

The content of this document is draft and relates to material [or data] which is still in the course of completion in travel to Gate 2 and should not be relied upon at this early stage of development. We continue to develop our thinking and our approach to the issues raised in the document in preparation for Gate 2.

Min-A-165 DS Warwick

Option: **Min-A-165 DS Warwick**

OPERATING COST EXPENDITURE PROFILE												
	Sub - Description		Units	KW Rating	Total kW Rating	Daily Run Time	KWhr/day	Unit/Year	Rate	Unit	Cost/Year	Total (£)
<b>Power - Treatment</b>												
<i>Treatment A - CoMag</i>												
Shear Mill	Assumed D/S	165MLD	1	30	30	24.00	720.00	262800.00				
Magnetic drum separators	Assumed DD/SS	165MLD	2	7.5	15	24.00	360.00	131400.00				
Mixers	Top entry mixer	165MLD	1	3.125	3.125	24.00	75.00	27375.00				
Pumps	Magnetite remix transfer pumps (D/S)	165MLD	2	7.5	15	24.00	360.00	131400.00				
Pumps	Waste sludge transfer pumps	165MLD	2	15	30	24.00	720.00	262800.00				
Air Compressor		165MLD	1	4.375	4.375	24.00	106.00	38325.00				
Dryer		165MLD	1	3.125	3.125	24.00	75.00	27375.00				
<b>Chemical Consumption - Poly</b>												
<b>Power - Conveyence Pumping</b>												
<i>Minworth</i>	165ML DS Warwick		4	600	2400	24.00	57,600.00	#####				
<b>Labour</b>												
<i>Min A 165</i>			22					1144.00				
<b>Site Power - MCC, Services etc.</b>												
<i>Min A 165</i>			1	80	80	24	1,920.00	700800.00				
<b>Total (£):</b>												

Annual kWh 22,606,275.00

Variable OPEX  
Fixed OPEX

Option: **Min-B-165 DS Warwick**

OPERATING COST EXPENDITURE PROFILE												
	Sub - Description		Units	KW Rating	Total kW Rating	Daily Run Time	KWhr/day	Unit/Year	Rate	Unit	Cost/Year	Total (£)
<b>Power - Treatment</b>												
<i>Treatment A - CoMag</i>												
Shear Mill	Assumed D/S	165MLD	1	30	30	24.00	720.00	262800.00				
Magnetic drum separators	Assumed DD/SS	165MLD	2	7.5	15	24.00	360.00	131400.00				
Mixers	Top entry mixer	165MLD	1	3.125	3.125	24.00	75.00	27375.00				
Pumps	Magnetite remix transfer pumps (D/S)	165MLD	2	7.5	15	24.00	360.00	131400.00				
Pumps	Waste sludge transfer pumps	165MLD	2	15	30	24.00	720.00	262800.00				
Air Compressor		165MLD	1	4.375	4.375	24.00	106.00	38325.00				
Dryer		165MLD	1	3.125	3.125	24.00	75.00	27375.00				
<b>Chemical Consumption - Poly</b>												
<i>Treatment B - UV</i>												
<i>Minworth 165MLD</i>	240/58 lamps (D/S)	165ML	240	0.6	144	24.00	3,456.00	1261440.00				
<b>Power - Conveyence Pumping</b>												
<i>Minworth</i>	165ML DS Warwick		4	600	2400	24.00	57,600.00	#####				
<b>Labour</b>												
<i>Min B 165</i>			37					1924.00				
<b>Site Power - MCC, Services etc.</b>												
<i>Min B 165</i>			1	120	120	24	2,880.00	1051200.00				
<b>Total (£):</b>												

Annual kWh 24,218,115.00

Variable OPEX  
Fixed OPEX

Option: **Min-C-165 DS Warwick**

OPERATING COST EXPENDITURE PROFILE												
	Sub - Description		Units	KW Rating	Total kW Rating	Daily Run Time	KWhr/day	Unit/Year	Rate	Unit	Cost/Year	Total (£)
<b>Power - Treatment</b>												
<i>Treatment A - CoMag</i>												
Shear Mill	Assumed D/S	165MLD	1	30	30	24.00	720.00	262800.00				
Magnetic drum separators	Assumed DD/SS	165MLD	2	7.5	15	24.00	360.00	131400.00				
Mixers	Top entry mixer	165MLD	1	3.125	3.125	24.00	75.00	27375.00				
Pumps	Magnetite remix transfer pumps (D/S)	165MLD	2	7.5	15	24.00	360.00	131400.00				
Pumps	Waste sludge transfer pumps	165MLD	2	15	30	24.00	720.00	262800.00				
Air Compressor		165MLD	1	4.375	4.375	24.00	106.00	38325.00				
Dryer		165MLD	1	3.125	3.125	24.00	75.00	27375.00				
<b>Chemical Consumption - Poly</b>												
<i>Treatment B - UV</i>												
Minworth 165MLD	240/58 lamps (D/S)	165ML	240	0.6	144	24.00	3,456.00	1261440.00				
<b>Power - Conveyence Pumping</b>												
Minworth	165ML DS Warwick		4	600	2400	24.00	57,600.00	#####				
<b>Power - Interstage Pumping</b>												
Minworth	165ML		4	60	240	24.00	5,760.00	2102400.00				
<b>Power - Return Pumping</b>												
Minworth	165ML		1	9	9	12.00	108.00	39420.00				
<b>Power - Backwash Pumping</b>												
Backwash Pumps	165ML Works		1	22	22	12.00	264.00	96360.00				
<b>Power - Air Blowers</b>												
Blowers			2	30	60	24.00	1,440.00	525600.00				
<b>Labour</b>												
Min C 165			57					2964.00				
<b>Site Power - MCC, Services etc.</b>												
Min C 165			1	140	140	24	3,360.00	1226400.00				
<b>Total (£):</b>												

Annual kWh 27,157,095.00

Variable OPEX  
Fixed OPEX

Option: **Min-A-215 DS Warwick**

OPERATING COST EXPENDITURE PROFILE												
	Sub - Description		Units	KW Rating	Total kW Rating	Daily Run Time	kWhr/day	Unit/Year	Rate	Unit	Cost/Year	Total (£)
<b>Power - Treatment</b>												
<i>Treatment A - CoMag</i>												
Shear Mill	Assumed DD/SS	215MLD	2	37.5	75	24.00	1,800.00	657000.00				
Magnetic drum separators	Assumed DD/SS	215MLD	2	9.375	18.75	24.00	450.00	164250.00				
Mixers	Top entry mixer	215MLD	1	3.75	3.75	24.00	90.00	32850.00				
Pumps	Magnetite remix transfer pumps (D/S)	215MLD	2	9	18	24.00	432.00	157680.00				
Pumps	Waste sludge transfer pumps	215MLD	2	18	36	24.00	864.00	315360.00				
Air Compressor		215MLD	1	5.25	5.25	24.00	126.00	45990.00				
Dryer		215MLD	1	3.75	3.75	24.00	90.00	32850.00				
<b>Chemical Consumption - Poly</b>												
<b>Power - Conveyence Pumping</b>												
<i>Minworth</i>	215ML DS Warwick		5	600	3000	24.00	72,000.00	#####				
<b>Labour</b>												
<i>Min A 215</i>			25					1300.00				
<b>Site Power - MCC, Services etc.</b>												
<i>Min A 215</i>			1	90	90	24	2,160.00	788400.00				
<b>Total (£):</b>												

Annual kWh 28,474,380.00

Variable OPEX  
Fixed OPEX

Option: **Min-B-215 DS Warwick**

OPERATING COST EXPENDITURE PROFILE												
	Sub - Description		Units	KW Rating	Total kW Rating	Daily Run Time	kWhr/day	Unit/Year	Rate	Unit	Cost/Year	Total (£)
<b>Power - Treatment</b>												
<i>Treatment A - CoMag</i>												
Shear Mill	Assumed DD/SS	215MLD	2	37.5	75	24.00	1,800.00	657000.00				
Magnetic drum separators	Assumed DD/SS	215MLD	2	9.375	18.75	24.00	450.00	164250.00				
Mixers	Top entry mixer	215MLD	1	3.75	3.75	24.00	90.00	32850.00				
Pumps	Magnetite remix transfer pumps (D/S)	215MLD	2	9	18	24.00	432.00	157680.00				
Pumps	Waste sludge transfer pumps	215MLD	2	18	36	24.00	864.00	315360.00				
Air Compressor		215MLD	1	5.25	5.25	24.00	126.00	45990.00				
Dryer		215MLD	1	3.75	3.75	24.00	90.00	32850.00				
<b>Chemical Consumption - Poly</b>												
<i>Treatment B - UV</i>												
Minworth 215MLD	300/60 lamps (D/S)	215ML	300	0.6	180	24.00	4,320.00	1576800.00				
<b>Power - Conveyence Pumping</b>												
Minworth	215ML DS Warwick		5	600	3000	24.00	72,000.00	#####				
<b>Labour</b>												
Min B 215			40					2080.00				
<b>Site Power - MCC, Services etc.</b>												
Min B 215			1	130	130	24	3,120.00	1138800.00				
<b>Total (£):</b>												

Annual kWh 30,401,580.00

Variable OPEX  
Fixed OPEX

Option: **Min-C-215 DS Warwick**

OPERATING COST EXPENDITURE PROFILE												
	Sub - Description		Units	KW Rating	Total kW Rating	Daily Run Time	KWhr/day	Unit/Year	Rate	Unit	Cost/Year	Total (£)
<b>Power - Treatment</b>												
<i>Treatment A - CoMag</i>												
Shear Mill	Assumed DD/SS	215MLD	2	37.5	75	24.00	1,800.00	657000.00				
Magnetic drum separators	Assumed DD/SS	215MLD	2	9.375	18.75	24.00	450.00	164250.00				
Mixers	Top entry mixer	215MLD	1	3.75	3.75	24.00	90.00	32850.00				
Pumps	Magnetite remix transfer pumps (D/S)	215MLD	2	9	18	24.00	432.00	157680.00				
Pumps	Waste sludge transfer pumps	215MLD	2	18	36	24.00	864.00	315360.00				
Air Compressor		215MLD	1	5.25	5.25	24.00	126.00	45990.00				
Dryer		215MLD	1	3.75	3.75	24.00	90.00	32850.00				
<b>Chemical Consumption - Poly</b>												
<i>Treatment B - UV</i>												
Minworth 215MLD	300/60 lamps (D/S)	215ML	300	0.6	180	24.00	4,320.00	1576800.00				
<b>Power - Conveyence Pumping</b>												
Minworth	215ML DS Warwick		5	600	3000	24.00	72,000.00	#####				
<b>Power - Interstage Pumping</b>												
Minworth	215ML		4	80	320	24.00	7,680.00	2803200.00				
<b>Power - Return Pumping</b>												
Minworth	215ML		1	9	9	12.00	108.00	39420.00				
<b>Power - Backwash Pumping</b>												
Backwash Pumps	215ML Works		1	22	22	12.00	264.00	96360.00				
<b>Power - Air Blowers</b>												
Blowers			2	30	60	24.00	1,440.00	525600.00				
<b>Labour</b>												
Min C 215			60					3120.00				
<b>Site Power - MCC, Services etc.</b>												
Min C 215			1	150	150	24	3,600.00	1314000.00				
<b>Total (£):</b>												

Annual kWh 34,041,360.00

Variable OPEX  
Fixed OPEX