Broken Hill Murray Pipeline Preliminary Cost Estimate OD 813 (ID 765mm) x 8mm Steel "Sintakote" Pipeline System capacity = 36 ML/d

Note: All rates are Year 2014 and GST exclusive.

1.1 (1 1.2 1.3 1.4 1.5 1.6 (1 1.5 1.6 (1 1.5 1.6 (1 1.5 1.6 (1 1.5 1.6 (1 1.5 1.6 (1 1.5 1.6 (1 1.5 1.6 (1 1.5 1.6 (1 1.5 1.6 (1 1.5 1.6 (1 1.5 1.6 (1 1.5 1.6 (1 1.5 1.5 (1 1.5 (1 1.5 1.5 (1 1.5 (1 1.5 1.5 (1	MSCL Transfer Pipeline OD813 x 8mm, Mild Steel Cement Lined (MSCL) pipe DN100 Air valves (including hydrant isolator and concrete pit) DN150 Scour valves DN750 Isolation valves Surge tanks, pressure vessels, other surge mitigation requirements (allowance) Crossings - 1 rail single track + 2 bridges (allowance) Ift Pumping Station - Murray River Lock 9 Weirpool, Fort Courage 55 kW Submersible lift pumps (2 duty, 1 standby) Pipework and valves (includes switchboard and installation) River intake headwall (allowance) Wet Well Pumping Station, 4.2 m dia x 6 m deep Intake screen Electrical works (allowance) High Voltage Power Supply (allowance, 50% of site cost) Fencing and gate (allowance)	m Each Each Item Item Sets Sets Item Each Item Item Item Item Item Item Item Item	270,000 338 338 56 1 1 3 3 1 1 1 1 1 1	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	992 7,214 5,850 63,800 1,500,000 2,500,000 150,000 300,000 500,000 150,000 365,000	\$ \$ \$ \$ \$ \$ \$	267,745,500 2,434,725 1,974,375 3,572,800 1,500,000 2,500,000 450,000 270,000 300,000 500,000	\$279,728,000
1.1 (1 1.2 1.3 1.4 1.5 1.6 (1 1.5 1.6 (1 1.5 1.6 (1 1.5 1.6 (1 1.5 1.6 (1 1.5 1.6 (1 1.5 1.6 (1 1.5 1.6 (1 1.5 1.6 (1 1.5 1.6 (1 1.5 1.6 (1 1.5 1.6 (1 1.5 1.6 (1 1.5 1.5 (1 1.5 (1 1.5 1.5 (1 1.5 (1 1.5 1.5 (1	OD813 x 8mm, Mild Steel Cement Lined (MSCL) pipe DN100 Air valves (including hydrant isolator and concrete pit) DN150 Scour valves DN750 Isolation valves Surge tanks, pressure vessels, other surge mitigation requirements (allowance) Crossings - 1 rail single track + 2 bridges (allowance) Ift Pumping Station - Murray River Lock 9 Weirpool, Fort Courage 55 kW Submersible lift pumps (2 duty, 1 standby) Pipework and valves (includes switchboard and installation) River intake headwall (allowance) Wet Well Pumping Station, 4.2 m dia x 6 m deep Intake screen Electrical works (allowance) High Voltage Power Supply (allowance, 50% of site cost) Fencing and gate (allowance) Access road (allowance)	Each Each Item Item Sets Sets Item Each Item Item Item Item	338 338 56 1 1 3 3 1 1 1 1 1	\$ \$ \$ \$ \$ \$ \$ \$ \$	7,214 5,850 63,800 1,500,000 2,500,000 150,000 300,000 500,000 150,000 365,000	\$ \$ \$ \$ \$ \$ \$	2,434,725 1,974,375 3,572,800 1,500,000 2,500,000 450,000 270,000 300,000	
1.2 [1.3 [1.4 [1.5 [1.6 [2.1 [2.2 [2.3 [2.3 [2.4 [2.5 [2.6 [2.7 [2.8 [2.9] 7] 8] Pumpin	DN100 Air valves (including hydrant isolator and concrete pit) DN150 Scour valves DN750 Isolation valves Surge tanks, pressure vessels, other surge mitigation requirements (allowance) Crossings - 1 rail single track + 2 bridges (allowance) Ift Pumping Station - Murray River Lock 9 Weirpool, Fort Courage 55 kW Submersible lift pumps (2 duty, 1 standby) Pipework and valves (includes switchboard and installation) River intake headwall (allowance) Wet Well Pumping Station, 4.2 m dia x 6 m deep Intake screen Electrical works (allowance) High Voltage Power Supply (allowance, 50% of site cost) Fencing and gate (allowance) Access road (allowance)	Each Each Item Item Sets Sets Item Each Item Item Item Item	338 338 56 1 1 3 3 1 1 1 1 1	\$ \$ \$ \$ \$ \$ \$ \$ \$	7,214 5,850 63,800 1,500,000 2,500,000 150,000 300,000 500,000 150,000 365,000	\$ \$ \$ \$ \$ \$ \$	2,434,725 1,974,375 3,572,800 1,500,000 2,500,000 450,000 270,000 300,000	\$3,400,000
1.3 [1.4 [1.5 [1.6 [2.1 [2.1 [2.2 [2.3 [2.4 [2.5 [2.6 [2.7 [2.8 [2.9] 3] Pumpin	DN150 Scour valves DN750 Isolation valves Surge tanks, pressure vessels, other surge mitigation requirements (allowance) Crossings - 1 rail single track + 2 bridges (allowance) ift Pumping Station - Murray River Lock 9 Weirpool, Fort Courage 55 kW Submersible lift pumps (2 duty, 1 standby) Pipework and valves (includes switchboard and installation) River intake headwall (allowance) Wet Well Pumping Station, 4.2 m dia x 6 m deep Intake screen Electrical works (allowance) High Voltage Power Supply (allowance, 50% of site cost) Fencing and gate (allowance) Access road (allowance)	Each Each Item Item Sets Sets Item Each Item Item Item	338 56 1 1 3 3 1 1 1 1 1	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	5,850 63,800 1,500,000 2,500,000 150,000 300,000 500,000 150,000 365,000	\$ \$ \$ \$ \$ \$ \$ \$ \$	1,974,375 3,572,800 1,500,000 2,500,000 450,000 270,000 300,000	\$3,400,000
1.4 [1.5 3 1.6 6 6 6 6 6 6 6 6 6	DN750 Isolation valves Surge tanks, pressure vessels, other surge mitigation requirements (allowance) Crossings - 1 rail single track + 2 bridges (allowance) Ift Pumping Station - Murray River Lock 9 Weirpool, Fort Courage 55 kW Submersible lift pumps (2 duty, 1 standby) Pipework and valves (includes switchboard and installation) River intake headwall (allowance) Wet Well Pumping Station, 4.2 m dia x 6 m deep Intake screen Electrical works (allowance) High Voltage Power Supply (allowance, 50% of site cost) Fencing and gate (allowance) Access road (allowance)	Sets Sets Item Each Item Item Item	3 3 3 1 1 1 1 1	\$ \$ \$ \$ \$ \$ \$	63,800 1,500,000 2,500,000 150,000 90,000 300,000 500,000 150,000 365,000	\$ \$ \$ \$ \$ \$ \$ \$	3,572,800 1,500,000 2,500,000 450,000 270,000 300,000	\$3,400,000
1.5 S 1.6 C 2 River Li 2.1 S 2.2 F 2.3 F 2.4 N 2.5 I 2.6 E 2.7 F 2.8 F 2.9 A	Surge tanks, pressure vessels, other surge mitigation requirements (allowance) Crossings - 1 rail single track + 2 bridges (allowance) ift Pumping Station - Murray River Lock 9 Weirpool, Fort Courage 55 kW Submersible lift pumps (2 duty, 1 standby) Pipework and valves (includes switchboard and installation) River intake headwall (allowance) Wet Well Pumping Station, 4.2 m dia x 6 m deep Intake screen Electrical works (allowance) High Voltage Power Supply (allowance, 50% of site cost) Fencing and gate (allowance) Access road (allowance)	Sets Sets Item Each Item Item	1 1 3 3 1 1 1 1 1	\$ \$ \$ \$ \$ \$ \$	1,500,000 2,500,000 150,000 90,000 300,000 500,000 150,000 365,000	\$ \$ \$ \$ \$ \$ \$	1,500,000 2,500,000 450,000 270,000 300,000	\$3,400,000
1.6 (2) 2 River Li 2.1 5 2.2 F 2.3 F 2.4 \ 2.5 I 2.6 E 2.7 F 2.8 F 2.9 F 3 Pumpin	Crossings - 1 rail single track + 2 bridges (allowance) Ift Pumping Station - Murray River Lock 9 Weirpool, Fort Courage 55 kW Submersible lift pumps (2 duty, 1 standby) Pipework and valves (includes switchboard and installation) River intake headwall (allowance) Wet Well Pumping Station, 4.2 m dia x 6 m deep Intake screen Electrical works (allowance) High Voltage Power Supply (allowance, 50% of site cost) Fencing and gate (allowance) Access road (allowance)	Sets Sets Item Each Each Item Item Item	3 3 1 1 1 1 1	\$ \$ \$ \$ \$ \$	2,500,000 150,000 90,000 300,000 500,000 150,000 365,000	\$ \$ \$	2,500,000 450,000 270,000 300,000	\$3,400,000
2.1 5 2.2 F 2.3 F 2.4 \ 2.5 I 2.6 E 2.7 F 2.8 F 2.9 F	55 kW Submersible lift pumps (2 duty, 1 standby) Pipework and valves (includes switchboard and installation) River intake headwall (allowance) Wet Well Pumping Station, 4.2 m dia x 6 m deep Intake screen Electrical works (allowance) High Voltage Power Supply (allowance, 50% of site cost) Fencing and gate (allowance) Access road (allowance)	Sets Item Each Each Item Item Item	3 1 1 1 1 1 1	\$ \$ \$ \$ \$	90,000 300,000 500,000 150,000 365,000	\$ \$ \$	270,000 300,000	\$3,400,000
2.1 5 2.2 F 2.3 F 2.4 \ 2.5 I 2.6 E 2.7 F 2.8 F 2.9 F	55 kW Submersible lift pumps (2 duty, 1 standby) Pipework and valves (includes switchboard and installation) River intake headwall (allowance) Wet Well Pumping Station, 4.2 m dia x 6 m deep Intake screen Electrical works (allowance) High Voltage Power Supply (allowance, 50% of site cost) Fencing and gate (allowance) Access road (allowance)	Sets Item Each Each Item Item Item	3 1 1 1 1 1 1	\$ \$ \$ \$ \$	90,000 300,000 500,000 150,000 365,000	\$ \$	270,000 300,000	\$3,400,000
2.2 F 2.3 F 2.4 V 2.5 I 2.6 E 2.7 F 2.8 F 2.9 A	Pipework and valves (includes switchboard and installation) River intake headwall (allowance) Wet Well Pumping Station, 4.2 m dia x 6 m deep Intake screen Electrical works (allowance) High Voltage Power Supply (allowance, 50% of site cost) Fencing and gate (allowance) Access road (allowance)	Sets Item Each Each Item Item Item	3 1 1 1 1 1 1	\$ \$ \$ \$ \$	90,000 300,000 500,000 150,000 365,000	\$ \$	270,000 300,000	
2.3 F 2.4 V 2.5 I 2.6 E 2.7 F 2.8 F 2.9 A	River intake headwall (allowance) Wet Well Pumping Station, 4.2 m dia x 6 m deep Intake screen Electrical works (allowance) High Voltage Power Supply (allowance, 50% of site cost) Fencing and gate (allowance) Access road (allowance)	Item Each Each Item Item Item Item	1 1 1 1 1 1	\$ \$ \$ \$ \$	300,000 500,000 150,000 365,000	\$ \$	300,000	
2.4 \\ 2.5 \ I \\ 2.6 \ E \\ 2.7 \ E \\ 2.8 \ F \\ 2.9 \ A \\	Wet Well Pumping Station, 4.2 m dia x 6 m deep Intake screen Electrical works (allowance) High Voltage Power Supply (allowance, 50% of site cost) Fencing and gate (allowance) Access road (allowance)	Each Each Item Item Item	1 1 1 1 1	\$ \$ \$ \$	500,000 150,000 365,000	\$ \$		
2.5 I 2.6 E 2.7 I 2.8 F 2.9 /	Intake screen Electrical works (allowance) High Voltage Power Supply (allowance, 50% of site cost) Fencing and gate (allowance) Access road (allowance)	Each Item Item Item	1 1 1	\$ \$ \$	150,000 365,000	\$	ייוווייווור	
2.6 E 2.7 H 2.8 F 2.9 /	Electrical works (allowance) High Voltage Power Supply (allowance, 50% of site cost) Fencing and gate (allowance) Access road (allowance)	Item Item Item	1 1 1	\$ \$ \$	365,000		· ·	<u> </u>
2.7 F 2.8 F 2.9 A	High Voltage Power Supply (allowance, 50% of site cost) Fencing and gate (allowance) Access road (allowance)	Item Item	1	\$ \$		ι Φ	150,000	
2.8 F 2.9 A 3 Pumpin	Fencing and gate (allowance) Access road (allowance)	Item	1	\$	4 000 000		365,000	
2.9 A	Access road (allowance)				1,200,000		1,200,000	
3 Pumpin		item	1	ıπ	15,000		15,000	
	a Station No. 4. Adjacent to Museus Diver Fort Courses			\$	150,000	5	150,000	
21 (g Station No. 1 - Adjacent to Murray River, Fort Courage							\$5,005,000
	Split case pumping units, 450 kW each (2 duty, 1 standby)	Sets	3	\$	350,000	\$	1,050,000	
	Pipework and valves (includes switchboard and installation)	Sets	3	\$	180,000	\$	540,000	
3.3 2	250 kL Screening and balancing reservoir (allowance)	Item	1	\$	300,000	\$	300,000	
3.4 L	Lifting system/Gantry crane	Each	1	\$	120,000	\$	120,000	
3.5	Slab and brick building for pumps & LV switchgear	Each	1	\$	650,000	\$	650,000	
	Electrical works (allowance)	Each	1	\$	930,000	\$	930,000	
	High Voltage Power Supply (allowance, 50% of site cost)	Item	1	\$	1,200,000		1,200,000	
	Fencing and gate (allowance)	Item	1	\$	15,000		15,000	
	Access road (allowance)	Item	1	\$	200,000		200,000	
4 Dumin	a Station No. 2. Chainean 4041mm							£45.245.004
	g Station No. 2 - Chainage 101km	Cata	2	Φ	250,000	Φ.	4.050.000	\$15,345,000
	Split case pumping units, 450 kW each (2 duty, 1 standby)	Sets	3	\$	350,000		1,050,000	
	Pipework and valves (includes switchboard and installation) 500 kL Balancing reservoir (allowance)	Sets	3	\$	180,000		540,000	
		Item	1	\$	500,000		500,000	ſ
	Lifting system/Gantry crane	Each	1	\$	120,000		120,000	
	Slab and brick building for pumps & LV switchgear	Each	1	\$	650,000		650,000	
	Electrical works (allowance)	Each	1	\$	970,000		970,000	
	High Voltage Power Supply (allowance)	Item	1		11,300,000		11,300,000	
	Fencing and gate (allowance)	Item	1	\$	15,000		15,000	
4.9	Access road (allowance)	Item	1	\$	200,000	Э	200,000	<u> </u>
5 Pumpin	g Station No. 3 - Chainage 205km							\$14,505,00
5.1	Split case pumping units, 750 kW each (2 duty, 1 standby)	Sets	3	\$	500,000	\$	1,500,000	
	Pipework and valves (includes switchboard and installation)	Sets	3	\$	200,000		600,000	
	500 kL Balancing reservoir (allowance)	Item	1	\$	500,000		500,000	
	Lifting system/Gantry crane	Each	1	\$	140,000		140,000	
	Slab and brick building for pump installation	Each	1	\$	650,000		650,000	
	Electrical works (allowance)	Each	1	\$	1,200,000		1,200,000	 I
	High Voltage Power Supply (allowance)	Item	1	\$	9,700,000		9,700,000	
	Fencing and gate (allowance)	Item	1	\$	15,000		15,000	 I
	Access road (allowance)	Item	1	\$	200,000		200,000	
C Talassi	tur. Marke (Entire Cretors)							A700 00
	try Works (Entire System) Telemetry works (allowance)	Item	1	\$	700,000	\$	700,000	\$700,00
0.1	Tolomony works (allowande)	ILCIII	-	Ψ	100,000	Ψ	100,000	
	DIRECT CONSTRUCTION COST - SUB TOTAL							\$318,683,00
7 Conting	jencies	1						
	Construction contingencies (% of sub total)	Item			20.0%			\$63,737,00
	TOTAL COST							\$382,420,000