1177 Manungu Colliery

| IMPACT DESCRIPTION | | | | PRE - N | | | | | POST - MITIGATION | | | | IMPACT PRIORITISATION | | | | | | |
|---|----------------------------------|--|---------------|--------------------|------------------|------------------------|-------------------|-------------|-------------------|-------------|-----------------|-------------------|-----------------------|---------------|------------------|--------------------|-------------------|------------------|-------------|
| | | | Nature Exter | | | ersibility Probability | Pre-mitigation FR | Nature Exte | | | | ility Probability | Post-mitigation ER | Confidence | | | | Priority Factor | Final score |
| Disturbance/ Destruction of Archaeological | Aucmative | I Hade | IVALUIC EXICI | It Duration Wa | agriitude irteve | DISIDINTY TODADINTY | i te magadon Erc | Trataic Ext | CITE DUIG | lion Iwagin | itude iteversie | nity i Tobability | 1 OST MILIGATION ETC | Connactice | T dollo response | Carraiative impact | Птеріассавіс 1033 | 1 Hority 1 dotor | Timal Score |
| Sites or Historic Buildings | All | Construction | -1 | 2 4 | 4 | 5 3 | -11.25 | -1 | 1 | 4 | 2 | 5 2 | 2 -6 | High | 1 | ; | 3 | 1.67 | -10.00 |
| Disturbance/ Destruction of Graves | All | Construction | -1 | 2 4 | 5 | 5 5 | -20 | -1 | 1 | 4 | 2 | 5 2 | 2 -6 | High | 1 | | 2 3 | 1.50 | |
| Disturbance/ Destruction of Fossil Material | All | Construction and operation | -1 | 2 5 | 2 | 3 3 | -9 | -1 | 2 | 5 | 1 | 2 | -2.5 | Medium | 1 | | 2 1 | 1.17 | -2.92 |
| Loss/ Destruction of Natural Habitat and removal of protected species | All | Construction | -1 | 2 5 | 4 | 4 5 | -18.75 | -1 | 2 | 3 | 3 | 4 2 | 2 -6 | Medium | 1 | : | 2 2 | 1.33 | -8.00 |
| Habitat Fragmentation and Edge Effects | All | Construction | -1 | 3 5 | 4 | 3 4 | -15 | -1 | 2 | 3 | 3 | 3 | -8.25 | Medium | 1 | | 2 2 | 1.33 | -11.00 |
| Displacement of Faunal Species | All | Construction | -1 | 3 4 | 4 | 3 3 | -10.5 | -1 | 2 | 3 | 3 | 2 2 | 2 - | Low | 1 | | 2 2 | 1.33 | -6.67 |
| Blockage of Seasonal and Dispersa Movements | All | Construction and operation | 1 | 2 5 | 4 | 4 | -12 | 1 | 2 | 2 | 2 | 4 | | Low | 1 | | | 1.33 | -8.00 |
| Flora Direct and Indirect Mortality | All | Construction | -1 | 2 4 | 4 | 5 5 | -18.75 | -1 | 2 | 3 | 3 | 5 2 | 2 -6.5 | | 1 | | 2 1 | 1.17 | |
| Fauna Direct and Indirect Mortality | All | Construction | -1 | 2 4 | 4 | 5 4 | -15 | -1 | 2 | 3 | 3 | 5 2 | 2 -6.5 | | 1 | : | 2 2 | 1.33 | |
| Pollution of Habitats | All | Construction and operation | -1 | 3 5 | 3 | 4 4 | -15 | -1 | 2 | 3 | 3 | 3 3 | -8.25 | Medium | 1 | : | 2 2 | 1.33 | |
| Introduction/ Invasion by Alien Species | All | Rehab and closure | -1 | 3 4 | 3 | 3 4 | -13 | -1 | 2 | 3 | 3 | 2 3 | -7.5 | Medium | 1 | : | 2 1 | 1.17 | -8.75 |
| Contamination of Groundwater (i.e. chemicals fuel, wastes, sedimentation) | , All | Construction and operation | -1 | 4 4 | 4 | 4 4 | -16 | -1 | 3 | 3 | 4 | 2 | -9 | Low | 1 | | 2 1 | 1.17 | -10.50 |
| Reduction of stream Baseflow | All | Operation | -1 | 4 4 | 4 | 4 3 | -12 | -1 | 4 | 3 | 2 | 3 2 | 2 -6 | Low | 1 | | 2 1 | 1.17 | -7.00 |
| Reduction of groundwater reserves | All | Operation | -1 | 3 4 | 3 | 4 4 | -14 | -1 | 3 | 3 | 2 | 4 : | 3 -9 | Low | 1 | | 1 1 | 1.00 | |
| Acid Mine Drainage | All | Rehab and closure | -1 | 4 5 | 4 | 4 4 | -17 | -1 | 3 | 3 | 2 | 2 3 | -7.5 | | 1 | | 2 1 | 1.17 | -8.75 |
| Altered Hydrological Regime Surface Water Contamination | All | All Construction and operation | -1 | 3 4 | 4 | 4 5 | -18.75 -15 | -1 -1 | 3 | 3 | 2 | 3 4 | 4 -12 3 -8.25 | | 1 | | 1 | 1.17 1.17 | |
| Impact on Wetlands/ Drainage Lines | All | Construction | -1 | 3 4 | 5 | 4 4 | -16 | -1 | 3 | 3 | 4 | 4 : | -10.5 | | 1 | | 2 2 | 1.17 | |
| Increased sediment movement off the site | ΔΙΙ | Construction and operation | -1 | 3 3 | 3 | 4 4 | -13 | -1 | 3 | 3 | 2 | 2 : | -7.5 | | 1 | | 1 1 | 1.00 | |
| Reduction in agricultural potential and loss of fertility | f All (Opencast) | Planning | _1 | 1 5 | 5 | 3 | -17.5 | _1 | 1 | 2 | 3 | 2 | 2 | High | | | 2 | 1.50 | -6.00 |
| fertility Reduction in agricultural potential and loss of fertility | f All (Or 1) | i iaililliy | -1 | 1 5 | 5 | 3 5 | -17.5 | -1 | | | 3 | 2 4 | -2 | n nig(i | | | 3 | 1.50 | -6.00 |
| fertility | All (Opencast) | Construction and operation | -1 | 2 5 | 4 | 5 5 | -20 | -1 | 2 | 4 | 5 | 4 4 | 1 -15 | Medium | 2 | | 3 | 1.83 | -27.50 |
| Reduction in agricultural potential and loss of fertility | All (Opencast) | Decommissioning | -1 | 2 5 | 4 | 5 5 | -20 | -1 | 2 | 3 | 3 | 3 | -8.25 | Medium | 2 | : | 3 3 | 1.83 | -15.13 |
| Reduction in agricultural potential and loss of | f All (Opencast) | | | | _ | | | | | | _ | _ | | | | | | | |
| fertility Reduction in agricultural potential and loss of | | Rehab and closure | -1 | 2 3 | 3 | 4 4 | -12 | -1 | 2 | 3 | 3 | 3 3 | -8.25 | Medium | 2 | | 3 | 1.50 | -12.38 |
| fertility | All (Underground) | Planning | -1 | 1 5 | 5 | 3 4 | -14 | -1 | 1 | 2 | 3 | 2 2 | 2 -4 | High | 1 | : | 2 2 | 1.33 | -5.33 |
| Reduction in agricultural potential and loss of fertility | | Construction and operation | -1 | 2 5 | 4 | 3 4 | -14 | -1 | 2 | 4 | 3 | 3 | 3 -0 | Medium | 2 | | 2 | 1.67 | -15.00 |
| Reduction in agricultural potential and loss of | f | | | | • | J . | | | | | | <u> </u> | | Wiodiani | | | | 1.07 | 10.00 |
| fertility | All (Underground) | Decommissioning | -1 | 2 5 | 5 | 3 5 | -18.75 | -1 | 2 | 3 | 3 | 2 3 | -7.5 | Medium | 2 | : | 2 2 | 1.50 | -11.25 |
| Reduction in agricultural potential and loss of fertility | All (Underground) | Rehab and closure | -1 | 2 3 | 5 | 3 3 | -9.75 | -1 | 2 | 2 | 2 | 2 | 2 | Medium | 2 | | 1 2 | 1.33 | -5.33 |
| Reduction in agricultural potential and loss of | | Diamaia | 4 | 4 5 | 4 | | 40 | 4 | 4 | 0 | 0 | 0 | | I II | | | | 4.50 | 0.00 |
| fertility Reduction in agricultural potential and loss of | discard dump f Stockpiles and | Planning | -1 | 1 5 | 4 | 3 4 | -13 | -1 | 1 | 2 | 3 | 2 2 | -4 | High | 1 | | 2 3 | 1.50 | -6.00 |
| fertility | discard dump | Construction and operation | -1 | 2 5 | 3 | 4 4 | -14 | -1 | 2 | 4 | 2 | 3 3 | -8.25 | High | 2 | ; | 3 3 | 1.83 | -15.13 |
| Reduction in agricultural potential and loss of ertility | discard dump | Decommissioning | -1 | 2 5 | 3 | 4 4 | -14 | -1 | 2 | 3 | 2 | 3 3 | بـــ | Medium | 2 | | 3 | 1.67 | -8 33 |
| Reduction in agricultural potential and loss of | | Decommissioning | 1 | 2 0 | | 7 | 17 | - ' | | J | | 3 4 | | Wicalam | | | | 1.07 | 0.00 |
| fertility | discard dump | Rehab and closure | -1 | 2 3 | 4 | 3 4 | -12 | -1 | 2 | 2 | 2 | 2 2 | 2 -4 | Medium | 2 | | 3 | 1.50 | -6.00 |
| Reduction in agricultural potential and loss of ertility | Wash plant | Planning | -1 | 1 5 | 5 | 3 4 | -14 | -1 | 1 | 2 | 4 | 2 | -6.75 | High | 1 | | 2 3 | 1.50 | -10.13 |
| Reduction in agricultural potential and loss of | | | | 2 5 | 4 | | | 4 | | 4 | | 2 | | 11:-1 | | | | 4.00 | 40.50 |
| fertility Reduction in agricultural potential and loss of | Wash plant | Construction and operation | -1 | 2 5 | 4 | 4 4 | -15 | -1 | 2 | 4 | 3 | 3 | -9 | High | 2 | | 3 | 1.83 | -16.50 |
| fertility | Wash plant | Decommissioning | -1 | 2 5 | 5 | 4 4 | -16 | -1 | 2 | 3 | 3 | 3 3 | -8.25 | Medium | 2 | | 3 | 1.83 | -15.13 |
| Reduction in agricultural potential and loss of fertility | f Wash plant | Rehab and closure | -1 | 2 3 | 4 | 3 4 | -12 | -1 | 2 | 2 | 2 | 2 | 3 -6 | Medium | 2 | | 1 2 | 1.33 | -8.00 |
| Loss/ Disturbance of Topsoil (including | · | | | | | | 12 | | | | | | | | | | | 50 | 2.00 |
| contamination, erosion and compaction) | All | Construction | -1 | 2 4 | 4 | 4 | -14 | -1 | 2 | 4 | 2 | 3 | 2 -5.5 | Low | 1 | | 2 | 1.33 | -7.33 |
| Gaseous and particulate emissions (including | / til | - Siloti dottoli | | | 7 | , , | - 14 | | | | - | | 30.0 | LOW | | | 2 | 1.33 | 7.55 |
| VOCs); fugitive dust | All | Construction | -1 | 2 2 | 3 | 2 4 | -9 | -1 | 2 | 2 | 3 | 1 4 | | Medium | 2 | : | 2 1 | 1.33 | -10.67 |
| Gaseous and particulate emissions (including VOCs); fugitive dust | All | Operation | -1 | 4 | 3 | 3 | -14 | -1 | 3 | 4 | 3 | 1 | 1 | Medium | 2 | | 1 | 1.50 | -16.50 |
| Gaseous and particulate emissions (including | 1 | Ореганоп | -1 | 7 4 | 3 | 3 4 | -14 | -1 | 3 | 4 | 3 | | -11 | ivieululii | 3 | | 1 | 1.50 | -10.50 |
| VOCs); fugitive dust | All | Decommissioning | -1 | 3 2 | 3 | 3 4 | -11 | -1 | 2 | 2 | 3 | 1 4 | 4 -8 | Medium | 2 | | 1 1 | 1.17 | -9.33 |
| Gaseous and particulate emissions (including | | | | | | | | | _ | | | | | | | | | | 0.05 |
| VOCs); fugitive dust Visual Impacts | All | Rehab and closure Construction and operation | -1 | 3 4 | 3 | 3 4 | -10 | -1 -1 | 3 | 2 | 2 | 1 4 | -8 | Medium Low | 2 | | 1 | 1.17 1.00 | |
| Blasting and vibration | All | Construction and operation Construction and operation | -1 | 3 4 | 4 | 3 5 | -17.5 | -1 | 3 | 4 | 3 | 2 | 3 -9 | Low | 1 | | 2 1 | 1.17 | |
| Reduction in Quantity of Water (i.e. Water | | · | | 0 | | | | | | | | 0 | | | | | | | |
| Consumption) | All | Operation | -1 | 3 3 | 4 | 3 4 | -13 | -1 | 3 | 3 | 2 | 2 2 | | Low | 2 | | 1 | 1.33 | -6.67 |
| Interference with Existing Land Uses | All | Construction and operation | -1 | 3 4 | 4 | 3 4 | -14 | -1 | 3 | 3 | 3 | 2 | 2 -5.5 | Low | 2 | | 2 1 | 1.33 | -7.33 |
| Nuisance and Impact on Sense of Place (i.e | All | · | 4 | 2 | 2 | 2 | 40 | 4 | 2 | 4 | 1 | 2 | | | | | | | |
| noise, dust, etc.) Safety and Security (i.e. access to properties | | Construction and operation | -1 | 3 4 | 2 | 3 4 | -12 | -1 | 3 | 4 | | 2 | | Low | 2 | | 1 | 1.17 | -5.83 |
| theft, fire hazards, etc.). | All | Construction and operation | -1 | 3 4 | 3 | 4 3 | -10.5 | -1 | 3 | 2 | 3 | 3 | 2 -5.5 | Low | 1 | | 1 1 | 1.00 | -5.50 |
| | | | | | | | | | | | | | | | | | | | |

1177 Manungu Colliery Consolidated Significance Ratings

| Damage/ Disruption of Services (i.e. water | r, | | | | | | | | | | | | | | | | | | | | |
|---|-----|----------------------------|----|---|---|---|-----|---|----|-------------------|-----|---|-------|-----|-------|--------|---|-----|---|------|-------|
| electricity, sewage, etc.) | All | Construction and operation | -1 | 3 | 3 | 4 | 3 | 4 | - | <mark>13</mark> - | 1 3 | 2 | 2 3 | 3 2 | -5 | Low | 1 | 1 2 | 1 | 1.17 | -5.83 |
| Impact on Existing Infrastructure (i.e. roads | 3, | | | | | | | | | | | | | | | | | | | | |
| fences, etc.) | All | Construction and operation | -1 | 3 | 3 | 4 | . 3 | 4 | - | 13 - | 1 3 | 2 | 2 3 | 3 2 | -5 | Low | 1 | 1 2 | 1 | 1.17 | -5.83 |
| Perceptions and Expectations | All | All | -1 | 3 | 3 | 3 | 3 | 4 | - | 12 - | 1 3 | 2 | 2 2 | 2 3 | -6.75 | Low | 1 | 1 1 | 1 | 1.00 | -6.75 |
| Employment Opportunities | All | All | 1 | 3 | 3 | 1 | 2 | 1 | 2. | 25 | 1 4 | 4 | . 2 2 | 2 2 | 2 | Medium | 1 | 1 1 | 1 | 1.00 | 6.00 |
| Coal supply for energy security | All | All | 1 | 5 | 4 | 3 | 3 | 4 | | 15 | 1 5 | 4 | . 3 | 3 4 | 15 | Medium | 1 | 1 1 | 1 | 1.00 | 15.00 |