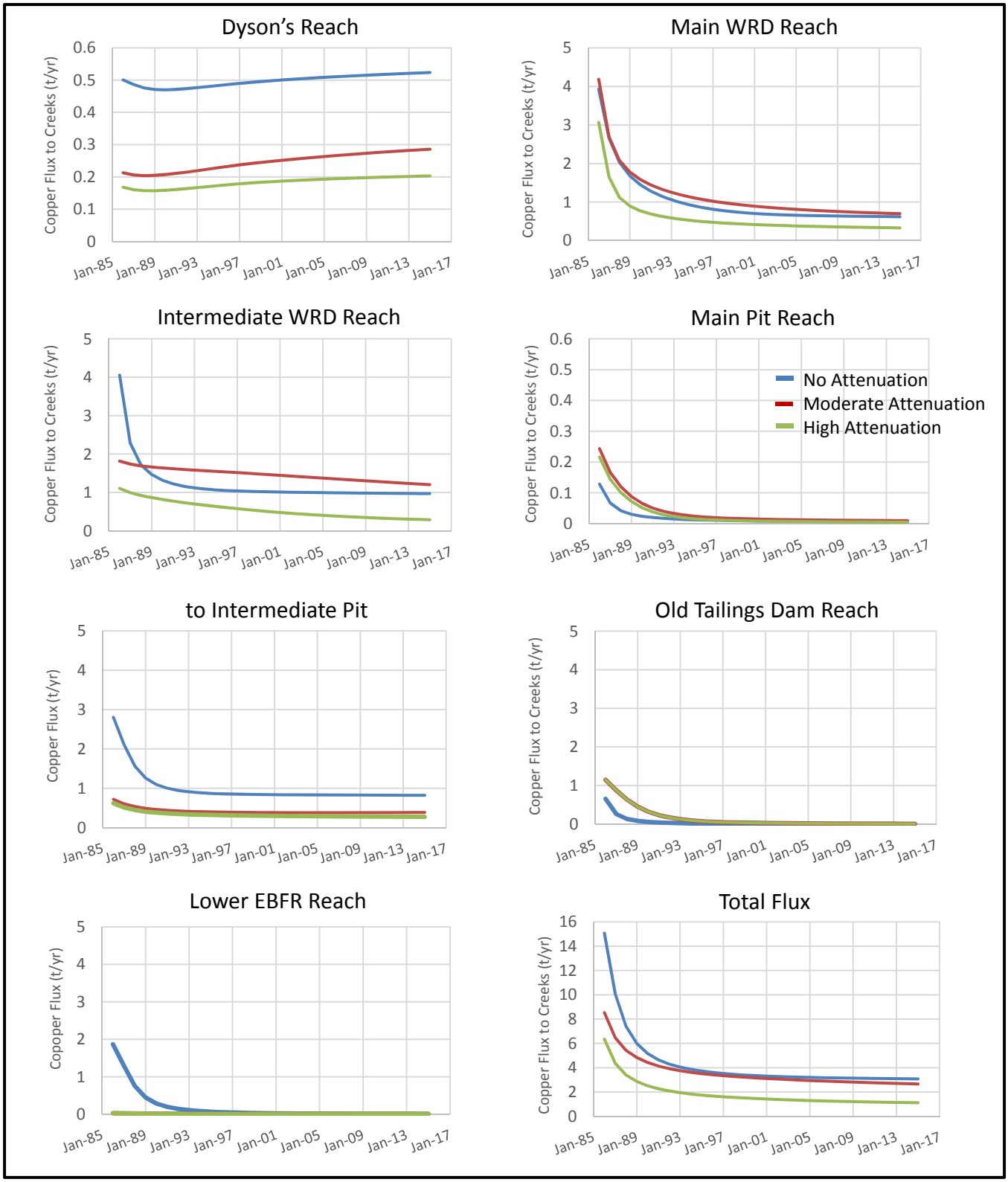

Simulated Transient Copper Mass Fluxes to Surface Water (1985 to 2015)

Client: Northern Territory Government, Department of Resources - Minerals and Energy	**Figure: 7-11**
Project: Las Tortolas Phase 2 Work	Project No: 183006
Report No: 183006/6	Last Update: Jun 06, 2016
Original File: Fluxes SO4 to 2046 – correct sources.xlsx	

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APPENDICES

APPENDIX A

CONSTRUCTION DETAILS FOR MONITORING BORES

Table A-1a. Summary of historic monitoring bores near the Main and Intermediate WRDs

Bore ID	Installation Date	Location/description	Easting	Northing	Total depth	Screened Interval	Stickup[2]	TOC[3]	Screened lithology	Yield
			(MGA94 Zone 56)		(m bgs)[1]	(m bgs)[1]	(m ags)[2]	(m AHD 71)		L/s
RN022037	May-83	SE of the Intermediate Overburden Heap	717564	8562777	22.8	16 to 22	0.51	67.18	Rum Jungle Complex (wtr)	0.1
RN022039	May-83	Between White's and Intermediate Overburden Heaps (near EFDC)	717650	8562960	18.0	12 to 18	0.32	67.73	Quartz gravels	5
RN022081	May-83	Between White's and Intermediate Overburden Heaps (near EFDC)	717669	8562959	43.9	40.7 to 43.9	0.86	68.75	Coomalie Dolostone	7.5
RN022082S	June-83	On top of White's Overburden Heap	718068	8562447	17.0	11 to 17	0.49	94.24	Rum Jungle Complex (wtr)	0.1
RN022082D	June-83	On top of White's Overburden Heap	718068	8562447	52.0	37 to 52	0.33	94.38	Rum Jungle Complex	0.1
RN022083	June-83	East of White's Overburden Heap near Fitch Creek	718282	8562532	17.9	10 to 16	0.35	68.59	Rum Jungle Complex	0.6
RN022084	June-83	Near SW toe of White's Overburden Heap	717738	8562411	16.0	10 to 16	0.07	69.15	Rum Jungle Complex (wtr)	<0.1
RN022085	Jun-83	Upgradient of mine site	717224	8562457	32.0	24 to 32	0.92	73.99	Coomalie Dolomite	5
RN022410	Oct-83	East of White's Overburden Heap (near drainage channel)	718229	8562758	1.9	0.3 to 1.1	0.50	64.45	Rum Jungle Complex (wtr)	0.5
RN022411	Oct-83	East of White's Overburden Heap (near drainage channel)	718252	8562776	2.3	0.3 to 1.5	0.79	63.90	Alluvium	-
RN022412	Oct-83	East of White's Overburden Heap (near drainage channel)	718212	8562471	2.7	0.4 to 2.1	0.46	70.43	Rum Jungle Complex (wtr)	0.1
RN022413	Oct-83	East of White's Overburden Heap (near drainage channel)	718244	8562474	2.8	0.4 to 2.4	0.64	70.14	Sandy clay	0.5
RN022414	Oct-83	East of White's Overburden Heap (near drainage channel)	718282	8562524	2.9	0.4 to 2.5	0.63	68.90	Rum Jungle Complex (wtr)	0.1
RN022417	Nov-83	SW of White's Overburden Heap	717586	8562515	3.1	0.4 to 2.5	0.89	66.60	Rum Jungle Complex (wtr)	0.1
RN022418	Nov-83	Near SW toe of White's Overburden Heap	717504	8562526	2.2	0.4 to 2.0	0.53	64.02	Rum Jungle Complex (wtr)	0.1
RN023057	Oct-83	West of Intermediate Overburden Heap	717238	8562787	3.4	1.8 to 2.6	0.72	61.77	Whites Formation (wtr)	-
RN023058	Oct-83	West of Intermediate Overburden Heap	717253	8562775	4.3	2.6 to 3.7	0.65	62.29	Whites Formation (wtr)	-
RN023059	Dec-85	West of Intermediate Overburden Heap	717182	8562846	5.7	4.2 to 5.2	0.76	60.87	Whites Formation (wtr)	-
RN023060	Dec-85	West of Intermediate Overburden Heap	717164	8562818	5.1	4.2 to 5.1		60.87	Whites Formation (wtr)	-
RN023061	Dec-85	Near western toe of White's Overburden Heap	717648	8562539	3.2	1.8 to 2.5	0.74	68.69	Rum Jungle Complex (wtr)	0.1
RN023062	Dec-85	SW of White's Overburden Heap (near Wandering Creek)	717568	8562545	2.8	1.5 to 2.2	0.71	66.28	Rum Jungle Complex (wtr)	0.1
RN023063	Dec-85	SW of White's Overburden Heap (near Wandering Creek)	717489	8562429	2.1	0.9 to 1.3	0.79	65.18	Rum Jungle Complex (wtr)	0.1
RN023064	Dec-85	SW of White's Overburden Heap (near Wandering Creek)	717460	8562514	2.6	1.2 to 1.8	0.82	64.22	Alluvium	-
RN023510	Nov-84	East of White's Overburden Heap (near drainage channel)	718186	8562892	3.1	1.5 to 2.1	1.05	64.27	Laterite	-
RN023511	Nov-84	East of White's Overburden Heap (near drainage channel)	718209	8562827	2.6	1.1 to 1.6	1.12	64.20	Laterite	-
RN023512	Nov-84	East of White's Overburden Heap (near drainage channel)	718256	8562733	2.5	1.1 to 1.5	1.01	64.81	Laterite	-
RN023513	Nov-84	East of White's Overburden Heap (near drainage channel)	718262	8562692	3.2	1.5 to 2.2	0.97	65.63	Laterite	-
RN023514	Nov-84	SW of White's Overburden Heap	717738	8562415	2.8	1.4 to 1.9	0.98	70.07	Laterite	-
RN025160	Jun-87	On top of White's Overburden Heap	717843	8562789	16.9	13.9 to 16.9	0.09	87.02	Waste rock	0
RN025161	Jun-87	On top of White's Overburden Heap	717862	8562584	18.7	15.7 to 18.7	0.03	88.95	Waste rock	-
RN025162	Jun-87	On top of White's Overburden Heap	718067	8562703	20.8	17.8 to 20.8	0.12	84.63	Waste rock	0
RN025163	Jun-87	SE of White's Overburden Heap	718177	8562288	6.0	backfilled	0.31	73.91	Rum Jungle Complex (wtr)	-
RN025165	Jun-87	SW of White's Overburden Heap	717742	8562230	8.2	5.2 to 8.2	0.56	69.92	Rum Jungle Complex (wtr)	-
RN025166	Jun-87	SW of White's Overburden Heap	718059	8562038	6.2	3.2 to 6.2	0.41	77.19	Rum Jungle Complex (wtr)	-
RN025167	Jun-87	SE of White's Overburden Heap	718423	8562099	6.2	3.2 to 6.2	0.36	70.43	Rum Jungle Complex (wtr)	0.1
RN025168	Jun-87	SE of White's Overburden Heap	718352	8562371	9.5	6.5 to 9.5	0.37	69.89	Rum Jungle Complex (wtr)	0.1
RN025169	Jun-87	North of White's Overburden Heap (near EFDC)	717860	8562963	5.8	2.8 to 5.8	0.46	74.57	Laterite	-
RN025170	Jun-87	NW of White's Overburden Heap (near EFDC)	717749	8562927	8.9	5.9 to 8.9	0.43	73.31	Rum Jungle Complex (wtr)	0.1
RN025171	Jun-87	NW of White's Overburden Heap (near EFDC)	717595	8562991	6.2	2.8 to 5.8	0.52	65.97	Laterite	-
RN025172	Jun-87	Near western toe of White's Overburden Heap	717661	8562716	4.7	1.7 to 4.7	0.35	70.28	Rum Jungle Complex (wtr)	-
RN025173	Jun-87	Near SE toe of the Intermediate Overburden Heap	717506	8562747	7.8	5.1 to 8.1	0.37	64.72	Rum Jungle Complex (wtr)	-
RN029990	May-95	NE of White's Overburden Heap (near drainage channel)	718170	8562916	5.8	1.5 to 5.2	0.30	63.57	Rum Jungle Complex	0.1
RN029991	May-95	NE of White's Overburden Heap (near drainage channel)	718165	8562915	2.8	1.0 to 2.6	0.32	63.81	Rum Jungle Complex	0.1
RN029992	May-95	NE of White's Overburden Heap (near drainage channel)	718189	8562894	5.6	1.5 to 5.2	0.31	63.32	Rum Jungle Complex (wtr)	0.4
RN029993	May-95	NE of White's Overburden Heap (near drainage channel)	718208	8562826	7.5	1.0 to 7.2	0.72	63.88	Clay	-
RN029994	May-95	NE of White's Overburden Heap (near drainage channel)	718246	8562752	2.2	1.0 to 2.5	0.50	64.21	Rum Jungle Complex (wtr)	-
RN029995	May-95	NE of White's Overburden Heap (near drainage channel)	718244	8562749	3.5	1.0 to 3.0	0.56	64.39	Rum Jungle Complex	-
RN029997	May-95	SW of White's Overburden Heap	717771	8562384	3.3	1.0 to 3.3	0.36	70.27	Quartz gravels	-
RN029998	May-95	SW of White's Overburden Heap	717774	8562389	5.6	1.0 to 5.6	0.50	70.41	Quartz gravels	-
RN029999	May-95	SW of White's Overburden Heap	717742	8562398	8.5	1.0 to 7.8	0.63	69.87	Quartz gravels	-
RN030000	May-95	SW of White's Overburden Heap	717745	8562406	0.3	1.0 to 7.4	0.62	69.91	Quartz gravels	-
RN030001	May-95	SW of White's Overburden Heap	717695	8562468	6.8	1.0 to 6.6	0.37	68.53	Quartz gravels	-
RN030002	May-95	SW of White's Overburden Heap	717701	8562471	8.9	1.0 to 8.4	0.57	68.91	Quartz gravels	-
RN030003	May-95	SW of White's Overburden Heap	717644	8562535	4.4	0.9 to 3.7	0.59	68.43	Sandstone	-
RN030004	May-95	Near western toe of White's Overburden Heap	717667	8562714	3.4	1.5 to 2.9	0.52	70.80	Sandstone	-

Table A-1b. Summary of historic monitoring bores in Dyson's area and in the Old Tailings Dam area

Bore ID	Installation Date	Location/description	Easting	Northing	Total depth	Screened Interval	Stickup[2]	TOC[3]	Screened lithology	Yield
			(MGA94 Zone 56)		(m bgs)[1]	(m bgs)[1]	(m ags)[2]	(m AHD 71)		L/s
Dyson's Area										
RN00259	Jul-44	Army bore	718436	8564278	0.0	-	-	75.58	-	-
RN022035	May-83	Near White's Open Cut	718123	8564277	140.6	backfilled	-	68.01	Whites Formation (pyritic)	0.1
RN022036	May-83	SW of Dyson's (backfilled) Open Cut	718483	8563283	14.2	7 to 12	0.32	76.06	Geolsec Formation	0.0
RN022544	Jan-84	Near eastern edge of White's Open Cut	718087	8563322	44.5	35.2 to 44.5	0.87	65.78	Whites Formation (pyritic)	9.0
RN023051	Dec-85	SW of Dyson's Overburden Heap near upper East Finniss River	719021	8563319	3.1	1.7 to 2.4	0.60	64.06	Alluvium	-
RN023052	Dec-85	SW of Dyson's Overburden Heap near upper East Finniss River	719051	8563319	3.3	1.7 to 2.4	0.67	64.35	Alluviium	-
RN023413	Nov-84	SW of Dyson's Overburden Heap near upper East Finniss River	719155	8563351	3.2	1.3 to 1.8	1.24	64.72	Laterite	-
RN023414	Nov-84	SW of Dyson's Overburden Heap near upper East Finniss River	719196	8563337	2.4	1.0 to 1.5	0.86	64.02	Clay	-
RN023415	Nov-84	SW of Dyson's Overburden Heap near upper East Finniss River	719223	8563329	2.8	1.2 to 1.8	1.33	64.78	Clay	-
RN023416	Nov-84	SW of Dyson's Overburden Heap near upper East Finniss River	719203	8563316	2.8	1.2 to 1.8	1.11	64.30	Clay	-
RN023417	Nov-84	SW of Dyson's Overburden Heap near upper East Finniss River	719166	8563327	2.1	0.3 to 0.8	0.69	64.73	Laterite	-
RN023418	Nov-84	SW of Dyson's Overburden Heap near upper East Finniss River	719141	8563319	2.5	1.0 to 1.3	1.02	64.13	Clay	-
RN023419	Nov-84	SW of Dyson's Overburden Heap near upper East Finniss River	719113	8563309	3.1	1.2 to 1.7	1.10	64.26	Alluvium	-
RN023420	Nov-84	SW of Dyson's Overburden Heap near upper East Finniss River	719151	8563285	1.9	1.3 to 1.9	0.00	64.54	Clay	-
RN023790	May-85	Near SW batter of Dyson's (backfilled) Open Cut	718901	8563545	16.0	10 to 16	0.36	73.95	Geolsec Formation	10.0
RN023791	May-85	Near southern batter of Dyson's (backfilled) Open Cut	718755	8563438	2.8	13 to 19	0.78	80.04	Whites Formation	0.2
RN023792	May-85	West of Dyson's (backfilled) Open Cut	718540	8563421	26.2	20 to 26	0.52	83.80	Geolsec Formation	0.2
RN023793	May-85	West of Dyson's (backfilled) Open Cut	718369	8563384	19.3	13.2 to 19.2	0.49	71.20	Whites Formation	0.2
Near the Old Tailings Dam area										
RN023304	Oct-84	Near northern boundary of mine site	718433	8564289	26.4	20.9 to 26.4	0.58	75.97	Coomalie Dolostone	4.0
RN022547	Jan-84	Near northern boundary of mine site	718244	8564495	23.0	17 to 23	0.68	75.32	Whites Formation (pyritic)	1.5
RN022548	Jan-84	Near northern boundary of mine site	718239	8564484	30.5	27.9 to 30.5	0.06	74.82	Coomalie Dolostone	13.5
RN022107	Jun-83	NW of White's Open Cut	717630	8563565	14.8	12.8 to 14.8	0.57	62.88	Coomalie Dolostone	25.0
RN023140	Oct-84	North of Old Tailings Creek	717124	8564296	18.0	11 to 16	0.60	62.32	Coomalie Dolostone	4.2
RN023139	Sep-84	West of East Finniss River (d/s of mine site)	716496	8563833	30.0		0.68	57.37	Geolsec Formation	0.1
RN023302	Oct-84	North of Old Tailings Creek	716661	8564227	12.5	9.5 to 12.5	0.35	57.27	Coomalie Dolostone	1.3

1. bgs = below ground surface
2. ags = above ground surface
3. TOC = Top of casing
Note: wtr = weathered

Table A-1c. Summary of historic monitoring bores near the Main and Intermediate Open Cuts

Bore ID	Installation Date	Location/description	Easting	Northing	Total depth	Screened Interval	Stickup[2]	TOC[3]	Screened lithology	Yield
			(MGA94 Zone 56)		(m bgs)[1]	(m bgs)[1]	(m ags)[2]	(m AHD 71)		L/s
Near Open Cuts										
RN022108	May-83	'Open hole' bore near road bridge (now PMB9S/D)	717062	8563079	30.0	open hole'	0.50	59.84	Coomalie Dolostone	30
RN022543	Jan-84	Near Intermediate Open Cut	717290	8563226	33.0	23 to 33	1.08	61.25	Coomalie Dolostone	6.00
RN022546	Jan-84	Near White's Open Cut	717682	8563179	5.4	backfilled?	0.00	64.81	-	-
RN023053	Dec-85	In former copper heap leach area	717411	8563306	3.9	2.1 to 3	0.90	61.95	Whites Formation (wtr)	-
RN023054	Dec-85	In former copper heap leach area	717582	8563353	3.2	1.2 to 2.6	0.58	61.62	Whites Formation (wtr)	-
RN023055	Dec-85	In former copper heap leach area	717528	8563250	4.3	2.5 to 3.6	0.70	62.78	Whites Formation (wtr)	-
RN023056	Dec-85	In former copper heap leach area	717678	8563177	5.4	3.9 to 4.7	0.70	64.86	Whites Formation (wtr)	-
RN023516	Nov-84	Near EFDC (west of Intermediate Open Cut)	717045	8563066	4.9	3.1 tp 3.9	0.92	60.40	Alluvium	-
RN023517	Nov-84	Near EFDC (west of Intermediate Open Cut)	717062	8563077	3.1	1.7 to 2.4	0.80	60.25	Alluvium	-
RN023518	Nov-84	Near EFDC (west of Intermediate Open Cut)	717032	8563116	3.0	1.3 to 1.9	0.99	59.34	Alluvium	-
RN023519	Nov-84	Near EFDC (west of Intermediate Open Cut)	717036	8563152	4.7	3.0 to 3.8	0.95	59.35	Alluvium	-
RN022085	Jun-83	Upgradient of mine site	717224	8562457	32.0	24 to 32	0.92	73.99	Coomalie Dolostone	5
On Compass property										
RN023515	Nov-84	Brown's Area	716997	8563050	3.3	1.7 to 2.5	0.77	59.68	Clay	-
RN023137	Sep-84	Brown's Area	716594	8562687	30.0	21 to 40	0.70	67.95	Laterite	
RN023138	Sep-84	Brown's Area	716837	8562481	30.0	backfilled	0.89	63.02	Whites Formation	0.1
TPB5		Brown's Area	716921	8563048	5.2	-	0.42	59.86	-	-
TPB4		Brown's Area	716572	8563104	30.0	-	0.48	61.60	-	-

1. bgs = below ground surface
2. ags = above ground surface
3. TOC = Top of casing
Note: wtr = weathered

Table A-2. Summary of monitoring bores installed in 2010

Bore ID	Installation Date	Location/description	Easting	Northing	Total depth	Screened Interval	Stickup[2]	TOC[3]	Screened lithology	Yield
			(MGA94 Zone 56)		(m bgs)[1]	(m bgs)[1]	(m ags)[2]	(m AHD 71)		L/s
MB10-01a	Nov-10	In drainage channel from Dyson's (backfilled) Open Cut	719072	8563353	3.4	1.4 to 3.4	0.74	69.88	Saprolite	n.d.
MB10-01b	Nov-10	Adjacent to braided channel south of Dyson's (backfilled) Open Cut	718974	8563405	3.7	2.2 to 3.7	1.22	70.73	Alluvium	n.d.
MB10-02	Nov-10	Bedrock beneath Dyson's area	719062	8563378	18.7	12.7 to 18.7	0.68	70.73	Rum Jungle Complex	0.1
MB10-03	Nov-10	Saprolite (and some alluvium) near the head of EFDC	718152	8562971	3.5	1.97 to 3.47	0.66	68.56	Saprolite/alluvium	n.d.
MB10-04	Nov-10	Bedrock beneath the EFDC (near White's Overburden Heap)	718157	8562971	15.3	9.34 to 15.34	0.73	68.76	Rum Jungle Complex	0.1
MB10-05	Nov-10	Near Intermediate Overburden Heap	717211	8562906	5.0	2.0 to 5.0	0.77	65.44	Overburden	n.d.
MB10-06	Nov-10	Bedrock near Intermediate Overburden Heap (next to EFDC)	717200	8562906	25.5	13.5 to 25.5	0.73	66.29	Whites Formation	2
MB10-07	Dec-10	Downgradient of Intermediate Open Cut near East Finniss River	717190	8563258	18.0	9 to 18	0.55	65.70	Coomalie Dolostone	1.5
MB10-08S	Nov-10	West of the East Finniss River	716781	8563726	14.6	5.56 to 14.56	0.62	65.78	Laterite	n.d.
MB10-08D	Nov-10	West of the East Finniss River	716783	8563725	23.0	20 to 23	0.71	65.95	Geolsec Formation	0.1
MB10-09S	Dec-10	Near East Finniss River (formerly RN022108)	717059	8563074	29.2	23.4 to 29.4	1.00	65.44	Coomalie Dolostone	n.d.
MB10-09D	Dec-10	Near East Finniss River (formerly RN022108)	717059	8563074	61.3	46.26 to 62.26	0.92	65.51	Coomalie Dolostone	n.d.
MB10-10	Dec-10	In former copper heap leach area	717515	8563269	32.0	16 to 32	0.55	67.66	Whites Formation	n.d.
MB10-11	Dec-10	In former copper heap leach area	717479	8563264	34.5	31.5 to 34.5	0.55	67.61	Alluvium	8
MB10-12	Dec-10	North of former heap leach area	717251	8563402	24.6	12.62 to 24.62	0.44	66.73	Coomalie Dolostone	2
MB10-13	Dec-10	North of former heap leach area	717248	8563404	60.8	48.77 to 60.77	0.58	66.85	Coomalie Dolostone	2
MB10-14	Dec-10	North of White's Open Cut	717548	8563705	16.2	14.23 to 16.23	0.70	69.96	Coomalie Dolostone	50
MB10-15	Dec-10	North of White's Open Cut	717695	8563743	24.4	12.41 to 24.41	0.43	68.48	Coomalie Dolostone	1
MB10-16	Dec-10	North of former heap leach area	717088	8563304	22.6	13.5 to 22.5	0.26	66.22	Coomalie Dolostone	1
MB10-17	Dec-10	North of former heap leach area	717222	8563711	26.0	20 to 26	0.60	68.59	Coomalie Dolostone	10
MB10-18	Nov-10	Near Old Tailings Creek	717387	8564067	8.0	1.97 to 7.97	0.48	66.40	Saprolite/alluvium	n.d.
MB10-19	Nov-10	Near Old Tailings Creek	717386	8564071	24.5	12.53 to 24.53	0.57	66.35	Coomalie Dolomite	1
MB10-20	Nov-10	Downstream of site	715885	8564609	6.9	2.87 to 6.87	1.27	60.48	Alluvium	n.d.
MB10-21	Nov-10	Downstream of site	715856	8564636	32.1	12.14 to 32.14	0.67	60.47	Rum Jungle Complex	0.1
MB10-22	Dec-10	Near former heap leach area	717363	8563324	24.6	12.58 to 24.58	0.70	67.01	Coomalie Dolostone	n.d.
MB10-23	Dec-10	Near former heap leach area	717369	8563209	25.0	13 to 25	0.50	67.25	Coomalie Dolostone	n.d.
MB10-24	Dec-10	Near former heap leach area	717342	8563211	16.0	4 to 16	0.61	65.98	Coomalie Dolostone	n.d.

1. bgs = below ground surface
2. ags = above ground surface
3. TOC = Top of casing
Note: wtr = weathered

Table A-3. Summary of monitoring bores installed in 2012 & 2014

Bore ID	Installation Date	Location/description	Easting	Northing	Total depth	Screened Interval		Stickup[2]	TOC[3]	Screened lithology	Yield
			(MGA94 Zone 56)		(m bgs)[1]	(m bgs)[1]		(m ags)[2]	(m AHD 71)		L/s
2012 Installations											
MB12-25	2012	Near EFDC	717446	8563042	18.9	12.88	18.88		63.80	Whites Formation	0.4
MB12-26	2012	Near EFDC	717536	8563108	11.0	9.01	11.01		65.42	Whites Formation	0.2
MB12-27	2012	Near EFDC	717612	8563094	11.7	8.71	11.71		66.55	Coomalie Dolostone	n.d.
MB12-28	2012	Near EFDC	717765	8563098	15.4	9.38	15.38		64.42	Coomalie Dolostone	1.5
MB12-29D	2012	Near EFDC	717538	8563006	18.1	14.85	17.85	0.23	65.62	Geolsec Formation	n.d.
MB12-29S	2012	Near EFDC	717573	8562998	10.0	6.75	9.75	0.25	65.71	Red Laterite	n.d.
MB12-30D	2012	Intermediate WRD	717315	8562926	18.6	12.32	18.32	0.30	64.61	Whites Formation	0.5
MB12-30S	2012	Intermediate WRD	717315	8562924	7.9	1.47	7.47	0.42	64.40	Waste Rock	n.d.
MB12-31S	2012	Main WRD	717785	8562950	8.0	1.70	7.70	0.30	73.81	Red Laterite	n.d.
MB12-31D	2012	Main WRD	717785	8562955	22.5					Rum Jungle Complex	n.d.
MB12-32	2012	Central Mining Area	717464	8563256						Rum Jungle Complex	2.5
PB12-33	2012	Central Mining Area	717482	8563260	33.1	14.10	32.10		62.56	Whites Formation	3.5
MB12-34	2012	Between Brown's Oxide Pit and Intermediate Pit	716967	8563042	60.7	48.70	60.70		59.19	Coomalie Dolostone	0.5
MB12-35	2012	Central Mining Area	717437	8563252	34.1	22.10	34.10		62.32	Coomalie Dolostone	n.d.
2014 Installations											
MB14-01S	Oct-14	Old Taillings Dam	717539	8563950	6.5	2.0	6.5	0.74	63.02	Saprolite	n.d.
MB14-01D	Oct-14	Old Taillings Dam	717540	8563950	31.8	25.8	31.8	0.72	63.00	Coomalie Dolostone	4
MB14-02S	Oct-14	Old Taillings Dam	717757	8563962	8.0	2.0	8.0	0.74	64.96	Rum Jungle Complex	n.d.
MB14-02D	Oct-14	Old Taillings Dam	717758	8563962	29.1	23.1	29.1	0.72	64.95	Coomalie Dolostone	2
MB14-03	Oct-14	Old Taillings Dam	717677	8564225	22.8	17.8	22.8	0.72	64.03	Saprolite	1.5
MB14-04	Oct-14	Old Taillings Dam	717675	8564224	8.3	2.3	8.3	0.75	64.11	Saprolite	n.d.
MB14-05S	Oct-14	Old Taillings Dam	718040	8564011	8.0	2.0	8.0	0.85	69.25	Saprolite	n.d.
MB14-05D	Oct-14	Old Taillings Dam	718041	8564011	27.6	21.6	27.6	0.83	69.22	Coomalie Dolostone	1
MB14-06S	Oct-14	Upgradient Old Taillings Dam	718290	8564183	8.0	2.0	8.0	0.60	73.31	Siltstone	n.d.
MB14-06D	Oct-14	Upgradient Old Taillings Dam	718289	8564183	24.0	18.0	24.0	0.58	73.25	Coomalie Dolostone	0.8
MB14-07	Oct-14	Downgradient Old Taillings Dam	717332	8563917	11.0	8.0	11.0	0.65	63.11	Coomalie Dolostone	3
MB14-08S	Oct-14	Downgradient Old Taillings Dam	717342	8563885	5.0	2.0	5.0	0.85	63.73	Lat/Sap/Coomalie Dolostone	n.d.
MB14-08D	Oct-14	Downgradient Old Taillings Dam	717343	8563885	23.5	17.5	23.5	0.83	63.68	Coomalie Dolostone	0.2
MB14-09	Oct-14	Downgradient Old Taillings Dam	717111	8563985	16.0	10.0	16.0	0.82	62.52	Coomalie Dolostone	1.5
MB14-10	Oct-14	Downgradient Old Taillings Dam	717109	8563987	5.2	2.2	5.2	0.75	62.49	Saprolite	n.d.
MB14-13S	Oct-14	Old Taillings Dam	717912	8564174	8.0	2.0	8.0	0.84	68.20	Lat/Sap/Coomalie Dolostone	n.d.
MB14-13D	Oct-14	Old Taillings Dam	717913	8564174	18.0	13.0	18.0	0.81	68.19	Coomalie Dolostone	2
MB14-14S	Oct-14	Upgradient Old Taillings Dam	718549	8564144	8.0	2.0	8.0	0.88	78.31	Lat/Sap/Whites Formation	n.d.
MB14-14D	Oct-14	Upgradient Old Taillings Dam	718550	8564144	29.5	23.5	29.5	0.84	78.23	Whites Formation	0.5
MB14-15S	Oct-14	Upgradient Old Taillings Dam	718268	8563930	14.0	11.0	14.0	0.77	84.78	Geolsec Formation	n.d.
MB14-15D	Oct-14	Upgradient Old Taillings Dam	718269	8563930	42.0	21.0	42.0	0.74	84.74	Geolsec Formation	0.5
MB14-16	Oct-14	Upgradient Old Taillings Dam	718265	8563929	7.0	2.0	7.0	0.75	84.74	Laterite Fill	n.d.
MB14-17S	Oct-14	Upgradient Old Taillings Dam	718085	8563755	7.1	2.1	7.1	0.82	78.30	Fill/Lat/Geolsec Formation	n.d.
MB14-17D	Oct-14	Upgradient Old Taillings Dam	718086	8563755	29.0	21.0	29.0	0.77	78.25	Geolsec Formation	n.d.
MB14-18	Oct-14	Downgradient Old Taillings Dam	717082	8564137	17.0	11.0	17.0	0.58	59.98	Coomalie Dolostone	1.2
MB14-19	Oct-14	Downgradient Old Taillings Dam	717080	8564137	6.2	2.0	6.2	0.73	60.17	Saprolite	n.d.
MB14-20S	Oct-14	Old Taillings Dam	717951	8563794	8.0	2.0	8.0	0.90	67.50	Saprolite	n.d.
MB14-20D	Oct-14	Old Taillings Dam	717952	8563794	27.0	21.0	27.0	0.87	67.46	Coomalie Dolostone	0.2

1. bgs = below ground surface
2. ags = above ground surface
3. TOC = Top of casing

APPENDIX B

GROUNDWATER QUALITY DATA

2008 - 2015

Table B-1. Baseline (Unimpacted) Groundwater Quality Data, Bore RN023140

		FIELD DATA		LAB DATA			MAJOR IONS (in mg/L)							DISSOLVED METALS (in ug/L)									
Bore ID	Sampling Date	pH	EC uS/cm	pH	Acidity mg/L	HCO_3 Alkalinity mg/L as CaCO3	HCO_3	SO_4	Cl	Ca	Mg	Na	K	Al	Fe	Cd	Cu	Co	Mn	Ni	Pb	U	Zn
RN023140 (Dry Season)																							
RN023140	16-Jul-08	7.3	504	7.3		234	286	2	3	30	46	3	1	0.2	20	0.02	0.1	0.3	0.4	0.2	0.01	1	1
RN023140	4-Dec-08	8.6	527	8.0		198	241	1	3	28	43	3	1	3	200	0.2	0.1	0.3	11	0.1	0.2	1	1
RN023140	16-Jul-09	8.0	512	8.1		177	216	3	3	26	39	3	3	5	20	0.02	1	0.1	1	0.1	0.01	5	2
RN023140	1-Sep-09	7.8	518	7.7		193	236	4	4	28	45	3	3	6	20	0.02	2	0.1	0.2	0.4	0.01	14	3
RN023140	13-Oct-09	7.2	533	7.0		187	228	2	3	28	44	3	2	10	20	0.02	1	0.1	1	0.2	0.01	5	1
RN023140	18-Nov-09	7.2	460	7.7		197	240	2	3	29	42	2	1	5	20	0.02	0.2	0.1	1	0.2	0.01	4	0.4
RN023140	5-Aug-10	7.1	496			259	315	2	5	29	45	3	1	3	200	0.2	0.1	0.1	1	0.1	0.1	1	12
RN023140	26-Sep-12	7.2	557			249	304	2	5	29	43	3	1	7	2	0.02	4	0.3	1	1	0.1	2	2
No. of samples		8	8	6	0	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
Minimum		7.1	460	7.0	n/a	177	216	1	3	26	39	2	1	0.2	2	0.02	0.1	0.1	0.2	0.1	0.0	1	0.4
Maximum		8.6	557	8.1	n/a	259	315	4	5	30	46	3	3	10	200	0.20	4	0.3	11	1	0.2	14	12
Mean		7.5	513	7.6	n/a	212	258	2	3	29	43	3	2	5	63	0.07	1	0.2	2	0.3	0.1	4	3
Standard Deviation		0.5	29	0.4	n/a	31	38	1	1	1	2	0	1	3	85	0.08	1	0.1	3	0.3	0.1	5	4
80th Percentile		8.1	538	8.1	n/a	251	306	3	5	29	45	3	3	7	200	0.20	2	0.3	3	1	0.1	7	5
RN023140 (Wet Season)																							
RN023140	8-Jan-09	7.9	499	7.9		201	245	1	3	27	43	3	1	0.3	20	0.02	0.1	0.1	1	0.4	0.01	1	1
RN023140	18-Mar-09	8.0	472	7.9		187	228	2	2	25	43	3	1	1	20	0.02	1	0.1	2	0.2	0.1	1	2
RN023140	14-Apr-11	7.2	518	7.9		236	288	2	5	29	43	3	1	10	200	0.2	1	0.1	2	0.3	0.2	1	1
RN023140	15-Feb-12	7.2	564			234	285	2	5	31	45	3	1	11	2	0.02	6	0.1	2	0.3	1.1	1	2
RN023140	27-Apr-09	7.1	509	7.7		208	254	2	3	29	44	3	1	1	20	0.02	1	0.2	1	0.1	0.01	1	1
No. of samples		5	5	4	0	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5.0	5	5	5
Minimum		7.1	472	7.7	n/a	187	228	1	2	25	43	3	1	0.3	2	0.02	0.1	0.1	1	0.1	0.0	1	1
Maximum		8.0	564	7.9	n/a	236	288	2	5	31	45	3	1	11	200	0.20	6	0.2	2	0.4	1.1	1	2
Mean		7.5	513	7.9	n/a	213	260	2	4	28	44	3	1	5	52	0.06	2	0.1	2	0.2	0.3	1	1
Standard Deviation		0.5	34	0.1	n/a	21	26	0.2	1	2	1	0.1	0.2	5	83	0.08	2	0.1	0	0.1	0.5	0.1	1
80th Percentile		8.0	555	7.9	n/a	236	287	2	5	31	45	3	1	11	164	0.16	5	0.2	2	0.3	0.9	1	2

Red numbers indicate that the concentration was below the indicated detection limit

Table B-2. Baseline (Unimpacted) Groundwater Quality Data, Bores RN022085 and RN025168

		FIELD DATA		LAB DATA			MAJOR IONS (in mg/L)							DISSOLVED METALS (in ug/L)									
Bore ID	**Sampling Date**	**pH**	**EC uS/cm**	**pH**	**Acidity mg/L**	**HCO_3 Alkalinity mg/L as CaCO3**	**HCO_3**	**SO_4**	**Cl**	**Ca**	**Mg**	**Na**	**K**	**Al**	**Fe**	**Cd**	**Cu**	**Co**	**Mn**	**Ni**	**Pb**	**U**	**Zn**
RN022085 (Dry Season)																							
RN022085	11-Jun-08	7.5	366	7.4		144	176	2	2	23	27	2	1	5	20	0.02	0.2	1.7	139	1	0.7	4	3
RN022085	22-Oct-08	7.4	381	7.8		193	235	1	2	35	31	2	1	2	20	0.02	0.1	0.5	199	0.3	0.1	1	2
RN022085	29-Oct-08	7.1	475	-		197	240	1	5	37	33	2	0.3	120	200	0.2	1	0.8	121	1	0.2	7	3
RN022085	4-Dec-08	8.0	530	7.9		199	243	2	2	39	34	2	1	6	200	0.2	0.1	1.3	679	1	0.1	8	3
RN022085	16-Jul-09	7.1	417	7.2		160	195	1	2	26	25	2	1	2	20	0.02	0.4	6.8	280	4	0.0	1	4
RN022085	1-Sep-09	7.3	384	7.2		157	191	0.4	2	28	27	2	1	3	20	0.02	1	2.9	267	2	0.0	1	2
RN022085	13-Oct-09	7.2	423	6.9		145	177	1	2	26	26	2	2	3	60	0.02	1	3.3	329	2	0.3	1	6
RN022085	18-Nov-09	7.1	382	7.6		155	189	1	2	27	25	2	2	1	20	0.02	1	2.6	349	2	0.1	1	3
No. of samples		8	8	7	0	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
Minimum		7.1	366	6.9	n/a	144	176	0.4	2	23	25	2	0.3	1	20	0.02	0.1	0.5	121	0.3	0.0	1	2
Maximum		8.0	530	7.9	n/a	199	243	2	5	39	34	2	2	120	200	0.20	1	6.8	679	4	0.7	8	6
Mean		7.3	420	7.4	n/a	169	206	1	3	30	28	2	1	18	70	0.07	1	2.5	295	2	0.2	3	3
Standard Deviation		0.3	56	2.6	n/a	23	29	1	1	6	4	0	1	41	81	0.08	0.5	2.0	176	1	0.2	3	1
80th Percentile		7.6	486	7.8	n/a	197	241	2	3	37	33	2	2	29	200	0.20	1	4.0	415	2	0.4	7	4
RN022085 (Wet Season)																							
RN022085	20-Jan-09	7.2	520	7.5		197	240	0.4	2	40	36	2	0.3	3	20	0.02	0.4	0.7	637	0.3	0.0	5	1
RN022085	18-Mar-09	7.3	484	7.3		184	224	0.1	2	36	34	2	0.3	2	20	0.02	1	0.6	306	0.4	0.1	2	2
RN022085	23-Apr-09	7.0	519	7.4		191	233	1	2	35	34	2	1	2	20	0.02	1	0.7	415	0.2	0.0	2	2
No. of samples		3	3	3	0	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Minimum		7.0	484	7.3	n/a	184	224	0.1	2	35	34	2	0	2	20	0.02	0.4	0.6	306	0.2	0.0	2	1
Maximum		7.3	520	7.5	n/a	197	240	1	2	40	36	2	1	3	20	0.02	1	0.7	637	0.4	0.1	5	2
Mean		7.1	508	7.4	n/a	190	232	0.4	2	37	35	2	0.4	2	20	0.02	1	0.7	453	0.3	0.04	3	1
Standard Deviation		0.2	21	0.1	n/a	7	8	0.3	0.1	3	1	0.1	0.2	1	0.0	0.00	0.1	0.1	169	0.1	0.03	2	1
80th Percentile		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
RN025168 (Wet Season)																							
RN025168	7-Apr-09	6.1	366			95	116	2		0.2	2			21	200	0.2	4	2	9	2	2.2	0.4	5

Red numbers indicate that the concentration was below the indicated detection limit

Table B-3. Seepage water quality data, Dyson's WRD and Dyson's (backfilled) Pit

		FIELD DATA		LAB DATA			MAJOR IONS (in mg/L)							DISSOLVED METALS (in ug/L)									
Bore ID	Sampling Date	pH	EC uS/cm	pH	Acidity mg/L	HCO_3 Alkalinity mg/L as CaCO3	HCO_3	SO_4	Cl	Ca	Mg	Na	K	Al	Fe	Cd	Cu	Co	Mn	Ni	Pb	U	Zn
Seepage from Dyson's (backfilled) Open Pit (Wet Season)																							
DOCC	19-Jan-11					0	0	1,460	5	126	234	5	2	11,600	200	1.4	18,500	15,900	34,900	12,900	5	937	562
DOCC	16-Mar-11	3.4	2872			0	0	1,730	5	158	259	4	1	17,000	11,300	1.7	27,300	18,400	39,900	15,500	7	1,030	705
DOCC	13-Apr-11	3.4	3051	3.3		0	0	1,900	5	180	282	5	1	18,900	9,920	2.0	29,600	20,500	41,800	16,300	7	1,070	792
DOCC	10-May-11	3.4	4041		720	0	0	2,940	5	275	450	6	2	26,400	9,700	2.9	35,700	32,600	72,400	25,700	10	1,700	1,170
DOCC	6-Jun-11	3.8	4247		488	0	0	3,450	5	293	566	8	2	38,000	2,000	5.0	47,300	36,200	75,200	28,000	7	2,020	1,290
DOCC	1-Feb-12	3.6	2502		116	0	0	1,540	5	143	239	4	1		834	1.5	18,000	16,700	39,600	13,500	5	813	590
DOCC	24-Apr-12	4.0	3909		456	0	0	2,730	5	257	435	7	1	22,200	102	2.4	31,600	27,800	63,800	22,200	5	1,680	982
No. of samples		6	6	1	4	7	7	7	7	7	7	7	7	6	7	7	7	7	7	7	7	7	7
Minimum		3.4	2502	n/a	116	0	0	1,460	5	126	234	4	1	11,600	102	1.40	18,000	15,900	34,900	12,900	5	813	562
Maximum		4.0	4247	n/a	720	0	0	3,450	5	293	566	8	2	38,000	11,300	5.00	47,300	36,200	75,200	28,000	10	2,020	1,290
Mean		3.6	3437	n/a	445	0	0	2,250	5	205	352	5	1	22,350	4,865	2.40	29,714	24,014	52,514	19,157	6	1,321	870
Standard Deviation		0.3	719	n/a	249	0	0	782	0	69	131	1	0	9,137	5,152	1.27	10,145	8,162	17,265	6,096	2	468	284
80th Percentile		3.9	4165	n/a	720	0	0	3,144	5	282	496	7	2	33,360	10,472	3.75	40,340	34,040	73,520	26,620	8	1,828	1,218
Seepage from Dyson's (backfilled) Open Pit (Dry Season)																							
DOCC	21-Dec-11	3.8	4549		272	0	0	2,990	5	271	515				144	2.5	29,000	22,700	51,500	19,700	5	1,590	860
Seepage from Dyson's WRD (Wet Season), near creek																							
DOHC	19-Jan-11	4.5	862			0	0	461	5	60	70	3	1	2,960	1,300	0.2	1,290	2,420	5,950	1,900	0.8	101	105
DOHC	16-Mar-11	4.3	1106			0	0	579	5	73	81	3	0.4	9,020	2,740	0.5	4,630	3,100	7,380	2,590	2.4	155	134
DOHC	13-Apr-11	4.2	1356	4.1		0	0	766	5	93	104	3	1	14,900	1,880	0.7	5,040	4,110	9,770	3,380	22.8	224	231
DOHC	10-May-11	4.2	1579		360	0	0	1,020	5	133	144	4	1	11,800	560	0.8	3,800	6,340	14,900	4,930	5.1	217	257
DOHC	6-Jun-11	4.3	1968		148	0	0	1,400	5	190	206	5	1	9,100	800	1.0	2,740	9,710	23,300	7,420	1.3	175	311
DOHC	5-Jul-11	4.4	1986		80	0	0	1,430	5	194	216	6	1	4,800	240	0.6	936	8,110	21,400	6,280	0.9	104	202
DOHC	1-Feb-12	4.7	657		24	0	0	324	5	44	50	2	0.2		690	0.2	924	637	2,410	633	0.8	76	62
DOHC	29-Feb-12	4.3	1658		82																		
DOHC	28-Mar-12	4.2	1273		78																		
DOHC	24-Apr-12	4.3	1747		140	0	0	984	5	128	145	4	1	9,270	574	0.6	1,370	6,160	15,600	4,620	1.2	184	195
DOHC	21-May-12	4.2	2103	4.2	100	0	0	1,440	5	192	212	5	1	7,380	472	0.8	1,080	10,700	26,500	8,030	1.2	154	262
No. of samples		11	11	2	8	9	9	9	9	9	9	9	9	8	9	9	9	9	9	9	9	9	9
Minimum		4.2	657	4.1	24	0	0	324	5	44	50	2	0	2960	240	0.2	924	637	2410	633	1	76	62
Maximum		4.7	2103	4.2	360	0	0	1440	5	194	216	6	1	14900	2740	1	5,040	10700	26500	8030	23	224	311
Mean		4.3	1481	4.2	127	0	0	934	5	123	136	4	1	8654	1028	1	2,423	5699	14134	4420	4	154	195
Standard Deviation		0.1	475	0.1	102	0	0	430	0	59	64	1	0	3752	810	0.3	1,672	3413	8378	2523	7	52	81
80th Percentile		4.4	1979	n/a	190	0	0	1430	5	192	212	5	1	12420	1880	1	4,630	9710	23300	7420	5	217	262
Seepage from Dyson's WRD (Dry Season), near creek																							
DOHC	21-Dec-11	4.4	759		600	0	0	332	5	40	50				854	0.3	3,980	1,350	4,860	1,320	0.7	56	139
Seepage from Dyson's WRD (Wet Season), Seep 1 and upstream along the toe																							
DOHSE1	15-Apr-09	2.9	4851			0	0	3,430		115	497			154,000	49,000	2.6	188	648	10,700	2,100	0.1	1,980	265
DOHSE1	28-Mar-12	2.9	2767		900	0	0																
DOHCus	6-Aug-10	3.7	4520	3.1		0	0	2,710	5	95	511	8	4	87,600	5,800		157	395	5,060	1,240	0.2	1,170	175

Red numbers indicate that the concentration was below the indicated detection limit

Table B-4. Seepage water quality data, Main WRD and Intermediate WRD

		FIELD DATA		LAB DATA			MAJOR IONS (in mg/L)							DISSOLVED METALS (in ug/L)									
Bore ID	**Sampling Date**	**pH**	**EC uS/cm**	**pH**	**Acidity mg/L**	**HCO_3 Alkalinity mg/L as CaCO3**	**HCO_3**	**SO_4**	**Cl**	**Ca**	**Mg**	**Na**	**K**	**Al**	**Fe**	**Cd**	**Cu**	**Co**	**Mn**	**Ni**	**Pb**	**U**	**Zn**
Seepage from the Main WRD (Dry Season), Seep 1 near the toe channel																							
MOHSE1	6-Aug-10	3.7	6000	3.1		0	0	5,190	5	318	1,120	8	4	12,900	4,800	22.2	4,400	5,180	11,100	3,840	28.7	568	7,140
Seepage from the Main WRD (Wet Season), Seep 1 near the toe channel																							
MOHSE1	14-Apr-09	3.7	6580			0	0	4,710	5	427	895			10,900	2,600	28.6	3,890	4,370	5,860	3,750	36.2	547	8,050
MOHSE1	28-Mar-12	4.1	4528		160																		
MOHSE1	26-Apr-12	3.8	4579		245	0	0	3,830	5	323	748	3	3	8,870	3,080	25.6	3,650	3,510	5,670	2,950	91.6	473	6,400
MOHSE1	21-May-12	3.3	2213	3.3	172	0	0	4,050	5	318	796	4	2	9,110	3,540	21.0	3,880	3,740	6,530	3,170	188.0	466	6,480
No. of samples		4	4	1.0	3	3	3	3	3	3	3	2	2	3	3	3.0	3	3	3	3	3.0	3	3
Min		3.3	2213	n/a	160	0	0	3830	5	318	748	3	2	8870	2600	21	3,650	3510	5670	2950	29	466	6400
Max		4.1	6580	n/a	245	0	0	5190	5	427	1120	8	4	12900	4800	29	4,400	5180	11100	3840	188	568	8050
Mean		3.7	4780	3.2	192	0	0	4445	5	347	890	5	3	10445	3505	24	3,955	4200	7290	3428	86	514	7018
SD		0.3	1690	n/a	46	0	0	622	0	54	165	2	1	1871	945	3	317	748	2567	435	73	52	764
P80		4.0	6464	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
dsMOHSE	14-Apr-09	3.5	7980			0	0	5,100	5	357	947			14,600	8,000	32.2	5,680	5,260	8,080	4,490	29.3	756	9,390
MOHwD	28-Mar-12	4.5	2694		103																		
Seepage from the Intermediate WRD (Dry Season), pool in the EFDC																							
IOHSE4	6-Aug-10	3.3	12600	2.7		0	0	13,800	5	362	2,760	9	4	199,000	349,000	211.0	34,900	74,700	84,300	64,900	26.8	1,840	156,000
Seepage from the Intermediate WRD (Wet Season), pool in the EFDC																							
IOHSE1	28-Mar-12	3.8	4192		475																		
IOHSE2	28-Mar-12	3.5	660		820																		
IOHSE3	28-Mar-12	3.7	639		840																		
No. of samples		3	3		3																		
Minimum		3.5	639	n/a	475	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Maximum		3.8	4192	n/a	840	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Mean		3.7	1830	n/a	712	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Standard Deviation		0.1	2045	n/a	205	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
80th Percentile		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Red numbers indicate that the concentration was below the indicated detection limit

Table B-5. Groundwater Quality Data for Bores MB10-1a and MB10-1b, Dyson's Area

		FIELD DATA		LAB DATA			MAJOR IONS (in mg/L)							DISSOLVED METALS (in ug/L)									
Bore ID	**Sampling Date**	**pH**	**EC uS/cm**	**pH**	**Acidity mg/L**	**HCO_3 Alkalinity mg/L as CaCO3**	**HCO_3**	**SO_4**	**Cl**	**Ca**	**Mg**	**Na**	**K**	**Al**	**Fe**	**Cd**	**Cu**	**Co**	**Mn**	**Ni**	**Pb**	**U**	**Zn**
MB10-1a (Dry Season)																							
MB10-1a	30-Nov-10	6.2	3223																				
MB10-1a	23-Aug-11	5.8	8570		598																		
No. of samples		2	2		1																		
Minimum		5.8	3223	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Maximum		6.2	8570	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Mean		6.0	5897	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Standard Deviation		0.3	3781	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
80th Percentile		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
MB10-1a (Wet Season)																							
MB10-1a	29-Mar-11	5.1	841	6.1		0	0	1,150	5	134	216	5	1	161	1,000	0.4	78	1,290	5,670	1,290	2.1	48	71
MB10-1a	16-Feb-12	6.3	4404			246	300	2,600	5	346	467	32	2	193	7,350	0.4	6	304	24,400	195	0.5	33	58
No. of samples		2	2	1	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Minimum		5.1	841	6.1	0	0	0	1150	5	134	216	5	1	161	1000	0	6	304	5670	195	1	33	58
Maximum		6.3	4404	6.1	0	246	300	2600	5	346	467	32	2	193	7350	0	78	1290	24400	1290	2	48	71
Mean		5.7	2623	6.1	n/a	123	150	1875	5	240	342	18	1	177	4175	0	42	797	15035	743	1	40	65
Standard Deviation		0.9	2519	n/a	n/a	174	212	1025	0	150	177	19	1	23	4490	0	51	697	13244	774	1	10	9
80th Percentile		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
MB10-1b (Dry Season)																							
MB10-1b	29-Nov-10	3.5	4066			0	0	2,720	5	249	442	11	2	18,300	400	2.2	31,700	24,700	48,000	19,800	7.4	1,800	1,000
MB10-1b	23-Aug-11	3.9	4975		394																		
MB10-1b	25-Sep-12	4.8	4103		186																		
No. of samples		3	3	0	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Minimum		3.5	4066	n/a	186	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Maximum		4.8	4975	n/a	394	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Mean		4.1	4381	n/a	290	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Standard Deviation		0.7	514	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
80th Percentile		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
MB10-1b (Wet Season)																							
MB10-1b	30-Mar-11	5.1	782	6.0		0	0	343	5	49	56	5	0	128	200	0.2	469	312	642	256	2.3	26	32
MB10-1b	1-Mar-12	4.5	1318		36	0	0	618	5	85	98	8	0	808	48	0.2	1,730	803	1,680	695	1.7	116	47
No. of samples		2	2	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Minimum		4.5	782	6.0	36	n/a	0	343	5	49	56	5	0	128	48	0	469	312	642	256	2	26	32
Maximum		5.1	1318	6.0	36	n/a	0	618	5	85	98	8	0	808	200	0	1,730	803	1680	695	2	116	47
Mean		4.8	1050	6.0	n/a	n/a	0	481	5	67	77	7	0	468	124	0	1,100	558	1161	476	2	71	40
Standard Deviation		0.5	379	n/a	n/a	n/a	0	194	0	25	29	2	0	481	107	0	892	347	734	310	0	64	11
80th Percentile		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Red numbers indicate that the concentration was below the indicated detection limit

Table B-6. Groundwater Quality Data for Bores MB10-2, RN023413, and RN023419, Dyson's Area

		FIELD DATA		LAB DATA			MAJOR IONS (in mg/L)							DISSOLVED METALS (in ug/L)									
Bore ID	**Sampling Date**	**pH**	**EC uS/cm**	**pH**	**Acidity mg/L**	**HCO_3 Alkalinity mg/L as CaCO3**	**HCO_3**	**SO_4**	**Cl**	**Ca**	**Mg**	**Na**	**K**	**Al**	**Fe**	**Cd**	**Cu**	**Co**	**Mn**	**Ni**	**Pb**	**U**	**Zn**
DO20	7-Sep-11	5.2	8,720			155	189	6,580	60	450	1,230	88	8	22	435,000	0	0	4,550	56,500	1,460	0	6	124
DO21	7-Sep-11	4.7	5,510			50	61	3,850	15	302	679	7	6	2,130	145,000	9	3,660	11,400	67,100	8,140	2	622	1,550
MB10-2 (Dry Season)																							
MB10-2	1-Sep-11	7.0	1980			107	131	711	5	132	89	94	5	12	24	0.2	28	5	287	5	0.1	31	1
MB10-2	29-Nov-10	6.8	2350			0	0	1,110	10	186	134	126	9	73	200	0.2	178	1,130	2,760	927	4.0	158	50
MB10-2	24-Sep-12	6.9	2100			212	259	815	5	167	111			15	1,100	0.1	2	4	449	3	0.3	15	4
No. of samples		3	3	0	0	3	3	3	3	3	3	2	2	3	3	3	3	3	3	3	3	3	3
Minimum		6.8	1980	n/a	n/a	0	0	711	5	132	89	94	5	12	24	0	2	4	287	3	0	15	1
Maximum		7.0	2350	n/a	n/a	212	259	1110	10	186	134	126	9	73	1100	0	178	1130	2760	927	4	158	50
Mean		6.9	2143	n/a	n/a	106	130	879	7	162	111	110	7	33	441	0	69	380	1165	312	1	68	18
Standard Deviation		0.1	189	n/a	n/a	106	129	207	n/a	27	22	n/a	n/a	34	577	n/a	95	650	1383	533	2	78	27
80th Percentile		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
MB10-2 (Wet Season)																							
MB10-2	29-Mar-11	6.8	2192	7.9		0	0	932	5	180	119	105	7	18	600	0.2	2	14	542	10	3.6	51	11
MB10-2	16-Feb-12	6.9	2537			216	264	988	5	205	130	83	5	14	1,440	0.2	0	6	659	4	0.5	15	10
No. of samples		2	2	1	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Minimum		6.8	2192	7.9	0	n/a	0	932	5	180	119	83	5	14	600	0	0	6	542	4	0	15	10
Maximum		6.9	2537	7.9	0	n/a	264	988	5	205	130	105	7	18	1440	0	2	14	659	10	4	51	11
Mean		6.9	2365	7.9	n/a	n/a	132	960	5	193	125	94	6	16	1020	0	1	10	601	7	2	33	11
Standard Deviation		0.0	244	n/a	n/a	n/a	186	40	0	18	8	16	1	3	594	0	1	6	83	5	2	26	1
80th Percentile		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
RN023413 (Dry Season)																							
RN023413	6-Oct-11	3.5	2389					2,730	5	178	439	4	1	54,000	133,000	0.5	679	442	8,450	1,340	65.2	202	201
RN023413 (Wet Season)																							
RN023413	7-Apr-09	-	5310	3.1		580	708	3,780		199	564			123,000	126,000		182	667	12,100	2040		340	320
RN023419 (Wet Season)																							
RN023419	9-Apr-09		9,860	2.8		2400	2,928	8,660		299	976			666,000	29,600		2,610	2,830	29,700	7,360		4,540	815
RN023419	21-Feb-12	2.8	3	2.8	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
No. of samples		1	2	2	1	2	2	2	1	2	2	1	1	2	2	1	2	2	2	2	1	2	2
Minimum		2.8	3	2.8	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Maximum		2.8	9,860	2.8	3	2400	2,928	8,660	3	299	976	3	3	666,000	29,600	3	2,610	2,830	29,700	7,360	3	4,540	815
Mean		2.8	4,931	2.8	3	1201	1,465	4,331	3	151	489	3	3	333,001	14,801	3	1,306	1,416	14,851	3,681	3	2,271	409
Standard Deviation		n/a	6,970	0.0	n/a	1695	2,068	6,122	n/a	209	688	n/a	n/a	470,931	20,928	n/a	1,844	1,999	20,999	5,202	n/a	3,208	574
80th Percentile		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Red numbers indicate that the concentration was below the indicated detection limit

Table B-7. Groundwater Quality Data for Bore RN023790, Dyson's Area

		FIELD DATA		LAB DATA			MAJOR IONS (in mg/L)							DISSOLVED METALS (in ug/L)									
Bore ID	Sampling Date	pH	EC uS/cm	pH	Acidity mg/L	HCO_3 Alkalinity mg/L as CaCO3	HCO_3	SO_4	Cl	Ca	Mg	Na	K	Al	Fe	Cd	Cu	Co	Mn	Ni	Pb	U	Zn
RN023790 (Dry Season)																							
RN023790	11-Jun-08	7.1	996	7.4			227	303	4	86	80	5	1	1	20	0.02	0	0.3	0.5	0.3	0.1	3	1
RN023790	16-Jul-08	7.3	960	7.3			229	287	4	84	79	4	1	1	20	0.02	0	1	1	1	0.1	3	1
RN023790	22-Oct-08	7.2	983	7.7			231	272	3	77	71	4	1	31	20	0.0	2	11	386	9	1	107	57
RN023790	28-Oct-08	7.0	875				18	274	5	72	73	4	1	8	200	0.2	3	2	17	8	0.2	3	5
RN023790	4-Dec-08	8.2	1007	7.9			210	277	3	28	75	4	1	3	200	0.2	0	1	4	1	1	3	2
RN023790	8-Jan-09	7.1	1001	7.9			211	283	3	79	76	4	1	1	20	0.02	0	0.3	2	1	0.0	3	1
RN023790	13-Oct-09	7.0	1044	6.9			194	273	4	74	72	4	1	5	200	0.2	1	0.5	3	1	0.3	23	2
RN023790	18-Nov-09	6.9	906	7.5			206	294	3	79	72	4	1	5	20	0.02	0	1	10	0.4	0.0	17	1
RN023790	1-Sep-11	7.2	1011			176	215	282	5	78	73	3	1	5	20	0.2	14	0.1	1	0.1	0.1	3	1
RN023790	21-Sep-10	7.0	996			190	232	271	5	77	73	4	1	2	200	0.2	0		1	0.3	0.1	2	10
RN023790	25-Sep-12	7.1	1058			198	242	264	5	76	70	4	1	23	2	0.02	25	41	98	34	0.1	21	2
RN023790	16-Jul-09	7.4	982	7.5			212	280	3	74	68	4	1	3	200	0.2	1	1	13	0.5	1	17	2
RN023790	1-Sep-09	7.3	981	7.3			213	280	3	82	78	4	1	5	200	0.2	1	0.4	2	0.3	0.3	18	1
No. of samples		13	13	9		3	13	13	13	13	13	13	13	13	13	13	13	12	13	13	13	13	13
Minimum		6.9	875	6.9	n/a	176	18	264	3	28	68	3	1	1	2	0	0	0	0	0	0	2	1
Maximum		8.2	1058	7.9	n/a	198	242	303	5	86	80	5	1	31	200	0	25	41	386	34	1	107	57
Mean		7.2	985	7.5	n/a	188	203	280	4	74	74	4	1	7	102	0	4	5	41	4	0	17	7
Standard Deviation		0.3	50	0.3	n/a	11	57	10	1	14	4	0	0	9	95	0	7	12	107	9	0	28	15
80th Percentile		7.3	1018	7.9	n/a	n/a	231	288	5	82	78	4	1	11	200	0	5	6	33	8	1	22	6
RN023790 (Wet Season)																							
RN023790	17-Mar-09	7.0	940	7.3			196	296	3	79	72	4	1	2	20	0.02	1	0.3	1	1	0.1	3	1
RN023790	9-Apr-09	7.1	1097				1585	287	5	77	69			16	200	0.2	5	0.3	1	0.2	0.1	3	5
RN023790	27-Apr-09	7.0	995	7.3			210	294	3	78	73	4	1	1	20	0.02	1	0.4	2	0.2	0.1	3	1
RN023790	12-Apr-11	7.1	1034	7.8		164	200	308	5	82	51	4	1	117	200	0.2	6	1	4	3	0.9	4	17
RN023790	19-May-09	7.2	985	7.8			234	283	5	64	71	4	9	24	200	0.2	7	13	134	10	5	16	15
No. of samples		5	5	4			5	5	5	5	5	4	4	5	5	5	5	5	5	5	5	5	5
Minimum		7.0	940	n/a	n/a	n/a	196	283	3	64	51	4	1	1	20	0	1	0	1	0	0	3	1
Maximum		7.2	1097	n/a	n/a	n/a	1585	308	5	82	73	4	9	117	200	0	7	13	134	10	5	16	17
Mean		7.1	1010	n/a	n/a	n/a	485	294	4	76	67	4	3	32	128	0	4	3	28	3	1	6	8
Standard Deviation		0.1	59	n/a	n/a	n/a	615	10	1	7	9	0	4	49	99	0	3	6	59	4	2	6	8
80th Percentile		7.1	1084	n/a	n/a	n/a	1315	306	5	81	73	4	9	98	200	0	7	11	108	8	4	14	17

Red numbers indicate that the concentration was below the indicated detection limit

Table B-8. Groundwater Quality Data for Bore RN022036, West of Dyson's Area

		FIELD DATA		LAB DATA			MAJOR IONS (in mg/L)							DISSOLVED METALS (in ug/L)									
Bore ID	**Sampling Date**	**pH**	**EC uS/cm**	**pH**	**Acidity mg/L**	**HCO_3 Alkalinity mg/L as CaCO3**	**HCO_3**	**SO_4**	**Cl**	**Ca**	**Mg**	**Na**	**K**	**Al**	**Fe**	**Cd**	**Cu**	**Co**	**Mn**	**Ni**	**Pb**	**U**	**Zn**
RN022036 (Dry Season)																							
RN022036	22-Sep-10	6.6	416			172	209	3	5	12	41	2	0.1	2	200	0.2	1		7	1	0.1	1	40
RN022036	26-Sep-12	6.5	454			212	259	3	5	10	46	2	0.1	5	6	0.02	9	1	10	4	0.1	2	3
No. of samples		2	2	0	0	2	2	2	2	2	2	2	2	2	2	2	2	1	2	2	2	2	2
Minimum		6.5	416	n/a	n/a	n/a	n/a	3	n/a	10	41	n/a	n/a	2	6	0	1	1	7	1	0	1	3
Maximum		6.6	454	n/a	n/a	n/a	n/a	3	n/a	12	46	n/a	n/a	5	200	0	9	1	10	4	0	2	40
Mean		6.5	435	n/a	n/a	n/a	n/a	3	n/a	11	43	n/a	n/a	4	103	0	5	1	8	3	0	1	22
Standard Deviation		0.1	27	n/a	n/a	n/a	n/a	0	n/a	2	4	n/a	n/a	2	137	0	6	n/a	2	2	0	1	26
80th Percentile		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
RN022036 (Wet Season)																							
RN022036	21-Feb-12	6.4	467			199	243	4	5	11	47	2	0.1	21	2	0.02	0	0.1	7	1	0.0	1	2
RN022036	18-Apr-11	6.6	453	7.5		189	231	1	5	5	41	2	0.1	22	400	0.2	1	6	12	8	0.1	0.2	3
No. of samples		2	2	1		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Minimum		6.4	453	n/a	n/a	n/a	n/a	1	n/a	5	41	n/a	n/a	21	2	0	0	0	7	1	0	0	2
Maximum		6.6	467	n/a	n/a	n/a	n/a	4	n/a	11	47	n/a	n/a	22	400	0	1	6	12	8	0	1	3
Mean		6.5	460	n/a	n/a	n/a	n/a	2	n/a	8	44	n/a	n/a	21	201	0	1	3	9	4	0	1	2
Standard Deviation		0.1	10	n/a	n/a	n/a	n/a	2	n/a	4	4	n/a	n/a	1	281	0	1	4	3	5	0	1	1
80th Percentile		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Red numbers indicate that the concentration was below the indicated detection limit

Table B-9. Groundwater Quality Data for Bores RN023792 and RN023793, West of Dyson's Area

		FIELD DATA		LAB DATA			MAJOR IONS (in mg/L)							DISSOLVED METALS (in ug/L)									
Bore ID	**Sampling Date**	**pH**	**EC uS/cm**	**pH**	**Acidity mg/L**	**HCO_3 Alkalinity mg/L as CaCO3**	**HCO_3**	**SO_4**	**Cl**	**Ca**	**Mg**	**Na**	**K**	**Al**	**Fe**	**Cd**	**Cu**	**Co**	**Mn**	**Ni**	**Pb**	**U**	**Zn**
RN023792 (Dry Season)																							
RN023792	22-Sep-10	7.3	463			146	177	3	5	25	40	2	0.1	2	200	0.2	0		158	0.1	0.1	2	5
RN023792	1-Sep-11	7.2	469			179	218	3	5	25	38	2	0.1	5	6	0.02	11	0.3	145	0.2	0.0	3	0.1
RN023792	25-Sep-12	7.3	470			200	244	3	5	24	35	2	0.1	9	34	0.02	3	1	129	1	0.1	3	0.4
RN023792	29-Oct-08	7.0	454				180	5	5	26	41	3	0.1	7	60	0.2	0	0.1	151	0.1	0.1	2	0.2
No. of samples		4	4	0	0	3	4	4	4	4	4	4	4	4	4	4	4	3	4	4	4	4	4
Minimum		7.0	454	n/a	n/a	146	177	3	5	24	35	2	0	2	6	0	0	0	129	0	0	2	0
Maximum		7.3	470	n/a	n/a	200	244	5	5	26	41	3	0	9	200	0	11	1	158	1	0	3	5
Mean		7.2	464	n/a	n/a	175	205	4	5	25	39	2	0	6	75	0	4	0	146	0	0	3	1
Standard Deviation		0.2	7	n/a	n/a	27	32	1	n/a	1	3	n/a	n/a	3	86	n/a	5	0	12	0	0	1	2
80th Percentile		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
RN023792 (Wet Season)																							
RN023792	17-Feb-12	7.2	450			196	239	3	5	24	36	2	0.1	21	6	0.04	1	0.2	127	0.5	0.1	5	2
RN023792	12-Apr-11	7.2	425	7.9		160	195	4	5	21	35	2	0.1	25	200	0.2	2	1	148	1	0.1	1	1
No. of samples		2	2	1	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Minimum		7.2	425	n/a	n/a	160	195	3	5	21	35	2	0	21	6	0	1	0	127	0	0	1	1
Maximum		7.2	450	n/a	n/a	196	239	4	5	24	36	2	0	25	200	0	2	1	148	1	0	5	2
Mean		7.2	438	n/a	n/a	178	217	4	5	23	35	2	0	23	103	0	2	0	138	1	0	3	1
Standard Deviation		0.0	18	n/a	n/a	25	31	1	0	2	1	0	0	3	137	0	1	0	15	1	0	2	1
80th Percentile		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
RN023793 (Dry Season)																							
RN023793	22-Sep-10	5.9	1236					444	5	5	149	12	13	347	400	0.2	4	4	4	6	0.9	0.4	15
RN023793	25-Sep-12	5.8	1203			162	198	424	5	5	134	13	16	49	600	0.02	22	10	8	14	0.1	2	5
RN023793	1-Sep-11	5.9	1251			138	168	441	5	5	140	11	16	30	176	0.2	201	10	10	11	0.1	2	10
RN023793	29-Oct-08		1158	5.8		50	61	440	5	5	144	11	15	22	580	-	2	7	8	11	-	1	3
No. of samples		3	4	1	0	3	3	4	4	4	4	4	4	4	4	3	4	4	4	4	3	4	4
Minimum		5.8	1158	n/a	n/a	50	61	424	5	5	134	11	13	22	176	0	2	4	4	6	0	0	3
Maximum		5.9	1251	n/a	n/a	162	198	444	5	5	149	13	16	347	600	0	201	10	10	14	1	2	15
Mean		5.9	1212	n/a	n/a	117	142	437	5	5	142	12	15	112	439	0	57	8	8	10	0	1	8
Standard Deviation		0.0	41	n/a	n/a	59	72	9	n/a	0	6	n/a	n/a	157	197	n/a	96	3	2	3	0	1	5
80th Percentile		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
RN023793 (Wet Season)																							
RN023793	7-Apr-09	5.9	1245					446	5	5	142	11	15	14	400	0.2	3	4	4	5	0.1	0.3	5
RN023793	18-Apr-11	5.9	1198	6.9		126	154	423	5	10	147	12	15	9	200	0.2	2	0.2	11	2	0.7	2	3
RN023793	21-Feb-12	5.8	1280			165	202	449	5	5	144	12	14	39	532	0.2	0	6	7	8	0.1	1	2
No. of samples		3	3	1	0	2	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Minimum		5.8	1198	n/a	n/a	126	154	423	5	5	142	11	14	9	200	0	0	0	4	2	0	0	2
Maximum		5.9	1280	n/a	n/a	165	202	449	5	10	147	12	15	39	532	0	3	6	11	8	1	2	5
Mean		5.9	1241	n/a	n/a	146	178	439	5	7	144	12	15	21	377	0	2	3	7	5	0	1	3
Standard Deviation		0.1	41	n/a	n/a	28	34	14	n/a	3	3	n/a	n/a	16	167	n/a	1	3	4	3	0	1	2
80th Percentile		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Red numbers indicate that the concentration was below the indicated detection limit

Table B-10. Groundwater Quality Data for Bore RN022544, Near the Main Pit

		FIELD DATA		LAB DATA			MAJOR IONS (in mg/L)							DISSOLVED METALS (in ug/L)									
Bore ID	**Sampling Date**	**pH**	**EC uS/cm**	**pH**	**Acidity mg/L**	**HCO_3 Alkalinity mg/L as CaCO3**	**HCO_3**	**SO_4**	**Cl**	**Ca**	**Mg**	**Na**	**K**	**Al**	**Fe**	**Cd**	**Cu**	**Co**	**Mn**	**Ni**	**Pb**	**U**	**Zn**
RN022544 (Dry Season)																							
RN022544	29-Oct-08		4502	7.0				3,170	20	384	626	24	4	17	680		1	31	8,860	8		308	9
RN022544	7-Sep-11	6.3	5560			218	266	3,630	20	452	703	20	1	7	2,250	0.5	0	493	10,300	133	0.4	409	9
RN022544	22-Sep-10	7.5	3624	-		309	375	3,880	20	472	768	23	2	22	2,000	0.2	1	145	10,100	30	0.2	325	10
No. of samples		2	3	1	0	2	2	3	3	3	3	3	3	3	3	2	3	3	3	3	2	3	3
Minimum		6.3	3624	7.0	n/a	218	266	3170	20	384	626	20	1	7	680	0	0	31	8860	8	0	308	9
Maximum		7.5	5560	7.0	n/a	309	375	3880	20	472	768	24	4	22	2250	1	1	493	10300	133	0	409	10
Mean		6.9	4562	7.0	n/a	264	320	3560	20	436	699	22	2	15	1643	0	1	223	9753	57	0	347	9
Standard Deviation		0.8	969	4.9	n/a	65	77	360	0	46	71	2	2	8	844	0	1	241	780	67	0	54	1
80th Percentile		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
RN022544 (Wet Season)																							
RN022544	28-Mar-11	6.5	3241	7.6				1,590	15	221	327	18	1	17	1,800	0.2	0	65	4,660	16	0.1	125	6
RN022544	8-Apr-09	6.4	6240				2682	4,180		498	794			18	1,200	0.2	1	644	11,900	227	0.1	552	95
No. of samples		3	3	2	0	1	2	3	2	3	3	2	2	3	3	3	3	3	3	3	3	3	3
Minimum		6.4	3241	n/a	n/a	n/a	n/a	1590	n/a	221	327	n/a	n/a	17	1200	0	0	65	4660	16	0	125	6
Maximum		6.5	6240	n/a	n/a	n/a	n/a	4180	n/a	498	794	n/a	n/a	18	1800	0	1	644	11900	227	0	552	95
Mean		6.4	4741	n/a	n/a	n/a	n/a	2885	n/a	360	561	n/a	n/a	18	1500	0	0	355	8280	121	0	339	51
Standard Deviation		0.1	2121	n/a	n/a	n/a	n/a	1831	n/a	196	330	n/a	n/a	1	424	0	0	409	5119	149	0	302	63
80th Percentile		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Red numbers indicate that the concentration was below the indicated detection limit

Table B-11. Groundwater Quality Data for Bores RN022082S and RN022082D, Beneath the Main WRD

		FIELD DATA		LAB DATA			MAJOR IONS (in mg/L)							DISSOLVED METALS (in ug/L)									
Bore ID	**Sampling Date**	**pH**	**EC uS/cm**	**pH**	**Acidity mg/L**	**HCO_3 Alkalinity mg/L as CaCO3**	**HCO_3**	**SO_4**	**Cl**	**Ca**	**Mg**	**Na**	**K**	**Al**	**Fe**	**Cd**	**Cu**	**Co**	**Mn**	**Ni**	**Pb**	**U**	**Zn**
RN022082S (Dry Season)																							
RN022082S	29-Oct-08	3.9	8,300					7,080	5	439	1,570	1	3	7,520	20,800	26	1,840	4,410	10,100	5,230	6	334	9,090
RN022082S	25-Aug-11	4.2	8,250		164			6,040	5	460	1,230	2	3	5,760	8,820	33	1,950	3,390	7,240	4,200	50	308	8,800
RN022082S	12-Oct-10	4.2	9,070					6,940	5	446	1,540	3	4	6,120	35,100	23	1,580	4,350	9,890	4,570	2	281	10,100
No. of samples		3	3	0	1	0	0	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Minimum		3.9	8,250	n/a	n/a	0	0	6,040	5	439	1,230	1	3	5,760	8,820	23	1,580	3,390	7,240	4,200	2	281	8,800
Maximum		4.2	9,070	n/a	n/a	0	0	7,080	5	460	1,570	3	4	7,520	35,100	33	1,950	4,410	10,100	5,230	50	334	10,100
Mean		4.1	8,540	n/a	n/a	n/a	n/a	6,687	5	448	1,447	2	3	6,467	21,573	27	1,790	4,050	9,077	4,667	19	308	9,330
Standard Deviation		0.2	460	n/a	n/a	n/a	n/a	564	n/a	11	188	n/a	n/a	930	13,157	n/a	190	572	1,594	522	27	27	682
80th Percentile		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
RN022082S (Wet Season)																							
RN022082S	14-Apr-09	4.2	8,410	4				6,880		458	1,340			5,930	16,400	30	1,560	4,220	9,150	5,160	3	270	9,170
RN022082S	11-Feb-11	4.0	6,030					3,950		360	761	2	3	4,360	4,200	34	1,390	2,620	5,140	3,200	2	197	9,610
RN022082S	11-Feb-11	4.0	6,030					3,950		357	758	2	2	4,280	4,400	33	1,380	2,600	4,950	3,090	2	200	9,140
No. of samples		3	3	1	0	0	0	3	0	3	3	2	2	3	3	3	3	3	3	3	3	3	3
Minimum		4.0	6,030	n/a	n/a	0	0	3,950	0	357	758	2	2	4,280	4,200	30	1,380	2,600	4,950	3,090	2	197	9,140
Maximum		4.2	8,410	n/a	n/a	0	0	6,880	0	458	1,340	2	3	5,930	16,400	34	1,560	4,220	9,150	5,160	3	270	9,610
Mean		4.0	6,823	n/a	n/a	n/a	n/a	4,927	n/a	392	953	2	3	4,857	8,333	32	1,443	3,147	6,413	3,817	2	222	9,307
Standard Deviation		0.1	1,374	n/a	n/a	n/a	n/a	1,692	n/a	57	335	n/a	n/a	930	6,987	n/a	101	930	2,372	1,165	1	41	263
80th Percentile		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
RN022082D (Dry Season)																							
RN022082D	29-Oct-08	3.8	8,460					6,650	5	426	1,450	5	3	7,790	14,900	27	2,160	4,330	9,930	5,260	5	347	9,280
RN022082D	12-Oct-10	4.2	8,970					6,790	5	454	1,480	3	4	6,530	23,200	20	1,530	3,990	9,350	4,500	2	286	10,500
RN022082D	18-Oct-12	4.4	8,000		158			6,100	5	462	1,240	2	3	4,810	9,480	22	1,800	2,910	6,590	3,700	31	312	6,160
RN022082D	25-Aug-11	4.3	8,320		152			6,080	5	467	1,240	2	3	5,310	7,400	32	1,900	3,310	7,050	4,120	51	297	8,610
No. of samples		4	4	0	2	0	0	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Minimum		3.8	8,000	n/a	n/a	0	0	6,080	5	426	1,240	2	3	4,810	7,400	20	1,530	2,910	6,590	3,700	2	286	6,160
Maximum		4.4	8,970	n/a	n/a	0	0	6,790	5	467	1,480	5	4	7,790	23,200	32	2,160	4,330	9,930	5,260	51	347	10,500
Mean		4.2	8,438	n/a	n/a	n/a	n/a	6,405	5	452	1,353	3	3	6,110	13,745	26	1,848	3,635	8,230	4,395	22	311	8,638
Standard Deviation		0.3	404	n/a	n/a	n/a	n/a	368	n/a	18	130	n/a	n/a	1,333	7,052	n/a	260	643	1,656	663	23	27	1,828
80th Percentile		4.4	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
RN022082D (Wet Season)																							
RN022082D	14-Apr-09	4.2	8,720					7,170		464	1,410			5,700	20,000	29	1,440	4,310	9,490	5,160	2	270	9,080
RN022082D	11-Feb-11	4.0	10,150					7,640		471	1,630	6	3	4,710	16,000	22	1,380	3,720	12,800	4,080	3	271	6,610
RN022082D	13-Feb-12	4.3	5,300		88			3,530	5	348	657	2	2	3,250	5,860	21	1,050	1,550	3,270	1,860	7	153	5,480
No. of samples		3	3	0	1	0	0	3	1	3	3	2	2	3	3	3	3	3	3	3	3	3	3
Minimum		4.0	5,300	n/a	n/a	0	0	3,530	5	348	657	2	2	3,250	5,860	21	1,050	1,550	3,270	1,860	2	153	5,480
Maximum		4.3	10,150	n/a	n/a	0	0	7,640	5	471	1,630	6	3	5,700	20,000	29	1,440	4,310	12,800	5,160	7	271	9,080
Mean		4.2	8,057	n/a	n/a	n/a	n/a	6,113	5	428	1,232	4	2	4,553	13,953	24	1,290	3,193	8,520	3,700	4	231	7,057
Standard Deviation		0.2	2,492	n/a	n/a	n/a	n/a	2,250	n/a	69	510	n/a	n/a	1,232	7,289	n/a	210	1,453	4,838	1,682	3	68	1,841
80th Percentile		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Red numbers indicate that the concentration was below the indicated detection limit

Table B-12. Groundwater Quality Data for Bores RN022411 and RN029993, Near the Main WRD

		FIELD DATA		LAB DATA			MAJOR IONS (in mg/L)							DISSOLVED METALS (in ug/L)									
Bore ID	Sampling Date	pH	EC uS/cm	pH	Acidity mg/L	HCO_3 Alkalinity mg/L as CaCO3	HCO_3	SO_4	Cl	Ca	Mg	Na	K	Al	Fe	Cd	Cu	Co	Mn	Ni	Pb	U	Zn
RN022411 (Dry Season)																							
RN022411	6-Apr-09	-	5190	3.6		66	81	3,430		119	729			20,400	2,800		4,190	4750	13,500	4151		1010	5250
RN022411	23-Feb-11	4.2	1532					698	5	26	155	3	1	2,570	3,600	3.6	311	863	2,880	775	4.7	132	994
No. of samples		1	2	1	0	1	1	2	1	2	2	1	1	2	2	1	2	2	2	2	1	2	2
Minimum		4.2	1532	n/a	n/a	n/a	n/a	698	n/a	26	155	n/a	n/a	2570	2800	n/a	311	863	2880	775	n/a	132	994
Maximum		4.2	5190	n/a	n/a	n/a	n/a	3430	n/a	119	729	n/a	n/a	20400	3600	n/a	4,190	4750	13500	4151	n/a	1010	5250
Mean		4.2	3361	n/a	n/a	n/a	n/a	2064	n/a	72	442	n/a	n/a	11485	3200	4	2,251	2807	8190	2463	5	571	3122
Standard Deviation		2.9	2587	n/a	n/a	n/a	n/a	1932	n/a	66	406	n/a	n/a	12608	566	n/a	2,743	2749	7509	2387	n/a	621	3009
80th Percentile		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
RN022411 (Wet Season)																							
RN022411	6-Apr-09	3.6	5200					3,430		119	729			20,400	2,800	18.2	4,190	4,750	13,500	4,150	21.9	1,010	5,250
RN022417 (Wet Season)																							
RN022417	6-Apr-09	-	4825	3.6		185	226	3,230		278	534			47,300	1,800	24	20,100	4310	5,510	4800	44	1420	6680
RN029993 (Dry Season)																							
RN029993	14-Oct-10	5.1	9950					7,690	5	295	1,810	19	6	3,610	74,900	14.2	2,800	4,040	19,500	2,800	12.7	426	3,550
RN029993	12-Oct-12	6.1	16430			225	275	16,400	5	461	4,000	69	10	37	6,230	1.6	48	444	39,300	311	0.6	20	231
RN029993	23-Aug-11	5.8	12320			60	73	10,700	5	352	2,480	37	6	214	21,400	5.8	320	1,280	22,900	924	70.4	74	796
RN029993	28-Sep-12	6.0	17900			112	137	16,300	5	462	3,950	69	9	41	2,220	0.9	10	228	39,400	153	2.8	14	141
No. of samples		4	4	0	0	3	3	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Minimum		5.1	9950	n/a	n/a	60	73	7690	5	295	1810	19	6	37	2220	1	10	228	19500	153	1	14	141
Maximum		6.1	17900	n/a	n/a	225	275	16400	5	462	4000	69	10	3610	74900	14	2,800	4040	39400	2800	70	426	3550
Mean		5.7	14150	n/a	n/a	132	161	12773	5	393	3060	49	8	976	26188	6	794	1498	30275	1047	22	133	1180
Standard Deviation		0.4	3663	n/a	n/a	84	103	4310	n/a	83	1092	n/a	n/a	1758	33509	n/a	1,344	1754	10571	1215	33	197	1607
80th Percentile		6.1	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
RN029993 (Wet Season)																							
RN029993	10-Feb-11	5.5	10230					8,240		266	1,940	34	5	1,020	34,400	6.6	1,680	1,760	22,900	1,240	5.3	161	1,560
RN029993	24-Feb-12	6.0	16520			60	73	17,000	5	466	4,130	69	8	51	80	0.8	65	77	42,300	45	0.4	176	47
No. of samples		2	2	0	0	1	1	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Minimum		5.5	10230	n/a	n/a	n/a	n/a	8240	n/a	266	1940	n/a	n/a	51	80	1	65	77	22900	45	0	161	47
Maximum		6.0	16520	n/a	n/a	n/a	n/a	17000	n/a	466	4130	n/a	n/a	1020	34400	7	1,680	1760	42300	1240	5	176	1560
Mean		5.8	13375	n/a	n/a	n/a	n/a	12620	n/a	366	3035	n/a	n/a	536	17240	4	872	918	32600	642	3	169	804
Standard Deviation		0.4	4448	n/a	n/a	n/a	n/a	6194	n/a	141	1549	n/a	n/a	685	24268	4	1,142	1190	13718	845	3	11	1070
80th Percentile		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
RN029997 (Dry Season)																							
RN029997	12-Oct-10	5.2	10440	-				8,880	5	197	2,160	28	7	265	400	8	659	414	10,900	795	5	268	980
RN029999 (Dry Season)																							
RN029999	13-Oct-10	3.8	2865					1,660	5	198	282	8	2	7,810		8.8	4,570	1,270	3,050	1,060	14.2	515	2,800
RN030002 (Dry Season)																							
RN030002	13-Oct-10	3.8	8930					8,440	5	401	1,980	19	5	9,860	6,200	63.0	8,940	6,850	19,800	5,890	51.4	1,820	15,700
RN030004 (Dry Season)																							
RN030004	11-Aug-10	7.2	1760	-		186	226	1,760	5	122	450	9	6	19	200	0	2	258	6,390	110	0	97	48

Red numbers indicate that the concentration was below the indicated detection limit

Table B-13. Groundwater Quality Data for Bore RN022083, East of the Main WRD

		FIELD DATA		LAB DATA			MAJOR IONS (in mg/L)							DISSOLVED METALS (in ug/L)									
Bore ID	Sampling Date	pH	EC uS/cm	pH	Acidity mg/L	HCO_3 Alkalinity mg/L as CaCO3	HCO_3	SO_4	Cl	Ca	Mg	Na	K	Al	Fe	Cd	Cu	Co	Mn	Ni	Pb	U	Zn
RN022083 (Dry Season)																							
RN022083	16-Jul-08	6.3	95	6.4		53	65	8,180	5	184	2,050	57	5	1	260	0	1	7	1,060	6	3	3	19
RN022083	22-Oct-08	6.3	8436	6.8		52	63	7,110	2	158	1,710	50	5	31	400	0	1	4	765	3	0	3	21
RN022083	28-Oct-08	6.0	1091			10	12	9,240	5	235	2,470	64	8	9	200	0.2	2	13	2,420	8	0.1	6	25
RN022083	6-Nov-08	6.2	9301	6.3		52	64	8,390	5	186	2,050	62	6	2	240	0	2	5	795	5	5	3	15
RN022083	4-Dec-08	7.3	5843	7.1		46	56	6,810	4	154	1,600	49	5	8	480	0	1	4	208	4	3	2	17
RN022083	16-Jul-09	6.5	7117	6.7		43	53	5,240	3	96	1,200	45	3	14	800	1	5	3	205	6	2	3	26
RN022083	1-Sep-09	6.3	6870	6.3		39	48	4,950	2	103	1,270	44	4	17	800	1	25	4	126	5	3	11	15
RN022083	13-Oct-09	5.9	6850	6.1		42	51	4,790	3	96	1,190	44	3	19	200	2	15	3	126	5	1	14	14
RN022083	18-Nov-09	5.8	5770	6.6		39	48	6,560	3	134	1,510	47	5	11	200	0	16	2	95	5	1	7	18
RN022083	7-Apr-09		15160	6.2				13,700		281	3,100			9	600		73	30	3,190	16		10	65
RN022083	21-Sep-10	6.1	13160			75	92	12,400	5	263	3,050	60	8	6	400	1	4	21	2,720	12	0	7	25
RN022083	6-Sep-11	6.1	16350			78	95	14,200	10	377	3,390	69	8	296	82	11.6	320	277	4,840	232	1.1	105	444
RN022083	30-Sep-13	6.1	12560			64	78	10,900	10	278	2,620	62	7	11	56	0.4	29	23	2,880	15	1.1	7	16
RN022083	20-Oct-14	6.0	9940			64	78	9,190	5	212	2,290	55	6	21	20	0.3	26	9	1,570	7	0.2	23	9
No. of samples		13	14	9	0	13	13	14	13	14	14	13	13	14	14	13	14	14	14	14	13	14	14
Minimum		5.8	95	6.1	n/a	10	12	4790	2	96	1190	44	3	1	20	0	1	2	95	3	0	2	9
Maximum		7.3	16350	7.1	n/a	78	95	14200	10	377	3390	69	8	296	800	12	320	277	4,840	232	5	105	444
Mean		6.2	8467	6.5	n/a	51	62	8690	5	197	2107	55	6	33	338	1	37	29	1,500	23	2	15	52
Standard Deviation		0.4	4757	0.3	n/a	18	22	3122	3	83	739	8	2	76	255	3	84	72	1,483	60	1	27	114
80th Percentile		6.4	13160	6.8	n/a	66	81	12400	6	278	3050	63	8	21	600	1	29	23	2,880	15	3	14	26
RN022083 (Wet Season)																							
RN022083	7-Apr-09	6.2	15160			475	579	13,700		281	3,100			9	600	1.2	73	30	3,190	16	0.1	10	65
RN022083	29-Apr-09	6.0	11630	6.5		52	63	10,100	5	236	2,620	62	5	22	200	2	4	13	1,850	7	1	5	31
RN022083	19-May-09	6.2	8750	6.5		41	50	5,660	3	111	1,400	53	2	50	260	1	111	84	746	70	2	16	153
RN022083	20-Jan-09	6.0	11850	6.4		44	54	6,230	2	139	1,560	49	2	10	220	0	2	9	1,900	9	1	6	31
RN022083	18-Mar-09	6.2	8207	6.4		54	66	12,200	5	249	3,070	68	6	6	400	0	6	7	1,130	7	3	5	27
RN022083	23-Feb-11	6.0	15830					13,600	10	308	3,370	68	8	12	800	0.8	1	31	3,730	17	0.4	9	16
RN022083	27-Feb-13	6.1	15560			88	107	14,200	5	317	3,530	66	7	136	28	0.6	1,730	32	3,150	24	0.5	9	27
RN022083	27-Feb-14	6.1	14830			142	173	13,100	5	320	3,300	69	9	33	40	0.4	501	19	3,330	11	0.2	6	22
No. of samples		8	8	4	0	7	7	8	7	8	8	7	7	8	8	8	8	8	8	8	8	8	8
Minimum		6.0	8207	6.4	n/a	41	50	5660	2	111	1400	49	2	6	28	0	1	7	746	7	0	5	16
Maximum		6.2	15830	6.5	n/a	475	579	14200	10	320	3530	69	9	136	800	2	1,730	84	3,730	70	3	16	153
Mean		6.1	12727	6.5	n/a	128	156	11099	5	245	2744	62	6	35	319	1	303	28	2,378	20	1	8	47
Standard Deviation		0.1	3076	0.1	n/a	157	191	3426	3	81	826	8	3	44	269	1	601	25	1,116	21	1	4	45
80th Percentile		6.2	15614	6.5	n/a	275	336	13800	7	318	3402	68	8	67	640	1	747	43	3,410	33	3	11	83
RN025168 (Wet Season)																							
RN025168	7-Apr-09	6.1	37				116	2		0	2			21	200	0.2	4	2	9	2	2.2	0	5

Red numbers indicate that the concentration was below the indicated detection limit

Table B-14. Groundwater Quality Data Near Bore RN022084 and Other Bores Near Eastern Toe of the Main WRD

		FIELD DATA		LAB DATA			MAJOR IONS (in mg/L)							DISSOLVED METALS (in ug/L)									
Bore ID	Sampling Date	pH	EC uS/cm	pH	Acidity mg/L	HCO_3 Alkalinity mg/L as CaCO3	HCO_3	SO_4	Cl	Ca	Mg	Na	K	Al	Fe	Cd	Cu	Co	Mn	Ni	Pb	U	Zn
RN022084 (Dry Season)																							
RN022084	16-Jul-09	4.7	11840	4.7			1	11,100	6	254	2,500	50	8	5,080	14,000	57	8,330	8,350	41,000	7,380	14	2,250	14,400
RN022084	13-Oct-09	4.9	12150	4.9			3	10,100	8	254	2,380	58	13	5,640	16,500	55	6,090	9,200	43,000	8,040	13	1,710	14,600
RN022084	28-Oct-08		10010	3.9				9,880	5	200	2,270	34	6	15,700	3,700		14,400	10,900	47,700	9,020		3,910	19,100
RN022084	11-Jun-08	4.3	10300	4.1			1	10,900	8	287	2,570	66	7	11,200	3,880	56	11,500	9,080	44	8,200	23	3,480	16,500
RN022084	16-Jul-08	4.3	11930	4.3				10,500	8	280	2,510	65	6	11,000	4,840	58	-	9,170	47	8,370	25	3,200	16,000
RN022084	22-Oct-08	4.5	12250	4.3				9,790	3	242	2,250	55	6	14,500	3,540	63	13,100	9,950	44,900	8,920	28	3,390	18,200
RN022084	28-Oct-08	3.9	10010					9,830	5	205	2,410	34	6	16,000	4,000	73	14,400	10,900	46,800	9,650	36	3,890	18,800
RN022084	1-Sep-09	4.9	11740	4.8			1	10,200	6	269	2,550	49	11	5,170	17,000	57	7,730	9,090	42,300	7,640	12	2,090	14,000
RN022084	4-Dec-08	5.1	11600	4.2				9,650	4	210	2,140	33	6	14,800	5,640	67	13,800	10,500	44,100	9,440	32	3,960	16,600
RN022084	6-Sep-11	4.3	11360					9,380	5	224	2,190	35	4	12,700	3,030	56	13,200	9,560	45,200	8,380	33	2,900	16,100
RN022084	18-Oct-12	4.2	10680		280			9,770	5	231	2,260	37	6	12,500	3,350	59	12,100	9,020	38,000	7,980	66	3,110	15,300
RN022084	18-Nov-09	4.9	10570	4.9			1	10,600	9	300	2,440	77	11	4,980	17,400	47	1,290	7,620	43,200	6,730	12	1,510	12,300
RN022084	11-Aug-10	3.9	11020					9,290	5	207	2,330	30	6	14,100	3,200	67	12,800	10,600	43,500	8,860	35	3,780	18,600
RN022084	1-Oct-13	6.0	13320			83	101	9,840	20	413	2,180	133	5	215	2,350	7	627	1,300	32,400	1,110	1	376	1,880
RN022084	20-Oct-14	5.0	9560			9	11	8,680	5	235	2,080	50	5	8,570	2,650	50	9,450	7,560	37,000	6,830	21	2,360	12,900
No. of samples		14	15	9	1	2	7	15	15	15	15	15	15	15	15	14	14	15	15	15	14	15	15
Minimum		3.9	9560	3.9	n/a	9	1	8680	3	200	2080	30	4	215	2,350	7	627	1,300	44	1,110	1	376	1,880
Maximum		6.0	13320	4.9	n/a	83	101	11100	20	413	2570	133	13	16,000	17,400	73	14,400	10,900	47,700	9,650	66	3,960	19,100
Mean		4.6	11223	4.5	n/a	46	17	9967	7	254	2337	54	7	10,144	7,005	55	9,916	8,853	36,613	7,770	25	2,794	15,019
Standard Deviation		0.6	1033	0.4	n/a	52	37	632	4	54	157	26	2	4,883	5,853	15	5,116	2,341	15,359	2,034	16	1,053	4,200
80th Percentile		5.0	12106	4.9	n/a	n/a	47	10580	8	286	2508	66	10	14,740	16,000	67	13,800	10,580	45,140	9,000	35	3,868	18,520
RN022084 (Wet Season)																							
RN022084	8-Jan-09	6.8	11360	4.2				9,930	2	211	2,450	35	6	15,000	5,860	67	13,100	10,000	42,600	8,880	1	3,790	18,200
RN022084	18-Mar-09	4.3	11330	5.2			1	11,300	10	348	2,640	103	5	6,950	400	42	7,830	6,060	37,400	5,460	21	2,210	10,800
RN022084	7-Apr-09	3.8	12130					10,500	5	222	2,300			18,400	7,800	73	15,700	11,600	48,500	10,500	44	4,020	19,900
RN022084	23-Apr-09	4.3	11880	4.1				9,570	6	255	2,420	44	7	10,300	2,000	62	11,700	9,940	45,700	8,920	24	3,330	16,600
RN022084	19-May-09	4.6	11550	4.6			1	10,400	3	242	2,440	38	6	11,900	21,100	66	11,100	10,200	50,800	9,260	25	3,300	17,400
RN022084	23-Feb-12	4.1	10590					9,000	5	217	2,070	31	4	12,500	3,220	54	12,100	8,980	42,100	7,900	27	2,830	14,800
RN022084	14-Feb-11	3.7	11430					9,090		213	2,100	32	5	16,800	4,400	65	15,400	11,500	45,400	8,870	41	3,800	17,100
RN022084	15-Feb-13	4.1	10460					8,670	5	208	2,050	33	4	14,000	3,940	61	13,800	8,650	40,800	7,700	32	3,110	16,400
RN022084	28-Feb-14	6.3	11390			74	90	10,100	5	466	2,360	154	6	46	1,830	1	268	198	31,600	109	0	423	184
No. of samples		9	9	4	0	1	3	9	8	9	9	8	8	9	9	9	9	9	9	9	9	9	9
Minimum		3.7	10460	4.1	n/a	74	1	8670	2	208	2050	31	4	46	400	1	268	198	31,600	109	0	423	184
Maximum		6.8	12130	5.2	n/a	74	90	11300	10	466	2640	154	7	18,400	21,100	73	15,700	11,600	50,800	10,500	44	4,020	19,900
Mean		4.7	11347	4.5	n/a	74	31	9840	5	265	2314	59	5	11,766	5,617	55	11,222	8,570	42,767	7,511	24	2,979	14,598
Standard Deviation		1.1	537	0.5	n/a	n/a	52	842	2	87	203	45	1	5,568	6,217	22	4,746	3,552	5,818	3,100	15	1,107	5,965
80th Percentile		6.3	11880	5.2	n/a	n/a	n/a	10500	7	348	2450	113	6	16,800	7,800	67	15,400	11,500	48,500	9,260	41	3,800	18,200

Red numbers indicate that the concentration was below the indicated detection limit

Table B-15. Groundwater Quality Data for Bore MB12-31S/D, RN025165, RN025170, and RN025171, Near Western Toe of the Main WRD

		FIELD DATA		LAB DATA			MAJOR IONS (in mg/L)							DISSOLVED METALS (in ug/L)									
Bore ID	Sampling Date	pH	EC uS/cm	pH	Acidity mg/L	HCO_3 Alkalinity mg/L as CaCO3	HCO_3	SO_4	Cl	Ca	Mg	Na	K	Al	Fe	Cd	Cu	Co	Mn	Ni	Pb	U	Zn
MB10-31S (Dry Season)																							
MB12-31S	30-Oct-14	7.2	1350			552	673	122	5	19	182	10	0	27	20	0.0	73	2	38	3	0.1	192	7
MB12-31S (Wet Season)																							
MB12-31S	14-Feb-13	7.1	924			328	400	121	5	36	93	6	0	27	20	0.2	17	1	59	1	0.1	3	2
MB12-31S	21-Apr-15	7.2	989			488	595	87	5	27	96	6	0	25	8	0.0	4	1	9	1	0.0	6	5
No. of samples		2	2	0	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Minimum		7.1	924	n/a	n/a	n/a	n/a	87	n/a	27	93	n/a	n/a	25	8	0	4	1	9	1	0	3	2
Maximum		7.2	989	n/a	n/a	n/a	n/a	121	n/a	36	96	n/a	n/a	27	20	0	17	1	59	1	0	6	5
Mean		7.2	957	n/a	n/a	n/a	n/a	104	n/a	31	94	n/a	n/a	26	14	0	10	1	34	1	0	5	3
Standard Deviation		0.1	46	n/a	n/a	n/a	n/a	24	n/a	7	2	n/a	n/a	1	8	0	9	0	35	0	0	2	2
80th Percentile		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
RN025165 (Dry Season)																							
RN025165	13-Oct-10	6.2	335					98	5	2	28	5	3	18	3,800		12	3	337	2	0.7	1	55
RN025169 (Wet Season)																							
RN025169	28-Feb-14	6.4	293			22	27	91	5	2	33	3	2	25	4	0.0	53	6	21	8	0.1	0	9
RN025169	15-Feb-13	6.5	416			46		110	5	7	41	3	2	30	20	0.2	18	2	72	3	0.1	1	6
No. of samples		2	2	0	0	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Minimum		6.4	293	n/a	n/a	n/a	n/a	91	n/a	2	33	n/a	n/a	25	4	0	18	2	21	3	0	0	6
Maximum		6.5	416	n/a	n/a	n/a	n/a	110	n/a	7	41	n/a	n/a	30	20	0	53	6	72	8	0	1	9
Mean		6.4	355	n/a	n/a	n/a	27	100	5	4	37	3	2	27	12	0	36	4	47	5	0	0	8
Standard Deviation		0.1	87	n/a	n/a	n/a	n/a	14	n/a	3	6	n/a	n/a	4	11	0	25	3	36	4	0	0	2
80th Percentile		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
RN025170 (Dry Season)																							
RN025170	13-Oct-10	7.2	1054					326	5	7	131	10	1	661	400		4	2	52	3	2.6	2	35
RN025170	9-Oct-12	7.0	1132			180	220	367	5	8	133	11	1	7	4	0.0	0	1	14	1	0.0	1	2
No. of samples		2	2	0	0	1	1	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2
Minimum		7.0	1054	n/a	n/a	n/a	n/a	326	5	7	131	10	1	7	4	n/a	0	1	14	1	0	1	2
Maximum		7.2	1132	n/a	n/a	n/a	n/a	367	5	8	133	11	1	661	400	n/a	4	2	52	3	3	2	35
Mean		7.1	1093	n/a	n/a	180	220	347	5	8	132	11	1	334	202	n/a	2	1	33	2	1	2	19
Standard Deviation		0.2	55	n/a	n/a	n/a	n/a	29	0	1	1	0	0	463	280	n/a	3	1	27	1	2	1	23
80th Percentile		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
RN025170 (Wet Season)																							
RN025170	22-Feb-11	6.5	886					271	5	8	100	7	0	32	200	0.2	8	0	1	1	0.1	2	2
RN025170	23-Feb-12	6.9	742			70	85	250	5	5	80	5	0	19	20	0.2	0	0	33	1	0.1	1	1
No. of samples		2	2	0	0	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Minimum		6.5	742	n/a	n/a	n/a	n/a	250	n/a	5	80	n/a	n/a	19	20	0	0	0	1	1	0	1	1
Maximum		6.9	886	n/a	n/a	n/a	n/a	271	n/a	8	100	n/a	n/a	32	200	0	8	0	33	1	0	2	2
Mean		6.7	814	n/a	n/a	n/a	n/a	261	n/a	7	90	n/a	n/a	26	110	0	4	0	17	1	0	1	2
Standard Deviation		0.3	102	n/a	n/a	n/a	n/a	15	n/a	2	14	n/a	n/a	9	127	0	6	0	23	0	0	1	1
80th Percentile		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
RN025171 (Wet Season)																							
RN025171	28-Feb-13	5.7	5460			24	29	3,860	5	105	938	19	5	191	1,020	1.6	1,770	733	2,830	644	1.2	3	558

Red numbers indicate that the concentration was below the indicated detection limit

Table B-16. Groundwater Quality Data for Bore RN025172, Near Eastern Toe of the Main WRD

		FIELD DATA		LAB DATA			MAJOR IONS (in mg/L)							DISSOLVED METALS (in ug/L)									
Bore ID	**Sampling Date**	**pH**	**EC uS/cm**	**pH**	**Acidity mg/L**	**HCO_3 Alkalinity mg/L as CaCO3**	**HCO_3**	**SO_4**	**Cl**	**Ca**	**Mg**	**Na**	**K**	**Al**	**Fe**	**Cd**	**Cu**	**Co**	**Mn**	**Ni**	**Pb**	**U**	**Zn**
RN025172 (Dry Season)																							
RN025172	11-Aug-10	6.4	4053			49	59	2,960	5	288	552	4	5	15	1,600	1	2	1040	1,650	618	0	49	411
RN025172	30-Sep-13	5.7	3530			18	22	2,030	5	202	395	3	5	15	220	9.2	178	349	556	198	2.3	7	258
RN025172	22-Aug-11	6.1	4616			16	20	3,430	5	399	627	3	4	10	758	9.6	5	326	629	194	24.9	6	243
RN025172	27-Sep-12	5.6	4920			21	25	3,110	5	328	587	3	5	12	434	4.1	42	374	265	196	8.6	8	178
No. of samples		4	4	0	0	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Minimum		5.6	3530	n/a	n/a	n/a	20	2030	5	202	395	3	4	10	220	1	2	326	265	194	0	6	178
Maximum		6.4	4920	n/a	n/a	n/a	59	3430	5	399	627	4	5	15	1600	10	178	1040	1650	618	25	49	411
Mean		6.0	4280	n/a	n/a	n/a	31	2883	5	304	540	3	5	13	753	6	57	522	775	302	9	17	273
Standard Deviation		0.4	616	n/a	n/a	n/a	19	601	0	82	102	0	0	2	606	4	83	346	604	211	11	21	99
80th Percentile		6.4	4920	n/a	n/a	49	59	3430	5	399	627	4	5	15	1600	10	178	1040	1650	618	25	49	411
RN025172 (Wet Season)																							
RN025172	19-Feb-13	5.5	2538			19	23	1,510	5	157	294	2	3	45	258	3.7	108	320	100	182	0.5	6	210
RN025172	12-Feb-14	5.6	1520			44	54	687	5	83	134	1	2	56	96	1.1	72	157	243	84	0.4	12	83
RN025172	22-Feb-11	5.0	1245					589	5	78	109	1	2	31	200	2.0	142	219	286	129	0.5	16	156
RN025172	22-Feb-12	5.5	2360			324	395	1,430	5	167	265	2	2	46	538	1.8	8	214	231	153	1.0	13	116
No. of samples		4	4	0	0	3	3	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Minimum		5.0	1245	n/a	n/a	19	23	589	5	78	109	1	2	31	96	1	8	157	100	84	0	6	83
Maximum		5.6	2538	n/a	n/a	324	395	1510	5	167	294	2	3	56	538	4	142	320	286	182	1	16	210
Mean		5.4	1916	n/a	n/a	129	157	1054	5	121	201	2	2	44	273	2	82	228	215	137	1	12	141
Standard Deviation		0.3	630	n/a	n/a	169	207	483	n/a	47	93	n/a	n/a	10	189	n/a	57	68	80	41	0	4	55
80th Percentile		6.2	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Red numbers indicate that the concentration was below the indicated detection limit

Table B-17. Groundwater Quality Data for Bore RN025173, Near Eastern Toe of the Main WRD

		FIELD DATA		LAB DATA			MAJOR IONS (in mg/L)							DISSOLVED METALS (in ug/L)									
Bore ID	**Sampling Date**	**pH**	**EC uS/cm**	**pH**	**Acidity mg/L**	**HCO_3 Alkalinity mg/L as CaCO3**	**HCO_3**	**SO_4**	**Cl**	**Ca**	**Mg**	**Na**	**K**	**Al**	**Fe**	**Cd**	**Cu**	**Co**	**Mn**	**Ni**	**Pb**	**U**	**Zn**
RN025173 (Dry Season)																							
RN025173	27-Oct-08		4083	6.2		50	61	3,370	5	38	887	10	1	18	200	-	8	28	4,440	76	-	3	18
RN025173	23-Aug-11	6.0	5030			54	66	3,550	5	47	899	9	0	15	20	1.2	4	13	4,000	172	14.2	4	11
RN025173	18-Oct-12	6.0	5040			72	88	3,400	5	48	860	9	1	19	30	0.5	2,420	57	4,170	222	0.7	3	67
RN025173	11-Aug-10	6.1	4616			72	88	3,800	5	45	962	11	1	232	200	0	40	16	4,170	161	0	3	45
No. of samples		3	4	1	0	4	4	4	4	4	4	4	4	4	4	3	4	4	4	4	3	4	4
Minimum		6.0	4083	6.2	0	50	61	3370	5	38	860	9	0	15	20	0	4	13	4000	76	0	3	11
Maximum		6.1	5040	6.2	0	72	88	3800	5	48	962	11	1	232	200	1	2,420	57	4440	222	14	4	67
Mean		6.0	4692	6.2	n/a	62	76	3530	5	45	902	10	0	71	113	1	618	28	4195	158	5	3	35
Standard Deviation		0.0	452	n/a	n/a	12	14	196	0	5	43	1	0	107	101	1	1,201	20	182	61	7	1	26
80th Percentile		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
RN025173 (Wet Season)																							
RN025173	8-Apr-09	6.2	5580				975	3,640		42	911			12	400	0.2	9	17	3,440	114	0.1	7	15
RN025173	22-Feb-12	6.1	5530			874	1066	3,790	5	49	961	10	1	19	20	0.2	2	13	4,180	150	0.1	4	5
RN025173	24-Feb-11	6.0	4769					3,040	5	39	779	9	0	27	200	0.2	3	11	3,780	159	0.4	5	7
No. of samples		3	3	0	0	1	2	3	2	3	3	2	2	3	3	3	3	3	3	3	3	3	3
Minimum		6.0	4769	n/a	n/a	n/a	975	3040	5	39	779	9	0	12	20	0	2	11	3440	114	0	4	5
Maximum		6.2	5580	n/a	n/a	n/a	1066	3790	5	49	961	10	1	27	400	0	9	17	4180	159	0	7	15
Mean		6.1	5293	n/a	n/a	874	1021	3490	5	43	884	9	1	19	207	0	4	14	3800	141	0	5	9
Standard Deviation		0.1	454	n/a	n/a	n/a	64	397	n/a	5	94	n/a	n/a	8	190	n/a	4	3	370	24	0	1	5
80th Percentile		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Red numbers indicate that the concentration was below the indicated detection limit

Table B-18. Groundwater Quality Data for Bore RN022037, Near the Intermediate WRD

		FIELD DATA		LAB DATA			MAJOR IONS (in mg/L)							DISSOLVED METALS (in ug/L)									
Bore ID	**Sampling Date**	**pH**	**EC uS/cm**	**pH**	**Acidity mg/L**	**HCO_3 Alkalinity mg/L as CaCO3**	**HCO_3**	**SO_4**	**Cl**	**Ca**	**Mg**	**Na**	**K**	**Al**	**Fe**	**Cd**	**Cu**	**Co**	**Mn**	**Ni**	**Pb**	**U**	**Zn**
RN022037 (Dry Season)																							
RN022037	27-Oct-08	5.9	6440				37	5,730	5	84	1,530	18	2	177	1,000	1.6	504	318	693	241	2.2	70	275
RN022037	6-Sep-11	6.2	6860			112	137	5,160	5	74	1,310	17	1	8	74	0.6	108	100	359	54	0.1	39	65
RN022037	18-Oct-12	6.2	6790			84	102	4,790	5	84	1,200	14	3	107	1,430	2.5	812	609	869	418	0.9	82	479
RN022037	11-Aug-10	5.7	5270					5,360	5	70	1,430	18	3	37	200	0.6	181	125	403	81	0.8	47	150
RN022037	11-Aug-10	6.2	6520	-		123	150	5,680	5	70	1,450	19	3	38	200	1	183	129	419	82	1	47	150
No. of samples		5	5	0	0	3	4	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Minimum		5.7	5270	n/a	n/a	n/a	37	4790	5	70	1200	14	1	8	74	1	108	100	359	54	0	39	65
Maximum		6.2	6860	n/a	n/a	n/a	150	5730	5	84	1530	19	3	177	1430	2	812	609	869	418	2	82	479
Mean		6.1	6376	n/a	n/a	n/a	107	5344	5	76	1384	17	3	73	581	1	358	256	549	175	1	57	224
Standard Deviation		0.2	643	n/a	n/a	n/a	51	388	n/a	7	130	n/a	n/a	68	601	n/a	297	216	222	155	1	18	161
80th Percentile		6.2	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
RN022037 (Wet Season)																							
RN022037	8-Apr-09	6.1	7900				853	5,670	5	84	1,430			58	600	1.0	199	235	626	178	0.6	44	175
RN022037	14-Feb-11	6.3	7030					4,940	5	66	1,230	17	2	61	800	0.8	192	210	522	153	0.6	54	154
RN022037	22-Feb-12	6.1	6840			1054	1286	5,220	5	78	1,320	16	2	86	1,160	1.3	247	280	600	184	0.8	43	186
No. of samples		3	3	0	0	1	2	3	3	3	3	2	2	3	3	3	3	3	3	3	3	3	3
Minimum		6.1	6840	n/a	n/a	n/a	853	4940	5	66	1230	16	2	58	600	1	192	210	522	153	1	43	154
Maximum		6.3	7900	n/a	n/a	n/a	1286	5670	5	84	1430	17	2	86	1160	1	247	280	626	184	1	54	186
Mean		6.1	7257	n/a	n/a	n/a	1070	5277	5	76	1327	17	2	68	853	1	213	242	583	172	1	47	172
Standard Deviation		0.1	565	n/a	n/a	n/a	306	368	n/a	9	100	n/a	n/a	15	284	n/a	30	35	54	16	0	6	16
80th Percentile		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Red numbers indicate that the concentration was below the indicated detection limit

Table B-19. Groundwater Quality Data for Bore RN022039, Near the Intermediate WRD

		FIELD DATA		LAB DATA			MAJOR IONS (in mg/L)							DISSOLVED METALS (in ug/L)									
Bore ID	**Sampling Date**	**pH**	**EC uS/cm**	**pH**	**Acidity mg/L**	**HCO_3 Alkalinity mg/L as CaCO3**	**HCO_3**	**SO_4**	**Cl**	**Ca**	**Mg**	**Na**	**K**	**Al**	**Fe**	**Cd**	**Cu**	**Co**	**Mn**	**Ni**	**Pb**	**U**	**Zn**
RN022039 (Dry Season)																							
RN022039	28-Oct-08	5.5	72				16	4	5	4	5	2	0.2	7	200	0.2	1	2	60	2	0.1	0.2	5
RN022039	5-Sep-11	5.8	71			26	32	5	5	4	4	1	0.1	17	46	0.0	34	1	61	2	0.0	0.1	5
RN022039	9-Oct-12	5.8	93			34	42	5	5	5	5	1	0.2	10	398	0.0	0	3	254	12	0.0	0.2	6
RN022039	21-Sep-10	5.1				14	18	4	5	3	4	1	0.3	9	200	0.2	5	1	47	1	0.1	0.1	25
RN022039	31-Oct-14	5.8	79			27	33	5	5	5	5	1	0.2	8	244	0.0	32	4	180	5	0.2	0.2	6
RN022039	10-Oct-13	5.6	101			28	34	21	5	5	7	2	0.3	4,820	2,100	0.1	460	62	403	56	3.0	1	26
RN022039	5-Sep-11	5.8	71			26	32	5	5	4	4	1	0.1	17	46	0.0	34	1	61	2	0.0	0.1	5
No. of samples		7	6	0	0	6	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
Minimum		5.1	71	n/a	n/a	14	16	4	5	3	4	1	0	7	46	0	0	1	47	1	0	0	5
Maximum		5.8	101	n/a	n/a	34	42	21	5	5	7	2	0	4820	2100	0	460	62	403	56	3	1	26
Mean		5.6	81	n/a	n/a	26	29	7	5	4	5	1	0	698	462	0	81	11	152	11	0	0	11
Standard Deviation		0.2	13	n/a	n/a	6	9	6	0	1	1	0	0	1818	732	0	168	23	135	20	1	0	10
80th Percentile		5.8	98	n/a	n/a	32	37	11	5	5	6	2	0	1938	1079	0	204	27	314	30	1	1	26
RN022039 (Wet Season)																							
RN022039	15-Feb-11	4.3	50					3		4	3	1	0.3	22	200	0.2	26	1	7	1		1	2
RN022039	8-Apr-09	5.7	64				17	3	5	3	3	1	0.1	40	200	0.2	3	0.4	24	1	0.2	0.2	5
RN022039	23-Feb-12	5.5	60			10	12	5	5	2	3	1	0.1	43	46	0.0	2	1	10	3	0.1	0.3	7
RN022039	14-Feb-13	5.6	101			33	41	6	5	4	6	2	0.2	39	162	0.1	177	5	171	7	0.1	0.2	26
RN022039	12-Feb-14	5.7	72			16	20	9	5	3	4	1	0.2	59	66	0.0	11	1	16	2	0.6	1	16
No. of samples		5	5	0	0	3	4	5	4	5	5	5	5	5	5	5	5	5	5	5	4	5	5
Minimum		4.3	50	n/a	n/a	n/a	12	3	5	2	3	1	0	22	46	0	2	0	7	1	0	0	2
Maximum		5.7	101	n/a	n/a	n/a	41	9	5	4	6	2	0	59	200	0	177	5	171	7	1	1	26
Mean		5.3	69	n/a	n/a	n/a	22	5	5	3	4	1	0	40	135	0	44	2	46	3	0	0	11
Standard Deviation		0.6	19	n/a	n/a	n/a	12	2	n/a	1	1	n/a	n/a	13	74	n/a	75	2	70	2	0	0	10
80th Percentile		5.7	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Red numbers indicate that the concentration was below the indicated detection limit

Table B-20. Groundwater Quality Data for Bore RN022081, Near the Intermediate WRD

		FIELD DATA		LAB DATA			MAJOR IONS (in mg/L)							DISSOLVED METALS (in ug/L)									
Bore ID	**Sampling Date**	**pH**	**EC uS/cm**	**pH**	**Acidity mg/L**	**HCO_3 Alkalinity mg/L as CaCO3**	**HCO_3**	**SO_4**	**Cl**	**Ca**	**Mg**	**Na**	**K**	**Al**	**Fe**	**Cd**	**Cu**	**Co**	**Mn**	**Ni**	**Pb**	**U**	**Zn**
RN022081 (Dry Season)																							
RN022081	22-Sep-10	7.0	1834	-				787	5	116	185	6	1	5	400	0.2		0.1	35	1	0.4	85	5
RN022081	5-Sep-11	7.0	1786			168	205	783	5	121	183	6	1	1	414	0.2	0	0.1	76	0.1	0.1	51	1
RN022081	19-Oct-12	7.0	1982			228	278	841	10	128	187	7	1	12	172	0.0	0	0.1	26	1	0.0	46	1
RN022081	1-Dec-14	7.3	1914			210	256	789	5	110	198	7	1	5	558	0.0	1	1	293	1	0.0	29	0.1
No. of samples		4	4	0	0	3	3	4	4	4	4	4	4	4	4	4	3	4	4	4	4	4	4
Minimum		7.0	1786	n/a	n/a	168	205	783	5	110	183	6	1	1	172	0	0	0	26	0	0	29	0
Maximum		7.3	1982	n/a	n/a	228	278	841	10	128	198	7	1	12	558	0	1	1	293	1	0	85	5
Mean		7.1	1879	n/a	n/a	202	246	800	6	119	188	7	1	6	386	0	0	0	107	1	0	53	2
Standard Deviation		0.1	87	n/a	n/a	31	38	27	n/a	8	7	n/a	n/a	5	160	n/a	0	0	126	1	0	23	2
80th Percentile		7.2	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
RN022081 (Wet Season)																							
RN022081	15-Feb-11	6.2	1667					726	10	104	169	7	1	18	1,400	0.2	0	0.2	194	3		53	3
RN022081	23-Feb-12	8.3	1635			178	217	702	10	31	195	8	3	39	382	0.2	0	0.1	616	0.1	0.1	2	1
RN022081	14-Feb-13	7.0	2224			244	298	1,010	10	147	224	8	0	26	384	0.1	2	1	92	1	0.1	43	12
RN022081	21-Feb-14	7.3	1931			198	242	780	10	103	187	7	1	37	114	0.1	3	2	246	10	0.1	34	2
No. of samples		4	4	0	0	3	3	4	4	4	4	4	4	4	4	4	4	4	4	4	3	4	4
Minimum		6.2	1635	n/a	n/a	178	217	702	10	31	169	7	0	18	114	0	0	0	92	0	0	2	1
Maximum		8.3	2224	n/a	n/a	244	298	1010	10	147	224	8	3	39	1400	0	3	2	616	10	0	53	12
Mean		7.2	1864	n/a	n/a	207	252	805	10	96	194	8	1	30	570	0	1	1	287	4	0	33	4
Standard Deviation		0.8	274	n/a	n/a	34	41	141	n/a	48	23	n/a	n/a	10	568	n/a	1	1	228	4	0	22	5
80th Percentile		8.1	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Red numbers indicate that the concentration was below the indicated detection limit

Table B-21. Groundwater Quality Data for Bore MB10-3, Near the EFDC

		FIELD DATA		LAB DATA			MAJOR IONS (in mg/L)							DISSOLVED METALS (in ug/L)									
Bore ID	**Sampling Date**	**pH**	**EC uS/cm**	**pH**	**Acidity mg/L**	**HCO_3 Alkalinity mg/L as CaCO3**	**HCO_3**	**SO_4**	**Cl**	**Ca**	**Mg**	**Na**	**K**	**Al**	**Fe**	**Cd**	**Cu**	**Co**	**Mn**	**Ni**	**Pb**	**U**	**Zn**
MB10-3 (Dry Season)																							
MB10-3	13-Dec-10	3.8	2079				0	1,160	5	99	204		3	8,410	600	5.6	3,600	965	2,320	920		187	1,430
MB10-3	2-Oct-13	6.7	2086																				
MB10-3	23-Aug-11	5.7	2200			120	146	1,070	5	97	220	10	2	44	20	0.9	250	1,580	3,610	1,320	0.2	111	101
No. of samples		3	3	0	0	1	2	2	2	2	2	1	2	2	2	2	2	2	2	2	1	2	2
Minimum		3.8	2079	n/a	n/a	n/a	0	1070	5	97	204	10	2	44	20	1	250	965	2320	920	0	111	101
Maximum		6.7	2200	n/a	n/a	n/a	146	1160	5	99	220	10	3	8410	600	6	3,600	1580	3610	1320	0	187	1430
Mean		5.4	2122	n/a	n/a	120	73	1115	5	98	212	10	2	4227	310	3	1,925	1273	2965	1120	0	149	766
Standard Deviation		1.5	68	n/a	n/a	n/a	104	64	n/a	2	11	n/a	n/a	5916	410	n/a	2,369	435	912	283	n/a	54	940
80th Percentile		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
MB10-3 (Wet Season)																							
MB10-3	9-Feb-11	4.2	1302				0	658		67	113	2	2	6,030	600	5.6	3,630	865	2,130	893	7.3	115	1,670
MB10-3	2-Mar-12	5.7	1244			16	20	599	5	67	108	8	5	301	1,080	2.9	686	404	1,250	435	0.2	16	925
MB10-3	12-Feb-13	4.3	2347		152		0	1,350	5	121	253	5	3	8,300	600	6.0	3,740	977	2,450	897	7.1	206	1,500
MB10-3	10-Feb-14	4.7	1119			3	4	493	5	50	90	2	2	3,260	542	3.1	2,410	530	1,810	557	2.4	73	1,030
MB10-3	27-Mar-15	5.6	1798			10	12	874	5	80	177	6	2	268	9,800	2.6	82	501	2,000	484	0.2	9	844
No. of samples		5	5	0	1	3	5	5	4	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Minimum		4.2	1119	n/a		3	0	493	5	50	90	2	2	268	542	3	82	404	1250	435	0	9	844
Maximum		5.7	2347	n/a		16	20	1350	5	121	253	8	5	8300	9800	6	3,740	977	2450	897	7	206	1670
Mean		4.9	1562	n/a		10	7	795	5	77	148	5	3	3632	2524	4	2,110	655	1928	653	3	84	1194
Standard Deviation		0.7	509	n/a		6	9	340	0	27	67	3	1	3539	4073	2	1,673	250	445	225	4	81	368
80th Percentile		5.7	2237	n/a		n/a	18	1255	5	113	238	8	4	7846	8056	6	3,718	955	2386	896	7	188	1636

Red numbers indicate that the concentration was below the indicated detection limit

Table B-22. Groundwater Quality Data for Bore MB10-4, Near the EFDC

		FIELD DATA		LAB DATA			MAJOR IONS (in mg/L)							DISSOLVED METALS (in ug/L)									
Bore ID	Sampling Date	pH	EC uS/cm	pH	Acidity mg/L	HCO_3 Alkalinity mg/L as CaCO3	HCO_3	SO_4	Cl	Ca	Mg	Na	K	Al	Fe	Cd	Cu	Co	Mn	Ni	Pb	U	Zn
MB10-4 (Dry Season)																							
MB10-4	25-Aug-11	6.8	2435			200	244	1,150	5	98	271	9	2	13	20	0.2	7	1	32	1	0.2	15	4
MB10-4	17-Oct-12	6.7	2653			184	224	1,200	5	101	288	10	2	13	26	0.1	5	1	50	2	0.3	11	31
MB10-4	2-Oct-13	6.8	2745			190	232	1,210	5	103	290	11	2	19	282	0.1	0	4	143	3	0.1	36	15
MB10-4	21-Oct-14	6.8	2208			252	307	1,250	5	106	306	11	2	18	336	0.2	15	10	117	8	0.1	12	1
MB10-4	13-Dec-10	6.8	2232				0	1,090	5	91	261	6	2	23	200	0.2	2	1	40	2	2.7	10	6
No. of samples		5	5	0	0	4	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Minimum		6.7	2208	n/a	n/a	184	0	1090	5	91	261	6	2	13	20	0	0	1	32	1	0	10	1
Maximum		6.8	2745	n/a	n/a	252	307	1250	5	106	306	11	2	23	336	0	15	10	143	8	3	36	31
Mean		6.8	2455	n/a	n/a	207	202	1180	5	100	283	10	2	17	173	0	6	3	76	3	1	17	11
Standard Deviation		0.0	242	n/a	n/a	31	117	62	0	6	18	2	0	4	145	0	6	4	50	3	1	11	12
80th Percentile		6.8	2727	n/a	n/a	252	295	1242	5	105	303	11	2	22	325	0	13	8	138	7	2	32	27
MB10-4 (Dry Season)																							
MB10-4	20-Feb-14	6.8	2438			192	234	1,240	5	101	299	12	3	28	172	0.1	4	25	110	22	0.1	8	6
MB10-4	9-Feb-11	7.2	2195				0	1,090		89	257	11	2	12	200	0.2	4	0	11	1	0.3	9	5
MB10-4	12-Feb-13	6.8	2425			219	267	1,210	5	110	294	11	2	56	174	0.1	2	4	135	4	0.2	32	5
MB10-4	11-Feb-14	6.7	2370			154	188	1,150	5	91	275	11	2	61	78	0.1	3	3	38	5	0.4	12	16
MB10-4	27-Mar-15	6.5	2506			166	203	1,160	5	93	279	11	2	16	416	0.1	5	9	51	5	0.1	9	10
No. of samples		5	5	0	0	4	5	5	4	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Minimum		6.5	2195	n/a	n/a	154	0	1090	5	89	257	11	2	12	78	0	2	0	11	1	0	8	5
Maximum		7.2	2506	n/a	n/a	219	267	1240	5	110	299	12	3	61	416	0	5	25	135	22	0	32	16
Mean		6.8	2387	n/a	n/a	183	178	1170	5	97	281	11	2	35	208	0	3	8	69	7	0	14	8
Standard Deviation		0.2	118	n/a	n/a	29	104	58	0	9	17	1	0	22	125	0	1	10	52	9	0	10	5
80th Percentile		7.1	2493	n/a	n/a	219	261	1234	5	108	298	12	2	60	373	0	5	22	130	19	0	28	15

Red numbers indicate that the concentration was below the indicated detection limit

Table B-23. Groundwater Quality Data for Bores MB12-25 and MB12-26, Near the EFDC

		FIELD DATA		LAB DATA			MAJOR IONS (in mg/L)							DISSOLVED METALS (in ug/L)									
Bore ID	**Sampling Date**	**pH**	**EC uS/cm**	**pH**	**Acidity mg/L**	**HCO_3 Alkalinity mg/L as CaCO3**	**HCO_3**	**SO_4**	**Cl**	**Ca**	**Mg**	**Na**	**K**	**Al**	**Fe**	**Cd**	**Cu**	**Co**	**Mn**	**Ni**	**Pb**	**U**	**Zn**
MB12-25 (Dry Season)																							
MB12-25	7-Nov-12	6.5	2760			122	149	1,530	5	242	273	9	2	67	20	0.2	6	2	46	2	0.1	1	13
MB12-25	29-Oct-14	6.6	2537			102	124	1,570	5	247	288	8	2	6	60	0.2	57	6	64	8	0.1	2	7
No. of samples		2	2	0	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Minimum		6.5	2537	n/a	0	102	124	1530	5	242	273	8	2	6	20	0	6	2	46	2	0	1	7
Maximum		6.6	2760	n/a	0	122	149	1570	5	247	288	9	2	67	60	0	57	6	64	8	0	2	13
Mean		6.5	2649	n/a	n/a	112	137	1550	5	245	281	9	2	37	40	0	32	4	55	5	0	1	10
Standard Deviation		0.0	158	n/a	n/a	14	17	28	0	4	11	1	0	43	28	0	36	3	13	4	0	1	4
80th Percentile		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
MB12-25 (Wet Season)																							
MB12-25	19-Feb-13	6.5	2921			125	153	1,490	5	239	267	8	2	29	30	0.1	3	2	34	3	0.1	3	10
MB12-25	4-Feb-14	6.5	2818			114	139	1,440	5	227	262	8	1	15	10	0.1	14	1	25	3	0.2	1	42
No. of samples		2	2	0	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Minimum		6.5	2818	n/a	n/a	n/a	n/a	1440	n/a	227	262	n/a	n/a	15	10	0	3	1	25	3	0	1	10
Maximum		6.5	2921	n/a	n/a	n/a	n/a	1490	n/a	239	267	n/a	n/a	29	30	0	14	2	34	3	0	3	42
Mean		6.5	2870	n/a	n/a	n/a	n/a	1465	n/a	233	265	n/a	n/a	22	20	0	9	1	29	3	0	2	26
Standard Deviation		0.0	73	n/a	n/a	n/a	n/a	35	n/a	8	4	n/a	n/a	10	14	0	8	0	7	0	0	1	23
80th Percentile		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
MB12-26 (Dry Season)																							
MB12-26	6-Nov-12	6.5	2309			191	233	1,080	10	218	200	13	2	10	20	0.2	6	7	246	2	0.1	2	7
MB12-26	7-Oct-13	6.4	2338			156	190	970	5	189	174	12	1	11	32	0.1	85	6	108	4	0.1	3	10
MB12-26	29-Oct-14	6.4	1821			122	149	973	5	180	178	15	1	2	16	0.0	69	6	98	4	0.0	1	6
No. of samples		3	3	0	0	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Minimum		6.4	1821	n/a	n/a	122	149	970	5	180	174	12	1	2	16	0	6	6	98	2	0	1	6
Maximum		6.5	2338	n/a	n/a	191	233	1080	10	218	200	15	2	11	32	0	85	7	246	4	0	3	10
Mean		6.4	2156	n/a	n/a	156	191	1008	7	196	184	13	1	8	23	0	54	6	151	3	0	2	8
Standard Deviation		0.1	290	n/a	n/a	35	42	63	n/a	20	14	n/a	n/a	5	8	n/a	42	1	83	1	0	1	2
80th Percentile		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
MB12-26 (Wet Season)																							
MB12-26	19-Feb-13	6.4	2435			188	229	1,080	10	216	193	12	1	27	42	0.1	2	5	122	4	0.1	5	19
MB12-26	4-Feb-14	6.4	1946			140	171	860	5	165	160	12	1	15	10	0.1	38	5	99	3	0.3	2	15
No. of samples		2	2	0	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Minimum		6.4	1946	n/a	n/a	n/a	n/a	860	n/a	165	160	n/a	n/a	15	10	0	2	5	99	3	0	2	15
Maximum		6.4	2435	n/a	n/a	n/a	n/a	1080	n/a	216	193	n/a	n/a	27	42	0	38	5	122	4	0	5	19
Mean		6.4	2191	n/a	n/a	n/a	n/a	970	n/a	191	177	n/a	n/a	21	26	0	20	5	111	4	0	4	17
Standard Deviation		0.0	346	n/a	n/a	n/a	n/a	156	n/a	36	23	n/a	n/a	9	23	0	25	0	16	1	0	2	3
80th Percentile		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Red numbers indicate that the concentration was below the indicated detection limit

Table B-24. Groundwater Quality Data for Bores MB12-27 and MB12-28, Near the EFDC

		FIELD DATA		LAB DATA			MAJOR IONS (in mg/L)							DISSOLVED METALS (in ug/L)									
Bore ID	**Sampling Date**	**pH**	**EC uS/cm**	**pH**	**Acidity mg/L**	**HCO_3 Alkalinity mg/L as CaCO3**	**HCO_3**	**SO_4**	**Cl**	**Ca**	**Mg**	**Na**	**K**	**Al**	**Fe**	**Cd**	**Cu**	**Co**	**Mn**	**Ni**	**Pb**	**U**	**Zn**
MB12-27 (Dry Season)																							
MB12-27	6-Nov-12	7.2	1309			250	305	368	5	58	55	134	3	19	40	0.2	2	0	462	2	4.8	75	1
MB12-27	30-Oct-14	7.3	1025			162	198	302	5	67	63	54	2	6	92	0.0	15	1	599	1	0.4	33	1
MB12-27	4-Oct-13	7.3	1246			210	256	341	5	64	61	75	2	27	80	0.0	89	8	694	8	1.1	40	3
No. of samples		3	3	0	0	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Minimum		7.2	1025	n/a	n/a	162	198	302	5	58	55	54	2	6	40	0	2	0	462	1	0	33	1
Maximum		7.3	1309	n/a	n/a	250	305	368	5	67	63	134	3	27	92	0	89	8	694	8	5	75	3
Mean		7.3	1193	n/a	n/a	207	253	337	5	63	60	88	2	17	71	0	35	3	585	3	2	49	2
Standard Deviation		0.0	149	n/a	n/a	44	54	33	n/a	4	4	n/a	n/a	10	27	n/a	47	4	117	4	2	23	1
80th Percentile		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
MB12-27 (Wet Season)																							
MB12-27	3-Feb-14	7.3	998			184	224	264	5	64	64	26	2	12	12	0.0	4	1	770	2	5.0	38	4
MB12-27	3-Feb-14	7.3	998			184	224	264	5	64	64	26	2	12	12	0.0	4	1	770	2	5.0	38	4
No. of samples		2	2	0	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Minimum		7.3	998	n/a	n/a	n/a	n/a	264	n/a	64	64	n/a	n/a	12	12	0	4	1	770	2	5	38	4
Maximum		7.3	998	n/a	n/a	n/a	n/a	264	n/a	64	64	n/a	n/a	12	12	0	4	1	770	2	5	38	4
Mean		7.3	998	n/a	n/a	n/a	n/a	264	n/a	64	64	n/a	n/a	12	12	0	4	1	770	2	5	38	4
Standard Deviation		0.0	0	n/a	n/a	n/a	n/a	0	n/a	0	0	n/a	n/a	0	0	0	0	0	0	0	0	0	0
80th Percentile		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
MB12-28 (Dry Season)																							
MB12-28	30-Oct-14	6.9	985			162	198	337	5	77	89	5	0	4	58	0.0	23	1	194	2	0.0	1	3
MB12-28	8-Oct-13	6.7	996			132	161	309	5	65	77	5	0	10	40	0.0	27	2	129	4	0.0	1	4
No. of samples		2	2	0	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Minimum		6.7	985	n/a	n/a	n/a	n/a	309	n/a	65	77	n/a	n/a	4	40	0	23	1	129	2	0	1	3
Maximum		6.9	996	n/a	n/a	n/a	n/a	337	n/a	77	89	n/a	n/a	10	58	0	27	2	194	4	0	1	4
Mean		6.8	991	n/a	n/a	n/a	n/a	323	n/a	71	83	n/a	n/a	7	49	0	25	2	162	3	0	1	3
Standard Deviation		0.1	8	n/a	n/a	n/a	n/a	20	n/a	8	8	n/a	n/a	4	13	0	3	1	46	1	0	0	1
80th Percentile		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
MB12-28 (Wet Season)																							
MB12-28	19-Feb-13	6.5	1572			139	170	643	5	104	138	5	1	27	50	0.1	3	3	392	17	0.0	4	12
MB12-28	4-Feb-14	6.7	805			140	171	226	5	50	61	4	0	19	66	0.0	8	1	263	3	0.2	1	24
No. of samples		2	2	0	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Minimum		6.5	805	n/a	n/a	n/a	n/a	226	n/a	50	61	n/a	n/a	19	50	0	3	1	263	3	0	1	12
Maximum		6.7	1572	n/a	n/a	n/a	n/a	643	n/a	104	138	n/a	n/a	27	66	0	8	3	392	17	0	4	24
Mean		6.6	1189	n/a	n/a	n/a	n/a	435	n/a	77	99	n/a	n/a	23	58	0	6	2	328	10	0	2	18
Standard Deviation		0.1	542	n/a	n/a	n/a	n/a	295	n/a	38	55	n/a	n/a	6	11	0	3	1	91	10	0	2	8
80th Percentile		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Red numbers indicate that the concentration was below the indicated detection limit

Table B-25. Groundwater Quality Data for Bores MB12-27 and MB12-28, Near the EFDC

		FIELD DATA		LAB DATA			MAJOR IONS (in mg/L)							DISSOLVED METALS (in ug/L)									
Bore ID	**Sampling Date**	**pH**	**EC uS/cm**	**pH**	**Acidity mg/L**	**HCO_3 Alkalinity mg/L as CaCO3**	**HCO_3**	**SO_4**	**Cl**	**Ca**	**Mg**	**Na**	**K**	**Al**	**Fe**	**Cd**	**Cu**	**Co**	**Mn**	**Ni**	**Pb**	**U**	**Zn**
MB12-29D (Dry Season)																							
MB12-29D	9-Nov-12	7.3	1882			167	204	835	20	112	147	85	2	45	20	0.2	9	12	4,280	25	0.1	12	8
No. of samples		1	1	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Minimum		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Maximum		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Mean		7.3	1882	n/a	n/a	167	204	835	20	112	147	85	2	45	20	0	9	12	4280	25	0	12	8
Standard Deviation		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
80th Percentile		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
MB12-29D (Wet Season)																							
MB12-29S	9-Oct-13	6.8	2254			226	276	861	5	121	188	24	1	15	228	0.2	114	17	1,480	15	0.4	3	14
MB12-29S	30-Oct-14	6.8	1824			136	166	930	5	111	208	20	1	6	98	0.2	5	7	1,370	10	0.1	6	7
MB12-29S	9-Nov-12	6.7	1959			120	146	1,010	5	141	207	14	1	109	100	0.2	200	26	315	26	0.1	5	60
No. of samples		3	3	0	0	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Minimum		6.7	1824	n/a	n/a	120	146	861	5	111	188	14	1	6	98	0	5	7	315	10	0	3	7
Maximum		6.8	2254	n/a	n/a	226	276	1010	5	141	208	24	1	109	228	0	200	26	1480	26	0	6	60
Mean		6.8	2012	n/a	n/a	161	196	934	5	124	201	19	1	43	142	0	106	16	1055	17	0	5	27
Standard Deviation		0.1	220	n/a	n/a	57	70	75	n/a	15	11	n/a	n/a	57	74	n/a	98	9	643	8	0	1	29
80th Percentile		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
MB12-29S (Wet Season)																							
MB12-29S	14-Feb-13	6.9	2526			276	337	1,010	5	147	214	24	0	26	34	0.2	21	5	2,200	7	0.1	6	4
MB12-29S	26-Feb-14	6.5	1826			70	85	1,000	5	116	214	9	1	127	288	0.2	4	21	678	47	0.1	2	26
No. of samples		2	2	0	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Minimum		6.5	1826	n/a	n/a	n/a	n/a	1000	n/a	116	214	n/a	n/a	26	34	0	4	5	678	7	0	2	4
Maximum		6.9	2526	n/a	n/a	n/a	n/a	1010	n/a	147	214	n/a	n/a	127	288	0	21	21	2200	47	0	6	26
Mean		6.7	2176	n/a	n/a	n/a	n/a	1005	n/a	132	214	n/a	n/a	77	161	0	13	13	1439	27	0	4	15
Standard Deviation		0.3	495	n/a	n/a	n/a	n/a	7	n/a	22	0	n/a	n/a	71	180	0	12	11	1076	28	0	3	15
80th Percentile		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Red numbers indicate that the concentration was below the indicated detection limit

Table B-26. Groundwater Quality Data for Bores MB12-30S/D, RN023057, and RN023060, Near the Intermediate WRD

		FIELD DATA		LAB DATA			MAJOR IONS (in mg/L)							DISSOLVED METALS (in ug/L)									
Bore ID	**Sampling Date**	**pH**	**EC uS/cm**	**pH**	**Acidity mg/L**	**HCO_3 Alkalinity mg/L as CaCO3**	**HCO_3**	**SO_4**	**Cl**	**Ca**	**Mg**	**Na**	**K**	**Al**	**Fe**	**Cd**	**Cu**	**Co**	**Mn**	**Ni**	**Pb**	**U**	**Zn**
MB12-30D (Dry Season)																							
MB12-30D	21-Feb-13	6	13,130			186	227	11,300	5	478	2,610	50	7	110	9,940	1	8	876	2,440	794	3	22	1,780
MB12-30D	22-Apr-15	6	14,197			192	234	11,600	5	449	2,870	27	5	54	5,570	6	101	648	1,890	527	0	17	1,060
No. of samples		2	2	0	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Minimum		6	13,130	n/a	n/a	n/a	n/a	11,300	n/a	449	2,610	n/a	n/a	54	5,570	1	8	648	1,890	527	0	17	1,060
Maximum		6	14,197	n/a	n/a	n/a	n/a	11,600	n/a	478	2,870	n/a	n/a	110	9,940	6	101	876	2,440	794	3	22	1,780
Mean		6	13,664	n/a	n/a	n/a	n/a	11,450	n/a	464	2,740	n/a	n/a	82	7,755	4	55	762	2,165	661	2	20	1,420
Standard Deviation		0	755	n/a	n/a	n/a	n/a	212	n/a	21	184	n/a	n/a	40	3,090	4	66	161	389	189	2	4	509
80th Percentile		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
MB12-30S (Wet Season)																							
MB12-30S	14-Feb-14	4	4,731		482		0	2,770	5	269	458	2	3	22,600	74,900	30	10,900	12,700	18,100	11,000	21	167	15,200
MB12-30S	22-Apr-15	4	5,547		644		0	3,840	5	276	669	3	1	38,000	145,000	52	17,800	20,000	34,900	16,000	6	480	29,100
No. of samples		2	2	0	2	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Minimum		4	4,731	n/a	n/a	n/a	n/a	2,770	n/a	269	458	n/a	n/a	22,600	74,900	30	10,900	12,700	18,100	11,000	6	167	15,200
Maximum		4	5,547	n/a	n/a	n/a	n/a	3,840	n/a	276	669	n/a	n/a	38,000	145,000	52	17,800	20,000	34,900	16,000	21	480	29,100
Mean		4	5,139	n/a	n/a	n/a	n/a	3,305	n/a	273	564	n/a	n/a	30,300	109,950	41	14,350	16,350	26,500	13,500	13	324	22,150
Standard Deviation		0	577	n/a	n/a	n/a	n/a	757	n/a	5	149	n/a	n/a	10,889	49,568	16	4,879	5,162	11,879	3,536	11	221	9,829
80th Percentile		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
RN023057 (Wet Season)																							
RN023057	6-Apr-09	-	4,702	4				3,280		179	655			8,070	40,800	-	7,150	6,020	9,200	7,130	-	218	4,640
RN023060 (Dry Season)																							
RN023060	30-Aug-11	7	1,494			162	198	596	5	104	131	8	2	9	126	0	8	32	1,050	25	1	1	7
RN023060 (Wet Season)																							
RN023060	20-Apr-11	7	1,348	8		130	159	526	5	90	116	8	2	20	400	0	9	33	970	28	6	0	24
RN023060	28-Feb-12	6	1,317			120	146	525	5	85	113	7	2	28	32	0	7	37	760	45	0	2	8
No. of samples		2	2	1	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Minimum		6	1,317	n/a	n/a	n/a	n/a	525	n/a	85	113	n/a	n/a	20	32	0	7	33	760	28	0	0	8
Maximum		7	1,348	n/a	n/a	n/a	n/a	526	n/a	90	116	n/a	n/a	28	400	0	9	37	970	45	6	2	24
Mean		7	1,333	n/a	n/a	n/a	n/a	526	n/a	87	115	n/a	n/a	24	216	0	8	35	865	36	3	1	16
Standard Deviation		0	22	n/a	n/a	n/a	n/a	1	n/a	3	2	n/a	n/a	6	260	0	2	3	148	12	4	1	11
80th Percentile		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Red numbers indicate that the concentration was below the indicated detection limit

Table B-27. Groundwater Quality Data for TPB Bores and RN023137, Near Browns Oxide Pit

		FIELD DATA		LAB DATA			MAJOR IONS (in mg/L)							DISSOLVED METALS (in ug/L)									
Bore ID	**Sampling Date**	**pH**	**EC uS/cm**	**pH**	**Acidity mg/L**	**HCO_3 Alkalinity mg/L as CaCO3**	**HCO_3**	**SO_4**	**Cl**	**Ca**	**Mg**	**Na**	**K**	**Al**	**Fe**	**Cd**	**Cu**	**Co**	**Mn**	**Ni**	**Pb**	**U**	**Zn**
TPB1 (Wet Season)																							
TPB1	16-Mar-10		408	6.8		45	55	149	2	21	35	4	1	1	20		48	6	15	51		0	32
TPB2 (Wet Season)																							
TPB2	16-Mar-10		2970	6.3		17	21	1,880	56	157	384	34	8	1	200		0	1	757	1		0	6
TPB3 (Wet Season)																							
TPB3	16-Mar-10		107	7.1		42	51	10	2	4	9	2	2	2	3,320		0	1	248	1		0	2
RN023137 (Dry Season)																							
RN023137	21-May-08	6.4	309	6.6		66	80	70	1	27	18	6	3	2	20	1	1	0	2	3	0	0	29
RN023137	17-Jun-08	6.5	297	6.8		57	70	65	1	26	18	6	3	1	20	1	0	0	1	2	0	0	6
RN023137	25-Jun-08	6.7	289	6.7		61	75	65	1	25	17	6	3	1	20	1	0	0	1	2	0	0	3
RN023137	28-Jul-08	6.7	290	6.8		59	72	63	1	24	17	6	3	14	20	1	1	0	3	3	0	0	11
RN023137	29-Aug-08	6.9	301	6.9		61	75	56	1	25	17	6	3	1	20	1	0	0	2	2	0	0	2
RN023137	11-Nov-09	6.4	435	6.7		67	82	107	4	34	23	6	2	2	20	2	1	1	104	5	0	0	3
RN023137	16-Sep-09	6.6	437	7.1		70	85	111	3	33	24	7	3	8	20	3	1	0	48	9	0	0	5
RN023137	30-Jul-09	6.8	419	7.4		62	76	118	4	34	23	7	3	16	20	1	33	16	40	8	0	0	5
RN023137	2-Oct-08	6.8	326	6.9		67	82	53	1	27	17	6	4	6	20	1	0	0	2	2	0	0	4
RN023137	14-Oct-08	6.8	324	7.1		72	88	53	2	28	16	6	4	13	20	1	1	0	4	2	0	0	5
RN023137	12-Nov-08	6.8	324	7.2		67	82	55	2	27	17	6	4	2	20	1	0	0	17	4	0	0	4
RN023137	10-Dec-08	7.7	303	7.1		66	81	47	2	24	15	6	3	5	20	1	1	0	19	4	0	0	4
No. of samples		12	12	12	0	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
Minimum		6.4	289	6.6	n/a	57	70	47	1	24	15	6	2	1	20	1	0	0	1	2	0	0	2
Maximum		7.7	437	7.4	n/a	72	88	118	4	34	24	7	4	16	20	3	33	16	104	9	0	0	29
Mean		6.7	338	6.9	n/a	65	79	72	2	28	18	6	3	6	20	1	3	1	20	4	0	0	7
Standard Deviation		0.3	57	0.2	n/a	4	5	25	1	4	3	0	1	5	0	1	9	4	31	2	0	0	7
80th Percentile		6.8	425	7.1	n/a	68	83	109	3	33	23	6	4	14	20	1	1	0	43	6	0	0	8
RN023137 (Wet Season)																							
RN023137	14-Jan-09	6.4	353	7.0		62	76	68	3	28	19	6	3	4	20	1	2	0	18	3	0	0	3
RN023137	3-Mar-09	7.6	385	7.1		64	78	84	3	29	21	7	3	5	20	2	10	4	76	10	0	0	9
RN023137	7-Apr-09	6.6	398	6.8		63	77	99	3	30	23	6	2	2	20	2	1	0	48	6	0	0	4
RN023137	10-Jun-09	6.7	430	6.9		63	77	120	4	37	23	7	3	3	20	0	3	2	10	2	0	0	2
RN023137	13-Jan-10	7.0	323	6.9		52	63	76	3	27	20	6	2	10	50	0	4	1	18	5	1	0	15
No. of samples		5	5	5	0	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Minimum		6.4	323	n/a	n/a	n/a	63	68	3	27	19	6	2	2	20	0	1	0	10	2	0	0	2
Maximum		7.6	430	n/a	n/a	n/a	78	120	4	37	23	7	3	10	50	2	10	4	76	10	1	0	15
Mean		6.9	378	n/a	n/a	n/a	74	89	3	30	21	6	3	5	26	1	4	1	34	5	0	0	6
Standard Deviation		0.5	41	n/a	n/a	n/a	6	21	n/a	4	2	n/a	n/a	3	13	n/a	4	2	28	3	0	0	5
80th Percentile		7.5	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Red numbers indicate that the concentration was below the indicated detection limit

Table B-28. Groundwater Quality Data for Bore MB10-5, Near the Intermediate WRD

		FIELD DATA		LAB DATA			MAJOR IONS (in mg/L)							DISSOLVED METALS (in ug/L)									
Bore ID	**Sampling Date**	**pH**	**EC uS/cm**	**pH**	**Acidity mg/L**	**HCO_3 Alkalinity mg/L as CaCO3**	**HCO_3**	**SO_4**	**Cl**	**Ca**	**Mg**	**Na**	**K**	**Al**	**Fe**	**Cd**	**Cu**	**Co**	**Mn**	**Ni**	**Pb**	**U**	**Zn**
MB10-5 (Dry Season)																							
MB10-5	30-Nov-10	6.6	1358					463	5	55	106	8	2	53	200	1.0	19	997	2,850	749	7.5	15	800
MB10-5	30-Aug-11	6.9	598			162	198	82	5	30	41	6	2	28	2	0.0	13	11	76	13	0.1	11	2
MB10-5	13-Nov-14	7.1	762			154	151	212	5	45	61	8	2	32	54	0.0	1	9	84	5	0.1	3	16
MB10-5	27-Sep-12	6.9	764			160	195	154	5	40	52	8	2	5	44	0.0	0	6	60	6	0.1	1	3
No. of samples		4	4	0	0	3	3	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Minimum		6.6	598	n/a	n/a	154	151	82	5	30	41	6	2	5	2	0	0	6	60	5	0	1	2
Maximum		7.1	1358	n/a	n/a	162	198	463	5	55	106	8	2	53	200	1	19	997	2850	749	8	15	800
Mean		6.9	871	n/a	n/a	159	181	228	5	42	65	7	2	29	75	0	8	256	767	193	2	8	205
Standard Deviation		0.2	334	n/a	n/a	4	26	166	0	10	28	1	0	20	86	0	9	494	1389	371	4	6	396
80th Percentile		7.1	1358	n/a	n/a	n/a	n/a	463	5	55	106	8	2	53	200	1	19	997	2850	749	8	15	800
MB10-5 (Wet Season)																							
MB10-5	25-Feb-11	6.7	1697					776	5	127	152	7	7	25	200	0.2	2	580	1,790	481	0.8	9	376
MB10-5	14-Feb-12	6.9	786			140	171	134	5	41	52	7	2	16	48	0.1	2	13	99	16	0.2	4	8
MB10-5	20-Feb-13	6.8	825			142	173	181	5	45	54	7	2	30	160	0.1	0	8	54	11	0.1	3	4
MB10-5	13-Feb-14	6.6	1221			98	120	426	5	85	84	4	1	42	16	0.1	36	21	122	34	0.6	3	32
MB10-5	23-Apr-15	6.9	838			130	159	218	5	48	62	8	2	26	4	0.0	1	5	48	5	0.5	2	5
No. of samples		5	5	0	0	4	4	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Minimum		6.6	786	n/a	n/a	98	120	134	5	41	52	4	1	16	4	0	0	5	48	5	0	2	4
Maximum		6.9	1697	n/a	n/a	142	173	776	5	127	152	8	7	42	200	0	36	580	1790	481	1	9	376
Mean		6.8	1073	n/a	n/a	128	156	347	5	69	81	7	3	28	86	0	8	126	423	109	0	4	85
Standard Deviation		0.1	391	n/a	n/a	20	25	265	0	37	42	2	2	9	89	0	16	254	765	208	0	3	163
80th Percentile		6.9	1602	n/a	n/a	142	173	706	5	119	138	8	6	40	192	0	29	468	1456	392	1	8	307

Red numbers indicate that the concentration was below the indicated detection limit

Table B-29. Groundwater Quality Data for Bore MB10-6, Near the Intermediate WRD

		FIELD DATA		LAB DATA			MAJOR IONS (in mg/L)							DISSOLVED METALS (in ug/L)									
Bore ID	**Sampling Date**	**pH**	**EC uS/cm**	**pH**	**Acidity mg/L**	**HCO_3 Alkalinity mg/L as CaCO3**	**HCO_3**	**SO_4**	**Cl**	**Ca**	**Mg**	**Na**	**K**	**Al**	**Fe**	**Cd**	**Cu**	**Co**	**Mn**	**Ni**	**Pb**	**U**	**Zn**
MB10-6 (Dry Season)																							
MB10-6	30-Nov-10	7.2	1952					931	10	232	126	12	5	19	200	0.2	3	1	577	1	30.7		
MB10-6	30-Aug-11	7.2	2309			158	193	1,130	10	282	146	11	5	15	20	0.2	0	1	649	0	27.5	1	1
MB10-6	31-Oct-14	7.1	2085			158	193	1,090	10	281	145	12	5	34	30	0.2	0	1	601	1	17.5	2	3
MB10-6	27-Sep-12	7.2	2195			89	109	977	10	254	131	12	5	10	42	0.1	0	1	488	2	27.0	1	2
No. of samples		4	4	0	0	3	3	4	4	4	4	4	4	4	4	4	4	4	4	4	4	3	3
Minimum		7.1	1952	n/a	n/a	89	109	931	10	232	126	11	5	10	20	0	0	1	488	0	18	1	1
Maximum		7.2	2309	n/a	n/a	158	193	1130	10	282	146	12	5	34	200	0	3	1	649	2	31	2	3
Mean		7.2	2135	n/a	n/a	135	165	1032	10	262	137	12	5	20	73	0	1	1	579	1	26	1	2
Standard Deviation		0.0	153	n/a	n/a	40	49	93	n/a	24	10	n/a	n/a	10	85	n/a	1	0	68	1	6	1	1
80th Percentile		n/a	2309	n/a	n/a	n/a	n/a	1130	10	282	146	12	5	34	200	0	3	1	649	2	31	n/a	n/a
MB10-6 (Wet Season)																							
MB10-6	14-Feb-12	7.2	2569			152	185	1,150	10	291	149	12	5	14	20	0.2	0	1	601	0	46.2	1	4
MB10-6	19-Apr-11	7.2	2243	7.9		144	176	1,090	10	268	141	12	5	12	200	0.2	0	1	742	4	11.9	1	1
MB10-6	20-Feb-13	7.2	2205			157	192	980	10	254	131	12	5	24	18	0.1	0	1	505	3	26.4	1	3
MB10-6	20-Feb-13	7.2	2205			157	192	988	10	256	132	12	5	25	22	0.1	0	1	498	2	20.1	1	3
MB10-6	14-Feb-14	7.2	2400			179	218	1,030	10	268	138	12	5	41	10	0.1	1	1	575	1	20.1	2	7
MB10-6	23-Apr-15	7.2	2269			170	207	1,030	10	271	141	12	5	23	12	0.1	0	1	570	0	24.4	1	2
No. of samples		6	6	1	0	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
Minimum		7.2	2205	n/a	n/a	144	176	980	10	254	131	12	5	12	10	0	0	1	498	0	12	1	1
Maximum		7.2	2569	n/a	n/a	179	218	1150	10	291	149	12	5	41	200	0	1	1	742	4	46	2	7
Mean		7.2	2315	7.9	n/a	160	195	1045	10	268	139	12	5	23	47	0	0	1	582	2	25	1	3
Standard Deviation		0.0	144	n/a	n/a	13	15	65	0	13	7	0	0	10	75	0	0	0	88	1	12	1	2
80th Percentile		7.2	2501	n/a	n/a	175	214	1126	10	283	146	12	5	35	129	0	1	1	686	3	38	2	6

Red numbers indicate that the concentration was below the indicated detection limit

Table B-30. Groundwater Quality Data for Bore MB10-10, Copper Extraction Pad area

		FIELD DATA		LAB DATA			MAJOR IONS (in mg/L)							DISSOLVED METALS (in ug/L)									
Bore ID	**Sampling Date**	**pH**	**EC uS/cm**	**pH**	**Acidity mg/L**	**HCO_3 Alkalinity mg/L as CaCO3**	**HCO_3**	**SO_4**	**Cl**	**Ca**	**Mg**	**Na**	**K**	**Al**	**Fe**	**Cd**	**Cu**	**Co**	**Mn**	**Ni**	**Pb**	**U**	**Zn**
MB10-10 (Dry Season)																							
MB10-10	16-Dec-10	6.7	969			379	463	71	5	10	113	4	1	19	2,000	0.2	1	131	51	31	2.8	15	13
MB10-10	31-Aug-11	6.6	2,126			373	455	659	5	53	222	19	1	7	122	0.2	66	202	250	67	0.1	124	27
MB10-10	11-Oct-12	6.7	1,976			398	486	713	10	55	240	20	1	7	1,750	0.0	1	167	183	30	0.2	148	7
MB10-10	3-Oct-13	6.7	2,128			382	466	658	5	50	222	22	1	15	1,940	0.1	0	112	238	17	0.1	100	12
MB10-10	21-Oct-14	6.6	1,881			528	644	756	10	57	260	19	1	10	1,800	0.0	6	111	220	19	0.0	85	2
No. of samples		5	5	0	0	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Minimum		6.6	969	n/a	n/a	373	455	71	5	10	113	4	1	7	122	0	0	111	51	17	0	15	2
Maximum		6.7	2,128	n/a	n/a	528	644	756	10	57	260	22	1	19	2000	0	66	202	250	67	3	148	27
Mean		6.7	1,816	n/a	n/a	412	503	571	7	45	211	17	1	12	1522	0	15	145	188	33	1	94	12
Standard Deviation		0.1	485	n/a	n/a	65	80	283	3	20	57	7	0	5	789	0	29	39	81	20	1	50	9
80th Percentile		6.7	2,128	n/a	n/a	502	612	747	10	57	256	21	1	18	1988	0	54	195	248	60	2	143	24
MB10-10 (Wet Season)																							
MB10-10	10-Feb-11	6.8	1,748			379	463	392	5	31	180	15	1	27	2,000	0.8	3	94	117	19	0.4	111	8
MB10-10	13-Mar-12	6.7	1,885			382	466	527	5	42	205	26	1	14	1,470	0.2	0	152	186	27	0.1	94	3
MB10-10	13-Feb-13	6.7	1,904			376	459	535	5	38	210	15	1	32	590	0.2	110	137	291	67	0.2	33	22
MB10-10	12-Feb-14	6.7	2,071			380	464	756	5	59	245	22	1	49	1,800	0.1	1	83	247	15	0.2	90	15
No. of samples		4	4	0	0	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Minimum		6.7	1,748	n/a	n/a	376	459	392	5	31	180	15	1	14	590	0	0	83	117	15	0	33	3
Maximum		6.8	2,071	n/a	n/a	382	466	756	5	59	245	26	1	49	2000	1	110	152	291	67	0	111	22
Mean		6.7	1,902	n/a	n/a	379	463	553	5	43	210	20	1	30	1465	0	29	117	210	32	0	82	12
Standard Deviation		0.1	132	n/a	n/a	3	3	151	0	12	27	5	0	15	623	0	54	33	76	24	0	34	8
80th Percentile		6.8	2,071	n/a	n/a	n/a	466	756	5	59	245	26	1	49	2000	1	110	152	291	67	0	111	22

Red numbers indicate that the concentration was below the indicated detection limit

Table B-31. Groundwater Quality Data for Bore MB10-11, Copper Extraction Pad area

		FIELD DATA		LAB DATA			MAJOR IONS (in mg/L)							DISSOLVED METALS (in ug/L)									
Bore ID	**Sampling Date**	**pH**	**EC uS/cm**	**pH**	**Acidity mg/L**	**HCO_3 Alkalinity mg/L as CaCO3**	**HCO_3**	**SO_4**	**Cl**	**Ca**	**Mg**	**Na**	**K**	**Al**	**Fe**	**Cd**	**Cu**	**Co**	**Mn**	**Ni**	**Pb**	**U**	**Zn**
MB10-11 (Dry Season)																							
MB10-11	17-Dec-10	5.0	7,540			0	0	5,600	55	401	961	20	3	1,240	36,300	11.4	137,000	75,900	195,000	50,900		10	9,190
MB10-11	18-Oct-12	5.4	7,970			72	88	5,930	55	478	1,060	31	3	419	9,390	12.4	67,600	66,600	176,000	50,900	11.5	14	8,480
MB10-11	31-Aug-11	5.1	8,270			78	95	5,970	25	470	1,050	27	2	85	13,300	14.8	75,600	72,800	199,000	57,800	3.1	5	11,700
MB10-11	3-Oct-13	5.4	7,270			64	78	5,370	70	400	995	33	2	490	1,950	10.4	69,200	55,200	145,000	45,600	2.5	27	7,680
MB10-11	21-Oct-14	5.4	6,150			65	80	5,180	50	426	951	31	2	428	1,490	10.2	77,200	51,100	144,000	42,700	1.0	24	6,870
No. of samples		5	5	0	0	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	4	5	5
Minimum		5.0	6,150	n/a	n/a	0	0	5180	25	400	951	20	2	85	1490	10	67,600	51100	144000	42700	1	5	6870
Maximum		5.4	8,270	n/a	n/a	78	95	5970	70	478	1060	33	3	1240	36300	15	137,000	75900	199000	57800	12	27	11700
Mean		5.3	7,440	n/a	n/a	56	68	5610	51	435	1003	28	2	532	12486	12	85,320	64320	171800	49580	5	16	8784
Standard Deviation		0.2	817	n/a	n/a	32	39	344	16	37	50	5	0	426	14224	2	29,177	10830	26395	5793	5	9	1847
80th Percentile		5.4	8,210	n/a	n/a	77	94	5962	67	476	1058	33	3	1090	31700	14	125,040	75280	198200	56420	12	27	11198
MB10-11 (Wet Season)																							
MB10-11	10-Feb-11	5.3	7,800			0	0	5,570	55	444	985	32	3	270	17,000	12.8	86,500	66,700	191,000	49,000	0.8	4	9,550
MB10-11	13-Mar-12	5.3	7,500			166	203	5,960	55	489	1,070	31	2	154	62,900	8.7	9,220	63,200	192,000	41,200	2.7	9	7,020
MB10-11	13-Feb-13	5.7	7,520			160	195	5,460	55	398	1,080	36	2	176	58,800	4.4	8,860	33,300	115,000	26,700	1.0	15	3,210
MB10-11	13-Feb-14	5.5	7,680			107	130	5,320	45	387	1,060	32	2	532	3,360	7.0	36,300	49,900	120,000	40,200	2.4	18	5,400
No. of samples		4	4	0	0	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Minimum		5.3	7,500	n/a	n/a	0	0	5320	45	387	985	31	2	154	3360	4	8,860	33300	115000	26700	1	4	3210
Maximum		5.7	7,800	n/a	n/a	166	203	5960	55	489	1080	36	3	532	62900	13	86,500	66700	192000	49000	3	18	9550
Mean		5.5	7,625	n/a	n/a	108	132	5578	53	430	1049	33	2	283	35515	8	35,220	53275	154500	39275	2	11	6295
Standard Deviation		0.2	142	n/a	n/a	77	94	275	5	47	43	2	1	173	29827	4	36,522	15156	42775	9260	1	6	2673
80th Percentile		5.7	7,800	n/a	n/a	166	203	5960	55	489	1080	36	3	532	62900	13	86,500	66700	192000	49000	3	18	9550

Red numbers indicate that the concentration was below the indicated detection limit

Table B-32. Groundwater Quality Data for Bore PB12-33, Copper Extraction Pad area

		FIELD DATA		LAB DATA			MAJOR IONS (in mg/L)							DISSOLVED METALS (in ug/L)									
Bore ID	**Sampling Date**	**pH**	**EC uS/cm**	**pH**	**Acidity mg/L**	**HCO_3 Alkalinity mg/L as CaCO3**	**HCO_3**	**SO_4**	**Cl**	**Ca**	**Mg**	**Na**	**K**	**Al**	**Fe**	**Cd**	**Cu**	**Co**	**Mn**	**Ni**	**Pb**	**U**	**Zn**
PB12-33 (Dry Season)																							
PB12-33	22-Nov-12	4.7	5,440					5,480	25	392	918	29	2	8,190	6,880	12.0	225,000	63,900	176,000	51,500	5.1	99	8,900
PB12-33	22-Nov-12	4.9	6,740					4,920	30	370	829	33	2	6,070	1,090	10.4	195,000	54,200	145,000	42,300	1.0	109	6,930
PB12-33	21-Oct-14	5.4	5,600			31	37	4,580	40	337	892	24	2	243	946	6.7	63,200	40,200	85,100	25,700	1.4	5	4,920
PB12-33	8-Oct-13	5.5	6,890			80	98	4,620	45	356	890	26	3	155	7,540	6.2	38,500	35,900	90,100	24,000	1.0	5	3,810
No. of samples		4	4	0	0	2	2	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Minimum		4.7	5,440	n/a	n/a	31	37	4580	25	337	829	24	2	155	946	6	38,500	35,900	85,100	24,000	1	5	3,810
Maximum		5.5	6,890	n/a	n/a	80	98	5480	45	392	918	33	3	8190	7540	12	225,000	63,900	176,000	51,500	5	109	8,900
Mean		5.1	6,168	n/a	n/a	55	67	4900	35	364	882	28	2	3665	4114	9	130,425	48,550	124,050	35,875	2	54	6,140
Standard Deviation		0.4	753	n/a	n/a	35	43	415	9	23	38	4	0	4094	3586	3	93,245	12,875	43,998	13,291	2	57	2,248
80th Percentile		5.5	6,890	n/a	n/a	n/a	n/a	5480	45	392	918	33	3	8190	7540	12	225,000	63,900	176,000	51,500	5	109	8,900
PB12-33 (Wet Season)																							
PB12-33	21-Feb-14	5.3	6,680			55	68	4,620	35	309	871	23	3	981	2,810	20.0	135,000	54,000	98,600	36,400	10.0	4	7,740
PB12-33	27-Feb-13	5.4	6,450			70	85	4,670	40	337	867	24	2	339	200	12.0	138,000	61,200	115,000	41,800	4.1	11	8,580
No. of samples		2	2	0	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Minimum		5.3	6,450	n/a	n/a	55	68	4620	35	309	867	23	2	339	200	12	135,000	54,000	98,600	36,400	4	4	7,740
Maximum		5.4	6,680	n/a	n/a	70	85	4670	40	337	871	24	3	981	2810	20	138,000	61,200	115,000	41,800	10	11	8,580
Mean		5.4	6,565	n/a	n/a	63	76	4645	38	323	869	24	3	660	1505	16	136,500	57,600	106,800	39,100	7	7	8,160
Standard Deviation		0.1	163	n/a	n/a	10	13	35	4	20	3	1	0	454	1846	6	2,121	5,091	11,597	3,818	4	5	594
80th Percentile		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
RN023054	6-Apr-09	3.3	2,760					1,650		163	250			21,000	400	11.4	17,800	3,340	10,900	2,920	83.9	590	3,430

Red numbers indicate that the concentration was below the indicated detection limit

Table B-33. Groundwater Quality Data for MB10-22, Copper Extraction Pad area

		FIELD DATA		LAB DATA			MAJOR IONS (in mg/L)							DISSOLVED METALS (in ug/L)									
Bore ID	**Sampling Date**	**pH**	**EC uS/cm**	**pH**	**Acidity mg/L**	**HCO_3 Alkalinity mg/L as CaCO3**	**HCO_3**	**SO_4**	**Cl**	**Ca**	**Mg**	**Na**	**K**	**Al**	**Fe**	**Cd**	**Cu**	**Co**	**Mn**	**Ni**	**Pb**	**U**	**Zn**
MB10-22 (Dry Season)																							
MB10-22	23-Dec-10	7.7	2021			0	0	944	30	89	222	17	1	25	400	0.2	1	3	495	3	0.8	5	5
MB10-22	10-Oct-12	7.5	1458			121	148	523	20	52	139	10	2	18	20	0.0	4	1	102	1	0.0	6	2
MB10-22	30-Aug-11	7.5	1491			103	126	617	25	58	156	10	2	59	34	0.2	0	1	186	0	0.1	5	1
MB10-22	3-Oct-13	7.7	1619			130	159	627	5	57	161	11	1	34	496	0.0	1	2	402	1	0.1	7	4
No. of samples		4	4	0	0	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Minimum		7.5	1458	n/a	n/a	0	0	523	5	52	139	10	1	18	20	0	0	1	102	0	0	5	1
Maximum		7.7	2021	n/a	n/a	130	159	944	30	89	222	17	2	59	496	0	4	3	495	3	1	7	5
Mean		7.6	1647	n/a	n/a	89	108	678	20	64	170	12	1	34	238	0	2	1	296	1	0	6	3
Standard Deviation		0.1	259	n/a	n/a	60	73	184	11	17	36	4	0	18	246	0	2	1	183	1	0	1	2
80th Percentile		7.7	2021	n/a	n/a	n/a	159	944	30	89	222	17	2	59	496	0	4	3	495	3	1	7	5
MB10-22 (Wet Season)																							
MB10-22	24-Feb-11	7.3	1907			0	0	804	30	73	196	15	2	24	400	0.2	0	2	530	3	0.3	12	5
MB10-22	27-Feb-12	7.4	1492			138	168	621	25	60	161	11	2	44	164	0.2	1	1	368	1	0.1	39	1
MB10-22	27-Feb-12	7.4	1492			138	168	619	25	60	161	11	2	44	172	0.2	1	1	360	1	0.1	32	2
MB10-22	12-Feb-13	7.5	2065			162	198	1,040	35	99	248	17	1	25	60	0.1	3	3	228	25	0.1	9	12
MB10-22	4-Feb-14	7.8	1877			168	205	782	30	72	201	13	2	85	140	0.1	16	2	401	4	0.6	4	109
MB10-22	22-Apr-15	7.8	1961			14	18	805	30	75	209	13	1	114	176	0.1	0	1	421	1	0.1	9	2
No. of samples		6	6	0	0	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
Minimum		7.3	1492	n/a	n/a	0	0	619	25	60	161	11	1	24	60	0	0	1	228	1	0	4	1
Maximum		7.8	2065	n/a	n/a	168	205	1040	35	99	248	17	2	114	400	0	16	3	530	25	1	39	109
Mean		7.5	1799	n/a	n/a	103	126	779	29	73	196	13	1	56	185	0	4	2	385	6	0	17	22
Standard Deviation		0.2	246	n/a	n/a	76	92	155	4	14	33	2	0	36	114	0	6	1	98	10	0	14	43
80th Percentile		7.8	2023	n/a	n/a	166	202	946	33	89	232	16	2	102	310	0	11	3	486	17	0	36	70

Red numbers indicate that the concentration was below the indicated detection limit

Table B-34. Groundwater Quality Data for MB10-23, Copper Extraction Pad area

		FIELD DATA		LAB DATA			MAJOR IONS (in mg/L)							DISSOLVED METALS (in ug/L)									
Bore ID	Sampling Date	pH	EC uS/cm	pH	Acidity mg/L	HCO_3 Alkalinity mg/L as CaCO3	HCO_3	SO_4	Cl	Ca	Mg	Na	K	Al	Fe	Cd	Cu	Co	Mn	Ni	Pb	U	Zn
MB10-23 (Dry Season)																							
MB10-23	23-Dec-10	3.5	6940			0	0	5,190	40	281	768	22	5	37,700	13,000	18.0	506,000	73,700	143,000	56,400	50.3	404	10,500
MB10-23	10-Oct-13	3.9	6540		4450	0	0	4,670	30	228	666	18	7	10,200	29,200	20.0	488,000	57,500	122,000	43,000	10.0	110	7,890
MB10-23	31-Aug-11	3.6	7120		1556	0	0	5,320	20	266	772	19	5	27,800	20,500	18.6	635,000	71,000	160,000	58,100	48.9	325	10,600
MB10-23	20-Oct-14	4.1	4852			3	4	3,810	25	194	519	14	6	7,130	37,400	15.8	561,000	50,300	124,000	39,900	13.5	109	7,190
MB10-23	10-Oct-12	3.9	6980		1454	0	0	5,060	20	246	718	19	7	15,700	34,200	16.4	661,000	71,200	155,000	53,800	13.0	198	9,820
No. of samples		5	5	0	3	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Minimum		3.5	4852	n/a	n/a	0	0	3810	20	194	519	14	5	7130	13000	16	488,000	50300	122000	39900	10	109	7190
Maximum		4.1	7120	n/a	n/a	3	4	5320	40	281	772	22	7	37700	37400	20	661,000	73700	160000	58100	50	404	10600
Mean		3.8	6486	n/a	n/a	1	1	4810	27	243	689	18	6	19706	26860	18	570,200	64740	140800	50240	27	229	9200
Standard Deviation		0.3	939	n/a	n/a	1	2	610	8	34	104	3	1	12785	10037	2	76,496	10273	17398	8242	21	132	1564
80th Percentile		4.1	7092	n/a	n/a	2	3	5294	38	278	771	21	7	35720	36760	20	655,800	73200	159000	57760	50	388	10580
MB10-23 (Wet Season)																							
MB10-23	10-Feb-11	3.5	7200			0	0	5,290	20	273	773	38	5	35,900	19,800	21.0	587,000	71,300	152,000	57,600	22.0	371	11,900
MB10-23	28-Feb-12	3.9	9510		1950	0	0	7,670	20	339	1,150	30	6	29,400	47,700	25.6	857,000	120,000	237,000	92,600	9.3	222	17,000
MB10-23	13-Feb-13	4.0	8800		1368	0	0	7,320	50	336	1,120	29	7	20,500	33,200	24.6	758,000	109,000	220,000	83,000	60.2	164	15,500
MB10-23	6-Feb-14	4.0	6190		1252	0	0	4,630	20	224	655	19	6	14,800	38,200	21.2	651,000	69,600	153,000	52,700	24.7	173	9,950
MB10-23	24-Apr-15	4.0	7876		1360		0	3,510	5	29	49	5	1	16,900	36,500	20.4	785,000	84,700	178,000	63,500	17.8	203	12,000
No. of samples		5	5	0	4	4	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Minimum		3.5	6190	n/a	n/a	0	0	3510	5	29	49	5	1	14800	19800	20	587,000	69600	152000	52700	9	164	9950
Maximum		4.0	9510	n/a	n/a	0	0	7670	50	339	1150	38	7	35900	47700	26	857,000	120000	237000	92600	60	371	17000
Mean		3.9	7915	n/a	n/a	0	0	5684	23	240	749	24	5	23500	35080	23	727,600	90920	188000	69880	27	227	13270
Standard Deviation		0.2	1305	n/a	n/a	0	0	1776	16	128	447	13	2	8900	10100	2	107,934	22642	38878	17139	20	84	2890
80th Percentile		4.0	9368	n/a	n/a	0	0	7600	44	338	1144	36	7	34600	45800	25	842,600	117800	233600	90680	53	341	16700

Red numbers indicate that the concentration was below the indicated detection limit

Table B-35. Groundwater Quality Data for Bore MB10-24, Copper Extraction Pad area

		FIELD DATA		LAB DATA			MAJOR IONS (in mg/L)							DISSOLVED METALS (in ug/L)									
Bore ID	Sampling Date	pH	EC uS/cm	pH	Acidity mg/L	HCO_3 Alkalinity mg/L as CaCO3	HCO_3	SO_4	Cl	Ca	Mg	Na	K	Al	Fe	Cd	Cu	Co	Mn	Ni	Pb	U	Zn
MB10-24 (Dry Season)																							
MB10-24	30-Aug-11	2.8	2124		472																		
MB10-24	10-Oct-12	3.5	2208		398	0	0	1,210	5	91	163	7	2	34,400	770	3.9	52,100	5,370	19,300	5,120	45.2	260	1,390
MB10-24	10-Oct-13	3.4	1878		324	0	0	938	10	70	129	8	2	26,200	1,430	5.1	41,800	4,110	15,800	3,910	37.0	199	1,130
MB10-24	23-Oct-14	3.5	1801		290	0	0	1,050	10	82	147	8	2	24,300	560	4.4	52,600	5,180	18,300	5,110	15.4	162	1,370
No. of samples		4	4	0	4	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Minimum		2.8	1801	n/a	n/a	0	0	938	5	70	129	7	2	24300	560	4	41,800	4110	15800	3910	15	162	1130
Maximum		3.5	2208	n/a	n/a	0	0	1210	10	91	163	8	2	34400	1430	5	52,600	5370	19300	5120	45	260	1390
Mean		3.3	2003	n/a	n/a	0	0	1066	8	81	146	8	2	28300	920	4	48,833	4887	17800	4713	33	207	1297
Standard Deviation		0.3	194	n/a	n/a	0	0	137	3	11	17	1	0	5367	454	1	6,096	679	1803	696	15	49	145
80th Percentile		3.5	2208	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
MB10-24 (Wet Season)																							
MB10-24	9-Feb-11	3.1	1367			0	0	600		44	81	5	2	17,900	800	1.8	28,000	3,080	11,600	2,890		139	903
MB10-24	13-Feb-13	3.4	1828		358	0	0	914	5	67	123	6	2	25,400	524	3.2	38,300	3,910	14,800	3,800	56.4	209	1,080
MB10-24	5-Feb-14	3.5	1260		164																		
MB10-24	24-Apr-15	3.6	890		208	0	0	5,620	40	268	830	22	6	7,780	262	1.4	17,300	1,340	5,190	1,300	25.2	142	415
MB10-24	28-Feb-12	3.4	1617		335	0	0	750	5	57	103	5	2	20,300	514	2.4	32,100	3,230	12,500	3,060	23.1	160	899
No. of samples		5	5	0	4	4	4	4	3	4	4	4	4	4	4	4	4	4	4	4	3	4	4
Minimum		3.1	890	n/a	164	0	0	600	5	44	81	5	2	7780	262	1	17,300	1340	5190	1300	23	139	415
Maximum		3.6	1828	n/a	358	0	0	5620	40	268	830	22	6	25400	800	3	38,300	3910	14800	3800	56	209	1080
Mean		3.4	1392	n/a	266	0	0	1971	17	109	284	9	3	17845	525	2	28,925	2890	11023	2763	35	163	824
Standard Deviation		0.2	357	n/a	95	0	0	2436	20	106	364	8	2	7403	220	1	8,831	1095	4115	1052	19	32	286
80th Percentile		3.6	1786	n/a	358	0	0	5620	n/a	268	830	22	6	25400	800	3	38,300	3910	14800	3800	n/a	209	1080

Red numbers indicate that the concentration was below the indicated detection limit

Table B-36. Groundwater Quality Data for Bore MB12-35, Copper Extraction Pad area

		FIELD DATA		LAB DATA			MAJOR IONS (in mg/L)							DISSOLVED METALS (in ug/L)									
Bore ID	**Sampling Date**	**pH**	**EC uS/cm**	**pH**	**Acidity mg/L**	**HCO_3 Alkalinity mg/L as CaCO3**	**HCO_3**	**SO_4**	**Cl**	**Ca**	**Mg**	**Na**	**K**	**Al**	**Fe**	**Cd**	**Cu**	**Co**	**Mn**	**Ni**	**Pb**	**U**	**Zn**
MB12-35 (Dry Season)																							
MB12-35	8-Nov-12	4.6	10390		1680			9,120	65	448	1,440	120	6	5,310	127,000	23	442,000	116,000	379,000	93,000	40	23	195,000
MB12-35	8-Oct-13	4.2	10400		1394			8,180	55	380	1,310	37	5	16,200	89,100	20	472,000	79,300	272,000	70,300	10	59	10,600
MB12-35	20-Oct-14	4.4	9420		1410			8,500	60	407	1,480	40	4	12,500	79,100	20	511,000	90,000	330,000	80,300	15	93	11,600
No. of samples		3	3	0	3	0	0	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Minimum		4.2	9420	0.0	1394	0	0	8,180	55	380	1,310	37	4	5,310	79,100	20	442,000	79,300	272,000	70,300	10	23	10,600
Maximum		4.6	10400	0.0	1680	0	0	9,120	65	448	1,480	120	6	16,200	127,000	23	511,000	116,000	379,000	93,000	40	93	195,000
Mean		4.4	10070	n/a	1495	n/a	n/a	8,600	60	412	1,410	65	5	11,337	98,400	21	475,000	95,100	327,000	81,200	22	58	72,400
Standard Deviation		0.2	563	n/a	161	n/a	n/a	478	5	34	89	47	1	5,537	25,268	2	34,598	18,874	53,563	11,377	16	35	106,176
80th Percentile		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
MB12-35 (Wet Season)																							
MB12-35	28-Feb-13	4.5	10820		1220			8,700	65	430	1,520	44	4	9,240	68,320	19	481,000	96,700	342,000	87,800	20	41	14,500
MB12-35	21-Feb-14	4.2	9380		1476			7,470	45	353	1,210	34	5	15,800	92,200	20	516,000	86,700	310,000	76,500	10	55	11,100
No. of samples		2	2	0	2	0	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Minimum		4.2	9380	0.0	1220	0	0	7,470	45	353	1,210	34	4	9,240	68,320	19	481,000	86,700	310,000	76,500	10	41	11,100
Maximum		4.5	10820	0.0	1476	0	0	8,700	65	430	1,520	44	5	15,800	92,200	20	516,000	96,700	342,000	87,800	20	55	14,500
Mean		4.4	10100	n/a	1348	n/a	n/a	8,085	55	392	1,365	39	4	12,520	80,260	20	498,500	91,700	326,000	82,150	15	48	12,800
Standard Deviation		0.2	1018	n/a	181	n/a	n/a	870	14	54	219	7	0	4,639	16,886	1	24,749	7,071	22,627	7,990	7	10	2,404
80th Percentile		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Red numbers indicate that the concentration was below the indicated detection limit

Table B-37. Groundwater Quality Data for Bore MB12-34, Near the Intermediate Open Pit

		FIELD DATA		LAB DATA			MAJOR IONS (in mg/L)							DISSOLVED METALS (in ug/L)									
Bore ID	**Sampling Date**	**pH**	**EC uS/cm**	**pH**	**Acidity mg/L**	**HCO_3 Alkalinity mg/L as CaCO3**	**HCO_3**	**SO_4**	**Cl**	**Ca**	**Mg**	**Na**	**K**	**Al**	**Fe**	**Cd**	**Cu**	**Co**	**Mn**	**Ni**	**Pb**	**U**	**Zn**
MB12-34 (Dry Season)																							
MB12-34	8-Nov-12	7.3	2495			152	185	1,270	20	191	236	31	3	19	20	0	10	4	225	19	0	24	104
MB12-34	28-Oct-14	7.2	2745			156	190	1,630	45	223	328	32	4	10	652	0	2	32	1,060	34	0	8	5
No. of samples		2	2	0	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Minimum		7.2	2495	n/a	n/a	152	185	1,270	20	191	236	31	3	10	20	0	2	4	225	19	0	8	5
Maximum		7.3	2745	n/a	n/a	156	190	1,630	45	223	328	32	4	19	652	0	10	32	1,060	34	0	24	104
Mean		7.2	2620	n/a	n/a	154	188	1,450	33	207	282	31	3	14	336	0	6	18	643	26	0	16	54
Standard Deviation		0.1	177	n/a	n/a	3	3	255	18	23	65	1	1	7	447	0	6	20	590	11	0	11	70
80th Percentile		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
MB12-34 (Wet Season)																							
MB12-34	18-Feb-13	6.7	1487			121	148	670	15	113	122	20	2	21	24	0	10	6	185	23	0	5	42
MB12-34	21-Feb-14	7.0	3215			202	246	1,540	35	213	308	35	4	41	660	0	5	20	843	18	0	7	5
No. of samples		2	2	0	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Minimum		6.7	1487	n/a	n/a	121	148	670	15	113	122	20	2	21	24	0	5	6	185	18	0	5	5
Maximum		7.0	3215	n/a	n/a	202	246	1,540	35	213	308	35	4	41	660	0	10	20	843	23	0	7	42
Mean		6.8	2351	n/a	n/a	162	197	1,105	25	163	215	28	3	31	342	0	7	13	514	20	0	6	23
Standard Deviation		0.2	1222	n/a	n/a	57	70	615	14	71	132	11	2	14	450	0	3	10	465	3	0	1	26
80th Percentile		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Red numbers indicate that the concentration was below the indicated detection limit

Table B-38. Groundwater Quality Data for Bore RN022543, Near the Intermediate Open Pit

		FIELD DATA		LAB DATA			MAJOR IONS (in mg/L)							DISSOLVED METALS (in ug/L)									
Bore ID	**Sampling Date**	**pH**	**EC uS/cm**	**pH**	**Acidity mg/L**	**HCO_3 Alkalinity mg/L as CaCO3**	**HCO_3**	**SO_4**	**Cl**	**Ca**	**Mg**	**Na**	**K**	**Al**	**Fe**	**Cd**	**Cu**	**Co**	**Mn**	**Ni**	**Pb**	**U**	**Zn**
RN022543 (Dry Season)																							
RN022543	28-Oct-08		2199	7.8		40	49	1,150	45	122	259	18	2	10	200	0.2	1	1	22	2	0.1	3	4
RN022543	2-Sep-11	7.5	2829			85	104	1,310	55	128	285	16	1	12	20	0.2	0	1	196	0	0.1	2	1
RN022543	29-Oct-14	7.7	2318			98	120	1,340	75	140	297	19	1	7	20	0.2	8	3	81	4	0.1	3	3
RN022543	1-Oct-13	7.5	2883			103	126	1,330	55	131	293	18	1	12	12	0.1	1	1	153	12	0.1	2	4
RN022543	8-Oct-12	7.6	2624			98	120	1,380	55	135	307	19	1	10	26	0.1	0	1	151	1	0.1	2	4
RN022543	23-Sep-10	7.7	2574	-		109	132	1,300	50	114	302	17	1	4	200	0	-	0	37	1	0	1	
No. of samples		5	6	1	0	6	6	6	6	6	6	6	6	6	6	6	5	6	6	6	6	6	5
Minimum		7.5	2199	7.8	n/a	40	49	1150	45	114	259	16	1	4	12	0	0	0	22	0	0	1	1
Maximum		7.7	2883	7.8	n/a	109	132	1380	75	140	307	19	2	12	200	0	8	3	196	12	0	3	4
Mean		7.6	2571	7.8	n/a	89	108	1302	56	128	291	18	1	9	80	0	2	1	107	3	0	2	3
Standard Deviation		0.1	272	5.5	n/a	25	31	79	10	9	17	1	0	3	93	0	3	1	70	4	0	1	1
80th Percentile		7.7	2861	n/a	n/a	107	130	1364	67	138	305	19	1	12	200	0	6	2	179	9	0	3	4
RN022543 (Wet Season)																							
RN022543	31-Mar-11	7.6	2319	8.1				1,240	55	129	275	18	1	19	200	0.2	1	1	143	2	0.2	2	2
RN022543	15-Apr-09	7.8	2644				805	1,360		117	296			6	200	0.2	0	1	11	0	0.1	2	5
RN022543	1-Mar-12	7.6	2447			126	154	1,240	50	140	264	18	1	59	20	0.2	3	1	108	1	0.1	2	12
RN022543	15-Feb-13	7.2	2625			110	134	1,280	50	132	282	18	1	55	10	0.1	11	17	144	16	0.1	109	22
RN022543	5-Feb-14	7.5	2445			114	139	1,140	50	132	245	17	1	73	14	0.1	18	3	69	4	0.2	3	82
No. of samples		5	5	1	0	3	4	5	4	5	5	4	4	5	5	5	5	5	5	5	5	5	5
Minimum		7.2	2319	n/a	n/a	n/a	134	1140	50	117	245	17	1	6	10	0	0	1	11	0	0	2	2
Maximum		7.8	2644	n/a	n/a	n/a	805	1360	55	140	296	18	1	73	200	0	18	17	144	16	0	109	82
Mean		7.5	2496	n/a	n/a	n/a	308	1252	51	130	272	18	1	42	89	0	7	4	95	5	0	24	24
Standard Deviation		0.2	137	n/a	n/a	n/a	331	79	n/a	8	19	n/a	n/a	29	102	n/a	8	7	56	6	0	48	33
80th Percentile		7.7	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Red numbers indicate that the concentration was below the indicated detection limit

Table B-39. Groundwater Quality Data for Bore MB10-7, Central Mining Area

		FIELD DATA		LAB DATA			MAJOR IONS (in mg/L)							DISSOLVED METALS (in ug/L)									
Bore ID	Sampling Date	pH	EC uS/cm	pH	Acidity mg/L	HCO_3 Alkalinity mg/L as CaCO3	HCO_3	SO_4	Cl	Ca	Mg	Na	K	Al	Fe	Cd	Cu	Co	Mn	Ni	Pb	U	Zn
MB10-7 (Dry Season)																							
MB10-7	14-Dec-10	6.4	2,395					1,210	35	121	239	26	0	16	200	0.2		13	549	71		1	15
MB10-7	29-Aug-11	7.3	2,739			96	117	1,410	40	142	293	38	0	8	20	0.2	0	1	36	5	0.1	2	2
MB10-7	2-Oct-13	7.4	2,926			156	190	1,350	45	136	291	37	1	44	24	0.1	1	2	98	4	0.1	6	7
MB10-7	24-Oct-14	7.3	2,813			176	215	1,450	45	149	320	38	0	25	2	0.0	3	0	2	1	0.1	6	10
MB10-7	17-Oct-12	7.3	2,687			124	151	1,360	40	141	298	38	0	11	10	0.1	1	4	43	3	0.1	5	6
No. of samples		5	5	0	0	4	4	5	5	5	5	5	5	5	5	5	4	5	5	5	4	5	5
Minimum		6.4	2,395	n/a		96	117	1,210	35	121	239	26	0	8	2	0	0	0	2	1	0	1	2
Maximum		7.4	2,926	n/a		176	215	1,450	45	149	320	38	1	44	200	0	3	13	549	71	0	6	15
Mean		7.1	2,712	n/a		138	168	1,356	41	138	288	35	0	21	51	0	1	4	146	17	0	4	8
Standard Deviation		0.4	199	n/a		35	43	91	4	10	30	5	0	14	84	0	1	5	228	30	0	2	5
80th Percentile		7.4	2,903	n/a		176	215	1,442	45	148	316	38	1	40	165	0	3	11	459	58	0	6	14
MB10-7 (Wet Season)																							
MB10-7	28-Feb-12	7.3	2,873			140	171	1,480	35	150	313	40	0	26	20	0.2	3	0	55	3	0.1	12	2
MB10-7	12-Feb-13	7.3	2,660			177	216	1,390	40	144	305	39	0	19	10	0.1	6	2	19	4	0.1	3	5
MB10-7	7-Feb-14	7.2	2,581			136	166	1,250	35	128	269	33	0	33	10	0.1	16	2	12	4	0.2	2	46
MB10-7	26-Mar-15	7.3	2,829			122	149	1,340	40	134	295	36	0	45	10	0.5	26	4	261	7	0.6	3	22
MB10-7	9-Feb-11	7.5	2,679					1,520	40	158	311	43		11	200	0.2	1	4	292	26	0.2	2	6
No. of samples		5	5	0	0	4	4	5	5	5	5	5	4	5	5	5	5	5	5	5	5	5	5
Minimum		7.2	2,581	n/a		122	149	1,250	35	128	269	33	0	11	10	0	1	0	12	3	0	2	2
Maximum		7.5	2,873	n/a		177	216	1,520	40	158	313	43	0	45	200	0	26	4	292	26	1	12	46
Mean		7.3	2,724	n/a		144	175	1,396	38	143	299	38	0	27	50	0	10	2	128	9	0	4	16
Standard Deviation		0.1	122	n/a		23	29	108	3	12	18	4	0	13	84	0	10	1	137	10	0	4	18
80th Percentile		7.5	2,864	n/a		177	216	1,512	40	156	313	42	0	43	164	0	24	4	286	22	1	10	41

Red numbers indicate that the concentration was below the indicated detection limit

Table B-40. Groundwater Quality Data for Bore MB10-16, Central Mining Area

		FIELD DATA		LAB DATA			MAJOR IONS (in mg/L)							DISSOLVED METALS (in ug/L)									
Bore ID	Sampling Date	pH	EC uS/cm	pH	Acidity mg/L	HCO_3 Alkalinity mg/L as CaCO3	HCO_3	SO_4	Cl	Ca	Mg	Na	K	Al	Fe	Cd	Cu	Co	Mn	Ni	Pb	U	Zn
MB10-16 (Dry Season)																							
MB10-16	16-Dec-10	6.8	4,407			0	0	2,580	60	320	473	69	0	30	200	0			594	22		3	10
MB10-16	30-Aug-11	6.9	4,879			200	244	3,070	70	382	568	84	0	9	1,070	0	0	1	803	9	0	5	3
No. of samples		2	2	0	0	2	2	2	2	2	2	2	2	2	2	2	1	1	2	2	1	2	2
Minimum		6.8	4,407	n/a	n/a	0	0	2,580	60	320	473	69	0	9	200	0	0	1	594	9	0	3	3
Maximum		6.9	4,879	n/a	n/a	200	244	3,070	70	382	568	84	0	30	1,070	0	0	1	803	22	0	5	10
Mean		6.9	4,643	n/a	n/a	100	122	2,825	65	351	521	76	0	19	635	0	0	1	699	15	0	4	7
Standard Deviation		0.1	334	n/a	n/a	141	173	346	7	44	67	10	0	15	615	0	n/a	n/a	148	9	n/a	2	5
80th Percentile		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
MB10-16 (Wet Season)																							
MB10-16	13-Apr-11	6.9	4,872	7.7		210	256	2,960	55	372	549	90	1	25	1,200	0	0	2	952	12	0	5	6
MB10-16	12-Feb-13	6.9	4,931			236	288	3,120	70	399	587	103	1	17	286	0	11	2	996	8	0	6	13
MB10-16	11-Feb-14	7.1	5,010			260	317	3,020	70	383	573	110	1	57	2,410	0	3	2	2,350	5	0	12	17
No. of samples		3	3	1	0	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Minimum		6.9	4,872	n/a	n/a	210	256	2,960	55	372	549	90	1	17	286	0	0	2	952	5	0	5	6
Maximum		7.1	5,010	n/a	n/a	260	317	3,120	70	399	587	110	1	57	2,410	0	11	2	2,350	12	0	12	17
Mean		7.0	4,938	n/a	n/a	235	287	3,033	65	385	570	101	1	33	1,299	0	5	2	1,433	8	0	8	12
Standard Deviation		0.1	69	n/a	n/a	25	31	81	9	14	19	10	0	21	1,065	0	6	0	795	4	0	4	5
80th Percentile		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Red numbers indicate that the concentration was below the indicated detection limit

Table B-41. Groundwater Quality Data for Bore MB10-12, Central Mining Area

		FIELD DATA		LAB DATA			MAJOR IONS (in mg/L)							DISSOLVED METALS (in ug/L)									
Bore ID	Sampling Date	pH	EC uS/cm	pH	Acidity mg/L	HCO_3 Alkalinity mg/L as CaCO3	HCO_3	SO_4	Cl	Ca	Mg	Na	K	Al	Fe	Cd	Cu	Co	Mn	Ni	Pb	U	Zn
MB10-12 (Dry Season)																							
MB10-12	14-Dec-10	7.2	4,449			0	0	2,520	65	297	475	74	0	19	200	0.2	1		65			7	1
MB10-12	29-Aug-11	7.3	4,359			202	246	2,440	55	301	459	65	0	11	20	0.2	1	2	59	1	0.1	6	2
MB10-12	11-Oct-12	7.2	4,172			232	283	2,360	50	299	460	68	0	10	10	0.1	5	1	2	1	0.1	6	3
No. of samples		3	3	0	0	3	3	3	3	3	3	3	3	3	3	3	3	2	3	2	2	3	3
Minimum		7.2	4,172	n/a	n/a	0	0	2,360	50	297	459	65	0	10	10	0	1	1	2	1	0	6	1
Maximum		7.3	4,449	n/a	n/a	232	283	2,520	65	301	475	74	0	19	200	0	5	2	65	1	0	7	3
Mean		7.2	4,327	n/a	n/a	145	176	2,440	57	299	465	69	0	13	77	0	2	2	42	1	0	6	2
Standard Deviation		0.1	141	n/a	n/a	126	154	80	8	2	9	5	0	5	107	0	2	1	35	0	0	0	1
80th Percentile		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
MB10-12 (Wet Season)																							
MB10-12	8-Feb-11	7.6	3,973			0	0	2,440	60	298	457	80		53	200	0.2	78	73	186	47	0.4	6	13
MB10-12	29-Feb-12	7.3	4,088			224	273	2,390	50	301	456	68	0	33	20	0.2	3	0	10	0	0.1	13	2
MB10-12	12-Feb-13	7.1	3,777			208	254	2,250	50	291	443	67	0	21	10	0.1	19	7	36	5	0.1	6	15
MB10-12	5-Feb-14	7.2	4,056			218	266	2,050	45	262	409	59	0	20	10	0.1	3	1	12	1	0.1	6	6
MB10-12	25-Mar-15	7.2	3,807			190	232	2,010	40	257	394	57	0	17	14	0.1	2	2	17	2	0.1	5	9
No. of samples		5	5	0	0	5	5	5	5	5	5	5	4	5	5	5	5	5	5	5	5	5	5
Minimum		7.1	3,777	n/a		0	0	2,010	40	257	394	57	0	17	10	0	2	0	10	0	0	5	2
Maximum		7.6	4,088	n/a		224	273	2,440	60	301	457	80	0	53	200	0	78	73	186	47	0	13	15
Mean		7.3	3,940	n/a		168	205	2,228	49	282	432	66	0	29	51	0	21	17	52	11	0	7	9
Standard Deviation		0.2	142	n/a		95	116	194	7	21	29	9	0	15	84	0	33	32	76	20	0	3	5
80th Percentile		7.5	4,082	n/a		223	272	2,430	58	300	457	77	0	49	164	0	66	60	156	39	0	12	15

Red numbers indicate that the concentration was below the indicated detection limit

Table B-42. Groundwater Quality Data for Bore MB10-13, Central Mining Area

		FIELD DATA		LAB DATA			MAJOR IONS (in mg/L)							DISSOLVED METALS (in ug/L)									
Bore ID	Sampling Date	pH	EC uS/cm	pH	Acidity mg/L	HCO_3 Alkalinity mg/L as CaCO3	HCO_3	SO_4	Cl	Ca	Mg	Na	K	Al	Fe	Cd	Cu	Co	Mn	Ni	Pb	U	Zn
MB10-13 (Dry Season)																							
MB10-13	14-Dec-10	8.1	369			100	122	35	5	18	26	3	0	18	200	0.2			2		1.3	0	
MB10-13	18-Oct-12	7.9	321			102	124	20	5	16	25	5	0	19	2	0.0	11	10	28	8	0.2	1	3
MB10-13	29-Aug-11	8.1	349			102	124	26	5	17	26	4	0	21	4	0.0	0	0	8	0	0.8	1	0
No. of samples		3	3			3	3	3	3	3	3	3	3	3	3	3	2	2	3	2	3	3	2
Minimum		7.9	321	n/a	n/a	100	122	20	5	16	25	3	0	18	2	0	0	0	2	0	0	0	0
Maximum		8.1	369	n/a	n/a	102	124	35	5	18	26	5	0	21	200	0	11	10	28	8	1	1	3
Mean		8.0	346	n/a	n/a	101	124	27	5	17	26	4	0	19	69	0	5	5	13	4	1	1	2
Standard Deviation		0.1	24	n/a	n/a	1	1	7	0	1	1	1	0	1	114	0	8	7	14	6	1	0	2
80th Percentile		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
MB10-13 (Wet Season)																							
MB10-13	8-Feb-11	8.5	363			100	122	34	5	17	26	4	0	14	200	0.2	7	1	5	1	0.5	0	4
MB10-13	29-Feb-12	8.0	334			122	149	20	5	17	26	4	0	42	2	0.0	1	0	1	0	0.2	1	1
MB10-13	11-Feb-13	8.0	310			97	118	18	5	16	25	4	0	26	4	0.0	5	2	15	2	0.3	1	14
MB10-13	5-Feb-14	8.0	323			104	127	16	5	15	23	3	0	36	4	0.0	6	1	3	1	0.3	0	10
MB10-13	25-Mar-15	7.8	356			98	120	20	5	16	25	9	0	33	4	0.1	4	1	5	1	0.2	1	4
No. of samples		5	5			5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Minimum		7.8	310	n/a		97	118	16	5	15	23	3	0	14	2	0	1	0	1	0	0	0	1
Maximum		8.5	363	n/a		122	149	34	5	17	26	9	0	42	200	0	7	2	15	2	1	1	14
Mean		8.0	337	n/a		104	127	22	5	16	25	5	0	30	43	0	5	1	6	1	0	1	6
Standard Deviation		0.3	22	n/a		10	13	7	0	1	1	2	0	11	88	0	2	1	5	1	0	0	5
80th Percentile		8.4	362	n/a		118	144	31	5	17	26	8	0	41	161	0	7	2	13	2	0	1	13

Red numbers indicate that the concentration was below the indicated detection limit

Table B-43. Groundwater Quality Data for Historic RN022108, Near the East Branch of the Finniss River/Intermediate Pit

		FIELD DATA		LAB DATA			MAJOR IONS (in mg/L)							DISSOLVED METALS (in ug/L)									
Bore ID	**Sampling Date**	**pH**	**EC uS/cm**	**pH**	**Acidity mg/L**	**HCO_3 Alkalinity mg/L as CaCO3**	**HCO_3**	**SO_4**	**Cl**	**Ca**	**Mg**	**Na**	**K**	**Al**	**Fe**	**Cd**	**Cu**	**Co**	**Mn**	**Ni**	**Pb**	**U**	**Zn**
RN022108 (Dry Season), open hole																							
RN022108	19-May-09	7.9	897	8.3		25	31	310	9	29	63	9	2	5	20	0.0	1	1	158	1	0.0	0.3	1
RN022108	13-Oct-09	8.7	491	6.8		31	38	168	8	15	38	8	2	6	160	0.0	0	2	118	3	0.0	0.3	1
RN022108	18-Nov-09	8.9	352	8.0		32	39	129	8	10	32	7	2	19	400	0.0	0	1	132	1	0.0	1	1
RN022108	14-Jan-10	8.1	387	8.5		23	28	131	8	12	29	8	2	2	20	0.0	1	0.0	40	0.1	0.0	0.0	0.3
RN022108	10-Aug-10	7.5	603			62	75	189	5	34	44	5	1	12	200	0.2	1	4	10	11	0.1	5	3
RN022108	16-Jul-09	8.9	595	9.0		16	20	232	9	21	46	8	2	30	200	0.2	6	4	140	5	0.1	0.4	1
RN022108	1-Sep-09	9.3	537	8.4		25	30	200	9	20	45	8	2	17	200	0.2	0	0.1	83	0	0.1	1	1
No. of samples		7	7	6	0	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
Minimum		7.5	352	n/a	n/a	16	20	129	5	10	29	5	1	2	20	0	0	0	10	0	0	0	0
Maximum		9.3	897	n/a	n/a	62	75	310	9	34	63	9	2	30	400	0	6	4	158	11	0	5	3
Mean		8.5	552	n/a	n/a	31	37	194	8	20	42	7	2	13	171	0	1	2	97	3	0	1	1
Standard Deviation		0.6	180	n/a	n/a	15	18	63	2	9	11	1	0	10	130	0	2	2	55	4	0	2	1
80th Percentile		9.0	720	n/a	n/a	44	54	263	9	31	53	8	2	23	280	0	3	4	147	7	0	2	2
RN022108 (Wet Season), open hole																							
RN022108	14-Jan-10	8.1	387	8.5		23	28	131	8	12	29	8	2	2	20	0.0	1	0.0	40	0.1	0.0	0.0	0.3

Red numbers indicate that the concentration was below the indicated detection limit

Table B-44. Groundwater Quality Data for MB10-9S RN022108, Near the East Branch of the Finniss River/Intermediate Pit

		FIELD DATA		LAB DATA			MAJOR IONS (in mg/L)							DISSOLVED METALS (in ug/L)									
Bore ID	**Sampling Date**	**pH**	**EC uS/cm**	**pH**	**Acidity mg/L**	**HCO_3 Alkalinity mg/L as CaCO3**	**HCO_3**	**SO_4**	**Cl**	**Ca**	**Mg**	**Na**	**K**	**Al**	**Fe**	**Cd**	**Cu**	**Co**	**Mn**	**Ni**	**Pb**	**U**	**Zn**
MB10-9S (Dry Season)																							
MB10-9S	26-Aug-11	7.3	1384			160	195	553	10	84	115	13	2	11	294	0.2	2	28	719	21	0.1	20	3
MB10-9S	28-Oct-14	7.4	434			94	115	350	10	58	78	11	2	12	220	0.0	3	19	474	11	0.1	9	3
MB10-9S	17-Dec-10	7.5	703			130	159	236	5	41	51	7	2	18	200	0.2	12	6	221	8		9	2
MB10-9S	17-Oct-12	7.2	1333			152	185	479	10	73	101	24	3	45	462	0.0	1	9	567	6	0.6	16	4
No. of samples		4	4	0	0	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	3	4	4
Minimum		7.2	434	n/a	n/a	94	115	236	5	41	51	7	2	11	200	0	1	6	221	6	0	9	2
Maximum		7.5	1384	n/a	n/a	160	195	553	10	84	115	24	3	45	462	0	12	28	719	21	1	20	4
Mean		7.4	963	n/a	n/a	134	163	405	9	64	86	14	2	21	294	0	4	16	495	12	0	13	3
Standard Deviation		0.1	470	n/a	n/a	30	36	140	n/a	19	28	n/a	n/a	16	119	n/a	5	10	209	6	0	5	1
80th Percentile		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
MB10-9S (Wet Season)																							
MB10-9S	29-Feb-12	7.2	1683			126	154	739	15	105	153	18	3	26	586	0.2	5	66	1,050	37	0.1	23	6
MB10-9S	11-Feb-13	7.3	1175			130	159	478	10	73	101	13	2	45	204	0.1	4	24	551	18	0.3	11	7
MB10-9S	8-Feb-11	7.8	685			130	159	235	5	42	51	9	2	38	200	0.2	1	4	259	7		9	2
MB10-9S	7-Feb-14	7.4	990			96	117	319	10	53	70	13	2	293	520	0.0	19	11	444	10	1.0	6	39
MB10-9S	26-Mar-15	7.3	952			104	127	317	5	54	71	10	1	22	132	0.0	0	14	451	8	0.1	7	3
No. of samples		5	5	0	0	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	4	5	5
Minimum		7.2	685	n/a	n/a	96	117	235	5	42	51	9	1	22	132	0	0	4	259	7	0	6	2
Maximum		7.8	1683	n/a	n/a	130	159	739	15	105	153	18	3	293	586	0	19	66	1050	37	1	23	39
Mean		7.4	1097	n/a	n/a	117	143	418	9	65	89	13	2	85	328	0	6	24	551	16	0	11	11
Standard Deviation		0.2	371	n/a	n/a	16	20	200	4	25	40	4	0	117	208	0	8	24	298	12	0	7	15
80th Percentile		7.7	1581	n/a	n/a	130	159	687	14	99	143	17	2	243	573	0	16	57	950	33	1	21	32
RN023516 (Dry Season)																							
RN023516	28-Sep-12	5.5	518			12	15	197	5	24	36	5	1	10	174	0.5	59	129	552	134	1.3	1	172
RN023516 (Wet Season)																							
RN023516	31-Mar-11	4.7	402	5.5				160	5	15	30	5	1	153	200	0.6	418	222	981	214	2.5	3	247
RN023516	29-Feb-12	5.3	462			16	20	172	5	19	33	5	1	32	328	0.5	81	175	707	158	0.2	1	215
RN023516	7-Apr-09	-	820	4.7		40	49	328		29	56			387	400	-	904	692	1,520	634		6	865
RN023516	18-Feb-13	5.4	468			14	17	163	5	20	30	5	1	26	622	0.4	71	122	615	113	0.3	2	163
No. of samples		3	4	2	0	3	3	4	3	4	4	3	3	4	4	3	4	4	4	4	3	4	4
Minimum		4.7	402	n/a	n/a	14	17	160	5	15	30	5	1	26	200	0	71	122	615	113	0	1	163
Maximum		5.4	820	n/a	n/a	40	49	328	5	29	56	5	1	387	622	1	904	692	1520	634	3	6	865
Mean		5.1	538	n/a	n/a	23	28	206	5	21	37	5	1	149	388	1	369	303	956	280	1	3	373
Standard Deviation		2.6	190	n/a	n/a	14	18	82	n/a	6	13	n/a	n/a	169	177	n/a	392	263	407	240	1	2	330
80th Percentile		5.5	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Red numbers indicate that the concentration was below the indicated detection limit

Table B-45. Groundwater Quality Data for Bore MB10-9D, Near the East Branch of the Finniss River/Intermediate Pit

		FIELD DATA		LAB DATA			MAJOR IONS (in mg/L)							DISSOLVED METALS (in ug/L)									
Bore ID	**Sampling Date**	**pH**	**EC uS/cm**	**pH**	**Acidity mg/L**	**HCO_3 Alkalinity mg/L as CaCO3**	**HCO_3**	**SO_4**	**Cl**	**Ca**	**Mg**	**Na**	**K**	**Al**	**Fe**	**Cd**	**Cu**	**Co**	**Mn**	**Ni**	**Pb**	**U**	**Zn**
MB10-9D (Dry Season)																							
MB10-9D	17-Dec-10	6.7	4760					2,910	60	300	600	43	5	47	7,600	0.2	56	897	12,300	384	3.5	160	79
MB10-9D	17-Oct-12	7.0	5050			256	312	3,020	70	330	638	52	5	18	1,860	0.2	2	155	4,700	51	2.5	320	27
MB10-9D	28-Oct-14	6.9	4670			366	447	3,270	85	346	697	54	6	18	2,350	0.2	46	393	5,420	144	0.1	316	38
MB10-9D	26-Aug-11	7.1	4852			260	317	2,770	70	299	580	44	5	27	1,760	0.2	1	238	5,740	87	0.2	267	18
MB10-9D	17-Oct-12	7.0	5050			256	312	3,050	70	331	641	52	5	15	1,730	0.2	1	151	4,590	50	2.6	307	27
No. of samples		5	5	0	0	4	4	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Minimum		6.7	4670	n/a	n/a	n/a	312	2770	60	299	580	43	5	15	1730	0	1	151	4590	50	0	160	18
Maximum		7.1	5050	n/a	n/a	n/a	447	3270	85	346	697	54	6	47	7600	0	56	897	12300	384	4	320	79
Mean		6.9	4876	n/a	n/a	n/a	347	3004	71	321	631	49	5	25	3060	0	21	367	6550	143	2	274	38
Standard Deviation		0.1	171	n/a	n/a	n/a	66	185	n/a	21	45	n/a	n/a	13	2550	n/a	27	312	3250	140	2	67	24
80th Percentile		7.1	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
MB10-9D (Wet Season)																							
MB10-9D	8-Feb-11	6.7	4735					3,260	70	342	673	58	5	23	11,600	0.2	51	1,040	15,200	407	0.5	182	83
MB10-9D	11-Feb-13	6.5	5050			260	317	3,360	75	359	706	58	5	21	5,550	0.2	73	876	10,700	384	0.4	205	91
MB10-9D	7-Feb-14	6.9	5290			338	412	3,050	65	328	654	53	5	54	2,790	0.2	31	333	5,680	117	0.4	323	28
MB10-9D	7-Feb-14	6.9	5290			338	412	3,080	70	331	663	53	5	67	2,820	0.2	48	345	5,840	124	1.0	320	95
MB10-9D	26-Mar-15	6.5	5551			362	442	3,270	190	341	697	55	3	25	2,070	0.2	18	959	8,590	392	0.1	237	86
No. of samples		5	5	0	0	4	4	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Minimum		6.5	4735	n/a	n/a	n/a	317	3050	65	328	654	53	3	21	2070	0	18	333	5680	117	0	182	28
Maximum		6.9	5551	n/a	n/a	n/a	442	3360	190	359	706	58	5	67	11600	0	73	1040	15200	407	1	323	95
Mean		6.7	5183	n/a	n/a	n/a	396	3204	94	340	679	55	5	38	4966	0	44	711	9202	285	0	253	77
Standard Deviation		0.2	307	n/a	n/a	n/a	54	133	n/a	12	22	n/a	n/a	21	3939	n/a	21	344	3947	150	0	65	28
80th Percentile		6.9	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Red numbers indicate that the concentration was below the indicated detection limit

Table B-46. Groundwater Quality Data for Bores MB10-14 and MB10-15, Central Mining Area

		FIELD DATA		LAB DATA			MAJOR IONS (in mg/L)							DISSOLVED METALS (in ug/L)									
Bore ID	Sampling Date	pH	EC uS/cm	pH	Acidity mg/L	HCO_3 Alkalinity mg/L as CaCO3	HCO_3	SO_4	Cl	Ca	Mg	Na	K	Al	Fe	Cd	Cu	Co	Mn	Ni	Pb	U	Zn
MB10-14 (Dry Season)																							
MB10-14	2-Dec-10	6.1	1525			0	0	737	15	117	125	19	1	71	200	0.2	18	16	4,960	45	0.5	1	15
MB10-14	2-Sep-11	6.5	1916			72	88	915	15	142	156	24	1	6	20	0.2	28	3	3,530	18	0.1	2	9
MB10-14	11-Oct-12	6.7	1296			135	165	495	10	93	99	13	0	6	8	0.0	2	2	852	6	0.0	2	4
No. of samples		3	3	0	0	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Minimum		6.1	1296	n/a	n/a	0	0	495	10	93	99	13	0	6	8	0	2	2	852	6	0	1	4
Maximum		6.7	1916	n/a	n/a	135	165	915	15	142	156	24	1	71	200	0	28	16	4960	45	1	2	15
Mean		6.4	1579	n/a	n/a	69	84	716	13	117	127	19	1	28	76	0	16	7	3114	23	0	2	9
Standard Deviation		0.3	314	n/a	n/a	68	83	211	3	25	29	6	0	37	108	0	13	8	2085	20	0	0	6
80th Percentile		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
MB10-14 (Wet Season)																							
MB10-14	31-Mar-11	6.2	2382	7.3		0	0	1,310	20	197	227	38	1	35	200	0.2	5	8	4,860	49	0.4	3	15
MB10-14	1-Mar-12	6.6	1504			118	144	660	10	113	122	19	0	30	20	0.2	8	2	1,680	12	0.1	7	13
No. of samples		2	2	1	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Minimum		6.2	1504	n/a	n/a	0	0	660	10	113	122	19	0	30	20	0	5	2	1680	12	0	3	13
Maximum		6.6	2382	n/a	n/a	118	144	1310	20	197	227	38	1	35	200	0	8	8	4860	49	0	7	15
Mean		6.4	1943	n/a	n/a	59	72	985	15	155	175	28	1	32	110	0	6	5	3270	30	0	5	14
Standard Deviation		0.2	621	n/a	n/a	83	102	460	7	59	74	14	0	4	127	0	n/a	n/a	2249	26	n/a	3	1
80th Percentile		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
MB10-15 (Dry Season)																							
MB10-15	3-Dec-10	6.6	1460			0	0	554	55	101	98	20	5	26	200	1.2	32	1,390	6,430	1,110	0.1	3	125
MB10-15 (Wet Season)																							
MB10-15	15-Apr-11	7.4	1276	7.5		0	0	477	20	105	85	14	6	15	200	0.8	78	390	2,580	304	0.1	19	140

Red numbers indicate that the concentration was below the indicated detection limit

Table B-47. Groundwater Quality Data for Bore RN022107, Central Mining Area

		FIELD DATA		LAB DATA			MAJOR IONS (in mg/L)							DISSOLVED METALS (in ug/L)									
Bore ID	Sampling Date	pH	EC uS/cm	pH	Acidity mg/L	HCO_3 Alkalinity mg/L as CaCO3	HCO_3	SO_4	Cl	Ca	Mg	Na	K	Al	Fe	Cd	Cu	Co	Mn	Ni	Pb	U	Zn
RN022107 (Dry Season)																							
RN022107	11-Jun-08	8.1	1862	7.6			65	1,010	18	95	206	28	4	1	200	0	1	0	2,340	0	0	0	2
RN022107	16-Jul-08	8.0	2170	7.7			114	1,080	17	122	223	22	4	1	200	0	4	154	6,610	133	0	1	168
RN022107	22-Oct-08	8.4	2033	8.0			79	981	19	75	207	25	5	6	200	0	1	1	1,390	1	0	0	2
RN022107	18-Nov-09	8.0	1743	7.5			49	997	21	67	207	24	4	12	200	0	0	1	612	1	0	4	1
RN022107	28-Oct-14	8.7	1463			30	37	808	15	79	161	24	2	10	78	0.0	4	1	362	1	0.1	1	3
RN022107	29-Aug-11	7.6	2259			110	134	1,120	15	136	218	17	3	12	2,990	0.2	0	54	9,980	25	0.1	6	4
RN022107	1-Sep-09	8.2	1921	7.8			50	973	20	76	220	23	4	8	200	0	0	1	836	1	0	5	1
RN022107	1-Oct-13	7.8	2107			69	84	976	15	117	186	23	2	14	724	0.1	0	1	2,230	1	0.1	1	1
RN022107	8-Oct-12	8.2	1943			49	60	1,090	20	105	218	22	3	7	60	0.2	0	0	1,140	1	0.1	1	1
RN022107	12-Aug-10	6.2	2480	-		108	132	1,300	20	165	238	22	2	14	3,800	1	1	991	28,800	702	0	12	448
RN022107	13-Oct-09	7.8	2007	6.8			56	965	21	67	209	24	5	1	200	0	0	33	992	42	0	3	6
RN022107	19-May-09	7.2	2050	7.8			92	1,120	21	96	237	26	5	12	200	0	2	2	2,500	1	1	2	8
RN022107	16-Jul-09	7.4	1960	7.9			60	997	19	75	204	22	4	1	200	0	0	3	1,180	3	0	10	1
No. of samples		13	13	8	0	5	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13
Minimum		6.2	1463	6.8	n/a	n/a	37	808	15	67	161	17	2	1	60	0	0	0	362	0	0	0	1
Maximum		8.7	2480	8.0	n/a	n/a	134	1300	21	165	238	28	5	14	3800	1	4	991	28800	702	1	12	448
Mean		7.8	2000	7.6	n/a	n/a	78	1032	18	98	210	23	4	7	712	0	1	96	4536	70	0	4	50
Standard Deviation		0.6	246	2.6	n/a	n/a	32	115	2	30	20	3	1	5	1213	0	1	272	7793	193	0	4	128
80th Percentile		8.3	2188	7.9	n/a	n/a	118	1120	21	125	226	25	5	12	1177	0	2	74	7284	60	0	7	40
RN022107 (Wet Season)																							
RN022107	12-Apr-08	9.0	2345	7.9			71	1,230	23	118	252	29	3	4	200	0	0	6	1,220	8	0	0	3
RN022107	18-Mar-09	7.5	2219	7.5			99	1,230	21	105	261	27	3	2	200	0	1	1	3,080	1	0	0	6
RN022107	23-Apr-09	6.7	2377	7.3			165	1,240	16	164	247	19	4	364	800	1	14	363	20,000	292	2	11	320
RN022107	8-Apr-09	6.0	2394				561	1,290		152	203			97	4,000	4.8	1,340	4,190	42,900	3,260	0.1	13	2,200
RN022107	13-Apr-11	6.4	2154	7.0		76	93	1,070	15	146	188	14	3	58	9,400	0.2	0	1,690	31,500	1,270	0.1	3	476
RN022107	20-Jan-09	7.7	2481	7.9			115	1,280	23	131	290	31	3	3	200	0	1	1	2,130	1	0	2	3
RN022107	22-Mar-12	7.4	2259			150	183	1,110	15	156	218	16	2	4	5,030	0.2	0	25	11,200	13	0.1	1	7
RN022107	18-Feb-13	7.8	2185			58	71	1,080	20	113	215	24	3	52	88	0.1	0	1	1,380	2	0.1	13	1
RN022107	6-Feb-14	7.9	2007			76	93	939	15	92	198	20	2	60	50	0.1	189	68	993	55	0.8	2	117
RN022107	25-Mar-15	8.5	1785			30	36	841	15	80	169	22	2	17	10	0.1	0	1	406	1	0.1	1	0
RN022107	14-Jan-10	6.8	1871	7.2			77	1,000	21	108	214	24	4	10	50	0	1	2	2,250	9	1	0	22
No. of samples		11	11	6	0	5	11	11	10	11	11	10	10	11	11	11	11	11	11	11	11	11	11
Minimum		6.0	1785	n/a	n/a	n/a	36	841	15	80	169	14	2	2	10	0	0	1	406	1	0	0	0
Maximum		9.0	2481	n/a	n/a	n/a	561	1290	23	164	290	31	4	364	9400	5	1,340	4190	42900	3260	2	13	2200
Mean		7.4	2189	n/a	n/a	n/a	142	1119	18	124	223	23	3	61	1821	1	141	577	10642	447	0	4	287
Standard Deviation		0.9	222	n/a	n/a	n/a	145	149	4	28	36	6	1	105	3065	1	402	1299	14615	1007	1	5	654
80th Percentile		8.3	2387	n/a	n/a	n/a	176	1264	23	154	257	29	4	82	4618	1	119	1159	26900	879	1	12	414

Red numbers indicate that the concentration was below the indicated detection limit

Table B-48. Groundwater quality data, Old Tailings Dam area

		FIELD DATA		LAB DATA			MAJOR IONS (in mg/L)							DISSOLVED METALS (in ug/L)									
Bore ID	Sampling Date	pH	EC uS/cm	pH	Acidity mg/L	HCO_3 Alkalinity mg/L as CaCO3	HCO_3	SO_4	Cl	Ca	Mg	Na	K	Al	Fe	Cd	Cu	Co	Mn	Ni	Pb	U	Zn
MB10-17 (Dry Season)																							
MB10-17	1-Dec-10	6.7	944				0	288	10	79	64	9	1	11	200	0.2	1	0.2	1,110	5	0.6	1	
MB10-17	2-Sep-11	7.0	979			131	160	265	10	74	61	8	0.3	8	20	0.2	17	0.4	939	3	0.1	1	4
MB10-17	11-Oct-12	6.9	918			172	210	252	10	73	59	8	0.4	6	2	0.0	3	0.3	857	4	0.0	0	3
No. of samples		3	3	0	0	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	2
Minimum		6.7	918	n/a	n/a	n/a	0	252	10	73	59	8	0	6	2	0	1	0	857	3	0	0	3
Maximum		7.0	979	n/a	n/a	n/a	210	288	10	79	64	9	1	11	200	0	17	0	1110	5	1	1	4
Mean		6.9	947	n/a	n/a	n/a	123	268	10	75	61	8	0	8	74	0	7	0	969	4	0	1	4
Standard Deviation		0.1	31	n/a	n/a	n/a	110	18	n/a	3	2	n/a	n/a	2	109	n/a	9	0	129	1	0	0	0
80th Percentile		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
MB10-17 (Wet Season)																							
MB10-17	30-Mar-11	6.9	853	7.8			0	242	10	72	60	8	0.3	7	200	0.2	0	0.4	784	4	0.5	1	3
MB10-8S (Dry Season)																							
MB10-8S	30-Nov-10	7.2	320			115		4	5	28	17	2	0.3	26	200	0.2	1	1	12	1	0.6	1	
MB10-8S	9-Oct-12	7.0	252			115	192	1	5	23	15	1	0.1	6	4	0.0	0	1	54	2	0.0	0	1
MB10-8S	25-Aug-11	7.1	267			90	192	1	5	22	14	1	0.1	12	2	0.0	0	0.1	7	0	0.0	1	0.4
No. of samples		3	3	0	0	3	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	2
Minimum		7.0	252	n/a	n/a	90	192	1	5	22	14	1	0	6	2	0	0	0	7	0	0	0	0
Maximum		7.2	320	n/a	n/a	115	192	4	5	28	17	2	0	26	200	0	1	1	54	2	1	1	1
Mean		7.1	280	n/a	n/a	107	192	2	5	24	15	1	0	15	69	0	1	1	24	1	0	1	1
Standard Deviation		0.1	36	n/a	n/a	14	0	2	n/a	3	2	n/a	n/a	10	114	n/a	0	0	26	1	0	0	1
80th Percentile		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Red numbers indicate that the concentration was below the indicated detection limit

Table B-49. Groundwater quality data for Bores MB10-8S/D, Old Tailings Dam area

		FIELD DATA		LAB DATA			MAJOR IONS (in mg/L)							DISSOLVED METALS (in ug/L)									
Bore ID	**Sampling Date**	**pH**	**EC uS/cm**	**pH**	**Acidity mg/L**	**HCO_3 Alkalinity mg/L as CaCO3**	**HCO_3**	**SO_4**	**Cl**	**Ca**	**Mg**	**Na**	**K**	**Al**	**Fe**	**Cd**	**Cu**	**Co**	**Mn**	**Ni**	**Pb**	**U**	**Zn**
MB10-8S (Wet Season)																							
MB10-8S	17-Feb-12	6.8	154			27	192	1	5	13	9	1	0.1	14	2	0.0	1	0.3	3	1	0.1	0	3
MB10-8S	30-Mar-11	6.6	154	7.5		154		1	5	13	8	1	0.1	10	200	0.2	1	1	2	1	0.1	1	1
No. of samples		2	2	1	0	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Minimum		6.6	154	n/a	n/a	n/a	n/a	1	n/a	13	8	n/a	n/a	10	2	0	1	0	2	1	0	0	1
Maximum		6.8	154	n/a	n/a	n/a	n/a	1	n/a	13	9	n/a	n/a	14	200	0	1	1	3	1	0	1	3
Mean		6.7	154	n/a	n/a	n/a	n/a	1	n/a	13	8	n/a	n/a	12	101	0	1	0	3	1	0	0	2
Standard Deviation		0.1	0	n/a	n/a	n/a	n/a	0	n/a	0	0	n/a	n/a	3	140	0	0	0	1	0	0	1	1
80th Percentile		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
MB10-8D (Dry Season)																							
MB10-8D	1-Dec-10	7.5	374					29	5	23	15	24	1	38	200	0.2		0.2	20	1	0.5		
MB10-8D	9-Oct-12	7.5	315			136	166	5	5	19	15	11	3	14	82	0.0	0	0.5	712	1	0.1	1	2
No. of samples		2	2	0	0	1	1	2	2	2	2	2	2	2	2	2	1	2	2	2	2	1	1
Minimum		7.5	315	n/a	n/a	n/a	n/a	5	n/a	19	15	n/a	n/a	14	82	0	0	0	20	1	0	1	2
Maximum		7.5	374	n/a	n/a	n/a	n/a	29	n/a	23	15	n/a	n/a	38	200	0	0	0	712	1	1	1	2
Mean		7.5	345	n/a	n/a	n/a	n/a	17	n/a	21	15	n/a	n/a	26	141	0	0	0	366	1	0	1	2
Standard Deviation		0.0	41	n/a	n/a	n/a	n/a	17	n/a	3	0	n/a	n/a	17	83	0	n/a	0	489	0	0	n/a	n/a
80th Percentile		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
MB10-8D (Wet Season)																							
MB10-8D	30-Mar-11	7.7	447	8.2				64	5	23	17	30	1	22	200	0.2	1	1	888	1	0.4	4	2

Red numbers indicate that the concentration was below the indicated detection limit

Table B-50. Groundwater quality data for Selected MB14 Bores, Old Tailings Dam area

		FIELD DATA		LAB DATA			MAJOR IONS (in mg/L)							DISSOLVED METALS (in ug/L)									
Bore ID	Sampling Date	pH	EC uS/cm	pH	Acidity mg/L	HCO_3 Alkalinity mg/L as CaCO3	HCO_3	SO_4	Cl	Ca	Mg	Na	K	Al	Fe	Cd	Cu	Co	Mn	Ni	Pb	U	Zn
MB14-18 (Dry Season)																							
MB14-18	4-Dec-14	7.3	617			246	300	19	5	38	46	3	2	17	20	0.2	15	1	6	1	0.1	1	2
MB14-18 (Wet Season)																							
MB14-18	22-Apr-15	7.3	643			214	261	34	5	41	50	4	2	50	20	0.0	20	0.1	10	1	0.1	11	2
MB14-19 (Dry Season)																							
MB14-19	4-Dec-14	6.9	1402			248	303	376	15	92	101	24	2	50	40	0.2	58	5	117	7	0.1	5	11
MB14-19 (Wet Season)																							
MB14-19	22-Apr-15	7.0	1475			238	290	458	20	98	117	29	2	18	2	0.1	156	3	99	5	0.1	59	16
MB14-09 (Dry Season)																							
MB14-09	3-Dec-14	6.6	1089			128	156	336	10	88	66	10	1	4	20	0.2	83	8	2,370	10	0.1	8	21
MB14-09 (Wet Season)																							
MB14-09	22-Apr-15	6.7	996			134	163	329	10	87	65	9	1	12	2	0.1	50	4	2,490	8	0.0	9	10
MB14-07 (Dry Season)																							
MB14-07	3-Dec-14	6.8	852			98	120	217	10	64	52	7	1	5	20	0.2	174	22	126	15	0.1	21	31
MB14-08S (Wet Season)																							
MB14-08S	22-Apr-15	7.2	521			42	51	93	5	30	10	12	1	13	2	0.2	79	27	752	69	0.0	6	31
MB14-08D (Dry Season)																							
MB14-08D	3-Dec-14	7.0	958			102	124	237	10	83	52	11	1	8	20	0.2	31	4	117	5	0.1	18	7
MB14-08D (Wet Season)																							
MB14-08D	22-Apr-15	7.2	910			114	139	229	10	58	32	77	1	14	2	0.1	45	1	144	4	0.0	37	4

Red numbers indicate that the concentration was below the indicated detection limit

Table B-51. Groundwater quality data for Selected MB14 Bores, Old Tailings Dam area

		FIELD DATA		LAB DATA			MAJOR IONS (in mg/L)							DISSOLVED METALS (in ug/L)									
Bore ID	Sampling Date	pH	EC uS/cm	pH	Acidity mg/L	HCO_3 Alkalinity mg/L as CaCO3	HCO_3	SO_4	Cl	Ca	Mg	Na	K	Al	Fe	Cd	Cu	Co	Mn	Ni	Pb	U	Zn
MB14-01D (Dry Season)																							
MB14-01D	1-Dec-14	7.1	639			128	156	133	5	43	44	5	1	7	20	0.2	4	0.2	48	1	0.1	2	1
MB14-01D (Wet Season)																							
MB14-01D	23-Apr-15	7.4	563			124	151	109	5	37	37	3	0.4	20	2	0.02	0	0.1	2	0.1	0.3	1	1
MB14-01S (Dry Season)																							
MB14-01S	1-Dec-14	7.2	760			128	156	172	5	57	46	12	0.3	5	20	0.2	3	0.4	15	1	0.1	3	1
MB14-01S (Wet Season)																							
MB14-01S	23-Apr-15	7.4	571					107	5	39	37	5	0.2	28	2	0.0	1	0.2	4	0.2	0.7	1	1
MB14-02S (Wet Season)																							
MB14-02S	2-Apr-15	6.0	288			25	30	96	5	18	17	6	0.1	10	2	1.6	2,040	498	695	550	0.3	29	623
MB14-02D (Dry Season)																							
MB14-02D	1-Dec-14	7.5	585			98	120	122	5	36	42	6	0.4	9	20	0.2	3	1	14	2	0.1	2	1
MB14-02D (Wet Season)																							
MB14-02D	2-Apr-15	7.2	501			80	98	105	5	28	31	3	0.1	14	2	0.4	369	121	134	142	0.1	22	150
MB14-03 (Dry Season)																							
MB14-03	2-Dec-14	7.3	581			192	234	21	5	35	40	10	2	12	20	0.2	5	0.3	133	1	0.2	2	4
MB14-03 (Wet Season)																							
MB14-03	23-Apr-15	7.4	556			198	242	16	5	36	43	3	2	9	2	0.02	38	0.1	5	0.4	0.0	2	1
MB14-04 (Dry Season)																							
MB14-04	2-Dec-14	7.2	810			306	373	62	10	52	61	7	0.3	6	20	0.2	12	1	171	1	0.1	3	1
MB14-04 (Wet Season)																							
MB14-04	23-Apr-15	7.6	540			60	73	113	5	39	32	4	0.2	21	2	0.0	18	0.3	9	1	0.1	5	4
MB14-05D (Dry Season)																							
MB14-05D	2-Dec-14	7.3	556			111	135	101	5	35	38	3	0.2	14	20	0.2	5	0.2	46	1	0.1	1	1
MB14-05D (Wet Season)																							
MB14-05D	21-Apr-15	7.5	570			88	107	103	5	34	40	3	0.1	17	2	0.02	36	1	3	1	0.0	24	2
MB14-06S (Wet Season)																							
MB14-06S	2-Apr-15	6.5	225			40	49	53	5	8	17	2	0.1	10	2	0.1	134	5	69	7	0.0	10	64
MB14-06D (Dry Season)																							
MB14-06D	4-Dec-14	7.6	378			86	105	44	5	28	18	4	4	41	20	0.2	7	18	20	8	0.1	3	2
MB14-06D (Wet Season)																							
MB14-06D	2-Apr-15	7.5	328			94	115	44	5	28	19	2	4	29	2	0.02	28	0.5	2	1	0.0	22	3
MB14-10 (Wet Season)																							
MB14-10	22-Apr-15	6.7	1055			142	173	351	10	100	66	10	1	11	2	0.0	73	1	88	2	0.0	12	9

Red numbers indicate that the concentration was below the indicated detection limit

Table B-52. Groundwater quality data for Selected MB14 Bores, Old Tailings Dam area

		FIELD DATA		LAB DATA			MAJOR IONS (in mg/L)							DISSOLVED METALS (in ug/L)									
Bore ID	Sampling Date	pH	EC uS/cm	pH	Acidity mg/L	HCO_3 Alkalinity mg/L as CaCO3	HCO_3	SO_4	Cl	Ca	Mg	Na	K	Al	Fe	Cd	Cu	Co	Mn	Ni	Pb	U	Zn
MB14-13S (Wet Season)																							
MB14-13S	23-Apr-15	6.3	227			45	55	44	5	14	13	2	0.1	76	48	0.0	28	1	14	4	0.1	1	9
MB14-13D (Dry Season)																							
MB14-13D	2-Dec-14	7.0	421			80	98	74	5	34	20	4	0.2	5	20	0.2	4	0.2	16	1	0.1	1	1
MB14-13D (Wet Season)																							
MB14-13D	23-Apr-15	6.9	284			65	80	44	5	23	14	3	0.1	8	2	0.02	20	0.3	4	1	0.0	3	2
MB14-14D (Dry Season)																							
MB14-14D	2-Dec-14	7.2	1859			130	159	786	15	168	121	32	10	8	20	0.2	8	0.4	20	3	0.2	6	1
MB14-15S (Wet Season)																							
MB14-15S	1-Apr-15	6.1	195			33	40	35	5	4	14	4	0.3	11	4	0.5	533	156	330	107	0.4	726	155
MB14-15D (Dry Season)																							
MB14-15D	3-Dec-14	6.9	1773			224	273	604	20	76	165	38	2	14	20	0.2	16	20	129	12	0.2	7	21
MB14-15D (Wet Season)																							
MB14-15D	1-Apr-15	7.1	1374			204	249	446	10	89	120	21	1	36	2	0.1	138	5	181	7	0.2	1,300	7
MB14-16 (Wet Season)																							
MB14-16	23-Apr-15	5.3	94			10	12	17	5	3	5	2	0.1	20	12	1.0	827	171	48	120	0.5	5	340
MB14-17S (Wet Season)																							
MB14-17S	1-Apr-15	5.1	1949			5	6	1,080	5	127	154	16	1	501	50	28.0	62,600	15,800	6,510	11,000	85.2	10,900	8,310
MB14-17D (Wet Season)																							
MB14-17D	1-Apr-15	5.2	2178			9	11	1,300	5	144	204	18	0.2	1,690	20	29.2	52,700	18,400	8,160	11,700	31.6	12,100	8,450
MB14-20S (Wet Season)																							
MB14-20S	31-Mar-15	4.8	2106		82			1,120	5	141	172	8	1	2,160	60	21.2	33,600	10,500	7,720	6,660	4.1	2,990	6,290
MB14-20D (Dry Season)																							
MB14-20D	3-Dec-14	6.2	2937			86	105	1,360	25	177	199	118	3	76	40	12.2	3,670	7,930	6,650	4,770	0.2	201	4,170
MB14-20D (Wet Season)																							
MB14-20D	31-Mar-15	6.1	2387			60	73	1,190	10	167	180	52	1	17	10	18.2	8,300	9,550	7,180	5,770	0.3	297	6,050

Red numbers indicate that the concentration was below the indicated detection limit

Table B-53. Groundwater Quality Data for Bore RN022547, Towards Northern Site Boundary

		FIELD DATA		LAB DATA			MAJOR IONS (in mg/L)							DISSOLVED METALS (in ug/L)									
Bore ID	**Sampling Date**	**pH**	**EC uS/cm**	**pH**	**Acidity mg/L**	**HCO_3 Alkalinity mg/L as CaCO3**	**HCO_3**	**SO_4**	**Cl**	**Ca**	**Mg**	**Na**	**K**	**Al**	**Fe**	**Cd**	**Cu**	**Co**	**Mn**	**Ni**	**Pb**	**U**	**Zn**
RN022547 (Dry Season)																							
RN022547	28-Oct-08	7.3	395					1	5	17	38	2	1	10	400	0.2	0	1	265	2	0.1	1	5
RN022547	26-Sep-12	6.8	222			76	93	0	5	6	11	2	0	4	15,100	0.0	0	2	4,650	1	0.0	0	7
RN022547	24-Aug-11	6.7	210			78	95	0	5	6	11	2	0	5	11,600	0.1	0	3	4,630	2	0.0	1	6
RN022547	6-Aug-10	7.1	388	-		162	197	0	5	17	35	2	1	2	400	0	0	0	446	0	0	0	18
No. of samples		4	4	0	0	3	3	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Minimum		6.7	210	n/a	n/a	76	93	0	5	6	11	2	0	2	400	0	0	0	265	0	0	0	5
Maximum		7.3	395	n/a	n/a	162	197	1	5	17	38	2	1	10	15100	0	0	3	4650	2	0	1	18
Mean		7.0	304	n/a	n/a	105	128	1	5	12	24	2	1	5	6875	0	0	1	2498	1	0	1	9
Standard Deviation		0.3	101	n/a	n/a	49	59	1	n/a	6	15	n/a	n/a	3	7612	n/a	0	1	2475	1	0	0	6
80th Percentile		7.3	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
RN022547 (Wet Season)																							
RN022547	8-Apr-09	7.2	420				829	0		17	34			9	400	0.2	0	1	371	1	0.1	1	5
RN022547	23-Feb-11	6.7	217					2	5	7	12	2	0	7	12,200	0.2	1	2	4,570	1	0.1	1	16
RN022547	15-Feb-12	6.8	210			12	15	1	5	7	12	2	0	19	9,900	0.1	1	3	4,740	2	0.0	6	9
No. of samples		3	3	0	0	1	2	3	2	3	3	2	2	3	3	3	3	3	3	3	3	3	3
Minimum		6.7	210	n/a	n/a	n/a	15	0	5	7	12	2	0	7	400	0	0	1	371	1	0	1	5
Maximum		7.2	420	n/a	n/a	n/a	829	2	5	17	34	2	0	19	12200	0	1	3	4740	2	0	6	16
Mean		6.9	282	n/a	n/a	12	422	1	5	10	20	2	0	12	7500	0	1	2	3227	1	0	3	10
Standard Deviation		0.2	119	n/a	n/a	n/a	576	1	n/a	6	13	n/a	n/a	7	6255	n/a	1	1	2475	1	0	3	6
80th Percentile		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Red numbers indicate that the concentration was below the indicated detection limit

Table B-54. Groundwater Quality Data for Bore RN022548, Towards Northern Site Boundary

		FIELD DATA		LAB DATA			MAJOR IONS (in mg/L)							DISSOLVED METALS (in ug/L)									
Bore ID	**Sampling Date**	**pH**	**EC uS/cm**	**pH**	**Acidity mg/L**	**HCO_3 Alkalinity mg/L as CaCO3**	**HCO_3**	**SO_4**	**Cl**	**Ca**	**Mg**	**Na**	**K**	**Al**	**Fe**	**Cd**	**Cu**	**Co**	**Mn**	**Ni**	**Pb**	**U**	**Zn**
RN022548 (Dry Season)																							
RN022548	6-Aug-10	7.4	520			224	273	1	5	20	44	2	1	2	1,800	0	0	1	21	1	0	0	4
RN022548	6-Aug-10	7.4	520					1	5	20	44	2	1	2	1,800	0.2	0	1	21	1	0.1	0	4
RN022548	6-Sep-11	7.4	826			294	359	6	5	18	40	3	5	16	4,850	0.0	1	1	45	1	0.0	4	1
RN022548	26-Sep-12	7.4	780			410	500	1	5	17	37	4	5	3	4,800	0.0	0	1	46	1	0.0	0	0
No. of samples		4	4	0	0	3	3	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Minimum		7.4	520	n/a	n/a	224	273	1	5	17	37	2	1	2	1800	0	0	1	21	1	0	0	0
Maximum		7.4	826	n/a	n/a	410	500	6	5	20	44	4	5	16	4850	0	1	1	46	1	0	4	4
Mean		7.4	662	n/a	n/a	309	377	2	5	19	41	3	3	6	3313	0	0	1	34	1	0	1	2
Standard Deviation		0.0	164	n/a	n/a	94	115	2	n/a	1	3	n/a	n/a	7	1747	n/a	0	0	14	0	0	2	2
80th Percentile		7.4	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
RN022548 (Wet Season)																							
RN022548	16-Feb-12	7.4	840			326	398	2	5	18	39	4	6	27	2,580	0.2	1	1	86	1	0.1	5	1
RN022548	24-Feb-11	7.2	629					2	5	19	39	3	3	10	3,800	0.2	0	0	44	1	0.1	1	
RN022548	16-Feb-12	7.4	840			326	398	3	5	17	38	4	7	24	2,140	0.2	0	1	96	1	0.1	8	1
No. of samples		3	3	0	0	2	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	2
Minimum		7.2	629	n/a	n/a	326	398	2	5	17	38	3	3	10	2140	0	0	0	44	1	0	1	1
Maximum		7.4	840	n/a	n/a	326	398	3	5	19	39	4	7	27	3800	0	1	1	96	1	0	8	1
Mean		7.4	770	n/a	n/a	326	398	2	5	18	39	4	5	20	2840	0	0	1	75	1	0	4	1
Standard Deviation		0.1	122	n/a	n/a	0	0	1	n/a	1	1	n/a	n/a	9	860	n/a	0	0	28	0	0	3	0
80th Percentile		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
RN023304 (Dry Season)																							
RN023304	30-Oct-08	7.4	1453				85	587	5	135	114	4	2	21	200	0.2	0	0	12	1	0.1	2	5
RN023304	19-Oct-12	7.0	1504			228	278	529	5	137	105	4	2	15	18	0.0	1	0	4	0	0.0	5	1
RN023304	7-Sep-11	7.1	1520			192	234	586	5	149	115	4	2	7	122	0.2	0	1	63	0	0.1	6	1
RN023304	6-Aug-10	7.1	1612	-		202	246	667	5	165	124	4	2	6	200	0	0	0	7	1	0	1	14
No. of samples		4	4	0	0	3	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Minimum		7.0	1453	n/a	n/a	192	85	529	5	135	105	4	2	6	18	0	0	0	4	0	0	1	1
Maximum		7.4	1612	n/a	n/a	228	278	667	5	165	124	4	2	21	200	0	1	1	63	1	0	6	14
Mean		7.2	1522	n/a	n/a	207	211	592	5	147	115	4	2	12	135	0	0	0	21	0	0	3	5
Standard Deviation		0.1	66	n/a	n/a	19	86	57	n/a	14	8	n/a	n/a	7	86	n/a	0	0	28	0	0	3	6
80th Percentile		7.4	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
RN023304 (Wet Season)																							
RN023304	8-Apr-09	7.3	1627	7.3			2048	644	5	150	114			3	200	0.2	0	1	26	0	0.1	1	5
RN023304	12-Apr-11	7.1	1612	7.8		170	207	649	5	155	120	4	2	22	200	0.2	1	0	3	0	0.3	1	2
RN023304	1-Mar-12	7.1	1538			218	266	579	5	146	112	4	2	29	44	0.2	1	0	5	0	0.1	1	1
No. of samples		3	3	2	0	2	3	3	3	3	3	2	2	3	3	3	3	3	3	3	3	3	3
Minimum		7.1	1538	n/a	n/a	170	207	579	5	146	112	4	2	3	44	0	0	0	3	0	0	1	1
Maximum		7.3	1627	n/a	n/a	218	2048	649	5	155	120	4	2	29	200	0	1	1	26	0	0	1	5
Mean		7.2	1592	n/a	n/a	194	840	624	5	150	115	4	2	18	148	0	1	0	11	0	0	1	3
Standard Deviation		0.1	48	n/a	n/a	34	1046	39	n/a	5	4	n/a	n/a	13	90	n/a	0	1	13	0	0	0	2
80th Percentile		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Red numbers indicate that the concentration was below the indicated detection limit

Table B-55. Groundwater Quality Data for Bores MB10-18 and MB10-19, Near Old Tailings Creek

		FIELD DATA		LAB DATA			MAJOR IONS (in mg/L)							DISSOLVED METALS (in ug/L)									
Bore ID	Sampling Date	pH	EC uS/cm	pH	Acidity mg/L	HCO_3 Alkalinity mg/L as CaCO3	HCO_3	SO_4	Cl	Ca	Mg	Na	K	Al	Fe	Cd	Cu	Co	Mn	Ni	Pb	U	Zn
MB10-18 (Dry Season)																							
MB10-18	2-Dec-10	7.3	600				0	109	5	48	37	8	1	20	200	0.2	1	0	23	0	0.3	2	
MB10-18	11-Oct-12	7.2	689			202	246	106	5	52	41	8	1	7	2	0.0	2	0	19	1	0.0	1	9
MB10-18	24-Aug-11	7.6	611			164	200	103	5	49	38	7	1	19	2	0.1	3	1	8	1	0.2	7	1
No. of samples		3	3	0	0	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	2
Minimum		7.2	600	n/a	n/a	164	0	103	5	48	37	7	1	7	2	0	1	0	8	0	0	1	1
Maximum		7.6	689	n/a	n/a	202	246	109	5	52	41	8	1	20	200	0	3	1	23	1	0	7	9
Mean		7.3	633	n/a	n/a	183	149	106	5	50	39	8	1	15	68	0	2	0	17	1	0	3	5
Standard Deviation		0.2	49	n/a	n/a	27	131	3	n/a	2	2	n/a	n/a	7	114	n/a	1	0	8	0	0	3	5
80th Percentile		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
MB10-18 (Wet Season)																							
MB10-18	31-Mar-11	7.4	593	8.1			0	107	5	47	38	8	0	27	200	0.2	2	0	16	2	0.7	1	11
MB10-18	15-Feb-12	7.3	714			188	229	104	5	50	38	7	1	14	2	0.0	3	0	21	0	1.3	1	17
No. of samples		2	2	1	0	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Minimum		7.3	593	n/a	n/a	n/a	n/a	104	n/a	47	38	n/a	n/a	14	2	0	2	0	16	0	1	1	11
Maximum		7.4	714	n/a	n/a	n/a	n/a	107	n/a	50	38	n/a	n/a	27	200	0	3	0	21	2	1	1	17
Mean		7.4	654	n/a	n/a	n/a	n/a	106	n/a	49	38	n/a	n/a	21	101	0	3	0	18	1	1	1	14
Standard Deviation		0.0	86	n/a	n/a	n/a	n/a	2	n/a	2	0	n/a	n/a	9	140	0	1	0	3	1	0	0	4
80th Percentile		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
MB10-19 (Dry Season)																							
MB10-19	2-Dec-10	7.4	517				0	80	5	43	35	4	1	15	200	0.2	0		9	0	0.3	1	
MB10-19	11-Oct-12	7.5	542			177	215	78	5	43	35	4	1	11	2	0.0	2	0	8	0	0.0	1	2
MB10-19	24-Aug-11	7.8	543			136	166	78	5	43	35	4	1	20	2	0.1	2	1	7	1	0.1	4	1
No. of samples		3	3	0	0	2	3	3	3	3	3	3	3	3	3	3	3	2	3	3	3	3	2
Minimum		7.4	517	n/a	n/a	136	0	78	5	43	35	4	1	11	2	0	0	0	7	0	0	1	1
Maximum		7.8	543	n/a	n/a	177	215	80	5	43	35	4	1	20	200	0	2	1	9	1	0	4	2
Mean		7.5	534	n/a	n/a	156	127	78	5	43	35	4	1	15	68	0	1	0	8	0	0	2	1
Standard Deviation		0.2	15	n/a	n/a	29	113	1	n/a	0	0	n/a	n/a	5	114	n/a	1	0	1	0	0	2	1
80th Percentile		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
MB10-19 (Wet Season)																							
MB10-19	15-Apr-11	7.5	551	8.1			0	79	5	43	36	4	1	7	200	0.2	0	0	2	0	0.1	0	1
MB10-19	15-Feb-12	7.5	618			174	212	81	5	46	37	4	1	17	2	0.0	1	0	14	0	0.4	1	6
No. of samples		2	2	1	0	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Minimum		7.5	551	n/a	n/a	n/a	n/a	79	n/a	43	36	n/a	n/a	7	2	0	0	0	2	0	0	0	1
Maximum		7.5	618	n/a	n/a	n/a	n/a	81	n/a	46	37	n/a	n/a	17	200	0	1	0	14	0	0	1	6
Mean		7.5	585	n/a	n/a	n/a	n/a	80	n/a	44	36	n/a	n/a	12	101	0	0	0	8	0	0	0	4
Standard Deviation		0.0	47	n/a	n/a	n/a	n/a	2	n/a	2	1	n/a	n/a	7	140	0	0	0	9	0	0	0	4
80th Percentile		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Red numbers indicate that the concentration was below the indicated detection limit

Table B-56. Groundwater Quality Data for Bores MB10-18 and MB10-19, Near Old Tailings Creek

		FIELD DATA		LAB DATA			MAJOR IONS (in mg/L)							DISSOLVED METALS (in ug/L)									
Bore ID	**Sampling Date**	**pH**	**EC uS/cm**	**pH**	**Acidity mg/L**	**HCO_3 Alkalinity mg/L as CaCO3**	**HCO_3**	**SO_4**	**Cl**	**Ca**	**Mg**	**Na**	**K**	**Al**	**Fe**	**Cd**	**Cu**	**Co**	**Mn**	**Ni**	**Pb**	**U**	**Zn**
RN023302 (Dry Season)																							
RN023302	5-Aug-10	7.1	472	-		229	278.1	1	5	31	41	3	1	16	200	0	0	0	1	0	0	0	14
RN023302	26-Sep-12	7.3	532			247	301	1	5	30	39	2	1	5	4	0.0	2	0	0	0	0.0	1	0
RN023302	24-Aug-11	7.3	497			215	262	2	5	31	39	2	1	21	2	0.1	5	3	5	3	0.1	15	1
No. of samples		3	3	0	0	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Minimum		7.1	472	n/a	n/a	215	262	1	5	30	39	2	1	5	2	0	0	0	0	0	0	0	0
Maximum		7.3	532	n/a	n/a	247	301	2	5	31	41	3	1	21	200	0	5	3	5	3	0	15	14
Mean		7.2	500	n/a	n/a	230	281	1	5	31	40	2	1	14	69	0	3	1	2	1	0	6	5
Standard Deviation		0.1	30	n/a	n/a	16	20	0	n/a	0	1	n/a	n/a	8	114	n/a	2	1	3	2	0	8	8
80th Percentile		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
RN023302 (Wet Season)																							
RN023302	15-Feb-12	7.2	543			222	271	1	5	33	42	2	1	12	2	0.0	6	0	4	0	1.6	1	2
RN023302	15-Apr-11	7.2	492	8.0		201	245	1	5	30	40	2	1	6	200	0.2	0	0	0	0	0.1	1	1
No. of samples		2	2	1	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Minimum		7.2	492	n/a	n/a	n/a	n/a	1	n/a	30	40	n/a	n/a	6	2	0	0	0	0	0	0	1	1
Maximum		7.2	543	n/a	n/a	n/a	n/a	1	n/a	33	42	n/a	n/a	12	200	0	6	0	4	0	2	1	2
Mean		7.2	518	n/a	n/a	n/a	n/a	1	n/a	31	41	n/a	n/a	9	101	0	3	0	2	0	1	1	2
Standard Deviation		0.0	36	n/a	n/a	n/a	n/a	0	n/a	2	2	n/a	n/a	4	140	0	4	0	3	0	1	0	1
80th Percentile		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Red numbers indicate that the concentration was below the indicated detection limit

Table B-57. Groundwater Quality Data for Bore MB10-20 and MB10-21, Downstream of the Mine Site

		FIELD DATA		LAB DATA			MAJOR IONS (in mg/L)							DISSOLVED METALS (in ug/L)									
Bore ID	Sampling Date	pH	EC uS/cm	pH	Acidity mg/L	HCO_3 Alkalinity mg/L as CaCO3	HCO_3	SO_4	Cl	Ca	Mg	Na	K	Al	Fe	Cd	Cu	Co	Mn	Ni	Pb	U	Zn
MB10-20 (Dry Season)																							
MB10-20	2-Dec-10	5.7	1118					529	10	32	115	44	2	18	400	0.2	1	11	871	8	0.4	3	15
MB10-20	19-Oct-12	6.1	559			98	120	140	5	9	43	17	1	10	446	0.1	1	6	837	11	0.3	2	19
MB10-20	31-Aug-11	5.6	677			228	278	299	5	22	63	12	2	6	46	0.1	19	56	902	42	1.0	0	25
No. of samples		3	3	0	0	2	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Minimum		5.6	559	n/a	n/a	98	120	140	5	9	43	12	1	6	46	0	1	6	837	8	0	0	15
Maximum		6.1	1118	n/a	n/a	228	278	529	10	32	115	44	2	18	446	0	19	56	902	42	1	3	25
Mean		5.8	785	n/a	n/a	163	199	323	7	21	74	24	1	11	297	0	7	24	870	20	1	2	19
Standard Deviation		0.3	295	n/a	n/a	92	112	196	n/a	12	37	n/a	n/a	6	219	n/a	10	28	33	19	0	1	5
80th Percentile		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
MB10-20 (Wet Season)																							
MB10-20	14-Apr-11	5.4	41	6.2		10	13	5	5	1	2	3	1	46	200	0.2	484	9	38	11	0.4	1	32
MB10-20	20-Feb-13	6.1	634			104	127	162	10	14	51	16	1	29	8,700	0.1	1	15	426	21	0.0	1	5
MB10-20	27-Feb-14	5.4	59			14	16	3	5	1	2	3	1	35	1,150	0.0	6	2	33	4	0.2	0	8
No. of samples		3	3	1	0	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Minimum		5.4	41	n/a	n/a	10	13	3	5	1	2	3	1	29	200	0	1	2	33	4	0	0	5
Maximum		6.1	634	n/a	n/a	104	127	162	10	14	51	16	1	46	8700	0	484	15	426	21	0	1	32
Mean		5.6	244	n/a	n/a	43	52	57	7	5	18	7	1	37	3350	0	163	8	166	12	0	1	15
Standard Deviation		0.4	337	n/a	n/a	53	65	91	n/a	8	28	n/a	n/a	9	4658	n/a	278	6	225	8	0	0	15
80th Percentile		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
MB10-21 (Dry Season)																							
MB10-21	1-Dec-10	6.9	319					3	5	20	10	27	2	31	200	0.2		1	151	1	8.0	4	5
MB10-21	31-Aug-11	6.3	316			119	145	13	5	21	12	25	2	12	6	0.0	16	0	55	0	0.2	2	60
MB10-21	9-Oct-13	6.9	399			137	168	32	5	22	13	30	2	6	2	0.0	8	0	2	0	0.0	2	12
MB10-21	19-Oct-12	7.0	349			100	122	19	5	21	12	27	2	10	2	0.0	12	0	1	0	0.1	2	9
No. of samples		4	4	0	0	3	3	4	4	4	4	4	4	4	4	4	3	4	4	4	4	4	4
Minimum		6.3	316	n/a		100	122	3	5	20	10	25	2	6	2	0	8	0	1	0	0	2	5
Maximum		7.0	399	n/a		137	168	32	5	22	13	30	2	31	200	0	16	1	151	1	8	4	60
Mean		6.8	346	n/a		119	145	17	5	21	12	27	2	15	53	0	12	0	52	0	2	3	21
Standard Deviation		0.3	39	n/a		19	23	12	0	1	1	2	0	11	98	0	4	0	70	1	4	1	26
80th Percentile		7.0	399	n/a		n/a	n/a	32	5	22	13	30	2	31	200	0	n/a	1	151	1	8	4	60
MB10-21 (Wet Season)																							
MB10-21	20-Feb-13	6.7	370			130	159	23	5	22	13	28	2	21	4	0.0	7	0	15	0	0.1	2	15
MB10-21	27-Feb-14	6.9	387			264	322	24	5	22	13	30	2	20	2	0.0	7	0	1	0	0.1	2	12
MB10-21	14-Apr-11	7.4	379	8.0		144	176	2	5	25	12	27	2	49	200	0.2	12	3	177	3	0.7	7	4
No. of samples		3	3	1	0	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Minimum		6.7	370	n/a	0	130	159	2	5	22	12	27	2	20	2	0	7	0	1	0	0	2	4
Maximum		7.4	387	n/a	0	264	322	24	5	25	13	30	2	49	200	0	12	3	177	3	1	7	15
Mean		7.0	379	8.0	n/a	179	219	17	5	23	13	28	2	30	69	0	9	1	64	1	0	4	10
Standard Deviation		0.3	9	n/a	n/a	74	90	12	0	2	1	2	0	17	114	0	3	2	98	2	0	3	6
80th Percentile		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Red numbers indicate that the concentration was below the indicated detection limit

APPENDIX C

SURFACE WATER QUALITY DATA

2008 - 2015

Table C-1. Pit Water Quality Monitoring Data (Main Pit), 2010 to 2015

			FIELD DATA		MAJOR IONS			DISSOLVED METALS (in ug/L)																					
Location or Gauge ID	Description	Sampling Date	pH	EC uS/cm	SO_4	Ca	Mg	Al-f	Al-t	Fe-f	Fe-t	Cd-f	Cd-t	Cu-f	Cu-t	Co-f	Co-t	Mn-f	Mn-t	Ni-f	Ni-t	Pb-f	Pb-t	U-f	U-t	Zn-f	Zn-t
Inflows to the Main Pit from the East Branch of the Finniss River																													
MPI	Main Pit Inlet	6-Aug-10	7.8	165	61	7	12	9	84	200	400	0.2	0.2	42	62	64	63	723	732	58	58	0	0	4	7	22	20
MPI	Main Pit Inlet	19-Jun-12	6.2	187	71	8	13	-	-	44	322	0.08	0.1	54	62	75	76	818	846	66	67	0	0	4	6	25	24
MPI	Main Pit Inlet	16-Jul-12	5.4	218	89	9	15	-	-	308	454	0.12	0.14	102	110	102	109	1320	1320	94	98	0	0	9	9	38	40
MPI	Main Pit Inlet	14-Aug-12	5.8	208	92	9	15	-	-	188	404	0.12	0.16	119	124	113	119	1400	1420	102	106	0	0	13	13	43	44
MPI	Main Pit Inlet	10-Sep-12	4.6	233	95	9	15	-	-	38	68	0.14	0.16	138	136	118	115	1470	1470	105	103	0	0	14	14	46	44
MPI	Main Pit Inlet	11-Oct-12	5.0	265	98	10	16	-	-	24	90	0.18	0.18	141	143	115	116	1530	1550	104	105	0	1	14	15	46	47
MPI	Main Pit Inlet	6-Nov-12	5.0	262	103	10	17	185	198	48	66	0.18	0.14	153	159	118	121	1530	1570	105	109	1	1	13	14	48	50
MPI	Main Pit Inlet	4-Dec-12	5.4	297	100	10	16	205	208	60	66	0.18	0.2	257	263	148	150	1630	1680	128	130	1	1	14	14	53	54
MPI	Main Pit Inlet	3-Jan-13	6.8	288	103	11	16	193	212	56	94	0.18	0.16	247	248	141	141	1610	1640	124	124	1	2	12	14	51	49
Outflows from the Main Pit (to the Intermediate Pit)																													
MPO	Main Pit Outlet	19-Jun-12	-	186	72	8	13	-	-	24	516	0.1	0.1	40	60	69	74	758	785	71	73	0	0	3	5	28	27
MPO	Main Pit Outlet	16-Jul-13	-	347	140	16	23	105	202	12	278	0.26	0.26	259	288	152	157	1660	1700	124	130	1	2	15	20	63	64
MPO	Main Pit Outlet	14-Aug-12	-	207	92	9	15	-	-	78	1450	0.12	0.14	138	146	118	123	1430	1430	105	108	0	0	13	14	44	44
MPO	Main Pit Outlet	10-Sep-12	-	236	95	10	15	-	-	28	250	0.14	0.14	144	147	123	121	1490	1490	106	104	0	0	13	13	46	45
MPO	Main Pit Outlet	11-Oct-12	-	264	98	10	16	-	-	36	56	0.16	0.18	140	144	116	120	1540	1590	104	106	0	0	14	14	43	45
MPO	Main Pit Outlet	6-Nov-12	-	264	103	10	16	182	195	42	54	0.16	0.16	155	161	118	126	1540	1600	107	111	0	1	14	14	47	50
MPO	Main Pit Outlet	4-Dec-12	-	293	101	10	16	202	205	48	54	0.18	0.18	256	262	146	153	1640	1690	127	132	1	1	13	14	53	53
MPO	Main Pit Outlet	3-Jan-13	-	140	103	11	17	187	190	54	58	0.16	0.16	241	243	138	142	1610	1650	122	120	1	1	12	12	50	51
MPO	Main Pit Outlet	31-Jan-13	-	310	107	11	17	190	207	58	76	0.18	0.2	253	258	144	147	1620	1680	125	126	1	2	13	13	53	53
MPO	Main Pit Outlet	27-Feb-13	-	278	118	13	19	183	190	98	110	0.2	0.22	248	247	142	141	1750	1730	118	118	2	3	14	14	54	52
MPO	Main Pit Outlet	27-Mar-13	-	331	128	14	20	130	155	78	100	0.24	0.24	285	289	153	155	1690	1710	126	127	2	2	15	16	60	59
MPO	Main Pit Outlet	26-May-15	-	181	53	7	10	17	107	22	260	0.04	0.06	27	58	14	41	199	377	29	36	0	1	2	4	11	14
MPO	Main Pit Outlet	1-Jul-15	-	201	62	8	12	20	63	12	138	0.04	0.04	24	46	15	29	240	347	30	35	0	0	2	3	12	14
MPO	Main Pit Outlet	23-Jul-15	-	249	81	9	14	21	149	20	2000	0.08	0.1	28	86	53	54	832	852	58	59	0	0	2	11	23	24
MPO	Main Pit Outlet	19-Aug-15	-	-	90	10	16	3	85	16	1700	0.08	0.08	31	69	60	60	952	948	63	63	0	0	2	8	24	24
MPO	Main Pit Outlet	16-Sep-15	-	254	86	10	15	2	28	4	248	0.08	0.1	19	31	53	56	902	940	60	63	0	0	1	2	22	23
MPO	Main Pit Outlet	13-Oct-15	-	252	89	10	16	3	165	4	308	0.08	0.1	12	41	40	47	763	811	52	57	0	2	1	4	18	22
MPO	Main Pit Outlet	7-Jan-15	-	221	83	9	14	58	536	60	312	0.14	0.12	74	101	91	92	908	914	76	78	0	2	3	4	38	42
MPO	Main Pit Outlet	4-Feb-15	-	153	40	5	8	40	233	60	548	0.04	0.04	42	81	37	40	264	276	36	38	0	0	3	4	9	12
MPO	Main Pit Outlet	23-Jul-14	-	-	78	9	14	4	18	16	248	0.08	0.1	32	37	65	68	883	910	69	72	0	0	2	3	25	26
MPO	Main Pit Outlet	5-Mar-15	-	128	30	4	7	54	272	40	438	0.04	0.04	33	59	28	31	186	202	29	32	0	2	2	3	8	10
MPO	Main Pit Outlet	1-Apr-15	-	127	33	4	8	82	201	62	370	0.02	0.02	32	56	24	26	189	200	27	31	0	0	2	3	8	10
MPO	Main Pit Outlet	28-Apr-15	-	152	37	5	8	14	45	38	168	0.04	0.02	30	42	16	18	150	162	23	25	0	0	2	3	7	7
MPO	Main Pit Outlet	2-Apr-14	-	154	42	5	10	42	119	52	286	0.04	0.04	38	70	36	39	202	213	36	39	0	0	4	5	8	11
MPO	Main Pit Outlet	29-Apr-14	-	173	45	5	10	35	97	42	260	0.04	0.04	33	64	35	38	212	223	36	38	0	0	3	4	10	11
MPO	Main Pit Outlet	28-May-14	-	157	43	5	9	13	81	18	214	0.04	0.04	24	48	22	26	141	159	31	34	0	0	3	4	7	9
MPO	Main Pit Outlet	24-Jun-14	-	161	60	7	11	3	73	12	544	0.06	0.08	27	49	41	44	485	514	46	50	0	1	3	5	16	19
MPO	Main Pit Outlet	3-Jun-14	-	142	43	5	9	25	75	42	180	0.04	0.04	33	47	31	32	200	201	32	32	0	1	3	4	11	8
MPO	Main Pit Outlet	19-Aug-14	-	-	83	9	14	19	64	54	568	0.1	0.12	53	65	78	83	1120	1120	80	85	0	0	3	5	31	32
MPO	Main Pit Outlet	17-Sep-14	-	236	87	9	15	36	202	60	1000	0.1	0.12	57	76	88	95	1240	1290	83	85	0	1	4	9	34	33
MPO	Main Pit Outlet	14-Oct-14	-	235	91	10	15	39	42	8	36	0.12	0.12	62	63	89	90	1270	1290	85	86	0	0	4	4	35	35
MPO	Main Pit Outlet	12-Nov-14	-	219	91	10	15	42	56	14	50	0.12	0.12	66	70	89	91	1240	1280	84	86	0	0	3	4	34	34
MPO	Main Pit Outlet	11-Dec-14	-	238	93	10	15	59	71	18	48	0.16	0.14	85	88	91	93	1260	1280	85	86	1	2	3	4	37	37
MPO	Main Pit Outlet	20-Aug-13	-	410	154	17	25	232	240	198	278	0.24	0.24	292	301	166	172	2070	2100	135	138	0	0	23	23	71	71
MPO	Main Pit Outlet	10-Sep-13	-	403	161	18	26	228	234	88	106	0.26	0.26	286	293	167	171	2140	2220	136	139	0	0	23	24	74	72
MPO	Main Pit Outlet	8-Oct-13	-	381	166	19	27	237	243	94	96	0.24	0.22	302	312	174	177	2200	2220	143	145	0	0	23	23	79	76
MPO	Main Pit Outlet	7-Nov-13	-	390	160	19	26	243	250	102	110	0.28	0.28	293	301	166	169	2180	2230	135	138	1	1	23	24	70	69
MPO	Main Pit Outlet	4-Dec-13	-	440	155	18	26	251	262	104	112	0.26	0.28	321	329	177	182	2090	2110	141	145	2	2	23	24	78	79
MPO	Main Pit Outlet	8-Jan-14	-	352	142	16	24	23	106	12	144	0.2	0.22	224	257	162	170	1670	1700	128	133	0	0	9	12	56	60
MPO	Main Pit Outlet	5-Feb-14	-	105	35	4	7	31	663	40	398	0.04	0.06	47	84	39	43	338	355	35	38	0	1	4	6	13	13
MPO	Main Pit Outlet	5-Mar-14	-	167	45	5	10	42	161	16	302	0.04	0.06	43	89	48	50	239	245	45	47	0	0	3	5	10	14
MPO	Main Pit Outlet	24-Apr-13	-	342	138	15	23	88	135	42	98	0.24	0.26	304	318	162	163	1720	1770	133	135	1	2	15	17	67	70
MPO	Main Pit Outlet	23-May-13	-	365	138	16	23	83	113	24	60	0.24	0.24	285	300	154	161	1690	1740	127	133	1	1	15	16	64	65
MPO	Main Pit Outlet	18-Jun-13	-	344	138	16	23	87	110	16	40	0.22	0.2	279	285	152	150	1700	1640	123	124	1	1	16	16	63	60
MPO	Main Pit Outlet	16-Jul-12	-	218	89	9	15	-	-	184	650	0.14	0.14	108	119	109	115	1340	1350	98	104	0	0	8	10	40	41

Table C-2. Pit Water Quality Monitoring Data (Intermediate Pit), 2010 to 2015

			FIELD DATA		MAJOR IONS			DISSOLVED METALS (in ug/L)																			
Location or Gauge ID	Description	Sampling Date	pH	EC uS/cm	SO_4	Ca	Mg	Al-f	Al-t	Fe-f	Fe-t	Cd-f	Cd-t	Cu-f	Cu-t	Co-f	Co-t	Mn-f	Mn-t	Ni-f	Ni-t	Pb-f	Pb-t	U-f	U-t	Zn-f	Zn-t
Inflows to the Intermediate Pit (from the Main Pit)																											
IPI	Intermediate Pit Inlet	16-Jul-12	6.1	253	96	10	19	-	-	8	142	0.08	0.06	55	93	42	43	339	350	57	60	0	1	3	4	23	26
IPI	Intermediate Pit Inlet	4-Dec-12	6.1	331	108	12	21	38	48	22	64	0.08	0.06	57	74	34	35	293	300	50	53	1	4	2	3	21	26
IPI	Intermediate Pit Inlet	6-Nov-12	6.9	302	113	12	22	21	28	14	38	0.04	0.06	43	51	29	30	256	269	47	49	0	1	2	3	19	20
IPI	Intermediate Pit Inlet	19-Jun-12	-	182	67	7	13	-	-	32	126	0.06	0.06	69	88	38	39	270	271	53	53	0	1	2	3	22	21
IPI	Intermediate Pit Inlet	3-Jan-13	7.1	320	110	12	21	27	35	16	48	0.06	0.08	39	51	30	30	265	268	46	47	0	1	2	2	20	20
IPI	Intermediate Pit Inlet	14-Aug-12	6.3	228	98	11	19	-	-	8	116	0.06	0.06	53	76	39	40	317	325	57	58	0	1	3	3	22	24
IPI	Intermediate Pit Inlet	10-Sep-12	5.6	272	102	11	20	-	-	8	50	0.06	0.06	46	58	36	36	300	293	53	53	0	0	3	3	21	21
IPI	Intermediate Pit Inlet	11-Oct-12	6.1	296	108	12	21	-	-	10	48	0.06	0.06	43	55	32	32	259	265	50	51	0	1	2	3	20	21
IPIC	Intermediate Pit inflow culvert	1-Apr-15	7.1	171	51	7	11	94	179	46	360	0.04	0.04	66	108	31	32	271	282	38	39	0	0	3	4	15	17
IPIC	Intermediate Pit inflow culvert	4-Feb-15	6.2	171	45	5	9	45	213	46	544	0.04	0.06	48	91	35	38	295	306	35	39	0	0	3	4	10	14
IPIC	Intermediate Pit inflow culvert	7-Jan-15	5.8	223	84	9	15	56	534	48	300	0.16	0.14	92	123	93	97	929	955	79	83	0	2	3	4	39	41
Outflows from the Intermediate Pit to the East Branch of the Finniss River																											
IPO	Intermediate Pit at Outflow	17-Sep-14	6.9	230	79	9	16	17	24	10	78	0.04	0.06	32	46	28	29	262	269	45	46	0	0	2	2	18	19
IPO	Intermediate Pit at Outflow	14-Oct-14	7.5	234	83	10	17	16	26	12	64	0.04	0.06	28	41	25	26	243	251	43	45	0	0	2	2	17	18
IPO	Intermediate Pit at Outflow	12-Nov-14	-	223	85	10	17	17	40	10	94	0.06	0.06	26	49	23	24	210	217	39	41	0	1	2	2	16	18
IPO	Intermediate Pit at Outflow	11-Dec-14	6.0	235	85	10	17	30	50	14	66	0.04	0.06	25	40	26	27	228	239	39	42	0	1	2	2	16	18
IPO	Intermediate Pit at Outflow	7-Jan-15	7.0	233	88	10	16	42		16	-	0.12	-	61	-	73	-	751	-	70	-	0	-	2	-	33	-
IPO	Intermediate Pit at Outflow	4-Feb-15	6.2	173	47	5	9	40	215	26	394	0.06	0.06	59	107	44	47	354	373	44	47	0	1	3	4	13	16
IPO	Intermediate Pit at Outflow	5-Mar-15	6.4	143	35	4	8	29	48	2	2	0.02	0.02	0	0	0	0	0	0	0	0	0	0	0	0	2	2
IPO	Intermediate Pit at Outflow	1-Apr-15	6.0	149	42	5	9	89	165	42	284	0.04	0.06	66	111	30	33	244	258	37	41	0	1	3	4	16	17
IPO	Intermediate Pit at Outflow	28-Apr-15	7.0	166	45	5	9	28	100	30	194	0.06	0.04	81	114	30	31	249	251	37	38	0	1	2	3	13	13
IPO	Intermediate Pit at Outflow	26-May-15	6.8	184	52	6	11	27	342	16	380	0.04	0.06	58	134	26	33	232	260	39	45	0	2	2	3	14	17
IPO	Intermediate Pit at Outflow	1-Jul-15	7.7	204	59	7	12	30	49	14	80	0.04	0.04	65	82	22	23	193	194	42	43	0	1	2	2	18	17
IPO	Intermediate Pit at Outflow	23-Jul-15	7.3	251	75	9	15	28	106	16	378	0.04	0.06	51	134	22	24	218	238	41	45	0	3	2	3	20	23
IPO	Intermediate Pit at Outflow	19-Aug-15	7.0	220	81	10	16	12	27	10	74	0.04	0.04	48	67	22	23	205	214	42	44	0	1	2	2	18	19
IPO	Intermediate Pit at Outflow	16-Sep-15	6.2	249	78	9	15	13	43	6	106	0.06	0.04	39	69	20	21	202	210	41	42	0	1	2	2	18	20
IPO	Intermediate Pit at Outflow	13-Oct-15	6.6	246	81	9	16	13	324	8	424	0.04	0.06	22	158	20	37	224	241	32	44	0	4	2	5	12	21
IPO	Intermediate Pit at Outflow	20-Aug-13	7.8	338	118	13	23	30	44	6	34	0.1	0.1	125	144	47	48	401	404	78	79	0	1	2	3	40	41
IPO	Intermediate Pit at Outflow	10-Sep-13	6.2	333	124	13	23	29	88	6	118	0.12	0.1	118	198	45	46	389	396	76	78	0	3	2	3	39	41
IPO	Intermediate Pit at Outflow	8-Oct-13	-	318	128	14	24	36	48	4	34	0.1	0.1	103	139	46	48	364	375	80	84	0	1	2	3	39	41
IPO	Intermediate Pit at Outflow	7-Nov-13	6.9	326	125	14	24	33	50	4	50	0.12	0.12	77	121	43	45	372	388	72	76	0	1	2	2	38	39
IPO	Intermediate Pit at Outflow	4-Dec-13	7.0	368	118	13	23	32	51	6	42	0.12	0.12	76	111	44	46	364	378	74	76	10	4	2	2	39	39
IPO	Intermediate Pit at Outflow	8-Jan-14	6.7	350	142	16	25	24	177	4	104	0.24	0.28	290	332	144	150	1460	1520	134	140	1	2	8	11	67	69
IPO	Intermediate Pit at Outflow	5-Feb-14	5.6	128	45	6	8	24	468	24	332	0.08	0.06	64	107	46	49	406	421	43	45	0	1	4	6	16	18
IPO	Intermediate Pit at Outflow	5-Mar-14	7.3	186	51	6	10	48	189	10	292	0.06	0.06	71	140	51	55	316	332	50	54	0	1	4	5	14	17
IPO	Intermediate Pit at Outflow	2-Apr-14	8.2	175	53	6	11	52	156	16	266	0.06	0.06	74	148	45	48	312	325	50	53	0	1	4	5	14	16
IPO	Intermediate Pit at Outflow	29-Apr-14	8.3	200	54	6	11	47	232	10	332	0.06	0.06	86	191	46	49	315	326	51	54	0	3	3	5	16	19
IPO	Intermediate Pit at Outflow	24-Jun-14	6.7	142	50	6	10	13	117	4	160	0.04	0.06	65	97	34	33	249	251	44	44	0	1	3	3	16	18
IPO	Intermediate Pit at Outflow	3-Jun-14	7.2	165	51	6	10	34	98	12	138	0.06	0.06	95	126	39	42	278	298	45	48	0	1	3	4	20	15
IPO	Intermediate Pit at Outflow	28-May-14	7.4	-	50	6	10	34	110	4	144	0.04	0.08	80	130	40	43	285	299	48	52	0	1	3	4	17	16
IPO	Intermediate Pit at Outflow	23-Jul-14	6.1	201	65	8	13	12	59	4	106	0.04	0.06	53	71	35	34	310	294	51	50	0	1	2	3	20	19
IPO	Intermediate Pit at Outflow	19-Aug-14	6.4	217	73	9	14	9	38	12	120	0.06	0.06	43	63	32	34	286	300	47	51	0	0	2	3	19	20
IPO	Intermediate Pit at Outflow	6-Aug-10	8.5	182	63	7	13	21	47	200	-	0.2	0.2	76	90	44	44	318	325	57	57	0	1	2	3		22
IPO	Intermediate Pit at Outflow	19-Jun-12	6.3	191	67	7	13	-	-	26	204	0.06	0.04	68	97	38	41	261	281	52	54	0	1	2	3	22	22
IPO	Intermediate Pit at Outflow	16-Jul-12	6.1	251	96	10	19	-	-	8	150	0.06	0.06	48	90	41	43	336	354	55	58	0	1	3	4	21	23
IPO	Intermediate Pit at Outflow	14-Aug-12	6.4	228	98	11	19	-	-	8	124	0.06	0.06	49	72	38	40	312	323	55	57	0	1	3	3	22	23
IPO	Intermediate Pit at Outflow	10-Sep-12	5.6	263	103	11	20	-	-	10	10	0.06	0.06	43	43	36	35	299	299	52	52	0	0	3	3	22	22
IPO	Intermediate Pit at Outflow	11-Oct-12	6.4	299	108	12	21	-	-	12	34	0.06	0.06	40	48	31	32	258	260	49	50	0	0	3	3	20	21
IPO	Intermediate Pit at Outflow	6-Nov-12	7.5	306	113	12	22	20	38	14	50	0.06	0.06	37	50	29	31	266	282	46	49	0	0	2	3	19	21
IPO	Intermediate Pit at Outflow	4-Dec-12	6.4	327	108	12	21	30	42	20	54	0.06	0.06	36	46	31	32	290	297	48	49	0	1	2	2	20	21
IPO	Intermediate Pit at Outflow	3-Jan-13	7.2	327	109	12	21	26	60	16	122	0.06	0.08	32	66	28	29	270	269	45	46	0	1	2	2	19	21
IPO	Intermediate Pit at Outflow	31-Jan-13	6.7	332	107	11	21	24	42	14	58	0.06	0.06	48	65	33	34	300	309	48	50	0	1	2	2	21	22
IPO	Intermediate Pit at Outflow	27-Feb-13	6.1	269	107	11	20	25	52	20	78	0.12	0.1	57	83	38	39	353	362	49	52	1	2	2	2	22	23
IPO	Intermediate Pit at Outflow	27-Mar-13	6.2	307	109	11	20	43	78	22	72	0.12	0.14	123	161	54	56	471	485	64	66	1	2	2	3	34	35
IPO	Intermediate Pit at Outflow	24-Apr-13	7.1	322	122	13	22	37	96	8	74	0.16	0.16	194	269	77	80	669	699	90	94	1	2	3	4	49	51
IPO	Intermediate Pit at Outflow	23-May-13	7.0	337	118	13	22	51	105	6	70	0.14	0.16	181	236	71	74	630	653	91	93	0	2	3	4	47	47
IPO	Intermediate Pit at Outflow	18-Jun-13	6.7	319	118	13	22	38	76	6	46	0.14	0.12	170	199	64	62	561	554	87	87	1	1	3	3	45	43
IPO	Intermediate Pit at Outflow	16-Jul-13	6.6	317	118	13	22	22	64	4	58	0.12	0.14	144	185	54	56	476	473	84	85	0	2	3	3	43	43

Table C-3. Surface Water Quality Monitoring Data (Upper East Branch of the Finniss River), 2010 to 2015

			FIELD DATA		MAJOR IONS			DISSOLVED METALS (in ug/L)																					
Location or Gauge ID	Description	Sampling Date	pH	EC uS/cm	SO_4	Ca	Mg	Al-f	Al-t	Fe-f	Fe-t	Cd-f	Cd-t	Cu-f	Cu-t	Co-f	Co-t	Mn-f	Mn-t	Ni-f	Ni-t	Pb-f	Pb-t	U-f	U-t	Zn-f	Zn-t
Upper East Branch of the Finniss River (upstream of Dyson's Area)																													
EB@LB	East Branch Finniss River at Lease Boundary	30-Jan-13			0	2	3	483	4700	344	1650	<0.02	<0.02	1	2	0	1	18	25	1	2	0	1	0	1	1	2
EB@LB	East Branch Finniss River at Lease Boundary	27-Feb-13	5.9	49	<0.1	1	2	124	1760	184	746	<0.02	0.02	0	2	0	0	12	17	0	1	0	1	0	0	1	2
EB@LB	East Branch Finniss River at Lease Boundary	27-Mar-13	6.2	44	0	1	2	192	2100	148	846	<0.02	0.02	1	1	0	0	9	17	1	1	0	1	0	0	1	2
EB@LB	East Branch Finniss River at Lease Boundary	24-Apr-13	8.0	56	1	2	3	24	119	128	370	<0.02	<0.02	0	0	0	0	12	16	0	0	0	0	0	0	1	1
EB@LB	East Branch Finniss River at Lease Boundary	23-May-13	7.7	77	0	2	4	61	583	192	688	<0.02	<0.02	1	1	0	0	30	37	0	0	0	0	0	0	1	<0.1
EB@LB	East Branch Finniss River at Lease Boundary	18-Jun-13	7.3	60	<0.1	2	4	29	236	120	332	<0.02	<0.02	0	0	0	0	18	19	0	0	0	0	0	0	1	1
EB@LB	East Branch Finniss River at Lease Boundary	4-Dec-13	7.3	64	1	2	3	442	4940	204	1400	<0.02	<0.02	3	4	0	1	10	42	1	2	0	1	1	1	1	2
EB@LB	East Branch Finniss River at Lease Boundary	5-Feb-14	8.2	22	<0.1	1	1	56	534	94	358	<0.02	<0.02	0	1	0	0	4	9	0	0	0	0	0	0	2	3
EB@LB	East Branch Finniss River at Lease Boundary	8-Jan-14			0	2	4	94	1240	236	890	<0.02	<0.02	1	1	0	0	21	27	0	1	0	1	0	0	0	1
EB@LB	East Branch Finniss River at Lease Boundary	5-Mar-14	8.2	60	<0.1	1	2	95	201	192	436	<0.02	<0.02	1	1	0	0	9	13	0	0	0	0	0	0	1	1
EB@LB	East Branch Finniss River at Lease Boundary	2-Apr-14	8.3	74	<0.1	2	4	19	135	204	586	<0.02	<0.02	1	1	0	0	29	35	0	0	0	0	0	0	0	1
EB@LB	East Branch Finniss River at Lease Boundary	29-Apr-14	8.1	90	0	2	4	35	228	294	716	<0.02	<0.02	0	0	0	0	17	22	0	0	0	0	0	0	0	1
EB@LB	East Branch Finniss River at Lease Boundary	28-May-14	6.3	145	3	5	9	2	64	370	3550	<0.02	<0.02	0	1	3	4	900	967	1	1	0	0	0	0	1	1
EB@LB	East Branch Finniss River at Lease Boundary	24-May-14	6.4	109	1	4	7	22	590	314	1550	<0.02	<0.02	1	1	1	1	263	284	0	1	0	1	0	0	1	1
EB@LB	East Branch Finniss River at Lease Boundary	7-Jan-15	6.6	47	1	1	2	561	2340	244	880	<0.02	<0.02	2	2	0	1	14	19	1	1	0	1	1	1	17	5
EB@LB	East Branch Finniss River at Lease Boundary	4-Feb-15	6.5	55	0	1	2	52	448	142	534	<0.02	<0.02	0	0	0	0	12	18	0	0	0	0	0	0	4	3
EB@LB	East Branch Finniss River at Lease Boundary	5-Mar-15	6.6	50	0	1	2	64	227	122	350	<0.02	<0.02	0	0	0	0	9	12	0	0	0	0	0	0	2	2
EB@LB	East Branch Finniss River at Lease Boundary	31-Mar-15	7.4	52	0	1	3	74	274	156	414	<0.02	<0.02	0	1	0	0	11	14	0	0	0	0	0	0	2	3
EB@LB	East Branch Finniss River at Lease Boundary	28-Apr-15	7.3	117	0	4	8	12	125	328	752	<0.02	<0.02	0	0	0	1	67	82	0	0	0	0	0	0	1	1
Upper East Branch of the Finniss River (downstream of Dyson's Area)																													
GS815_DYS	Dyson's Gauge Station	15-Apr-09	6.4	379	122	10	25	15	91	<200	1000	<0.2	<0.2	18	38	117	118	1120	1140	113	115	<0.1	<0.1	2	3	10	10
GS815_DYS	Dyson's Gauge Station	7-Jun-11	4.0	765																									
EB@G_Dys	Dyson's Gauge	7-Jan-15	5.5	183	64	7	12	108	1040	168	558	0.04	0.02	124	171	142	147	457	475	125	131	0	1	6	9	14	15
EB@G_Dys	Dyson's Gauge	29-Apr-14	7.8	339	104	11	24	12	230	84	3850	0.02	0.02	18	85	129	133	940	959	105	107	<0.01	0	2	7	5	6
EB@G_Dys	Dyson's Gauge	5-Mar-15	6.3	110	21	3	6	73	439	156	686	<0.02	<0.02	17	31	32	35	123	135	29	32	0	0	3	4	3	5
EB@G_Dys	Dyson's Gauge	31-Mar-15	7.1	98	18	3	6	86	356	248	1050	<0.02	<0.02	7	18	19	22	107	123	17	19	0	0	2	3	4	4
EB@G_Dys	Dyson's Gauge	28-Apr-15	6.4	386	140	11	29	7	37	548	1450	0.04	<0.02	9	18	89	90	1600	1640	65	67	<0.01	0	1	1	5	5
EB@G_Dys	Dyson's Gauge	31-Jan-13	7.2	133	29	4	7	145	3780	186	1650	<0.02	<0.02	44	73	50	55	201	215	45	50	0	1	3	5	4	6
EB@G_Dys	Dyson's Gauge	27-Feb-13	6.1	108	24	3	7	54	1360	170	1150	0.02	0.02	21	34	38	40	168	178	33	36	0	1	2	4	2	3
EB@G_Dys	Dyson's Gauge	27-Mar-13	6.1	91	24	3	5	83	1860	132	958	0.02	<0.02	23	38	34	37	118	130	31	34	0	1	3	4	2	3
EB@G_Dys	Dyson's Gauge	24-Apr-13	7.5	139																									
EB@G_Dys	Dyson's Gauge	23-May-13	7.2	258	78	8	16	26	221	172	2100	0.04	0.04	14	52	167	171	969	977	133	135	<0.01	0	2	5	9	8
EB@G_Dys	Dyson's Gauge	24-Apr-13			36	4	9	21	329	60	1050	<0.02	0.02	5	15	48	50	282	284	43	44	<0.01	0	3	6	3	3
EB@G_Dys	Dyson's Gauge	18-Jun-13	6.7	228	80	8	17	12	120	446	1600	0.04	0.02	12	38	174	173	838	831	140	139	0	0	2	4	8	8
EB@G_Dys	Dyson's Gauge	4-Dec-13	5.1	603	239	23	42	894	932	478	504	0.24	0.26	729	742	825	841	2800	2870	652	661	0	0	29	30	62	61
EB@G_Dys	Dyson's Gauge	8-Jan-14	6.6	238	77	9	17	10	303	408	3550	0.02	0.02	9	56	174	181	1260	1290	120	129	<0.01	0	2	4	9	10
EB@G_Dys	Dyson's Gauge	5-Feb-14	5.5	168	79	9	13	549	1880	238	916	0.06	0.06	309	338	213	219	574	598	195	202	0	0	20	27	14	13
EB@G_Dys	Dyson's Gauge	5-Mar-14	8.0	165	42	4	10	35	544	50	788	0.26	<0.02	24	52	44	48	210	228	39	42	0	0	3	7	4	4
EB@G_Dys	Dyson's Gauge	2-Apr-14	8.1	176	46	6	12	14	142	86	1150	<0.02	<0.02	9	37	75	80	360	377	63	67	<0.01	0	2	4	3	4
EB@G_Dys	Dyson's Gauge	4-Feb-15	6.2	118	25	3	6	44	316	168	946	0.02	<0.02	12	26	38	39	179	185	33	35	0	0	2	4	4	8

Table C-4. Surface Water Quality Monitoring Data (Fitch Creek and the EFDC), 2010 to 2015

			FIELD DATA		MAJOR IONS			DISSOLVED METALS (in ug/L)																			
Location or Gauge ID	Description	Sampling Date	pH	EC uS/cm	SO_4	Ca	Mg	Al-f	Al-t	Fe-f	Fe-t	Cd-f	Cd-t	Cu-f	Cu-t	Co-f	Co-t	Mn-f	Mn-t	Ni-f	Ni-t	Pb-f	Pb-t	U-f	U-t	Zn-f	Zn-t
FC@LB	Fitch Creek at Lease Boundary	5-Mar-15	6.3	45	0	1	3	44	125	62	160	<0.02	<0.02	0	0	0	0	4	5	0	0	0	0	0	0	3	2
FC@LB	Fitch Creek at Lease Boundary	31-Mar-15	7.5	57	0	1	5	69	164	90	196	<0.02	<0.02	0	0	0	0	5	6	0	0	0	0	0	0	3	3
FC@LB	Fitch Creek at Lease Boundary	28-Apr-15	6.9	125	3	2	10	7	29	172	326	<0.02	<0.02	1	1	1	1	19	21	1	1	0	0	0	0	1	1
FC@LB	Fitch Creek at Lease Boundary	7-Jan-15	6.5	40	1	1	3	124	646	74	208	<0.02	<0.02	1	1	0	0	6	7	0	0	0	0	1	1	3	2
FC@LB	Fitch Creek at Lease Boundary	4-Feb-15			0	1	3	34	125	82	190	<0.02	<0.02	1	1	0	0	5	6	1	0	0	0	0	0	6	2
FC@LB	Fitch Creek at Lease Boundary	5-Mar-14	8.3	57	0	1	3	72	171	100	214	<0.02	<0.02	0	0	0	0	4	6	0	0	0	0	0	0	1	1
FC@LB	Fitch Creek at Lease Boundary	2-Apr-14	8.0	114	1	2	11	11	47	78	242	<0.02	<0.02	1	1	0	0	12	13	0	0	0	0	0	0	1	1
FC@LB	Fitch Creek at Lease Boundary	29-Apr-14	8.0	180	1	3	16	10	32	76	188	<0.02	<0.02	1	1	0	0	6	7	0	0	0	0	0	0	1	1
FC@LB	Fitch Creek at Lease Boundary	23-May-14	7.3	125	5	2	12	3	61	106	550	<0.02	<0.02	1	1	0	1	28	63	1	1	0	0	0	0	1	1
FC@LB	Fitch Creek at Lease Boundary	4-Dec-13	7.3	150	0	2	12	57	3620	82	734	<0.02	<0.02	1	2	0	0	2	6	0	1	0	1	1	1	1	3
FC@LB	Fitch Creek at Lease Boundary	8-Jan-14	7.3	46	0	1	3	39	384	116	358	<0.02	<0.02	2	2	0	0	7	9	0	0	0	0	0	0	<0.1	1
FC@LB	Fitch Creek at Lease Boundary	5-Feb-14	7.9	19	<0.1	1	1	34	370	62	218	<0.02	<0.02	0	1	0	0	4	7	0	0	0	0	0	0	1	3
FC@LB	Fitch Creek at Lease Boundary	24-Apr-13	7.6	65	1	1	5	15	67	66	228	<0.02	<0.02	1	2	0	0	6	8	0	0	0	0	0	0	4	4
FC@LB	Fitch Creek at Lease Boundary	27-Mar-13			0	1	2	32	456	76	266	<0.02	<0.02	0	1	0	0	6	8	0	1	0	0	0	0	1	2
FC@LB	Fitch Creek at Lease Boundary	23-May-13	8.1	108	1	2	9	28	197	62	272	<0.02	<0.02	1	1	0	0	7	10	0	0	0	0	0	0	1	1
FC@LB	Fitch Creek at Lease Boundary	18-Jun-13	7.4	75	0	1	7	18	127	60	154	<0.02	<0.02	0	0	0	0	5	5	0	0	0	0	0	0	1	1
FC@LB	Fitch Creek at Lease Boundary	16-Jul-13	7.3	100	11	1	8	6	26	380	688	<0.02	<0.02	2	2	0	0	6	9	1	1	0	0	0	0	1	1
FC@LB	Fitch Creek at Lease Boundary	15-Apr-09	7.4	126	1	2	10	40	40	200	400	<0.2	<0.2		8	1	1	21	25	1	1	0	0	0	0	5	10
FC@LB	Fitch Creek at Lease Boundary	30-Jan-13	7.5	81	0	1	4	52	911	86	350	<0.02	<0.02	1	1	0	0	7	9	0	0	0	0	0	1	1	1
FC@LB	Fitch Creek at Lease Boundary	27-Feb-13	6.0	49	0	1	3	48	551	84	254	<0.02	0.02	0	1	0	0	5	7	0	1	0	0	0	0	1	1
East Finniss Diversion Channel (EFDC)																											
EBDC@W	East Branch Diversion Channel at Weir	14-Apr-09	6.4	1261	512	33	108	37	642	<200	600	1.6	2	227	324	398	414	1090	1120	328	342	0	1	27	41	495	525
EBDC@W	East Branch Diversion Channel at Weir	30-Oct-08	3.9	3933	2450	141	502	4910	6320	800	1200	12.8	12.8	2670	2910	2980	3300	31500	36100	1850	2020	10	13	155	171	3390	3330
EBDC1000m	East Branch Diversion Channel 1000m downstream Weir	21-May-12			1140	87	230	319	1200	4450	8700	9.68	10.6	1380	1670	3910	4060	6680	6990	3130	3250	0	1	22	37	5780	6040
EBDC1000m	East Branch Diversion Channel 1000m downstream Weir	26-Apr-12	6.7	534	228	20	53	29	830	8	2150	1.34	1.46	65	319	396	431	797	864	324	352	<0.01	2	7	20	539	638
EBDC1000m	East Branch Diversion Channel 1000m downstream Weir	21-May-12	5.4	1754																							
EBDC1180m	East Branch Diversion Channel 1180m downstream Weir	21-May-12																									
EBDC350m	East Branch Diversion Channel 350m downstream Weir	21-May-12	7.4	641	750	63	163	61	201	8	158	2.12	2.28	90	153	352	389	808	847	357	384	0	2	36	39	560	616
EBDC350m	East Branch Diversion Channel 350m downstream Weir	26-Apr-12																									
EBDC350m	East Branch Diversion Channel 350m downstream Weir	26-Apr-12	6.0	433	178	16	44	82	371	122	592	0.72	0.74	70	129	123	129	322	338	109	115	1	2	11	16	175	194
EBDC375m	East Branch Diversion Channel 375m downstream Weir	21-May-12																									
EBDC450m	East Branch Diversion Channel 450m downstream Weir	21-May-12	7.0	567	635	58	139	26	108	28	320	0.98	1.08	28	72	153	165	664	699	185	202	0	1	29	31	218	239
EBDC450m	East Branch Diversion Channel 450m downstream Weir	10-Aug-10	7.5	1970	1120	133	252	29	112	<200	400	0.2	0.2	38	65	47	49	365	396	102	104	<0.1	0	72	73	54	60
EBDC480m	East Branch Diversion Channel 480m downstream Weir	26-Apr-12	6.1	426	171	16	42	80	353	116	588	0.66	0.76	64	119	112	122	322	345	102	111	0	2	11	15	164	188
EBDC480m	East Branch Diversion Channel 480m downstream Weir	21-May-12	6.7	879	614	59	134	71	1460	<2	220	1.48	1.62	307	662	472	544	1340	1360	399	448	0	2	24	46	350	429
EBDC550m	East Branch Diversion Channel 550m downstream Weir	21-May-12																									
EBDC-55m	East Branch Diversion Channel 55m upstream of Weir	21-May-12																									
EBDC-55m	East Branch Diversion Channel 55m upstream of Weir	26-Apr-12																									
EBDC-55m	East Branch Diversion Channel 55m upstream of Weir	7-Jun-11	6.2	356																							
EBDC590m	East Branch Diversion Channel 590m downstream Weir	26-Apr-12	6.3	446	179	17	44	107	472	94	530	0.7	0.8	88	165	137	149	358	383	119	130	0	2	12	18	171	198
EBDC60m	East Branch Diversion Channel 60m downstream Weir	21-May-12	6.7	684	811	60	174	42	529	4	296	3.04	3.28	297	430	572	625	1460	1490	488	532	1	5	34	45	881	952
EBDC60m	East Branch Diversion Channel 60m downstream Weir	26-Apr-12	5.6	439	176	15	44	38	420	12	646	0.76	0.84	76	153	129	142	332	358	113	124	0	2	11	18	191	214
EBDC630m	East Branch Diversion Channel 630m downstream Weir	6-Aug-10	8.2	800	415	79	111		44	<200		<0.2	<0.2	40	85	35	99	109	438	24	28	<0.1	0	49	50	17	26
EBDC645m	East Branch Diversion Channel 645 m	6-Aug-10	7.4	1700	1210	96	255	2160	118000	<200	1600	8.8	8.4	6910	12200	4540	4560	9970	10100	3060	3050	17	41	218	842	2650	2690
EBDC810m	East Branch Diversion Channel 810m downstream Weir	26-Apr-12	6.6	466	189	18	46	70	461	18	576	0.72	0.84	90	212	183	193	486	505	146	154	0	2	12	17	191	220
EBDC810m	East Branch Diversion Channel 810m downstream Weir	21-May-12	6.5	938	718	71	153	28	1540	2	3400	3.5	3.94	524	2020	1630	1710	3790	4010	1150	1220	0	2	18	44	1280	1470
EBDC900m	East Branch Diversion Channel 900m downstream Weir	30-Oct-08	3.0	9140	7130	305	1410	90200	98000	63100	70700		99	16200	17400	35300	38100	54300	60700	31100	33300	162	154	944	927	66900	76900
EBDC900m	East Branch Diversion Channel 900m downstream Weir	15-Apr-09	5.9	1282	627	43	124	102	1010	1000	3400	3.8	3.8	618	831	1370	1380	2730	2740	1120	1130	<0.1	1	13	28	1980	2000

Table C-5a. Surface Water Quality Monitoring Data (East Branch of the Finniss River at GS8150200), 2010 to 2015

			FIELD DATA		MAJOR IONS			DISSOLVED METALS (in ug/L)																			
Location or Gauge ID	Description	Sampling Date	pH	EC uS/cm	SO_4	Ca	Mg	Al-f	Al-t	Fe-f	Fe-t	Cd-f	Cd-t	Cu-f	Cu-t	Co-f	Co-t	Mn-f	Mn-t	Ni-f	Ni-t	Pb-f	Pb-t	U-f	U-t	Zn-f	Zn-t
East Branch of the Finniss River at Gauge GS8150200																											
GS8150200	East Branch Finniss River at GS8150200	18-Jun-13	7.0	343																							
GS8150200	East Branch Finniss River at GS8150200	18-Jun-13			135	13	32	28	339	12	926	0.8	0.78	57	158	307	300	585	560	262	251	<0.01	1	3	7	443	436
GS8150200	East Branch Finniss River at GS8150200	16-Jul-13	7.0	1428	850	76	171	20	128	4	140	6.78	7.04	535	597	2370	2370	4080	4110	2070	2130	0	0	19	20	3930	3960
GS8150200	East Branch Finniss River at GS8150200	19-Aug-13	6.8	1882	1030	96	216	43	385	4	148	8.6	8.94	651	768	3090	3160	4590	4740	2990	3110	1	4	28	32	4960	5160
GS8150200	East Branch Finniss River at GS8150200	9-Sep-13	6.6	2285	1410	118	274	31	228	<10	434	11.6	13.2	513	683	3880	4170	5430	5700	3830	4130	0	4	15	18	7160	7680
GS8150200	East Branch Finniss River at GS8150200	7-Oct-13	5.8	2585	1790	143	352	24	60	10	234	14	15.6	555	648	5980	6240	8470	8680	4970	5820	0	1	6	8	10800	11200
GS8150200	East Branch Finniss River at GS8150200	5-Nov-13	5.5	2032	1290	108	255	45	161	10	230	12.6	12.8	606	653	4120	4170	7070	7210	3810	3850	2	3	7	8	8920	9010
GS8150200	East Branch Finniss River at GS8150200	4-Dec-13	7.0	672	264	23	58	49	1460	16	1100	1.12	1.2	132	353	400	429	1100	1130	314	335	0	3	11	22	397	452
GS8150200	East Branch Finniss River at GS8150200	8-Jan-14	7.1	334	139	12	31	35	444	12	1050	0.54	0.54	71	189	188	192	584	599	161	167	<0.01	1	5	10	240	268
GS8150200	East Branch Finniss River at GS8150200	5-Feb-14	6.8	144																							
GS8150200	East Branch Finniss River at GS8150200	5-Mar-14	8.2	226	74	7	17	68	289	100	470	0.3	0.32	70	128	87	91	231	245	74	78	0	2	4	7	100	110
GS8150200	East Branch Finniss River at GS8150200	5-Feb-14			50	6	11	33	775	38	564	0.18	0.2	66	115	50	52	203	207	46	47	0	5	4	6	51	54
GS8150200	East Branch Finniss River at GS8150200	2-Apr-14	7.6	389	160	15	37	37	363	12	1000	0.8	0.84	61	187	249	260	695	721	219	231	0	1	6	12	334	371
GS8150200	East Branch Finniss River at GS8150200	23-May-13	7.1	453	167	15	38	52	467	6	1250	0.72	0.82	64	204	294	303	742	756	249	256	<0.01	1	6	12	368	410
GS8150200	East Branch Finniss River at GS8150200	24-Apr-13	7.1	238	83	8	20	40	271	22	832	0.32	0.4	38	110	121	128	304	318	105	114	0	1	4	7	159	183
GS8150200	East Branch Finniss River at GS8150200	27-Mar-13	6.3	123	30	3	7	37	805	70	610	0.08	0.08	23	39	21	23	69	80	20	22	0	2	2	2	20	23
GS8150200	East Branch Finniss River at GS8150200	27-Feb-13	5.9	148	48	4	12	46	532	98	668	0.16	0.14	32	58	43	46	134	138	40	42	0	1	3	4	49	56
GS8150200	East Branch Finniss River at GS8150200	31-Jan-13	7.2	264	86	8	19	39	1840	80	1700	0.2	0.22	48	122	118	126	519	549	91	100	0	1	4	7	71	85
GS8150200	East Branch Finniss River at GS8150200	21-May-12	7.1	670	342	33	73	26	74	52	400	1.68	1.88	141	218	660	740	1250	1310	574	632	0	2	6	7	948	1020
GS8150200	East Branch Finniss River at GS8150200	6-Aug-10	8.0	570	209	26	51	4	16	<200		<0.2	<0.2	17	19	4	6	61	81	14	15	<0.1	0	4	4	17	16
GS8150200	East Branch Finniss River at GS8150200	15-Apr-09	6.6	938	408	32	80	27		<200		2.2		297		880		1810		736		0		9		1250	
GS8150200	East Branch Finniss River at GS8150200	30-Oct-08	6.9	1834	969	92	187	50	362	<200	200	7.4	7.2	485	605	2820	3140	5490	6240	2330	2540	2	3	31	34	4550	4430
GS8150200	East Branch Finniss River at GS8150200	18-Aug-15	7.0	2035	1640	132	328	48	110	18	206	12.2	12.8	638	711	4710	5280	6600	7140	4880	5260	0	1	9	9	10100	11000
GS8150200	East Branch Finniss River at GS8150200	23-Jul-15	6.6	2076	1020	94	215	41	187	6	262	8.52	8.88	401	516	3100	3200	4030	4120	3240	3330	0	1	17	19	6290	6500
GS8150200	East Branch Finniss River at GS8150200	1-Jul-15	6.8	1950	1020	90	209	37	204	<2	206	7.9	8.28	558	670	3030	3080	4290	4450	2960	3010	0	2	23	25	5600	5830
GS8150200	East Branch Finniss River at GS8150200	26-May-15	6.1	2005	1070	92	215	41	168	28	208	8.14	8.84	654	741	3260	3410	5880	6040	2900	3010	0	1	15	17	5210	5290
GS8150200	East Branch Finniss River at GS8150200	28-Apr-15	7.0	962	415	36	89	19	56	4	272	2.6	2.62	147	203	958	994	2460	2530	790	843	0	0	5	6	1480	1540
GS8150200	East Branch Finniss River at GS8150200	31-Mar-15	7.1	185	56	6	14	107	255	40	562	0.18	0.26	40	89	66	70	220	231	62	66	0	1	3	5	79	91
GS8150200	East Branch Finniss River at GS8150200	5-Mar-15	6.1	132	35	4	9	81	225	70	382	0.1	0.1	41	65	38	40	157	164	35	38	0	1	2	3	40	43
GS8150200	East Branch Finniss River at GS8150200	4-Feb-15	6.1	173	48	5	12	53	225	72	626	0.14	0.18	41	78	59	64	204	219	52	56	0	1	3	4	70	78
GS8150200	East Branch Finniss River at GS8150200	7-Jan-15	6.7	253	86	9	19	82	555	52	376	0.22	0.18	62	109	68	73	316	331	60	64	1	6	4	5	72	63
GS8150200	East Branch Finniss River at GS8150200	17-Sep-14	6.4	2304	1470	126	307	143	490	<10	394	17.6	17.2	1850	2090	6040	6030	9590	9510	5580	5580	1	3	32	35	12500	12500
GS8150200	East Branch Finniss River at GS8150200	19-Aug-14	6.8	1772	979	98	210	54	326	4	392	10.6	11	791	1010	3690	3690	5440	5390	3360	3290	0	3	25	27	7530	7520
GS8150200	East Branch Finniss River at GS8150200	23-Jul-14	7.0	1325	821	86	178	52	736	<2	232	8.46	8.84	629	915	2930	2970	4290	4420	2770	2860	1	4	26	32	6060	6340
GS8150200	East Branch Finniss River at GS8150200	24-Jun-14	6.4	1487	899	86	191	42	404	2	166	8.14	8.18	723	915	2990	3060	4480	4540	2880	2950	1	3	30	34	5740	5750
GS8150200	East Branch Finniss River at GS8150200	29-Apr-14	7.4	1133	545	46	116	62	256	10	898	3.06	3.14	208	343	900	925	2090	2110	746	762	0	1	9	14	1340	1370
GS8150200	East Branch Finniss River at GS8150200	28-May-14	6.9	1224	604	58	129	20	242	<2	334	4.82	5.26	317	437	1650	1670	2850	2930	1520	1550	0	0	15	19	2920	2990
GS8150200	East Branch Finniss River at GS8150200	25-May-14	6.3	1121	590	52	125	25	268	10	1200	3.9	4.04	222	473	1420	1440	2710	2850	1180	1250	0	1	11	17	2460	2650
GS8150200	East Branch Finniss River at GS8150200	28-Feb-10		126							100		0.26		42		34		120		33		1				31
GS8150200	East Branch Finniss River at GS8150200	1-Mar-10		126							140		0.12		61		45		155		40		2				41
GS8150200	East Branch Finniss River at GS8150200	2-Mar-10		109							140		0.06		46		31		97		34		1				29
GS8150200	East Branch Finniss River at GS8150200	3-Mar-10		148							180		0.28		83		66		207		55		2				65
GS8150200	East Branch Finniss River at GS8150200	18-Feb-10		196		5	13				320		0.2		93		85		244		70		1				90
GS8150200	East Branch Finniss River at GS8150200	19-Feb-10		174		6	11				260		<0.02		79		71		226		61		1				70
GS8150200	East Branch Finniss River at GS8150200	21-Feb-10		189		5	12				300		0.16		89		80		233		67		1				85
GS8150200	East Branch Finniss River at GS8150200	22-Feb-10		144		5	9				380		0.16		53		20		46		27		5				39
GS8150200	East Branch Finniss River at GS8150200	23-Feb-10		161		5	11				300		0.04		73		60		197		50		1				55
GS8150200	East Branch Finniss River at GS8150200	12-Feb-10		200		6	13				260		0.22		81		90		263		74		1				95
GS8150200	East Branch Finniss River at GS8150200	13-Feb-10		245		7	17				380		0.18		114		109		298		89		1				129
GS8150200	East Branch Finniss River at GS8150200	14-Feb-10		199		6	14				280		0.06		82		82		240		68		1				100
GS8150200	East Branch Finniss River at GS8150200	15-Feb-10		108		4	7				200		<0.02		31		9		13		17		3				23
GS8150200	East Branch Finniss River at GS8150200	16-Feb-10		185		5	12				220		0.34		64		64		201		51		1				60
GS8150200	East Branch Finniss River at GS8150200	20-Feb-10		171		5	11				280		0.14		77		70		219		59		1				69
GS8150200	East Branch Finniss River at GS8150200	19-Apr-10	7.2	170							160		0.12		46		60		194		51		1				49
GS8150200	East Branch Finniss River at GS8150200	21-Apr-10	7.3	179							200		0.12		52		68		193		55		1				62
GS8150200	East Branch Finniss River at GS8150200	23-Apr-10	7.3	183							240		0.18		61		76		207		62		1				75
GS8150200	East Branch Finniss River at GS8150200	25-Apr-10	7.3	183							300		0.14		69		81		215		67		1				82
GS8150200	East Branch Finniss River at GS8150200	27-Apr-10	7.8	263							180		0.22		93		115		188		82		4				79
GS8150200	East Branch Finniss River at GS8150200	29-Apr-10	7.5	222							840		0.24		181		114		241		89		5				129
GS8150200	East Branch Finniss River at GS8150200	1-May-10	7.3	222							1480		0.26		255		117		279		97		4				161
GS8150200	East Branch Finniss River at GS8150200	3-May-10	7.3	234							1540		0.32		275		132		314		108		2				188
GS8150200	East Branch Finniss River at GS8150200	5-May-10	7.3	252							2040		0.34		334		151		352		125		3				243
GS8150200	East Branch Finniss River at GS8150200	7-May-10	7.2	291							1520		0.44		262		183		415		149		2				254
GS8150200	East Branch Finniss River at GS8150200	9-May-10	7.2	324							1680		0.54		280		211		464		175		2				321
GS8150200	East Branch Finniss River at GS8150200	3-Feb-10		122							180		<0.2		56		52		191		47		1				42
GS8150200	East Branch Finniss River at GS8150200	4-Feb-10		154							220		<0.2		80		73		217		63		1				75
GS8150200	East Branch Finniss River at GS8150200	5-Feb-10		167							260		<0.2		94		82		232		70		1				88
GS8150200	East Branch Finniss River at GS8150200	6-Feb-10		178							320		<0.2		64		71		203		56		1				73
GS8150200	East Branch Finniss River at GS8150200	7-Feb-10		133							220		<0.2		63		62		204		53		1				54
GS8150200	East Branch Finniss River at GS8150200	8-Feb-10		156							260		<0.2		84		77		226		66		1				79
GS8150200	East Branch Finniss River at GS8150200	9-Feb-10		165							320		<0.2		90		85		237		70		1				90
GS8150200	East Branch Finniss River at GS8150200	10-Feb-10		174							340		<0.2		102		92		249		77		1				102
GS8150200	East Branch Finniss River at GS8150200	11-Feb-10		179							420		<0.2		122		95		262		80		1				115
GS8150200	East Branch Finniss River at GS8150200	14-Jan-10	6.6	91							460		0.64		81		36		148		34		2				35
GS8150200	East Branch Finniss River at GS8150200	15-Jan-10	6.2	120							340		0.64		88		54		209		49		1				51
GS8150200	East Branch Finniss River at GS8150200	15-Jan-10	6.4	128							380		0.8		97		60		219		53		2				59
GS8150200	East Branch Finniss River at GS8150200	16-Jan-10	5.8	139							380		0.82		111		68		227		60		1				76
GS8150200	East Branch Finniss River at GS8150200	16-Jan-10	6.5	142							400		0.9		123		74		237		67		1				85
GS8150200	East Branch Finniss River at GS8150200	17-Jan-10	6.4	146							400		0.86		123		74		233		66		1				85
GS8150200	East Branch Finniss River at GS8150200	18-Jan-10	6.1	119							380		0.66		103		56		200		51		1				58
GS8150200	East Branch Finniss River at GS8150200	31-Dec-09	6.1	97					213		200		<0.2		64		50		215		51		2		4		55
GS8150200	East Branch Finniss River at GS8150200	31-Dec-09									260		<0.02		83		74		310		64		2				69
GS8150200	East Branch Finniss River at GS8150200	1-Jan-10									280		<0.02		63		50		197		52		2				44
GS8150200	East Branch Finniss River at GS8150200	2-Jan-10									420		<0.02		104		72		295		64		5				70
GS8150200	East Branch Finniss River at GS8150200	2-Jan-10									340		<0.02		86		72		284		63		3				69
GS8150200	East Branch Finniss River at GS8150200	3-Jan-10									680		0.18		54		19		92		21		5				28

Table C-5b. Surface Water Quality Monitoring Data (East Branch of the Finniss River at GS8150200), 2010 to 2015

			FIELD DATA		MAJOR IONS			DISSOLVED METALS (in ug/L)																			
Location or Gauge ID	Description	Sampling Date	pH	EC uS/cm	SO_4	Ca	Mg	Al-f	Al-t	Fe-f	Fe-t	Cd-f	Cd-t	Cu-f	Cu-t	Co-f	Co-t	Mn-f	Mn-t	Ni-f	Ni-t	Pb-f	Pb-t	U-f	U-t	Zn-f	Zn-t
GS8150200	East Branch Finniss River at GS8150200	3-Jan-10									660		0.04		58		16		100		29		4				31
GS8150200	East Branch Finniss River at GS8150200	4-Jan-10									440		0.12		39		19		71		22		3				27
GS8150200	East Branch Finniss River at GS8150200	5-Jan-10									320		0.06		42		19		55		24		3				27
GS8150200	East Branch Finniss River at GS8150200	5-Jan-10									260		0.1		34		15		39		19		2				22
GS8150200	East Branch Finniss River at GS8150200	6-Jan-10									240		0.2		85		71		269		62		3				65
GS8150200	East Branch Finniss River at GS8150200	7-Jan-10									200		<0.02		86		80		287		68		3				76
GS8150200	East Branch Finniss River at GS8150200	7-Jan-10									200		<0.02		92		86		283		73		3				86
GS8150200	East Branch Finniss River at GS8150200	8-Jan-10							263		200		0.2		120		102		310		88		6		5		130
GS8150200	East Branch Finniss River at GS8150200	18-Jan-10		132							420		0.48		114		67		238		60		1				74
GS8150200	East Branch Finniss River at GS8150200	19-Jan-10		147							420		0.36		112		75		244		66		1				85
GS8150200	East Branch Finniss River at GS8150200	20-Jan-10		173							320		0.56		111		86		262		76		1				103
GS8150200	East Branch Finniss River at GS8150200	20-Jan-10		137							400		0.4		108		71		241		61		1				74
GS8150200	East Branch Finniss River at GS8150200	21-Jan-10		57							300		0.2		42		16		58		20		1				21
GS8150200	East Branch Finniss River at GS8150200	21-Jan-10		91							260		0.28		56		31		123		31		1				27
GS8150200	East Branch Finniss River at GS8150200	22-Jan-10		120							340		0.28		87		54		207		49		1				50
GS8150200	East Branch Finniss River at GS8150200	23-Jan-10		138							400		0.3		109		67		225		60		1				78
GS8150200	East Branch Finniss River at GS8150200	17-Mar-10		162							300		0.28		76		62		182		54		1				77
GS8150200	East Branch Finniss River at GS8150200	25-Feb-10		131							140		0.14		47		43		124		38		1				42
GS8150200	East Branch Finniss River at GS8150200	26-Feb-10		49							60		0.02		19		5		5		11		0				17
GS8150200	East Branch Finniss River at GS8150200	27-Feb-10		41							60		0.12		17		4		4		10		0				9
GS8150200	East Branch Finniss River at GS8150200	5-Apr-10	6.9	506							1100		0.54		242		310		742		250		2				379
GS8150200	East Branch Finniss River at GS8150200	5-Apr-10	6.9	558																							
GS8150200	East Branch Finniss River at GS8150200	6-Apr-10	6.9	542																							
GS8150200	East Branch Finniss River at GS8150200	6-Apr-10	6.9	202							400		0.4		215		187		306		142		10				164
GS8150200	East Branch Finniss River at GS8150200	7-Apr-10	7.4	325							540		0.22		115		100		324		83		1				110
GS8150200	East Branch Finniss River at GS8150200	8-Apr-10	7.5	306							360		0.32		200		179		317		139		8				154
GS8150200	East Branch Finniss River at GS8150200	8-Apr-10	7.6	336							920		0.36		317		214		312		157		14				215
GS8150200	East Branch Finniss River at GS8150200	9-Apr-10	7.6	353							680		0.34		273		215		315		157		13				198
GS8150200	East Branch Finniss River at GS8150200	10-Apr-10	7.6	358							1200		0.34		358		241		332		174		17				254
GS8150200	East Branch Finniss River at GS8150200	10-Apr-10	7.7	388							1650		0.34		432		254		346		185		20				304
GS8150200	East Branch Finniss River at GS8150200	11-Apr-10	7.6	323							800		0.38		274		197		287		144		12				201
GS8150200	East Branch Finniss River at GS8150200	11-Apr-10	7.4	335							1300		0.38		310		195		344		148		13				244
GS8150200	East Branch Finniss River at GS8150200	12-Apr-10	7.2	293							700		0.14		156		116		258		87		5				121
GS8150200	East Branch Finniss River at GS8150200	13-Apr-10	7.2	229							400		<0.02		102		99		258		79		2				95
GS8150200	East Branch Finniss River at GS8150200	13-Apr-10	7.2	263							640		0.08		159		122		297		98		3				142
GS8150200	East Branch Finniss River at GS8150200	14-Apr-10	7.3	297																							
GS8150200	East Branch Finniss River at GS8150200	15-Apr-10	7.0	225							5200		0.22		640		131		257		106		31				223
GS8150200	East Branch Finniss River at GS8150200	15-Apr-10	6.9	152							480		0.06		91		56		197		49		3				50
GS8150200	East Branch Finniss River at GS8150200	16-Apr-10	6.9	162							300		0.06		76		58		197		51		2				53
GS8150200	East Branch Finniss River at GS8150200	17-Apr-10	7.1	175							340		0.1		82		65		192		56		2				67
GS8150200	East Branch Finniss River at GS8150200	24-Mar-11		199					953		840		0.24		202		110		237		89		15		10		145
GS8150200	East Branch Finniss River at GS8150200	25-Mar-11		66					479		600		0.08		76		26		52		25		5		4		41
GS8150200	East Branch Finniss River at GS8150200	26-Mar-11		147					235		360		0.2		118		79		189		64		6		5		96
GS8150200	East Branch Finniss River at GS8150200	8-Jan-10	6.6	158							340		1.06		131		106		299		91		6				122
GS8150200	East Branch Finniss River at GS8150200	9-Jan-10	6.6	154							340		0.86		127		106		294		92		5				119
GS8150200	East Branch Finniss River at GS8150200	10-Jan-10	6.6	109							720		0.7		117		53		172		49		4				65
GS8150200	East Branch Finniss River at GS8150200	10-Jan-10	6.6	114							380		0.76		90		58		268		53		2				47
GS8150200	East Branch Finniss River at GS8150200	11-Jan-10	6.7	80							360		0.5		59		33		155		32		1				28
GS8150200	East Branch Finniss River at GS8150200	12-Jan-10	6.6	76							420		0.46		60		30		133		30		2				28
GS8150200	East Branch Finniss River at GS8150200	12-Jan-10	6.6	66							400		0.56		59		26		107		25		2				28
GS8150200	East Branch Finniss River at GS8150200	13-Jan-10	6.7	71							440		0.48		57		27		122		27		2				25
GS8150200	East Branch Finniss River at GS8150200	4-Mar-10		166							220		<0.4		96		78		224		64		3				69
GS8150200	East Branch Finniss River at GS8150200	5-Mar-10		166							300		<0.4		130		77		220		68		1				80
GS8150200	East Branch Finniss River at GS8150200	6-Mar-10		171							280		<0.4		112		82		226		72		1				85
GS8150200	East Branch Finniss River at GS8150200	7-Mar-10		179							300		<0.4		129		84		230		74		1				92
GS8150200	East Branch Finniss River at GS8150200	8-Mar-10		187							300		<0.4		134		89		236		78		1				98
GS8150200	East Branch Finniss River at GS8150200	9-Mar-10		165							340		<0.4		120		74		223		66		2				75
GS8150200	East Branch Finniss River at GS8150200	10-Mar-10		184							340		<0.4		127		87		234		76		1				96
GS8150200	East Branch Finniss River at GS8150200	11-Mar-10		183							280		<0.4		100		83		222		72		1				93
GS8150200	East Branch Finniss River at GS8150200	12-Mar-10		190							280		<0.4		100		87		231		75		1				93
GS8150200	East Branch Finniss River at GS8150200	13-Mar-10		193							300		<0.4		102		91		237		78		1				97
GS8150200	East Branch Finniss River at GS8150200	14-Mar-10		239							360		<0.4		137		102		251		87		1				118
GS8150200	East Branch Finniss River at GS8150200	15-Mar-10		160							320		<0.4		101		86		234		73		1				89
GS8150200	East Branch Finniss River at GS8150200	20-Mar-10	6.7	206							460		<0.4		128		102		254		87		1				119
GS8150200	East Branch Finniss River at GS8150200	20-Mar-10	6.8	216							480		<0.4		136		112		275		94		1				135
GS8150200	East Branch Finniss River at GS8150200	21-Mar-10	6.9	222							500		<0.4		134		108		271		91		1				128
GS8150200	East Branch Finniss River at GS8150200	22-Mar-10	6.8	229							540		<0.4		137		122		296		102		1				155
GS8150200	East Branch Finniss River at GS8150200	22-Mar-10	6.9	232							620		<0.4		158		122		298		102		1				163
GS8150200	East Branch Finniss River at GS8150200	23-Mar-10	7.0	238							520		<0.4		141		118		292		99		1				138
GS8150200	East Branch Finniss River at GS8150200	24-Mar-10	6.8	258							640		<0.4		165		132		315		110		1				170
GS8150200	East Branch Finniss River at GS8150200	26-Mar-10	6.9	265							360		0.32		108		137		347		111		1				147
GS8150200	East Branch Finniss River at GS8150200	27-Mar-10	6.8	276							640		0.44		159		161		382		132		1				207
GS8150200	East Branch Finniss River at GS8150200	27-Mar-10	6.9	285							620		0.48		164		165		391		134		1				197
GS8150200	East Branch Finniss River at GS8150200	28-Mar-10	6.9	300							380		0.36		111		156		389		126		1				165
GS8150200	East Branch Finniss River at GS8150200	29-Mar-10	6.8	298							400		0.46		113		178		434		145		1				219
GS8150200	East Branch Finniss River at GS8150200	30-Mar-10	6.9	344							360		0.58		106		207		530		165		1				234
GS8150200	East Branch Finniss River at GS8150200	29-Mar-10	6.9	315							400		0.4		118		188		462		151		1				212
GS8150200	East Branch Finniss River at GS8150200	31-Mar-10	6.9	327							1040		0.56		236		212		531		171		1				276
GS8150200	East Branch Finniss River at GS8150200	31-Mar-10	6.9	367							320		0.46		107		220		571		175		1				224
GS8150200	East Branch Finniss River at GS8150200	1-Apr-10	6.7	351							360		0.6		112		244		624		197		1				271
GS8150200	East Branch Finniss River at GS8150200	1-Apr-10	6.8	373							320		0.54		104		245		601		192		1				276
GS8150200	East Branch Finniss River at GS8150200	2-Apr-10	6.8	417							1000		0.68		236		268		659		222		1				324
GS8150200	East Branch Finniss River at GS8150200	3-Apr-10	6.7	399							1580		0.82		348		288		689		240		2				412
GS8150200	East Branch Finniss River at GS8150200	17-Feb-10		172		5	11				240		<0.02		75		68		216		56		1				66
GS8150200	East Branch Finniss River at GS8150200	23-May-11		514					118		220		1.48		112		511		877		359		19		6		611
GS8150200	East Branch Finniss River at GS8150200	7-Jun-11	6.5	1103																							
GS8150200	East Branch Finniss River at GS8150200	13-Apr-11							242		380		0.08		132		102		207		74		8		5		131

Table C-5c. Surface Water Quality Monitoring Data (East Branch of the Finniss River at GS8150200), 2010 to 2015

			FIELD DATA		MAJOR IONS			DISSOLVED METALS (in ug/L)																			
Location or Gauge ID	Description	Sampling Date	pH	EC uS/cm	SO_4	Ca	Mg	Al-f	Al-t	Fe-f	Fe-t	Cd-f	Cd-t	Cu-f	Cu-t	Co-f	Co-t	Mn-f	Mn-t	Ni-f	Ni-t	Pb-f	Pb-t	U-f	U-t	Zn-f	Zn-t
GS8150200	East Branch Finniss River at GS8150200	26-Dec-10	6.8	773					7780		7900		1.26		1230		382		938		295		43		78		613
GS8150200	East Branch Finniss River at GS8150200	26-Dec-10	6.2	865					21800		21300		1.94		2400		521		1210		477		115		134		1180
GS8150200	East Branch Finniss River at GS8150200	26-Dec-10	5.8	661					4980		5850		1.58		558		589		1340		472		23		26		770
GS8150200	East Branch Finniss River at GS8150200	27-Dec-10	6.4	547					1840		1850		0.88		246		269		606		192		13		20		301
GS8150200	East Branch Finniss River at GS8150200	27-Dec-10	5.0	430					4300		4600		0.8		377		204		437		178		48		20		315
GS8150200	East Branch Finniss River at GS8150200	27-Dec-10	5.7	352					824		1550		0.42		124		92		200		90		12		9		134
GS8150200	East Branch Finniss River at GS8150200	28-Dec-10	5.8	358					1660		1300		0.58		185		147		347		122		7		13		190
GS8150200	East Branch Finniss River at GS8150200	28-Dec-10	6.1	521					1820		800		0.92		273		234		545		195		6		18		307
GS8150200	East Branch Finniss River at GS8150200	31-Dec-10	5.9	327					699		580		0.64		173		138		415		118		3		11		171
GS8150200	East Branch Finniss River at GS8150200	1-Jan-11	6.3	364					715		620		0.88		183		143		396		121		3		13		189
GS8150200	East Branch Finniss River at GS8150200	2-Jan-11	6.2	299					608		560		0.54		143		111		340		98		2		9		140
GS8150200	East Branch Finniss River at GS8150200	3-Jan-11	6.3	331					648		600		0.7		161		138		401		118		3		11		178
GS8150200	East Branch Finniss River at GS8150200	5-Jan-11	6.1	281					505		520		0.5		133		119		394		103		2		8		149
GS8150200	East Branch Finniss River at GS8150200	15-May-11	6.9	356					213		440		1.14		161		369		609		261		27		7		457
GS8150200	East Branch Finniss River at GS8150200	27-Apr-11	6.6	200					183		320		0.44		112		147		296		111		10		6		169
GS8150200	East Branch Finniss River at GS8150200	30-Apr-11	6.8	223					171		300		0.26		96		179		345		132		10		5		199
GS8150200	East Branch Finniss River at GS8150200	3-May-11	6.9	245					177		300		0.56		101		204		377		149		12		6		229
GS8150200	East Branch Finniss River at GS8150200	6-May-11	6.8	265					196		340		0.84		113		236		415		172		15		6		281
GS8150200	East Branch Finniss River at GS8150200	9-May-11	7.0	290					146		240		0.66		91		256		450		184		12		6		293
GS8150200	East Branch Finniss River at GS8150200	12-May-11	6.6	303					1090		2080		1.06		533		321		539		236		92		18		486
GS8150200	East Branch Finniss River at GS8150200	11-Feb-11	6.3	118					218		300		0.18		108		78		197		66		1		5		123
GS8150200	East Branch Finniss River at GS8150200	14-Feb-11	6.2	144					181		280		<0.02		84		52		198		47		1		5		48
GS8150200	East Branch Finniss River at GS8150200	15-Feb-11	5.8	35					340		360		0.06		29		6		17		8		1		2		10
GS8150200	East Branch Finniss River at GS8150200	15-Feb-11	5.7	30					290		300		<0.02		20		4		15		6		3		1		8
GS8150200	East Branch Finniss River at GS8150200	15-Feb-11	5.5	13					196		180		<0.02		16		2		5		3		1		1		5
GS8150200	East Branch Finniss River at GS8150200	15-Feb-11	5.6	38					110		100		0.02		19		5		15		7		1		1		8
GS8150200	East Branch Finniss River at GS8150200	16-Feb-11	5.8	50					196		160		0.06		26		10		28		12		1		2		12
GS8150200	East Branch Finniss River at GS8150200	16-Feb-11	5.8	45					176		160		0.02		26		10		29		11		1		1		11
GS8150200	East Branch Finniss River at GS8150200	18-Jan-11		140					809		680		0.66		72		35		91		42		11		3		71
GS8150200	East Branch Finniss River at GS8150200	18-Jan-11		91																							
GS8150200	East Branch Finniss River at GS8150200	19-Jan-11		156																							
GS8150200	East Branch Finniss River at GS8150200	19-Jan-11		177																							
GS8150200	East Branch Finniss River at GS8150200	21-Jan-11		199					433		380		0.22		92		68		263		61		2		5		88
GS8150200	East Branch Finniss River at GS8150200	29-Mar-11		154					225		360		0.22		120		91		192		72		8		5		114
GS8150200	East Branch Finniss River at GS8150200	30-Mar-11		151					210		320		0.26		114		90		196		71		8		5		105
GS8150200	East Branch Finniss River at GS8150200	31-Mar-11		152					503		540		0.24		130		77		181		64		9		7		93
GS8150200	East Branch Finniss River at GS8150200	31-Mar-11		35					1660		1500		0.06		68		17		53		15		15		3		27
GS8150200	East Branch Finniss River at GS8150200	1-Apr-11		21					837		940		<0.02		47		9		53		10		7		2		15
GS8150200	East Branch Finniss River at GS8150200	1-Apr-11		27																							
GS8150200	East Branch Finniss River at GS8150200	13-Apr-11	6.4	169																							
GS8150200	East Branch Finniss River at GS8150200	16-Apr-11	6.4	108					263		360		<0.02		110		57		135		45		5		4		72
GS8150200	East Branch Finniss River at GS8150200	16-Apr-11	6.4	118					193		320		0.06		97		57		169		48		4		4		56
GS8150200	East Branch Finniss River at GS8150200	19-Apr-11	6.5	157					209		340		0.18		120		98		216		77		7		5		121
GS8150200	East Branch Finniss River at GS8150200	21-Apr-11	6.5	171					196		300		0.44		109		108		235		83		8		5		121
GS8150200	East Branch Finniss River at GS8150200	23-Apr-11	6.5	176					290		420		0.02		126		104		244		80		10		6		123
GS8150200	East Branch Finniss River at GS8150200	24-Apr-11	6.4	172					209		340		0.16		117		104		238		81		7		5		118
GS8150200	East Branch Finniss River at GS8150200	11-Dec-10	6.9	710					3160		1900		1.92		435		691		1650		564		16		33		930
GS8150200	East Branch Finniss River at GS8150200	11-Dec-10	6.6	920					8820		6050		2.42		731		860		1960		740		59		40		1420
GS8150200	East Branch Finniss River at GS8150200	12-Dec-10	6.6	911					4000		4250		2.56		660		798		2350		563		34		29		985
GS8150200	East Branch Finniss River at GS8150200	15-Dec-10	7.1	1146					1050		1080		3.22		609		1080		2760		824		8		42		1180
GS8150200	East Branch Finniss River at GS8150200	18-Dec-10	7.1	1291					1280		720		4.02		664		1170		2790		967		8		61		1400
GS8150200	East Branch Finniss River at GS8150200	21-Dec-10	7.2	1234					964		960		3.6		573		1000		2350		833		4		55		1120
GS8150200	East Branch Finniss River at GS8150200	23-Dec-10	6.8	1495					1410		1740		4.08		774		1440		3760		1080		5		37		1580
GS8150200	East Branch Finniss River at GS8150200	24-Dec-10	6.8	881					2760		2900		1.88		587		620		1670		467		13		34		692
GS8150200	East Branch Finniss River at GS8150200	25-Dec-10	7.0	920					1460		2050		1.66		412		562		1400		439		5		39		597
GS8150200	East Branch Finniss River at GS8150200	25-Dec-10	7.1	840					906		1850		1.46		336		513		1250		409		3		32		569
GS8150200	East Branch Finniss River at GS8150200	26-Dec-10	7.1	750					1900		1900		1.18		297		372		988		267		5		33		369
GS8150200	East Branch Finniss River at GS8150200	3-Apr-10	6.8	503							1300		0.76		303		304		717		251		1				374
GS8150200	East Branch Finniss River at GS8150200	4-Apr-10	6.8	503							560		0.78		155		308		732		253		1				357
GS8150200	East Branch Finniss River at GS8150200	19-Mar-11	6.3	138					172		280		0.28		101		85		193		71		6		4		85
GS8150200	East Branch Finniss River at GS8150200	22-Mar-11	6.2	158					216		340		0.16		135		104		224		84		7		5		112
GS8150200	East Branch Finniss River at GS8150200	5-Dec-11							112		68		9.26		249		1340		2770		1090		2		28		986
GS8150200	East Branch Finniss River at GS8150200	8-Dec-11							167		114		7.18		324		1530		3340		1290		3		27		1600
GS8150200	East Branch Finniss River at GS8150200	11-Dec-11							141		132		6.5		262		1530		3560		1290		3		27		1270
GS8150200	East Branch Finniss River at GS8150200	14-Dec-11	7.1						159		138		3.7		238		1120		2790		868		3		21		987
GS8150200	East Branch Finniss River at GS8150200	17-Dec-11	7.0						250		172		6.34		399		1950		4170		1660		4		30		2260
GS8150200	East Branch Finniss River at GS8150200	19-Dec-11	6.2						3680		1500		8.4		858		2880		5830		2470		18		48		4330
GS8150200	East Branch Finniss River at GS8150200	22-Dec-11	7.0	587							160		1.88		121		749		1730		596		2		15		596
GS8150200	East Branch Finniss River at GS8150200	31-Dec-11									448		2.06		193		637		1660		519		3		17		759
GS8150200	East Branch Finniss River at GS8150200	3-Jan-12									166		2.26		212		787		1740		646		3		18		1010
GS8150200	East Branch Finniss River at GS8150200	6-Jan-12									80		3.1		269		1150		2470		951		3		22		1490
GS8150200	East Branch Finniss River at GS8150200	9-Jan-12	6.9	899							58		3.86		243		1470		3090		1210		2		24		1890
GS8150200	East Branch Finniss River at GS8150200	25-Dec-11									120		2.86		156		931		1990		768		2		16		765
GS8150200	East Branch Finniss River at GS8150200	28-Dec-11																									
GS8150200	East Branch Finniss River at GS8150200	12-Jan-12	6.8	705							48		4.6		255		1840		3650		1540		2		25		2200
GS8150200	East Branch Finniss River at GS8150200	13-Jan-12	7.7	817							3340		2.6		431		1030		2260		813		16		20		1370
GS8150200	East Branch Finniss River at GS8150200	21-Jan-11		147																							
GS8150200	East Branch Finniss River at GS8150200	21-Jan-10		129																							
GS8150200	East Branch Finniss River at GS8150200	21-Jan-11		79																							
GS8150200	East Branch Finniss River at GS8150200	21-Jan-11		51																							
GS8150200	East Branch Finniss River at GS8150200	21-Jan-11		63					553		420		0.1		37		7		21		12		2		2		17
GS8150200	East Branch Finniss River at GS8150200	21-Jan-11		59																							
GS8150200	East Branch Finniss River at GS8150200	21-Jan-11		46																							
GS8150200	East Branch Finniss River at GS8150200	21-Jan-11		43																							
GS8150200	East Branch Finniss River at GS8150200	21-Jan-11		40																							
GS8150200	East Branch Finniss River at GS8150200	21-Jan-11		37																							
GS8150200	East Branch Finniss River at GS8150200	21-Jan-11		35					716		600		0.04		27		5		21		8		3		2		10

Table C-5d. Surface Water Quality Monitoring Data (East Branch of the Finniss River at GS8150200), 2010 to 2015

			FIELD DATA		MAJOR IONS			DISSOLVED METALS (in ug/L)																			
Location or Gauge ID	Description	Sampling Date	pH	EC uS/cm	SO_4	Ca	Mg	Al-f	Al-t	Fe-f	Fe-t	Cd-f	Cd-t	Cu-f	Cu-t	Co-f	Co-t	Mn-f	Mn-t	Ni-f	Ni-t	Pb-f	Pb-t	U-f	U-t	Zn-f	Zn-t
GS8150200	East Branch Finniss River at GS8150200	21-Jan-11		31																							
GS8150200	East Branch Finniss River at GS8150200	21-Jan-11		28																							
GS8150200	East Branch Finniss River at GS8150200	21-Jan-11		26																							
GS8150200	East Branch Finniss River at GS8150200	21-Jan-11		23					1220		1200		0.02		40		7		35		7		5		2		12
GS8150200	East Branch Finniss River at GS8150200	22-Jan-11		27																							
GS8150200	East Branch Finniss River at GS8150200	22-Jan-11		31																							
GS8150200	East Branch Finniss River at GS8150200	22-Jan-11		33																							
GS8150200	East Branch Finniss River at GS8150200	22-Jan-11		35					408		340		0.04		21		5		23		8		2		1		8
GS8150200	East Branch Finniss River at GS8150200	21-Feb-11	6.5	183					347		460		<0.02		202		114		373		94		4		7		141
GS8150200	East Branch Finniss River at GS8150200	23-Feb-11	6.3	220					206		260		0.16		141		130		326		106		4		6		167
GS8150200	East Branch Finniss River at GS8150200	24-Feb-11	6.3	136					1280		1500		0.42		222		113		271		92		29		8		128
GS8150200	East Branch Finniss River at GS8150200	24-Feb-11	6.2	113					264		360		0.26		116		82		235		65		7		4		84
GS8150200	East Branch Finniss River at GS8150200	25-Feb-11	6.2	130					258		260		0.4		96		73		176		59		6		4		94
GS8150200	East Branch Finniss River at GS8150200	25-Feb-11	6.3	112					211		260		0.26		116		83		209		65		8		4		88
GS8150200	East Branch Finniss River at GS8150200	26-Feb-11	6.3	145					235		300		0.4		129		85		211		66		9		4		93
GS8150200	East Branch Finniss River at GS8150200	26-Feb-11	6.2	110					137		200		0.28		103		86		218		67		7		3		94
GS8150200	East Branch Finniss River at GS8150200	28-Feb-11	6.4	160					184		240		0.48		141		127		307		100		7		5		147
GS8150200	East Branch Finniss River at GS8150200	3-Mar-11	6.4	202					239		300		0.24		181		157		329		120		11		7		191
GS8150200	East Branch Finniss River at GS8150200	6-Mar-11	6.3	180					208		300		0.06		160		134		284		103		8		6		159
GS8150200	East Branch Finniss River at GS8150200	6-Mar-11	6.2	138					346		400		0.26		145		88		201		70		7		6		102
GS8150200	East Branch Finniss River at GS8150200	18-May-11		387					201		340		1.24		125		436		834		316		10		9		498
GS8150200	East Branch Finniss River at GS8150200	21-May-11		420					1680		3500		1.46		729		486		846		338		106		29		672
GS8150200	East Branch Finniss River at GS8150200	23-May-11		441					100		180		1.5		97		513		897		359		17		7		583
GS8150200	East Branch Finniss River at GS8150200	24-May-11		529					96		180		1.7		116		537		922		382		20		7		659
GS8150200	East Branch Finniss River at GS8150200	27-May-11		564					120		220		2.04		156		625		1070		439		31		6		788
GS8150200	East Branch Finniss River at GS8150200	30-May-11		596					61		160		2.16		157		669		1100		459		35		6		809
GS8150200	East Branch Finniss River at GS8150200	2-Jun-11		584					63		180		2.2		172		692		1060		472		46		5		830
GS8150200	East Branch Finniss River at GS8150200	24-Mar-12	6.2	175																							
GS8150200	East Branch Finniss River at GS8150200	27-Mar-12	6.3	180					339		480		0.26		141		80		234		66		2		6		93
GS8150200	East Branch Finniss River at GS8150200	28-Mar-12	6.3	280					487		580		0.48		188		116		305		100		4		11		160
GS8150200	East Branch Finniss River at GS8150200	30-Mar-12	6.4	185					247		394		0.24		119		72		219		63		3		5		79
GS8150200	East Branch Finniss River at GS8150200	2-Apr-12	6.6	215																							
GS8150200	East Branch Finniss River at GS8150200	5-Apr-12	6.5	215					392		702		0.34		176		103		274		88		2		8		138
GS8150200	East Branch Finniss River at GS8150200	6-Apr-12	6.5	226																							
GS8150200	East Branch Finniss River at GS8150200	9-Apr-12	6.6	252					339		630		0.42		152		121		313		103		1		8		161
GS8150200	East Branch Finniss River at GS8150200	8-Mar-12	6.5	223					509		526		0.22		82		44		133		47		4		6		62
GS8150200	East Branch Finniss River at GS8150200	13-Jan-12	7.2	1478																							
GS8150200	East Branch Finniss River at GS8150200	13-Jan-12	5.8	915							21800		5.96		1630		2050		4240		1850		121		58		4070
GS8150200	East Branch Finniss River at GS8150200	13-Jan-12	6.9	627							9050		2.58		587		806		2030		690		40		22		1530
GS8150200	East Branch Finniss River at GS8150200	14-Jan-12	7.6	351							1700		0.62		116		185		599		175		14		5		291
GS8150200	East Branch Finniss River at GS8150200	17-Jan-12	8.2	661							404		1.34		183		472		1170		400		3		13		689
GS8150200	East Branch Finniss River at GS8150200	20-Jan-12	8.0	321							364		2.38		353		855		1850		737		5		21		1250
GS8150200	East Branch Finniss River at GS8150200	20-Jan-12	7.0	916							956		2.14		352		818		1880		679		5		20		1190
GS8150200	East Branch Finniss River at GS8150200	23-Jan-12	8.4	599							196		0.3		50		93		234		79		2		5		136
GS8150200	East Branch Finniss River at GS8150200	28-Dec-11									130		2.28		172		827		1740		679		2		14		860
GS8150200	East Branch Finniss River at GS8150200	24-Jan-12	8.0	672																							
GS8150200	East Branch Finniss River at GS8150200	26-Jan-12	7.3	302							492		0.62		86		123		261		103		4		5		188
GS8150200	East Branch Finniss River at GS8150200	29-Jan-12	6.7	310							472		0.7		126		139		283		107		4		6		156
GS8150200	East Branch Finniss River at GS8150200	31-Jan-12	6.1	219							1140		0.46		111		73		216		69		9		5		93
GS8150200	East Branch Finniss River at GS8150200	1-Feb-12	6.0	209							504		0.34		70		47		151		58		6		4		81
GS8150200	East Branch Finniss River at GS8150200	1-Feb-12	6.1	89							686		0.14		61		10		40		24		11		3		40
GS8150200	East Branch Finniss River at GS8150200	1-Feb-12	6.4	140							240		0.24		55		43		209		44		1		3		46
GS8150200	East Branch Finniss River at GS8150200	3-Feb-12	5.8	207							370		0.46		103		85		419		76		2		5		96
GS8150200	East Branch Finniss River at GS8150200	9-Feb-12	6.5	221							572		0.68		123		89		330		79		2		6		123
GS8150200	East Branch Finniss River at GS8150200	13-Jan-12									19400		8.98		2680		3740		7510		3190		101		122		6810
GS8150200	East Branch Finniss River at GS8150200	12-Feb-12	6.5	243							508		0.8		103		93		339		77		2		5		113
GS8150200	East Branch Finniss River at GS8150200	16-Feb-12	6.4	212							630		0.42		107		92		328		79		1		5		114
GS8150200	East Branch Finniss River at GS8150200	18-Feb-12	6.4	254																							
GS8150200	East Branch Finniss River at GS8150200	18-Feb-12	5.6	234							6550		0.6		470		134		399		139		221		21		254
GS8150200	East Branch Finniss River at GS8150200	19-Feb-12	6.1	208							1100		0.42		126		75		374		68		8		5		85
GS8150200	East Branch Finniss River at GS8150200	22-Feb-12	6.1	214							1200		0.58		121		82		300		73		9		6		108
GS8150200	East Branch Finniss River at GS8150200	1-Apr-11							425		420		0.02		32		10		29		11		3		1		17
GS8150200	East Branch Finniss River at GS8150200	8-Mar-11	5.9	122					844		360		0.14		91		63		175		55		6		4		73
GS8150200	East Branch Finniss River at GS8150200	8-Mar-11	6.0	89					141		240		0.06		69		49		118		40		5		3		47
GS8150200	East Branch Finniss River at GS8150200	10-Mar-11	6.3	134					175		280		0.24		103		81		214		67		5		4		85
GS8150200	East Branch Finniss River at GS8150200	12-Mar-11	6.3	160					199		300		0.24		104		84		197		71		4		5		99
GS8150200	East Branch Finniss River at GS8150200	13-Mar-11	6.4	138					250		360		0.24		119		80		188		66		6		5		92
GS8150200	East Branch Finniss River at GS8150200	15-Mar-11	6.5	133					198		320		0.28		108		83		198		69		5		5		89
GS8150200	East Branch Finniss River at GS8150200	18-Mar-11	6.4	149					265		340		0.12		110		87		176		71		6		5		98
GS8150200	East Branch Finniss River at GS8150200	14-Mar-12	5.8	47					1100		1000		0.08		72		16		49		17		9		3		28
GS8150200	East Branch Finniss River at GS8150200	14-Mar-12	5.8	46																							
GS8150200	East Branch Finniss River at GS8150200	14-Mar-12	5.7	45																							
GS8150200	East Branch Finniss River at GS8150200	14-Mar-12	5.6	40																							
GS8150200	East Branch Finniss River at GS8150200	14-Mar-12	5.5	36																							
GS8150200	East Branch Finniss River at GS8150200	14-Mar-12	5.5	33																							
GS8150200	East Branch Finniss River at GS8150200	14-Mar-12	5.5	32					1440		1250		0.04		70		13		52		14		7		3		23
GS8150200	East Branch Finniss River at GS8150200	14-Mar-12	5.3	28																							
GS8150200	East Branch Finniss River at GS8150200	14-Mar-12	5.3	25																							
GS8150200	East Branch Finniss River at GS8150200	14-Mar-12	5.5	21																							
GS8150200	East Branch Finniss River at GS8150200	14-Mar-12	5.6	16					1060		696		0.02		43		8		36		8		5		1		14
GS8150200	East Branch Finniss River at GS8150200	14-Mar-12	5.6	22																							
GS8150200	East Branch Finniss River at GS8150200	14-Mar-12	5.4	25																							
GS8150200	East Branch Finniss River at GS8150200	14-Mar-12	5.4	29					716		404		0.02		33		5		24		8		3		1		12
GS8150200	East Branch Finniss River at GS8150200	23-Feb-12	6.0	209							576		0.42		117		78		373		71		4		5		100
GS8150200	East Branch Finniss River at GS8150200	12-Feb-12	6.6	247																							
GS8150200	East Branch Finniss River at GS8150200	13-Feb-12	6.5	247																							
GS8150200	East Branch Finniss River at GS8150200	16-Feb-12	6.5	373							858		1.1		174		171		509		137		3		11		233

Table C-5e. Surface Water Quality Monitoring Data (East Branch of the Finniss River at GS8150200), 2010 to 2015

			FIELD DATA		MAJOR IONS			DISSOLVED METALS (in ug/L)																					
Location or Gauge ID	Description	Sampling Date	pH	EC uS/cm	SO_4	Ca	Mg	Al-f	Al-t	Fe-f	Fe-t	Cd-f	Cd-t	Cu-f	Cu-t	Co-f	Co-t	Mn-f	Mn-t	Ni-f	Ni-t	Pb-f	Pb-t	U-f	U-t	Zn-f	Zn-t
GS8150200	East Branch Finniss River at GS8150200	18-Feb-12	5.9	254							5150		0.7		576		174		490		150		74		25		354
GS8150200	East Branch Finniss River at GS8150200	18-Feb-12	5.6	284																							
GS8150200	East Branch Finniss River at GS8150200	18-Feb-12	5.8	160							5050		0.32		342		72		281		73		147		15		166
GS8150200	East Branch Finniss River at GS8150200	23-Feb-12	6.0	202																							
GS8150200	East Branch Finniss River at GS8150200	24-Jan-12									352		1.08		128		182		444		138		3		15		179
GS8150200	East Branch Finniss River at GS8150200	18-Feb-12									952		0.88		128		132		403		104		3		6		173
GS8150200	East Branch Finniss River at GS8150200	24-Feb-12	6.2	223					571		524		0.5		110		83		329		73		2		6		92
GS8150200	East Branch Finniss River at GS8150200	25-Feb-12	6.1	188					491		352		0.28		79		39		180		61		1		4		60
GS8150200	East Branch Finniss River at GS8150200	27-Feb-12	6.0	256					664		610		0.42		132		92		362		81		3		8		106
GS8150200	East Branch Finniss River at GS8150200	1-Mar-12	5.9	211					457		478		0.62		97		73		271		63		1		5		80
GS8150200	East Branch Finniss River at GS8150200	4-Mar-12	5.9	182					638		538		0.52		107		73		298		65		2		5		69
GS8150200	East Branch Finniss River at GS8150200	7-Mar-12	5.9	235					344		432		0.22		94		65		237		59		1		5		66
GS8150200	East Branch Finniss River at GS8150200	26-Jan-13							1760		1450		0.46		141		157		499		125		3		10		173
GS8150200	East Branch Finniss River at GS8150200	27-Feb-13	6.4	171	42		11	55	577	100	618	0.18	0.14	20	48	21	36	37	91	27	38	0	1	2	4	23	48
GS8150200	East Branch Finniss River at GS8150200	1-Mar-13	6.2	143					377		400		0.16		37		11		25		18		2		3		25
GS8150200	East Branch Finniss River at GS8150200	3-Mar-13	6.5	197					542		452		0.1		53		39		95		39		1		4		52
GS8150200	East Branch Finniss River at GS8150200	4-Mar-13	6.1	101					702		484		0.12		34		14		26		22		1		2		18
GS8150200	East Branch Finniss River at GS8150200	8-Mar-13	6.3	180					408		494		0.06		48		31		70		34		1		4		45
GS8150200	East Branch Finniss River at GS8150200	9-Mar-13	5.9	105					602		532		0.04		36		15		44		22		2		2		23
GS8150200	East Branch Finniss River at GS8150200	24-Mar-12							450		604		0.24		155		72		206		63		3		7		87
GS8150200	East Branch Finniss River at GS8150200	12-Apr-12	6.8	293					358		694		0.64		159		157		409		135		2		10		210
GS8150200	East Branch Finniss River at GS8150200	15-Apr-12	7.9	375					157		238		0.32		76		102		264		82		5		6		109
GS8150200	East Branch Finniss River at GS8150200	18-Apr-12	7.2	410					269		528		0.9		137		244		646		201		1		11		305
GS8150200	East Branch Finniss River at GS8150200	21-Apr-12	7.3	545					9800		22000		2.24		3280		368		869		333		29		149		1230
GS8150200	East Branch Finniss River at GS8150200	24-Apr-12	7.3	597					321		826		0.86		157		184		578		156		2		10		232
GS8150200	East Branch Finniss River at GS8150200	26-Apr-12	6.4	410	160	15	37	35	383	<20	1050	0.8	0.8	55	188	261	283	660	709	215	235	<0.1	1	6	11	329	385
GS8150200	East Branch Finniss River at GS8150200	27-Apr-12	7.5	445					357		876		0.64		168		348		831		279		1		12		400
GS8150200	East Branch Finniss River at GS8150200	29-Apr-12	8.5	512					184		574		0.18		105		191		395		157		4		7		227
GS8150200	East Branch Finniss River at GS8150200	2-May-12	8.1	783																							
GS8150200	East Branch Finniss River at GS8150200	2-May-12	8.4	773																							
GS8150200	East Branch Finniss River at GS8150200	3-May-12	7.8	934					2200		5750		2.36		731		785		1640		612		12		42		1130
GS8150200	East Branch Finniss River at GS8150200	5-May-12	8.5	432																							
GS8150200	East Branch Finniss River at GS8150200	8-May-12	8.7	720					218		490		1.04		130		481		1060		393		1		10		587
GS8150200	East Branch Finniss River at GS8150200	11-May-12	9.0	721																							
GS8150200	East Branch Finniss River at GS8150200	14-May-12	9.1	792					140		380		1.72		135		722		1520		585		1		11		899
GS8150200	East Branch Finniss River at GS8150200	17-May-12		382																							
GS8150200	East Branch Finniss River at GS8150200	18-May-12		1195					29		118		3.52		106		1360		2690		1170		0		11		1780
GS8150200	East Branch Finniss River at GS8150200	20-May-12		564					22		56		0.28		26		120		188		102		1		4		81
GS8150200	East Branch Finniss River at GS8150200	23-May-12		18					248		510		5.58		667		2080		3910		1890		2		21		3320
GS8150200	East Branch Finniss River at GS8150200	10-Jun-12		1271					100		132		5.6		286		2340		3790		2170		1		23		2170
GS8150200	East Branch Finniss River at GS8150200	19-Jun-12		1800					189		144		8.5		619		3160		4090		3120		2		24		4570
GS8150200	East Branch Finniss River at GS8150200	4-Jun-12		304					231		500		5.74		653		2040		3780		1870		2		20		3260
GS8150200	East Branch Finniss River at GS8150200	8-Mar-12	6.2	116																							
GS8150200	East Branch Finniss River at GS8150200	8-Mar-12	6.3	181					297		308		0.1		138		41		205		44		1		4		32
GS8150200	East Branch Finniss River at GS8150200	11-Mar-12	6.2	165																							
GS8150200	East Branch Finniss River at GS8150200	14-Mar-12	6.2	174					294		322		0.16		77		53		192		49		2		4		59
GS8150200	East Branch Finniss River at GS8150200	14-Mar-12	6.3	160																							
GS8150200	East Branch Finniss River at GS8150200	14-Mar-12	6.1	114																							
GS8150200	East Branch Finniss River at GS8150200	14-Mar-12	6.1	84					534		498		0.06		52		11		30		18		3		3		24
GS8150200	East Branch Finniss River at GS8150200	14-Mar-12	6.0	63																							
GS8150200	East Branch Finniss River at GS8150200	14-Mar-12	5.9	46																							
GS8150200	East Branch Finniss River at GS8150200	17-Mar-13		204					347		414		0.16		52		30		72		30		2		4		42
GS8150200	East Branch Finniss River at GS8150200	20-Mar-13		173					245		484		0.12		43		42		101		41		1		3		51
GS8150200	East Branch Finniss River at GS8150200	24-Mar-13		200					285		660		0.2		64		62		157		54		1		4		83
GS8150200	East Branch Finniss River at GS8150200	15-Mar-13		158																							
GS8150200	East Branch Finniss River at GS8150200	17-Mar-13		117																							
GS8150200	East Branch Finniss River at GS8150200	23-Mar-13		181																							
GS8150200	East Branch Finniss River at GS8150200	23-Mar-13		191																							
GS8150200	East Branch Finniss River at GS8150200	25-Mar-13		187																							
GS8150200	East Branch Finniss River at GS8150200	17-Feb-13							1480		1200		0.26		98		82		197		78		2		6		114
GS8150200	East Branch Finniss River at GS8150200	26-Mar-13	7.1	243	56	6	13	45	214	48	380	0.04	0.08	13	32	7	22	1	56	18	28	0	1	3	3	8	27
GS8150200	East Branch Finniss River at GS8150200	26-Mar-13	6.7	241					6900		5550		0.18		195		62		264		56		104		9		105
GS8150200	East Branch Finniss River at GS8150200	26-Mar-13	6.3	173					7180		5900		0.2		202		52		233		44		57		17		86
GS8150200	East Branch Finniss River at GS8150200	27-Mar-13	6.4	103					1400		1100		0.06		51		18		70		19		7		3		26
GS8150200	East Branch Finniss River at GS8150200	27-Mar-13	6.3	128					990		662		0.06		41		18		57		22		3		3		24
GS8150200	East Branch Finniss River at GS8150200	28-Mar-13	6.1	81					4740		3200		0.08		93		21		89		23		53		5		42
GS8150200	East Branch Finniss River at GS8150200	29-Mar-13	5.7	37					1640		838		0.02		35		10		30		12		3		2		16
GS8150200	East Branch Finniss River at GS8150200	29-Mar-13	6.1	99					1240		698		0.1		42		16		47		21		3		2		28
GS8150200	East Branch Finniss River at GS8150200	30-Mar-13	6.0	76					1200		608		0.04		38		15		39		20		1		2		22
GS8150200	East Branch Finniss River at GS8150200	31-Mar-13	6.5	127					760		538		0.06		41		22		56		24		2		3		28
GS8150200	East Branch Finniss River at GS8150200	9-Apr-13	6.8	144	35	4	9	32	360	24	540	0.1	0.14	26	67	40	45	98	114	37	42	0	1	2	3	51	60
GS8150200	East Branch Finniss River at GS8150200	17-May-12							37		112		3.56		125		1330		2570		1150		0		10		1880
GS8150200	East Branch Finniss River at GS8150200	28-Dec-12	8.1	1114					1940		624		2.72		295		956		2640		735		8		32		1310
GS8150200	East Branch Finniss River at GS8150200	11-Jan-13	7.9	544					8460		4550		1.44		290		571		1380		470		61		22		822
GS8150200	East Branch Finniss River at GS8150200	17-Jan-13	8.0	797					1600		904		1.24		250		414		974		343		8		17		595
GS8150200	East Branch Finniss River at GS8150200	18-Jan-13	7.1	590					19800		16800		1.62		869		434		1910		366		104		41		827
GS8150200	East Branch Finniss River at GS8150200	18-Jan-13	5.4	531					59200		81300		3.38		2780		1070		2670		939		597		121		2220
GS8150200	East Branch Finniss River at GS8150200	18-Jan-13	6.2	137					20100		28100		0.98		907		193		905		180		168		33		436
GS8150200	East Branch Finniss River at GS8150200	19-Jan-13	6.8	416					2780		1400		0.36		122		87		223		78		8		10		107
GS8150200	East Branch Finniss River at GS8150200	23-Jan-13	6.8	355					3660		1850		0.54		166		161		459		129		6		12		181
GS8150200	East Branch Finniss River at GS8150200	26-Jan-13	6.8	362																							
GS8150200	East Branch Finniss River at GS8150200	6-Feb-13	6.5	298	88	8	22	33	1220	34	1850	0.34	0.46	43	159	124	145	315	377	102	124	0	4	4	9	146	217
GS8150200	East Branch Finniss River at GS8150200	10-Feb-13	6.9	378					908		1850		0.5		176		185		483		161		2		10		278
GS8150200	East Branch Finniss River at GS8150200	12-Feb-13	6.4	523					18500		17400		1.08		815		282		1130		253		99		48		510
GS8150200	East Branch Finniss River at GS8150200	12-Feb-13	6.8	205					2020		1500		0.14		71		41		155		39		6		4		57
GS8150200	East Branch Finniss River at GS8150200	14-Feb-13	7.3	378					779		586		0.22		56		44		112		45		3		6		59
GS8150200	East Branch Finniss River at GS8150200	17-Feb-13	6.8	233																							

Table C-5f. Surface Water Quality Monitoring Data (East Branch of the Finniss River at GS8150200), 2010 to 2015

			FIELD DATA		MAJOR IONS			DISSOLVED METALS (in ug/L)																					
Location or Gauge ID	Description	Sampling Date	pH	EC uS/cm	SO_4	Ca	Mg	Al-f	Al-t	Fe-f	Fe-t	Cd-f	Cd-t	Cu-f	Cu-t	Co-f	Co-t	Mn-f	Mn-t	Ni-f	Ni-t	Pb-f	Pb-t	U-f	U-t	Zn-f	Zn-t
GS8150200	East Branch Finniss River at GS8150200	20-Feb-13	6.9	287					717		1050		0.32		95		85		215		76		2		8		119
GS8150200	East Branch Finniss River at GS8150200	20-Feb-13	6.0	357					8690		6930		0.5		367		121		419		128		86		17		202
GS8150200	East Branch Finniss River at GS8150200	21-Feb-13	6.0	114					3760		3550		0.14		131		43		160		42		23		6		66
GS8150200	East Branch Finniss River at GS8150200	22-Feb-13	6.4	139					3240		1200		0.08		58		23		59		27		4		3		34
GS8150200	East Branch Finniss River at GS8150200	23-Feb-13	6.6	212					2040		802		0.14		58		38		101		37		4		4		47
GS8150200	East Branch Finniss River at GS8150200	26-Feb-13	6.4	174					1180		778		0.16		68		48		127		47		2		4		66
GS8150200	East Branch Finniss River at GS8150200	27-Feb-13	6.4	171	43	4	11	55	801	80	734	0.16	0.14	31	62	42	47	121	133	38	43	0	1	2	4	49	62
GS8150200	East Branch Finniss River at GS8150200	6-Feb-13	6.5	298	88	8	22	89	717	108	1200	0.24	0.32	33	115	103	123	270	322	82	106	0	1	5	7	73	157
GS8150200	East Branch Finniss River at GS8150200	30-Apr-13	6.7	359	130	12	30	19	347	12	1100	0.6	0.68	46	154	216	225	561	576	176	187	0	1	4	8	272	305
GS8150200	East Branch Finniss River at GS8150200	9-Apr-13	6.3	144	40	4	10	26	1360	72	1650	0.1	0.2	26	151	12	42	5	109	29	49	0	4	2	7	36	85
GS8150200	East Branch Finniss River at GS8150200	15-Apr-13	6.6	174					429		662		0.16		77		55		136		50		1		5		72
GS8150200	East Branch Finniss River at GS8150200	21-Apr-13	6.6	219					249		620		0.26		81		85		209		74		1		5		107
GS8150200	East Branch Finniss River at GS8150200	16-May-13		359					42		158		3.3		156		1330		2730		1100		0		8		1710
GS8150200	East Branch Finniss River at GS8150200	18-May-13		1160					9800		11300		4.68		1590		1790		3550		1430		62		48		2580
GS8150200	East Branch Finniss River at GS8150200	18-May-13		998					25500		32700		2.9		2370		949		2410		750		206		103		1620
GS8150200	East Branch Finniss River at GS8150200	19-May-13		399					1300		1150		0.26		94		88		334		84		3		6		98
GS8150200	East Branch Finniss River at GS8150200	23-May-13		619					895		1400		0.7		162		266		695		217		4		12		319
GS8150200	East Branch Finniss River at GS8150200	23-May-13		705					7580		7600		1.32		705		377		928		342		78		36		616
GS8150200	East Branch Finniss River at GS8150200	23-May-13		557					14700		12300		0.46		404		110		403		93		108		26		182
GS8150200	East Branch Finniss River at GS8150200	23-May-13		127					3680		2850		0.12		99		48		231		39		13		6		48
GS8150200	East Branch Finniss River at GS8150200	24-May-13		96		3	7	64	2540	92	1500	0.04	0.1	28	67	4	30	1	118	16	30	0	5	2	4	12	35
GS8150200	East Branch Finniss River at GS8150200	12-Mar-13	6.2	146																							
GS8150200	East Branch Finniss River at GS8150200	12-Mar-13			35	4	9	66	383	106	526		0.16	31	54	37	40	103	109	34	38	0	1	2	3	41	50
GS8150200	East Branch Finniss River at GS8150200	12-Mar-13	6.2	29	37	4	10	69	250	118	366	0.08	0.08	24	39	27	31	66	76	27	31	0	0	2	3	29	36
GS8150200	East Branch Finniss River at GS8150200	26-Mar-13	7.1	29	55	6	13	75	229	106	458	0.14	0.1	24	43	32	36	94	110	29	34	0	1	3	3	33	45
GS8150200	East Branch Finniss River at GS8150200	5-Feb-14	6.5	83	523	3	4	128	243	120	222	<0.02	0.04	30	34	11	14	41	55	15	16	0	1	2	2	15	15
GS8150200	East Branch Finniss River at GS8150200	6-Feb-14		160					513		412		0.14		83		46		185		39		3		5		41
GS8150200	East Branch Finniss River at GS8150200	6-Feb-14		90					395		344		0.08		51		24		97		22		1		3		23
GS8150200	East Branch Finniss River at GS8150200	8-Feb-14		150																							
GS8150200	East Branch Finniss River at GS8150200	9-Feb-14		66					1060		678		0.04		46		11		42		13		1		2		18
GS8150200	East Branch Finniss River at GS8150200	10-Feb-14	6.6	126	525	4	7	115	387	112	368	<0.02	0.12	41	76	39	43	180	195	32	37	0	1	3	4	27	34
GS8150200	East Branch Finniss River at GS8150200	12-Dec-13		484	161	14	36	123	905	76	698	0.44	0.54	37	118	172	199	709	752	101	134	0	2	6	8	93	157
GS8150200	East Branch Finniss River at GS8150200	13-Dec-13		504					10600		8400		0.88		769		207		747		203		101		36		374
GS8150200	East Branch Finniss River at GS8150200	13-Dec-13		489					684		558		0.48		135		191		721		147		1		9		162
GS8150200	East Branch Finniss River at GS8150200	16-Dec-13		585																							
GS8150200	East Branch Finniss River at GS8150200	22-Dec-13		691					2800		2300		0.42		259		155		582		128		7		14		166
GS8150200	East Branch Finniss River at GS8150200	24-Dec-13		564					8920		9300		0.42		604		123		523		117		175		25		220
GS8150200	East Branch Finniss River at GS8150200	24-Dec-13		352					2160		1750		0.18		128		55		277		55		9		6		66
GS8150200	East Branch Finniss River at GS8150200	25-Dec-13		319	113	10	24	365	1100	202	570	0.24	0.28	59	118	94	105	476	503	73	86	0	1	5	7	72	93
GS8150200	East Branch Finniss River at GS8150200	1-Jan-14		405					473		678		0.4		150		137		503		115		1		7		156
GS8150200	East Branch Finniss River at GS8150200	4-Jan-14	6.7	363					453		798		0.44		169		158		503		133		2		7		205
GS8150200	East Branch Finniss River at GS8150200	20-Feb-14		178	65	8	14	42	827	48	706	0.26	0.28	39	87	31	52	31	106	29	48	1	8	3	6	40	68
GS8150200	East Branch Finniss River at GS8150200	23-Feb-14		177					189		262		0.26		85		73		186		62		1		5		82
GS8150200	East Branch Finniss River at GS8150200	3-Mar-14	6.7	200					284		448		0.28		138		85		216		74		1		7		106
GS8150200	East Branch Finniss River at GS8150200	5-Mar-14	6.6	236					990		1220		0.3		167		76		222		65		14		9		96
GS8150200	East Branch Finniss River at GS8150200	6-Mar-14	6.6	140	40	5	9	70	359	114	498	0.1	0.14	49	92	45	49	180	198	41	44	0	2	3	4	36	39
GS8150200	East Branch Finniss River at GS8150200	10-Mar-14	7.1	199	62	6	14	79	223	76	450	0.2	0.2	42	91	68	73	184	194	57	63	0	1	3	5	81	79
GS8150200	East Branch Finniss River at GS8150200	14-Mar-14	6.8	196					209		464		0.24		88		80		213		69		1		5		88
GS8150200	East Branch Finniss River at GS8150200	16-Mar-14	6.8	193					257		504		0.24		99		79		212		68		1		5		88
GS8150200	East Branch Finniss River at GS8150200	19-Mar-14	6.9	230					197		430		0.32		90		105		253		89		1		6		123
GS8150200	East Branch Finniss River at GS8150200	3-Apr-14	6.8	482	163	15	36	33	394	36	1130	0.66	0.86	54	193	255	266	651	680	216	228	0	2	6	12	328	368
GS8150200	East Branch Finniss River at GS8150200	8-Feb-14							326		298		0.12		89		54		196		46		1		4		47
GS8150200	East Branch Finniss River at GS8150200	14-Jan-14							798		496		0.24		137		97		616		89		3		7		88
GS8150200	East Branch Finniss River at GS8150200	6-Apr-14	6.8	619					209		524		1.1		118		389		1050		325		1		13		440
GS8150200	East Branch Finniss River at GS8150200	9-Apr-14	6.8	677					87		150		1.16		57		463		1230		381		0		12		499
GS8150200	East Branch Finniss River at GS8150200	9-Apr-14	6.5	901					508		958		1.5		169		390		1170		312		5		16		472
GS8150200	East Branch Finniss River at GS8150200	15-Apr-14	6.8	534					233		544		0.78		111		311		714		258		1		12		386
GS8150200	East Branch Finniss River at GS8150200	23-Apr-14	6.8	791																							
GS8150200	East Branch Finniss River at GS8150200	29-Apr-14	6.6	1141					227		858		3.4		366		1090		2380		903		1		14		1650
GS8150200	East Branch Finniss River at GS8150200	8-Jan-14			132	11	29	75	456	54	932	0.02	0.4	59	164	168	183	535	571	139	154	0	1	5	9	175	212
GS8150200	East Branch Finniss River at GS8150200	12-Jan-14							1160		1900		0.36		146		106		421		97		9		8		120
GS8150200	East Branch Finniss River at GS8150200	14-Jan-14																									
GS8150200	East Branch Finniss River at GS8150200	14-Jan-14							4180		4350		0.14		199		54		307		43		30		8		57
GS8150200	East Branch Finniss River at GS8150200	16-Jan-14							1880		584		0.08		78		40		255		35		2		3		33
GS8150200	East Branch Finniss River at GS8150200	17-Jan-14							1420		474		0.14		134		76		546		62		3		6		49
GS8150200	East Branch Finniss River at GS8150200	17-Jan-14			42	5	9	141	2480	62	1300	0.12	0.14	68	112	30	42	151	200	29	38	1	11	3	6	32	43
GS8150200	East Branch Finniss River at GS8150200	16-Dec-13							1160		964		0.58		205		229		831		180		2		12		233
GS8150200	East Branch Finniss River at GS8150200	25-Jan-14			49	6	11	100	436	76	352	0.18	0.18	49	101	51	57	254	273	45	50	0	2	3	5	56	53
GS8150200	East Branch Finniss River at GS8150200	30-Jan-14							460		368		0.12		95		47		224		41		1		5		45
GS8150200	East Branch Finniss River at GS8150200	31-Jan-14							593		484		0.1		95		40		181		37		3		5		42
GS8150200	East Branch Finniss River at GS8150200	31-Jan-14							919		664		0.06		39		11		59		11		3		2		14
GS8150200	East Branch Finniss River at GS8150200	1-Feb-14							1420		920		0.04		31		8		58		9		3		2		10
GS8150200	East Branch Finniss River at GS8150200	1-Feb-14			7	1	2	163	328	94	188	<0.02	0.02	17	19	4	4	25	27	7	8	0	0	1	1	8	7
GS8150200	East Branch Finniss River at GS8150200	13-Feb-15	6.7	142	45	5	12	73	209	150	576	0.12	0.18	36	74	49	57	174		43	51		1	3	4	49	69
GS8150200	East Branch Finniss River at GS8150200	20-Feb-15	6.7	161					899		1150				104		67		208		62		10		5		92
GS8150200	East Branch Finniss River at GS8150200	20-Feb-15	6.6	60					2680		4150				133		37		268		30		21		6		53
GS8150200	East Branch Finniss River at GS8150200	21-Feb-15	6.8	148					452		776				75		36		203		35		3		4		40
GS8150200	East Branch Finniss River at GS8150200	23-Feb-15	6.7	136					5780		9600		0.3		408		68		452		73		155		15		114
GS8150200	East Branch Finniss River at GS8150200	26-Feb-15	6.5	73					4340		5800		0.16		160		45		292		39		69		7		64
GS8150200	East Branch Finniss River at GS8150200	27-Feb-15	6.4	79	22			58	571	88	568			39	59	22	25	118	137	22	24	0	3	2	2	23	27
GS8150200	East Branch Finniss River at GS8150200	27-Feb-15	6.5	111	36	4	9	47	404	50	430			26	59	23	33	139	185	25	33		2	2	3	20	33
GS8150200	East Branch Finniss River at GS8150200	3-Mar-15	6.7	109					140		272				45		26		129		27		1		2		24
GS8150200	East Branch Finniss River at GS8150200	6-Mar-15	6.8	119					139		334				58		38		139		36		1		3		45
GS8150200	East Branch Finniss River at GS8150200	6-Mar-15	6.0	164					10300		11300		0.46		827		98		572		98		166		34		148
GS8150200	East Branch Finniss River at GS8150200	7-Mar-15	6.6	111					195		346				56		33		161		32		2		3		30
GS8150200	East Branch Finniss River at GS8150200	13-Mar-15	6.9	135	42	5	11	51	208		472	0.12	0.14	40	72	41	44	145	155	38	41		1	3	4	43	50
GS8150200	East Branch Finniss River at GS8150200	3-May-14	6.7	747					54		124		2.44		112		855		1750		710		0		8		1370

Table C-5g. Surface Water Quality Monitoring Data (East Branch of the Finniss River at GS8150200), 2010 to 2015

			FIELD DATA		MAJOR IONS			DISSOLVED METALS (in ug/L)																					
Location or Gauge ID	Description	Sampling Date	pH	EC uS/cm	SO_4	Ca	Mg	Al-f	Al-t	Fe-f	Fe-t	Cd-f	Cd-t	Cu-f	Cu-t	Co-f	Co-t	Mn-f	Mn-t	Ni-f	Ni-t	Pb-f	Pb-t	U-f	U-t	Zn-f	Zn-t
GS8150200	East Branch Finniss River at GS8150200	12-May-14	6.9	27					63		304		3.18		212		1220		2180		1050		0		17		1860
GS8150200	East Branch Finniss River at GS8150200	23-Apr-14							100		232		1.74		102		631		1350		534		0		9		878
GS8150200	East Branch Finniss River at GS8150200	6-Jan-15	6.8	198	84	8	19	192	769	80	798	0.44	0.6	60	194	92	122	361	473	66	92	1	7	3	6	170	224
GS8150200	East Branch Finniss River at GS8150200	10-Jan-15	6.5	128					1040		960		0.02		27		6		66		8		3		1		19
GS8150200	East Branch Finniss River at GS8150200	12-Jan-15	6.6	149					1840		2950		0.08		88		21		366		16		13		4		33
GS8150200	East Branch Finniss River at GS8150200	14-Jan-15	6.8	92					9980		18600		0.24		234		52		920		54		68		12		99
GS8150200	East Branch Finniss River at GS8150200	16-Jan-15	6.8	129	52	6	12	157	448	86	336	0.28	0.36	70	113	71	81	284	315	52	62	1	3	3	4	163	138
GS8150200	East Branch Finniss River at GS8150200	9-Jan-15	6.3	35					453		334		0.18		81		56		388		52		1		4		59
GS8150200	East Branch Finniss River at GS8150200	9-Jan-15	6.6	68					758		596		0.12		68		36		209		34		3		4		48
GS8150200	East Branch Finniss River at GS8150200	16-Jan-15	6.4	30	6	1	2	57	1060	60	1250	<0.02	0.04	14	36	0	11	1	87	5	11	0	4	1	2	4	17
GS8150200	East Branch Finniss River at GS8150200	16-Jan-15	6.5	44					494		336		<0.02		33		4		23		10		1		1		13
GS8150200	East Branch Finniss River at GS8150200	26-Jan-15	7.1	196					408		550		0.16		162		48		166		42		2		5		58
GS8150200	East Branch Finniss River at GS8150200	29-Jan-15	6.9	135	47	5	11	45	294	70	462	0.16	0.18	41	78	52	56	209	220	47	51	0	2	2	4	58	66
GS8150200	East Branch Finniss River at GS8150200	20-Jan-15	6.9	131					265		372		0.16		79		51		230		45		1		3		58
GS8150200	East Branch Finniss River at GS8150200	13-Feb-15			45	5	12	73	209	150	576	0.12	0.18	36	74	49	57	174	202	43	51	0	1	3	4	49	69
GS8150200	East Branch Finniss River at GS8150200	20-Feb-15							899		1150		0.22		104		67		208		62		10		5		92
GS8150200	East Branch Finniss River at GS8150200	20-Feb-15							2680		4150		0.08		133		37		268		30		21		6		53
GS8150200	East Branch Finniss River at GS8150200	21-Feb-15							452		776		0.1		75		36		203		35		3		4		40
GS8150200	East Branch Finniss River at GS8150200	23-Feb-15							5780		9600		0.3		408		68		452		73		155		15		114
GS8150200	East Branch Finniss River at GS8150200	26-Feb-15							4340		5800		0.16		160		45		292		39		69		7		64
GS8150200	East Branch Finniss River at GS8150200	27-Feb-15			22	3	6	58	571	88	568	0.06	0.08	39	59	22	25	118	137	22	24	0	3	2	2	23	27
GS8150200	East Branch Finniss River at GS8150200	24-Apr-15			291	25	64	17	115	6	398	1.66	1.7	88	136	637	658	1700	1790	527	548		0	5	6	869	886
GS8150200	East Branch Finniss River at GS8150200	13-Mar-15	6.8	143	42	5	11	60	155	86	424	0.14	0.12	41	74	45	46	155	161	41	43		1	3	4	43	50
GS8150200	East Branch Finniss River at GS8150200	27-Mar-15	6.8	155	46	6	12	96	592	60	718	<0.02	0.08	19	55	0	26	1	128	14	29	0	3	2	3	7	30
GS8150200	East Branch Finniss River at GS8150200	29-Mar-15	7.2	212					231		366		0.12		52		31		108		35		2		4		42
GS8150200	East Branch Finniss River at GS8150200	1-Apr-15	6.8	176					256		542		0.12		72		67		210		62		1		5		79
GS8150200	East Branch Finniss River at GS8150200	10-Apr-15	6.9	262	86	9	21	103	356	72	948	0.24	0.34	39	112	115	121	338	353	102	109	0	1	4	6	141	158
GS8150200	East Branch Finniss River at GS8150200	27-Mar-15	6.6	165	43	5	11	38	418	84	734	0.08	0.12	37	65	30	35	141	176	31	35	0	2	2	3	30	36
GS8150200	East Branch Finniss River at GS8150200	10-Apr-15	6.4	263	89	9	22	49	286	38	964	0.34	0.38	36	116	124	132	367	383	110	117	0	1	4	7	146	174
GS8150200	East Branch Finniss River at GS8150200	24-Apr-15	6.0	660	296	26	65	21	117	4	416	1.72	1.88	101	156	643	649	1740	1760	531	536			5	6	898	966
GS8150200	East Branch Finniss River at GS8150200	10-Apr-14	6.9	246	95		24	97	255	90	862	0.22	0.36	29	101	123	128	364	377	100	109		1	5	7	86	144
GS8150200	East Branch Finniss River at GS8150200	14-Apr-15	6.9	320					289		788		0.5		111		189		553		165		1		8		214
GS8150200	East Branch Finniss River at GS8150200	18-Apr-15	6.8	302					385				0.6		144		197		571		174		2		8		254
GS8150200	East Branch Finniss River at GS8150200	24-Apr-15	6.6	620																							
GS8150200	East Branch Finniss River at GS8150200	24-Apr-15	6.7	616	316	28	70	36	103	4	364	1.74	2.02	36	98	726	751	1870	1960	573	609	<0.01	0	6	6	882	1010
GS8150200	East Branch Finniss River at GS8150200	30-Apr-15	6.5	876					33		118		3.22		140		1160		2920		990		0		6		1710
GS8150200	East Branch Finniss River at GS8150200	3-May-15	6.4	1029					37		220		3.8		130		1330		3390		1160		0		5		2020
GS8150200	East Branch Finniss River at GS8150200	8-May-15	6.3	1299	777	67	160	28	115	6	172	4.84	5.08	348	395	1790	1870	4210	4350	1610	1640	0	0	9	11	2780	2890
GS8150200	East Branch Finniss River at GS8150200	8-May-15	6.3	1391	786	68	162	19	110	12	186	4.62	4.88	390	474	1830	1850	4260	4420	1630	1680	0	0	11	13	2860	2950
GS8150200	East Branch Finniss River at GS8150200	8-May-15	6.3	1391	<0.1	<0.1	<0.1	0	1	<2	<2	<0.02	<0.02	0	0	0	0	1	1	0	0	<0.01	<0.01	0	<0.001	1	1
GS8150200	East Branch Finniss River at GS8150200	30-Jan-15	7.0	122	41	4	10	69	261	100	416	0.12	0.14	38	75	41	49	182	218	37	45	0	1	2	4	36	55
GS8150200	East Branch Finniss River at GS8150200	5-Feb-15	7.0	149					191		578		0.2		73		62		208		56		1		4		78
GS8150200	East Branch Finniss River at GS8150200	8-Feb-15	6.9	165					210		786		0.24		83		75		261		63		1		4		96
GS8150200	East Branch Finniss River at GS8150200	8-Feb-15	6.9	182					1720		2000		0.28		135		86		324		72		9		7		110
GS8150200	East Branch Finniss River at GS8150200	11-Feb-15	6.9	134					363		744		0.16		86		57		231		52		2		4		67
GS8150200	East Branch Finniss River at GS8150200	12-Feb-15	7.0	128	43	4	11	61	211	142	534	0.12	0.16	42	72	46	49	182	193	42	45	0	1	2	3	52	59

Table C-6a. Surface Water Quality Monitoring Data (East Branch of the Finniss River at GS8150200), 2010 to 2015

			FIELD DATA		MAJOR IONS			DISSOLVED METALS (in ug/L)																			
Location or Gauge ID	Description	Sampling Date	pH	EC uS/cm	SO_4	Ca	Mg	Al-f	Al-t	Fe-f	Fe-t	Cd-f	Cd-t	Cu-f	Cu-t	Co-f	Co-t	Mn-f	Mn-t	Ni-f	Ni-t	Pb-f	Pb-t	U-f	U-t	Zn-f	Zn-t
East Branch of the Finniss River at Gauge GS8150327																											
GS8150327	East Branch Finniss River at GS327	27-May-14	6.6	1187	623	61	130	2	11	2	214	1.44	1.58	17	48	204	220	520	565	453	484	0	0	3	3	632	672
GS8150327	East Branch Finniss River at GS327	23-Jun-14	7.0	1083	626	67	132	1	7	<2	114	0.34	0.36	8	16	8	26	95	220	132	141	<0.01	0	9	10	132	147
GS8150327	East Branch Finniss River at GS327	22-Jul-14	7.5	1162	786	89	164	1	12	<2	100	0.22	0.28	9	20	2	27	31	219	105	115	<0.01	0	16	17	93	111
GS8150327	East Branch Finniss River at GS327	29-May-14																									
GS8150327	East Branch Finniss River at GS327	16-Sep-14	7.7		923	102	196	2	10	2	54	0.12	0.14	11	17	23	37	362	515	51	55	0	0	24	25	33	39
GS8150327	East Branch Finniss River at GS327	13-Oct-14	7.5	1988	1060	117	226	6	18	4	56	0.06	0.06	11	16	21	30	431	600	36	38	0	0	28	29	19	24
GS8150327	East Branch Finniss River at GS327	6-Jan-15	6.7	218	79	9	17	68	514	58	352	0.16	0.16	43	74	56	60	348	368	52	56	1	4	2	3	57	84
GS8150327	East Branch Finniss River at GS327	3-Feb-15	6.9	152	53	6	12	62	192	60	510	0.14	0.18	42	82	54	57	205	213	51	55	0	1	2	4	69	67
GS8150327	East Branch Finniss River at GS327	3-Mar-15	7.2	148	38	5	9	69	213	62	348	0.08	0.08	39	62	31	33	163	168	32	33	0	1	2	3	29	33
GS8150327	East Branch Finniss River at GS327	31-Mar-15	6.6	214	62	8	15	124	394	44	506	0.16	0.18	40	86	58	61	215	228	60	63	0	1	2	3	73	83
GS8150327	East Branch Finniss River at GS327	28-Apr-15	6.5	602	209	26	46	7	47	6	370	0.34	0.34	12	34	66	70	415	446	113	119	<0.01	0	3	4	117	130
GS8150327	East Branch Finniss River at GS327	27-May-15	7.5	1022	471	55	99	13	46	4	144	0.14	0.18	10	20	12	22	231	290	62	66	<0.01	0	6	6	58	68
GS8150327	East Branch Finniss River at GS327	24-Jun-15	7.2	1260	653	76	134	17	20	<2	66	0.08	0.06	8	11	2	7	64	155	34	37	<0.01	0	8	9	31	35
GS8150327	East Branch Finniss River at GS327	31-Jan-13	7.2	294	98	9	23	40	1200	66	1100	0.24	0.3	44	102	79	84	286	295	75	81	0	2	4	7	86	108
GS8150327	East Branch Finniss River at GS327	26-Feb-13	5.9	162	54	5	13	36	1060	76	662	0.14	0.14	27	53	39	42	145	154	39	43	0	1	2	4	44	54
GS8150327	East Branch Finniss River at GS327	26-Mar-13	6.0	177	46	5	12	35	179	80	462	0.14	0.14	24	45	32	35	103	110	34	36	0	1	2	3	44	52
GS8150327	East Branch Finniss River at GS327	23-Apr-13	7.2	227	83	10	19	30	160	20	560	0.3	0.32	34	92	89	98	246	261	87	95	0	1	3	4	118	137
GS8150327	East Branch Finniss River at GS327	22-May-13	6.3	437	158	16	35	42	281	6	766	0.38	0.44	28	90	128	133	517	537	132	138	<0.01	1	4	6	155	178
GS8150327	East Branch Finniss River at GS327	17-Jun-13	6.9	337																							
GS8150327	East Branch Finniss River at GS327	17-Jun-13			136	15	31	27	151	20	512	0.36	0.38	19	67	130	127	288	277	141	136	<0.01	0	4	5	187	190
GS8150327	East Branch Finniss River at GS327	15-Jul-13	7.2	629	315	35	67	2	9	<2	124	0.24	0.3	6	13	10	28	90	197	99	103	<0.01	0	4	4	87	98
GS8150327	East Branch Finniss River at GS327	3-Dec-13	6.9	604	279	25	58	30	799	20	686	1	1.04	59	139	358	378	1120	1180	298	310	0	2	4	7	357	388
GS8150327	East Branch Finniss River at GS327	7-Jan-14	6.2	352	131	13	29	22	298	12	628	0.3	0.34	30	100	88	94	403	419	93	100	0	1	3	6	118	133
GS8150327	East Branch Finniss River at GS327	4-Feb-14	7.4	76	21	3	5	103	496	100	408	0.04	0.06	36	53	18	20	111	124	20	21	0	2	2	3	16	18
GS8150327	East Branch Finniss River at GS327	4-Mar-14	8.4	232	74	9	17	38	181	14	372	0.28	0.28	68	140	87	89	242	246	78	80	0	1	3	5	97	104
GS8150327	East Branch Finniss River at GS327	1-Apr-14	7.6	452	164	19	37	24	167	8	464	0.56	0.66	37	106	181	189	575	600	165	174	<0.01	1	5	7	217	247
GS8150327	East Branch Finniss River at GS327	28-Apr-14	7.5	752	320	35	70	10	25	8	244	0.72	0.8	13	38	171	182	625	681	215	225	<0.01	0	6	7	261	280
GS8150327	East Branch Finniss River GS mid on Terrys property	16-Jan-15	6.7	63	16	2	4	128	1500	82	1350	0.04	0.06	17	45	7	18	43	140	11	17	0	5	1	3	27	23
GS8150327	East Branch Finniss River GS mid on Terrys property	10-Jan-15	6.1	48					897		1150		0.06		41		18		132		18		5		2		31
GS8150327	East Branch Finniss River GS mid on Terrys property	11-Jan-15	6.8	127					638		782		0.18		69		40		269		38		4		4		52
GS8150327	East Branch Finniss River GS mid on Terrys property	12-Jan-15	6.8	169					375		322		0.2		60		54		370		52		1		3		60
GS8150327	East Branch Finniss River GS mid on Terrys property	16-Jan-15	6.4	43	10	2	3	52	1160	54	1250	<0.02	0.06	17	47	0	17	1	115	7	15	0	5	1	2	7	23
GS8150327	East Branch Finniss River GS mid on Terrys property	16-Jan-15	6.3	51					532		380		0.04		27		6		40		12		1		1		13
GS8150327	East Branch Finniss River GS mid on Terrys property	19-Jan-15	6.9	150																							
GS8150327	East Branch Finniss River GS mid on Terrys property	24-Jan-15	7.0	158					207		436		0.12		75		53		216		50		1		3		64
GS8150327	East Branch Finniss River GS mid on Terrys property	26-Jan-15	7.3	209					234		378		0.16		71		44		169		49		1		4		50
GS8150327	East Branch Finniss River GS mid on Terrys property	28-Jan-15	7.1	134	42	5	10	41	232	70	322	0.12	0.2	42	67	38	41	186	199	38	42	0	1	2	3	37	44
GS8150327	East Branch Finniss River GS mid on Terrys property	9-Jan-15			14	2	3	84	3940	42	4450	0.02	0.1	13	99	0	36	1	286	9	29	0	24	1	6	29	55
GS8150327	East Branch Finniss River GS mid on Terrys property	19-Jan-15							205		286		0.14		59		45		241		44		1		3		48
GS8150327	East Branch Finniss River GS mid on Terrys property	6-Feb-15	7.0	178					129		514		0.2		63		53		168		57		1		3		74
GS8150327	East Branch Finniss River GS mid on Terrys property	30-Jan-15	7.2	139	43	5	10	42	163	80	292	0.14	0.14	27	49	21	28	63	100	34	40	0	0	2	2	31	42
GS8150327	East Branch Finniss River GS mid on Terrys property	8-Feb-15	7.1	190					314		770		0.16		62		49		175		53		2		3		67
GS8150327	East Branch Finniss River GS mid on Terrys property	8-Feb-15	7.0	175					211		540		0.12		47		33		123		46		1		3		53
GS8150327	East Branch Finniss River GS mid on Terrys property	11-Feb-15	6.9	164					220		566		0.16		68		46		187		50		1		3		63
GS8150327	East Branch Finniss River GS mid on Terrys property	12-Feb-15	6.9	152	46	5	11	159	43	442	112	0.14	0.14	58	38	38	39	158	160	41	42	1	0	3	2	56	50
GS8150327	East Branch Finniss River GS mid on Terrys property	26-Feb-15			39	5	9	68	325	64	438	0.06	0.06	26	47	25	28	135	149	30	33	0	5	2	3	29	33
GS8150327	East Branch Finniss River GS mid on Terrys property	2-Mar-15							372		548				48		23		111		28		3		2		27
GS8150327	East Branch Finniss River GS mid on Terrys property	13-Apr-15							175		1900		0.18		59		62		184		73		1		4		82
GS8150327	East Branch Finniss River GS mid on Terrys property	27-Mar-15	2.8	147	0	0	<0.1	62	67	<20	<20	<0.2	<0.2	1	1	<0.1	<0.1	0	<0.1	0	<0.1	<0.1	<0.1	<0.01	<0.01	4	2
GS8150327	East Branch Finniss River GS mid on Terrys property	27-Mar-15	2.8	159					330		342		0.2		50		20		97		31		1		2		30
GS8150327	East Branch Finniss River GS mid on Terrys property	29-Mar-15	3.1	221					133		228		<0.2		31		14		46		30		1		3		24
GS8150327	East Branch Finniss River GS mid on Terrys property	7-Apr-15	3.9	222					177		592		<0.2		72		59		208		66		1		3		82
GS8150327	East Branch Finniss River GS mid on Terrys property	10-Apr-15	3.2	53	80	10	20	77	229	62	554	<0.2	<0.2	30	66	64	63	235	228	69	69	0	1	3	3	86	89
GS8150327	East Branch Finniss River GS mid on Terrys property	27-Mar-15	6.4	149																							
GS8150327	East Branch Finniss River GS mid on Terrys property	27-Mar-15	6.4	149	41	6	10	28	666	62	864	0.08	0.1	39	81	26	32	123	150	29	33	0	6	2	3	30	39
GS8150327	East Branch Finniss River GS mid on Terrys property	10-Apr-15	6.5	250	82	11	20	33	157	32	600	0.2	0.24	27	80	74	78	280	289	75	78	0	1	3	4	91	114
GS8150327	East Branch Finniss River GS mid on Terrys property	27-Mar-15	6.5	250	0	<0.1	<0.1	1	1	<2	<2	<0.02	<0.02	15	15	<0.01	0	0	0	0	0	1	1	<0.001	0	6	6
GS8150327	East Branch Finniss River GS mid on Terrys property	24-Apr-15	6.2	439	163	20	37	10	60	8		0.34	0.34	11	42	83	85	448	456	105	106		0	3	4	117	129
GS8150327	East Branch Finniss River GS mid on Terrys property	10-Apr-15	3.1	298				7	7					1	2	0	0	0	0	0	0		0	0		1	
GS8150327	East Branch Finniss River GS mid on Terrys property	13-Apr-15	4.5	298																							
GS8150327	East Branch Finniss River GS mid on Terrys property	16-Apr-15	4.7	263							1150		0.68		51		45		153		59		1		4		68
GS8150327	East Branch Finniss River GS mid on Terrys property	24-Apr-15	5.9	316	165	20	38	13	70	16	396	0.46	0.36	18	40	71	77	353	394	102	103	0		3	4	113	122
GS8150327	East Branch Finniss River GS mid on Terrys property	27-Mar-15			<0.1	<0.1	<0.1	0	0	<2	<2	<0.02	<0.02	0	0	<0.01	<0.01	0	0	0	0	0	0	<0.001	<0.001	0	1
GS8150327	East Branch Finniss River GS mid on Terrys property	24-Apr-15	6.9	367	174	22	40	14	66	6	386	0.38	0.46	6	30	3	49	0	255	61	92	<0.01	0	3	4	20	85
GS8150327	East Branch Finniss River GS mid on Terrys property	28-Apr-15	7.0	496					39		306		0.74		23		34		216		101		0		3		94
GS8150327	East Branch Finniss River GS mid on Terrys property	1-May-15	7.0	547					41		306		0.62		23		30		238		100		0		3		101
GS8150327	East Branch Finniss River GS mid on Terrys property	8-May-15	7.4	602	295	35	64	13	31	8	292	0.72	0.44	11	20	14	22	180	257	84	89	<0.01	0	4	4	80	93
GS8150327	East Branch Finniss River GS mid on Terrys property	8-May-15	6.6	685	295	35	65	2	12	6	178	0.22	0.24	10	19	20	24	247	286	88	91	<0.01	0	3	3	92	94
GS8150327	East Branch Finniss River GS mid on Terrys property	13-Feb-15			50	6	12	37	118	104	416	0.08	0.16	27	50	32	39	102	137	42	49	0	1	2	3	44	57
GS8150327	East Branch Finniss River GS mid on Terrys property	20-Feb-15							228		562		0.12		55		31		110		44		2		3		54
GS8150327	East Branch Finniss River GS mid on Terrys property	20-Feb-15							958		934		0.06		48		8		47		21		5		3		27
GS8150327	East Branch Finniss River GS mid on Terrys property	21-Feb-15							129		272		0.1		46		28		166		34		1		3		30
GS8150327	East Branch Finniss River GS mid on Terrys property	21-Feb-15							144		280		0.08		46		29		171		34		1		3		29
GS8150327	East Branch Finniss River GS mid on Terrys property	23-Feb-15							6860		6250		0.14		275		67		408		46		54		10		66
GS8150327	East Branch Finniss River GS mid on Terrys property	23-Feb-15							960		1100		0.06		50		19		122		25		10		2		28
GS8150327	East Branch Finniss River GS mid on Terrys property	13-Feb-15	7.0	164	50	6	12	37	118		416		0.16	27	50	32	39	102	137	42	49			2	3	44	57
GS8150327	East Branch Finniss River GS mid on Terrys property	20-Feb-15	6.7	159					228		562		0.12		55		31		110		44		2		3		54
GS8150327	East Branch Finniss River GS mid on Terrys property	25-Jan-13																									
GS8150327	East Branch Finniss River GS mid on Terrys property	11-Feb-13																									
GS8150327	East Branch Finniss River GS mid on Terrys property	25-Feb-13																									
GS8150327	East Branch Finniss River GS mid on Terrys property	11-Mar-13																									
GS8150327	East Branch Finniss River GS mid on Terrys property	25-Mar-13																									
GS8150327	East Branch Finniss River GS mid on Terrys property	8-Apr-13																									
GS8150327	East Branch Finniss River GS mid on Terrys property	22-Apr-13																									
GS8150327	East Branch Finniss River GS mid on Terrys property	7-May-13																									
GS8150327	East Branch Finniss River GS mid on Terrys property	3-Jun-13																									

Table C-6b. Surface Water Quality Monitoring Data (East Branch of the Finniss River at GS8150200), 2010 to 2015

			FIELD DATA		MAJOR IONS			DISSOLVED METALS (in ug/L)																				
Location or Gauge ID	Description	Sampling Date	pH	EC uS/cm	SO_4	Ca	Mg	Al-f	Al-t	Fe-f	Fe-t	Cd-f	Cd-t	Cu-f	Cu-t	Co-f	Co-t	Mn-f	Mn-t	Ni-f	Ni-t	Pb-f	Pb-t	U-f	U-t	Zn-f	Zn-t
GS8150327	East Branch Finniss River GS mid on Terrys property	1-Jul-13																									
GS8150327	East Branch Finniss River GS mid on Terrys property	13-Dec-13		347	147	14	32	70	309	48	236	0.3	0.3	19	31	1	5	7	22	56	62	0	0	3	4	47	54
GS8150327	East Branch Finniss River GS mid on Terrys property	13-Dec-13		341					870		572		0.28		76		56		255		80		3		5		86
GS8150327	East Branch Finniss River GS mid on Terrys property	13-Dec-13		291					524		364		0.24		52		27		117		61		3		4		67
GS8150327	East Branch Finniss River GS mid on Terrys property	15-Dec-13		389																							
GS8150327	East Branch Finniss River GS mid on Terrys property	20-Feb-14		160	53	7	12	32	951	62	886	0.14	0.18	25	100	13	48	9	167	30	47	0	4	2	5	31	56
GS8150327	East Branch Finniss River GS mid on Terrys property	20-Feb-14		97					127		152		0.08		32		13		18		23		1		2		26
GS8150327	East Branch Finniss River GS mid on Terrys property	22-Feb-14		161					380		462		0.14		77		43		116		47		3		4		53
GS8150327	East Branch Finniss River GS mid on Terrys property	2-Mar-14	7.2	181					157		312		0.24		83		81		291		65		1		4		76
GS8150327	East Branch Finniss River GS mid on Terrys property	6-Mar-14	7.1	127					243		380		0.1		80		46		174		45		1		3		39
GS8150327	East Branch Finniss River GS mid on Terrys property	6-Mar-14	7.0	135	45	6	10	28	194	46	344	0.16	0.14	78	115	51	53	177	181	49	51	0	1	2	4	55	55
GS8150327	East Branch Finniss River GS mid on Terrys property	8-Mar-14	7.2	168	60	7	13	50	189	72	320	0.14	0.18	26	78	40	53	93	144	42	53	0	2	3	4	50	55
GS8150327	East Branch Finniss River GS mid on Terrys property	10-Mar-14	7.2	166					143		310		0.16		72		58		163		55		1		4		58
GS8150327	East Branch Finniss River GS mid on Terrys property	15-Mar-14	7.3	167					140		328		0.2		68		61		208		54		1		4		50
GS8150327	East Branch Finniss River GS mid on Terrys property	18-Mar-14	7.4	207					172		444		0.22		81		85		280		69		1		5		79
GS8150327	East Branch Finniss River GS mid on Terrys property	2-Apr-14	7.2	389	167	18	36	41	146	30	450	0.5	0.44	32	85	161	169	559	585	140	147	0	1	6	7	173	176
GS8150327	East Branch Finniss River GS mid on Terrys property	20-Jan-14			44	6	9	143	7880	100	9150	0.06	0.32	114	318	39	170	172	710	53	123	2	41	3	14	105	189
GS8150327	East Branch Finniss River GS mid on Terrys property	9-Apr-14	7.2	511					22		92		0.4		16		94		127		148		0		7		93
GS8150327	East Branch Finniss River GS mid on Terrys property	14-Apr-14	7.3	365					153		478		0.42		70		131		419		126		1		8		152
GS8150327	East Branch Finniss River GS mid on Terrys property	20-Apr-14	7.4	594					63		214		0.7		35		235		616		226		0		9		247
GS8150327	East Branch Finniss River GS mid on Terrys property	29-Apr-14	7.2	750					26		256		0.84		38		243		672		274		0		8		341
GS8150327	East Branch Finniss River GS mid on Terrys property	5-Apr-14	7.2	449					40		118		0.28		18		108		201		123		0		7		66
GS8150327	East Branch Finniss River GS mid on Terrys property	8-Jan-14		318	126	13	28	45	174	44	378	<0.02	0.36	35	48	40	55	118	188	76	86	0	1	2	4	115	113
GS8150327	East Branch Finniss River GS mid on Terrys property	13-Jan-14		239					311		338		0.24		64		64		321		73		1		4		92
GS8150327	East Branch Finniss River GS mid on Terrys property	13-Jan-14		223					509		452		0.22		73		57		328		66		2		4		72
GS8150327	East Branch Finniss River GS mid on Terrys property	14-Jan-14		208					779		522		0.16		90		50		322		60		3		4		63
GS8150327	East Branch Finniss River GS mid on Terrys property	17-Jan-14		186					1400		550		0.16		113		75		533		66		3		6		65
GS8150327	East Branch Finniss River GS mid on Terrys property	19-Jan-14		104					6540		7900		0.42		379		263		1150		145		46		16		247
GS8150327	East Branch Finniss River GS mid on Terrys property	20-Jan-14		139																							
GS8150327	East Branch Finniss River GS mid on Terrys property	15-Dec-13							473		346		0.52		77		117		493		127		1		6		150
GS8150327	East Branch Finniss River GS mid on Terrys property	23-Jan-14		159	55	7	11	86	11400	68	11500	0.12	0.4	26	410	6	213	10	887	34	140	0	54	1	17	41	207
GS8150327	East Branch Finniss River GS mid on Terrys property	26-Jan-14		153					5260		6400		0.24		304		165		732		102		30		13		147
GS8150327	East Branch Finniss River GS mid on Terrys property	30-Jan-14		132					1620		1950		0.12		149		89		405		63		9		6		81
GS8150327	East Branch Finniss River GS mid on Terrys property	31-Jan-14		78					2420		2200		0.12		132		66		315		43		10		6		55
GS8150327	East Branch Finniss River GS mid on Terrys property	1-Feb-14		45					749		564		0.06		37		14		82		14		2		2		38
GS8150327	East Branch Finniss River GS mid on Terrys property	2-Feb-14		85					4380		4350		0.1		156		55		310		45		19		7		60
GS8150327	East Branch Finniss River GS mid on Terrys property	5-Feb-14		114	35	5	7	93	2000	74	1850	0.08	0.12	39	116	26	52	148	270	31	44	0	9	2	5	33	52
GS8150327	East Branch Finniss River GS mid on Terrys property	20-Feb-15	6.4	122					958		934				48		8		47		21		5		3		27
GS8150327	East Branch Finniss River GS mid on Terrys property	21-Feb-15	6.7	166					129		272				46		28		166		34				3		30
GS8150327	East Branch Finniss River GS mid on Terrys property	21-Feb-15	6.7	166					144		280				46		29		171		34		1		3		29
GS8150327	East Branch Finniss River GS mid on Terrys property	23-Feb-15	6.3	73					6860		6250		0.14		275		67		408		46		54		10		66
GS8150327	East Branch Finniss River GS mid on Terrys property	23-Feb-15	6.3	105					960		1100				50		19		122		25		10		2		28
GS8150327	East Branch Finniss River GS mid on Terrys property	26-Feb-15	6.4	130	39	5		68	325	64				26	47	25	28	135	149	30	33	0	5	2	3	29	33
GS8150327	East Branch Finniss River GS mid on Terrys property	13-Mar-15	5.9	173	55	7	14	28	116	60	422	0.12	0.14	46	83	49	49	181	181	48	49		1	2	3	52	56
GS8150327	East Branch Finniss River GS mid on Terrys property	27-Feb-15	6.2	119	36	5	9	21	154		252			21	37	6	15	43	93	24	27		1	1	2	18	24
GS8150327	East Branch Finniss River GS mid on Terrys property	2-Mar-15	6.4	153																							
GS8150327	East Branch Finniss River GS mid on Terrys property	5-Mar-15	6.2	142					116		306				49		29		121		33		1		2		34
GS8150327	East Branch Finniss River GS mid on Terrys property	6-Mar-15	5.7	85					1440		1650				107		17		99		24		22		3		32
GS8150327	East Branch Finniss River GS mid on Terrys property	6-Mar-15	5.7	103					2720		3550				90		20		186		26		23		4		31
GS8150327	East Branch Finniss River GS mid on Terrys property	8-Mar-15	5.9	145					105		268				48		29		125		34		1		2		31
GS8150327	East Branch Finniss River GS mid on Terrys property	13-Mar-15	5.6	99	54	7	14	29	175		544	0.16	0.12	42	83	41	45	151	171	45	47			2	3	50	55
GS8150327	East Branch Finniss River GS mid on Terrys property	2-May-14	7.2	682					27		192		0.9		23		240		555		265		0		7		308
GS8150327	East Branch Finniss River GS mid on Terrys property	11-May-14	7.1	742					30		248		0.64		29		73		272		185		0		8		219
GS8150327	East Branch Finniss River GS mid on Terrys property	9-Jan-15	6.6	51																							
GS8150327	East Branch Finniss River GS mid on Terrys property	15-Jan-15	6.8	71					571		360		0.1		37		21		142		22		1		2		28
GS8150327	East Branch Finniss River GS mid on Terrys property	9-Apr-13	6.8	149	47	6	11	21	141	54	310	0.08	0.1	13	38	16	26	20	59	27	34	0	0	2	2	18	32
GS8150327	East Branch Finniss River GS mid on Terrys property	16-Apr-13	6.8	178					249		496		0.22		71		59		140		58		1		3		80
GS8150327	East Branch Finniss River GS mid on Terrys property	22-Apr-13	6.9	223					165		488		0.26		75		80		212		78		1		4		110
GS8150327	East Branch Finniss River GS mid on Terrys property	30-Apr-13	6.9	352		16	32	19	103	8	384	0.22	0.32	7	44	85	106	127	241	94	113	<0.01	1	4	4	52	103
GS8150327	East Branch Finniss River GS mid on Terrys property	16-May-13	6.9	826					7		102		0.48		14		39		185		165		0		4		133
GS8150327	East Branch Finniss River GS mid on Terrys property	18-May-13	6.8	747					39		192		0.4		21		73		419		158		0		4		152
GS8150327	East Branch Finniss River GS mid on Terrys property	18-May-13	6.8	870					641		1300		0.92		110		258		868		303		4		9		384
GS8150327	East Branch Finniss River GS mid on Terrys property	18-May-13	6.6	254					2320		1500		0.28		98		78		202		77		7		6		114
GS8150327	East Branch Finniss River GS mid on Terrys property	19-May-13	6.8	302					636		524		0.32		50		74		351		82		1		3		84
GS8150327	East Branch Finniss River GS mid on Terrys property	22-May-13	6.8	398					182		478		0.32		45		83		234		103		1		6		90
GS8150327	East Branch Finniss River GS mid on Terrys property	23-May-13	6.8	397					1200		1600		0.38		125		107		502		107		6		7		135
GS8150327	East Branch Finniss River GS mid on Terrys property	23-May-13	6.8	286					4200		4300		0.38		305		168		676		124		35		10		195
GS8150327	East Branch Finniss River GS mid on Terrys property	24-May-13	6.4	97		4	8	33	2100	54	1250	0.06	0.1	26	67	6	39	2	159	23	36	0	4	2	3	21	45
GS8150327	East Branch Finniss River GS mid on Terrys property	18-Jan-11																									
GS8150327	East Branch Finniss River GS mid on Terrys property	28-Feb-11																									
GS8150327	East Branch Finniss River GS mid on Terrys property	14-Mar-11																									
GS8150327	East Branch Finniss River GS mid on Terrys property	28-Mar-11																									
GS8150327	East Branch Finniss River GS mid on Terrys property	11-Apr-11																									
GS8150327	East Branch Finniss River GS mid on Terrys property	27-Apr-11																									
GS8150327	East Branch Finniss River GS mid on Terrys property	9-May-11																									
GS8150327	East Branch Finniss River GS mid on Terrys property	28-Feb-13	6.7	160	46	5		40	414	60	424	0.3	0.6	18	32	9	14	17	33	25	31	0	1	2	3	23	34
GS8150327	East Branch Finniss River GS mid on Terrys property	1-Mar-13	6.6	101					540		392		0.14		28		7		21		17		1		3		23
GS8150327	East Branch Finniss River GS mid on Terrys property	3-Mar-13	6.6	132					519		408		0.22		33		19		47		31		1		3		29
GS8150327	East Branch Finniss River GS mid on Terrys property	4-Mar-13	6.7	179					641		502		0.22		43		19		58		27		2		3		31
GS8150327	East Branch Finniss River GS mid on Terrys property	8-Mar-13	6.7	161					391				0.18		42		34		111		40		1		3		48
GS8150327	East Branch Finniss River GS mid on Terrys property	9-Mar-13	6.6	131					734		494		0.1		45		6		17		25		2		2		25
GS8150327	East Branch Finniss River GS mid on Terrys property	12-Mar-13	6.0	19	42	5	10	49	438	78	494	0.46	0.38	24	42	32	34	108	115	35	38	0	1	2	3	41	49
GS8150327	East Branch Finniss River GS mid on Terrys property	12-Mar-13	6.0	16	46	5	11	41	261	60	336	0.08	0.12	16	30	10	17	14	43	23	29	0	0	2	2	20	38
GS8150327	East Branch Finniss River GS mid on Terrys property	26-Mar-13	7.0	173	52	6	13	57	242	86	414	0.14	0.12	21	38	31	34	86	104	36	37	0	1	2	3	47	59
GS8150327	East Branch Finniss River GS mid on Terrys property	16-Mar-13	6.9	160					235		366		0.16		31		19		59		32		1		2		35
GS8150327	East Branch Finniss River GS mid on Terrys property	5-Feb-14	6.3	82	309	4	6	108	1260	96	1200	<0.02	0.06	25	71	1	20	4	105	15	24	0	5	1	3	18	30
GS8150327	East Branch Finniss River GS mid on Terrys property	7-Feb-14		128					1740		1800		0.12		116		56		264		49		8		5		56

Table C-6c. Surface Water Quality Monitoring Data (East Branch of the Finniss River at GS8150200), 2010 to 2015

			FIELD DATA		MAJOR IONS			DISSOLVED METALS (in ug/L)																				
Location or Gauge ID	Description	Sampling Date	pH	EC uS/cm	SO_4	Ca	Mg	Al-f	Al-t	Fe-f	Fe-t	Cd-f	Cd-t	Cu-f	Cu-t	Co-f	Co-t	Mn-f	Mn-t	Ni-f	Ni-t	Pb-f	Pb-t	U-f	U-t	Zn-f	Zn-t
GS8150327	East Branch Finniss River GS mid on Terrys property	9-Feb-14		150					1680		1800		0.22		168		92		356		68		8		7		84
GS8150327	East Branch Finniss River GS mid on Terrys property	10-Feb-14		125					1060		970		0.14		106		56		243		49		4		5		51
GS8150327	East Branch Finniss River GS mid on Terrys property	13-Feb-14		135					393		446		0.14		82		50		171		49		1		4		61
GS8150327	East Branch Finniss River GS mid on Terrys property	15-Feb-14		88					1780		1250		0.08		89		31		125		31		4		4		42
GS8150327	East Branch Finniss River GS mid on Terrys property	15-Feb-14	5.5	116	373	5	9	126	1860	108	1350	0.1	0.12	36	136	24	58	56	212	31	47	0	8	2	5	42	67
GS8150327	East Branch Finniss River GS mid on Terrys property	6-Jun-11																									
GS8150327	East Branch Finniss River GS mid on Terrys property	4-Jul-11																									
GS8150327	East Branch Finniss River GS mid on Terrys property	30-Aug-11																									
GS8150327	East Branch Finniss River GS mid on Terrys property	26-Sep-11																									
GS8150327	East Branch Finniss River GS mid on Terrys property	24-Oct-11																									
GS8150327	East Branch Finniss River GS mid on Terrys property	21-Nov-11																									
GS8150327	East Branch Finniss River GS mid on Terrys property	5-Dec-11																									
GS8150327	East Branch Finniss River GS mid on Terrys property	19-Dec-11																									
GS8150327	East Branch Finniss River GS mid on Terrys property	3-Jan-12																									
GS8150327	East Branch Finniss River GS mid on Terrys property	16-Jan-12																									
GS8150327	East Branch Finniss River GS mid on Terrys property	30-Jan-12																									
GS8150327	East Branch Finniss River GS mid on Terrys property	13-Feb-12																									
GS8150327	East Branch Finniss River GS mid on Terrys property	27-Feb-12																									
GS8150327	East Branch Finniss River GS mid on Terrys property	12-Mar-12																									
GS8150327	East Branch Finniss River GS mid on Terrys property	26-Mar-12																									
GS8150327	East Branch Finniss River GS mid on Terrys property	10-Apr-12																									
GS8150327	East Branch Finniss River GS mid on Terrys property	23-Apr-12																									
GS8150327	East Branch Finniss River GS mid on Terrys property	22-May-12																									
GS8150327	East Branch Finniss River GS mid on Terrys property	2-Aug-11																									
GS8150327	East Branch Finniss River GS mid on Terrys property	18-Jun-12																									
GS8150327	East Branch Finniss River GS mid on Terrys property	20-Jul-12																									
GS8150327	East Branch Finniss River GS mid on Terrys property	13-Aug-12																									
GS8150327	East Branch Finniss River GS mid on Terrys property	14-Sep-12																									
GS8150327	East Branch Finniss River GS mid on Terrys property	3-Dec-12																									
GS8150327	East Branch Finniss River GS mid on Terrys property	17-Dec-12																									
GS8150327	East Branch Finniss River GS mid on Terrys property	2-Jan-13																									
GS8150327	East Branch Finniss River GS mid on Terrys property	14-Jan-13																									
GS8150327	East Branch Finniss River GS mid on Terrys property	6-Mar-12		174					371		370		1		79		54		221		53		1		4		51
GS8150327	East Branch Finniss River GS mid on Terrys property	8-Apr-12		219					332		674		0.32		176		109		300		98		3		7		157
GS8150327	East Branch Finniss River GS mid on Terrys property	6-Feb-13			90	9	22	153	476	50	896	0.36	0.34	39	91	62	70	199	233	66	75	0	1	3	6	82	106
GS8150327	East Branch Finniss River GS mid on Terrys property	18-Mar-12		133																							
GS8150327	East Branch Finniss River GS mid on Terrys property	20-Mar-12		141																							
GS8150327	East Branch Finniss River GS mid on Terrys property	21-Mar-12		142					201		242		0.14		100		58		221		54		1		3		58
GS8150327	East Branch Finniss River GS mid on Terrys property	16-Mar-12							554		354		0.02		34		7		35		13		2		2		15
GS8150327	East Branch Finniss River GS mid on Terrys property	11-Apr-12		251					152		258		0.4		87		129		353		117		1		6		151
GS8150327	East Branch Finniss River GS mid on Terrys property	14-Apr-12		306					142		206		0.42		76		88		245		76		4		8		91
GS8150327	East Branch Finniss River GS mid on Terrys property	17-Apr-12		329					170		364		0.6		103		162		469		141		1		7		208
GS8150327	East Branch Finniss River GS mid on Terrys property	20-Apr-12		386					146		328		0.66		98		202		612		175		1		7		234
GS8150327	East Branch Finniss River GS mid on Terrys property	23-Apr-12		392																							
GS8150327	East Branch Finniss River GS mid on Terrys property	11-Apr-12		253																							
GS8150327	East Branch Finniss River GS mid on Terrys property	23-Apr-12							171		376		0.64		93		217		635		189		1		7		275
GS8150327	East Branch Finniss River GS mid on Terrys property	26-Apr-12		346					91		168		<0.02		39		127		373		121		0		7		101
GS8150327	East Branch Finniss River GS mid on Terrys property	29-Apr-12		411					60		104		<0.02		26		56		114		63		1		10		31
GS8150327	East Branch Finniss River GS mid on Terrys property	2-May-12		550					133		108		<0.02		30		169		462		157		0		9		168
GS8150327	East Branch Finniss River GS mid on Terrys property	5-May-12		340																							
GS8150327	East Branch Finniss River GS mid on Terrys property	8-May-12		469																							
GS8150327	East Branch Finniss River GS mid on Terrys property	11-May-12		631					64		170		0.26		41		252		659		234		0		8		253
GS8150327	East Branch Finniss River GS mid on Terrys property	14-May-12		599					56		126		0.48		27		134		355		184		0		10		158
GS8150327	East Branch Finniss River GS mid on Terrys property	17-May-12		638					6		38		0.52		12		42		65		145		0		10		60
GS8150327	East Branch Finniss River GS mid on Terrys property	18-May-12		668					4		10		0.34		6		26		19		133		0		10		38
GS8150327	East Branch Finniss River GS mid on Terrys property	23-May-12		466					15		98		0.24		17		8		45		30		1		11		22
GS8150327	East Branch Finniss River GS mid on Terrys property	1-Jun-12		594																							
GS8150327	East Branch Finniss River GS mid on Terrys property	10-Jun-12		857					8		80		0.4		12		5		37		61		0		16		53
GS8150327	East Branch Finniss River GS mid on Terrys property	19-Jun-12		1099					8		118		0.56		14		23		198		139		0		15		104
GS8150327	East Branch Finniss River GS mid on Terrys property	18-Mar-13		136					348		420		0.08		34		24		66		31		1		3		35
GS8150327	East Branch Finniss River GS mid on Terrys property	13-Mar-13		154																							
GS8150327	East Branch Finniss River GS mid on Terrys property	14-Mar-13		162																							
GS8150327	East Branch Finniss River GS mid on Terrys property	17-Mar-13		136																							
GS8150327	East Branch Finniss River GS mid on Terrys property	17-Mar-13		117																							
GS8150327	East Branch Finniss River GS mid on Terrys property	20-Mar-13		171																							
GS8150327	East Branch Finniss River GS mid on Terrys property	23-Mar-13		185																							
GS8150327	East Branch Finniss River GS mid on Terrys property	17-Mar-13		190																							
GS8150327	East Branch Finniss River GS mid on Terrys property	12-Feb-13							223		464		0.32		45		68		185		97		1		5		98
GS8150327	East Branch Finniss River GS mid on Terrys property	1-Jun-12							49		102		0.12		15		6		54		27		0		14		20
GS8150327	East Branch Finniss River GS mid on Terrys property	6-Feb-13		252																							
GS8150327	East Branch Finniss River GS mid on Terrys property	6-Feb-13		259	89	9	22	33	437	20	668	0.1	0.26	18	65	14	48	1	141	42	64	0	1	3	5	23	74
GS8150327	East Branch Finniss River GS mid on Terrys property	9-Feb-13		290					273		556		0.2		50		44		110		64		1		4		66
GS8150327	East Branch Finniss River GS mid on Terrys property	12-Feb-13		387																							
GS8150327	East Branch Finniss River GS mid on Terrys property	13-Feb-13		182					2940		2250		0.32		98		62		232		87		21		5		137
GS8150327	East Branch Finniss River GS mid on Terrys property	16-Feb-13		211					843		768		0.28		64		51		155		66		1		4		77
GS8150327	East Branch Finniss River GS mid on Terrys property	18-Feb-13		229					983		894		0.14		61		36		112		51		1		4		59
GS8150327	East Branch Finniss River GS mid on Terrys property	20-Feb-13		209					620		806		0.22		60		42		121		55		1		5		69
GS8150327	East Branch Finniss River GS mid on Terrys property	21-Feb-13		96					2900		2350		0.16		107		50		194		48		14		5		67
GS8150327	East Branch Finniss River GS mid on Terrys property	27-Feb-13		169	27	3	7	73	3220	74	1750	0.08	0.14	30	82	8	37	5	128	23	38	0	9	2	4	25	54
GS8150327	East Branch Finniss River GS mid on Terrys property	22-Dec-13		453					98		154		0.36		32		77		308		113		0		4		87
GS8150327	East Branch Finniss River GS mid on Terrys property	24-Dec-13		354					347		328		0.36		58		108		469		122		1		4		128
GS8150327	East Branch Finniss River GS mid on Terrys property	24-Dec-13		266					1240		874		0.22		63		46		192		70		6		4		81
GS8150327	East Branch Finniss River GS mid on Terrys property	24-Dec-13		252					843		646		0.18		63		25		89		61		3		4		67
GS8150327	East Branch Finniss River GS mid on Terrys property	24-Dec-13		257					2740		2300		0.24		151		68		258		73		28		7		99
GS8150327	East Branch Finniss River GS mid on Terrys property	24-Dec-13		187					2620		1600		0.16		66		27		123		43		11		4		53
GS8150327	East Branch Finniss River GS mid on Terrys property	25-Dec-13		240	97	10	20	329	930	170	508	0.18	0.24	41	72	37	49	233	298	61	71	0	2	3	4	63	74
GS8150327	East Branch Finniss River GS mid on Terrys property	26-Mar-13		167	56	6	13	37	452	26	552	0.04	0.08	13	41	4	23	1	69	14	27	0	2	3	4	7	32

Table C-6d. Surface Water Quality Monitoring Data (East Branch of the Finniss River at GS8150200), 2010 to 2015

			FIELD DATA		MAJOR IONS			DISSOLVED METALS (in ug/L)																			
Location or Gauge ID	Description	Sampling Date	pH	EC uS/cm	SO_4	Ca	Mg	Al-f	Al-t	Fe-f	Fe-t	Cd-f	Cd-t	Cu-f	Cu-t	Co-f	Co-t	Mn-f	Mn-t	Ni-f	Ni-t	Pb-f	Pb-t	U-f	U-t	Zn-f	Zn-t
GS8150327	East Branch Finniss River GS mid on Terrys property	26-Mar-13		192					1640		1350		0.1		119		49		199		42		9		4		63
GS8150327	East Branch Finniss River GS mid on Terrys property	26-Mar-13		130					1920		1500		0.1		81		38		163		30		14		4		48
GS8150327	East Branch Finniss River GS mid on Terrys property	27-Mar-13		102					631		486		0.04		32		15		50		19		2		2		25
GS8150327	East Branch Finniss River GS mid on Terrys property	27-Mar-13		129					438		350		0.06		30		11		31		22		1		2		20
GS8150327	East Branch Finniss River GS mid on Terrys property	27-Mar-13		187					333		340		0.06		33		13		34		23		1		3		33
GS8150327	East Branch Finniss River GS mid on Terrys property	28-Mar-13		99					7920		7200		0.38		337		164		410		109		47		12		220
GS8150327	East Branch Finniss River GS mid on Terrys property	29-Mar-13		46					1620		856		0.06		44		21		71		22		3		2		31
GS8150327	East Branch Finniss River GS mid on Terrys property	29-Mar-13		85					176		370		0.1		32		23		56		33		0		3		40
GS8150327	East Branch Finniss River GS mid on Terrys property	9-Apr-13		149	46	5	11	35	198	24	390	0.1	0.1	26	57	39	43	121	126	39	42	0	0	2	3	42	48
GS8150327	East Branch Finniss River GS mid on Terrys property	7-Jun-11		573																							
GS8150327	East Branch Finniss River GS mid on Terrys property	22-Dec-11		967					41		170		2.9		36		22		389		70		1		18		102
GS8150327	East Branch Finniss River GS mid on Terrys property	5-Jan-12		888							26		<0.2		15		3		71		44		<0.1		14		33
GS8150327	East Branch Finniss River GS mid on Terrys property	25-Dec-11		971							106		1.86		24		10		223		47		1		15		55
GS8150327	East Branch Finniss River GS mid on Terrys property	28-Dec-11		971							<20		1.4		13		1		7		35		1		13		30
GS8150327	East Branch Finniss River GS mid on Terrys property	31-Dec-11									184		0.32		24		9		137		56		1		10		43
GS8150327	East Branch Finniss River GS mid on Terrys property	1-Jan-12									76		<0.2		24		8		121		69		1		12		64
GS8150327	East Branch Finniss River GS mid on Terrys property	2-Jan-12									82		<0.2		18		10		154		55		0		12		46
GS8150327	water	3-Jan-12									66		0.46		17		7		116		58		0		14		50
GS8150327	East Branch Finniss River GS mid on Terrys property	30-Dec-11		888							1930		1.14		36		17		292		48		9		15		56
GS8150327	East Branch Finniss River GS mid on Terrys property	24-Mar-12		154					203		292		0.18		107		72		240		65		1		4		76
GS8150327	East Branch Finniss River GS mid on Terrys property	26-Mar-12		159																							
GS8150327	East Branch Finniss River GS mid on Terrys property	27-Mar-12		160					223		290		0.18		96		71		219		65		1		4		78
GS8150327	East Branch Finniss River GS mid on Terrys property	30-Mar-12		165					185		276		0.18		91		73		219		65		2		4		72
GS8150327	East Branch Finniss River GS mid on Terrys property	2-Apr-12		184																							
GS8150327	East Branch Finniss River GS mid on Terrys property	5-Apr-12		196																							
GS8150327	East Branch Finniss River GS mid on Terrys property	21-Jan-12		431							82		0.6		26		20		102		43		1		8		76
GS8150327	East Branch Finniss River GS mid on Terrys property	21-Jan-12		431							64		0.1		23		16		47		36		1		6		43
GS8150327	East Branch Finniss River GS mid on Terrys property	21-Jan-12		430							74		0.08		27		17		55		38		1		6		56
GS8150327	East Branch Finniss River GS mid on Terrys property	24-Jan-12		378							22		<0.02		19		8		16		25		0		5		35
GS8150327	East Branch Finniss River GS mid on Terrys property	24-Jan-12		483																							
GS8150327	East Branch Finniss River GS mid on Terrys property	27-Jan-12		272							422		<0.02		67		49		143		68		2		5		98
GS8150327	East Branch Finniss River GS mid on Terrys property	30-Jan-12		196							388		0.78		84		70		277		74		2		4		98
GS8150327	East Branch Finniss River GS mid on Terrys property	31-Jan-12		166							390		0.5		63		31		102		57		2		3		76
GS8150327	East Branch Finniss River GS mid on Terrys property	31-Jan-12		135							702		0.72		93		59		267		62		4		4		89
GS8150327	East Branch Finniss River GS mid on Terrys property	1-Feb-12		97							492		0.38		59		62		52		78		2		2		136
GS8150327	East Branch Finniss River GS mid on Terrys property	1-Feb-12		134							452		0.5		63		34		161		55		2		3		66
GS8150327	East Branch Finniss River GS mid on Terrys property	2-Feb-12		164							276		0.54		72		62		320		64		1		4		71
GS8150327	East Branch Finniss River GS mid on Terrys property	8-Feb-12		175							490		<0.02		95		68		307		65		1		5		96
GS8150327	East Branch Finniss River GS mid on Terrys property	22-Feb-12		110							1650		0.2		95		36		156		41		18		4		63
GS8150327	East Branch Finniss River GS mid on Terrys property	22-Feb-12		136							778		0.34		82		46		229		46		4		4		61
GS8150327	East Branch Finniss River GS mid on Terrys property	23-Feb-12		195							636		0.58		110		67		327		66		4		5		81
GS8150327	East Branch Finniss River GS mid on Terrys property	8-Mar-12		182					462		466		0.14		87		39		131		43		3		4		55
GS8150327	East Branch Finniss River GS mid on Terrys property	9-Mar-12		152																							
GS8150327	East Branch Finniss River GS mid on Terrys property	9-Mar-12		151					328		322		0.12		67		48		200		50		1		3		49
GS8150327	East Branch Finniss River GS mid on Terrys property	12-Mar-12		150																							
GS8150327	East Branch Finniss River GS mid on Terrys property	14-Mar-12		143					473		424		0.12		96		47		171		48		2		4		55
GS8150327	East Branch Finniss River GS mid on Terrys property	14-Mar-12		129																							
GS8150327	East Branch Finniss River GS mid on Terrys property	14-Mar-12		69																							
GS8150327	East Branch Finniss River GS mid on Terrys property	14-Mar-12		40					1460		1250		0.12		108		39		115		32		9		4		63
GS8150327	East Branch Finniss River GS mid on Terrys property	14-Mar-12		22																							
GS8150327	East Branch Finniss River GS mid on Terrys property	15-Mar-12		45																							
GS8150327	East Branch Finniss River GS mid on Terrys property	15-Mar-12		66					496		318		0.06		39		11		48		19		2		2		20
GS8150327	East Branch Finniss River GS mid on Terrys property	15-Mar-12		68																							
GS8150327	East Branch Finniss River GS mid on Terrys property	16-Mar-12		119					359		272		0.1		61		32		157		37		1		3		35
GS8150327	East Branch Finniss River GS mid on Terrys property	16-Mar-12		41																							
GS8150327	East Branch Finniss River GS mid on Terrys property	17-Mar-12		65																							
GS8150327	East Branch Finniss River GS mid on Terrys property	18-Mar-12		112					320		246		0.1		65		37		180		37		2		3		35
GS8150327	East Branch Finniss River GS mid on Terrys property	18-Mar-12		130																							
GS8150327	East Branch Finniss River GS mid on Terrys property	14-Feb-12		207																							
GS8150327	East Branch Finniss River GS mid on Terrys property	17-Feb-12		214																							
GS8150327	East Branch Finniss River GS mid on Terrys property	18-Feb-12		180																							
GS8150327	East Branch Finniss River GS mid on Terrys property	19-Feb-12		174																							
GS8150327	East Branch Finniss River GS mid on Terrys property	11-Feb-12		198																							
GS8150327	East Branch Finniss River GS mid on Terrys property	18-Feb-12		222							556		0.76		91		91		352		91		1		5		198
GS8150327	East Branch Finniss River GS mid on Terrys property	18-Feb-12		170							508		0.2		54		34		114		54		2		3		95
GS8150327	East Branch Finniss River GS mid on Terrys property	18-Feb-12		117							2900		0.28		135		45		159		53		49		5		101
GS8150327	East Branch Finniss River GS mid on Terrys property	19-Feb-12		153							612		0.7		95		69		347		66		2		5		92
GS8150327	East Branch Finniss River GS mid on Terrys property	20-Feb-12		190							2100		0.32		110		46		175		55		25		5		95
GS8150327	East Branch Finniss River GS mid on Terrys property	22-Feb-12		84							1500		0.56		71		30		152		32		11		3		52
GS8150327	East Branch Finniss River GS mid on Terrys property	24-Jan-12									50		0.36		22		61		6		92		0		8		50
GS8150327	East Branch Finniss River GS mid on Terrys property	11-Feb-12									482		0.58		83		64		271		63		1		5		102
GS8150327	East Branch Finniss River GS mid on Terrys property	24-Feb-12		178					1040		550		0.56		89		64		299		65		2		4		69
GS8150327	East Branch Finniss River GS mid on Terrys property	1-Mar-12		129					836		584		0.92		70		40		151		44		2		3		47

Table C-7a. Surface Water Quality Monitoring Data (East Branch of the Finniss River at GS8150200), 2010 to 2015

			FIELD DATA		MAJOR IONS			DISSOLVED METALS (in ug/L)																			
Location or Gauge ID	Description	Sampling Date	pH	EC uS/cm	SO_4	Ca	Mg	Al-f	Al-t	Fe-f	Fe-t	Cd-f	Cd-t	Cu-f	Cu-t	Co-f	Co-t	Mn-f	Mn-t	Ni-f	Ni-t	Pb-f	Pb-t	U-f	U-t	Zn-f	Zn-t
East Branch of the Finniss River at Gauge GS8150097																											
GS8150097	East Branch Finniss River at GS097	28-Apr-14	7.9	640	230	28	54	6	12	<2	94	0.2	0.18	9	16	12	21	160	236	53	58	<0.01	0	6	6	35	43
GS8150097	East Branch Finniss River at GS097	26-May-14			387	44	87	8	5	6	58	0.1	0.1	10	16	8	10	130	149	29	31	0	0	7	7	26	28
GS8150097	East Branch Finniss River at GS097	1-Apr-14	7.9	416	140	18	34	18	101	8	340	0.32	0.36	18	51	92	96	385	400	97	102	<0.01	0	5	6	105	119
GS8150097	East Branch Finniss River at GS097	6-Jan-15	6.5	191	71	8	15	63	564	64	366	0.12	0.12	32	59	42	45	273	289	44	47	0	3	2	3	53	77
GS8150097	East Branch Finniss River at GS097	4-Mar-14	8.3	241	68	9	16	32	144	12	360	0.22	0.24	37	99	69	72	222	230	64	68	0	1	3	4	77	85
GS8150097	East Branch Finniss River at GS097	26-Mar-13	6.1	202	57	6	14	23	124	52	480	0.12	0.12	17	37	20	22	83	88	34	36	0	1	2	2	32	40
GS8150097	East Branch Finniss River at GS097	29-Apr-15	7.1	428	117	18	30	11	25	10	244	0.06	0.06	8	17	1	16	39	246	22	25	0	0	3	3	15	22
GS8150097	East Branch Finniss River at GS097	4-Feb-14	6.9	75	21	3	5	103	460	102	392	0.04	0.08	37	55	19	22	116	130	20	22	1	3	2	3	26	37
GS8150097	East Branch Finniss River at GS097	26-Feb-13	5.9	192	56	6	14	23	777	58	612	0.12	0.14	21	48	24	26	138	144	33	37	0	1	2	3	31	40
GS8150097	East Branch Finniss River at GS097	7-Jan-14	6.0	325	119	12	26	10	170	12	518	0.14	0.16	15	60	25	27	191	204	47	51	<0.01	1	2	3	47	58
GS8150097	East Branch Finniss River at GS097	3-Dec-13	7.0	638	291	31	59	9	172	6	246	0.56	0.54	16	47	121	127	262	274	211	221	0	2	1	1	281	296
GS8150097	East Branch Finniss River at GS097	31-Jan-13			82	8	20	16	792	38	712	0.1	0.14	29	70	17	20	88	100	40	47	0	1	2	3	35	52
GS8150097	East Branch Finniss River at GS097	23-Jun-14	6.5	751																							
GS8150097	East Branch Finniss River at GS097	31-Jan-13	7.0	266																							
GS8150097	East Branch Finniss River at GS097	1-Apr-15	7.2	204	53	8	14	62	168	24	544	0.1	0.14	12	51	31	36	190	210	37	41	0	1	2	2	40	49
GS8150097	East Branch Finniss River at GS097	18-Aug-14			850	97	178	2	36	<2	68	0.14	0.16	10	22	7	24	47	164	63	71	0	0	20	20	58	70
GS8150097	East Branch Finniss River at GS097	26-May-14	6.7	845																							
GS8150097	East Branch Finniss River at GS097	15-Jul-13	7.1	408	167	20	40	1	7	92	688	<0.02	0.1	2	11	87	93	1310	1360	38	39	<0.01	0	2	2	13	25
GS8150097	East Branch Finniss River at GS097	4-Mar-15	7.1	163	41	6	10	71	141	66	356	0.08	0.08	29	55	29	30	156	163	32	34	0	1	2	2	33	36
GS8150097	East Branch Finniss River at GS097	18-Aug-14	6.6	1407																							
GS8150097	East Branch Finniss River at GS097	17-Jun-13	6.7	297	115	13	27	18	71	12	290	0.12	0.14	11	32	19	20	100	107	52	53	<0.01	0	2	3	47	51
GS8150097	East Branch Finniss River at GS097	3-Feb-15	69.9	143	49	6	12	37	151	54	488	0.12	0.1	23	60	33	36	157	164	40	43	0	1	2	3	42	48
GS8150097	East Branch Finniss River at GS097	22-May-13	6.3	369	127	14	29	30	194	10	472	0.16	0.18	19	46	25	27	296	322	58	61	<0.01	1	2	3	54	63
GS8150097	East Branch Finniss River at GS097	23-Apr-13	7.3	214	77	9	18	19	91	18	438	0.16	0.2	17	54	46	48	176	179	57	61	0	0	2	3	63	73
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	13-Mar-15			47	7	13	17	94					24	57	32	33	161	165	36	38		1	2	2	38	40
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	5-Mar-15							112		372				42		18		92		28		1		2		58
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	10-Apr-15	6.5	208	63	10	17	19	134	70	476	0.04	0.06	13	37	0	20	0	116	21	32	0	1	2	3	16	40
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	16-Apr-15	6.6	314					59		302		0.12		27		17		104		41		1		3		62
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	19-Apr-15	6.5	258					60		334		0.14		25		12		113		32		1		3		58
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	24-Apr-15	6.5	317	105	15	27	11	60	34	336	0.06	0.08	11	21	5	11	88	163	26	28	0	1	3	3	30	38
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	27-Mar-15	6.5	178	56	9	13	91	706	32	524	0.04	0.1	17	50	0	24	1	127	20	34	0	3	1	2	17	47
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	27-Mar-15	6.5	182					479		396		0.08		41		18		91		32		2		2		36
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	29-Mar-15	6.7	195					169		220		0.06		27		8		47		24		1		2		34
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	4-Apr-15	6.6	187																							
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	27-Mar-15	6.3	191	48	7	12	17	817	46	730	0.1	0.12	30	71	30	37	155	188	34	41	0	4	1	3	42	60
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	10-Apr-15	6.2	235	63	10	17	12	80	26	524	0.1	0.12	12	45	27	28	165	170	40	41	0	0	2	3	38	46
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	10-Apr-15	6.5	209	62	10	16	90	165	72	490	0.1	0.12	17	39	15	19	88	116	32	36	0	1	2	2	60	71
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	24-Apr-15	6.5	341	106	16	27	4	42	12	378			10	25	19	22	299	323	33	35	0	1		3	24	29
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	4-Apr-15							175		476		0.08		40		18		108		32		1		2		58
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	24-Apr-15	6.7	317	<0.1	<0.1	<0.1	13	13	<2	<2	<0.02	<0.02	7	8	0	0	0	0	0	0	0	0	<0.001	<0.001	4	5
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	27-Apr-15	6.7	335					35		194		0.08		13		6		80		19		0		3		22
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	3-May-15	6.7	364					31		300		0.2		12		7		79		16		0		3		21
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	8-May-15	6.7	385	128	20	34	16	33	8	248	0.28	0.24	7	14	0	10	0	147	13	18	<0.01	0	3	4	16	32
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	8-May-15	6.7	463	130	20	34	1	10	8	146	<0.02	0.06	8	14	0	14	4	243	16	19	<0.01	0	3	3	8	16
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	13-Feb-15			47	6	12	33	87	142	384	0.08	0.12	28	42	15	19	69	94	33	35	0	1	2	2	49	56
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	20-Feb-15							111		402		0.06		35		10		51		30		1		2		53
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	20-Feb-15							1080		1800		0.1		97		49		280		39		10		5		66
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	23-Feb-15							2840		4050		0.14		129		70		446		43		30		6		71
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	26-Feb-15			26	4	7	31	2080	74	2850	0.04	0.1	19	124	13	71	120	451	17	40	0	14	1	6	20	63
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	6-Jan-15	6.2	206	72	8	15	41	769	40	774	<0.02	<0.02	23	65	1	48	7	332	31	50	0	5	1	3	89	141
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	9-Jan-15	6.2	141					313		260		<0.02		45		11		73		31		1		2		51
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	9-Jan-15	6.1	92					1460		1450		<0.02		59		29		186		28		8		3		49
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	10-Jan-15	6.4	122					437		470		0.08		50		27		194		36		2		2		47
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	14-Jan-15	6.5	130					476		574		<0.02		53		28		162		38		3		2		55
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	15-Jan-15	6.4	117					292		354		0.04		51		28		188		33		1		2		40
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	16-Jan-15	6.3	121					312		398		0.14		55		31		206		36		2		2		37
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	16-Jan-15	6.4	79	22	3	5	77	1260	78	1350	<0.02	0.06	25	65	7	28	38	179	20	28	0	7	1	3	24	43
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	13-Feb-15	6.8	149	47	6		33	87	142	384		0.12	28	42	15	19	69	94	33	35	0	1	2	2	49	56
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	20-Feb-15	6.7	158					111		402				35		10		51		30		1		2		53
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	20-Feb-15	6.7	136					1080		1800				97		49		280		39		10		5		66
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	23-Feb-15	6.4	103					2840		4050		0.14		129		70		446		43		30		6		71
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	26-Feb-15	6.5	95	26		7	31	2080	74	2850			19	124	13	71	120	451	17	40	0	14	1	6	20	63
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	13-Feb-15	6.8	149	47	6		22	85	88	334			21	40	0	14	1	74	29	36		0	1	2	24	35
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	20-Feb-15	6.7	158					307				0.14		50		17		82		34		2		3		39
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	20-Feb-15	6.7	136					1380		2150		0.14		100		43		253		37		12		5		56
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	23-Feb-15	6.4	103					3260		4600				124		53		377		39		36		6		57
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	26-Feb-15	6.5	95	27		7	31	1340		1550			21	77	7	33	81	258	18	29	0	7	1	4	18	36
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	13-Mar-15	6.8	160																							
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	27-Feb-15	6.3	79	22	3	6	42	1220	72	1450			20	67	1	31	6	176	13	25	0	6	1	3	20	46
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	5-Mar-15	6.5	138																							
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	6-Mar-15	6.6	112					4620		5350		0.16		209		117		678		58		22		10		90
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	7-Mar-15	6.3	82					762						65		27		152		25		5		3		51
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	13-Mar-15	6.5	158	47	7		26	106		506			25	49	24	26	126	138	31	32	0	1	2	2	68	75
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	27-Feb-15	6.3	79	22	3	6	29	837	46	1100			19	55		23	1	141	12	23		4	1	3	12	29
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	5-Mar-15	6.5	138					209		796				57		26		137		31		1		2		
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	6-Mar-15	6.6	112					1500		1850				83				203		28		7		4		35
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	7-Mar-15	6.3	82					583		776				58		22				23		3		3		25
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	13-Mar-15	6.5	158	47	7	13	22	156	68	802			31	58	22	28	112	146	30	34		1	1	2	65	75
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	1-Apr-14			579	19	35	35	68	78	288	0.28	0.3	24	43	82	88	316	342	89	94	0	1	6	6	150	177
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	3-May-14	7.5	685					18		80		0.16		13		5		47		53		0		6		48
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	9-May-14	7.4	789	334	38	75	11	16	2	36	0.14	0.14	7	10	0	3	0	33	49	54	<0.01	0	6	6	70	79
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	12-May-14	7.5	781	315	37	72	12	20	4	46	0.08	0.12	8	12	0	5	0	68	38	42	<0.01	0	6	7	66	78
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	12-May-14	7.5	781																							
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	19-Apr-14							22		64		0.14		16		7		41		52		0		5		49
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	12-May-14							29		74		0.16		16		7		83		39		0		8		41
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	6-Jan-15	6.2	206	110	13	24	22	411	24	420	0.14	0.2	25	57	8	32	58	218	41	51	0	4	1	3	226	288

Table C-7b. Surface Water Quality Monitoring Data (East Branch of the Finniss River at GS8150200), 2010 to 2015

			FIELD DATA		MAJOR IONS			DISSOLVED METALS (in ug/L)																				
Location or Gauge ID	Description	Sampling Date	pH	EC uS/cm	SO_4	Ca	Mg	Al-f	Al-t	Fe-f	Fe-t	Cd-f	Cd-t	Cu-f	Cu-t	Co-f	Co-t	Mn-f	Mn-t	Ni-f	Ni-t	Pb-f	Pb-t	U-f	U-t	Zn-f	Zn-t
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	9-Jan-15	6.2	141					600		490		0.08		45		20		148		34		3		2		92
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	9-Jan-15	6.1	92					1120		1100		0.06		50		19		136		25		6		3		45
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	10-Jan-15	6.4	122					387		380		0.14		43		29		202		34		2		2		59
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	14-Jan-15	6.5	130																							
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	16-Jan-15	6.3	121					537		490		0.08		54		32		221		34		3		3		49
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	16-Jan-15	6.4	79	22	3	5	155	1480	108	1700	0.06	0.08	24	79	11	36	72	238	19	32	0	8	1	4	21	49
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	11-Jan-15	6.5	175																							
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	16-Jan-15	6.3	62	18	3	4	45	2760	48	3400	0.02	0.1	21	126	0	52	1	313	11	36	0	18	1	7	18	69
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	17-Jan-15	6.4	100					415		358		0.06		40		17		109		25		2		2		38
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	21-Jan-15	6.5	149					173		364		0.1		51		31		171		37		1		2		79
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	25-Jan-15	6.5	139					168		414		0.1		58		33		154		39		1		3		61
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	29-Jan-15	6.4	141	46	6	11	37	181	66	416	0.08	0.12	34	65	30	35	153	176	37	41	0	1	2	2	67	78
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	14-Jan-15							949		836		0.14		54		30		186		34		4		3		111
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	11-Jan-15							547		798		0.16		69		46		312		50		5		3		62
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	30-Jan-15	6.5	150	47	6	11	203	37	432	98	0.1	0.08	53	30	30	26	133	110	38	37	2	0	3	2	65	55
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	6-Feb-15	6.4	162					108		512		0.12		48		28		124		40		1		2		82
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	8-Feb-15	6.5	161					205		570		0.12		43		16		66		37		2		2		70
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	10-Feb-15	6.5	155					149		412		0.1		48		25		108		35		1		3		57
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	11-Feb-15	6.6	172	56	7	13	216	45	500	102	0.12	0.1	54	31	31	30	150	147	41	40	2	0	3	2	55	47
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	20-Feb-14			46	7	11	46	266	86	424	0.1	0.12	29	69	19	33	44	114	29	37	0	2	2	3	25	40
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	1-Mar-14	7.1	190	59	8	14	42	152	78	378	0.14	0.18	40	74	38	43	109	137	42	46	0	1	3	4	46	53
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	1-Mar-14	7.1	190	59	8	14	36	158	68	348	0.14	0.16	47	83	54	55	187	189	50	52	1	2	3	4	474	487
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	4-Mar-14	7.2	209	65	9	15	41	117	84	330	0.16	0.16	40	71	46	48	147	156	48	51	0	1	3	3	57	62
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	4-Mar-14	7.2	209	65	9	15	36	176	70	536	0.22	0.2	46	94	60	62	201	210	56	59	0	2	3	4	464	489
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	5-Mar-14	7.3	224	71	9	17	34	149	52	512	0.16	0.2	37	76	46	49	146	160	47	51	0	1	3	4	52	60
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	5-Mar-14	7.3	224	72	9	17	35	156	52	364	0.22	0.16	40	85	63	65	205	213	59	61	0	1	3	4	198	215
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	5-Feb-14			27	4	6	110	502	90	418	0.06	0.08	37	62	19	23	113	136	23	26	0	2	2	3	23	24
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	10-Mar-14	7.3	182	66	8	15	42	130	66	340	0.12	0.16	22	64	24	39	67	127	36	44	0	1	2	3	40	48
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	13-Mar-14	7.4	194					118		390		0.14		64		37		108		43		1		3		45
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	17-Mar-14	7.5	206					107		350		0.12		55		35		102		44		0		3		42
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	23-Mar-14	7.6	267					82		276		0.2		37		39		124		50		0		4		45
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	1-Apr-14	7.6	378																							
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	10-Mar-14	7.3	182	62	9	15	60	109	120	286	0.18	0.18	43	65	51	55	171	180	49	53	1	2	3	4	450	478
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	13-Mar-14	7.4	194	63	9	16	62	110	132	346	0.14	0.16	45	70	54	58	173	183	52	56	1	1	3	4	205	224
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	17-Mar-14	7.5	206	517	9	17	50	107	118	386	0.18	0.18	39	70	59	62	189	199	57	61	0	1	3	4	204	217
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	23-Mar-14	7.6	267	524	12	22	49	89	106	308	0.2	0.24	34	55	70	73	246	259	68	71	0	1	4	5	167	176
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	1-Apr-14	7.6	378																							
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	5-Feb-14			504	5	8	101	496	104	440	0.02	0.08	32	61	15	23	88	135	26	31	0	2	2	3	29	26
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	4-Apr-14	7.6	467					16		52		0.16		13		9		38		54		0		5		34
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	9-Apr-14	7.6	510					7		10		0.16		15		2		8		58		0		6		43
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	12-Apr-14	7.6	303					78		252		0.14		28		18		71		51		0		4		45
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	19-Apr-14	7.6	475																							
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	28-Apr-14	7.5	624					15		88		0.16		20		16		145		49		0		7		40
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	9-Apr-14	7.6	510	186	23	44	13	14	12	80	0.12	0.16	30	20	0	5	1	34	49	54	0	0	6	6	69	74
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	12-Apr-14	7.6	303	161	20	38	14	18	12	74	0.12	0.12	22	16	1	5	2	29	49	54	0	0	5	6	74	71
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	19-Apr-14	7.6	475	118	14	28	30	44	52	134	0.1	0.16	18	20	11	17	7	37	49	54	0	0	4	4	58	67
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	28-Apr-14	7.5	624	207	25	48	13	12	6	54	0.1	0.1	16	16	1	9	28	95	43	50	3	0	6	7	68	74
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	1-Apr-14			144	18	34	23	95	22	566	0.2	0.28	17	43	45	71	155	282	66	79	0	0	5	6	59	94
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	13-Dec-13		357																							
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	10-Jan-14		322	122	13	27	30	95	232	322	<0.02	0.14	54	31	1	8	9	66	33	37	1	1	1	2	70	68
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	14-Jan-14		217					558		356		0.16		49		15		101		48		1		2		66
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	16-Jan-14		144					1520		686		0.1		72		33		215		49		3		3		58
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	17-Jan-14		126					1780		984		0.1		71		32		212		39		4		4		47
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	18-Jan-14		54					1200		680		0.06		58		16		79		19		11		3		23
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	18-Jan-14		84					1660		926		0.1		73		31		185		29		8		4		31
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	19-Jan-14		117	38	5	8	124	1160	66	610	0.04	0.1	53	77	27	35	174	212	31	36	1	4	2	4	37	38
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	13-Dec-13			147	15	32	21	102	10	90	0.16	0.16	25	33	0	4	2	29	37	42	0	0	1	2	52	57
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	25-Jan-14		165	52	7	11	80	525	86	480	0.14	0.18	42	92	43	52	260	307	43	48	0	2	2	3	47	57
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	31-Jan-14		129					436		386		0.12		73		29		146		33		1		3		37
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	1-Feb-14		47					871		750		0.06		42		9		55		14		5		2		17
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	1-Feb-14		46					897		666		0.04		46		13		68		15		6		2		17
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	2-Feb-14		128					930		602		0.1		71		30		176		34		3		3		31
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	5-Feb-14																									
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	5-Feb-14	6.1	78																							
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	7-Feb-14		98					319		490		0.16		75		43		165		43		1		3		48
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	10-Feb-14		76					3900		2250		0.1		82		28		125		31		5		4		37
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	12-Feb-14		141					863		828		0.1		78		31		103		33		4		3		39
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	16-Feb-14		159					1540		1100		0.06		57		16		61		20		5		3		25
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	17-Feb-14		139					3180		1900		0.06		77		22		100		23		6		4		32
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	18-Feb-14	6.0	54	591	3	5	120	2000	110	1300	0.04	0.06	24	63	8	16	17	66	14	18	0	5	1	3	19	27
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	16-Dec-13		415					298		350		0.24		42		14		80		63		2		2		92
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	22-Dec-13		414					3080		2050		0.16		83		20		133		51		23		5		74
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	24-Dec-13		333					802		684		0.22		51		30		168		67		3		2		128
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	27-Dec-13		308					996		690		0.2		62		28		149		50		4		4		79
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	2-Jan-14		276					450		614		0.18		64		29		178		52		1		3		83
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	5-Jan-14	6.7	296	109	11	24	63	261	118	576	0.16	0.14	30	56	14	20	113	154	44	49	0	1	2	3	57	69
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	29-Mar-13	5.9	79					1060		526		0.06		39		13		39		20		2		2		29
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	30-Mar-13	6.0	82					939		484		0.06		37		12		37		22		1		2		26
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	1-Apr-13	6.3	143					421		400		0.1		38		15		61		27		1		2		31
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	3-Apr-13	6.2	126					501		458		0.12		44		22		78		29		2		2		36
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	3-Apr-13	6.0	75					538		414		0.06		35		10		31		19		1		2		20
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	9-Apr-13	6.8	143	44	5	10	28	186	28	406	0.1	0.16	22	47	38	42	170	191	37	39	0	1	1	2	46	54
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	9-Apr-13	6.8	143	46	6	11	14	162	44	332	0.06	0.08	10	33	3	20	4	86	20	30	0	1	1	2	14	34
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	30-Apr-13	6.8	292	107	13	25	17	72	22	366	0.16	0.22	18	43	36	41	162	185	60	66	0	0	2	3	66	78
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	16-Apr-13	6.6	160																							
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	22-Apr-13	6.7	206					76		316		0.16		32		31		109		48		0		2		60
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	16-Apr-13							52		158		0.12		19		15		25		35		0		2		39

Table C-7c. Surface Water Quality Monitoring Data (East Branch of the Finniss River at GS8150200), 2010 to 2015

			FIELD DATA		MAJOR IONS			DISSOLVED METALS (in ug/L)																				
Location or Gauge ID	Description	Sampling Date	pH	EC uS/cm	SO_4	Ca	Mg	Al-f	Al-t	Fe-f	Fe-t	Cd-f	Cd-t	Cu-f	Cu-t	Co-f	Co-t	Mn-f	Mn-t	Ni-f	Ni-t	Pb-f	Pb-t	U-f	U-t	Zn-f	Zn-t
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	23-May-13		315					1160		1050		0.18		67		76		501		58		4		4		76
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	24-May-13		120					1480		624		0.08		47		21		97		33		1		3		43
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	2-Jun-13		201					272		406		0.1		35		23		107		38		1		2		50
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	11-Jun-13		251		11	23	17	127	44	360	0.12	0.16	15	38	9	23	2	72	44	48	0	1	2	3	50	68
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	30-Apr-13	6.7	362		13	33	46	1040	6	2550	0.3	0.66	20	290	194	227	473	574	155	190	0	3	7	16	125	309
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	30-Apr-13	6.8	292		14	26	4	104	<2	438	0.08	0.14	6	35	1	34	0	166	35	56	<0.01	1	2	3	17	69
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	17-May-13		516					42		210		0.1		23		15		168		28		1		3		83
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	18-May-13		489					115		206		0.08		16		17		207		23		1		3		26
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	21-May-13		313					351		376		0.14		36		20		183		50		1		3		57
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	23-May-13		343					136		318		0.14		31		15		169		44		1		3		48
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	28-Feb-13	6.4	182	50	5	12	42	438	74	422	0.08	0.24	20	36	0	8	0	50	24	29	0	1	1	2	25	36
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	4-Mar-13	6.3	159					618		526		0.14		44		15		60		26		2		3		35
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	8-Mar-13	6.1	158																							
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	9-Mar-13	5.9	109					659		586		0.16		35		14		58		27		2		2		35
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	12-Mar-13	6.4	144	41	5	10	48	343	70	458	0.18	0.1	24	39	17	19	77	88	29	32	0	1	1	2	39	46
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	8-Mar-13							247		412		0.18		36		9		47		30		0		2		43
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	12-Mar-13	6.4	144	45	5	11	44	258	74	312	0.06	0.08	16	28	1	6	1	29	20	24	0	0	1	2	18	27
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	26-Mar-13	6.9	171	53	6	13	47	174	70	404	0.08	0.1	18	32	13	15	57	64	28	31	0	1	1	2	39	45
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	17-Mar-13		158					149		418		0.08		25		6		29		24		0		2		29
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	12-Mar-13		148																							
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	15-Mar-13		157																							
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	17-Mar-13		116																							
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	23-Mar-13		174																							
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	20-Mar-13		162					129		268		0.08		23		4		21		25		0		2		36
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	13-Feb-13							741		578		0.12		40		12		54		31		2		2		35
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	26-Mar-13	6.9	171	51	6	13	22	241	20	466	0.06	0.12	12	34	1	18	1	80	23	33	0	1	1	2	22	50
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	26-Mar-13	6.6	155					199		338		0.1		28		9		35		23		1		2		29
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	26-Mar-13	6.6	181					248		326		0.06		27		14		64		23		1		3		27
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	27-Mar-13	6.3	114					561		430		0.06		30		15		62		22		2		2		24
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	28-Mar-13	6.2	137					1780		1200		0.08		65		41		174		32		7		4		45
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	29-Mar-13	5.7	52					1320		700		0.06		43		14		46		18		3		2		30
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	24-May-12	8.4	563					14		54		0.32		18		5		29		30		0		17		30
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	5-Jun-12	8.1	589					85		142		0.48		33		22		197		31		1		23		65
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	17-Jun-12	8.1	623					9		12		0.48		24		2		14		16		0		26		18
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	15-Jan-13	6.6	924					18		32		1.02		48		19		96		47		0		2		210
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	18-Jan-13	6.8	764					25		60		0.38		25		18		196		22		1		2		45
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	18-Jan-13	6.8	670					1360		680		0.1		36		10		106		17		10		3		19
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	18-Jan-13	6.8	697					1500		1450		0.28		104		90		618		53		11		6		73
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	19-Jan-13	6.5	290					2320		1400		0.32		99		79		314		73		8		5		110
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	25-Jan-13	6.6	337					967		530		0.26		63		20		113		55		2		3		75
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	31-Jan-13	6.3	224					719		580		0.18		62		13		64		39		3		3		66
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	6-Feb-13	6.4	241	85	9	20	16	333	30	638	0.14	0.18	28	58	7	14	42	83	35	41	0	1	2	3	39	57
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	6-Feb-13	6.7	241	85	9	21	32	328	26	486	0.1	0.12	25	54	0	9	0	58	29	37	0	1	2	3	24	45
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	10-Feb-13	6.8	285					228		320		0.08		42		8		62		30		1		2		34
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	12-Feb-13	6.8	285					138		288		0.08		33		6		59		30		1		2		32
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	13-Feb-13	6.6	176																							
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	16-Feb-13	6.6	250					623		740		0.16		50		15		74		42		2		3		64
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	19-Feb-13	6.5	227					512		936		0.16		48		10		63		38		1		3		74
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	20-Feb-13	6.5	200					548		642		0.12		45		8		41		31		2		3		40
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	21-Feb-13	6.1	121					2540		2050		0.14		94		52		238		46		13		4		74
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	21-Feb-13	6.1	98					3360		1600		0.12		78		37		139		37		6		4		62
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	28-Feb-13	6.4	182	46	5	11	39	803	62	794	0.14	0.14	27	52	14	24	96	152	32	39	0	2	2	3	50	70
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	30-Mar-12							161		260		0.2		81		49		162		51		2		3		73
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	14-Mar-12							1180		1000		0.14		109		51		150		38		9		4		67
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	12-Apr-12	7.3	280					95		218		0.36		49		68		227		74		1		5		91
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	15-Apr-12	7.8	330					113		228		0.34		60		52		169		55		3		8		63
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	18-Apr-12	7.6	356					72		192		0.32		44		72		267		77		1		5		92
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	21-Apr-12	7.6	405					40		128		0.34		26		55		191		82		0		6		78
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	24-Apr-12	7.6	470					82		222		0.48		46		96		356		104		3		6		133
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	27-Apr-12	8.5	370					120		214		<0.02		30		30		121		52		1		6		54
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	30-Apr-12	8.6	438																							
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	2-May-12	8.9	431					27		56		<0.02		14		4		22		28		1		14		22
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	6-May-12	8.5	351																							
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	6-May-12	8.6	354																							
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	9-May-12	8.3	413																							
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	12-May-12	8.3	570					12		78		<0.02		19		14		85		70		0		6		71
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	15-May-12	8.2	656					6		8		0.4		11		1		4		71		0		8		51
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	19-May-12	8.2	677					6		6		0.16		12		1		4		52		0		11		38
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	21-May-12	8.6	588					11		40		0.48		16		4		7		45		0		14		30
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	8-Mar-12	6.5	123					224		196		0.08		39		5		10		23		1		2		30
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	11-Mar-12	6.5	146																							
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	14-Mar-12	6.5	135					279		286		0.16		55		19		70		35		1		2		41
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	14-Mar-12	6.4	126																							
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	14-Mar-12	6.3	119					243		254		0.06		48		8		27		25		1		2		29
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	14-Mar-12	6.2	97																							
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	14-Mar-12	5.8	66																							
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	14-Mar-12	5.6	42																							
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	14-Mar-12	6.1	31																							
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	14-Mar-12	6.9	35																							
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	14-Mar-12	7.2	42					666		438		0.06		51		13		40		16		8		2		21
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	15-Mar-12	7.1	44																							
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	15-Mar-12	7.0	55																							
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	15-Mar-12	7.3	74					384		260		0.06		38		11		43		21		2		2		27
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	16-Mar-12	7.1	98																							
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	16-Mar-12	7.2	99																							
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	16-Mar-12	7.3	88					545		434		0.06		55		15		72		23		3		2		26
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	16-Mar-12	7.3	78																							

Table C-7d. Surface Water Quality Monitoring Data (East Branch of the Finniss River at GS8150200), 2010 to 2015

			FIELD DATA		MAJOR IONS			DISSOLVED METALS (in ug/L)																			
Location or Gauge ID	Description	Sampling Date	pH	EC uS/cm	SO_4	Ca	Mg	Al-f	Al-t	Fe-f	Fe-t	Cd-f	Cd-t	Cu-f	Cu-t	Co-f	Co-t	Mn-f	Mn-t	Ni-f	Ni-t	Pb-f	Pb-t	U-f	U-t	Zn-f	Zn-t
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	16-Mar-12	6.9	40																							
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	17-Mar-12	6.7	52					561		378		0.04		45		9		37		15		4		2		18
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	17-Mar-12	6.7	71																							
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	17-Mar-12	6.7	101					248		198		0.08		45		21		97		27		1		2		28
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	17-Mar-12	6.7	93																							
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	18-Mar-12	6.0	138																							
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	14-Feb-12	6.1	207																							
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	17-Feb-12	6.5	211							466		0.7		66		32		178		50		1		3		114
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	21-Feb-12	6.2	190																							
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	22-Feb-12	5.9	107																							
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	22-Feb-12	5.8	68																							
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	25-Jan-12									458		0.6		53		19		55		40		2		3		64
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	11-Feb-12									254		0.48		43		16		95		46		1		3		88
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	25-Feb-12	7.3	165					505		388		0.6		66		30		172		47		2		3		74
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	5-Mar-12	7.4	167					392		412		0.88		71		36		163		44		1		3		73
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	24-Mar-12	6.8	168					162		260		0.2		66		42		144		49		1		3		94
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	27-Mar-12	7.1	177					177		294		0.26		83		53		175		55		1		4		81
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	30-Mar-12	7.2	178																							
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	31-Mar-12	7.3	188					152		284		0.16		77		46		150		48		2		4		70
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	3-Apr-12	7.4	204																							
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	6-Apr-12	7.5	223																							
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	9-Apr-12	7.6	241					146		318		0.24		87		67		210		68		1		4		95
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	14-Jan-12	7.4	848							20		<0.2		26		1		5		17		0		11		21
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	17-Jan-12	7.1	727							44		<0.2		15		3		107		9		0		5		29
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	20-Jan-12	7.1	786																							
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	21-Jan-12	7.4	779							50		<0.2		21		3		75		8		0		6		11
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	24-Jan-12	7.7	505							62		0.44		32		3		28		13		1		8		20
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	6-Jan-12									88		1.5		23		7		174		9		0		7		21
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	24-Jan-12	7.9	387							102		0.72		21		3		19		12		1		7		14
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	25-Jan-12	7.3	286																							
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	29-Jan-12	7.1	250							236		<0.02		52		20		26		53		1		3		92
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	31-Jan-12	6.9	165							390		0.52		55		20		58		44		2		2		71
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	1-Feb-12	6.8	138							498		0.26		68		35		114		51		4		3		88
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	1-Feb-12	6.8	99							470		0.32		70		34		50		49		4		3		111
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	4-Feb-12	6.9	194							312		<0.02		62		26		137		59		1		3		150
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	8-Feb-12	7.0	181							442		0.8		75		36		185		49		1		3		96
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	20-Jan-12									64		<0.2		18		4		116		10		0		5		22
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	11-Feb-12	6.6	206																							
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	18-Feb-12	6.5	181							482		0.62		49		11		66		39		2		3		74
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	18-Feb-12	6.2	159							606		0.26		44		15		92		30		3		3		50
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	20-Feb-12	6.3	199							486		0.64		67		35		194		48		1		3		69
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	22-Feb-12	6.2	208							508		0.56		72		42		216		55		2		4		88
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	22-Feb-12	6.2	161							696		0.26		65		31		167		42		4		3		61
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	22-Feb-12	5.8	88							1100		0.1		43		14		85		22		5		2		49
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	22-Feb-12	5.8	127							714		0.14		57		20		89		32		6		3		53
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	13-Jun-11	7.6	629					28		120		0.24		32		32		104		69		1		15		58
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	16-Jun-11	7.7	653																							
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	19-Jun-11	7.7	694					16		52		0.18		19		13		41		64		0		18		51
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	22-Jun-11	7.4	641					46		86		0.28		20		39		66		81		1		13		66
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	25-Jun-11	7.7	762					36		150		0.22		32		22		78		67		1		21		62
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	28-Jun-11	7.2	732					28		94		0.24		21		18		83		61		0		22		51
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	30-Apr-11							57		160		0.16		38		44		89		56		1		4		50
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	28-May-11							28		220		0.5		34		106		205		129		2		8		169
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	2-Apr-11							691		760		0.04		79		16		60		19		8		3		24
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	9-Mar-11	6.3	131					128		240		0.1		67		45		135		44		2		3		41
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	9-Mar-11	6.3	145					152		200		0.14		66		51		150		50		2		3		47
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	13-Mar-11	3.5	182					144		180		0.14		109		65		205		57		2		4		62
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	14-Mar-11	5.8	147					83		180		0.16		75		53		144		49		1		3		57
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	15-Mar-11	6.5	125					99		200		0.12		60		48		139		46		1		3		44
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	16-Mar-11	6.5	142					89		220		0.14		53		47		112		47		2		3		44
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	16-Mar-11	6.5	135					158		280		0.12		72		45		112		43		4		3		47
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	22-Mar-11	6.7	174					129		280		0.16		91		70		209		59		2		4		59
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	24-Mar-11	6.2	149					296		520		0.16		80		52		155		45		5		4		45
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	25-Mar-11	6.0	80					194		320		0.06		63		29		82		27		2		2		27
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	16-Jun-11							14		60		0.18		23		15		47		66		0		16		54
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	13-Dec-11	7.4	1189					25		52		1.36		25		4		76		11		0		10		52
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	16-Dec-11	7.4	1024					99		94		2.24		33		7		114		17		1		8		35
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	19-Dec-11	7.4	841					157		168		3.08		52		21		325		23		2		7		49
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	9-Jan-12		887							122		0.94		19		8		251		12		0		7		26
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	25-Dec-11		1028							82		3.6		24		10		208		15		1		5		36
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	28-Dec-11		1028							44		2.54		20		5		121		9		1		5		23
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	31-Dec-11		973							42		2.78		16		4		85		9		1		7		27
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	3-Jan-12		899							64		1.72		21		5		125		9		0		7		20
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	6-Jan-12		905																							
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	22-Dec-11		1028							64		2.52		22		7		150		12		1		5		41
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	21-Feb-11	6.5	172					83		160		0.2		60		76		299		64		1		3		72
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	22-Feb-11	6.4	182					380		560		0.2		105		70		219		66		4		4		79
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	23-Feb-11	6.3	146					462		560		0.18		103		55		162		53		3		4		66
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	24-Feb-11	6.3	105					90		160		0.08		45		17		26		28		1		2		28
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	24-Feb-11	6.3	89					451		560		0.12		82		26		77		32		6		3		36
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	25-Feb-11	6.5	159					90		140		0.26		72		70		244		65		2		3		75
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	26-Feb-11	6.6	138					208		300		0.2		95		60		200		56		4		4		65
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	27-Feb-11	4.2	150					186		240		0.28		124		81		286		69		4		4		87
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	5-Mar-11	6.6	186					167		300		0.3		129		91		244		76		4		5		104
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	8-Mar-11	6.5	147					276		440		0.18		132		65		189		57		4		5		73
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	18-May-11		196					311		620		0.38		104		126		306		114		6		9		151
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	21-May-11		216					73		200		0.42		37		90		144		118		3		9		129

Table C-7e. Surface Water Quality Monitoring Data (East Branch of the Finniss River at GS8150200), 2010 to 2015

			FIELD DATA		MAJOR IONS			DISSOLVED METALS (in ug/L)																			
Location or Gauge ID	Description	Sampling Date	pH	EC uS/cm	SO_4	Ca	Mg	Al-f	Al-t	Fe-f	Fe-t	Cd-f	Cd-t	Cu-f	Cu-t	Co-f	Co-t	Mn-f	Mn-t	Ni-f	Ni-t	Pb-f	Pb-t	U-f	U-t	Zn-f	Zn-t
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	24-May-11		222					457		840		0.56		114		133		337		125		8		11		180
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	27-May-11		221					40		200		0.46		40		113		225		124		3		9		152
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	28-May-11		222																							
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	29-May-11		224					45		200		0.48		44		139		286		136		3		9		170
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	22-Apr-11							224		420		0.12		97		64		188		56		4		4		69
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	4-Jun-11	7.5	626					28		104		0.32		22		61		95		105		2		11		79
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	7-Jun-11	7.6	622					16		74		0.26		20		36		62		87		1		12		67
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	10-Jun-11	7.6	629					24		124		0.2		23		40		167		78		1		14		62
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	27-Apr-11	6.9	105					67		260		0.16		50		45		92		55		2		4		50
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	30-Apr-11	7.0	116																							
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	3-May-11	7.0	134					119		360		0.18		73		69		202		70		3		5		78
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	6-May-11	7.0	138					158		480		0.22		90		90		252		82		4		5		112
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	9-May-11	6.9	156					52		300		0.2		44		36		87		66		2		5		76
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	12-May-11	7.1	156					182		800		0.34		105		126		351		111		5		7		179
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	15-May-11	7.0	181					101		280		0.44		63		161		406		131		5		6		183
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	12-Feb-11	6.4	125					240		360		0.08		68		33		108		35		4		4		31
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	14-Feb-11	6.3	88					237		320		0.1		66		34		120		36		2		3		30
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	15-Feb-11	5.9	51					431		440		0.06		48		13		40		17		3		2		18
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	15-Feb-11	5.7	38					565		500		0.04		44		11		35		14		4		2		17
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	16-Feb-11	5.9	54					203		240		0.04		33		9		29		14		2		2		13
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	16-Feb-11	5.8	43					277		300		0.04		35		9		27		12		3		2		11
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	17-Feb-11	5.6	15					735		740		0.04		52		10		31		11		12		3		13
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	17-Feb-11	5.6	42					1640		1600		0.06		114		24		68		26		57		7		18
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	28-Jan-11		176					257		320		0.16		79		45		157		46		1		4		45
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	31-Jan-11		180					362		420		0.12		96		51		161		53		2		4		58
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	3-Feb-11		196					202		320		0.22		94		66		218		62		1		4		68
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	3-Feb-11		148					722		720		0.12		99		44		146		45		3		4		48
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	3-Feb-11		130					1660		1500		0.14		154		45		147		46		9		7		59
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	3-Feb-11		123					2720		2300		0.14		246		53		185		52		14		9		66
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	3-Feb-11		86					1100		880		0.12		96		27		75		35		8		4		47
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	4-Feb-11		78					843		640		0.08		75		21		59		29		10		3		40
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	7-Feb-11		128					299		380		0.16		101		59		191		55		2		4		61
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	7-Feb-11		116					804		840		0.12		99		44		154		44		5		5		42
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	7-Feb-11		79					1040		860		0.1		87		36		126		35		5		4		51
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	7-Feb-11		78					1060		1450		0.08		76		33		122		32		4		4		35
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	7-Feb-11		78					1180		880		0.1		81		35		128		34		4		4		37
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	8-Feb-11		40					673		580		0.1		57		18		64		19		4		3		28
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	8-Feb-11		53					414		400		0.08		55		24		87		25		2		3		25
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	8-Feb-11		92					240		300		0.12		71		44		172		45		1		3		48
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	25-Mar-11		120					305		420		0.06		69		28		76		31		3		3		34
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	28-Mar-11		148					238		380		0.1		76		40		117		38		3		3		43
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	30-Mar-11		156					248		400		0.14		83		44		121		41		3		4		52
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	31-Mar-11		103					523		700		0.1		114		33		91		35		6		4		47
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	1-Apr-11		25					3040		2900		0.08		169		27		103		26		26		8		40
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	1-Apr-11		40					533		640		0.04		68		13		44		16		6		2		20
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	1-Apr-11		75					256		360		0.08		54		19		57		24		3		2		27
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	1-Apr-11		56					542		620		0.04		65		14		49		18		4		2		23
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	2-Apr-11		45					370		400		0.04		59		13		43		15		4		2		19
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	2-Apr-11		52																							
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	2-Apr-11		23					377		420		0.06		44		11		39		15		4		2		17
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	13-Apr-11	6.6	88					166		360		0.1		74		54		209		46		3		4		55
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	16-Apr-11	6.4	69					275		500		0.08		101		40		124		40		4		4		51
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	19-Apr-11	6.7	85					113		260		0.14		67		57		168		50		2		3		56
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	22-Apr-11	6.6	95																							
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	24-Apr-11	6.4	91					171		440		0.16		102		69		221		58		3		4		79
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	11-Dec-10		440					278		320		0.62		35		45		658		68		4		1		98
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	11-Dec-10		407					345		400		0.22		42		30		424		52		6		2		67
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	12-Dec-10		666					222		320		0.3		42		22		201		105		4		1		125
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	15-Dec-10		684					46		100		0.28		31		10		134		58		2		1		71
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	18-Dec-10		753					41		140		0.16		29		10		170		40		2		2		48
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	21-Dec-10		757					15		80		0.3		20		6		105		25		1		2		29
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	23-Dec-10		763					42		140		0.1		23		9		123		25		1		2		29
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	24-Dec-10		805					24		100		0.32		29		7		93		30		1		2		31
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	26-Dec-10		1146					49		100		1.6		23		7		80		47		1		4		41
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	28-Dec-10		340					725		520		0.04		64		34		60		71		4		5		84
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	29-Dec-10		325					940		540		0.58		76		42		66		76		4		5		96
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	1-Jan-11		339					404		320		0.18		58		32		85		78		1		4		97
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	3-Jan-11		292					309		280		0.2		49		20		55		58		1		3		64
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	6-Jan-11		263					286		300		0.24		50		22		64		58		1		3		65
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	8-Jan-11		248					254		300		0.18		59		29		85		57		1		3		64
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	9-Jan-11		234					216		240		0.18		48		25		77		54		1		3		57
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	10-Jan-11		223					420		400		0.36		64		41		151		61		3		4		70
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	11-Jan-11		179					689		640		0.32		86		49		186		60		5		4		77
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	11-Jan-11		135					1880		2150		0.36		185		86		314		73		14		7		114
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	11-Jan-11		150					749		680		0.38		84		44		166		56		4		4		69
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	11-Jan-11		123					1220		1300		0.3		125		63		247		60		8		5		81
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	12-Jan-11		194					408		380		0.64		68		50		235		63		2		3		64
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	15-Jan-11		202					311		340		0.24		72		56		282		61		1		4		67
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	16-Jan-11		180					397		480		0.36		83		51		228		55		2		4		60
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	26-Mar-10	7.4	279							220		0.16		70		95		246		82		1				93
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	27-Mar-10	7.1	279							220		0.22		65		104		271		89		0				122
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	28-Mar-10	7.1	286							200		0.22		64		104		270		89		0				105
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	28-Mar-10	7.3	306							220		0.2		68		102		280		87		1				96
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	29-Mar-10	7.1	309							200		0.22		69		115		304		98		0				115
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	29-Mar-10	7.4	311							200		0.18		65		104		284		88		1				94
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	30-Mar-10	7.3	327							200		0.24		63		114		326		97		1				110
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	31-Mar-10	7.2	323							220		0.26		64		121		337		102		0				117

Table C-7f. Surface Water Quality Monitoring Data (East Branch of the Finniss River at GS8150200), 2010 to 2015

			FIELD DATA		MAJOR IONS			DISSOLVED METALS (in ug/L)																			
Location or Gauge ID	Description	Sampling Date	pH	EC uS/cm	SO_4	Ca	Mg	Al-f	Al-t	Fe-f	Fe-t	Cd-f	Cd-t	Cu-f	Cu-t	Co-f	Co-t	Mn-f	Mn-t	Ni-f	Ni-t	Pb-f	Pb-t	U-f	U-t	Zn-f	Zn-t
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	31-Mar-10	7.6	356							180		0.2		59		115		341		97		0				104
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	1-Apr-10	7.3	330							180		0.26		58		128		372		107		0				124
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	2-Apr-10	7.5	364							160		0.22		48		121		364		102		0				112
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	2-Apr-10	7.6	367							160		0.22		52		124		384		103		0				112
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	3-Apr-10	7.4	370							160		0.3		49		134		405		113		0				132
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	3-Apr-10	7.6	392							180		0.26		53		135		407		112		0				122
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	4-Apr-10	7.5	408							140		0.3		48		138		410		116		0				135
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	5-Apr-10	7.5	422							160		0.28		47		141		419		118		0				136
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	5-Apr-10	7.6	504							140		0.32		45		133		413		112		0				117
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	6-Apr-10	7.5	407							140		0.3		37		133		410		114		1				125
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	7-Apr-10	7.3	596							240		0.62		73		240		642		197		1				281
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	7-Apr-10	7.5	221							280		0.18		63		94		310		80		1				95
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	8-Apr-10	7.5	316							280		0.26		142		136		278		109		4				120
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	8-Apr-10	7.8	314							200		0.12		113		106		175		84		4				77
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	9-Apr-10	8.1	331							180		0.28		120		122		200		93		4				91
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	10-Apr-10	7.7	342							180		0.14		125		133		217		100		4				100
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	10-Apr-10	8.3	352							160		0.14		126		124		194		92		4				91
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	11-Apr-10	7.8	363							180		0.48		118		127		185		101		4				108
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	12-Apr-10	7.8	359							200		0.2		111		117		211		89		5				91
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	12-Apr-10	8.3	329							220		0.08		75		84		191		67		2				65
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	13-Apr-10	7.5	213							240		0.38		61		68		168		58		1				89
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	14-Apr-10	7.7	248							220		0.12		51		54		170		49		1				57
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	14-Apr-10	7.9	276							220		0.36		51		66		202		58		1				62
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	15-Apr-10	7.5	279							560		0.38		135		93		218		79		4				105
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	15-Apr-10	7.3	141							320		0.12		71		47		159		43		2				46
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	16-Apr-10	7.4	166							220		0.28		52		43		158		42		1				40
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	17-Apr-10	7.4	171							280		0.12		55		48		179		45		1				50
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	6-Dec-10	7.8	602							1350		42		150		241		989		137		20				1130
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	7-Dec-10	7.8	1182							380		2.06		57		55		334		61		5				161
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	7-Dec-10	7.8	1210							260		1.02		42		40		251		63		2				101
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	8-Dec-10	7.6	639							980		0.56		62		65		205		137		17				166
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	4-Mar-10		176							180		<0.4		68		56		168		52		2				55
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	5-Mar-10		180							180		<0.4		68		56		167		53		1				57
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	6-Mar-10		185							180		<0.4		72		57		163		55		1				59
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	7-Mar-10		193							160		<0.4		66		61		173		57		1				60
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	8-Mar-10		200							160		<0.4		64		62		171		58		1				61
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	9-Mar-10		167							160		<0.4		60		53		160		51		1				49
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	10-Mar-10		192							160		<0.4		48		55		142		55		1				53
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	11-Mar-10		193							180		<0.4		58		59		160		56		1				56
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	12-Mar-10		202							180		<0.4		61		60		168		57		1				57
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	13-Mar-10		207							220		<0.4		72		64		182		59		1				59
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	14-Mar-10		193							300		<0.4		73		50		135		48		1				49
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	15-Mar-10		162							200		<0.4		52		47		136		48		1				41
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	17-Mar-10	7.1	190							260		<0.4		79		65		170		63		1				72
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	17-Mar-10	7.2	183							240		<0.4		66		61		174		57		1				57
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	18-Mar-10	7.3	206							260		<0.4		74		65		180		60		1				63
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	19-Mar-10	7.1	200							260		<0.4		65		71		184		67		1				72
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	19-Mar-10	7.2	220							280		<0.4		67		67		177		63		1				66
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	20-Mar-10	7.2	218							380		<0.4		102		84		217		75		1				93
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	21-Mar-10	7.1	224							280		<0.4		74		79		213		70		1				84
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	21-Mar-10	7.3	244							260		<0.4		84		82		217		73		1				80
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	22-Mar-10	7.1	231							280		<0.4		81		90		230		80		1				101
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	23-Mar-10	7.2	250							280		<0.4		89		85		232		75		1				82
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	23-Mar-10	7.3	256							300		<0.4		92		91		238		81		1				93
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	24-Mar-10	7.1	253							320		<0.4		89		94		250		82		1				105
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	3-Feb-10		157		6	9				160		<0.02		65		49		167		44		2				46
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	19-Apr-10	7.6	173							200		0.06		32		31		104		35		1				28
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	21-Apr-10	7.9	191							200		0.1		36		36		106		39		1				35
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	23-Apr-10	7.9	200							240		0.1		37		32		72		39		1				30
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	25-Apr-10	7.8	200							240		0.1		39		42		107		47		1				45
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	27-Apr-10	7.9	205							260		0.12		46		51		143		51		1				52
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	29-Apr-10	8.1	225							220		0.1		44		53		137		52		1				51
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	3-May-10	8.1	240							240		0.14		43		64		177		63		1				71
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	7-May-10	7.9	270							200		0.18		38		76		205		76		0				86
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	5-May-10	8.0	258							220		0.18		40		69		189		68		0				79
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	9-May-10	7.7	291							180		0.18		36		80		214		81		0				94
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	3-Feb-10		122							160		<0.2		49		41		153		40		1				38
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	4-Feb-10		159							200		<0.2		63		49		165		47		1				47
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	5-Feb-10		175							240		<0.2		70		51		155		50		1				49
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	6-Feb-10		184							220		<0.2		71		58		182		54		1				54
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	7-Feb-10		135							200		<0.2		62		47		156		45		1				40
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	8-Feb-10		167							220		<0.2		64		51		164		48		1				44
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	9-Feb-10		181							260		<0.2		74		54		172		51		1				48
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	10-Feb-10		192							260		<0.2		75		60		186		55		1				53
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	11-Feb-10		200							280		<0.2		79		64		196		59		1				57
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	12-Feb-10		179							300		<0.2		78		56		176		52		1				49
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	13-Feb-10		216							320		<0.2		72		58		188		53		1				52
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	14-Feb-10		221							280		<0.2		70		62		205		55		1				54
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	15-Feb-10		109							300		<0.2		62		33		103		34		2				41
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	16-Feb-10		147							260		<0.2		58		45		161		43		1				44
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	22-Jan-10		106							220		0.52		58		30		93		36		1				45
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	22-Jan-10		129							200		0.4		53		41		127		44		1				42
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	23-Jan-10		147							260		0.4		75		54		173		53		1				58
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	24-Jan-10		151							280		0.4		85		61		197		58		1				69
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	24-Jan-10		160							300		0.54		93		56		190		52		2				58
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	25-Jan-10		134							300		0.4		87		52		182		50		1				58
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	25-Jan-10		148							300		0.34		90		59		197		56		1				67

Table C-7g. Surface Water Quality Monitoring Data (East Branch of the Finniss River at GS8150200), 2010 to 2015

			FIELD DATA		MAJOR IONS			DISSOLVED METALS (in ug/L)																			
Location or Gauge ID	Description	Sampling Date	pH	EC uS/cm	SO_4	Ca	Mg	Al-f	Al-t	Fe-f	Fe-t	Cd-f	Cd-t	Cu-f	Cu-t	Co-f	Co-t	Mn-f	Mn-t	Ni-f	Ni-t	Pb-f	Pb-t	U-f	U-t	Zn-f	Zn-t
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	26-Jan-10		168							300		0.34		91		62		200		58		1				63
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	27-Jan-10		173							340		0.46		104		73		223		69		1				87
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	27-Jan-10		179							320		0.46		91		66		211		60		1				68
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	28-Jan-10		132							240		0.26		78		41		102		44		1				53
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	29-Jan-10		119							260		0.26		67		37		98		43		1				43
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	29-Jan-10		141							280		0.4		80		51		178		49		1				51
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	30-Jan-10		117							300		0.28		82		39		112		43		2				43
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	30-Jan-10		103							240		0.28		61		35		118		37		1				35
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	31-Jan-10		135							280		0.24		72		48		173		47		1				46
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	1-Feb-10		153							300		0.34		88		58		192		56		1				64
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	1-Feb-10		162							320		0.34		89		60		196		57		1				64
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	2-Feb-10		159							320		0.22		103		61		191		58		1				70
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	17-Feb-10		171		6	11				180		<0.02		46		42		143		41		1				38
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	18-Feb-10		200		7	13				200		0.06		52		46		151		44		1				44
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	19-Feb-10		135		6	10				180		<0.02		30		12		32		24		1				20
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	20-Feb-10		171		6	11				220		0.06		47		34		109		36		1				33
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	21-Feb-10		192		7	13				240		<0.02		54		43		135		42		1				44
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	22-Feb-10		211		8	14				260		0.06		64		58		161		54		1				53
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	23-Feb-10		156		6	11				200		<0.02		52		46		141		45		1				41
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	24-Feb-10		194		7	13				220		<0.02		63		53		164		50		1				50
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	25-Feb-10		200		8	14				220		<0.02		70		57		171		53		1				58
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	26-Feb-10		39		3	4				140		0.04		33		8		12		15		1				18
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	27-Feb-10		44		2	3				120		<0.02		26		8		19		12		1				16
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	28-Feb-10		119		4	7				140		<0.02		44		30		109		29		1				30
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	1-Mar-10		136		6	8				160		0.02		58		41		150		37		2				38
GS8150097	East Branch Finniss River Gauge Station 5km downstream Rum Jungle	2-Mar-10		104		4	7				160		0.08		49		32		116		30		1				29

APPENDIX D

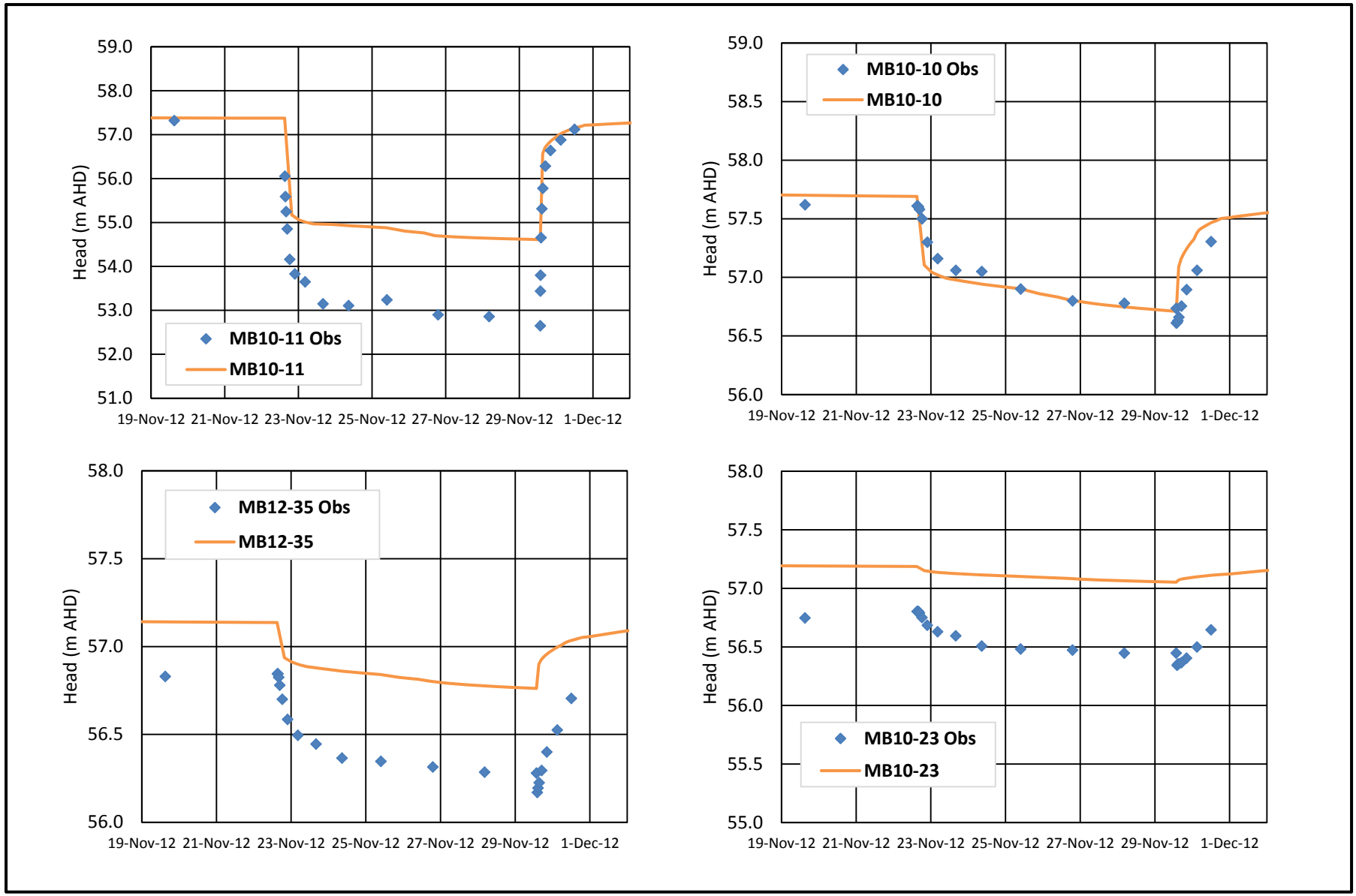
2012 PUMPING TEST

Table D-1. Rum Jungle - Nov 22-30, 2012 Pumping Test Results - Drawdown Analysis

Well ID	Cooper-Jacob (1946)			Theis (1935)		
	S	T	K	S	T	K
	-	m^2/s	m/s	-	m^2/s	m/s
AQTESOLVE						
MB12-35	7.7E-04	5.5E-04	**1.4E-05**	1.2E-03	5.0E-04	**1.2E-05**
MB10-10	4.0E-03	3.0E-04	**7.5E-06**	4.9E-03	2.7E-04	**6.7E-06**
MB10-11	3.1E-04	1.3E-04	**3.4E-06**	3.1E-04	1.3E-04	**3.37E-06**
Geometric Mean			**7.0E-06**			**6.6E-06**

Table D-2. Rum Jungle - Nov 22-30, 2012 Pumping Test Results - Recovery Analysis

Well ID	Theis recov. meth.	
	T	K
	m^2/s	m/s
MB12-35	1.0E-04	**2.5E-06**
MB10-10	2.5E-04	**6.3E-06**
MB12-33	7.5E-05	**1.9E-06**
MB10-11	7.6E-05	**1.9E-06**
Geometric Mean		**2.7E-06**



Observed vs Simulated Heads for the 2012 Pumping Test

Client: Northern Territory Government, Department of Resources - Minerals and Energy	**Figure: D-1**
Rum Jungle Rehabilitation Planning	Project No: 183006
Report No: 183006/6	Last Update: 27 May 2016
Original File: Section 6 Figures.pptx	

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APPENDIX E

OBSERVED VS. COMPUTED HEAD RESIDUALS

Table E-1. Observed and Simulated Head Residual Error (Dry Season)

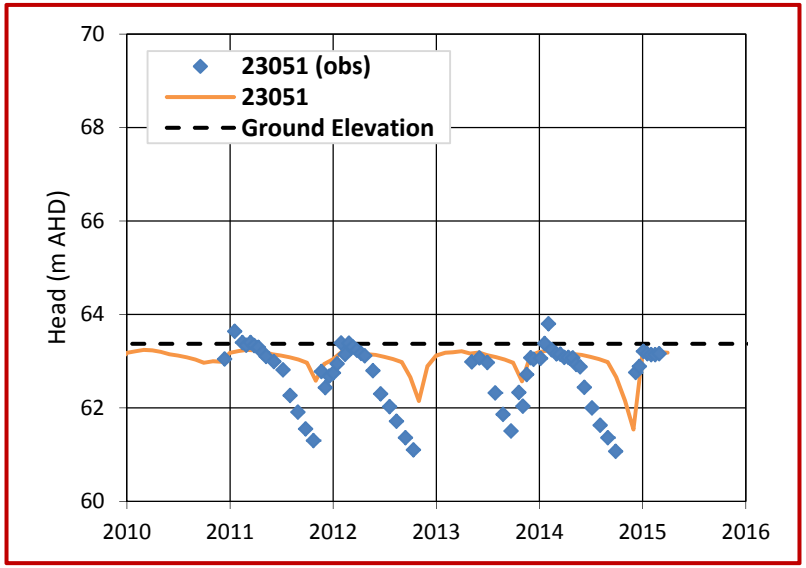
November 2014 (Dry Season)						November 2014 (Dry Season)					
Well ID	Date	Observed Head (m)	Date	Computed Head (m)	Residual (m)	Well ID	Date	Observed Head (m)	Date	Computed Head (m)	Residual (m)
MB10-01a	27-Oct-14	61.44	1-Nov-14	62.33	0.89	23792	27-Oct-14	76.77	1-Nov-14	75.20	-1.57
MB10-01b	27-Oct-14	62.65	1-Nov-14	62.82	0.17	23793	27-Oct-14	68.42	1-Nov-14	68.75	0.33
MB10-02	27-Oct-14	63.27	1-Nov-14	62.59	-0.68	25165	27-Oct-14	64.97	1-Nov-14	67.99	3.02
MB10-03	27-Oct-14	60.29	1-Nov-14	61.58	1.29	25172	27-Oct-14	68.00	1-Nov-14	68.30	0.30
MB10-04	27-Oct-14	60.41	1-Nov-14	61.58	1.17	25173	27-Oct-14	61.14	1-Nov-14	62.44	1.30
MB10-05	27-Oct-14	57.00	1-Nov-14	57.73	0.73	29993	27-Oct-14	61.99	1-Nov-14	62.33	0.34
MB10-06	27-Oct-14	58.33	1-Nov-14	57.89	-0.44	DO20	27-Oct-14	76.42	1-Nov-14	75.68	-0.74
MB10-07	27-Oct-14	56.39	1-Nov-14	56.74	0.35	DO21	27-Oct-14	76.36	1-Nov-14	77.44	1.08
MB10-08D	27-Oct-14	53.96	1-Nov-14	54.75	0.79	MB14-01S	24-Nov-14	57.22	1-Nov-14	58.26	1.04
MB10-09D	27-Oct-14	56.57	1-Nov-14	56.32	-0.25	MB14-01D	24-Nov-14	57.23	1-Nov-14	57.63	0.40
MB10-10	27-Oct-14	57.63	1-Nov-14	57.76	0.13	MB14-02S	24-Nov-14	57.31	1-Nov-14	58.88	1.57
MB10-11	27-Oct-14	57.16	1-Nov-14	57.42	0.26	MB14-02D	24-Nov-14	57.25	1-Nov-14	58.24	0.99
MB10-12	27-Oct-14	56.44	1-Nov-14	56.67	0.23	MB14-03	24-Nov-14	57.34	1-Nov-14	58.15	0.81
MB10-13	27-Oct-14	56.89	1-Nov-14	56.66	-0.23	MB14-04	24-Nov-14	57.37	1-Nov-14	58.56	1.19
MB10-14	27-Oct-14	57.06	1-Nov-14	57.53	0.47	MB14-05S	24-Nov-14	60.47	1-Nov-14	59.95	-0.52
MB10-16	27-Oct-14	56.27	1-Nov-14	56.28	0.01	MB14-05D	24-Nov-14	57.56	1-Nov-14	58.94	1.38
MB10-17	27-Oct-14	56.45	1-Nov-14	56.70	0.25	MB14-06D	24-Nov-14	63.89	1-Nov-14	64.54	0.65
MB10-18	27-Oct-14	57.28	1-Nov-14	57.68	0.40	MB14-07	24-Nov-14	56.95	1-Nov-14	56.98	0.03
MB10-19	27-Oct-14	57.35	1-Nov-14	57.12	-0.23	MB14-08D	24-Nov-14	56.92	1-Nov-14	57.02	0.10
MB10-20	27-Oct-14	51.01	1-Nov-14	50.99	-0.02	MB14-09	24-Nov-14	56.73	1-Nov-14	56.05	-0.68
MB10-22	27-Oct-14	56.85	1-Nov-14	56.93	0.08	MB14-10	24-Nov-14	56.75	1-Nov-14	56.18	-0.57
MB10-23	27-Oct-14	57.06	1-Nov-14	57.23	0.17	MB14-13D	24-Nov-14	57.92	1-Nov-14	58.73	0.81
22036	27-Oct-14	66.78	1-Nov-14	66.85	0.07	MB14-14D	24-Nov-14	67.98	1-Nov-14	70.36	2.38
22037	27-Oct-14	64.05	1-Nov-14	64.48	0.43	MB14-15S	24-Nov-14	74.33	1-Nov-14	75.47	1.14
22039	27-Oct-14	58.95	1-Nov-14	59.15	0.20	MB14-15D	24-Nov-14	73.25	1-Nov-14	74.51	1.26
22081	27-Oct-14	58.96	1-Nov-14	59.20	0.24	MB14-17D	24-Nov-14	61.45	1-Nov-14	64.13	2.68
22082	27-Oct-14	71.00	1-Nov-14	70.18	-0.82	MB14-18	24-Nov-14	54.91	1-Nov-14	55.75	0.84
22083	27-Oct-14	62.75	1-Nov-14	63.75	1.00	MB14-19	24-Nov-14	54.90	1-Nov-14	55.44	0.54
22084	27-Oct-14	66.00	1-Nov-14	67.46	1.46	MB14-20S	24-Nov-14	60.22	1-Nov-14	59.79	-0.43
22085	27-Oct-14	59.75	1-Nov-14	61.54	1.79	MB14-20D	24-Nov-14	57.34	1-Nov-14	58.50	1.16
22107	27-Oct-14	57.06	1-Nov-14	57.62	0.56	MB12-25	27-Oct-14	57.02	1-Nov-14	57.95	0.92
22411	27-Oct-14	61.74	1-Nov-14	62.57	0.83	MB12-26	27-Oct-14	57.21	1-Nov-14	58.56	1.35
22543	27-Oct-14	56.64	1-Nov-14	56.92	0.28	MB12-27	27-Oct-14	58.866	1-Nov-14	58.89	0.03
22544	27-Oct-14	58.99	1-Nov-14	59.76	0.77	MB12-28	27-Oct-14	58.84	1-Nov-14	59.04	0.20
22547	27-Oct-14	64.36	1-Nov-14	63.33	-1.03	MB12-29S	27-Oct-14	58.90	1-Nov-14	58.91	0.01
22548	27-Oct-14	64.30	1-Nov-14	63.28	-1.02	MB12-30S	27-Oct-14	57.78	1-Nov-14	58.04	0.26
23060	27-Oct-14	58.42	1-Nov-14	58.53	0.11	MB12-30D	27-Oct-14	57.62	1-Nov-14	58.14	0.52
23140	27-Oct-14	56.18	1-Nov-14	55.86	-0.32	MB12-31S	27-Oct-14	68.15	1-Nov-14	68.05	-0.10
23302	27-Oct-14	52.91	1-Nov-14	53.33	0.42	PB12-33	27-Oct-14	57.18	1-Nov-14	57.49	0.32
23304	27-Oct-14	65.59	1-Nov-14	66.36	0.77	MB12-34	27-Oct-14	55.20	1-Nov-14	55.78	0.58
23413	27-Oct-14	61.88	1-Nov-14	61.93	0.05	MB12-35	27-Oct-14	56.71	1-Nov-14	57.16	0.46
23790	27-Oct-14	70.50	1-Nov-14	69.67	-0.83						

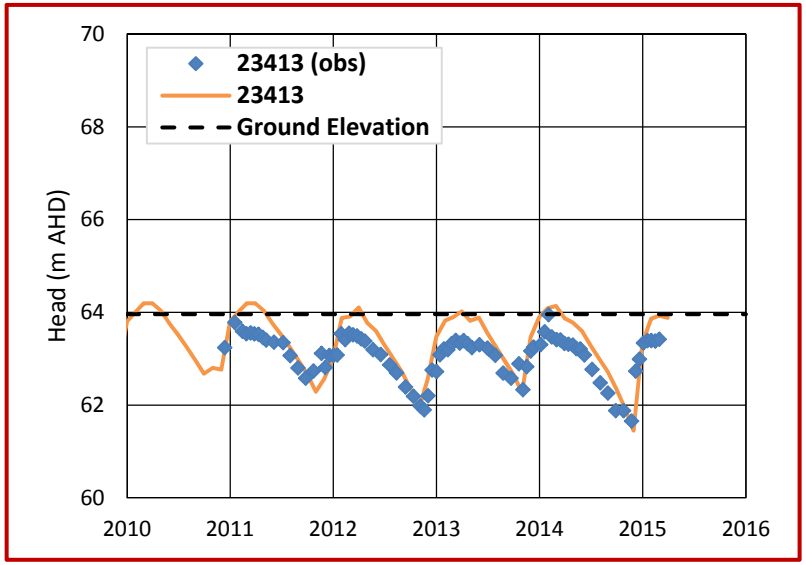
Table E-2. Observed and Simulated Head Residual Error (Wet Season)

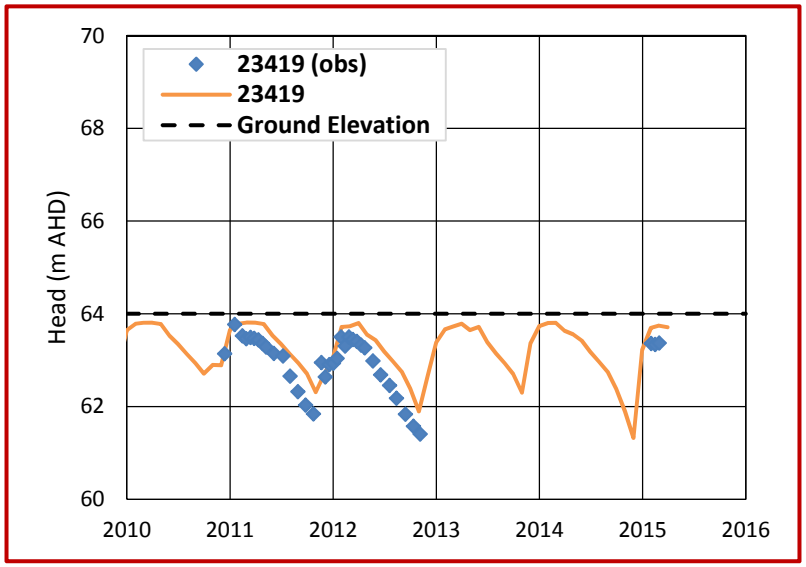
March 2015 (Wet Season)						March 2015 (Wet Season)					
Well ID	Date	Observed Head (m)	Date	Computed Head (m)	Residual (m)	Well ID	Date	Observed Head (m)	Date	Computed Head (m)	Residual (m)
MB10-01a	2-Mar-15	63.42	1-Mar-15	63.76	0.34	25165	2-Mar-15	68.72	1-Mar-15	69.27	0.55
MB10-01b	2-Mar-15	63.86	1-Mar-15	64.45	0.59	25166	2-Mar-15	76.07	1-Mar-15	75.42	-0.65
MB10-02	2-Mar-15	64.34	1-Mar-15	64.14	-0.20	25167	2-Mar-15	69.51	1-Mar-15	68.03	-1.48
MB10-03	2-Mar-15	62.27	1-Mar-15	62.74	0.47	25168	2-Mar-15	65.43	1-Mar-15	67.15	1.72
MB10-04	2-Mar-15	62.44	1-Mar-15	62.66	0.22	25172	2-Mar-15	68.77	1-Mar-15	69.02	0.25
MB10-05	2-Mar-15	58.26	1-Mar-15	58.77	0.51	25173	2-Mar-15	63.43	1-Mar-15	63.98	0.55
MB10-06	2-Mar-15	58.76	1-Mar-15	58.93	0.17	29993	2-Mar-15	62.88	1-Mar-15	62.99	0.11
MB10-07	2-Mar-15	58.55	1-Mar-15	58.08	-0.47	DO20	2-Mar-15	77.63	1-Mar-15	77.96	0.33
MB10-08D	2-Mar-15	59.48	1-Mar-15	58.00	-1.48	DO21	2-Mar-15	79.44	1-Mar-15	80.72	1.28
MB10-09D	2-Mar-15	57.90	1-Mar-15	57.22	-0.68	MB14-01S	2-Mar-15	62.04	1-Mar-15	61.68	-0.36
MB10-10	2-Mar-15	59.62	1-Mar-15	59.79	0.17	MB14-01D	2-Mar-15	62.11	1-Mar-15	61.50	-0.61
MB10-11	2-Mar-15	59.14	1-Mar-15	59.49	0.35	MB14-02S	2-Mar-15	62.97	1-Mar-15	63.08	0.11
MB10-12	2-Mar-15	59.76	1-Mar-15	58.73	-1.03	MB14-02D	2-Mar-15	62.46	1-Mar-15	62.45	-0.01
MB10-13	2-Mar-15	60.21	1-Mar-15	58.72	-1.49	MB14-03	2-Mar-15	62.47	1-Mar-15	62.94	0.47
MB10-14	2-Mar-15	61.35	1-Mar-15	60.88	-0.47	MB14-04	2-Mar-15	62.21	1-Mar-15	62.54	0.33
MB10-16	2-Mar-15	58.50	1-Mar-15	57.57	-0.93	MB14-05S	2-Mar-15	65.96	1-Mar-15	64.85	-1.11
MB10-17	2-Mar-15	60.22	1-Mar-15	59.73	-0.49	MB14-05D	2-Mar-15	63.55	1-Mar-15	63.65	0.10
MB10-18	2-Mar-15	60.65	1-Mar-15	59.64	-1.01	MB14-06S	2-Mar-15	71.40	1-Mar-15	70.97	-0.43
MB10-19	2-Mar-15	60.83	1-Mar-15	60.97	0.14	MB14-06D	2-Mar-15	71.35	1-Mar-15	70.65	-0.70
MB10-20	2-Mar-15	53.27	1-Mar-15	53.29	0.02	MB14-07	2-Mar-15	61.22	1-Mar-15	60.54	-0.68
MB10-22	2-Mar-15	59.60	1-Mar-15	58.95	-0.65	MB14-08S	2-Mar-15	61.31	1-Mar-15	61.36	0.05
MB10-23	2-Mar-15	58.39	1-Mar-15	59.08	0.69	MB14-08D	2-Mar-15	61.27	1-Mar-15	60.55	-0.72
MB10-24	2-Mar-15	58.76	1-Mar-15	58.50	-0.26	MB14-09	2-Mar-15	60.70	1-Mar-15	59.53	-1.17
22036	2-Mar-15	71.22	1-Mar-15	69.95	-1.27	MB14-10	2-Mar-15	60.67	1-Mar-15	60.22	-0.45
22037	2-Mar-15	65.86	1-Mar-15	65.58	-0.28	MB14-13S	2-Mar-15	65.89	1-Mar-15	64.26	-1.63
22039	2-Mar-15	61.57	1-Mar-15	61.23	-0.34	MB14-13D	2-Mar-15	64.92	1-Mar-15	63.72	-1.20
22081	2-Mar-15	60.98	1-Mar-15	61.23	0.25	MB14-14S	2-Mar-15	75.90	1-Mar-15	76.39	0.49
22082	2-Mar-15	71.28	1-Mar-15	70.96	-0.32	MB14-14D	2-Mar-15	75.05	1-Mar-15	76.15	1.10
22083	2-Mar-15	66.00	1-Mar-15	65.93	-0.07	MB14-15S	2-Mar-15	81.12	1-Mar-15	79.63	-1.49
22084	2-Mar-15	68.22	1-Mar-15	68.77	0.55	MB14-15D	2-Mar-15	80.12	1-Mar-15	78.86	-1.26
22085	2-Mar-15	65.12	1-Mar-15	63.59	-1.53	MB14-16	2-Mar-15	82.02	1-Mar-15	79.92	-2.10
22107	2-Mar-15	61.27	1-Mar-15	60.73	-0.54	MB14-17S	2-Mar-15	72.95	1-Mar-15	71.65	-1.30
22411	2-Mar-15	61.90	1-Mar-15	63.10	1.20	MB14-17D	2-Mar-15	67.90	1-Mar-15	70.11	2.21
22543	2-Mar-15	58.50	1-Mar-15	58.26	-0.24	MB14-18	2-Mar-15	59.13	1-Mar-15	59.24	0.11
22544	2-Mar-15	60.49	1-Mar-15	61.48	0.99	MB14-19	2-Mar-15	59.12	1-Mar-15	59.16	0.04
22547	2-Mar-15	69.02	1-Mar-15	70.53	1.51	MB14-20S	2-Mar-15	64.16	1-Mar-15	64.33	0.17
22548	2-Mar-15	68.83	1-Mar-15	70.41	1.58	MB14-20D	2-Mar-15	62.83	1-Mar-15	62.53	-0.30
23051	2-Mar-15	63.16	1-Mar-15	63.19	0.03	MB12-25	2-Mar-15	58.53	1-Mar-15	59.61	1.08
23056	2-Mar-15	60.99	1-Mar-15	60.96	-0.03	MB12-26	2-Mar-15	59.45	1-Mar-15	60.49	1.04
23060	2-Mar-15	59.83	1-Mar-15	59.83	0.00	MB12-27	2-Mar-15	60.696	1-Mar-15	60.77	0.08
23140	2-Mar-15	61.04	1-Mar-15	59.67	-1.37	MB12-28	2-Mar-15	60.77	1-Mar-15	60.77	0.00
23302	2-Mar-15	56.31	1-Mar-15	55.45	-0.86	MB12-29S	2-Mar-15	60.85	1-Mar-15	60.89	0.03
23304	2-Mar-15	70.90	1-Mar-15	73.12	2.22	MB12-30S	2-Mar-15	59.51	1-Mar-15	59.23	-0.28
23413	2-Mar-15	63.42	1-Mar-15	63.93	0.51	MB12-30D	2-Mar-15	58.92	1-Mar-15	59.33	0.42
23419	2-Mar-15	63.37	1-Mar-15	63.74	0.37	MB12-31S	2-Mar-15	72.47	1-Mar-15	70.68	-1.79
23790	2-Mar-15	72.03	1-Mar-15	71.58	-0.45	PB12-33	2-Mar-15	59.20	1-Mar-15	59.56	0.36
23792	2-Mar-15	80.84	1-Mar-15	77.55	-3.29	MB12-34	2-Mar-15	56.78	1-Mar-15	56.52	-0.26
23793	2-Mar-15	70.61	1-Mar-15	70.78	0.17	MB12-35	2-Mar-15	58.77	1-Mar-15	59.19	0.43

APPENDIX F

TIME TREND PLOTS OF SIMULATED VS. OBSERVED GROUNDWATER LEVELS







Observed vs Simulated Heads for Dyson's Area

Client: Northern Territory Government, Department of Resources - Minerals and Energy	**Figure: F-1a**
Rum Jungle Rehabilitation Planning	Project No: 183006
Report No: 183006/6	Last Update : 27 May 2016
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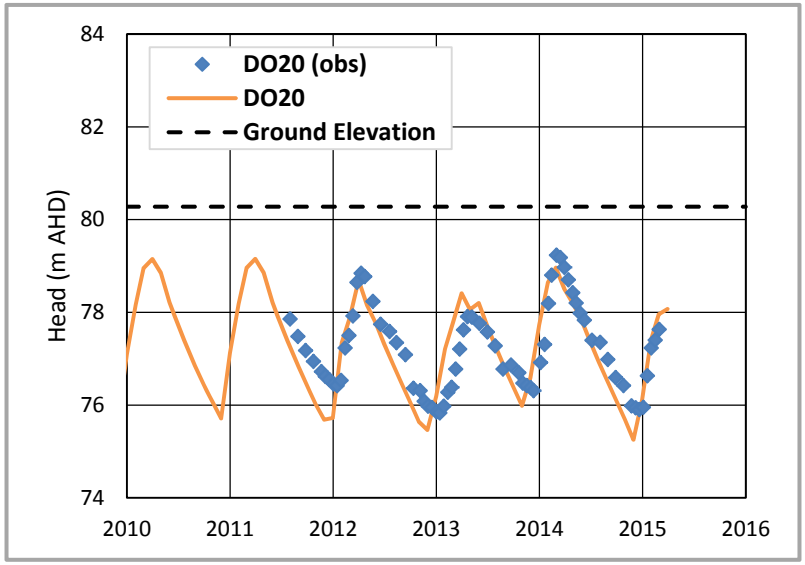

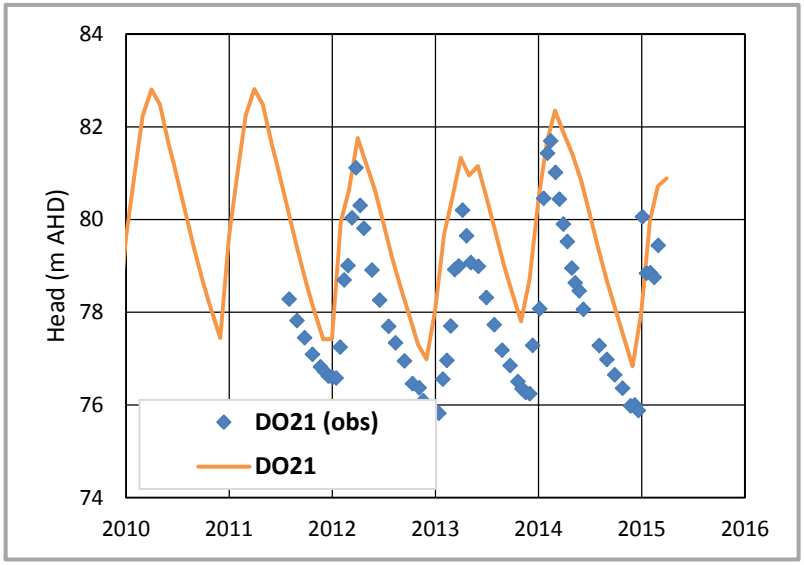

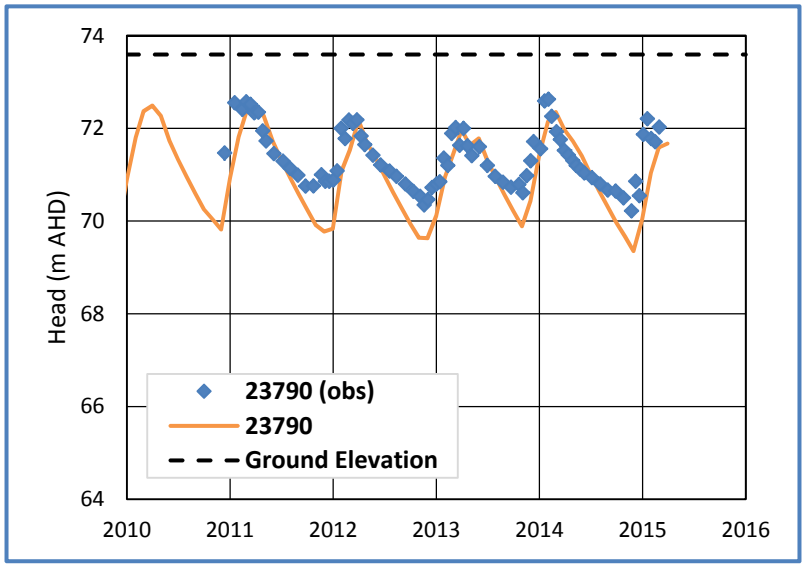

Observed vs Simulated Heads for Dyson's Area

Client: Northern Territory Government, Department of Resources - Minerals and Energy	**Figure: F-1b**
Rum Jungle Rehabilitation Planning	Project No: 183006
Report No: 183006/6	Last Update : 27 May 2016
Original File: Section 6 Figures.pptx	

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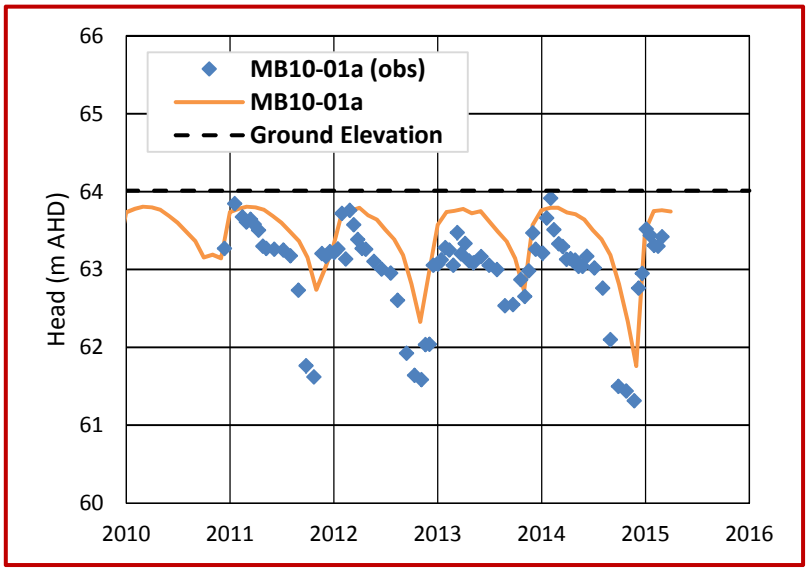

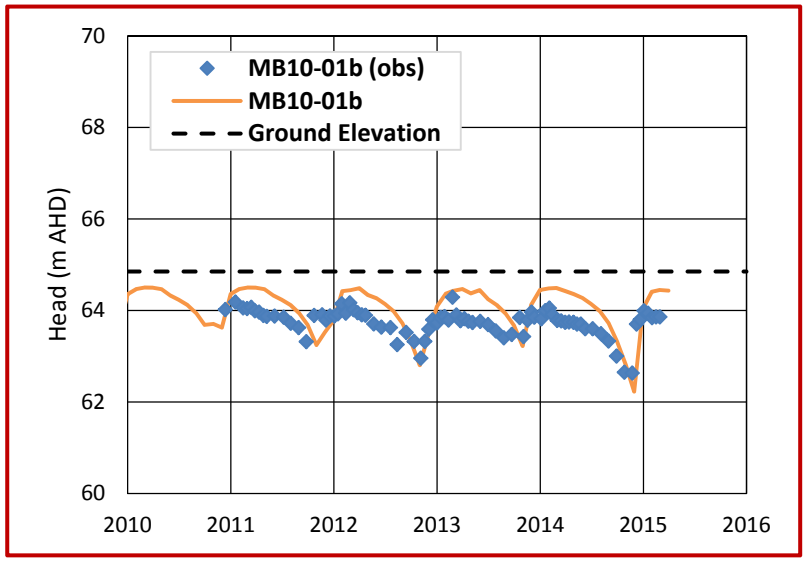

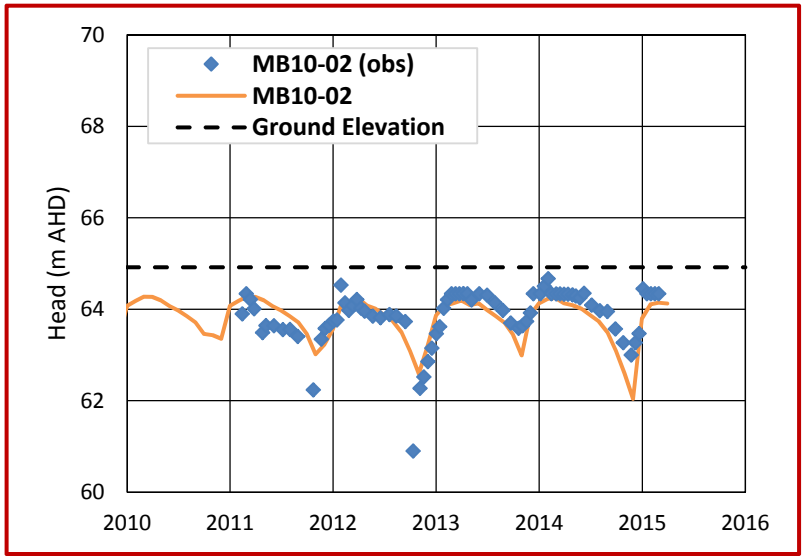

Observed vs Simulated Heads for Dyson's Area

Client: Northern Territory Government, Department of Resources - Minerals and Energy	Figure: F-1c
Rum Jungle Rehabilitation Planning	Project No: 183006
Report No: 183006/6	Last Update : 27 May 2016
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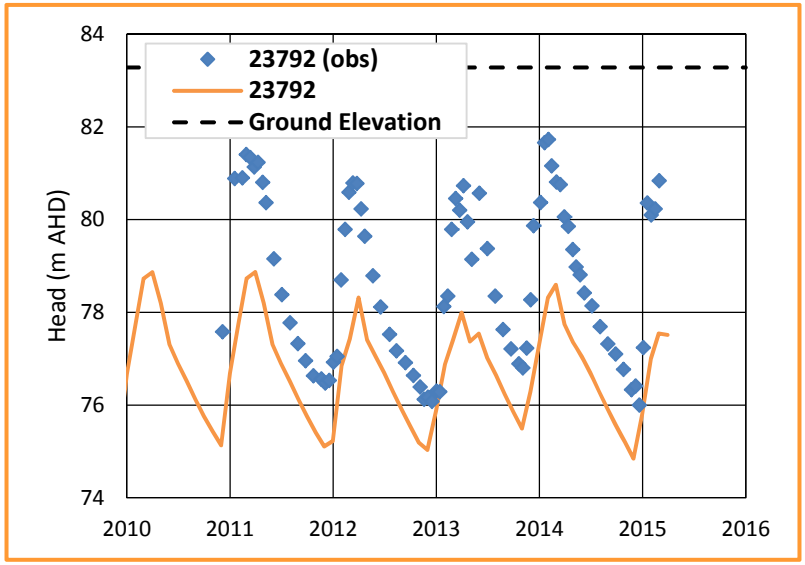

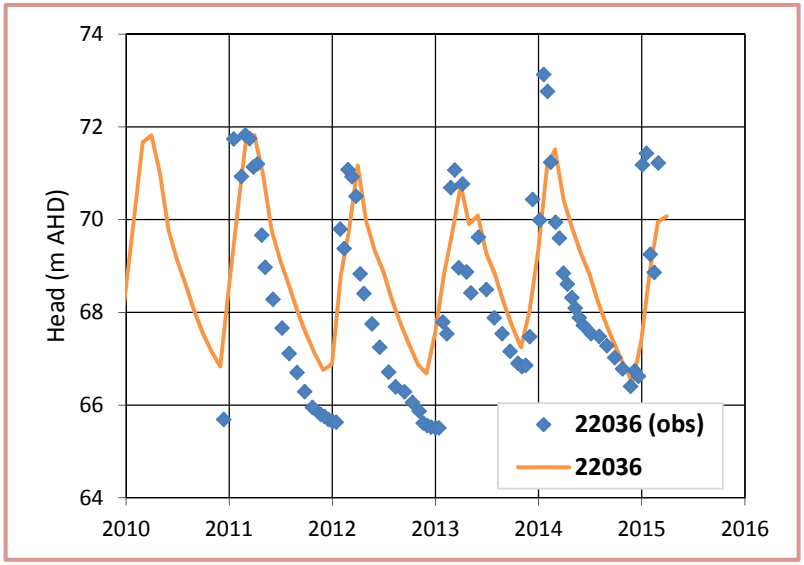

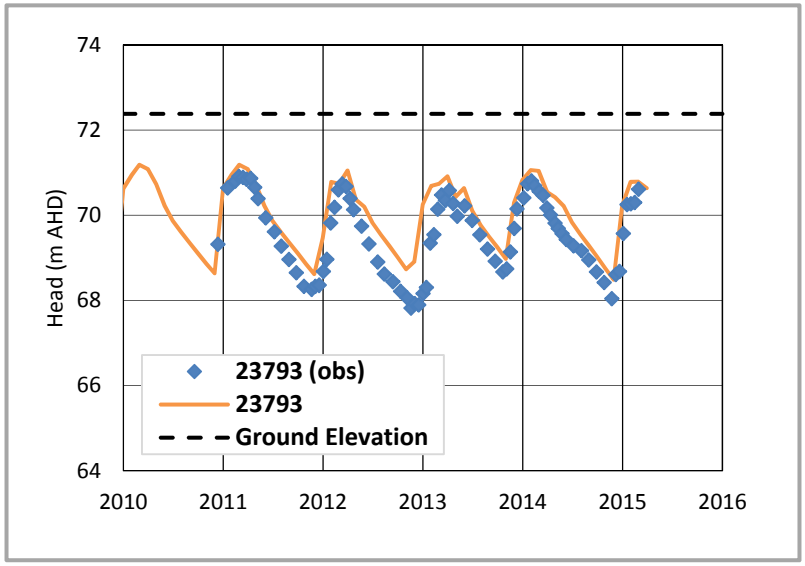

Observed vs Simulated Heads for Dyson's Area

Client: Northern Territory Government, Department of Resources - Minerals and Energy	**Figure: F-1d**
Rum Jungle Rehabilitation Planning	Project No: 183006
Report No: 183006/6	Last Update : 27 May 2016
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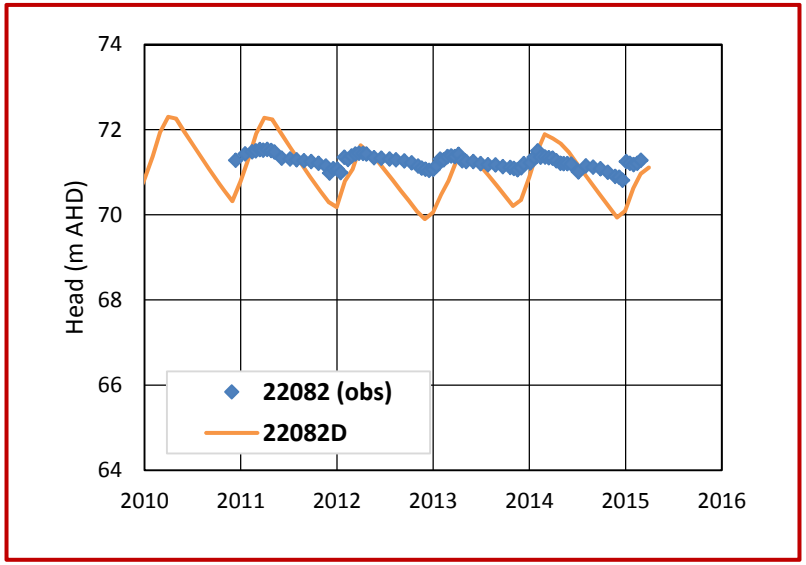

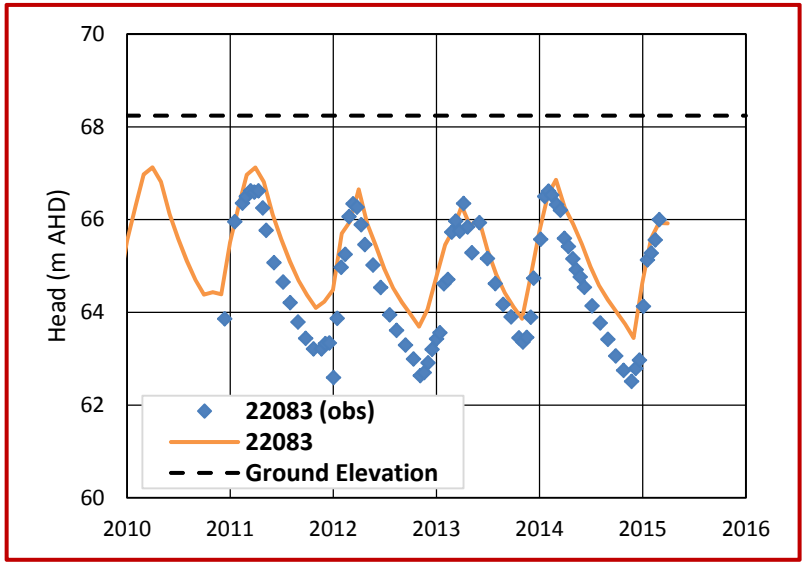

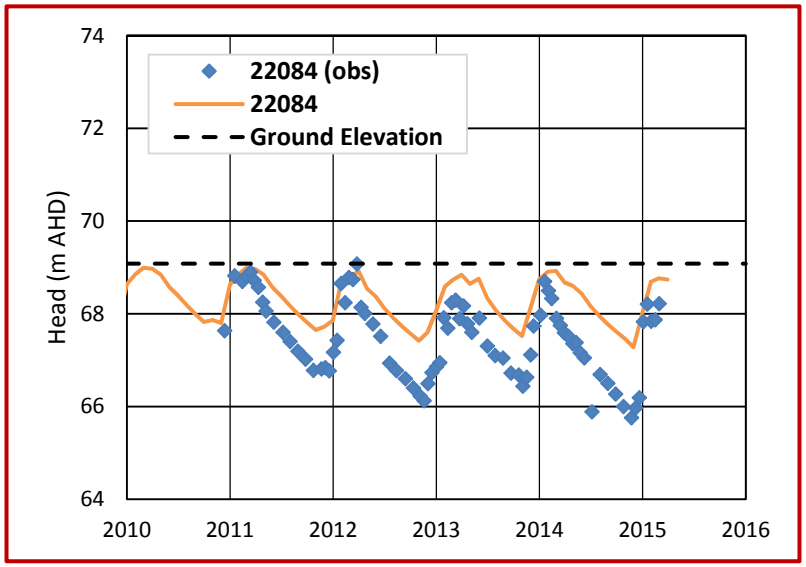

Observed vs Simulated Heads for Main and Intermediate WRD Area

Client: Northern Territory Government, Department of Resources - Minerals and Energy	Figure: F-2a
Rum Jungle Rehabilitation Planning	Project No: 183006
Report No: 183006/6	Last Update : 27 May 2016
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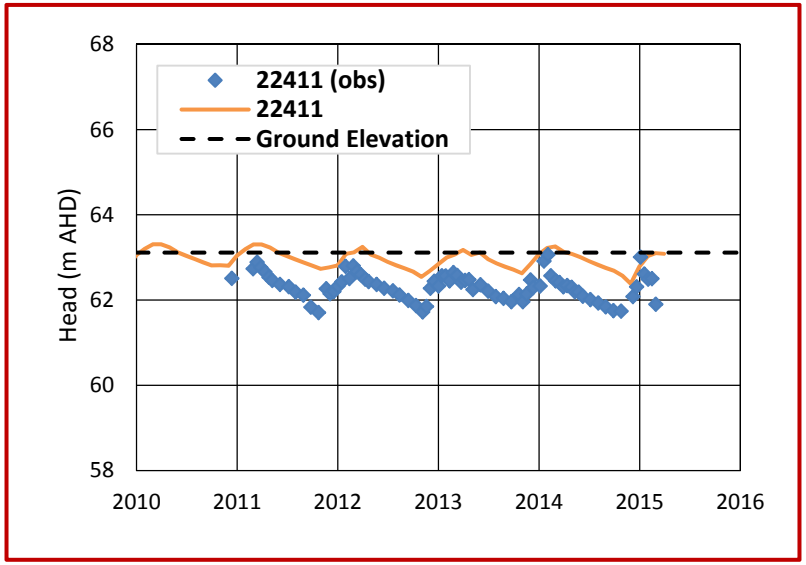

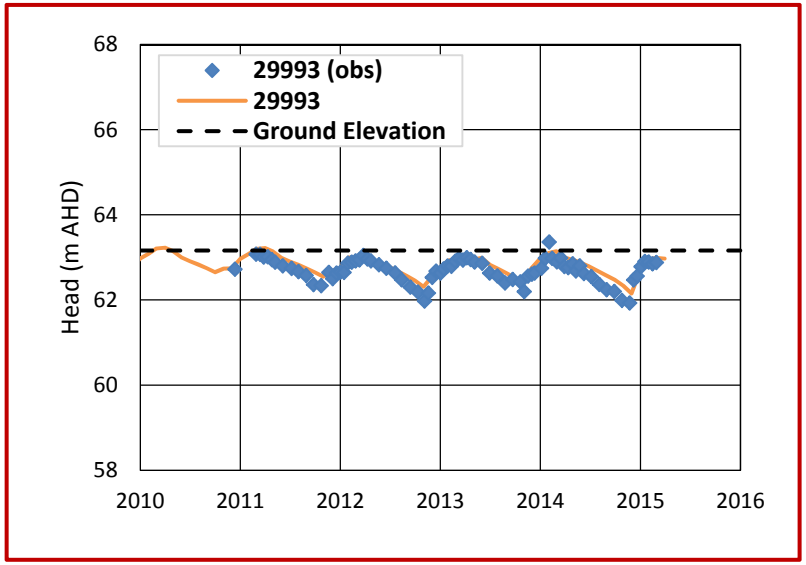

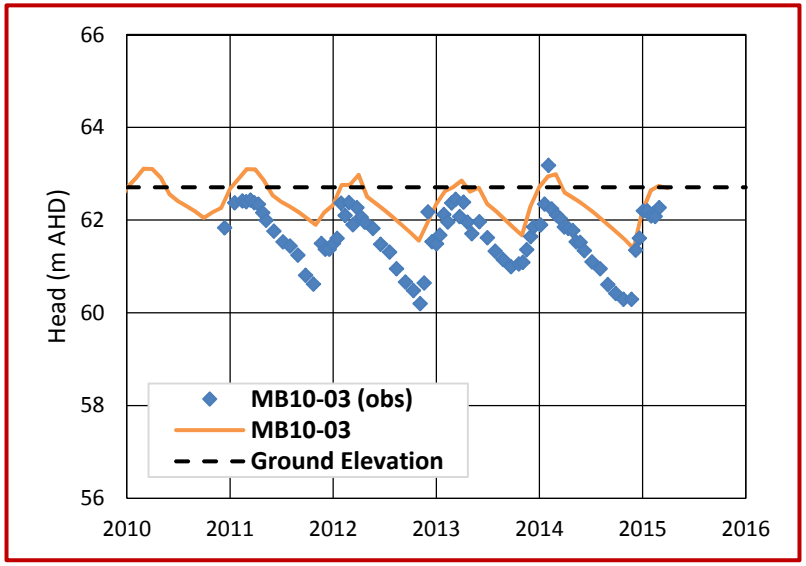

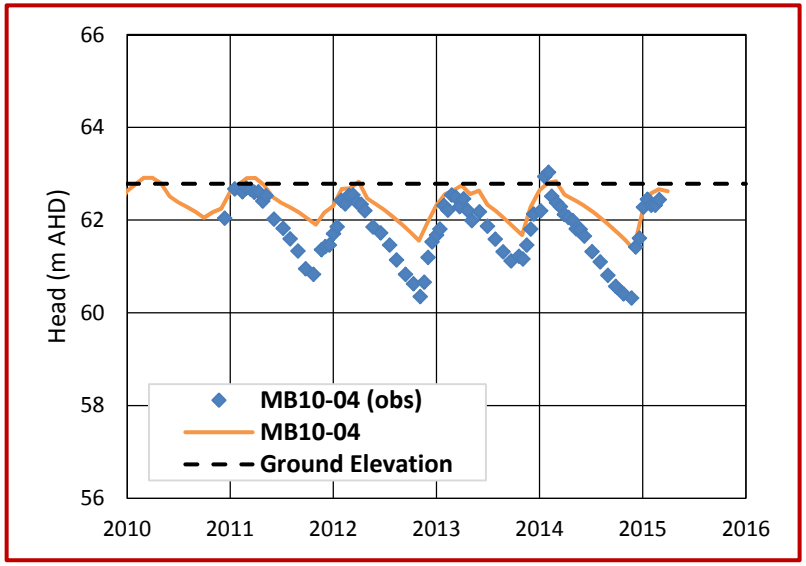

Observed vs Simulated Heads for Main and Intermediate WRD Area

Client: Northern Territory Government, Department of Resources - Minerals and Energy	Figure: F-2b
Rum Jungle Rehabilitation Planning	Project No: 183006
Report No: 183006/6	Last Update : 27 May 2016
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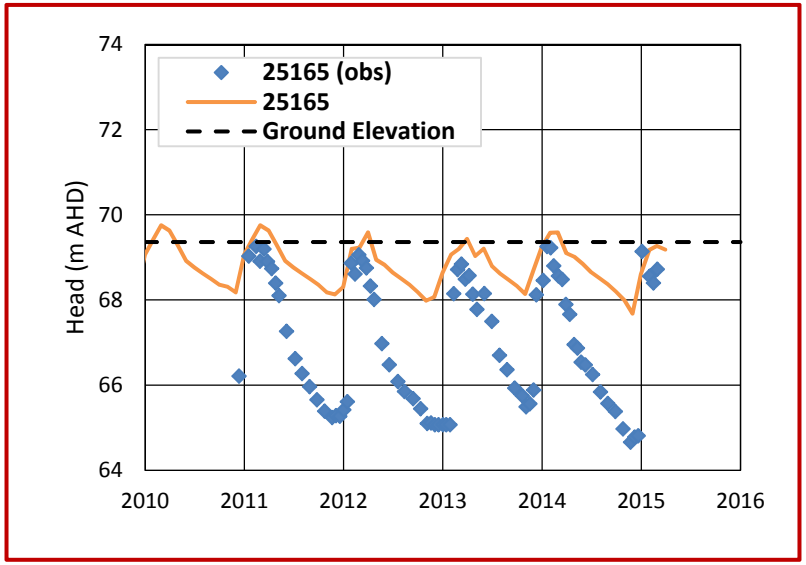

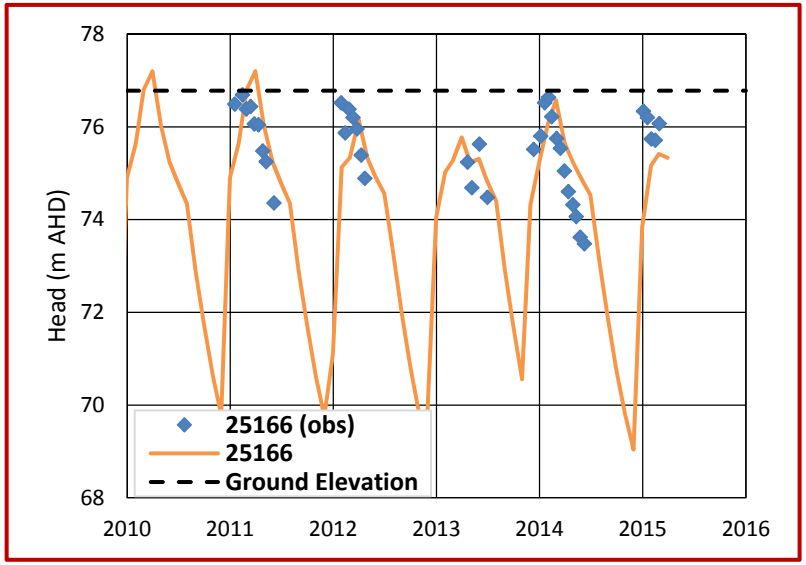

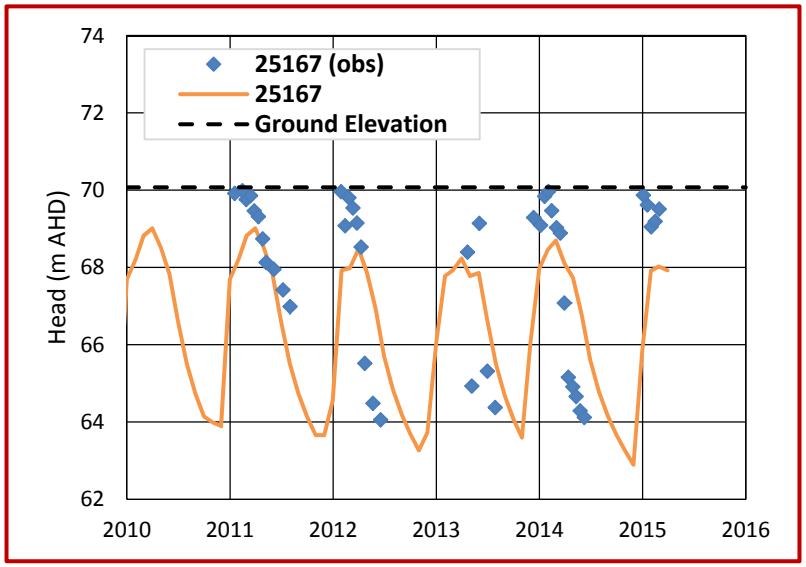

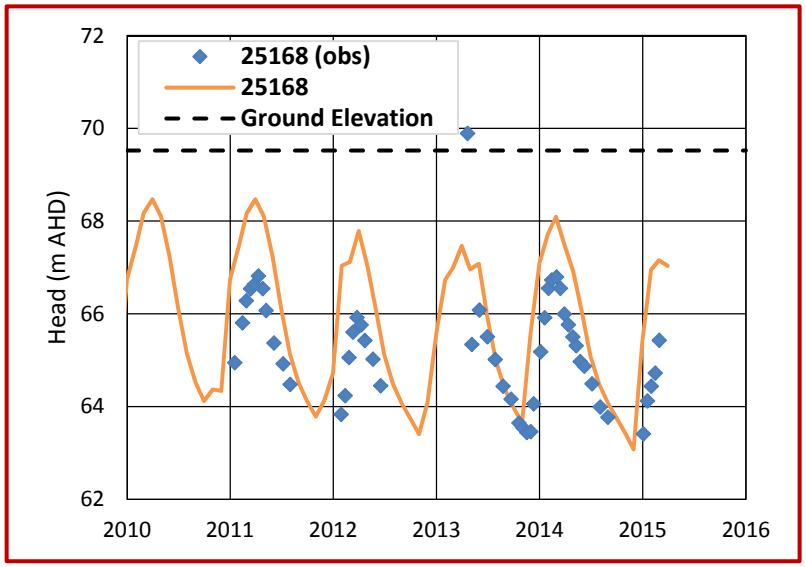

Observed vs Simulated Heads for Main and Intermediate WRD Area

Client: Northern Territory Government, Department of Resources - Minerals and Energy	**Figure: F-2c**
Rum Jungle Rehabilitation Planning	Project No: 183006
Report No: 183006/6	Last Update : 27 May 2016
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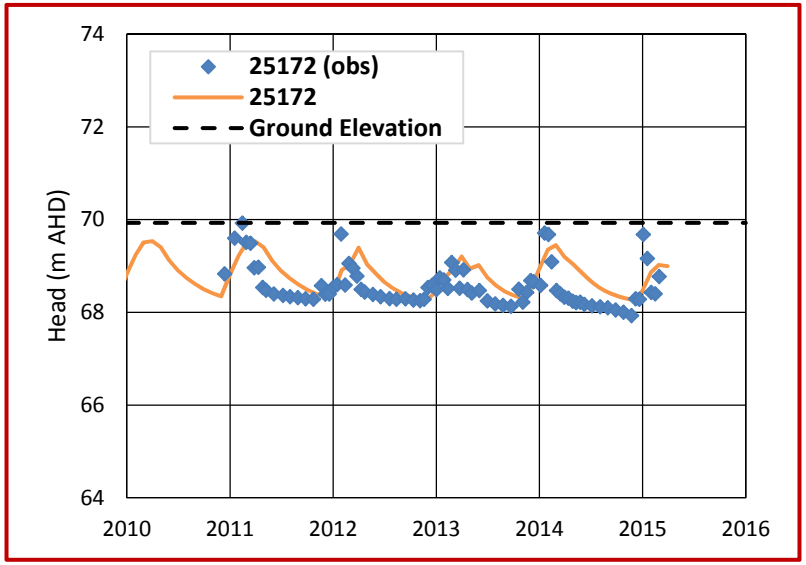

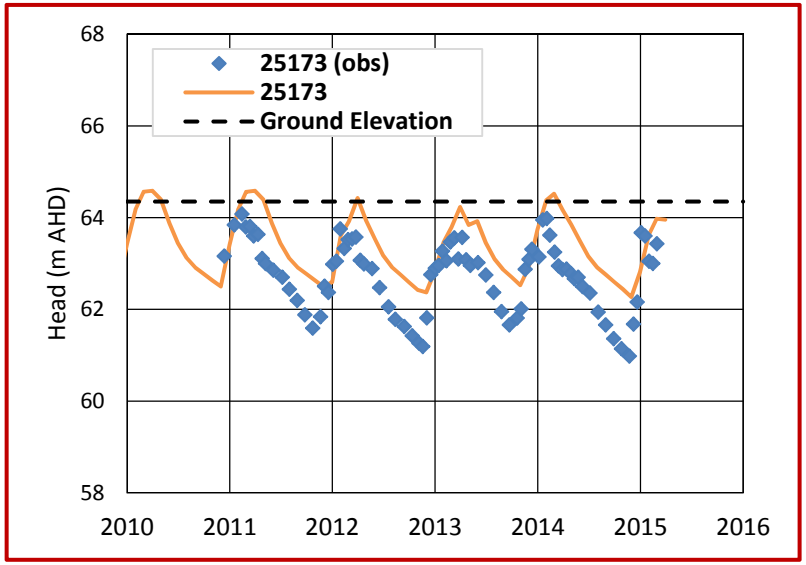

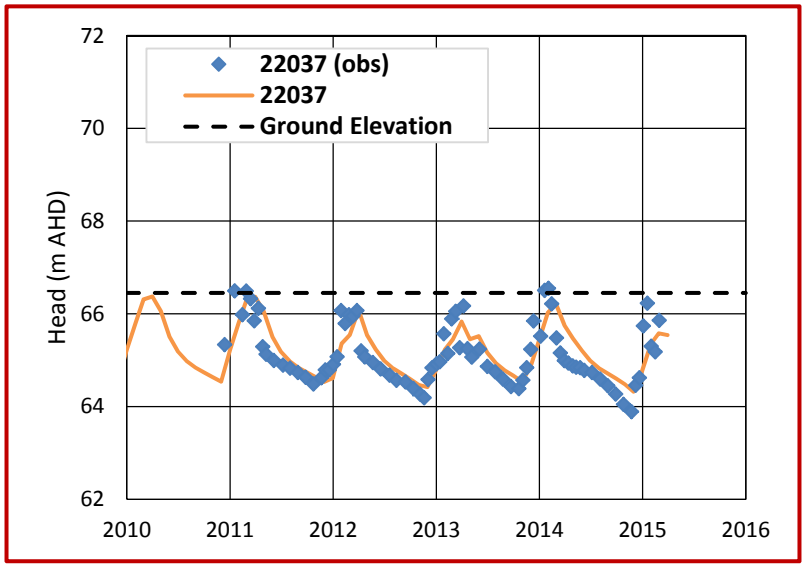

Observed vs Simulated Heads between Main and Intermediate WRD Area

Client: Northern Territory Government, Department of Resources - Minerals and Energy	**Figure: F-3a**
Rum Jungle Rehabilitation Planning	Project No: 183006
Report No: 183006/6	Last Update : 27 May 2016
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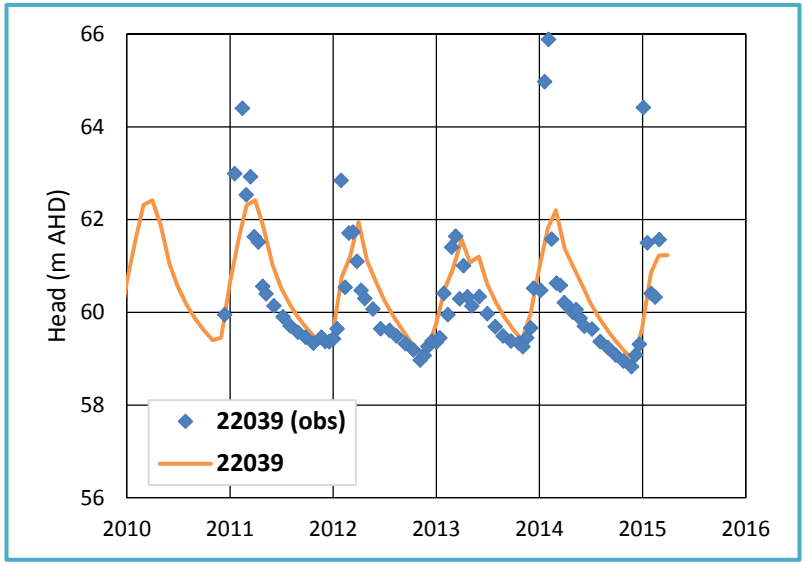

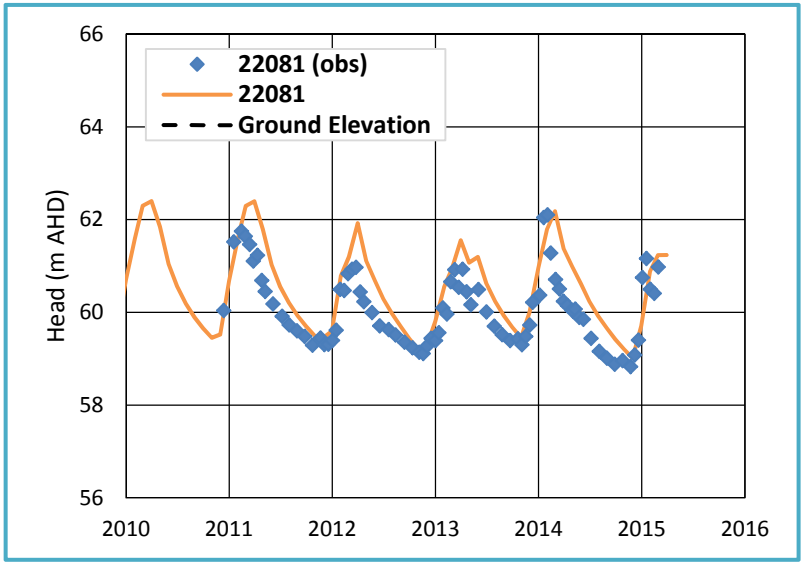

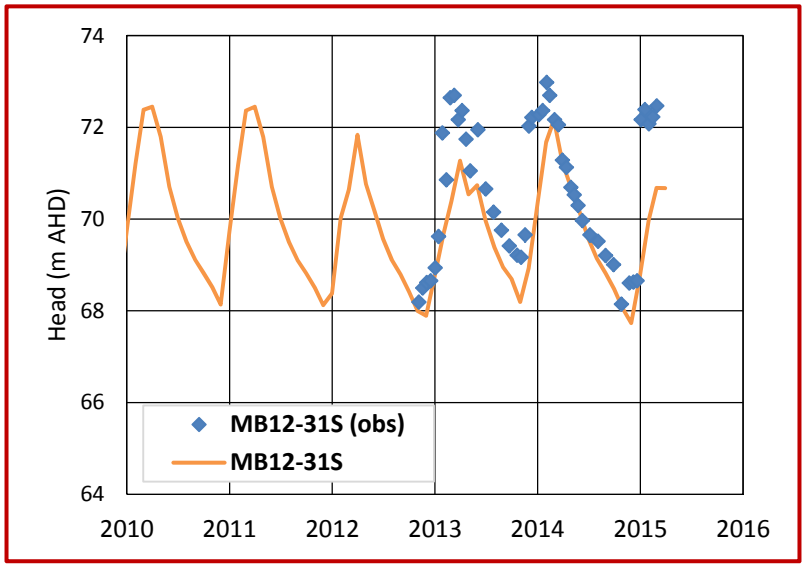

Observed vs Simulated Heads between Main and Intermediate WRD Area

Client: Northern Territory Government, Department of Resources - Minerals and Energy	Figure: F-3b
Rum Jungle Rehabilitation Planning	Project No: 183006
Report No: 183006/6	Last Update : 27 May 2016
Original File: Section 6 Figures.pptx	

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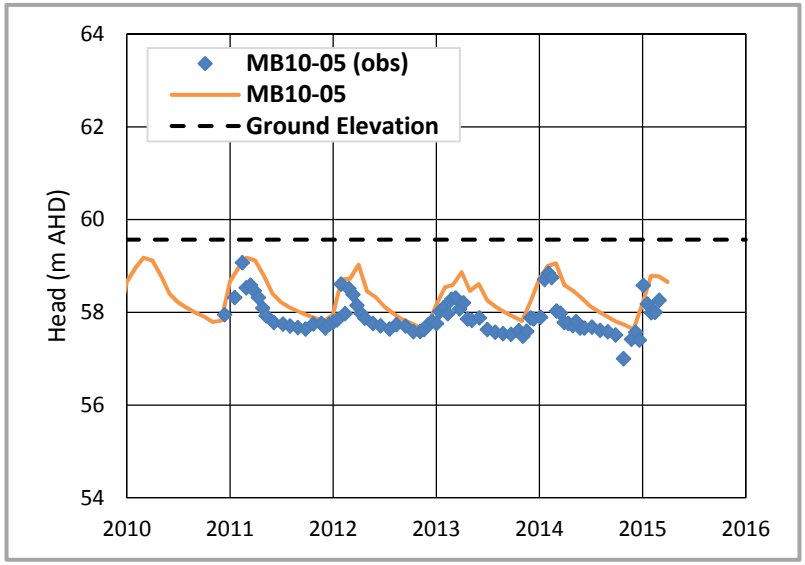

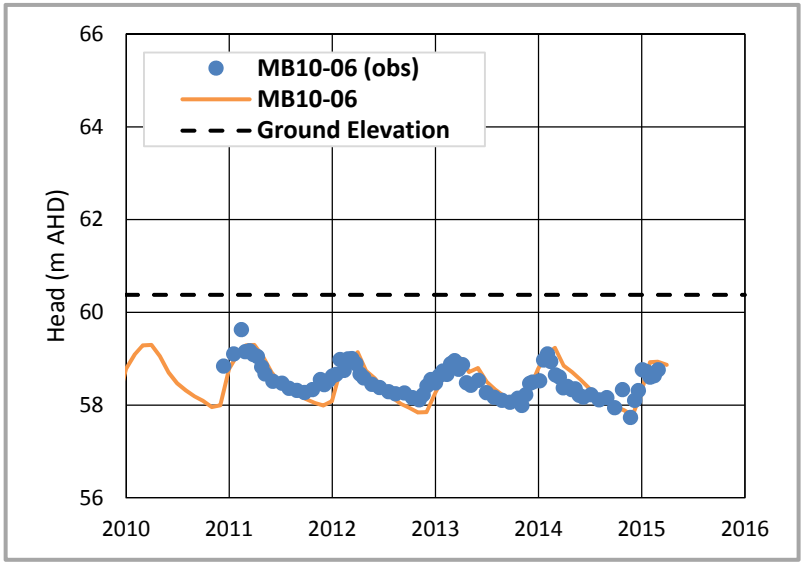

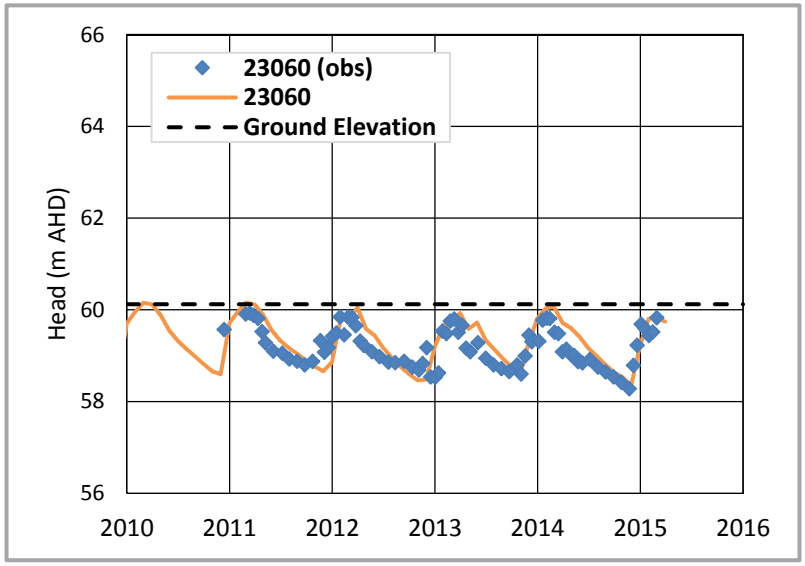

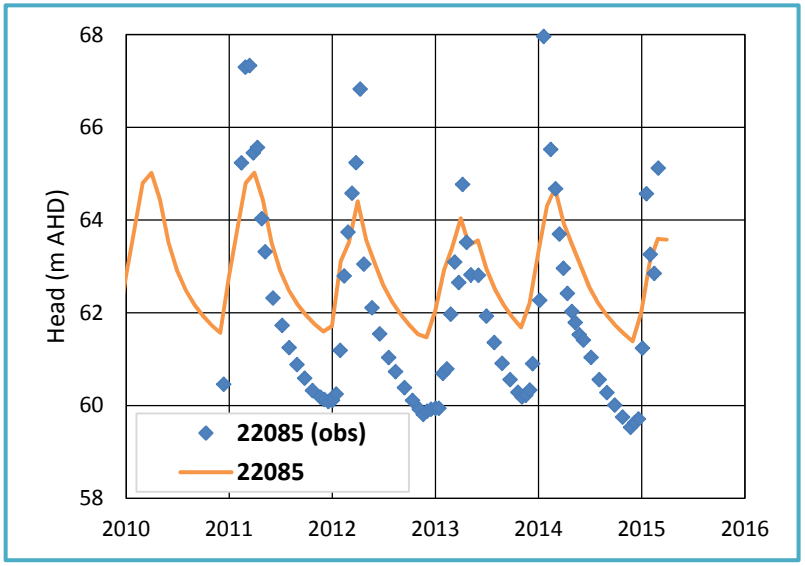

Observed vs Simulated Heads between Main and Intermediate WRD Area

Client: Northern Territory Government, Department of Resources - Minerals and Energy	**Figure: F-4a**
Rum Jungle Rehabilitation Planning	Project No: 183006
Report No: 183006/6	Last Update : 27 May 2016
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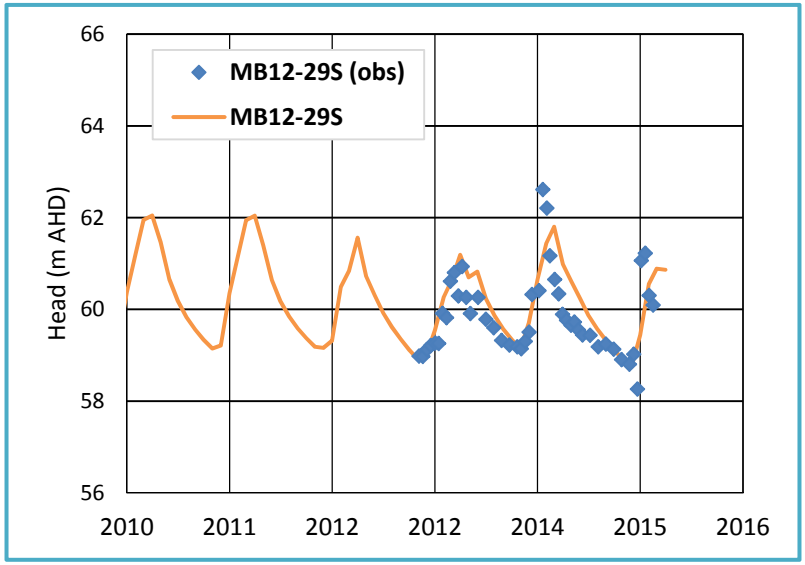

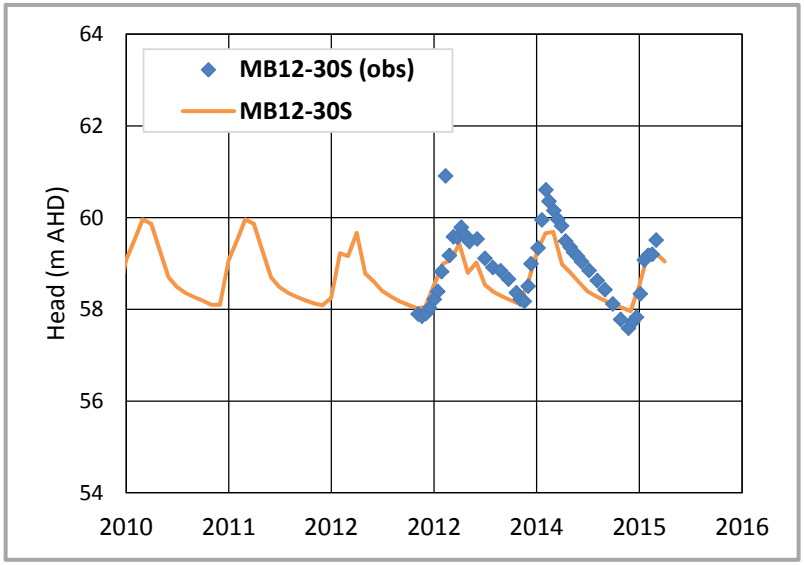

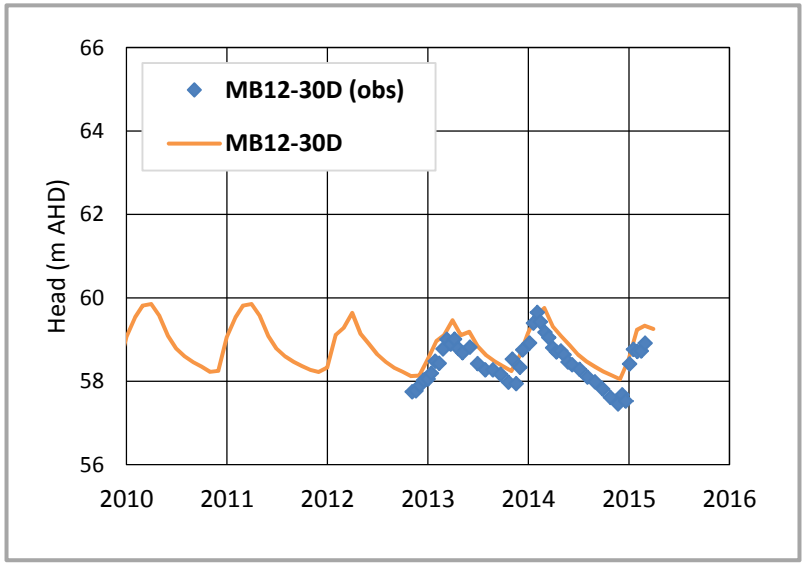

Observed vs Simulated Heads between Main and Intermediate WRD Area

Client: Northern Territory Government, Department of Resources - Minerals and Energy	**Figure: F-4b**
Rum Jungle Rehabilitation Planning	Project No: 183006
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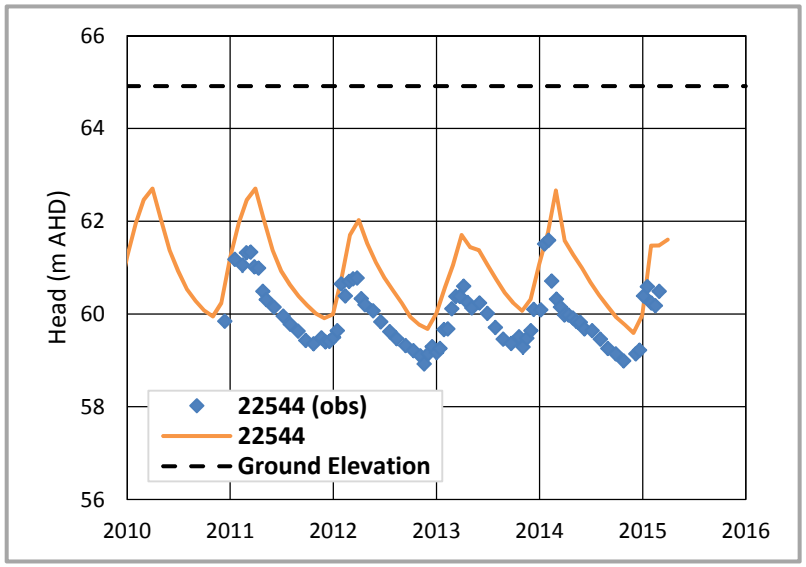

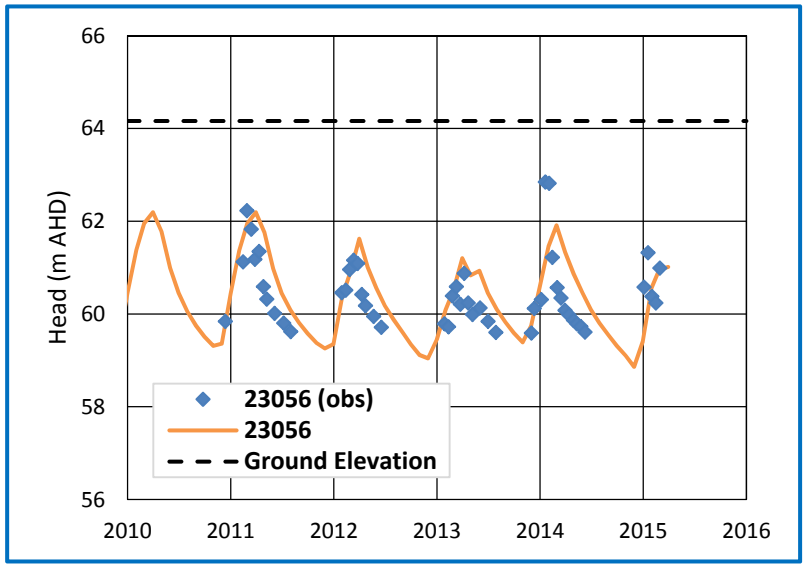

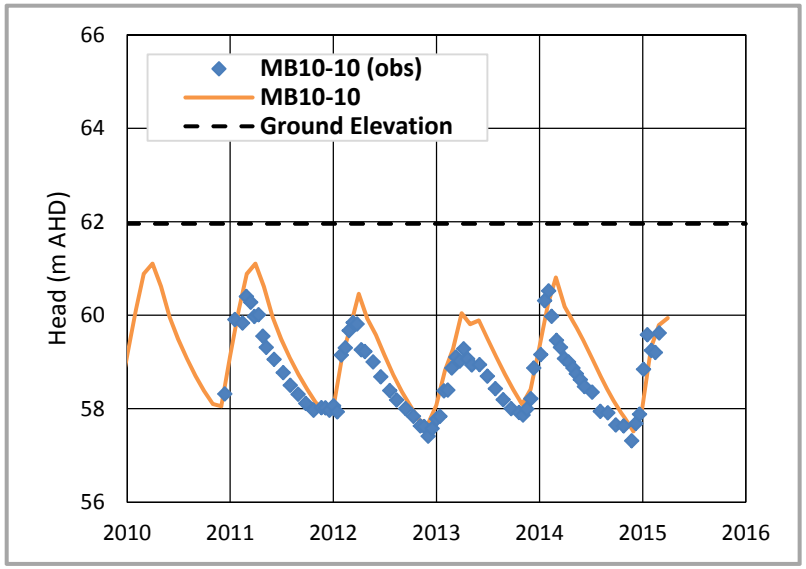

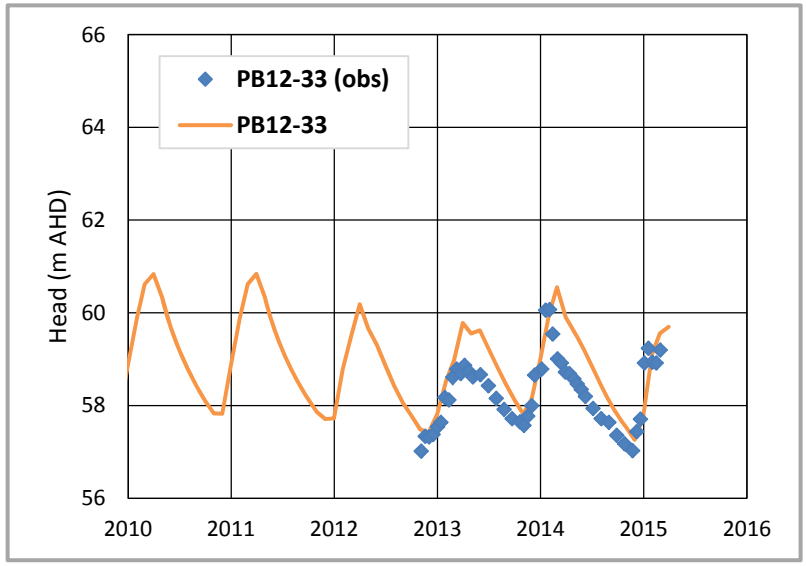

Observed vs Simulated Heads for Central Mining Area

Client: Northern Territory Government, Department of Resources - Minerals and Energy	**Figure: F-5a**
Rum Jungle Rehabilitation Planning	Project No: 183006
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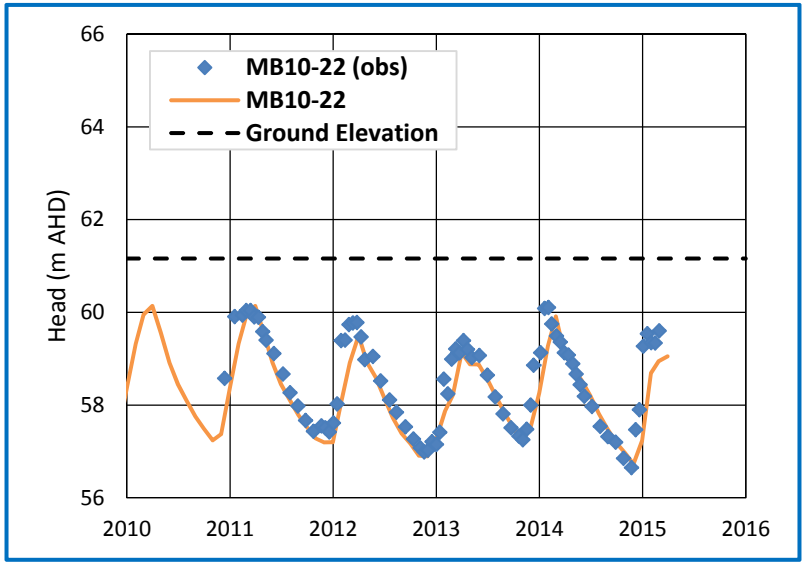

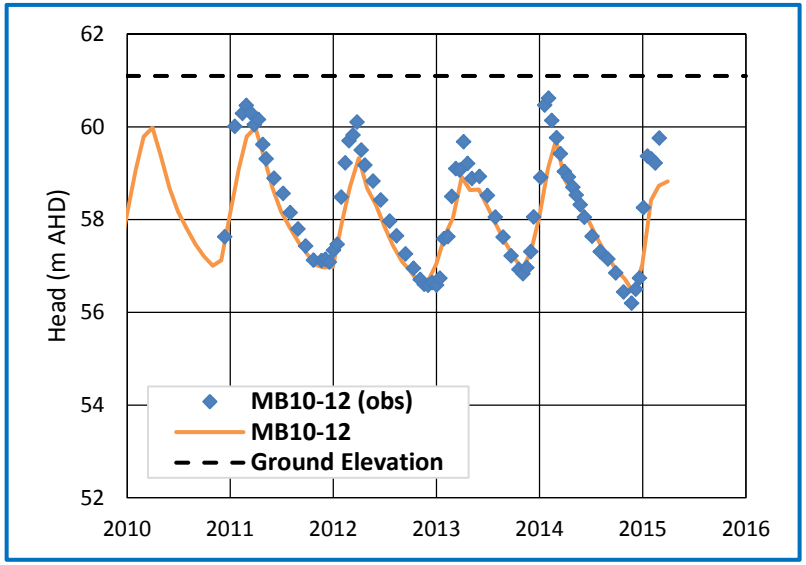

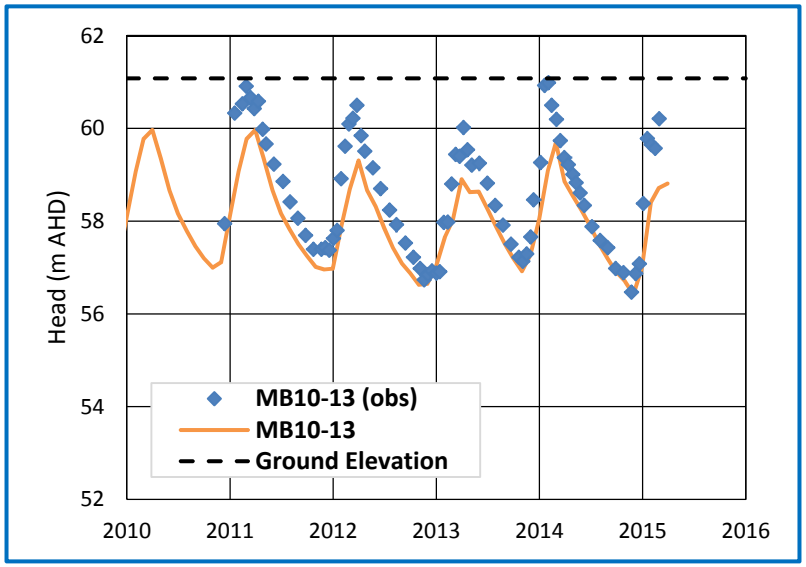

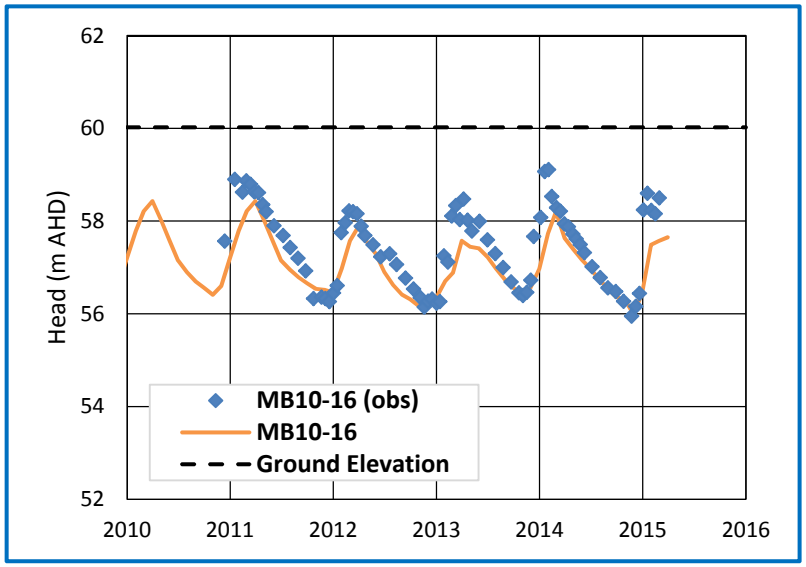

Observed vs Simulated Heads for Central Mining Area

Client: Northern Territory Government, Department of Resources - Minerals and Energy	Figure: F-5b
Rum Jungle Rehabilitation Planning	Project No: 183006
Report No: 183006/6	Last Update : 27 May 2016
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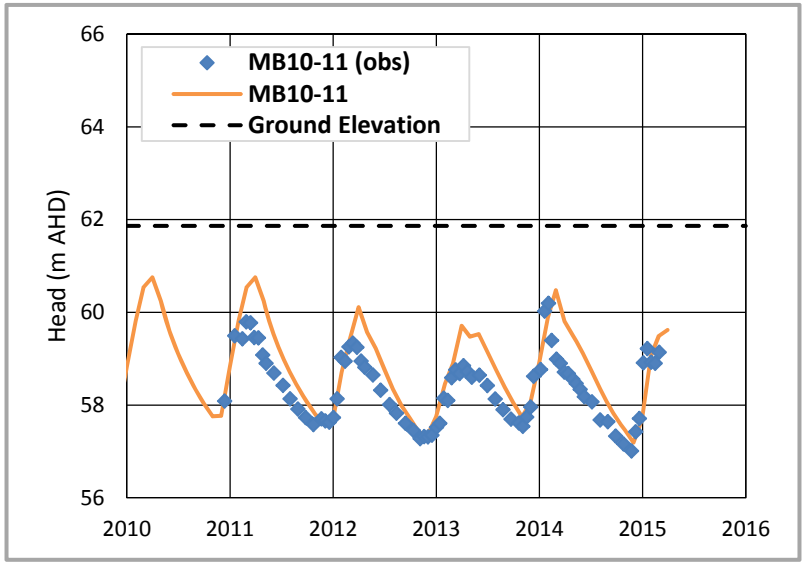

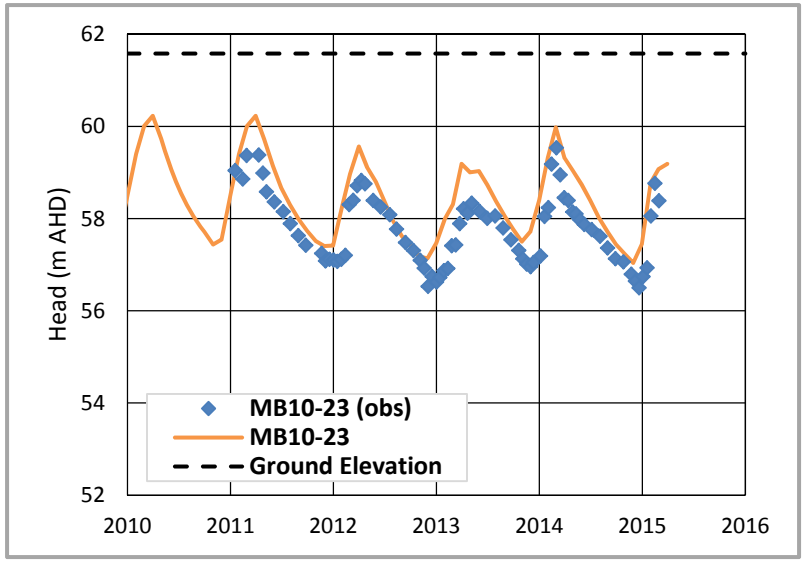

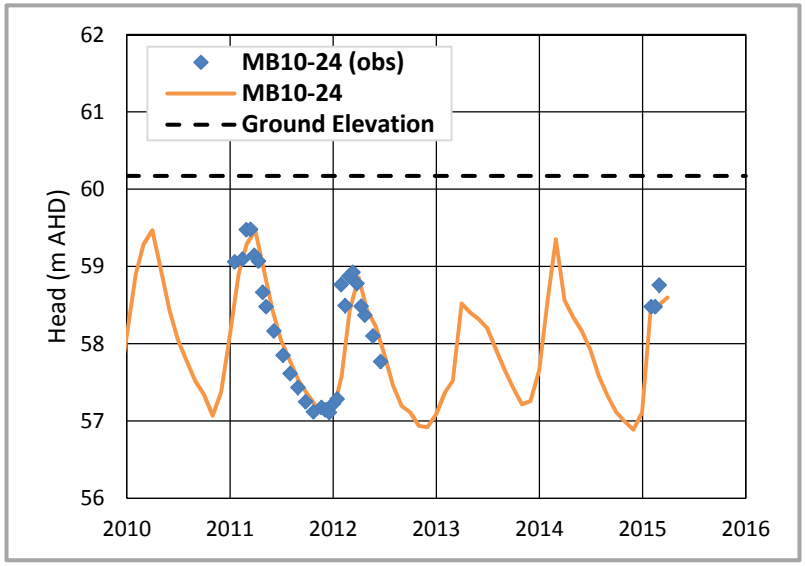

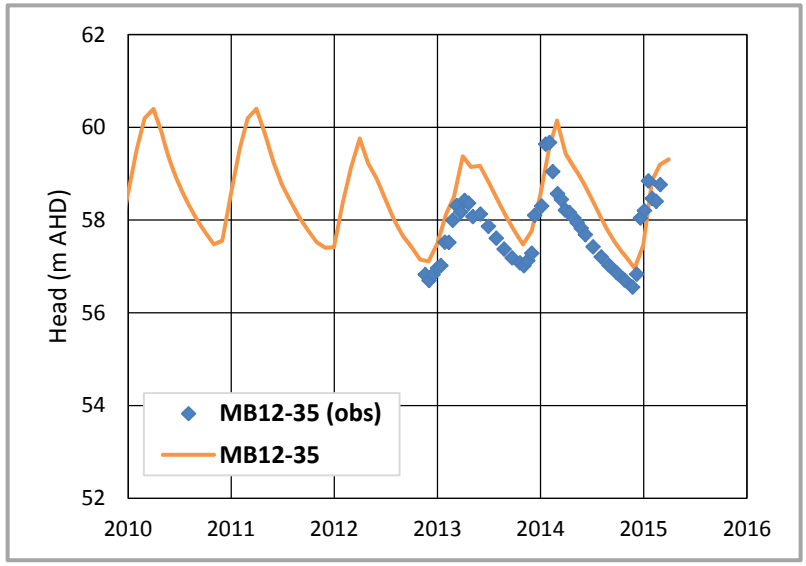

Observed vs Simulated Heads for Central Mining Area

Client: Northern Territory Government, Department of Resources - Minerals and Energy	**Figure: F-5c**
Rum Jungle Rehabilitation Planning	Project No: 183006
Report No: 183006/6	Last Update : 27 May 2016
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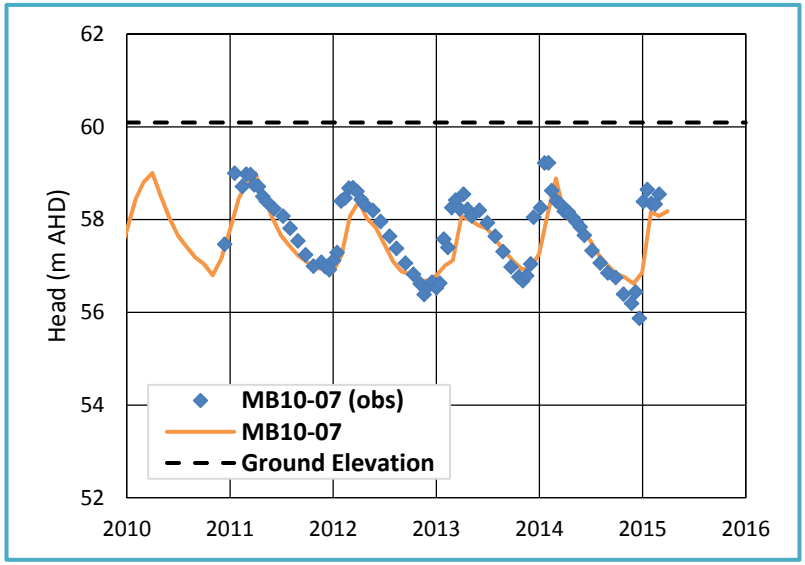

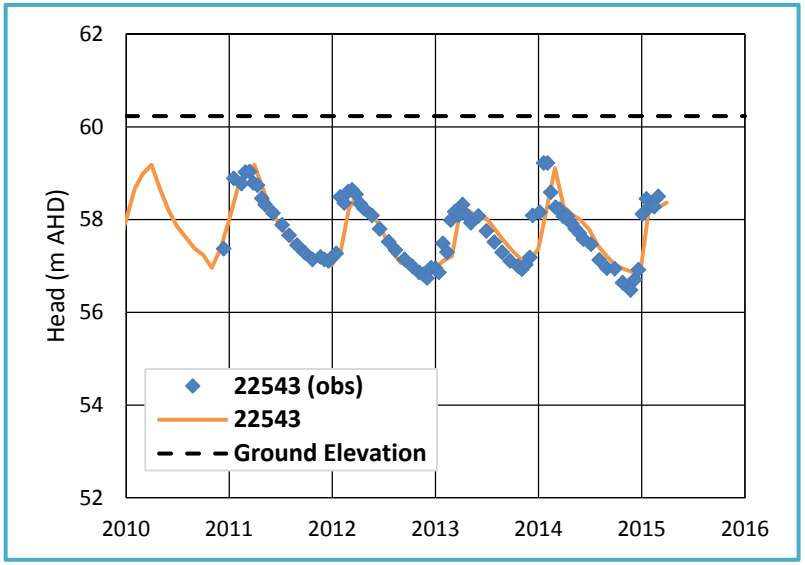

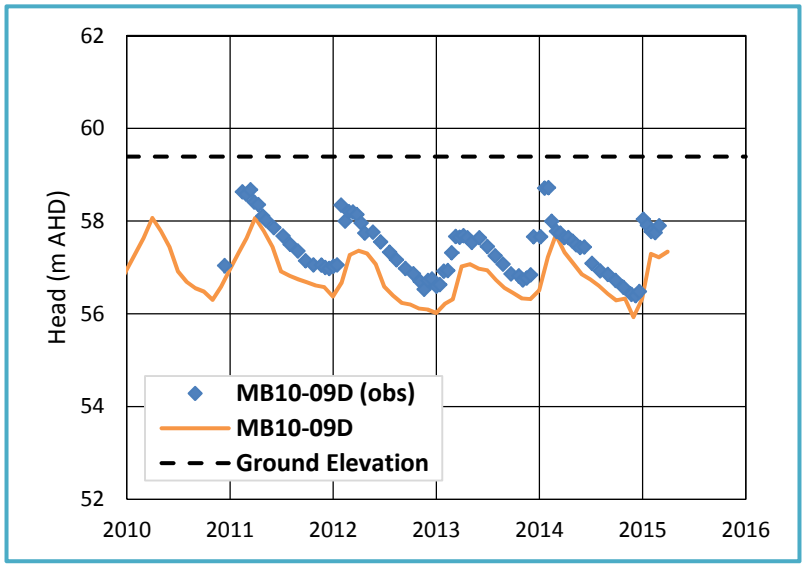

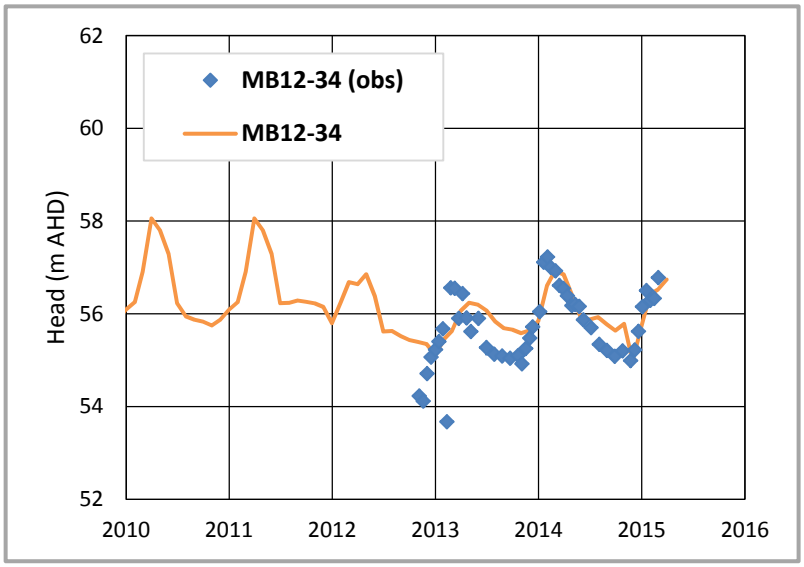

Observed vs Simulated Heads for Central Mining Area

Client: Northern Territory Government, Department of Resources - Minerals and Energy	**Figure: F-5d**
Rum Jungle Rehabilitation Planning	Project No: 183006
Report No: 183006/6	Last Update : 27 May 2016
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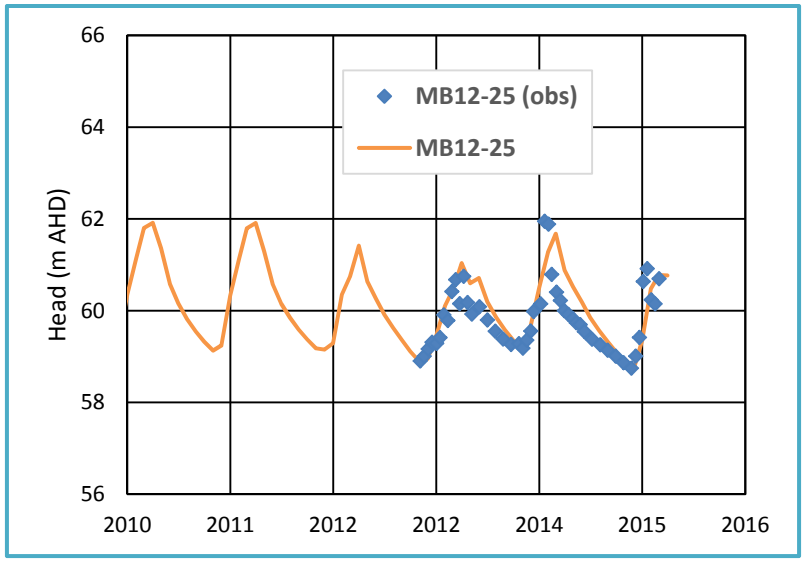

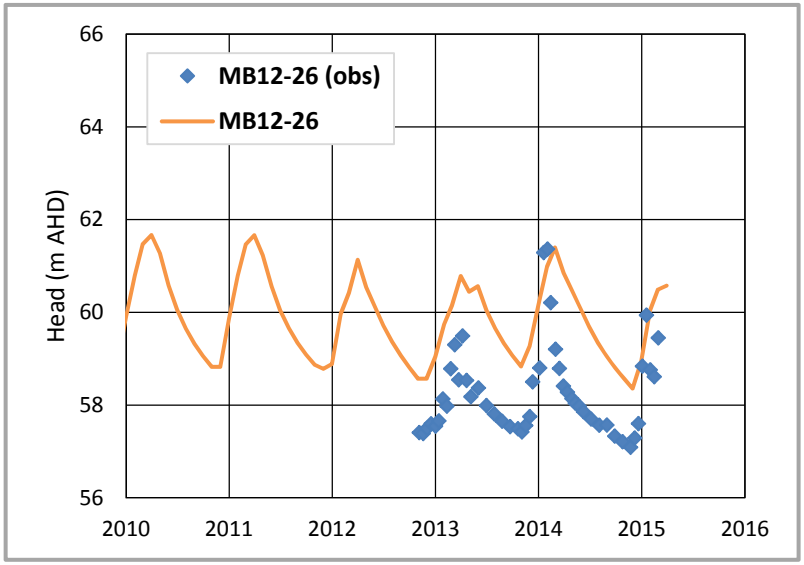

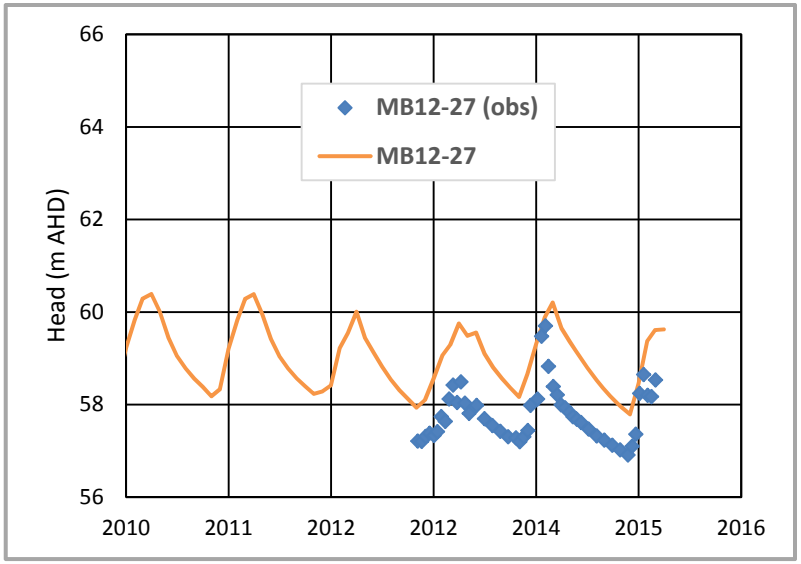

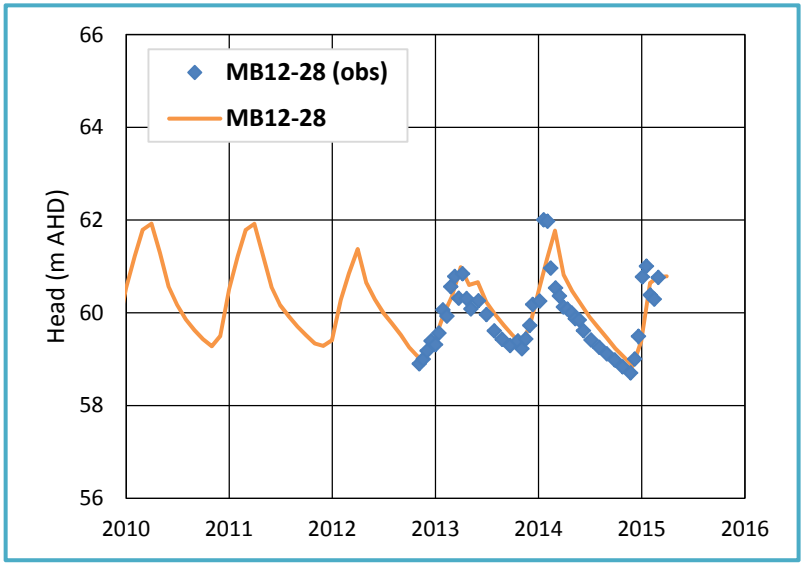

Observed vs Simulated Heads for Central Mining Area

Client: Northern Territory Government, Department of Resources - Minerals and Energy	**Figure: F-5e**
Rum Jungle Rehabilitation Planning	Project No: 183006
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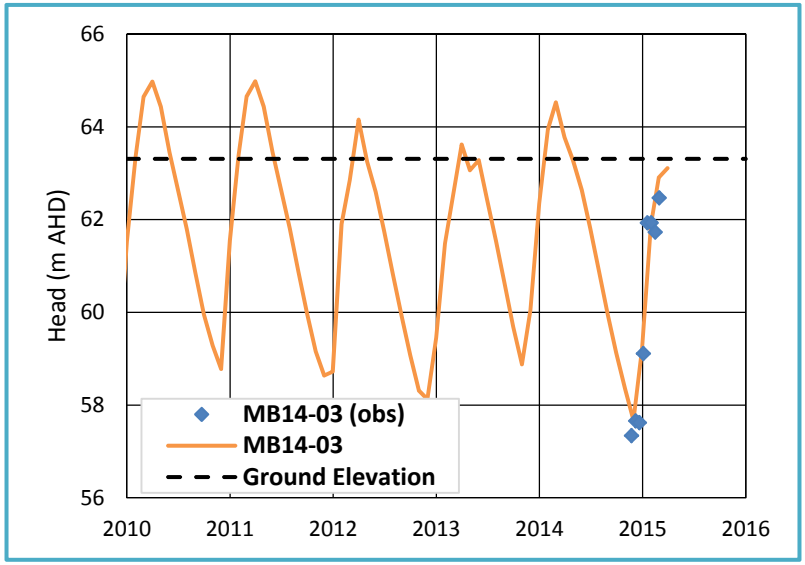

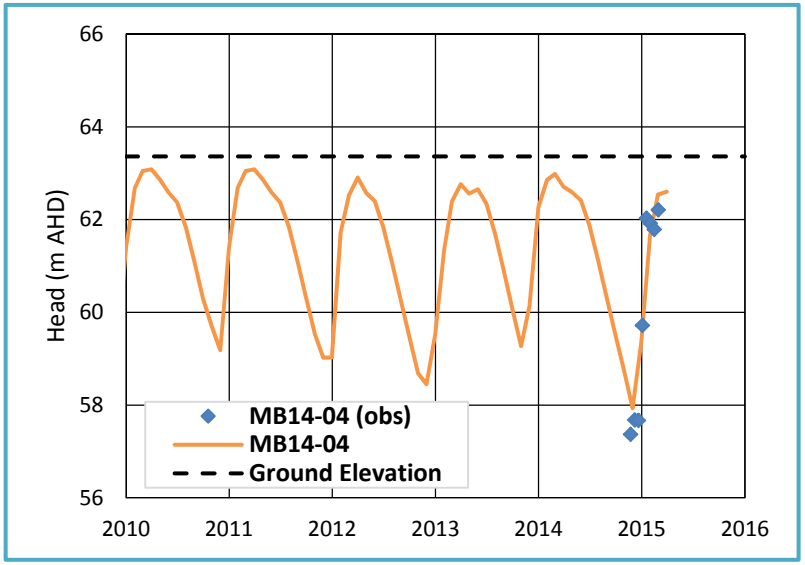

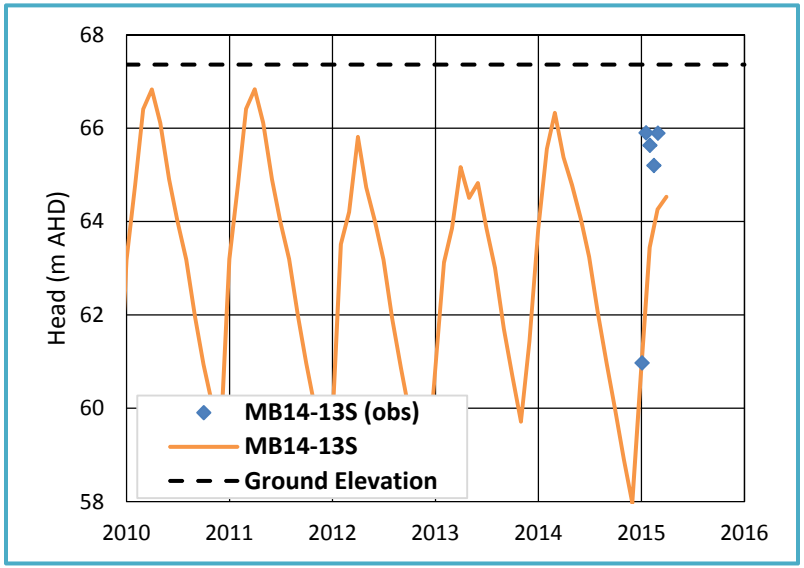

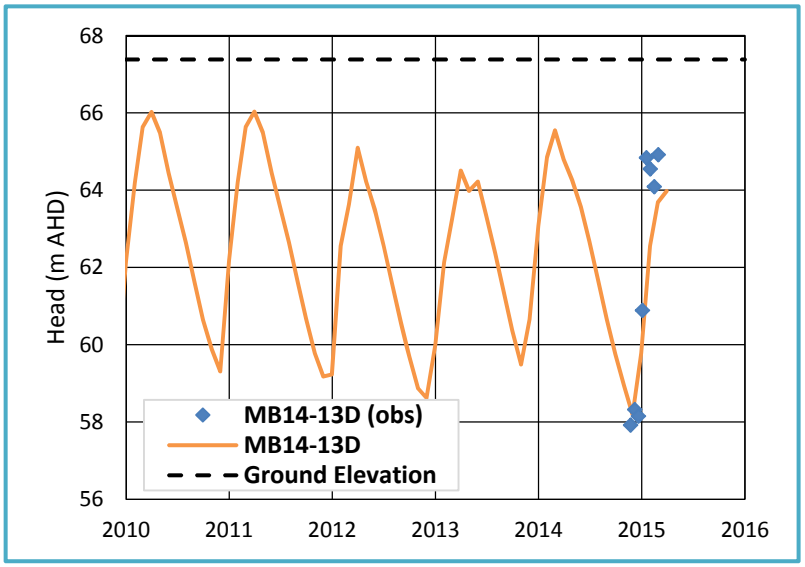

Observed vs Simulated Heads for Old Tailings Dam Area

Client: Northern Territory Government, Department of Resources - Minerals and Energy	**Figure: F-6a**
Rum Jungle Rehabilitation Planning	Project No: 183006
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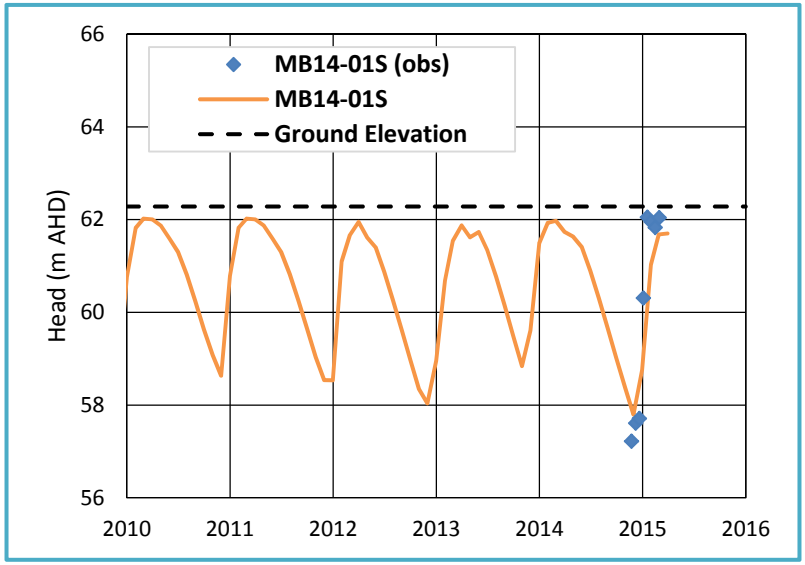

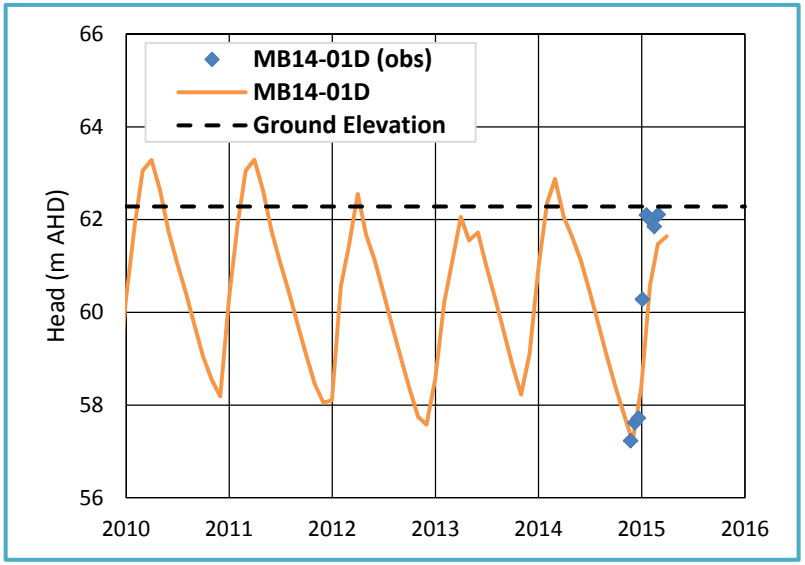

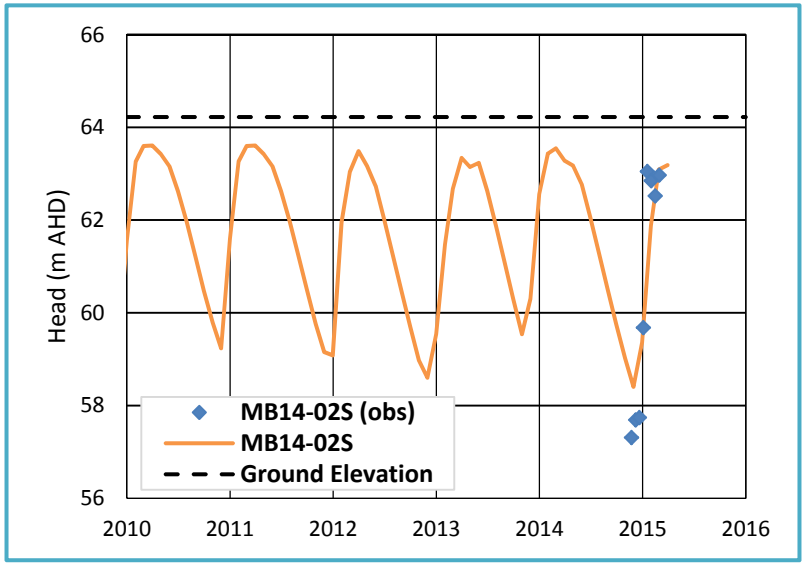

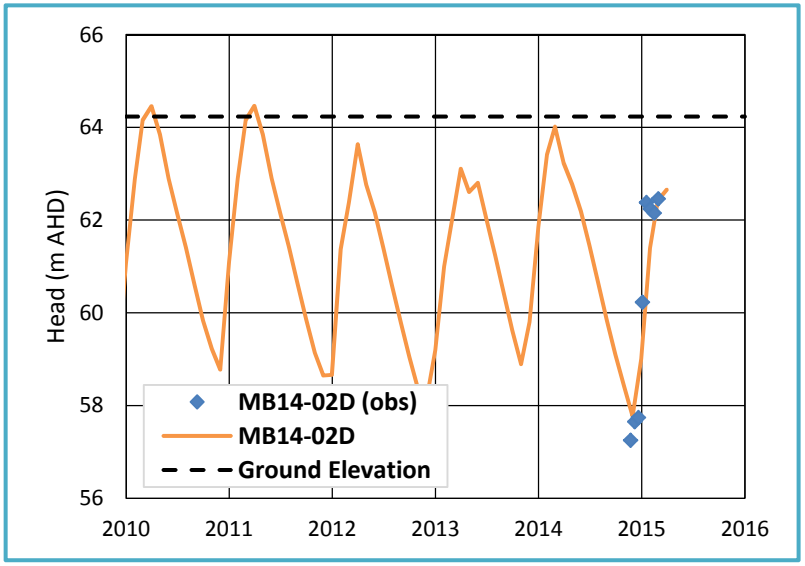

Observed vs Simulated Heads for Old Tailings Dam Area

Client: Northern Territory Government, Department of Resources - Minerals and Energy	**Figure: F-6b**
Rum Jungle Rehabilitation Planning	Project No: 183006
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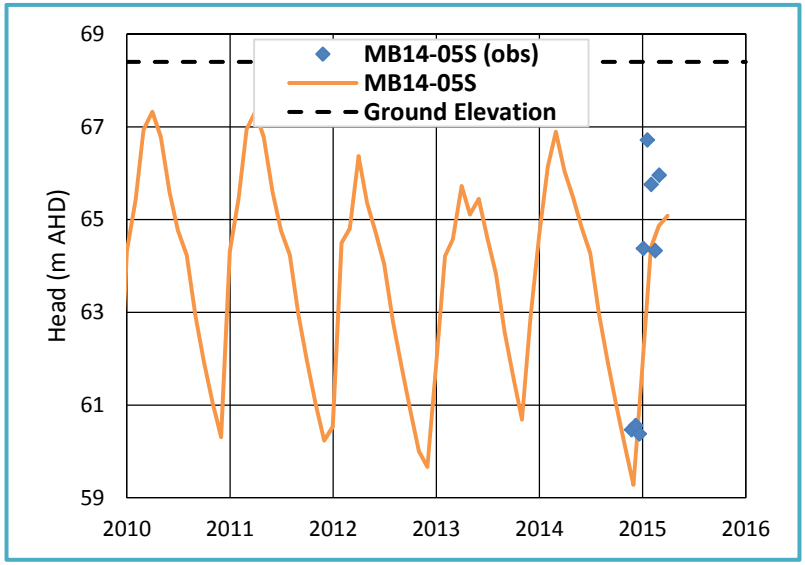

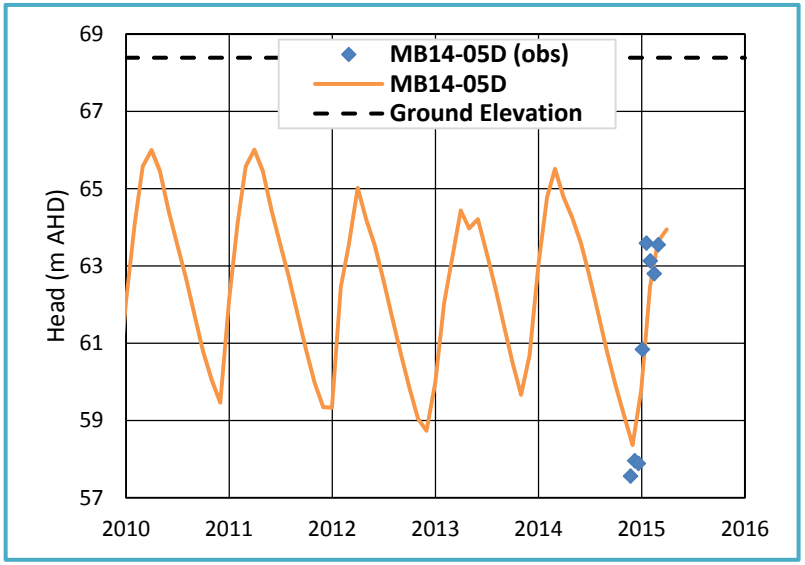

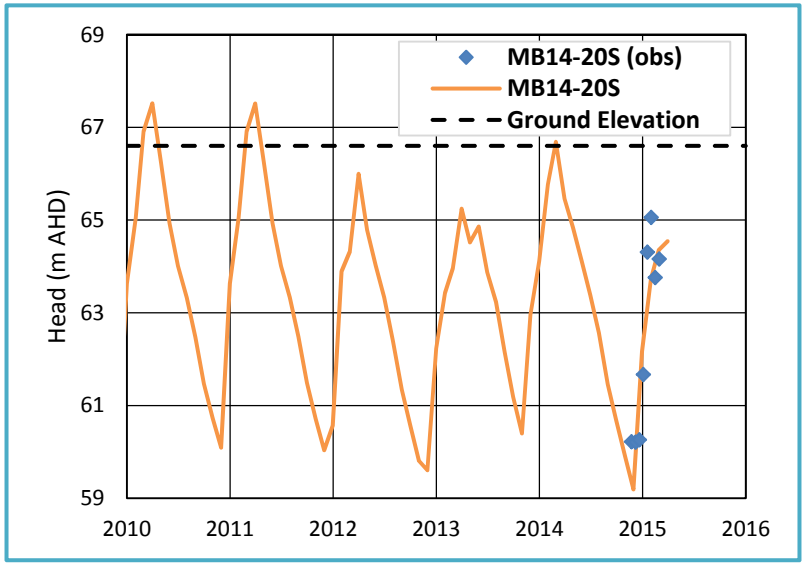

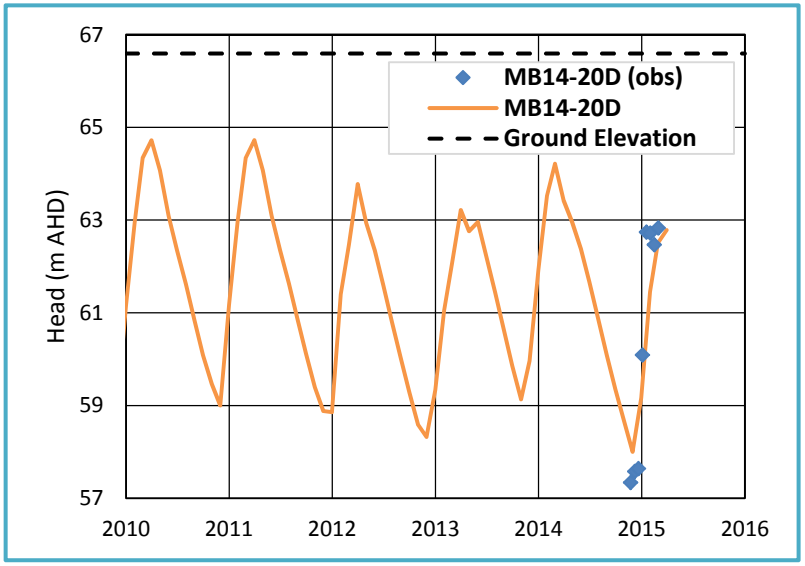

Observed vs Simulated Heads for Old Tailings Dam Area

Client: Northern Territory Government, Department of Resources - Minerals and Energy	Figure: F-6c
Rum Jungle Rehabilitation Planning	Project No: 183006
Report No: 183006/6	Last Update : 27 May 2016
Original File: Section 6 Figures.pptx	

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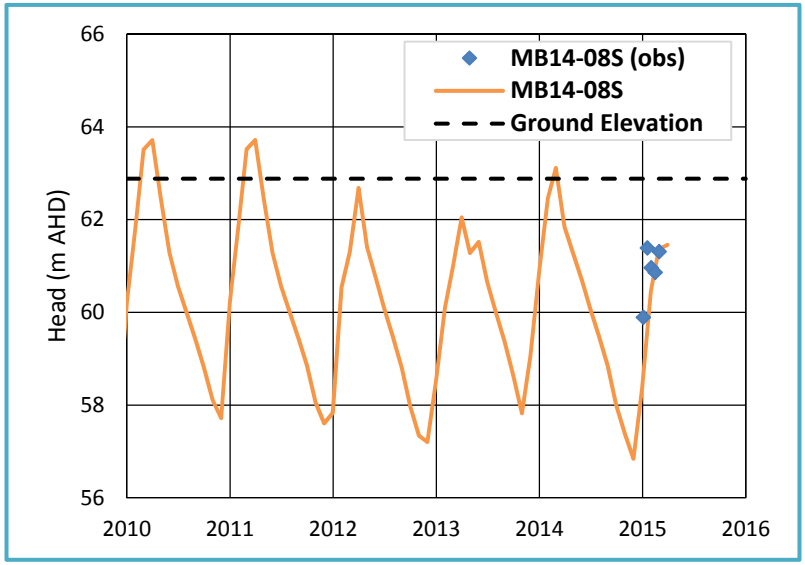

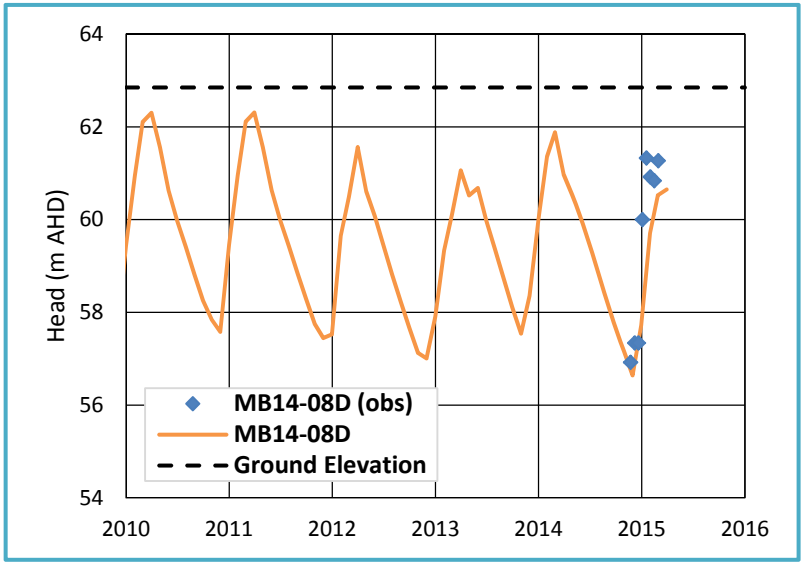

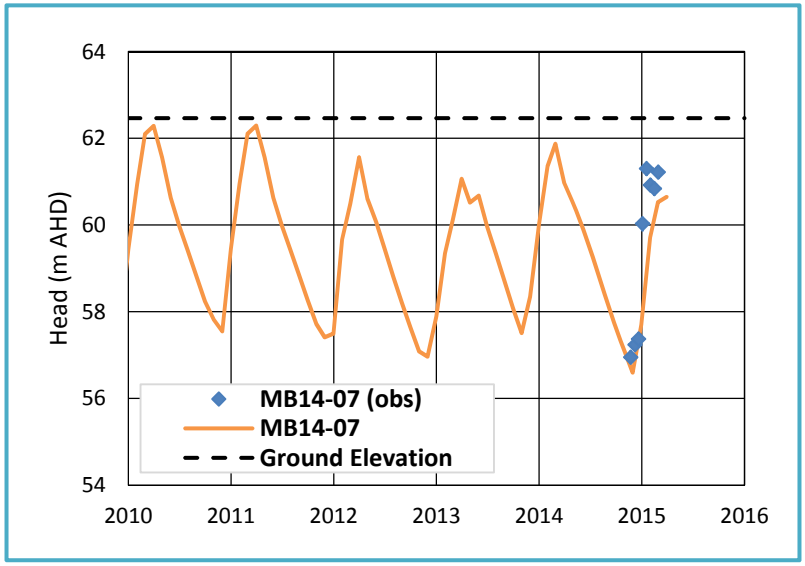

Observed vs Simulated Heads for Old Tailings Dam Area

Client: Northern Territory Government, Department of Resources - Minerals and Energy	Figure: F-6d
Rum Jungle Rehabilitation Planning	Project No: 183006
Report No: 183006/6	Last Update : 27 May 2016
Original File: Section 6 Figures.pptx	

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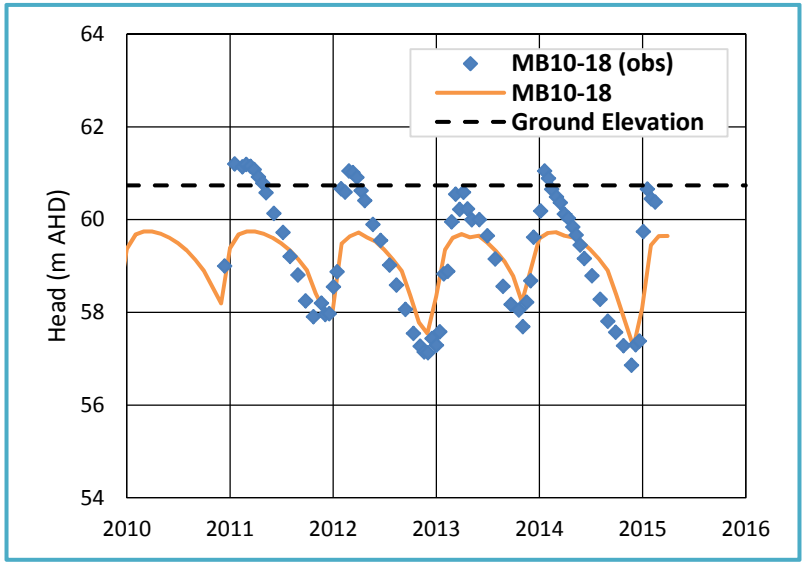

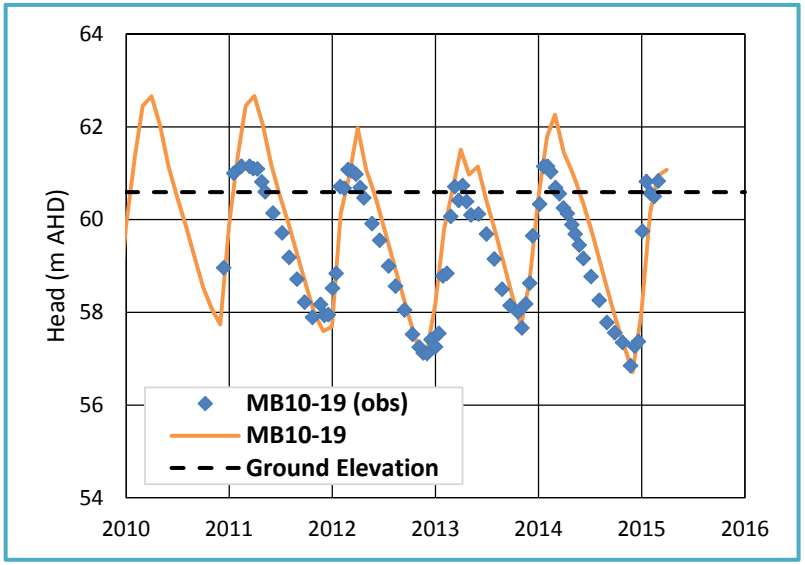

Observed vs Simulated Heads for Old Tailings Dam Area

Client: Northern Territory Government, Department of Resources - Minerals and Energy	Figure: F-6e
Rum Jungle Rehabilitation Planning	Project No: 183006
Report No: 183006/6	Last Update : 27 May 2016
Original File: Section 6 Figures.pptx	

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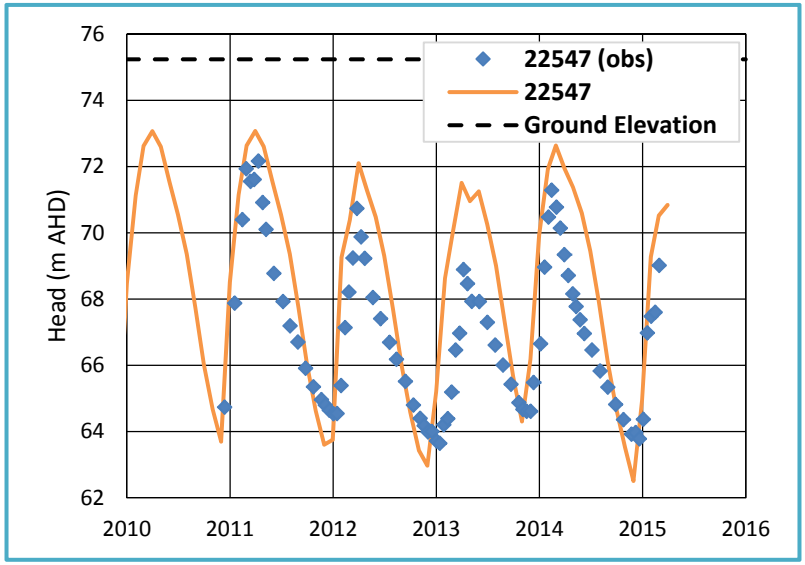

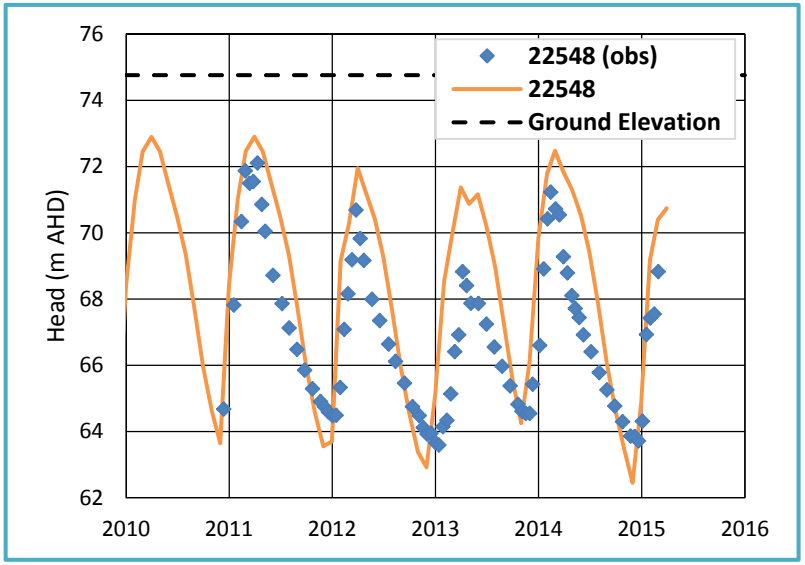

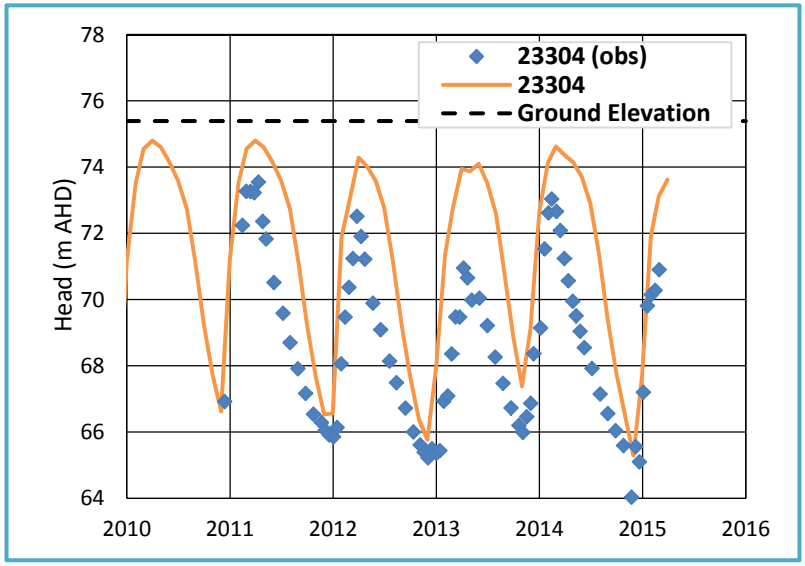

Observed vs Simulated Heads for North-Eastern Area

Client: Northern Territory Government, Department of Resources - Minerals and Energy	**Figure: F-7a**
Rum Jungle Rehabilitation Planning	Project No: 183006
Report No: 183006/6	Last Update : 27 May 2016
Original File: Section 6 Figures.pptx	

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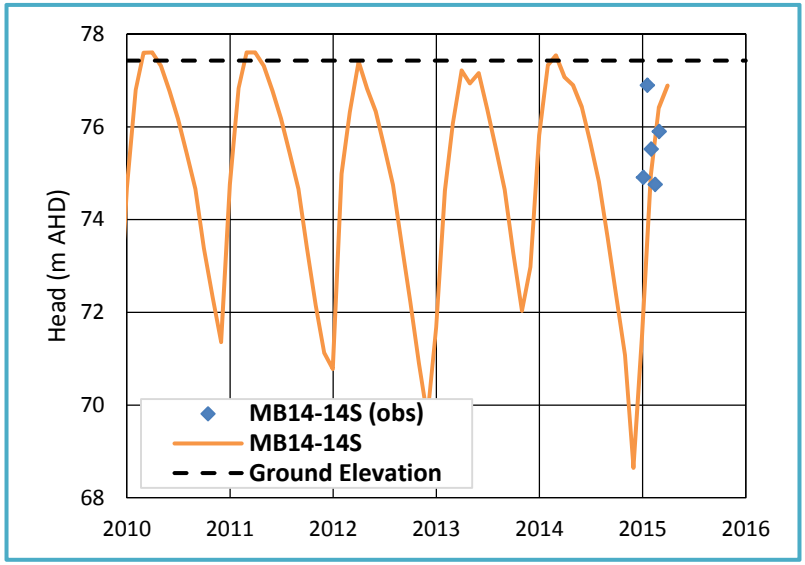

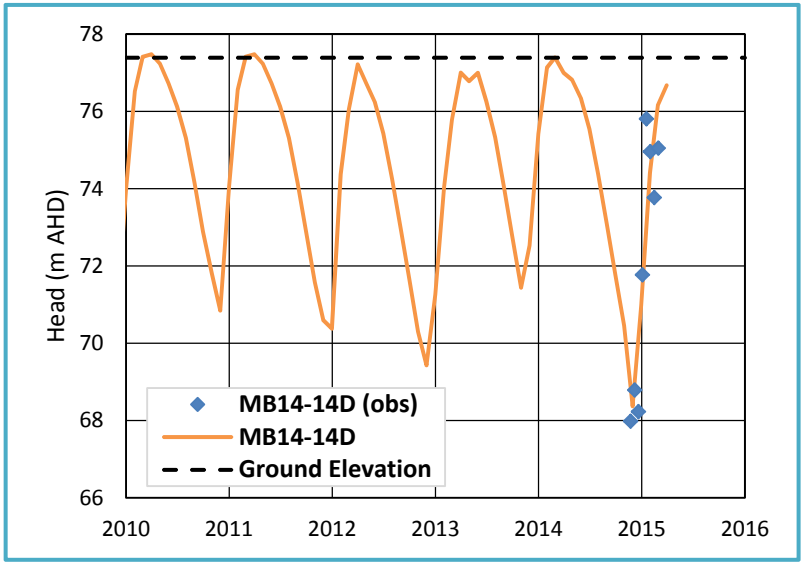

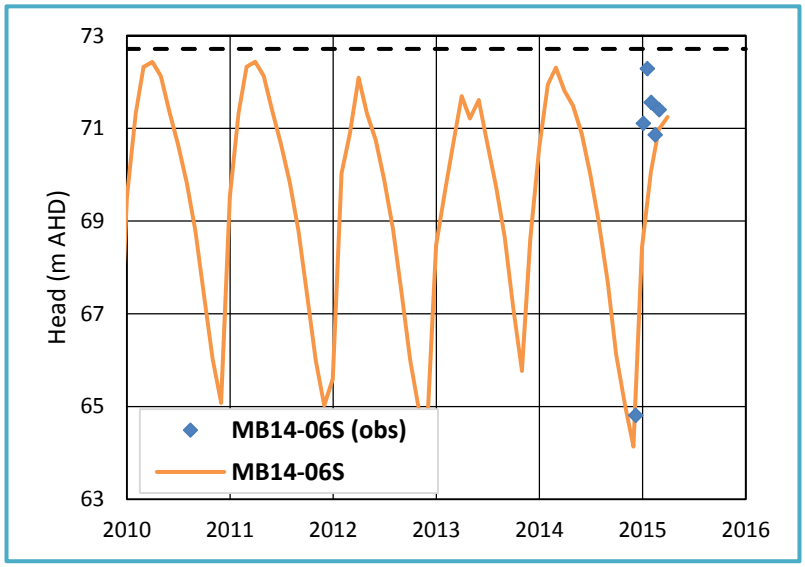

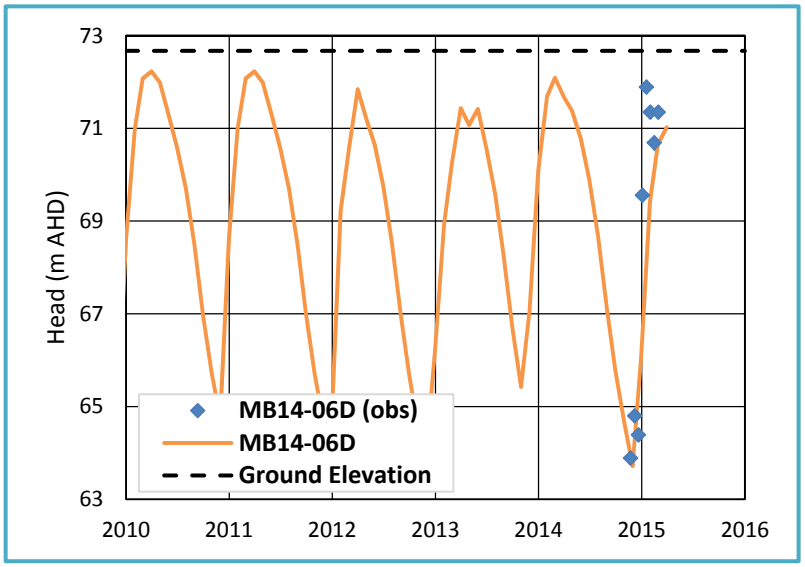

Observed vs Simulated Heads for North-Eastern Area

Client: Northern Territory Government, Department of Resources - Minerals and Energy	**Figure: F-7b**
Rum Jungle Rehabilitation Planning	Project No: 183006
Report No: 183006/6	Last Update : 27 May 2016
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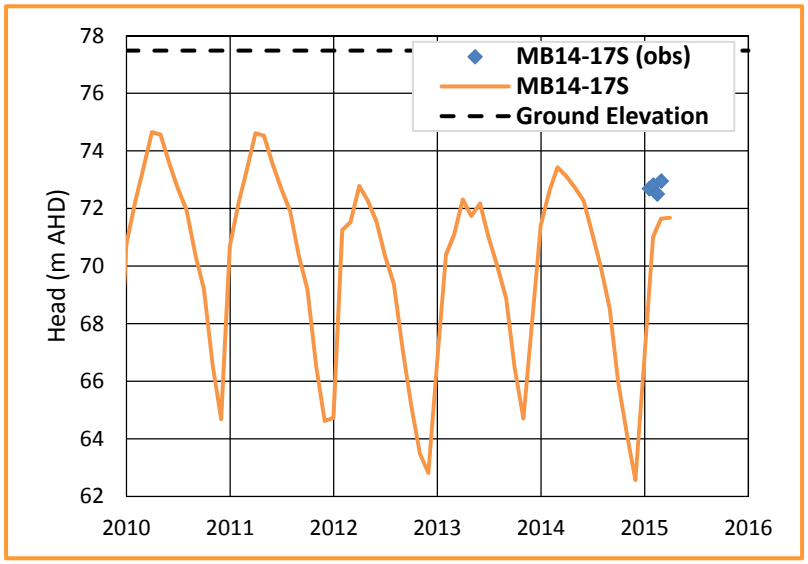

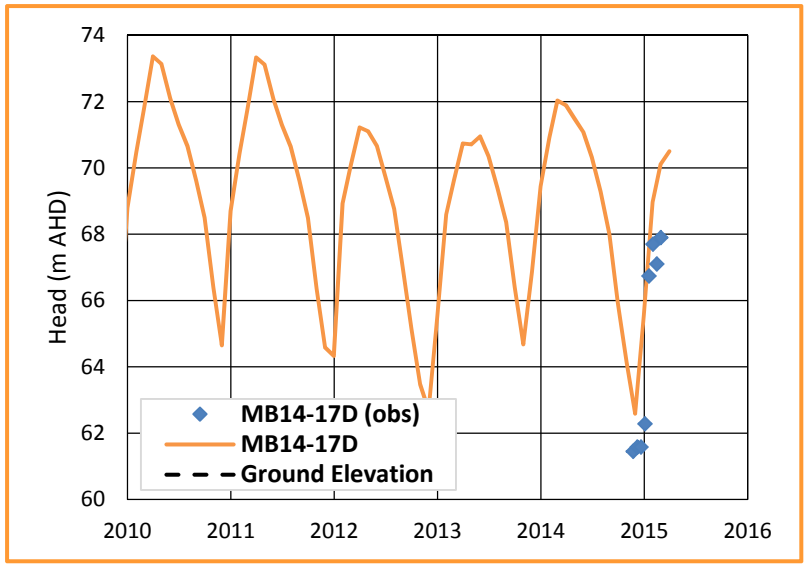

Observed vs Simulated Heads for North-Eastern Area

Client: Northern Territory Government, Department of Resources - Minerals and Energy	**Figure: F-7c**
Rum Jungle Rehabilitation Planning	Project No: 183006
Report No: 183006/6	Last Update : 27 May 2016
Original File: Section 6 Figures.pptx	

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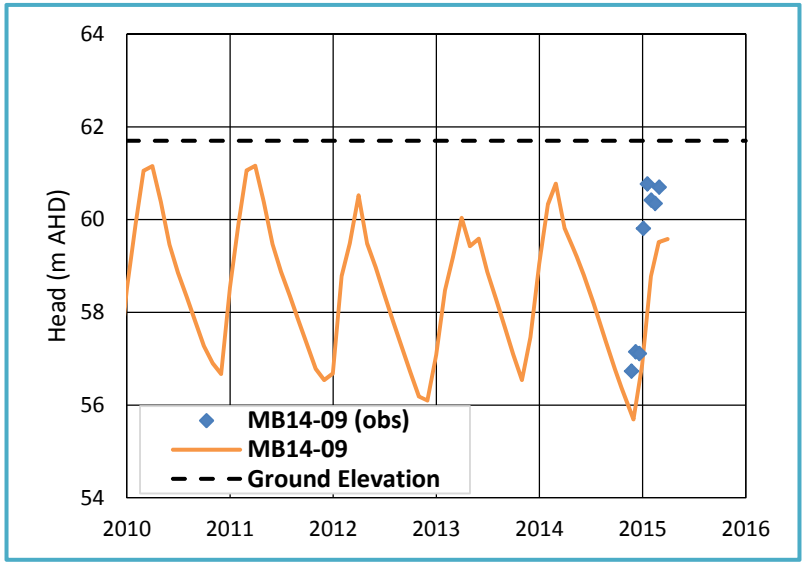

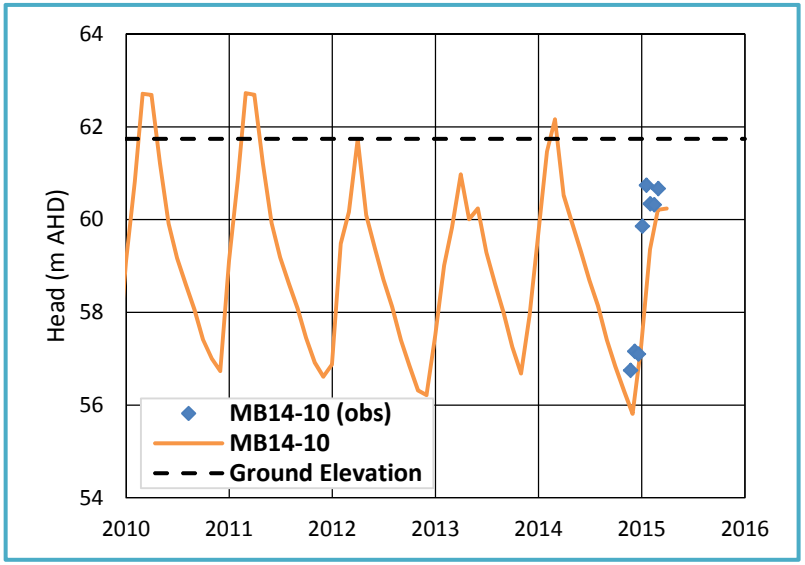

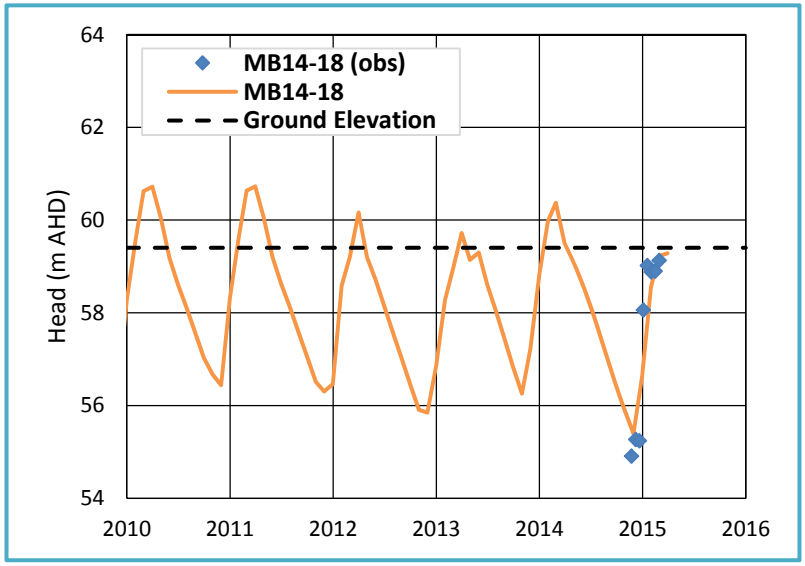

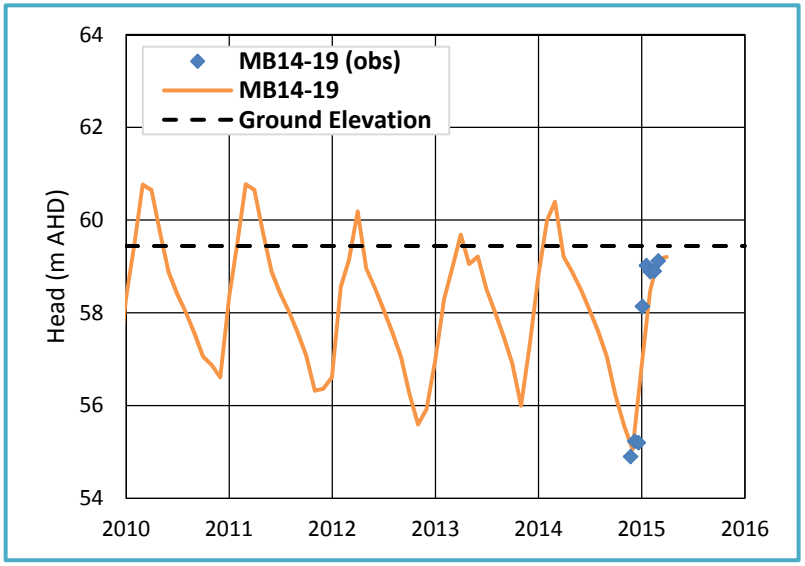

Observed vs Simulated Heads South and West of Old Tailings Dam Area

Client: Northern Territory Government, Department of Resources - Minerals and Energy	**Figure: F-8a**
Rum Jungle Rehabilitation Planning	Project No: 183006
Report No: 183006/6	Last Update : 27 May 2016
Original File: Section 6 Figures.pptx	

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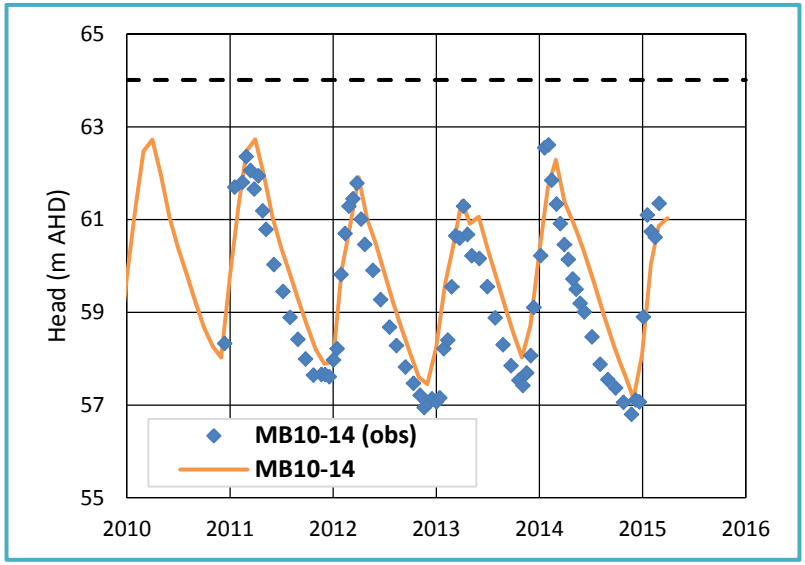

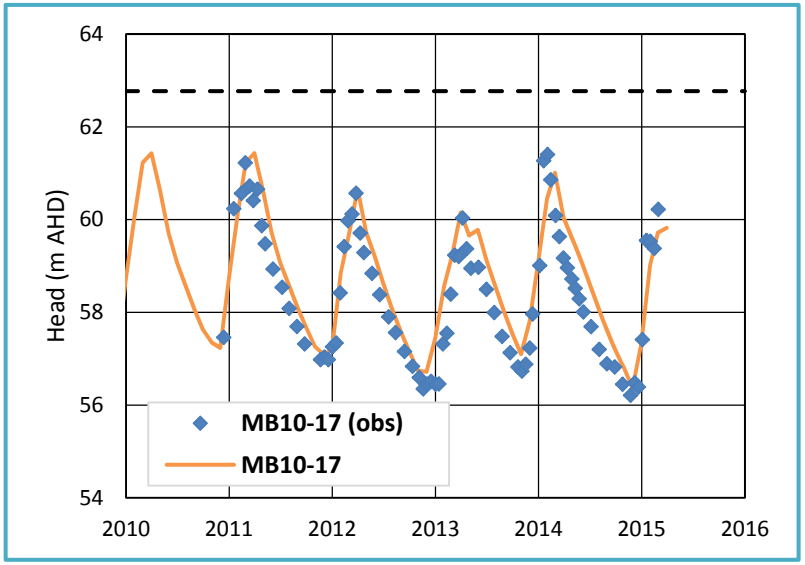

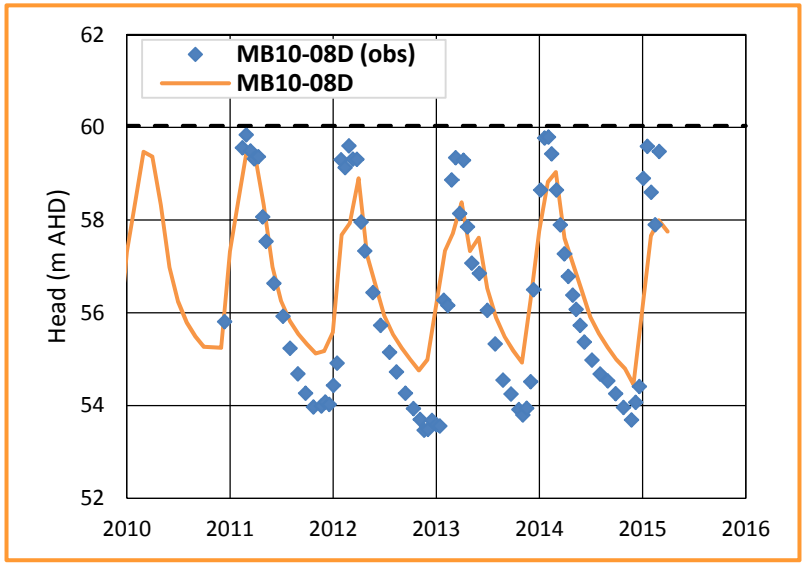

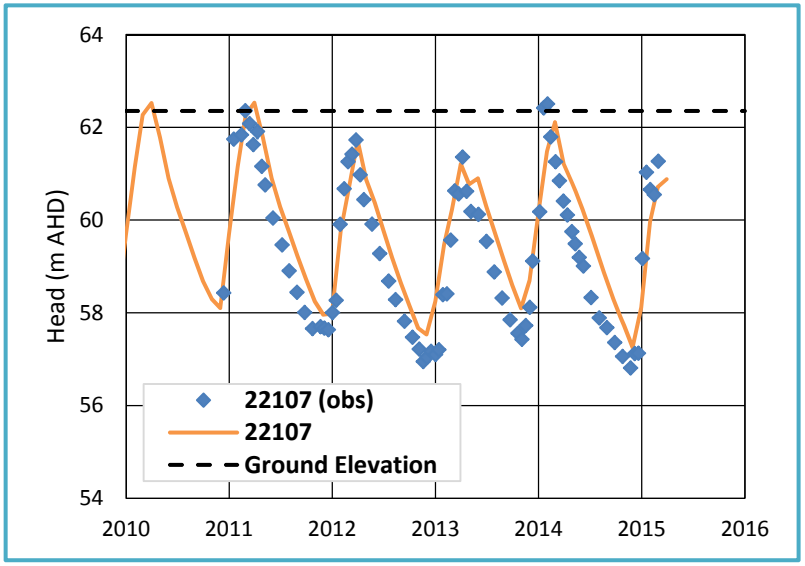

Observed vs Simulated Heads South and West of Old Tailings Dam Area

Client: Northern Territory Government, Department of Resources - Minerals and Energy	**Figure: F-8b**
Rum Jungle Rehabilitation Planning	Project No: 183006
Report No: 183006/6	Last Update : 27 May 2016
Original File: Section 6 Figures.pptx	

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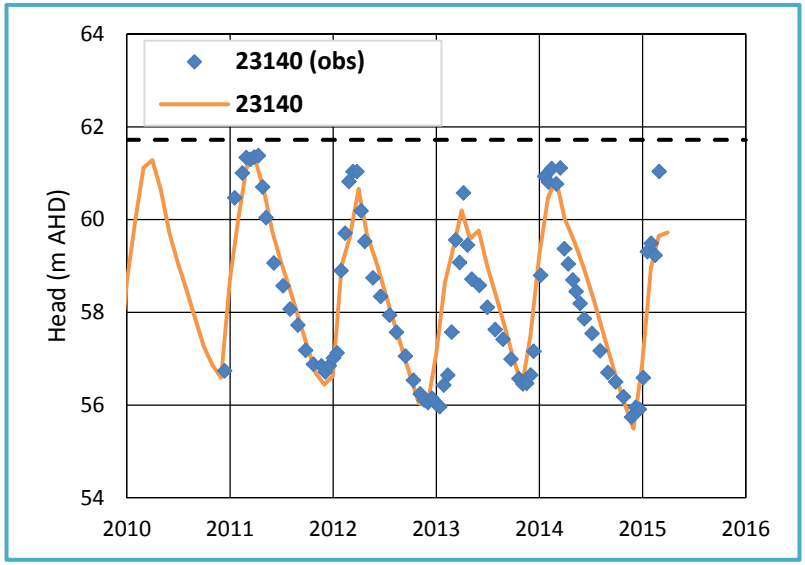

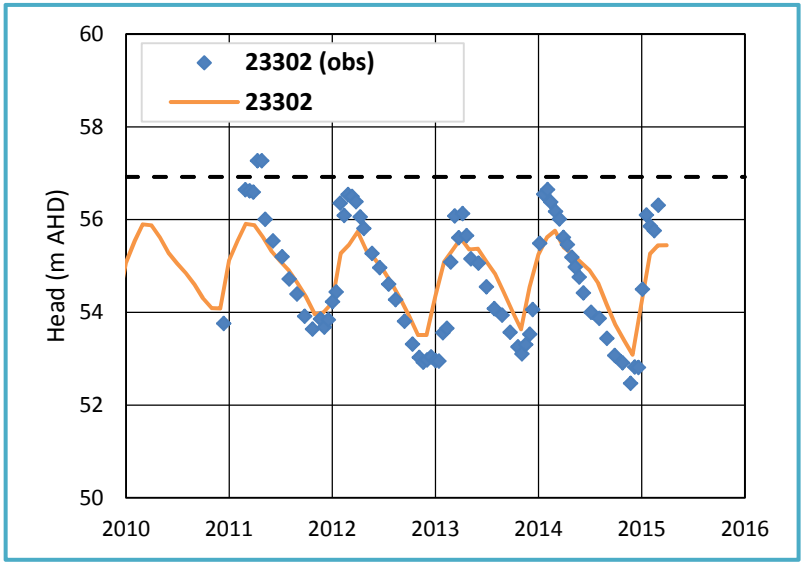

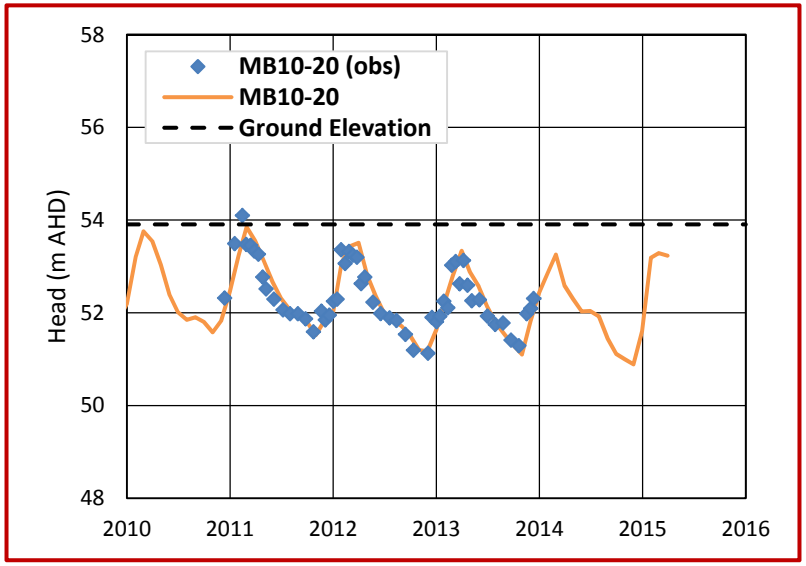

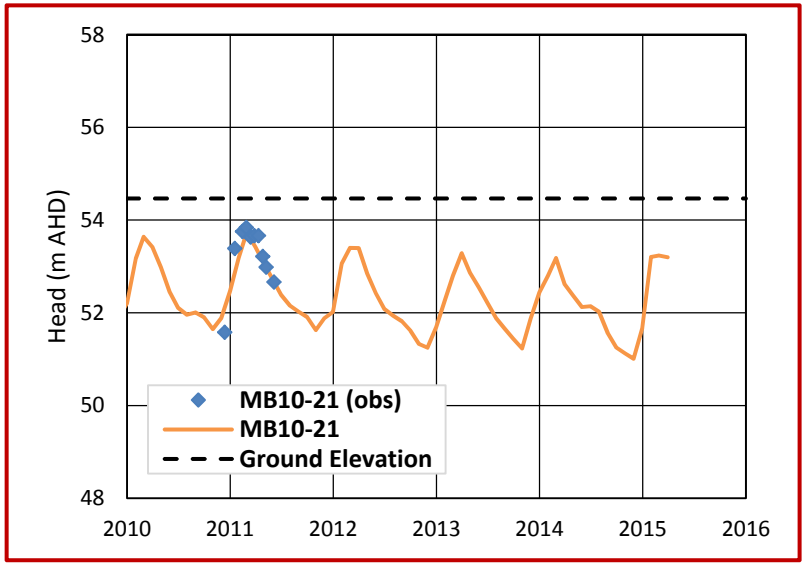

Observed vs Simulated Heads for EBFR Downstream Area

Client: Northern Territory Government, Department of Resources - Minerals and Energy	**Figure: F-9**
Rum Jungle Rehabilitation Planning	Project No: 183006
Report No: 183006/6	Last Update : 27 May 2016
Original File: Section 6 Figures.pptx	

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APPENDIX G

CALIBRATED MATERIAL PROPERTIES

Table G-1. Calibrated parameters for Model Layer 1

Polygon ID	Horizontal K (m/s)	Horizontal Anisotropy	Vertical Anisotropy	Specific Storage (1/m)	Specific Yield (S_y)
1	8.0E-05	1	1	2.0E-06	0.02
2	5.0E-06	1	10	2.0E-06	0.07
3	8.0E-05	1	1	2.0E-06	0.07
4	5.0E-06	1	1	2.0E-06	0.07
5	1.0E-04	1	1	2.0E-06	0.01
6	3.0E-06	1	10	2.0E-06	0.035
7	5.0E-06	1	5	2.0E-06	0.04
8	5.0E-05	1	5	2.0E-06	0.03
9	5.0E-06	1	5	2.0E-06	0.03
10	5.0E-05	1	5	2.0E-06	0.035
11	8.0E-05	1	1	2.0E-06	0.075
12	8.0E-05	1	1	2.0E-06	0.02
13	8.0E-05	1	1	2.0E-06	0.05
14	1.0E-04	1	1	2.0E-06	0.03
15	3.0E-05	1	1	2.0E-06	0.005
16	4.0E-05	1	5	2.0E-06	0.01
17	8.0E-05	1	1	2.0E-06	0.05
18	8.0E-05	1	1	2.0E-06	0.05
19	5.0E-05	1	5	2.0E-06	0.05
20	1.0E-06	1	5	2.0E-06	0.049
21	8.0E-05	1	1	2.0E-06	0.05
22	1.0E-04	1	1	2.0E-06	0.04
23	5.0E-05	1	5	2.0E-06	0.032
24	5.0E-05	1	5	2.0E-06	0.04
25	0.0E+00	0	0	0.0E+00	0
26	2.0E-07	1	5	2.0E-06	0.03
27	6.0E-05	1	10	2.0E-06	0.15
28	8.0E-05	1	1	2.0E-06	0.04
29	8.0E-05	1	5	2.0E-06	0.05
30	8.0E-05	1	1	2.0E-06	0.01
31	6.0E-05	1	10	2.0E-06	0.1
32	6.0E-05	1	1	2.0E-06	0.04
33	5.0E-05	1	5	2.0E-06	0.033
34	8.0E-05	1	1	2.0E-06	0.05
35	8.0E-05	1	1	2.0E-06	0.05
36	5.0E-05	1	5	2.0E-06	0.05
37	8.0E-05	1	1	2.0E-06	0.02
38	5.0E-05	1	5	2.0E-06	0.01
39	5.0E-05	1	5	2.0E-06	0.06
40	8.0E-05	1	1	2.0E-06	0.03
41	8.0E-05	1	1	2.0E-06	0.05
42	3.0E-05	1	5	2.0E-06	0.01
43	8.0E-05	1	5	2.0E-06	0.04
44	4.0E-06	1	5	2.0E-06	0.01
45	7.0E-05	1	5	2.0E-06	0.05
46	8.0E-05	1	5	2.0E-06	0.07
47	5.0E-05	1	5	2.0E-06	0.033

Table G-2. Calibrated parameters for Model Layer 2

Polygon ID	Horizontal K (m/s)	Horizontal Anisotropy	Vertical Anisotropy	Specific Storage (1/m)	Specific Yield (S_y)
1	6.0E-06	1	1	2.0E-06	0.01
2	7.0E-07	1	1	2.0E-06	0.06
3	1.0E-07	1	10	2.0E-06	0.075
4	3.0E-05	1	1	2.0E-06	0.005
5	1.0E-07	1	10	2.0E-06	0.04
6	1.0E-06	1	10	2.0E-06	0.01
7	7.0E-07	1	10	2.0E-06	0.035
8	8.0E-07	1	10	2.0E-06	0.03
9	1.0E-06	1	10	2.0E-06	0.03
10	9.0E-07	1	10	2.0E-06	0.035
11	5.0E-06	1	1	2.0E-06	0.005
12	6.0E-06	1	1	2.0E-06	0.01
13	5.0E-06	1	1	2.0E-06	0.005
14	5.0E-06	1	1	2.0E-06	0.01
15	5.0E-05	1	1	2.0E-06	0.01
16	1.0E-06	1	5	2.0E-06	0.005
17	7.0E-07	1	20	2.0E-06	0.01
18	1.0E-06	1	1	2.0E-06	0.05
19	1.0E-06	1	5	2.0E-06	0.05
20	1.0E-05	1	1	2.0E-06	0.01
21	5.0E-07	1	10	2.0E-06	0.035
22	1.0E-06	1	1	2.0E-06	0.05
23	1.0E-04	1	1	2.0E-06	0.02
24	7.0E-07	1	20	2.0E-06	0.032
25	1.0E-06	1	10	2.0E-06	0.05
26	0.0E+00	0	0	0.0E+00	0
27	1.0E-07	1	1	2.0E-06	0.03
28	5.0E-06	1	10	2.0E-06	0.1
29	1.0E-06	1	10	2.0E-06	0.05
30	1.0E-06	1	1	2.0E-06	0.005
31	1.0E-06	1	1	2.0E-06	0.04
32	7.0E-07	1	10	2.0E-06	0.033
33	0.0E+00	0	0	0.0E+00	0
34	1.0E-06	1	10	2.0E-06	0.05
35	5.0E-07	1	1	2.0E-06	0.01
36	5.0E-06	1	1	2.0E-06	0.005
37	1.0E-06	1	5	2.0E-06	0.02
38	8.0E-07	1	10	2.0E-06	0.06
39	1.0E-06	1	1	2.0E-06	0.03
40	2.0E-06	1	1	2.0E-06	0.005
41	7.0E-07	1	10	2.0E-06	0.01
42	6.0E-06	1	1	2.0E-06	0.04
43	7.0E-07	1	10	2.0E-06	0.01
44	3.0E-06	1	5	2.0E-06	0.05
45	5.0E-06	1	1	2.0E-06	0.07
46	7.0E-07	1	10	2.0E-06	0.033

Table G-3. Calibrated parameters for Model Layer 3

Polygon ID	Horizontal K (m/s)	Horizontal Anisotropy	Vertical Anisotropy	Specific Storage (1/m)	Specific Yield (S_y)
1	2.0E-06	1	1	2.0E-06	0.005
2	1.0E-07	1	1	2.0E-06	0.005
3	1.0E-07	1	1	2.0E-06	0.005
4	5.0E-06	1	1	2.0E-06	0.005
5	8.0E-08	1	10	2.0E-06	0.04
6	1.0E-06	1	10	2.0E-06	0.02
7	5.0E-07	1	1	2.0E-06	0.005
8	7.0E-08	1	1	2.0E-06	0.005
9	1.0E-07	1	1	2.0E-06	0.005
10	8.0E-07	1	1	2.0E-06	0.005
11	7.0E-06	1	1	2.0E-06	0.005
12	2.0E-06	1	1	2.0E-06	0.005
13	5.0E-06	1	1	2.0E-06	0.005
14	1.0E-06	1	1	2.0E-06	0.005
15	1.0E-06	1	1	2.0E-06	0.005
16	7.0E-08	1	1	2.0E-06	0.005
17	7.0E-08	1	1	2.0E-06	0.005
18	5.0E-06	1	1	2.0E-06	0.005
19	5.0E-06	1	1	2.0E-06	0.005
20	5.0E-06	1	1	2.0E-06	0.005
21	1.0E-05	1	1	2.0E-06	0.005
22	5.0E-07	1	1	2.0E-06	0.005
23	7.0E-08	1	1	2.0E-06	0.005
24	1.0E-07	1	1	2.0E-06	0.005
25	3.0E-05	1	1	2.0E-06	0.005
26	7.0E-05	1	1	2.0E-06	0.005
27	0.0E+00	0	0	0.0E+00	0
28	1.0E-06	1	1	2.0E-06	0.005
29	7.0E-08	1	1	2.0E-06	0.005
30	2.0E-06	1	1	2.0E-06	0.005
31	5.0E-05	1	1	2.0E-06	0.005
32	2.0E-06	1	1	2.0E-06	0.005
33	2.0E-06	1	1	2.0E-06	0.005
34	1.0E-05	1	1	2.0E-06	0.005
35	3.0E-05	1	1	2.0E-06	0.005
36	0.0E+00	0	0	0.0E+00	0
37	2.0E-06	1	1	2.0E-06	0.005
38	2.0E-06	1	1	2.0E-06	0.005
39	2.0E-06	1	1	2.0E-06	0.005
40	1.0E-07	1	1	2.0E-06	0.005
41	1.0E-06	1	1	2.0E-06	0.005
42	4.0E-06	1	5	2.0E-06	0.005
43	7.0E-05	1	1	2.0E-06	0.005
44	1.0E-06	1	1	2.0E-06	0.005
45	1.0E-06	1	1	2.0E-06	0.005
46	1.0E-06	1	1	2.0E-06	0.001
47	1.0E-05	1	1	2.0E-06	0.005
48	1.0E-06	1	1	2.0E-06	0.001
49	5.0E-06	1	1	2.0E-06	0.005
50	5.0E-06	1	1	2.0E-06	0.005
51	7.0E-05	1	1	2.0E-06	0.005

Table G-4. Calibrated parameters for Model Layer 4

Polygon ID	Horizontal K (m/s)	Horizontal Anisotropy	Vertical Anisotropy	Specific Storage (1/m)	Specific Yield (S_y)
1	2.0E-06	1	1	2.0E-06	0.005
2	1.0E-07	1	1	2.0E-06	0.005
3	8.0E-08	1	10	2.0E-06	0.04
4	8.0E-07	1	10	2.0E-06	0.02
5	1.0E-07	1	1	2.0E-06	0.005
6	1.0E-08	1	1	2.0E-06	0.005
7	1.0E-07	1	1	2.0E-06	0.005
8	8.0E-07	1	1	2.0E-06	0.005
9	5.0E-06	1	1	2.0E-06	0.005
10	2.0E-06	1	1	2.0E-06	0.005
11	3.0E-06	1	1	2.0E-06	0.005
12	5.0E-06	1	1	2.0E-06	0.005
13	5.0E-07	1	1	2.0E-06	0.005
14	5.0E-07	1	1	2.0E-06	0.005
15	3.0E-08	1	1	2.0E-06	0.005
16	7.0E-08	1	1	2.0E-06	0.005
17	5.0E-06	1	1	2.0E-06	0.005
18	5.0E-06	1	1	2.0E-06	0.005
19	1.0E-05	1	1	2.0E-06	0.005
20	5.0E-06	1	1	2.0E-06	0.005
21	5.0E-07	1	1	2.0E-06	0.005
22	7.0E-08	1	1	2.0E-06	0.005
23	1.0E-07	1	1	2.0E-06	0.005
24	7.0E-05	1	1	2.0E-06	0.005
25	0.0E+00	0	0	0.0E+00	0
26	1.0E-06	1	1	2.0E-06	0.005
27	7.0E-08	1	1	2.0E-06	0.005
28	2.0E-06	1	1	2.0E-06	0.005
29	5.0E-05	1	1	2.0E-06	0.005
30	2.0E-06	1	1	2.0E-06	0.005
31	2.0E-06	1	1	2.0E-06	0.005
32	1.0E-05	1	1	2.0E-06	0.005
33	7.0E-05	1	1	2.0E-06	0.005
34	0.0E+00	0	0	0.0E+00	0
35	2.0E-06	1	1	2.0E-06	0.005
36	2.0E-06	1	1	2.0E-06	0.005
37	2.0E-06	1	1	2.0E-06	0.005
38	8.0E-08	1	1	2.0E-06	0.005
39	1.0E-06	1	1	2.0E-06	0.005
40	4.0E-06	1	1	2.0E-06	0.005
41	7.0E-05	1	1	2.0E-06	0.005
42	1.0E-06	1	1	2.0E-06	0.005
43	1.0E-06	1	1	2.0E-06	0.001
44	1.0E-05	1	1	2.0E-06	0.005
45	1.0E-06	1	1	2.0E-06	0.001
46	5.0E-06	1	1	2.0E-06	0.005
47	5.0E-06	1	1	2.0E-06	0.005
48	7.0E-05	1	1	2.0E-06	0.005

Table G-5. Calibrated parameters for Model Layer 5

Polygon ID	Horizontal K (m/s)	Horizontal Anisotropy	Vertical Anisotropy	Specific Storage (1/m)	Specific Yield (S_y)
1	1.0E-07	1	1	2.0E-06	0.005
2	1.0E-06	1	1	2.0E-06	0.005
3	8.0E-08	1	10	2.0E-06	0.04
4	1.0E-07	1	10	2.0E-06	0.02
5	1.0E-07	1	1	2.0E-06	0.005
6	1.0E-08	1	1	2.0E-06	0.005
7	2.0E-08	1	1	2.0E-06	0.005
8	5.0E-07	1	1	2.0E-06	0.005
9	2.0E-06	1	1	2.0E-06	0.005
10	1.0E-06	1	1	2.0E-06	0.005
11	1.0E-07	1	1	2.0E-06	0.005
12	1.0E-07	1	1	2.0E-06	0.005
13	1.0E-08	1	1	2.0E-06	0.005
14	5.0E-08	1	1	2.0E-06	0.005
15	5.0E-06	1	1	2.0E-06	0.005
16	5.0E-06	1	1	2.0E-06	0.005
17	8.0E-06	1	1	2.0E-06	0.005
18	2.0E-07	1	1	2.0E-06	0.005
19	5.0E-08	1	1	2.0E-06	0.005
20	5.0E-06	1	1	2.0E-06	0.005
21	1.0E-07	1	1	2.0E-06	0.005
22	5.0E-05	1	1	2.0E-06	0.005
23	0.0E+00	0	0	0.0E+00	0
24	5.0E-07	1	1	2.0E-06	0.005
25	5.0E-08	1	1	2.0E-06	0.005
26	2.0E-06	1	1	2.0E-06	0.005
27	5.0E-05	1	1	2.0E-06	0.005
28	2.0E-06	1	1	2.0E-06	0.005
29	1.0E-05	1	1	2.0E-06	0.005
30	0.0E+00	0	0	0.0E+00	0
31	5.0E-05	1	1	2.0E-06	0.005
32	2.0E-06	1	1	2.0E-06	0.005
33	2.0E-06	1	1	2.0E-06	0.005
34	2.0E-06	1	1	2.0E-06	0.005
35	5.0E-08	1	1	2.0E-06	0.005
36	4.0E-07	1	1	2.0E-06	0.005
37	4.0E-06	1	1	2.0E-06	0.005
38	5.0E-05	1	1	2.0E-06	0.005
39	7.0E-07	1	1	2.0E-06	0.005
40	1.0E-06	1	1	2.0E-06	0.001
41	1.0E-05	1	1	2.0E-06	0.005
42	1.0E-06	1	1	2.0E-06	0.001
43	5.0E-06	1	1	2.0E-06	0.005
44	5.0E-06	1	1	2.0E-06	0.005
45	5.0E-05	1	1	2.0E-06	0.005

Table G-6. Calibrated parameters for Model Layer 6

Polygon ID	Horizontal K (m/s)	Horizontal Anisotropy	Vertical Anisotropy	Specific Storage (1/m)	Specific Yield (S_y)
1	1.0E-07	1	1	2.0E-06	0.005
2	1.0E-07	1	1	2.0E-06	0.005
3	1.0E-07	1	1	2.0E-06	0.005
4	1.0E-08	1	1	2.0E-06	0.005
5	2.0E-08	1	1	2.0E-06	0.005
6	1.0E-07	1	1	2.0E-06	0.005
7	1.0E-07	1	1	2.0E-06	0.005
8	1.0E-07	1	1	2.0E-06	0.005
9	1.0E-08	1	1	2.0E-06	0.005
10	5.0E-08	1	1	2.0E-06	0.005
11	1.0E-06	1	1	2.0E-06	0.005
12	1.0E-07	1	1	2.0E-06	0.005
13	5.0E-08	1	1	2.0E-06	0.005
14	1.0E-07	1	1	2.0E-06	0.005
15	1.0E-06	1	1	2.0E-06	0.005
16	8.0E-08	1	10	2.0E-06	0.03
17	1.0E-07	1	1	2.0E-06	0.005
18	5.0E-08	1	1	2.0E-06	0.005
19	5.0E-06	1	1	2.0E-06	0.005
20	5.0E-06	1	1	2.0E-06	0.005
21	5.0E-06	1	1	2.0E-06	0.005
22	1.0E-07	1	1	2.0E-06	0.005
23	5.0E-08	1	1	2.0E-06	0.005
24	1.0E-07	1	1	2.0E-06	0.005
25	5.0E-06	1	1	2.0E-06	0.005
26	1.0E-07	1	1	2.0E-06	0.005
27	1.0E-06	1	1	2.0E-06	0.001
28	5.0E-06	1	1	2.0E-06	0.005
29	1.0E-06	1	1	2.0E-06	0.001
30	1.0E-07	1	1	2.0E-06	0.005
31	1.0E-07	1	1	2.0E-06	0.005
32	5.0E-06	1	1	2.0E-06	0.005

Table G-7. Calibrated parameters for Model Layer 7

Polygon ID	Horizontal K (m/s)	Horizontal Anisotropy	Vertical Anisotropy	Specific Storage (1/m)	Specific Yield (S_y)
1	5.0E-08	1	1	2.0E-06	0.001
2	5.0E-08	1	1	2.0E-06	0.001
3	5.0E-08	1	1	2.0E-06	0.001
4	1.0E-08	1	1	2.0E-06	0.001
5	2.0E-08	1	1	2.0E-06	0.001
6	5.0E-08	1	1	2.0E-06	0.001
7	5.0E-08	1	1	2.0E-06	0.001
8	5.0E-08	1	1	2.0E-06	0.001
9	1.0E-08	1	1	2.0E-06	0.001
10	2.5E-08	1	1	2.0E-06	0.001
11	5.0E-08	1	1	2.0E-06	0.001
12	5.0E-08	1	1	2.0E-06	0.001
13	2.5E-08	1	1	2.0E-06	0.001
14	5.0E-08	1	1	2.0E-06	0.001
15	1.0E-07	1	1	2.0E-06	0.001
16	1.0E-07	1	1	2.0E-06	0.001
17	2.5E-08	1	1	2.0E-06	0.001
18	1.0E-07	1	1	2.0E-06	0.001
19	1.0E-07	1	1	2.0E-06	0.001
20	1.0E-07	1	1	2.0E-06	0.001
21	5.0E-08	1	1	2.0E-06	0.001
22	5.0E-08	1	1	2.0E-06	0.001
23	5.0E-08	1	1	2.0E-06	0.001
24	1.0E-07	1	1	2.0E-06	0.001
25	5.0E-08	1	1	2.0E-06	0.001
26	1.0E-07	1	1	2.0E-06	0.001
27	1.0E-07	1	1	2.0E-06	0.001
28	1.0E-07	1	1	2.0E-06	0.001
29	5.0E-08	1	1	2.0E-06	0.001
30	5.0E-08	1	1	2.0E-06	0.001
31	1.0E-07	1	1	2.0E-06	0.001

APPENDIX H

SENSITIVITY ANALYSIS RESULTS

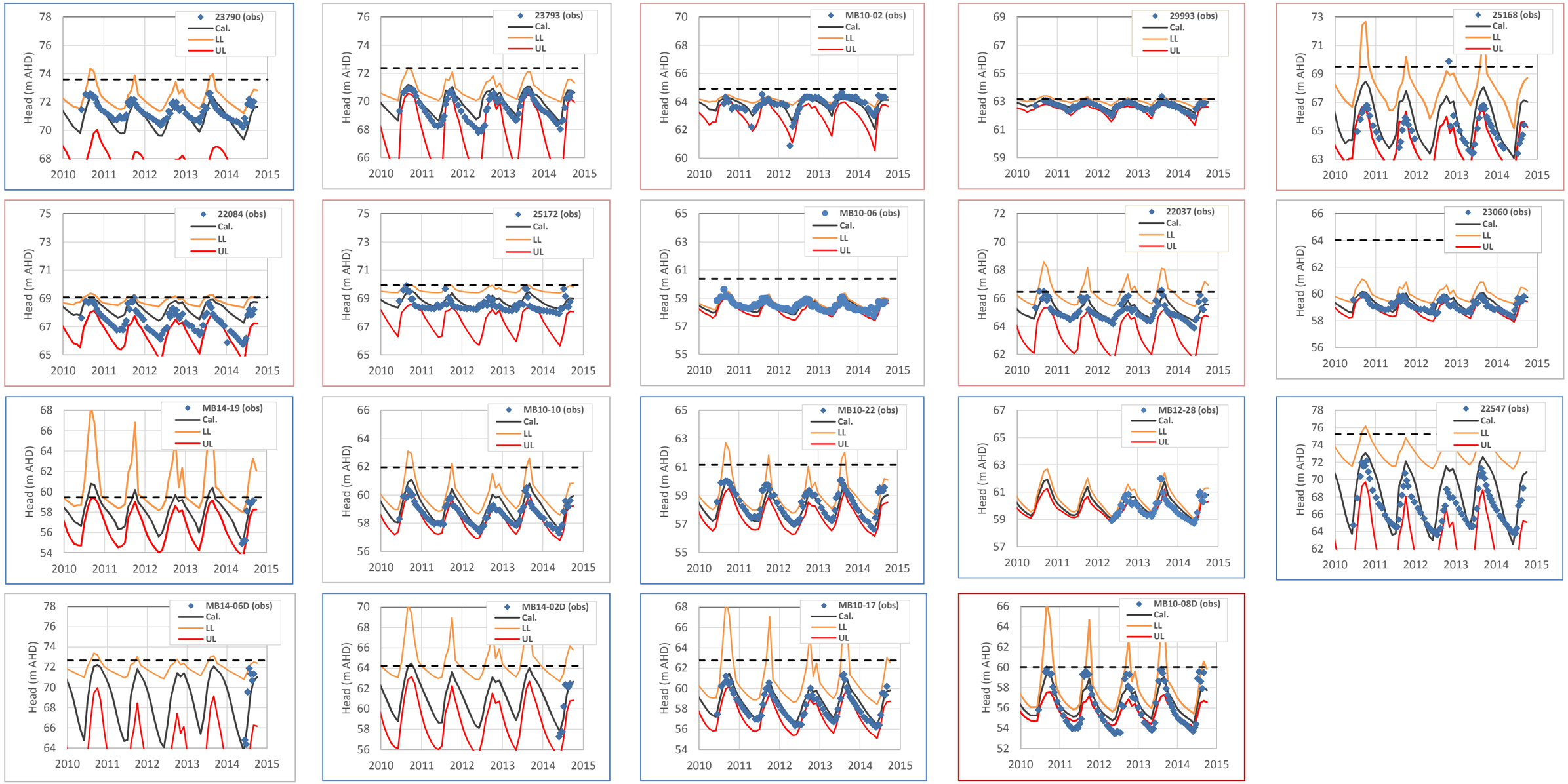

Figure H1. Observed and Simulated Heads (m asl) - Sensitivity Run for Horizontal Hydraulic Conductivity (K_h)

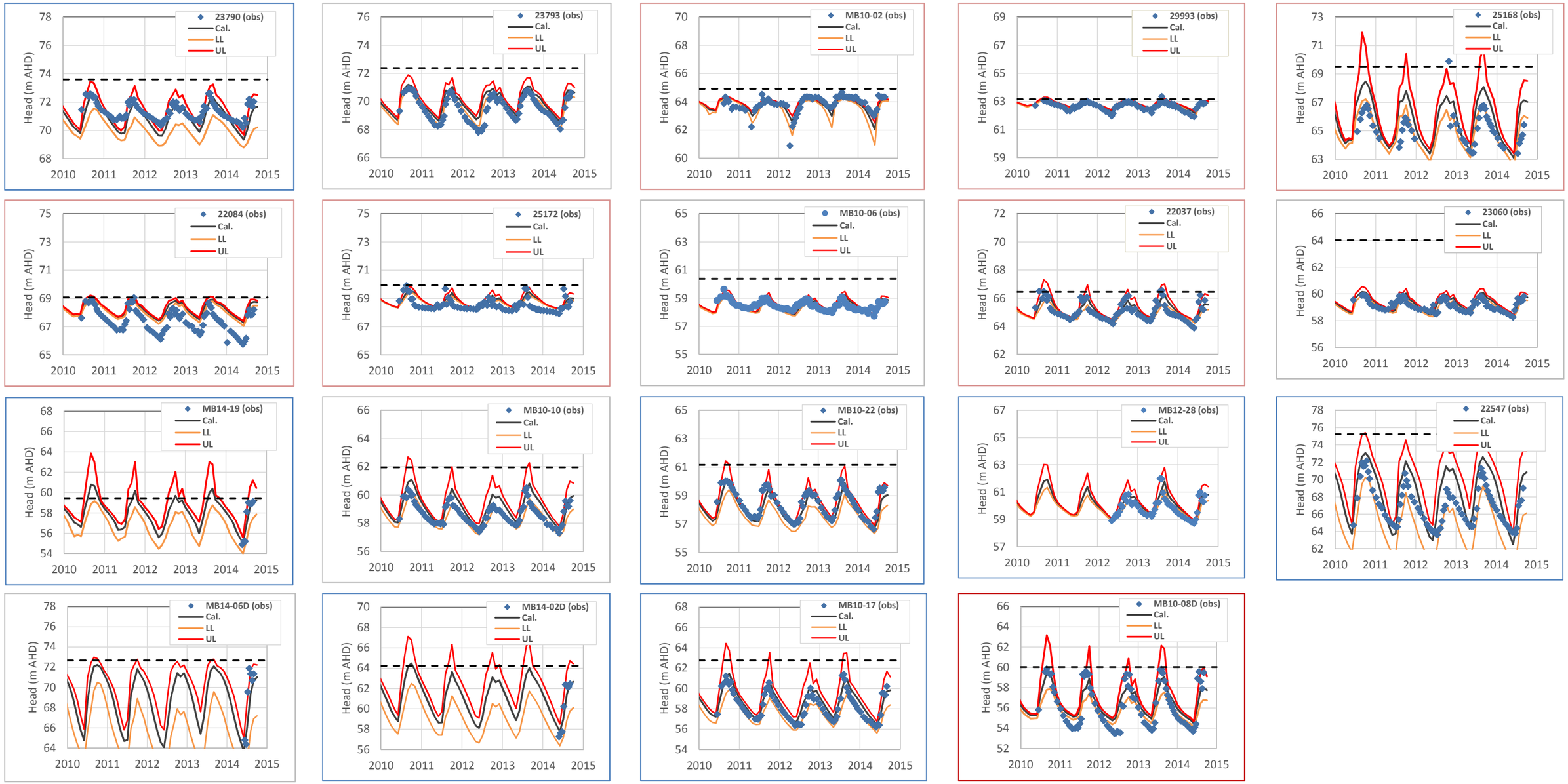

Figure H2. Observed and Simulated Heads (m asl) - Sensitivity Run for Recharge

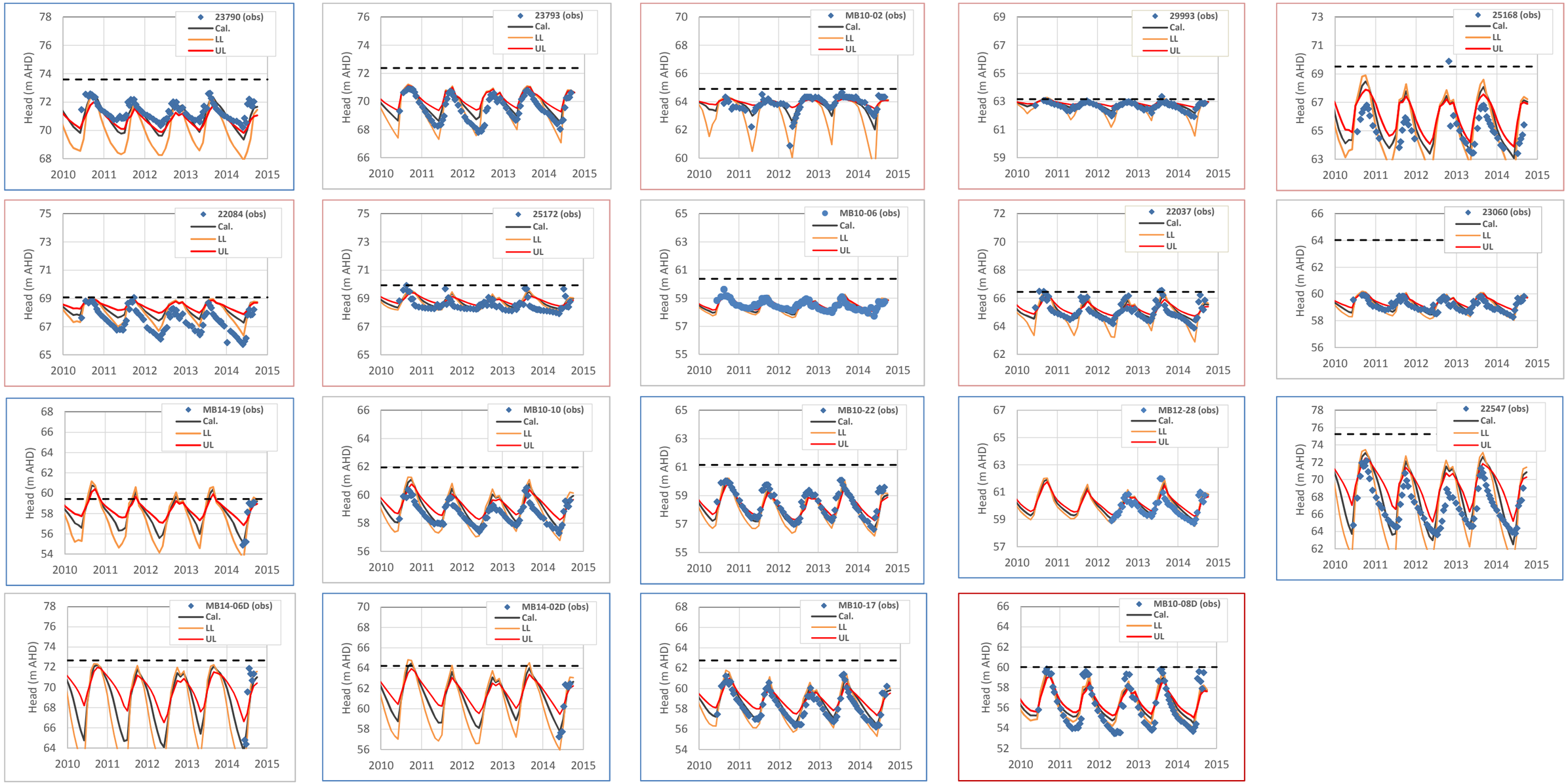

Figure H3. Observed and Simulated Heads (m asl) - Sensitivity Run for Specific Yield (S_y) of Overburden

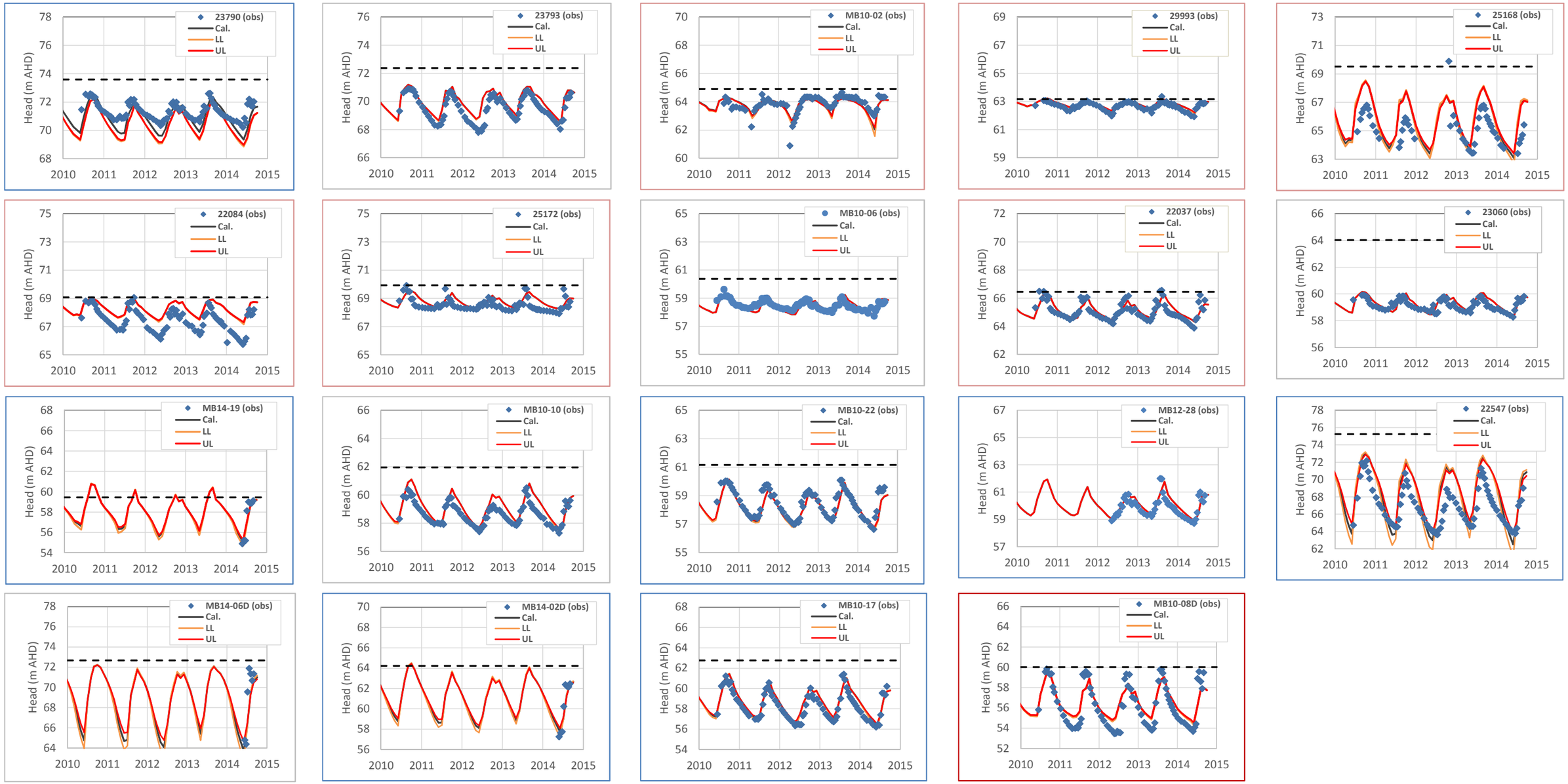

Figure H4. Observed and Simulated Heads (m asl) - Sensitivity Run for Specific Yield (S_y) of Bedrock

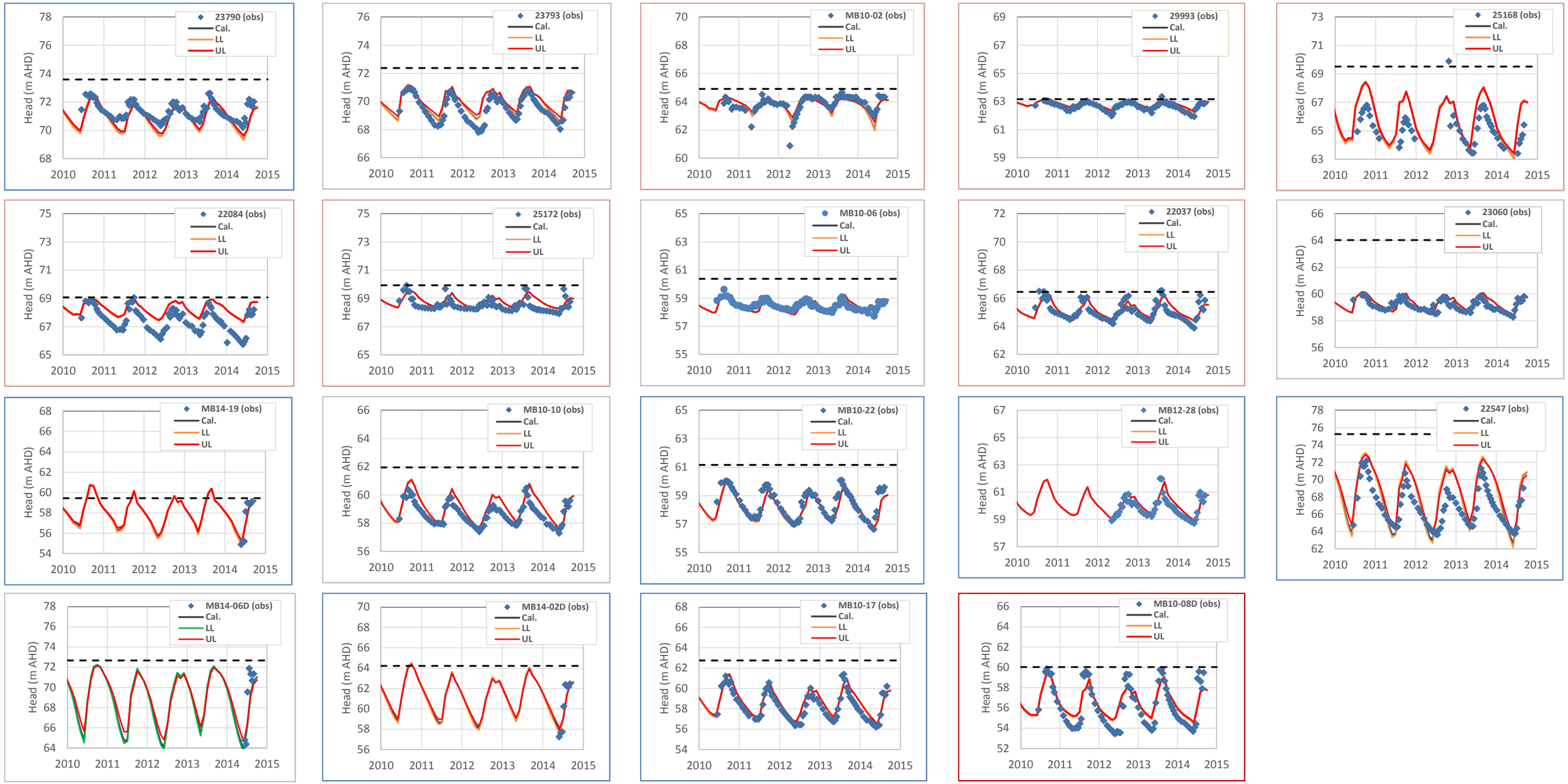

Figure H5. Observed and Simulated Heads (m asl) - Sensitivity Run for Specific Storage (S_s)

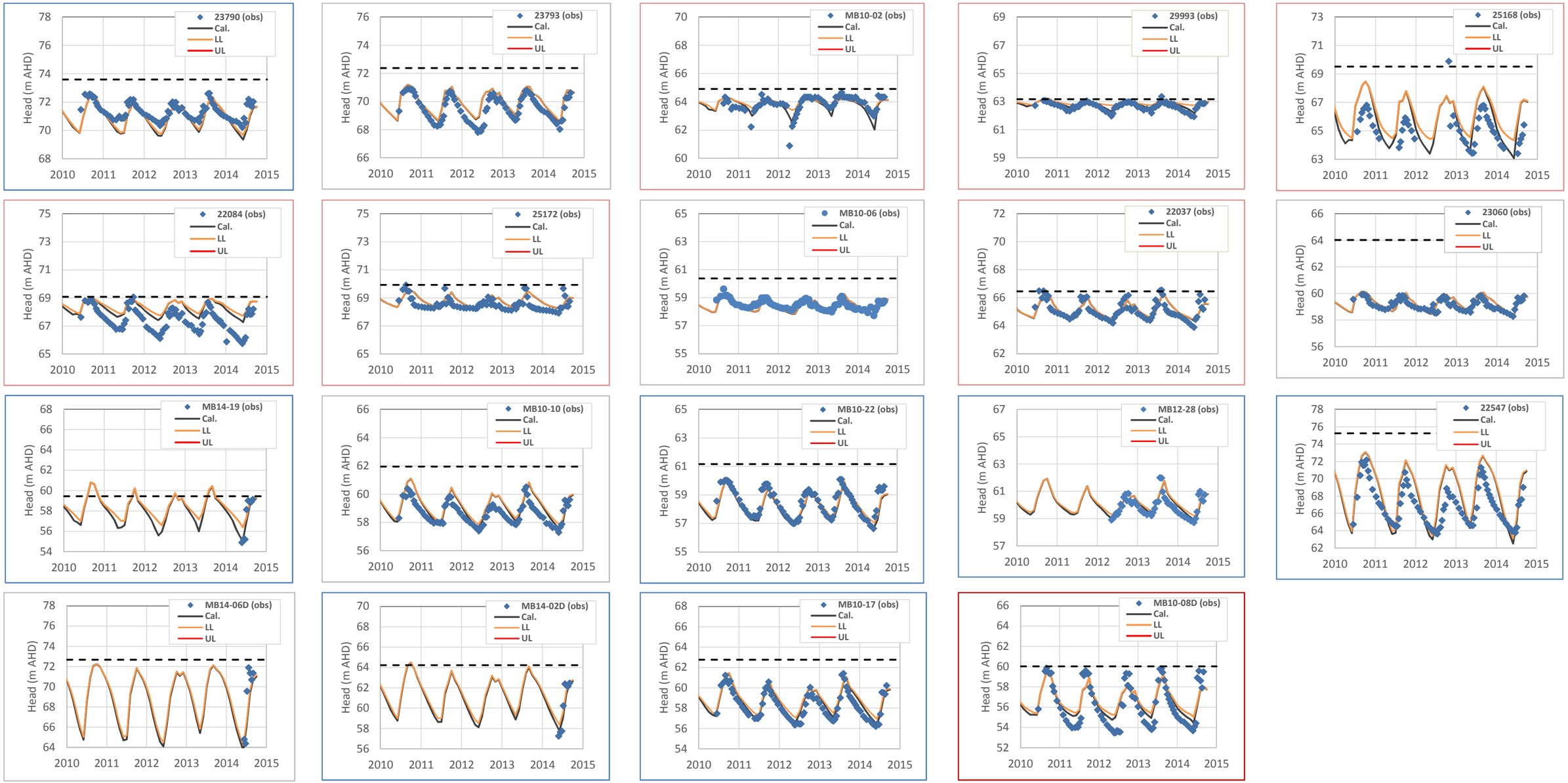

Figure H6. Observed and Simulated Heads (m asl) - Sensitivity Run for Evaportranspiration